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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 6, 1965 Volume 816 Number 1

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of May 1965

Examiner affirmed	223
Examiner affirmed in part	31
Examiner reversed	64
Total	318

Adjudicated Patents

(D.C. Wis.) Merta Patent No. 2,321,407 (93–36.2), for CUP-MAKING MACHINE, *Held* invalid. *Solo Cup Co.* v. *Paper Machinery Corporation et al.*, 240 F. Supp. 126; 144 USPQ 729.

(D.C. Calif.) Anspach Patent No. 2,951,145 (219–83), for METHOD AND APPARATUS FOR FABRICATED HONEYCOMB CORE. Claims 5 and 6 *Held* invalid. *Tool Research and Engineering Corp.* v. *Honcor Corp.*, 240 F. Supp. 296; 145 USPQ 249.

(D.C. Ohio) Hoover, Dupre and Rankin Patent No. 2,958,593 (51–295), for LOW DENSITY OPEN NON WOVEN FIBROUS ABRASIVE ARTICLE. *Held* invalid. *Minnesota Mining & Mfg. Co.* v. *Norton Co.*, 240 F. Supp. 150; 145 USPQ 8.

(D.C. Calif.) Green and Hagan Patent No. 2,975,263 (219–83), for METHOD FOR PRODUCING HONEYCOMB STRUCTURES. Claims 1 to 4 *Held* invalid. *Tool Research and Engineering Corp.* v. *Honcor Corp.*, 240 F. Supp. 296; 145 USPQ 249.

Disclaimer

3,180,414. *Harry W. Parker*, Bartlesville, Okla. PRODUCTION OF HYDROCARBONS BY FRACTURING AND FLUID DRIVE. Patent dated Apr. 27, 1965. Disclaimer filed Apr. 1, 1965, by the inventor; the assignee *Phillips Petroleum Company* concurring.

Hereby enters this disclaimer to all of the claims of said patent.

Service by Publication

Robert E. Mitton

In accordance with Rule 47(b) of the Rules of Practice of the United States Patent Office in Patent Cases, notice is hereby given of the filing on August 10, 1962, of an application for patent entitled "Adapter Assembly for Fluid Pressure Control Apparatus," on behalf of Robert E. Mitton, whose last known address is Pickwick Hotel, San Diego, Calif. The application was made in compliance with Rule 47(b) and 35 U.S.C. 118 by George C. Jacobs as president of Hydro-Ventricle Brake Co. without execution by the said Robert E. Mitton. Notice of the filing directed to the above noted address has been returned undelivered.

Any action to be taken by the said Robert E. Mitton in connection with the said application must be taken within thirty days of the publication of this notice.

EDWIN L. REYNOLDS,
First Assistant Commissioner.

Removal From Register

Pursuant to the provisions of Rule 347 of the Rules of Practice of the United States Patent Office in Patent Cases, a letter was directed on April 9, 1965, to the last post office address furnished to the Committee on Enrollment for the firms identified in the appended list. With respect to some of the letters, no reply was received within the period of thirty days therein set. Other letters were returned by the post office with notations to the effect that the addressee was unknown or had moved and left no forwarding address. Accordingly, the names of the following firms are being removed from the Registers of Patent Attorneys and Patent Agents.

EDWIN L. REYNOLDS,
June 14, 1965. *Chairman, Committee on Enrollment.*

List of Firms Removed From Active Register

Adams & Bush, 1420 New York Ave. NW., Washington, D.C. 20005
Alexander and Slater, 208 S. La Salle St., Chicago 4, Ill.
Anderson and Baranick, 79 Milk St., Boston, Mass.
Arant and Maltby, 608 S. Hill St., Los Angeles 14, Calif., and 13th and Orange Sts., Riverside, Calif.
Barnett & Barnett, 134 S. La Salle St., Chicago 3, Ill.
Bates and Willard, 333 Homestead Ave., Hartford 2, Conn.
Churchill, Weymouth & Engel, 165 Broadway, New York, N.Y. 10006
Clegg & Harwood, 1414 Dallas Federal Savings Bldg., Dallas 1, Tex.
Emery, Booth, Miller & Townsend, 79 Milk St., Boston 9, Mass.
Evans & Pearne, 912 Midland Bldg., Cleveland 15, Ohio
Felshin and Rosen, 375 Park Ave., New York 22, N.Y.
Fish and Huff, 206 Symons Bldg., S. 7 Howard St., Spokane, Wash.
Frost & Vandenburgh, 135 S. La Salle St., Chicago 3, Ill.
Gehr and Leonard, 1562 Hanna Bldg., Cleveland 15, Ohio
Gillette and Floyd, 125 Park Ave., New York, N.Y. 10017
Gillette & Virgil, 100 E. 42nd St., New York, N.Y. 10017
Gleim and Candor, Talbott Tower, Dayton 2, Ohio
Golrick & Golrick, 946 Leader Bldg., Cleveland 14, Ohio
Hobbs & Easton, 512–513 J.M.S. Bldg., South Bend 1, Ind.

New Applications Received During May 1965

Patents	7478
Designs	465
Plant Patents	4
Reissues	39
Total	7986

Issue—July 6, 1965

Patents	1305—No. 3,192,536 to No. 3,193,840, incl.	
Designs	71—No. 201,539 to No. 201,609, incl.	
Plant Patents	1—No. 2,543	
Reissues	5—No. 25,815 to No. 25,819, incl.	
Total	1382	

Laurence, Vanderkelen & Miller, 753 Warner Bldg., Washington 4, D.C.
Liberman & Levy, 30 E. 42nd St., New York, N.Y. 10017
March and Curtiss, 125 Park Ave., New York, N.Y. 10017
Mock & Blum, 10 E. 40th St., New York 16, N.Y. 10016
Pollard, Johnston, Smythe & Robertson, 155 E. 44th St., New York, N.Y. 10017.
Quarles, Fox, Seidel, Bateman & Hoar, John Mariner Bldg., 411 E. Mason St., Milwaukee 2, Wis.
Quarles & French, 411 E. Mason St., Milwaukee 2, Wis.
Richey, Watts, Edgerton, McNenny & Farrington, 520 Union Commerce Bldg., Cleveland 14, Ohio
Sellers & Latta, 6410 Van Nuys Blvd., Van Nuys, Calif.
Smith & Cameron, 24 King St., W., Toronto, Ontario, Canada
Smith & Mattern, 1621 Washington Bldg., Seattle 1, Wash.
Snow, C. A. & Co., 710 8th St. NW., Washington 1, D.C.
Stone, Nierman, Burmeister & Zummer, Suite 600, 134 S. La Salle St., Chicago 3, Ill.
Sutherland, Polster & Taylor, 1004 Shell Bldg., 1221 Locust St., St. Louis 3, Mo.
Tefft & Tefft, 1995 N. E St., Riverside, Calif. and 38 S. Dearborn St., Chicago 3, Ill.
Townsend, Townsend & Caplan, 515 Allerton St., Redwood City, Calif.
Trachtman & Zoda, 1500 Walnut Street Bldg., Suite 1511, Philadelphia 2, Pa.
Van Valkenburgh and Fields, First National Bank Bldg., Denver 2, Colo.
Welsh and Bradway, 1 N. La Salle St., Chicago 2, Ill.
Williams, Tilberry & Golrick, 948 Leader Bldg., Cleveland 14, Ohio
Williamson, Schroeder & Palmatier, 950 Pillsbury Bldg., Minneapolis 2, Minn.
Willson, H. B., & Co., 1233 Munsey Bldg., 1329 E St. NW., Washington, D.C. 20004
Wisner and Sloman, 1426 Buhl Bldg., Detroit 26, Mich.
Wright, Brown, Quinby & May, 53 State St., Boston 9, Mass. 02109
Wright & Wright, 229 E. Wisconsin Ave., Milwaukee 2, Wis.
Zallen & Feinberg, 6 Beacon St., Boston 8, Mass.

Patents Available for Licensing or Sale

3,151,495. GEARING APPARATUS. Cyrus B. Kurtz, 3372 Mayfield Road, Cleveland, Ohio, 44118.

3,172,698. FOLDABLE FRAME STRUCTURE FOR AN AMBULANCE FOR SUPPORTING A PLURALITY OF STRETCHERS. Locher Karosseriefabrik Binz & Co., Lorch, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

3,173,358. BARBEQUE APPARATUS. Herbert C. Linquist, 11692 S. Walnut St., Orange, Calif.

3,173,573. COLLAPSIBLE PAINT BUCKET. James W. Donegan, 149 Prospect Ave., Middletown, N.Y.

3,179,728. PROCESS FOR THE PREPARATION OF PROTEIN-UREIC FIBRES AND MIXED PROTEIN-UREIC CELLULOSIC FIBRES. Sandro Donini, Milan, Italy. Correspondence to: Glascock, Downing & Seebold, 14th and F Sts. NW., Washington 4, D.C.

The following 4 patents are offered by: Joseph T. McNaney, 8548 Boulder Drive, La Mesa, Calif., 92041.

3,066,298. ELECTROSTATIC RECORDING.
3,158,430. TRANSDUCING APPARATUS.
3,164,837. ELECTROSTATIC PRINTING SYSTEM UTILIZING ILLUMINATED PHOTOCONDUCTIVE MATERIAL.
3,182,223. DATA STORAGE SYSTEM WITH LIGHT BEAM WRITE/READOUT.

The following patent is offered for non-exclusive licensing on reasonable terms to domestic manufacturers by Kay Manufacturing Corporation, 675 Barbey St., Brooklyn, N.Y., 11207.

3,187,069. MAKING FOAMED ARTICLES.

General Electric Company is prepared to grant non-exclusive licenses under the following 6 patents upon reasonable terms to domestic manufacturers.

Applications for license should be directed to: Patent Counsel, Power Generation Division, General Electric Company, 1 River Road, Bldg. #53, Schenectady 5, N.Y.

3,135,496. AXIAL-FLOW TURBINE WITH RADIAL TEMPERATURE GRADIENT.
3,150,487. STEAM TURBINE-GAS TURBINE POWER PLANT.
3,150,943. CYCLONE-TYPE DUST COLLECTOR.
3,150,944. ROTARY APPARATUS FOR SEPARATING SOLID PARTICLES FROM GAS.
3,151,250. SPINNING RESERVE PEAKING GAS TURBINE.
3,158,770. ARMATURE BAR VIBRATION DAMPING ARRANGEMENT.

Foreign Patents Received in the Scientific Library as of May 31, 1965

Source	Date received	Highest number
Australia:		
(*Abstracts*)	May 12, 1965	56,047
(*Patents*)	May 10, 1965	252,905
Austria	May 25, 1965	239,350
Belgium	May 21, 1965	625,500
Canada	May 28, 1965	710,485
Czechoslovakia	May 26, 1965	113,050
Denmark	May 3, 1965	100,415
East Germany	May 3, 1965	37,525
Egypt	Mar. 23, 1965	4,968
Finland	Apr. 9, 1965	34,174
France:		
(*Patents*)	May 24, 1965	1,384,900
(*Additions*)	May 10, 1965	84,250
(*Medicaments*)	May 10, 1965	2,247 M
(*Additions*)	May 10, 1965	47 CAM
Germany:		
(*Auslegeschriften*)	May 20, 1965	1,188,520
(*Patents*)	May 20, 1965	1,175,881
Great Britain	May 21, 1965	991,328
India	Oct. 15, 1964	86,939
Ireland	Feb. 9, 1965	23,946
Italy	May 3, 1965	630,000
Japan	May 24, 1965	8,200/65
Netherlands:		
(*Octrooiaanvragen*)	May 3, 1965	1,736/65
(*Patents*)	May 20, 1965	120,084
Norway	May 24, 1965	105,910
Pakistan	Feb. 3, 1964	112,446
Philippine Republic	Apr. 13, 1962	458
Poland	May 5, 1965	49,350
Rumania	Mar. 29, 1965	42,843
Sweden	May 11, 1965	194,947
Switzerland	May 18, 1965	386,601
U.S.S.R	May 14, 1965	168,542

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

PATENT EXAMINING CORPS

R. A. WAHL, Superintendent

CONDITION OF PATENT APPLICATIONS AS OF JUNE 1, 1965

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7-11-62	3- 3-58
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	12- 7-62	9-15 58
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	2- 5-63	6-20-60
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	9- 4-62	5-18-59
COMPOSITIONS AND MOLDING, GROUP 150—G. D. MITCHELL, Acting Manager Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-18-62	1- 6-60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures	7-20-62	8-21-59
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	9- 6-62	8-10-59
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-18-62	1- 5-61
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	10- 5-62	6-20-60
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	12-27-62	5-12-60
INFORMATION TRANSMISSION, GROUP 230—S. W. CAPELLI, Manager Communications; Multiplexing Techniques; Facsimile and Related Art.	10-19-62	1-19-60
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Manager Data Processing, Computation and Conversion; Storage Devices and Related Art.	7- 5-62	10-30-58
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Manager Semi-Conducter and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	10- 2-62	2- 2-60
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager Optics; Radiant Energy; Measuring.	9-10-62	2-11-59
ELEMENTS, GROUP 270—E. J. SAX, Manager Conductors; Switches; Miscellaneous.	1-25-63	7- 6-60

Total number of pending applications (excluding Designs)	198,522
Total number of Design applications pending	5,223
Total number of applications awaiting action (excluding Designs)	146,049
Total number of Design applications awaiting action	1,905
Date of oldest new application awaiting action	July 5, 1962
Date of oldest amended application awaiting action	March 3, 1958

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1965, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953.*

Patents	Numbers 2,444,412 to 2,446,164, inclusive
Plant Patents	Numbers 799 to 804, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	6-18-63	6-30-61
MANUFACTURING; METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Founding; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus.	10-26-62	10-14-60
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—A. M. HORTON, Manager Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	3- 5-63	9-29-59
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12-19-62	5- 3-61
FLUID HANDLING, GROUP 360—E. PAUL, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	2- 4-63	8-29-60
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GAREAU, Manager Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	4- 1-63	6- 7-60
HEAT GENERATION, TRANSFER AND UTILIZATION, GROUP 380—P. L. PATRICK, Manager Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation; Refrigeration; Drying; Ventilation; and Illumination.	4- 8-63	8-25-59
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	4- 1-63	7-18-61
CIVIL ENGINEERING, GROUP 420—B. BENDETT, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	3- 5-63	4- 4-60
PHYSICS, GROUP 430—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	1-28-63	6-27-60
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	2-25-63	10-10-60
TRANSPORTATION, GROUP 450—F. ARNOLD, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	3-21-63	9-21-59
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	5-14-63	5-22-61
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager Printing; Typewriters; Stationery; Material Treatment.	7-20-62	12-31-58
DESIGNS, GROUP 490—J. A. MANIAN, Manager Industrial Arts; Household, Personal and Fine Arts.	8-12-64	5-11-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

Walter C. Alexander, Leo Nordwald and Robert P. Wanger
v.
Howard J. Williams, Francis R. Rogers and Basil J. Ryder

No. 7270. Decided March 18, 1965

[52 CCPA —; 342 F.2d 466; 144 USPQ 754]

1. Interference—Originality—Partial Aid in Perfecting and Improving Invention.

"We find particularly apposite to this case our holding in *Poly* v. *Uhl*, 51 CCPA 1067, 328 F.2d 893, 140 USPQ 584, that a party is not entitled to an award of priority where there is no showing that he 'invented or suggested the entire invention as embodied in the combination of elements claimed in the counts * * *.' Even in the case where another renders partial aid in perfecting and improving an invention, he cannot 'appropriate to himself the entire result of the ingenuity and toil of the originator,' *Agawam* v. *Jordan*, [74 U.S. 583] at 607. In this case Bendix has not even rendered partial aid since the General Electric inventors had first conceived every element of the count."

2. Same—Same—Same.

"Our review of the evidence convinces us that mounting two cams on one shaft was the only feature of the count independently conceived by the Bendix inventors and that this feature is not the entire invention claimed in the count. Thus, because the Bendix inventors did not invent the entire invention, the award of priority to them is *reversed*."

Appeal from the Patent Office. Interference No. 91,764.

REVERSED.

Irvin H. Rimel, *John W. Malley* (*Harold H. Green, Jr.*, *Frank L. Neuhauser*, of counsel) for appellants.

Emory C. Naylor, *William S. Thompson*, for appellees.

Before Worley, *Chief Judge*, and Rich, Martin, Smith, and Almond, Jr., *Associate Judges*

Almond, *J.*, delivered the opinion of the court.

This appeal by the junior party, Alexander et al., is from a decision of the Board of Patent Interferences awarding priority of invention of the single count in issue to the senior party, Williams et al. Appellees' application[1] was filed on April 5, 1955. Appellants's application,[2] filed May 24, 1955, became a patent[3] on April 5, 1960. The Williams et al. application is assigned to The Bendix Corporation and the Alexander et al. patent is assigned to General Electric.

The invention involved in this interference is a system for controlling fuel flow and stator angle in a jet engine. The sole count is reproduced below.

> For use in a variable stator turbojet engine having a main fuel supply system and a rotor speed governor, a control system for controlling the main fuel supply and for positioning the compressor stator blades including: a compressor inlet temperature sensor; compressor discharge pressure sensor; fuel control means including a first cam mounted on a cam shaft, said control means being connected to said sensors and adapted to be connected to said governor and said supply system for controlling the flow of fuel to the engine as a function of compressor inlet temperature, compressor discharge pressure and rotor speed; and a variable stator blade control including a second cam mounted on said

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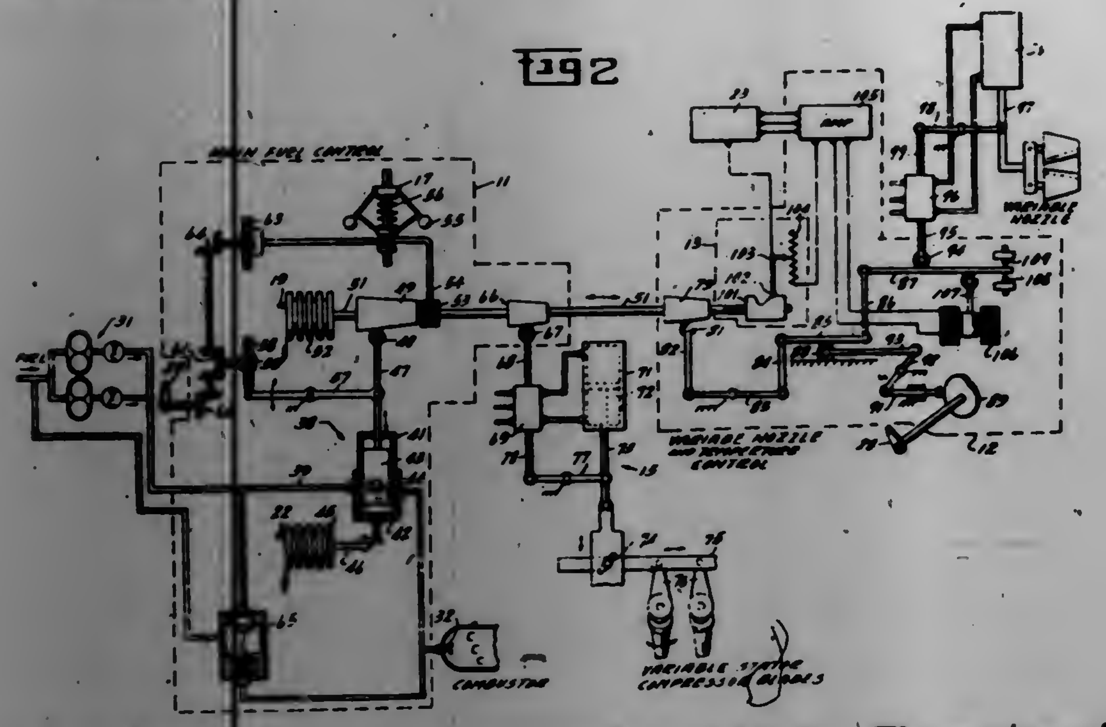
[1] Serial No. 499,432 for "Fuel Feed and Power Control System for Gas Turbine Engines."
[2] Serial No. 510,608 for "Variable Stator Engine Control System."
[3] U.S. Patent No. 2,931,168.

cam shaft, said variable stator control being adapted to be connected to the compressor stator blades for varying the setting thereof as a function of rotor speed and compressor inlet temperature.

The elements of the count are shown in the following drawing from the Alexander et al patent:

Fig 2



Fuel flow to the engine is governed by valve 41. The setting of valve 41 is a function of three variables: rotor speed, compressor inlet temperature, and compressor discharge pressure. Rotor speed causes rotation of cam shaft 51 by means of governor 17, rack 54 and spur gear 53. Compressor inlet temperature actuates bellows 52 causing axial movement of the cam shaft. Because both cams 49 and 66 are three dimensional cams, both rotation and axial movement of the cams cause movement of the cam followers. Rod 47 thus operates the fuel valve as a function of both temperature and speed. Bellows 45 further controls the valve setting as a result of compressor pressure. Cam 66 which is also positioned as a function of rotor speed and compressor inlet temperature governs the setting of variable stator blades 76.

The facts out of which this interference arose are shrouded by a heavy veil which time has drawn across the memory of the primary witnesses. One undisputed fact of great significance, we think, is that the General Electric inventors were the first to conceive the invention defined by the count. The conception occurred sometime in the latter part of 1952 as is evidenced by drawings (Alexander Exhibit 6) dated November 1952. The fuel control of the drawing was apparently necessitated by the concurrent development of the J–79 turbojet engine with variable stator blades. The J–79 differed from past models primarily by the fact that the stator blades of the compressor were movable rather than stationary. The fuel controller conceived by Alexander was designed to control both fuel flow to the engine and the angle of the variable stator blades.

General Electric apparently decided to buy the control from an experienced fuel control manufacturer rather than produce the units itself. Thus, General Electric planned to develop and produce the J–79 engine while a fuel control manufacturer was independently producing the controller.

In order to select a control supplier, General Electric met with several suppliers including Bendix in January 1953. In February 1953 Bendix made drawings of a controller supporting the count which it alleges represent an independent conception of the invention. In March Bendix was awarded the contract to supply General Electric with fuel controllers. There followed a development period of over two years during which General Electric and Bendix worked closely on the development of a controller for the J–79. During most of this time General Electric and Bendix engineers held bi-weekly meetings. This joint effort extended through 1958. The controller was apparently produced in operational form sometime during 1955. Both parties filed patent applications covering the controller in the spring of 1955.

The junior party contends that it is entitled to an award of priority on three grounds. First, General Electric claims that Williams was not an independent inventor but rather that the invention of the count was disclosed to Bendix prior to any claimed conception date by Williams. Second, it is claimed that Alexander reduced the controller to practice prior to the Bendix inventors' filing date. Third, General Electric claims that Alexander was diligent from just prior to the entry of the Bendix inventors into the field until the filing of the Alexander application.

We will first consider the question of derivation, since it presents issues which must be resolved before the reduction to practice and diligence questions can be properly determined. In order to understand General Electric's contentions, it is necessary to study carefully the meeting between General Electric and Bendix personnel held on January 19, 1953. The purpose of the meeting with Bendix was the same as that of the meetings held with other fuel control manufacturers, to select a supplier of the J–79 controller. The evidence establishes that General Electric did not hand Bendix a drawing of the controller it had conceived and ask them to manufacture it. Rather, General Electric attempted to take advantage of Bendix's experience. On this point, Mr. Strock, a General Electric representative at the meeting, testified:

> XQ128. Wasn't it a fact that you intended not to influence the thinking of the vendors so that you could get as many different approaches as possible and select perhaps the best from among many different types? A. It was our intent to call out requirements that control system suppliers could not possibly know, such as the parameters that would be used and the degree of sophistication of control that was required.
>
> Within these boundaries it was our intention indeed not to limit the proposals because we wanted to keep an open mind relative to the various ways of accomplishing the important things that we had in mind as requirements.

In addition to stating requirements at the meeting, General Electric supplied Bendix with a document (Alexander Exhibit 1) entitled "General Objectives for Advanced Engine." This document listed the design specifications for the controller. The fuel control is specified as a function of rotor speed, N, and compressor inlet temperature, θ. It is suggested that the control should be based upon corrected speed, $N/\sqrt{\theta}$. Compressor pressure is also specified as a means of correcting acceleration fuel flow. The inlet guide vane position is specified as a function of corrected engine speed $N/\sqrt{\theta}$. Thus, the specifications given to Bendix disclose all features of the count except the use of a cam in both the fuel and stator control and mounting both cams on the same shaft.

We feel the evidence establishes that the use of cams was disclosed to Bendix at the January 19 meeting. Mr. Strock testified that the use of cams in the control had been discussed because General Electric was concerned about the rapidity with which shapes could be changed because the engine characteristics were not fully understood at that stage. He further testified that Mr. Ryder reported progress in reducing design and fabrication time for cams. Mr. Wanger, one of the General Electric inventors, testified that the detailed mechanical design including cams was discussed at the meeting. Mr. Ryder, the Bendix representative at the meeting and a co-inventor, testified that he remembered discussing cams with General Electric but could not remember at what meeting it occurred. Although the testimony is not unequivocal, we find that the use of cams in the controller was disclosed at the meeting.

The only remaining element of the count is the mounting of both cams on a common shaft. There is no evidence to support General Electric's position that this feature was disclosed at the meeting. The testimony relied upon by appellants merely indicates that details were discussed. Mr. Strock testified on this point as follows:

> Do you recall, at the meeting, any specific discussion of details of this nature, particularly a first cam mounted on a cam shaft and a second cam mounted on the cam shaft? A. I recall that at this meeting we discussed at considerable length the technique described here for controlling the variable stator blade.
>
> I do not recall our discussion of mounting these two cams on one shaft, and such a discussion would have been largely irrelevant at this meeting because the mounting of two cams on one shaft is a mechanical design detail which is quite normal in the interest of simplicity in a mechanism that is intended to be highly reliable.

Thus, we must hold that the common cam mounting was not discussed.

The Board also found that General Electric had not disclosed mounting both cams on a common shaft. The Board further stated:

> * * * There is no clear evidence that the General Electric disclosures to Bendix included even a complete conception of cams on *separate* shafts for accomplishment of the combination of functions desired.

The Board further found that the specific cam arrangement was the feature that secured allowance of the General Electric patent. The argument by General Electric that the heart of the invention had been disclosed and that only normal skill was required to put the cams on a common shaft was rejected.

The General Electric argument relies upon the following portion of *Agawam Co.* v. *Jordan*, 74 U.S. (7 Wall.) 583, 602 (1868):

> No one is entitled to a patent for that which he did not invent unless he can show a legal title to the same from the inventor or by operation of law; but where a person has discovered an improved principle in a machine, manufacture, or composition of matter, and employs other persons to assist him in carrying out that principle, and they, in the course of experiments arising from that employment, make valuable discoveries ancillary to the plan and preconceived design of the employer, such suggested improvements are in general to be regarded as the property of the party who discovered the original improved principle, and may be embodied in his patent as a part of his invention.

While we agree that part of the reasoning in *Agawam* is pertinent to the issue before us, we note several major distinctions between *Agawam* and the present case. *Agawam* dealt with an improvement which was conceived solely by the employee to whom the general plan of the invention was disclosed. Here, the entire invention including mounting of two cams on a common shaft was admittedly conceived first by Alexander. Thus, rather than considering whether an employee's improvement inures to the benefit of his employer, we need only consider whether the subsequent, independently conceived improvement represents the only patentably significant feature of the count.

We feel that this issue can be decided only by considering the invention defined by the count in light of the prior art cited by the Examiner.

The Board, in holding that mounting both cams on a common shaft was the feature which secured allowance of the claim, referred to the following statement made by General Electric's attorney during the prosecution of the application:

> Claim 5 has been amended to call for a fuel control means including a first cam mounted on a cam shaft, and a variable stator control including a second cam mounted on said cam shaft. These structural details are not taught by the references to Davies et al. and Lovesey et al. in combination or singly. Even if the variable stator control of Lovesey et al. were combined with the fuel control of Davies et al., there is no teaching in either patent of a cam shaft common to both systems with a cam in each system mounted thereon. * * *

We find nothing else in the record to substantiate the Board's position. Davies discloses only a fuel control system and the only pertinent disclosure of Lovesey is a variable stator blade control system. The references not only fail to show two cams on one shaft, but they also lack a suggestion of using cams in any manner in the system. Furthermore, we find nothing in the above quoted argument of the General Electric attorney that can be construed as a concession that two cams on a common shaft is the essence of the invention. It is merely an argument pointing out that the references do not show a certain feature in the claims. No contention was made that the specific cam arrangement constituted the entire invention.

In the Examiner's next action dated February 14, 1957, he cited Best Patent No. 2,759,549, showing a control having a cam shaft operated in response to compressor inlet temperature and speed just as in the present case. The Best cam shaft has three cams mounted on it. The Examiner, however, did not rely upon Best for the feature of multiple cams on a single shaft. It would seem that Best would have been relied upon had the placement of two cams on a shaft been considered the essence of the invention.

The arguments of counsel before the Patent Office are of little value here in interpreting the scope of a claim because there is no clear and unambiguous concession or admission. We find no such statement regarding the scope of the invention as would estop General Electric from arguing that mounting two cams on one shaft was only one of several features of the claimed combination contributing to its patentability. Since Bendix prosecuted claims to the control system in issue without any limitation to cams, it could be argued that they did not even consider the use of cams an essential feature of the invention. We do not feel that claims presented to the Patent Office prevent Bendix from arguing here that such claims are not patentable and, in like manner, we do not feel that the arguments of the General Electric attorney can be used to imply that the essence of the invention is two cams on a single shaft.

Even in the Board's opinion, there is a recognition that the invention involves complex factors. The Board stated:

> Actually the apparatus conceived by Williams is quite complex, and his contribution can be seen as a simple one only by hindsight. The fuel control is responsive to three functions and the vane control to two of the three, and

> there is apparently no antecedent in the art for the principle that identical control of the cams would establish a desirable control of both vanes and fuel supply. * * *

[1] We find particularly apposite to this case our holding in *Polye* v. *Uhl*, 51 CCPA 1067, 328 F.2d 893, 140 USPQ 584, that a party is not entitled to an award of priority where there is no showing that he "invented or suggested the entire invention as embodied in the combination of elements claimed in the counts * * *." Even in the case where another renders partial aid in perfecting and improving an invention, he cannot "appropriate to himself the entire result of the ingenuity and toil of the originator," *Agawam* v. *Jordan*, supra at 604. In this case Bendix has not even rendered partial aid since the General Electric inventors had first conceived every element of the count.

[2] Our review of the evidence convinces us that mounting two cams on one shaft was the only feature of the count independently conceived by the Bendix inventors and that this feature is not the entire invention claimed in the count. Thus, because the Bendix inventors did not invent the entire invention, the award of priority to them is reversed.

REVERSED.

United States Court of Appeals
District of Columbia Circuit

VINCENT W. ECKEL, APPELLANT
v.
DAVID L. LADD, COMMISSIONER OF PATENTS, APPELLEE

No. 19,105

Before PRETTYMAN, *Senior Circuit Judge*, and WRIGHT and TAMM, *Circuit Judges*

ORDER

THIS CAUSE came on to be heard on the record on appeal from the United States District Court for the District of Columbia, and was argued by counsel.

THIS COURT being in general agreement with the opinion filed herein by the District Court, *Eckel* v. *Ladd*, D.D.C., 233 F. Supp. 879 (1964),

IT IS ORDERED that the judgment of the District Court be, and it is hereby, affirmed. See *Zenith Radio Corporation* v. *Ladd*. 114 U.S. App.D.C. 54, 57, 310 F.2d 859, 862 (1962).

PER CURIAM.

Dated: June 3, 1965.

In the United States Patent Office
Before the Board of Appeals

EX PARTE WILLIAM H. LYON

Appeal No. 56—54. Decided August 13, 1964

1. APPLICATIONS—CHANGING INVENTORS—35 U.S.C. 116 AND RULE 45 CONSTRUED TO RELATE ONLY TO ERROR IN JOINDER OF INVENTORS.

"The amendment of an application to remove a wrongly joined person is provided by the third paragraph of 35 U.S.C. 116 * * *. Rule 45(b) * * * implements this provision * * *. The only error specified in the statute, and consonant therewith, the sole error specified in the rule, is error in joinder of inventors."

2. SAME—SAME—SAME.

Where an application was filed jointly for a joint invention and so prosecuted until nearly three years after filing when claims to subject matter not before claimed were added by amendment, and the request was made to convert the application to a sole inventor application, because the added claims were a sole invention and not a joint invention, *Held*, that at neither the time of filing nor at the time of conversion was there an erroneous joinder of inventors.

3. SAME—JOINT AND SOLE—SOLE CLAIMING BENEFIT OF FILING DATE OF EARLIER JOINT APPLICATION—35 U.S.C. 120.

"Appellant argues that if a new sole case had been filed on December 23, 1959, leaving this application as a joint one, the sole case would have been entitled to the benefit of the filing date of the present application; and since this premise is alleged to be the case, the conclusion is drawn that it was, therefore, proper to convert the present case to a sole application. The premise of this argument is not necessarily true. The benefit of the filing date of a prior copending application is governed by 35 U.S.C. 120, and the first requirement specified by the statute is that the inventors be the same. This present case should be decided under the relevant statute and not by imagining and deciding some other case not before us."

4. SAME—SAME—NO ERROR OF JOINDER WHERE JOINT APPLICATION CORRECTLY FILED FOR ONLY JOINT INVENTION—*In re Schmidt* DISTINGUISHED—35 U.S.C. 116.

"The main part of appellant's brief is taken up with a discussion of *In re Schmidt*, 48 CCPA 1140, 772 O.G. 897, 293 Fed. 2d 274, 1961 C.D. 542, 130 USPQ 404, on which great reliance is placed in support of the above argument. We do not regard the facts in the present case to be entirely analogous, nor do we believe that that decision is apposite or compels the allowance of the present application, for the following exemplary reason. In that decision, as the court makes clear, the joint case was not filed for *only* the joint invention, as is the case here. When, as here, a joint case is correctly filed for only a joint invention, there is no error of joinder. Without an error of joinder there is no basis for correction under 35 U.S.C. 116, third paragraph."

APPEAL from the Examiner of Group 240 (David G. Redinbaugh). Serial No. 637,430.

AFFIRMED.

Pennie, Edmonds, Morton, Taylor & Adams for appellant.

Before FEDERICO, KREEK, DRACOPOULOS and BAILEY, *Examiners-in-Chief*, and E. R. REYNOLDS, *Acting Examiner-in-Chief*

FEDERICO, *Examiner-in-Chief*.

This is an appeal from the final rejection of claim 22, the only claim in the case. This claim is claim 1 of a patent to Ginsburg et al., No. 2,866,012, issued December 23, 1958.

The claim reads as follows:

> 22. In magnetic tape apparatus, at least one transducer unit, means serving to carry said unit for rotation, motor means for rotating the unit, tape transport means adapted continuously to move a magnetic tape from one side to the other of the plane of rotation of the unit, guide means for bending that portion of the tape adjacent the path of movement of the unit to an arcuate contour and for positioning said portion of the tape whereby said unit is caused to sweep over the tape from one tape edge to the other, and means forming an abutment shoulder engaging one edge of the tape in the region adjacent the plane of rotation of said unit.

The subject matter involved is described by appellant on pages 1 and 2 of the brief as follows:

> "The invention to which the appealed claim is addressed relates to magnetic tape recording and reproducing apparatus of the so-called transverse type in which the transducer or transducers (commonly referred to as the magnetic head or heads) are mounted in the periphery of a rotating drum, with the tape advanced in a direction generally parallel to the axis of rotation of the drum. With this construction, the magnetic head or heads record upon the tape a

plurality of transverse tracks extending from one side of the tape to the other. Such apparatus comprises guide means for bending the tape into an arcuate shape adjacent the path of the magnetic head or heads so that the heads may contact the tape over the full width thereof. By their frictional engagement with the tape, the heads tend to shift the tape laterally and the invention to which the appealed claim is directed comprises the provision of an abutment shoulder engaging one edge of the tape at a position lengthwise of the tape adjacent to the plane of rotation of the heads so that the tape will not be laterally displaced by the frictional engagement of the heads therewith."

The claim is rejected on the basis of an improper conversion from a joint to a sole application and a review of the history of the case is required.

The present application was filed January 31, 1957 for the joint invention of Lyon and Runge. The second paragraph of the specification referred to a prior filed copending application of Lyon alone (Serial No. 406,517, January 27, 1954, since patented July 29, 1958, No. 2,845,495) as disclosing long playing sound recording and reproducing apparatus of a particular type, and the next paragraph stated that the principal object of the present invention was to provide an improved device of that nature. Seventeen claims were presented. In the first action the Examiner rejected the first two claims and indicated the allowance of the remaining claims, two subject to being rewritten as independent claims. In response, the two claims were rewritten and the rejected claims amended and argued. In the second action (January 28, 1959) the Examiner again rejected the first two claims, and another claim, on the patent to Lyon, which has been mentioned above. In response (June 15, 1959), the three rejected claims were cancelled, and a new claim added. The application thus stood with fourteen claims allowed and one claim not yet acted on.

A little over six months later, on December 23, 1959, several things were done:

(1) In the present application, an amendment was presented cancelling the claims (the amendment inadvertently omitted giving the numbers, which was done later), adding new claims 22 to 30, directed to subject matter not previously claimed, and requesting the conversion of the application from a joint application of Lyon and Runge to a sole application of Lyon.

(2) On the same day a new application (Serial No. 861,639) was filed by Lyon and Runge as joint inventors. The specification of this application was substantially a duplicate of the present application as filed, and the fifteen claims presented were, in all essentials, copies of the fifteen claims in this case just before December 23, 1959.

The amendment of December 23 referred to also added a statement that this application is a continuation-in-part of five designated prior Lyon applications, but in a subsequent paper only one of these is referred to. In the reply brief, appellant states that he is relying on the Lyon sole application, Serial No. 442,800, filed July 12, 1954, now Patent No. 2,897,287, issued July 28, 1959 as proof of his priority of invention of the subject matter of the appealed claim. That is, the subject matter of claim 22 is asserted to be disclosed in this prior filed and copending sole application.

Claim 22, added by the amendment of December 23, 1959, is a copy of claim 1 of the patent to Ginsburg et al., No. 2,866,012 which issued December 23, 1958, on an application filed May 6, 1955, and was presented for purpose of interference. The reason for presenting claims 23 to 30 was not stated, and these claims were cancelled before any action thereon "in favor of appellant's copending divisional application, Serial No. 48,112, filed August 8, 1960."

The Examiner entered the amendment of December 23, 1959, and in due time declared the interference (Intf. No. 91,157). Ginsburg et al. brought a motion to dissolve on the ground (among others) that the conversion of the present application from joint to sole was improper. The motion was granted. Lyon petitioned the Commissioner to review this matter and overrule the Examiner, which petition was denied, the First Assistant Commissioner stating that the question was reviewable on appeal ex parte. After the dissolution of the interference, claim 22 was finally rejected and this appeal followed.

The question brought up for review is whether the conversion of this application from a joint application of Lyon and Runge to a sole application of Lyon was proper.

[1] The amendment of an application to remove a wrongly joined person is provided by the third paragraph of 35 U.S.C. 116 which reads, as to this point:

> "Whenever a person is joined in an application for patent as joint inventor through error * * * and such error arose without any deceptive intention on his part, the Commissioner may permit the application to be amended accordingly, under such terms as he prescribes."

Rule 45(b) of the Patent Office Rules of Practice, which implements this provision, states:

> "(b) If an application for patent has been made through error and without any deceptive intention by two or more persons as joint inventors when they were not in fact joint inventors, the application may be amended to remove the names of those not inventors upon filing a statement of the facts verified by all of the original applicants, and an oath as required by rule 65 by the applicant who is the actual inventor, provided the amendment is diligently made. Such amendment must have the written consent of any assignee."

Following the language of the statute, the question is: Was Runge joined in this application as joint inventor through error? The answer is considered obvious when attention is paid to the statute. The only error specified in the statute, and consonant therewith, the sole error specified in the rule, is error in joinder of inventors.

Appellant does not allege that the application as filed was not a proper joint application, nor that it did not remain a proper joint application up to the amendment of December 23, 1959. Questioned at the hearing, counsel would not assert that this application was improperly filed as a joint application, and when pressed as to wherein the error lay, the reply was that the error consisted in the inclusion in the disclosure of some subject matter, unessential to the joint invention, which had not been invented by the two applicants jointly. This is not an error of joinder of inventors. We also note that substantially every application filed contains a disclosure of subject matter which was not invented by the applicant or applicants and that this aspect of disclosure is not an error of any kind. Further, it may be noted that the second joint application contains the same disclosure (with insignificant changes) and that (as in the instant case as filed) there is no error of joinder of inventors in the second joint application.

[2] The situation is, simply, that an application was filed jointly for a joint invention and so prosecuted until nearly three years after filing when claims to subject matter not before claimed were added by amendment, which claims would have made the application an improper joint application. This does not make the original joint filing erroneous.

Next, we observe that the claim to the sole invention was presented in this case with full recognition that it was a sole invention and requesting conversion of this case to a sole inventor. Thus, at neither the time of filing nor at the time of conversion was there an erroneous joinder of inventors.

[3] Appellant argues that if a new sole case had been filed on December 23, 1959, leaving this application as a joint one, the sole case would have been entitled to the benefit of the filing date of the present application; and since this premise is alleged to be the case, the conclusion is drawn that it was, therefore, proper to convert the present case to a sole application. The premise of this argument is not necessarily true. The benefit of the filing date of a prior copending application is governed by 35 U.S.C. 120, and the first requirement specified by the statute is that the inventors be the same. This present case should be decided under the relevant statute and not by imagining and deciding some other case not before us.

[4] The main part of appellant's brief is taken up with a discussion of *In re Schmidt*, 48 CCPA 1140, 772 O.G. 897, 293 Fed. 2d 274, 1961 C.D. 542, 130 USPQ 404, on which great reliance is placed in support of the above argument. We do not regard the facts in the present case to be entirely analogous, nor do we believe that that decision is apposite or compels the allowance of the present application, for the following exemplary reason. In that decision, as the court makes clear, the joint case was not filed for *only* the joint invention, as is the case here. When, as here, a joint case is correctly filed for only a joint invention, there is no error of joinder. Without an error of joinder there is no basis for correction under 35 U.S.C. 116, third paragraph.

The decision of the Examiner is affirmed.

AFFIRMED.

KREEK, *Examiner-in-Chief*, dissenting:

I cannot agree with the conclusion reached by the majority herein. It seems to me that their decision is implicitly based on the proposition that, in order to be able to convert, the continuing subject matter must have been claimed at sometime in the joint application, as well as having been disclosed therein. In my opinion, this is not the law as will more fully appear below.

No question of deceptive intention has been raised here, so that the only question before us is as to the existence of error. And in this connection, while the Examiner has also referred to Rule 45 relating to conversion, since such rule must as to the point in question be in harmony with 35 U.S.C. 116 providing its statutory basis, consideration will be confined to said statutory section rather than to the rule.

A salient consideration here is the meaning of the term "an application for patent" as used in section 116. That such term is not restricted merely to the claimed subject matter, but would embrace as well the disclosure of the application including unclaimed matter therein, has been conceded by the Examiner, on the basis of the decision of *Ware* v. *Carlton et al.*, 36 CCPA 957, 622 O.G. 956, 173 Fed. 2d 366, 1949 C.D. 243, 81 USPQ 196 (see also *Teter* v. *Kearby*, 36 CCPA 706, 617 O.G. 903, 169 Fed. 2d 808, 1948 C.D. 631, 79 USPQ 65, cited in *Ware* v. *Carlton et al.*, supra), and nothing is seen in the present statute requiring any different interpretation. Such disclosure herein, as originally filed and thereafter, included the instant sole invention as a part of the entire mechanism which in said entirety here constitutes the joint invention. Said sole invention would thus constitute a potentially claimable aspect of the disclosure, in accordance with normal considerations of patent practice, subject only to the usual tests as to its patentability. But this potentially claimable aspect, in the instant situation a part of an entire disclosure originally denoted as having joint inventorship, would thereby likewise have been held out to be a joint invention. This, since in fact said aspect was a sole invention of Lyon, would, in my opinion, constitute error falling within the requirement of the statute. Hence, I am not in agreement with the Examiner and the majority of the Board that the conversion here was improper for lack of error, and in this sense, I do not regard the filing of the second joint application to have any bearing on the fundamental question involved.

Furthermore, from another standpoint, it is noted that section 116 does not restirct the "application for patent" to the application as originally filed. Clearly, an applicant has a right to amend, and under present practice applications are regularly so amended, including changes in respect to the claims. Thus, as to the application as it stood upon amendment by cancellation of the claims to the joint invention and insertion of claim 22, the invetor Lyon must clearly be considered as improperly joined as a joint inventor with respect to the subject matter of said claim 22. This improper joinder would seem to be error, correctable by conversion under the statute.

As pointed out in *In re Schmidt*, 48 CCPA 1140, 772 O.G. 897, 293 Fed. 2d 274, 1961 C.D. 542, 130 USPQ 404, section 116 is designed for remedial purposes, to enable realignment of joint and sole subject matter where improperly presented. Here, the end result sought, namely one application properly directed to the joint invention and another application properly directed to the sole invention, could have been effected in other ways hardly likely to have raised any question, such, for example, as by the filing of a sole application as a continuation-in-part or division of the joint case, as was done in *Teter* v. *Kearby*, supra. That the particular procedure used herein should have been selected, particularly where such procedure, as noted above, would conform to the requirements of the statute, should not be held detrimental.

For the reasons given above, I would not sustain the instant rejection.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

Notices under 35 U.S.C. 290; Patent Act of 1952

2,352,183, E. P. Bullard III, CONTROL MECHANISM; **2,575,792**, R. D. Bullard et al., same, **filed** Feb. 2, 1965, C.C.A., 4th Cir., Doc. 9866, *The Bullard Company* v. *General Electric Company.*

2,428,266, H. S. Daniels, CLOTH AND PAPER BAG; **2,662,576**, D. Belcher et al., MANUFACTURE OF WINDOW BAGS; **2,822,733**, Williams and Helmos, MANUFACTURE OF BAGS, **filed** Jan. 6, 1965, D.C. Maine (Portland), Doc. 1526, *Union Bag and Paper Corp. et al.* v. *Maine Potato Growers, Inc. et al.*

2,451,758, H. Malm, RUBBER GLOVES; **2,584,891**, C. F. Libby, NARROW WEB WITH LOCKED SELVAGE AND METHOD OF MAKING SAME, **filed** Jan. 25, 1965, D.C., E.D.N.Y., Doc. 65C-70, *Libby Family Trusts* v. *Lewis Weiner Engineering Co.*

2,452,549, C. E. Cleeton, DOUBLE PULSE GENERATOR; **2,471,413**, same, PULSE CODE-SIGNALING SYSTEM, **filed** Jan. 13, 1965, D.C. Md. (Baltimore), Doc. 16092, *Claud E. Cleeton et al.* v. *Hewlett-Packard Company.*

2,471,413. (See 2,452,549.)

2,486,759, F. B. Pfeiffer, PACKAGING METHODS AND APPARATUS; **2,486,760**, same, METHOD OF PACKAGING; **2,486,761**, same, METHOD AND APPARATUS FOR WORKING SHEET MATERIAL; **2,546,059**, W. S. Cloud, METHOD AND APPARATUS FOR PREPARING AND USING SHEET MATERIAL FOR PACKAGING PURPOSES; **2,888,787**, C. E. Cloud, METHOD AND APPARATUS FOR VACUUM PACKING IN PLASTIC, **filed** Sept. 26, 1960, D.C., N.D. Ill. (Chicago), Doc. 60c1516, *William S. Cloud et al.* v. *Standard Packaging Corp.* Complaint sustained as to validity of Patent Nos. 2,486,759, 2,486,760, and 2,486,761, having, in advance of trial, been dismissed from suit by agreement of the parties; Patent Nos. 2,546,059 and 2,888,787 held valid, and claims 1, 2, 3 and 5 of Patent No. 2,546,059 and claims 8, 9, 10, 11, 14, 15, 16, 18, 19, 20, 21 and 22 of Patent No. 2,888,787 held infringed; plaintiffs entitled to an injunction against defendant for further infringement of Patent Nos. 2,546,059 and 2,888,787, Jan. 4, 1965.

2,486,760. (See 2,486,759.)

2,486,761. (See 2,486,759.)

2,493,805, R. W. Dinzel, INJECTION MOLDING MACHINES, **filed** Jan. 8, 1964, D.C., W.D.N.Y. (Buffalo), Doc. 10,697, *National Automatic Tool Company, Inc.* v. *Farrel Corporation.* Stipulation and order of dismissal (notice Feb. 1, 1965). **Same, filed** Mar. 3, 1965, D.C., E.D. Pa. (Philadelphia), Doc. 37604, *Farrel Corporation* v. *Pennsalt Chemicals Corp. et al.* Stipulation of dismissal (notice May 24, 1965).

2,500,864, Preaus and Ross, AWNINGS OF METAL OR SIMILAR MATERIAL, **filed** Jan. 19, 1965, D.C., E.D. Mo. (St. Louis), Doc. 65C24(1), *Charles M. Preaus et al.* v. *Belair Industries, Inc. et al.*

2,503,902, G. Cunningham, METHOD OF ATTACHING PRICE TAGS; **2,503,903,** Cunningham and Woods, APPARATUS FOR ATTACHING PRICE TAGS, **filed** Jan. 6, 1965, D.C.N.J. (Newark), Doc. 14–65, *Stephens Industries, Inc.* v. *Kimball Systems, Inc.* Stipulation and order of dismissal Apr. 12, 1965.

2,503,903. (See 2,503,902.)

2,510,438, K. M. Tuohy, CONTACT LENS, **filed** Jan. 29, 1965, D.C., S.D.N.Y., Doc. 65/297, *Van Dore Contact Lens Laboratories, Inc.* v. *The Plastic Contact Lens Co. et ano.*

2,513,004, G. O. Hall, CURING OF MEAT TO INHIBIT UNDESIRABLE COLOR CHANGE, **filed** June 25, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–[illegible]4WB, *Calgon Corporation* v. *Grande Taste Packing Co., Inc.* Final consent judgment; patent held valid and infringed; defendant enjoined Feb. 18, 1965.

2,520,364, J. C. Hobbs, GATE VALVE; **2,617,621,** same, VALVE, **filed** Aug. 29, 1963, Ct. Cls., Doc. 244–63, *James C. Hobbs* v. *United States.* Defendant's motion to dismiss petition for lack of jurisdiction granted; plaintiff's petition dismissed without prejudice Dec. 1[illegible], 1964.

2,534,342, N. I. Daniel, VIBRATO MEANS FOR AUDIO-AMPLIFIERS, **filed** Feb. 4, 1965, D.C., S.D.N.Y., Doc. 65/357, *The Danelectro Corp. et ano.* v. *The Ampeg Co., Inc.*

2,546,059. (See 2,486,759.)

2,546,354, Bacon and Kent, NAILING MACHINE, **filed** Jan. 18, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–82WM, *Mag Nu-Matic Nailer, Inc. et al.* v. *William Dennis.* **Same, filed** Jan. 25, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–112–FW, *Mag Nu-Matic Nailer, Inc. et al.* v. *Beven-Herron, Inc.* **Same, filed** Jan. 27, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–136–FW, *Mag Nu-Matic Nailer, Inc. et al.* v. *Peter Dodge.* **Same, filed** Mar. 15, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–406–[illegible]C, *Mag Nu-Matic Nailer, Inc. et al.* v. *William Bull et al.*

2,552,972, I. Jepson, MEANS FOR ROTATING A MIXER BOWL; **2,615,690,** same, BEATER AND BOWL ARRANGEMENT FOR MIXERS, **filed** Feb. 11, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c217, *Sunbeam Corporation* v. *Waage Manufacturing Company et al.* **Same, filed** Feb. 16, 1965, D.C., N.D. Calif. (San Francisco), Doc. [illegible]3316, *Sunbeam Corporation* v. *California Electric Service, Inc.*

2,554,844, L. M. Swift, CASING COLLAR LOCATOR; **2,967,994,** G. Peterson, CASING JOINT LOCATOR, **filed** Sept. 21, 1964, D.C., N.D. Tex. (Wichita Falls), Doc. 7–95, *Dresser Industries, Inc.* v. *Texas Perforating Company.* Stipulation of dismissal Feb. 23, 1965.

2,564,646, W. E. Leistner et al., HAZE RESISTANT VINYL CHLORIDE POLYMERS; **2,716,092,** Leistner and Hecker, VINYL CHLORIDE RESINS STABILIZED WITH A MIXTURE CONTAINING A PHENOLATE AND A POLYVALENT METAL SALT OF A FATTY ACID, **filed** Nov. 20, 1963, D.C., E.D.N.Y. (Brooklyn), Doc. 63C–1249, *M & T Chemicals, Inc.* v. *Argus Chemical Corporation.* Stipulation of dismissal Feb. 10, 1965.

2,575,792. (See 2,352,183.)

2,579,390, E. E. Mills, METHOD OF MAKING HOLLOW ARTICLES, **filed** Jan. 13, 1965, D.C., S.D.N.Y., Doc. 65/97, *Continental Can Co., Inc.* v. *Union Carbide Corp.*

2,582,585, F. De Cesaris, COMPASS, **filed** Sept. 28, 1964, D.C., S.D.N.Y., Doc. 64/2960, *Hassenfeld Bros., Inc.* v. *Joseph B. Zahn & Sons, Inc.* Consent judgment; defendants enjoined Feb. 3, 1965.

2,584,891. (See 2,451,758.)

2,585,273, P. E. Prutzman, REARVIEW MIRROR; **2,708,086,** same, BRACKET FOR MOUNTING REAR VIEW MIRRORS, **filed** C.C.A., 6th Cir., Doc. 15833, *Bruce Gilreath et al.* v. *Beach Manufacturing Company.* Decision of District Court affirmed Jan. 21, 1965.

2,595,536, P. P. Pastoret, MULTIPLE MOTTLER; **2,885,809,** same; **Des. 187,977,** same, GRAINING COMB, **filed** Jan. 15, 1965, D.C. Minn. (Minneapolis), Doc. 4–65/14, *Pierre Enterprises* v. *Frost Paint & Oil Corp.*

2,615,690. (See 2,552,972.)

2,617,621. (See 2,520,364.)

2,662,578. (See 2,428,266.)

2,699,054, L. H. Conover, TETRACYCLINE, **filed** July 16, 1964, D.C., E.D.N.Y. (Brooklyn), Doc. 64C–752, *Chas. Pfizer & Co., Inc.* v. *Stoneham Laboratories, Inc.* Consent judgment for injunction June 4, 1965.

2,708,086. (See 2,585,273.)

2,716,092. (See 2,564,646.)

2,822,733. (See 2,428,266.)

2,867,314, C. W. Hansen, AUGER CONVEYOR, **filed** Feb. 12, 1959, D.C., N.D. Iowa (Dubuque), Doc. 1118, *Charles W. Hansen* v. *Claud Siebring, doing business as Siebring Manufacturing Co.* Stipulation and decree holding patent valid and infringed; injunction granted; defendant's counterclaim dismissed with prejudice Oct. 19, 1959. **Appealed** Sept. 25, 1964, C.C.A., 8th Cir., Doc. 17814, *Claud Siebring, doing business as Siebring Manufacturing Company* v. *Charles W. Hansen.* Judgment of District Court affirmed June 2, 1965.

2,885,809. (See 2,595,536.)

2,888,787. (See 2,486,759.)

2,967,994. (See 2,554,844.)

3,000,576, Levey and Harvey, SPRAY GUN, **filed** Apr. 27, 1962, D.C., S.D. Tex. (Houston), Doc. 14,308, *Spraying Systems Co.* v. *The Spee-Flo Company.* Final consent judgment; claims 1 to 6 and 8 of Patent No. 3,000,576 held valid and infringed by plaintiff; plaintiff enjoined Feb. 26, 1965.

3,022,521, J. Martin, BORDER STABILIZERS, **filed** June 8, 1962, D.C., N.D. Ill. (Chicago), Doc. 62c1144, *Eclipse Sleep Products, Inc.* v. *Sealy, Inc. et al.* Cause dismissed without prejudice June 5, 1964.

3,032,366, S. W. Meek, SLIP SETTING DEVICE FOR OIL WELL ELEVATORS, **filed** Feb. 4, 1965, D.C., W.D. Tex. (Pecos), Doc. 4001, *S. W. Meek* v. *Byron Jackson Tools, Inc.*

3,043,506, F. C. Bremer, ENVELOPE CONSTRUCTION, **filed** Feb. 23, 1965, D.C., N.D. Tex. (Dallas), Doc. 3–887, *Fred C. Bremer et al.* v. *The Artrex Company et al.* Final judgment; patent held valid and infringed; defendants enjoined May 28, 1965.

3,044,659, E. S. Tupper, VESSELS AND HANDLES THEREFOR; **Des. 188,553,** same, HANDLED CONTAINER; **Des. 195,046,** J. B. Swett, COMBINED BOWL AND TRAY, **filed** Feb. 5, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c187, *Rexall Drug and Chemical Company* v. *Republic Molding Corporation.* Stipulation and order of dismissal without prejudice Apr. 28, 1965.

3,060,293, H. Lapidus, AUTOMOTIVE ELECTRIC SOCKET, **filed** Feb. 15, 1965, D.C. Conn. (New Haven), Doc. 10840, *U.S. Metal Products Company, Inc.* v. *The Rubber Company.*

3,064,474, A. S. Parks, METERING APPARATUS, **filed** Sept. 25, 1963, D.C., S.D. Tex. (Houston), Doc. 63–H–513, *Dover Corporation* v. *Houston Corporation.* Order of dismissal (notice Jan. 29, 1965).

3,079,617, B. F. Brasch, SLED OR BOAT; **Des. 191,833,** Brasch and Mountford, SLED, **filed** Mar. 10, 1964, D.C. Conn.

(New Haven), Doc. 10335, *Blazon, Inc.* v. *Coleco Toy Products.* Consent decree; Des. Patent No. 191,833 held valid but not infringed Feb. 15, 1965.

3,083,393, J. J. Nappi, SHOE SOLE CLEANER, **filed** Feb. 19, 1965, D.C., S.D. Ohio (Columbus), Doc. 7390, *John J. Nappi* v. *The Scioto Paper Company.*

3,099,404, J. Kaufman, RECESSED LIGHTING FIXTURES, **filed** Aug. 12, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c1393, *Markstone Manufacturing Company* v. *Englewood Electrical Supply Co. et al.* Consent judgment; patent held infringed Feb. 3, 1965.

3,112,795, J. D. Keithahn, RETRIEVABLE SUBSURFACE WELL TOOL; **Re. 25,639,** Clark and Keithahn, RETRIEVABLE WELL PACKER AND ANCHOR, **filed** Jan. 27, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–139, *Baker Oil Tools, Inc.* v. *Dresser Industries, Inc.*

Re. 24,017, J. A. Henricks, METHOD OF COATING AND DRAWING METAL AND COMPOSITIONS THEREFOR, **filed** Jan. 15, 1965, D.C., M.D.N.C. (Greensboro), Doc. C–10–G–65, *Rockwell-Standard Corporation* v. *Technograph Printed Electronics, Inc.* **Same, filed** Jan. 15, 1965, D.C., N.D. Ohio (Cleveland), Doc. C65–24, *Rockwell-Standard Corporation* v. *Dever Corporation et al.*

Re. 25,639. (See 3,112,795.)

Des. 187,977. (See 2,595,536.)

Des. 188,553. (See 3,044,659.)

Des. 191,833. (See 3,079,617.)

Des. 195,046. (See 3,044,659.)

U.S. GOVERNMENT PRINTING OFFICE: O—1965

REISSUES

JULY 6, 1965

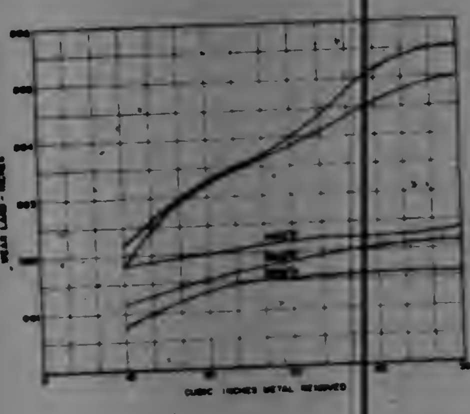
Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

25,815
METALLIC COMPOSITIONS

Michael Humenik, Jr., and David Moskowitz, Wayne County, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Original No. 2,967,349, dated Jan. 10, 1961, Ser. No. 822,048, June 22, 1959. Application for reissue May 21, 1964, Ser. No. 380,727

6 Claims. (Cl. 29—182.7)



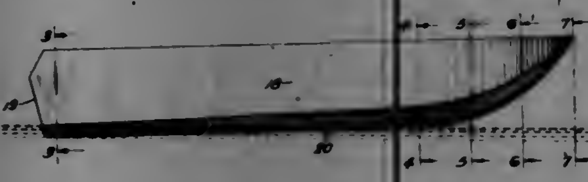
1. A hard sintered metallic compact particularly suitable for cutting tools, said compact being free of detrimental quantities of nitrides and oxides consisting essentially of titanium carbide and a molybdenum containing binding alloy, said binding alloy consisting essentially of twenty-five percent to seventy percent of a material selected from the class consisting of molybdenum, molybdenum carbide and mixtures of molybdenum and molybdenum carbide and an alloying metal selected from the group consisting of iron, cobalt, nickel and alloys thereof, *said titanium carbide being essentially free of dissolved molybdenum and molybdenum carbide and* said binding alloy in turn comprising ten to fifty percent of the mass of the compact, *the total molybdenum content of the compact not exceeding 13% of the mass of the compact.*

25,816
CATAMARAN TYPE BOATS

Julien G. Bamberger, Milwaukee, Wis., assignor to Masco Corporation, Milwaukee, Wis., a corporation of Wisconsin

Original No. 3,077,851, dated Feb. 19, 1963, Ser. No. 22,762, Apr. 18, 1960. Application for reissue Nov. 15, 1963, Ser. No. 357,342

2 Claims. (Cl. 114—62)



2. In a boat, a hull having spaced-apart keels which are substantially parallel and straight throughout the length from the stern of the boat at least to the farthest forward potential water line of the bow, the bottom of the hull from the stern of the boat at least to the farthest forward potential water line at the bow having a tunnel extending entirely through to the rear extremity of the boat whereby said hull has an effective bottom portion formed by longitudinally extending spaced pontoons, one on each side of said tunnel, each keel being on the innerside of each pontoon adjacent the tunnel, each pontoon having an effective bottom lifting surface substantially all of which is outwardly of the keel and which is angled in one direction only outwardly and upwardly from the keel, said angle being between 5° and 15° at the stern and progressing to between 15° and 60° at the farthest forward potential water line adjacent the bow, the sum of the widths of said effective bottom surfaces of the pontoons being more than 50% of the effective width of the bottom of the hull and the width of the tunnel portion being less than 50% of said effective width, the angle of each of said effective bottom lifting surfaces of the pontoons being such that at substantially all running speeds the boat normally rides substantially exclusively on the full width of said lifting surfaces of the pontoons from the stern of the boat to approximately the vicinity of the farthest forward potential water line at the bow, which lifting surfaces of the pontoons, together with the top of the tunnel, provide the sole upward force when proceeding in a straightforward direction, all of said width of said lifting surfaces of the pontoons being outwardly of the keels.

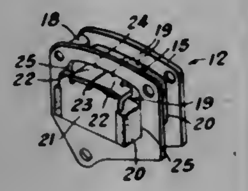
25,817
SPOT TYPE DISC BRAKES FOR VEHICLES

Henry James Butler, Sutton Coldfield, England, assignor to Dunlop Rubber Company Limited, London County, England, a British company

Original No. 3,124,217, dated Mar. 10, 1964, Ser. No. 92,921, Mar. 2, 1961. Application for reissue June 10, 1964, Ser. No. 398,820

Claims priority, application Great Britain Mar. 5, 1960

6 Claims. (Cl. 188—73)



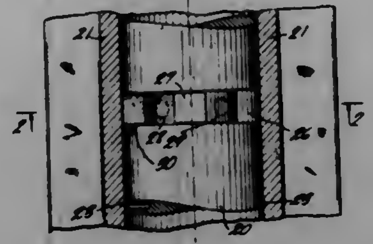
6. In a disc brake including a braking disc and fixed guide plates located on opposite sides of said disc, and having apertures adjacent to said disc, a structure comprising friction pads in said apertures and movable therein into engagement with the opposed sides of said disc, and backing plates for the said friction pads, each said backing plate having at one end an out-turned ear which extends beyond the periphery of said disc into abutment with the other backing plate, the ears contacting the outer edges of the apertures in the guide plates and the friction pads contacting the side edges of the apertures in the guide plates.

25,818
ROTARY MOTION APPARATUS

Michael J. Krawacki, Englishtown, N.J., assignor to Trojan Corporation, Plainfield, N.J., a corporation of New Jersey

Original No. 3,033,122, dated May 8, 1962, Ser. No. 853,912, Nov. 18, 1959. Application for reissue Mar. 20, 1963, Ser. No. 268,511

20 Claims. (Cl. 103—139)



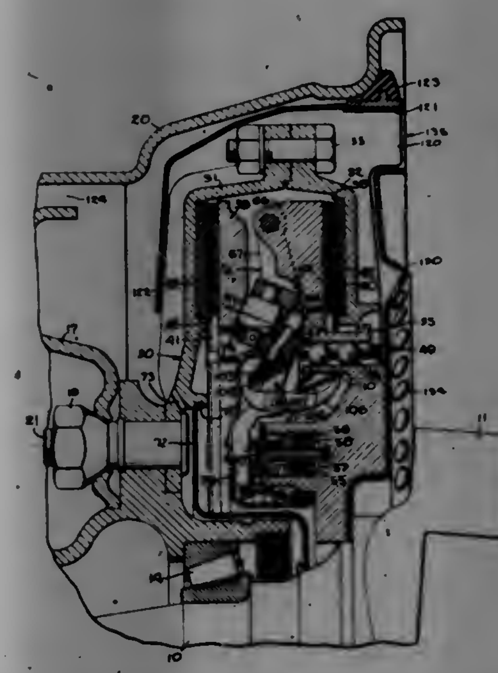
1. In a rotary motion aligned impulsion machine in which at least one reaction block unit is coupled in angularly fixed relation with a first of a pair of relatively rotatable members and is seated in a continuous fluid receiving groove formed in the second of said members, at least one vane is received in transversely movable relation within a slot formed transversely of said groove in said second member, said vane being adapted by relative rotation of said members to move angularly relative to said block unit over an angular interval for which said vane is transversely stationary in working position to obstruct said groove by a solid vane portion, and also, over two angular intervals of vane transverse motion which are disposed on opposite sides of the center line of said block unit and in which, respectively, said vane passes said block unit by shifting transversely from working position to remove said portion from said groove, and said vane shifts transversely back to working position, and in which machine a camming means is disposed adjacent said second member to provide a camming surface adapted by contacting a cam follower face on said vane to control the transverse position thereof, the improvement in said machine comprising a reaction block proper forming at least part of said block unit and extending transversely from side to side of said groove, and a pair of curvilinear camming sections forming angular extents of said camming surface which lie to either side of the center line of said block proper, and which shifts said vane transversely within said transverse motion intervals, each camming section having a profile of variation in transverse displacement with angular displacement which extends towards said center line beyond the angular position which is angularly spaced outwardly of the edge of the block proper nearest such camming section by half the angular thickness of the vane.

25,819
BRAKE CONSTRUCTION

Edward A. Rockwell, 167 Ashdale Place, Los Angeles, Calif.

Original No. 3,047,097, dated July 31, 1962, Ser. No. 746,292, July 2, 1958. Application for reissue Dec. 31, 1964, Ser. No. 438,443

17 Claims. (Cl. 188—72)



1. In a brake mechanism the combination comprising, a rotary wheel to be braked having a hub, a brake housing mounted on said wheel having an annular braking surface concentric with the hub, a braking unit for the wheel mounted on the hub inside the housing including a brake disk axially movable into engagement with the housing braking surface, and manually operated hydraulic means for moving said disk into frictional engagement with said braking surface, said hydraulic means including dual concentric annular cylinders defined about said hub, annular pistons in said cylinders, and connections between said pistons and said brake disk so that pressure fluid admitted to either of said cylinders is effective to move said brake disk axially into contact with the braking surface.

PLANT PATENTS

GRANTED JULY 6, 1965

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,543
APRICOT TREE

Frederic W. Anderson, Merced, Calif., assignor to Irvin M. Burchell, doing business as The Burchell Nursery, Modesto, Calif.

Filed Feb. 24, 1964, Ser. No. 347,104

1 Claim. (Cl. Plt.—39)

A new and distinct variety of apricot tree, substantially as illustrated and described, which is a regular and productive bearer of medium to large size fruit of good quality; characterized, in comparison with the Blenheim, by fruit which ripens more evenly and about ten days earlier, averages larger in size, and has firmer flesh.

PATENTS

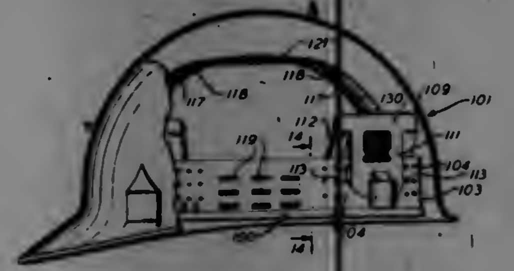
GRANTED JULY 6, 1965

GENERAL AND MECHANICAL

3,192,536

HEADGEAR AND HAMMOCK ASSEMBLY CONNECTING MEANS THEREFOR

Charles E. Benner, Grosse Pointe Woods, Mich., assignor to Air Reduction Company, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 28, 1963, Ser. No. 319,170
8 Claims. (Cl. 2—3)

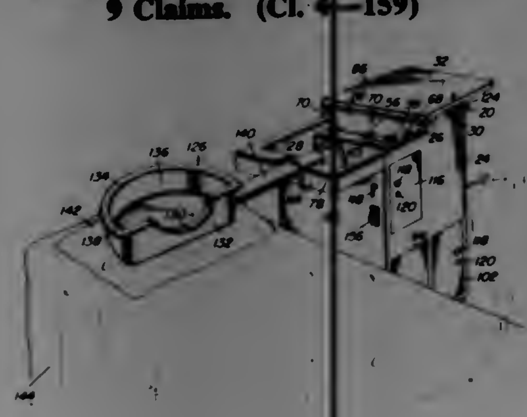


6. Head protecting apparatus comprising a shell and a head receiving headband therefor, said shell having an inner surface, at least one recessed area in said inner surface, at least one connecting member for vertically adjustably mounting said shell on said head receiving headband, said connecting member comprising a supporting member, means on said supporting member cooperating with said headband for said adjustable mounting, a depending portion integrally molded to said supporting member, lug structure removably mounted within said recessed area integrally molded to said depending portion, said depending portion in engagement with the inner surface of said shell for increased mounting stability when the lug structure is mounted in the recessed area.

3,192,537

READILY PORTABLE SHAMPOO DEVICE

Nellie V. Coffman, 709 W. B St., Joplin, Mo., and Joe L. Wilson, 508 3rd Ave. NE., Miami, Okla.
Filed July 2, 1963, Ser. No. 292,221
9 Claims. (Cl. 4—159)

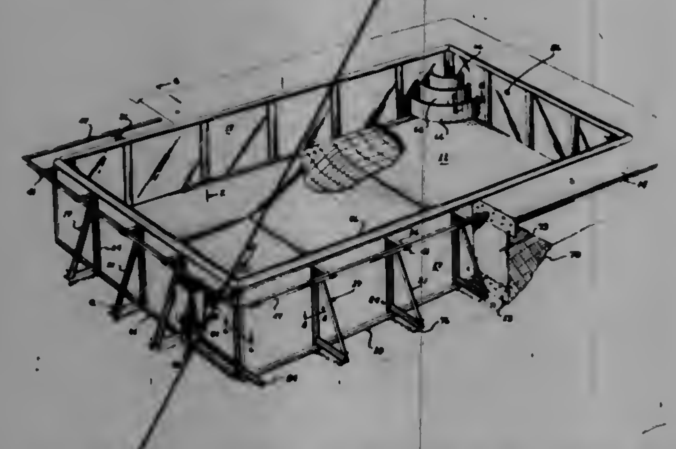


1. A readily portable shampoo device comprising a cabinet mounted on a rotatable support means, an upper hot water supply tank and an upper cold water supply tank mounted in side-by-side relation interiorly of said cabinet rearwardly thereof, a shampoo bowl mounted interiorly of said cabinet forwardly of said pair of water supply tanks and extending forwardly and upwardly exteriorly of said cabinet, a cover hinged on said cabinet extending rearwardly over said pair of supply tanks, a second cover hinged on said cabinet extending forwardly over said shampoo bowl, said covers in closed position providing a substantially flat table surface, a closed top drainage water storing tank mounted in said cabinet underneath said supply tanks and the portion of said shampoo bowl within said cabinet, drain means connecting said shampoo bowl to said drain tank through the closed top thereof, a spray hose and spray head thereon connected to a mixing valve mounted in said shampoo bowl, electric motor operated water pump means mounted within said cabinet, and water conduits connected through said water pump means from each said supply tank through faucet controls to said mixing valve means, said shampoo bowl having a neck-receiving recess in an end ledge in its forward upwardly extending portion exteriorly of said cabinet for conveniently supporting the head and neck of a chair occupying patient.

3,192,538

SWIMMING POOL

Tad Walter, 2631 E. Prince Road, Tucson, Ariz.
Filed May 9, 1963, Ser. No. 279,175
4 Claims. (Cl. 4—172)

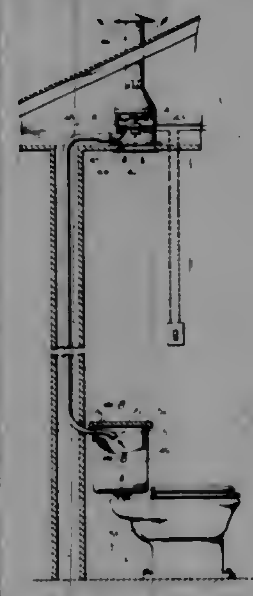


1. A swimming pool of the character described of rectangular shape, said swimming pool including
(a) a plurality of vertical T-shaped members having oppositely positioned grooves therein, four of such T-shaped bars at corners having such grooves facing at right angles to each other,
(b) a plurality of flat plates disposed in the grooves of said T-shaped members, but projecting slightly above and below such members,
(c) a bottom generally right angular rigid runner having a top groove into which bottom edges of said plates project,
(d) a rigid top runner of generally angular shape having a continuous bottom groove into which top edges of said plates project,
(e) an upper projection on said rigid top runner aligned with said groove,
(f) means forming an upper groove spaced from said upper projection,
(g) a hollow rounded snap-on coping member having a bottom groove and bottom projection respectively engaging said rigid top runner,
(h) said coping also having a continuous outwardly facing narrow projection,
(i) a gusset-like triangular support assembly including
  (1) a bottom horizontal bracing bar, and
  (2) a diagonal bracing bar
(j) said rigid runner, T-shaped member, horizontal bracing bar and diagonal bracing bar all mutually interconnected to form a single assembly,
(k) a plurality of top horizontal bracing bars parallel with said bottom horizontal bracing bars,
(l) a longitudinal supporting angular bar in a nature of a runner secured to outer ends of said plurality of top horizontal bracing bars,
(m) a concrete footing engaging over said rigid runner and a portion of said plates and on the horizontal bracing bars and bottom end of said diagonal bracing bar, and
(n) a concrete or the like deck enclosing at least said longitudinal supporting angle bar and said outward projection on said snap-on coping, a body of comminuted materials substantially free of voids disposed between said plates and a portion of earth and between said footing and coping,
(o) a unitary body of concrete all mutually connected to said footing above identified and projecting slightly above said plates so as to overlap a bottom portion thereof, and comprising
  (1) rounded side walls at a deeper portion of the pool,
  (2) a bottom, and
(p) said concrete body having a relatively narrow projection forming a continuous safety step around the pool at side walls of said pool at said deeper portion said step being substantially coextensive with said pool bottom at the shallowest portion of the pool.

3,192,539

VENTILATORS FOR WATER CLOSETS, KITCHENS AND THE LIKE

William L. Martz, 20980 Canyon View Drive, Saratoga, Calif.
Filed Aug. 1, 1963, Ser. No. 300,414
4 Claims. (Cl. 4—218)

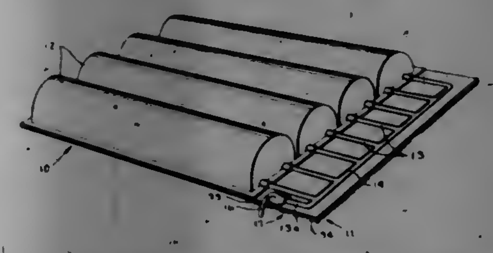


1. In a ventilator for a bathroom water closet which is provided with a water tank, a toilet bowl, a valve mechanism for flushing the water out of the tank into the toilet bowl, and an overflow pipe in the tank connected to the toilet bowl, the improvement comprising a ventilating pipe having the upper end thereof open to the atmosphere above the bathroom and the lower open end thereof positioned in the water tank above the normal water level therein, means connected to the upper part of said ventilating pipe producing air flow upward through said ventilating pipe to draw air out of said water tank, said overflow pipe and said bowl, yieldable gasket means positioned between the upper edge of said water tank and the cover thereof, said ventilating pipe having a flattened portion at the bottom part thereof so that the width thereof does not exceed the thickness of said gasket means, said gasket means having a gap in the rear part thereof through which said flattened portion of said ventilating pipe is inserted into said tank, said toilet bowl having a seat and sealing means between said seat and said toilet bowl for substantially preventing fumes from escaping into the bathroom from said bowl while excrement is being voided into said bowl and said fumes and air are being exhausted from said bowl by said air flow producing means.

3,192,540

ADJUSTABLE PNEUMATIC SUPPORT

Richard E. Swank, Battle Creek, Mich. (12520 Pacific Ave., Los Angeles, Calif.)
Filed Jan. 22, 1962, Ser. No. 167,662
2 Claims. (Cl. 5—349)

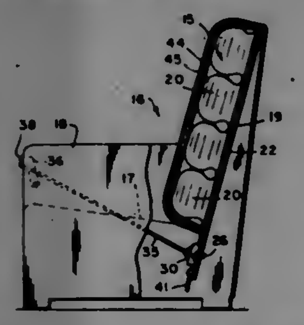


1. A resiliently flexible, fluid holding structure for supporting an object, comprising:
a plurality of elongated, flexible envelopes, each envelope having partition means disposed therein between the lengthwise ends thereof and dividing each envelope into a plurality of compartments;
connecting means for normally holding said envelopes together in parallel, substantially coplanar positions;
a plurality of flexible conduits, each of said conduits communicating with one of said compartments;
header means communicating with each of said conduits at points spaced from said envelopes, whereby said fluid can flow freely through said conduits and said header between said compartments, said conduits having portions between said header and said envelopes extending transversely of a substantially straight line;
a filler conduit communicating with said header means; and hinged support means connected to said envelopes, each of said conduits having said portion thereof mounted upon said support means and extending transversely of the hinge axis thereof so that said line is parallel with and adjacent to said hinge axis, said support means being hingedly movable around said hinge axis into and out of a position wherein said portions of said conduits are pinched at the same time to block the flow of fluid through said conduits.

3,192,541

CONTOURABLE PNEUMATIC CUSHIONS

Boyd S. Moore, St. Anne de Bellevue, Quebec, Canada (230 Overdale St., Winnipeg 12, Manitoba, Canada)
Filed Mar. 19, 1962, Ser. No. 180,552
4 Claims. (Cl. 5—349)



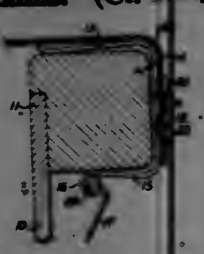
1. A self-contained, hermetically sealed, contourable pneumatic cushion, comprising in combination, a rigid

back plate, a plurality of individual air cells mounted in juxtaposed relation on said back plate, said plate providing a rigid backing for said air cells whereby the cells may be constrained against the back plate by pressure of a user's body applied to the cells, a single manual control valve having a plenum chamber, a plurality of air conduits connecting the respective air cells to said plenum chamber of said valve in a hermetically closed cycle, said valve having an open position wherein under body pressure applied to the cells air may flow from any of the cells into others through said plenum chamber and conduits, said valve also having a closed position wherein said conduits and the associated air cells are hermetically isolated from each other at the plenum chamber whereby to prevent transfer of air between the cells, and means for opening and closing said valve.

3,192,542

FABRIC COVER FOR BOATS

William J. Mills II, Greenport, N.Y.
(125 Main St., Greenport, Long Island, N.Y.)
Filed Oct. 8, 1962, Ser. No. 228,982
6 Claims. (Cl. 9—1)



2. A construction which is designed to effectively cover the opening of a boat, when not in actual use, to furnish protection from rain, dust and dirt, to preserve the paint or interior finish and to provide a measure of protection to items of equipment which it may be necessary or desirable to keep with the boat at all times, said construction comprising in combination:

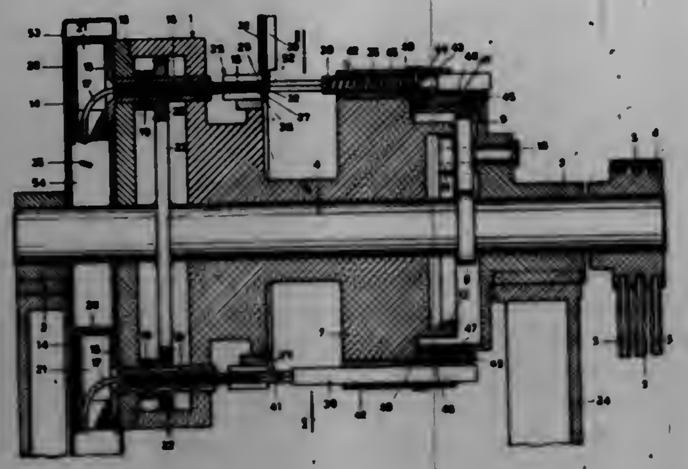
- (a) a boat having a gunwale,
- (b) the gunwale being provided with a gunwale guard adjacent the upper portion of the gunwale and forming a gunwale assembly,
- (c) a flexible cover member of a size and shape to protect the desired area of a boat and having a body portion bent over an outer edge of the gunwale assembly and adjacent to the upper outer edge thereof, a series of thin directly-attached securing members of substantially the same thickness attached to the under surface of the cover member and sufficiently thin to hold the cover in close contact with the gunwale assembly, the securing members being resiliently bent in a shape generally to conform to the gunwale assembly, the cover attachments to the securing members being outboard of the bent-over edge, the securing members being under tension continuously when in place to hold the cover taut until the securing members are placed under additional tension by separation.

3,192,543

AUTOMATIC NUT TAPPING MACHINE

Carlo Agrati, Veduggio Brianza, Italy, assignor to Officine Meccaniche A. Agrati S.r.l., Veduggio Brianza, Italy, a company of Italy
Filed Dec. 10, 1962, Ser. No. 243,404
Claims priority, application Italy, Dec. 14, 1961, 663,028
10 Claims. (Cl. 10—132)

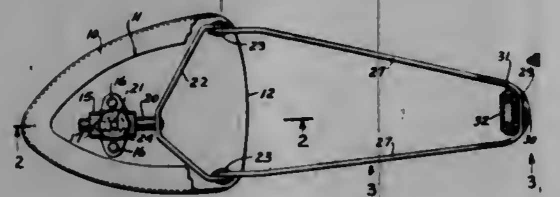
1. An automatic nut tapping machine comprising a stationary support structure, a shaft rotatably supported by said support structure, a drum journalled on said shaft for rotation relative thereto a driving means connected to said shaft for rotating said shaft, said shaft being drivingly connected to said drum for rotating said drum relative to said shaft, a spindle mounted on said drum for revolving about said shaft, said spindle also being rotatably mounted on said drum for rotation about an axis which is parallel to the rotational axis of said shaft, said shaft being drivingly connected to said spindle for rotating said spindle about its rotational axis in the same direction as said drum is rotated by said shaft, a tapping tool connected to said spindle for rotation therewith, a nut guide means comprising a nut holder fixedly attached to said drum in axial alignment with said tapping tool, a plunger mounted on said drum for linear movement along an axis in alignment with the rotational axis of said tool, a nut feeding device arranged between said tool and said plunger.



3,192,544

SHOE TREE FOR VISIBILITY

Donald Mackay, 30—16 30th Drive, Long Island City 2, N.Y.
Filed May 28, 1964, Ser. No. 370,985
4 Claims. (Cl. 12—117.4)

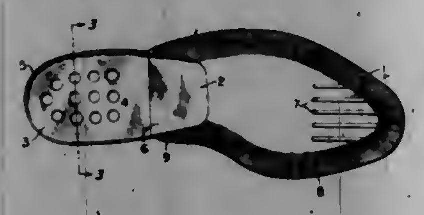


1. A shoe tree comprising a toe member having side walls, the toe member having a cavity therein and a substantial opening from the cavity through the bottom of the toe member, the cavity of the toe member having a rear end and a forward end with a level or substantially level inner top surface in the forward end of the cavity, a heel member of U shaped form providing spaced arms, the heel member being thin in a lateral direction throughout its U shaped form and of substantial width to give vertical stiffness to the arms, the arms having a length extending to the rear end of the toe member, the arms being spaced apart to engage the sides of a shoe over a major portion of the length thereof and with a substantial opening between the arms, and adjusting means secured to the toe member in the cavity and in the forward end of the toe member whereby the adjusting means is accessible from the cavity opening including a slide bracket secured to the toe member on the inner top surface of the cavity at the forward end of the toe member, the slide bracket having a horizontal and longitudinally extending bore therein, the slide bracket having a longitudinally extending slot through the lower wall thereof into the bore, a rod slidably mounted in the bore and having a rear end projecting rearwardly from the bracket, a pin carried by the rod and extending into the slot, means to lock the rod in adjusted position in the bore, a hinge member carried by the rear end of the rod and projecting laterally with its ends adjacent to the side walls of the toe member, and a hinge pin between each projecting end of the hinge member and the forward end of each arm of the heel member, and the entire adjusting means being within the cavity of the toe member for a major part of the adjusted positions of the hinge member.

3,192,545

METHOD OF MANUFACTURING A MOLDED SOLE AND HEEL COMBINATION

John R. De Witt and James C. Mackay, Nashua, and Raymond P. Reilly, Sr., Hudson, N.H., assignors to J. F. McElwain Company, a division of Melville Shoe Corporation, Nashua, N.H., a corporation of New Hampshire
Original application Apr. 5, 1962, Ser. No. 185,321, now Patent No. 3,175,309, dated Mar. 30, 1965. Divided and this application July 16, 1963, Ser. No. 301,226
1 Claim. (Cl. 12—142)



The method of manufacturing a shoe having an upper and an integral heel and sole bottom unit which comprises the steps of:

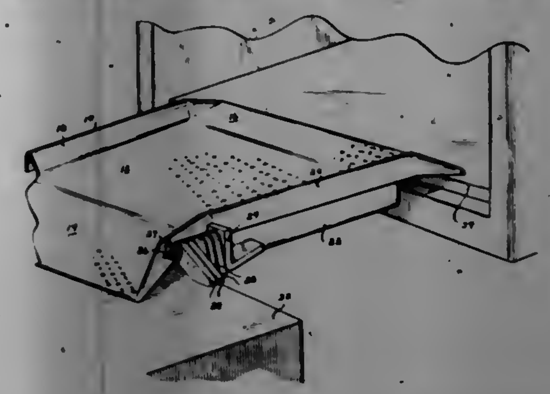
- (1) molding an integral shoe bottom unit wherein the heel, including the breast portion on the forward edge thereof is molded to a final configuration and simultaneously molding with said heel, a sole to a size greater than the final configuration, said sole united to said heel at the breast, the edges of said sole being molded so that they angle outwardly and forwardly adjacent the heel breast so that the sole has a width in the shank portion that is greater than the width of said heel, said increased molded sole width continuing around the periphery of the sole, said sole having a molded wheeled edge on the upper surface, said molded wheeling extending a substantial distance into the interior of said surface of said sole;
- (2) removing a substantial amount of molded material from the periphery of said sole to attain the final configuration, said wheeling continuing around the sole in an uninterrupted pattern after the removal of said material;
- (3) roughening at least a portion of the upper surface of said unit so that optimum adhesion can be effected between said unit and the shoe upper; and
- (4) adhering said unit in which the heel has been molded to final configuration and the sole has been tailored to the final configuration to the shoe upper thus forming a complete shoe.

3,192,546

SELF LOCKING DOCK PLATE

Wayne B. Noland, Avon Lake, Iowa, assignor to Woodford Manufacturing Company, Des Moines, Iowa, a corporation of Iowa
Filed Sept. 7, 1961, Ser. No. 136,659
3 Claims. (Cl. 14—72)

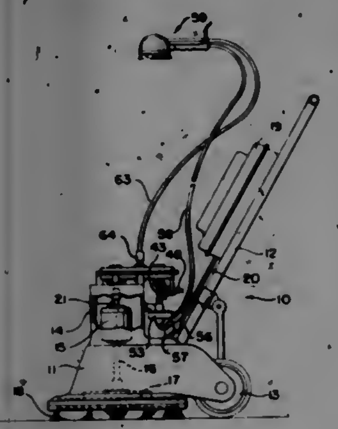
1. An elongated dock plate having approach ends adapted to bridge spaced supporting structures, a fixed stop extending below said dock plate and inwardly of one approach end, retaining means for movable stops adjacent the opposite approach end of said dock plate and extending longitudinally thereof, a plurality of adjacent movable stops carried by said retaining means throughout the length of said retaining means, said stop means being movable by force of gravity relative to said retaining means below said dock plate whereby when said fixed stop engages one supporting structure certain of the movable stops will be automatically raised out of operative position by contact with the top surface of said other supporting structure leaving the remaining movable stops in a lowered position to engage the end of said other supporting structure.



3,192,547

SCRUBBING MACHINE WITH CLEANING ATTACHMENT THEREFOR

Robert E. Nahrstedt, 580 E. 213th St., Euclid, Ohio, and George R. Hickernell, 24562 Hilliard Blvd., Westlake, Ohio
Filed Oct. 25, 1963, Ser. No. 318,887
3 Claims. (Cl. 15—4)



1. A cleaning machine comprising;
a chassis;
wheel means secured to said chassis for permitting movement of said chassis;
an upright handle secured to said chassis for controlling the movement of said chassis;
means rotatably supported by said chassis and adapted to perform maintenance operations on a floor;
a power unit on said chassis drivingly connected to said floor maintaining means;
a tank carried by said cleaning machine for movement therewitth and being adapted to contain a cleaning solution;
a hand unit including a shaft adapted to support various types of rotary elements, with said hand unit being movable separate from said chassis;
and means interconnecting said hand unit with said power unit and said tank whereby rotative power and fluid may be transmitted to the rotary elements secured to said hand unit shaft.

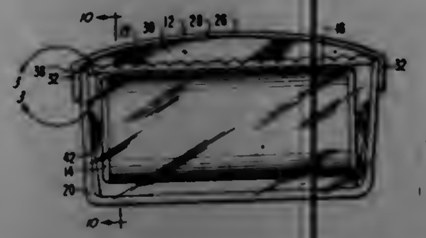
3,192,548

LINT REMOVER

Erwin Howard Wilbrecht, Shadow Mountain, Fairway Cottages 4A, Palm Desert, Calif.
Filed June 3, 1963, Ser. No. 285,147
5 Claims. (Cl. 15—104)

4. An improved portable cleaning device, which device comprises, in combination, a roller holder including a top cover, a pair of resilient legs depending therefrom adjacent opposite ends thereof, a handle extending upwardly from said cover, a cylindrical roller rotatably and

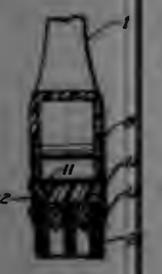
releasably connected at opposite ends thereof to said legs, said roller being hollow with substantially closed opposite ends, said rollre defining a longitudinal slot extending from the outer surface to the hollow interior thereof, said roller comprising two slidably engaging mating sections, each of said sections including a roll-supporting pin connected to the inner surface of said substantially closed



ends, a sheet of paper disposed on the outer surface of said roller and extending into the interior thereof through said slot, the outer surface of said sheet having a coating of tacky material, said paper being disposed therein as a roll on said roll-supporting pins, and a case enclosing said roller, said case releasably frictionally engaging said cover at opposite ends thereof.

3,192,549
PAINT BRUSHES

Robert L. Weiss and Earl R. Hunt, Wooster, Ohio, assignors to The Wooster Brush Company, Wooster, Ohio, a corporation of Ohio
Filed Feb. 1, 1962, Ser. No. 170,344
4 Claims. (Cl. 15—192)

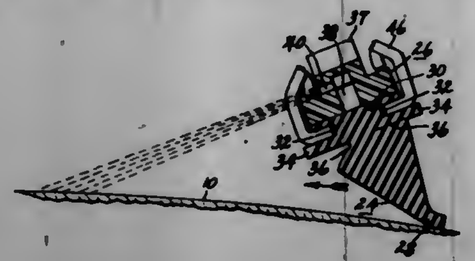


1. A brush structure comprising a hollow, thin-walled handle; said handle affording downwardly projecting elongated side walls and shorter end walls, said side walls providing parallel and laterally spaced wall portions at opposite sides of said handle; the lower edges of said wall portions having laterally directed, elongated flanges extending for more than half the length of said elongated side walls; a tubular ferrule surrounding the lower portion of said handle and said wall portions and extending downwardly below the lower edges of said wall portions; a bristle portion having its upper end telescoped within the lower end of said ferrule and disposed below the lower edges of said wall portions; solidified bonding compound disposed within said ferrule, bonding the upper end of said bristle portion into a solid bristle knot, and extending upwardly within said ferrule above said flanges thereby rigidly bonding and locking said wall portions to said bristle portion.

3,192,550
WIPER BLADE ASSEMBLY WITH FLUID DISTRIBUTOR

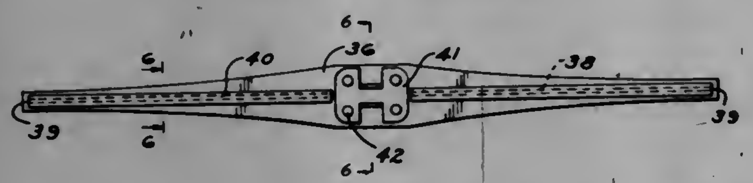
Eugene R. Ziegler, Spencerport, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 10, 1964, Ser. No. 358,907
7 Claims. (Cl. 15—250.04)

1. A squeegee comprising an elongate, freely flexible body of elastromeric material having a wiping lip along one edge, a stiff, resiliently flexible plastic retention portion coextensively bonded to the opposite edge of said elastometric body, said retention portion having a liquid distributor channel therein substantially coextensive with the length thereof with one wall formed by said body of elastometric material, a plurality of spray orifices in said retention portion connected with said fluid distributor channel and extending laterally therefrom, and coupling means for connecting said channel with a source of pressurized liquid solvent to cause the liquid solvent to be delivered through said orifices onto a surface to be cleaned.



3,192,551
WINDSHIELD WIPER BLADE ASSEMBLY

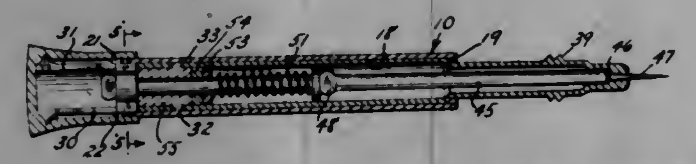
Walter DeAppel, 4350 Commerce Road, Orchard Lake, Mich.
Filed Aug. 31, 1964, Ser. No. 394,386
9 Claims. (Cl. 15—250.36)



1. A windshield wiper blade assembly including a wiper element, a flexible spring backbone element connected to the wiper element, attaching means adjacent the center of said backbone element, said backbone element having coordinated length, section width, thickness, modulus of elasticity and free form longitudinal curvature exceeding any subtended windshield curvature and including progressive dimensional variations providing a parabolic effect in spring rate normal to the windshield surface adapted in engagement in a normal direction against a predetermined windshield surface to make progressive "wrapping" pressure contact from ends to center as a predetermined normal pressure loading is gradually applied through said attaching means.

3,192,552
LIQUID APPLICATOR

Harold Lawrence King, 210 Commonwealth Ave., Mount Vernon, N.Y.
Filed Mar. 15, 1963, Ser. No. 265,423
5 Claims. (Cl. 15—537)

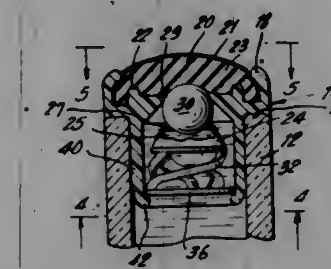


1. A liquid dispenser, comprising: a housing element, a vial element slidably disposed within said housing, an elongated brush element slidably disposed within said vial element and fixed with respect to said housing element, said vial element having an inwardly diverging bore and a shaped opening at one end thereof, said brush element having bristles thereon at a corresponding end thereof, said bristles projecting through said opening and contacting said bore, first means on said elongated brush element limiting the rearward movement of said brush element so that a portion of the bristles are projecting outwardly from the opening of said vial element at all times, second means on the forward end of said brush element to limit forward movement of said brush element

to limit the amount of compression which the brush bristles undergo, movement of said brush element relative to said vial element serving to shape said bristles to conform to the cross sectional shape of said bore and opening, to remove excess liquid and to provide a definite taper to the bristles by their contact with the bore.

3,192,553
DAUBER HAVING SPHERICAL VALVE HEAD

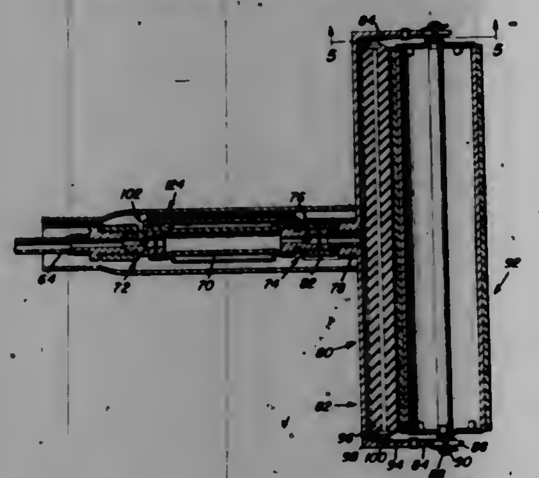
Gilbert Schwartzman, Scarsdale, N.Y., assignor to Glide-O-Matic Corp., Yonkers, N.Y., a corporation of New York
Filed Mar. 21, 1963, Ser. No. 266,940
2 Claims. (Cl. 15—566)



1. A dauber comprising a retainer ring having a projecting portion, a relatively thick disc-shaped cover secured to said ring, said ring having an opening therein forming a valve seat, valve means including a spherical valve member movable with respect to said valve seat to control fluid flow through said opening, said valve means further including helical coils engaging said projecting portion and a valve carrier of truncated conical shape of one piece construction with said helical coils, said valve carrier having a recess therein forming a seat for said spherical valve member, said helical coils urging said spherical valve member against said cover, and against said valve seat, said cover being depressible to depress said spherical valve member away from said valve seat against the force exerted by said helical coils, said valve seat including a resilient flexible peripheral lip portion.

3,192,554
PAINT APPLICATOR

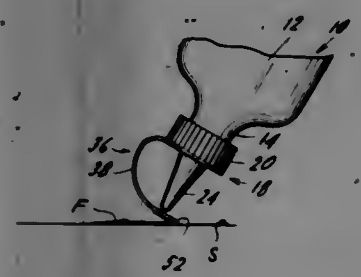
Henry E. Karkut, Baldwinsville, N.Y., assignor to Henry E. Karkut, Inc., a corporation of New Jersey
Filed Oct. 4, 1962, Ser. No. 228,352
3 Claims. (Cl. 15—573)



1. A roller applicator for applying liquid to a surface to be coated, said roller applicator comprising an open top reservoir, a transfer roller, means rotatably supporting said transfer roller with at least the lower portion of said roller disposed below the normal liquid level of said reservoir, an application roller also rotatably supported from said reservoir for rotation about an axis disposed above the normal liquid level of said reservoir, said means rotatably supporting said transfer roller including means yieldably urging said transfer roller into engagement with said application roller, said reservoir including upstanding end walls, said urging means comprising an elongated longitudinally bowed spring having a longitudinal slot formed therein secured at its upper end portion to each end wall of said reservoir and curving downwardly and inwardly toward each other at their lower ends, said transfer roller including generally conical ends with stub axle portions projecting axially outwardly of the apices of said conical end portions and rotatably and slidably received in said slot, the curved lower ends of said spring normally yieldingly camming said conical end portions upwardly to thereby shift said transfer roller toward engagement with said application roller.

3,192,555
CONTAINER DISPENSER CAP WITH CAPTIVE CLOSURE MEMBER AND APPLICATOR

Robert Nyden, Manhasset, N.Y., assignor to Pittsburgh Plastics Division Heekin Can Co.
Filed June 19, 1963, Ser. No. 289,123
6 Claims. (Cl. 15—592)



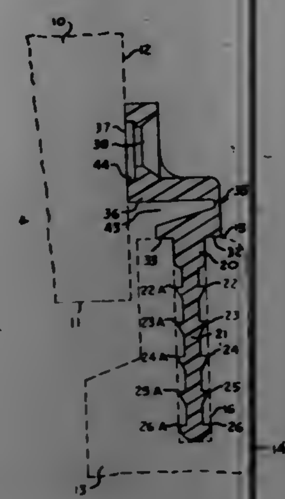
1. A dispenser cap for fluid containers having a neck terminating in an open mouth, said dispenser cap comprising an annular skirt portion having means for attachment to the container neck in communication with the mouth thereof, a nozzle portion upstanding from said skirt and in communication therewith, an outlet opening at the free end of said nozzle portion, a flexible strap attached at one end to said skirt portion and being of sufficient length to overlie the free end of said nozzle portion when said strap is in bent condition, a closure pin projecting perpendicularly from one surface of said strap and spaced inwardly from the free end threof, said pin being of a diameter to fit frictionally within the outlet opening of said nozzle portion to close and seal said outlet opening with the free end portion of said strap overlying the free end of said nozzle portion and extending laterally therefrom, and applicator means formed on the free end edge of said strap beyond said pin, said nozzle providing a rigid mount for said applicator means when said closure pin is inserted into said outlet opening, and said strap providing a flexible mount for said applicator means when said closure pin is removed from said outlet opening, whereby said applicator means may be used to spread liquid dispensed through said outlet aperture onto a surface, using said container as a handle.

3,192,556
ONE-PIECE PLASTIC HINGE

Louis E. Himelreich, Louisville, Ky., assignor to H. J. Scheirich Company, Louisville, Ky., a corporation of Kentucky
Filed Aug. 20, 1962, Ser. No. 217,907
4 Claims. (Cl. 16—150)

1. A one-piece hinge of plastic material including a plate portion adapted for fastening by means of screws upon an exposed surface of one member a hinged assembly, said plate portion having an aperture therethrough for receiving a fastening screw and an outwardly projecting side wall section for establishing the location of the hinge axis in forwardly spaced relation to the back wall of said plate portion,

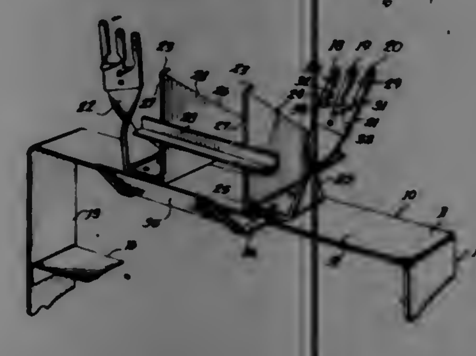
a prong portion having a non-circular transverse cross-section and adapted for fastening by means of an adhesive bond within a recess in the cooperating second member of said assembly,



and an intermediate portion joining said plate and prong portions and integral therewith, said intermediate portion being joined to the outer edge of said wall section and including a hinge axis located adjacent the junction of said intermediate and plate portions,

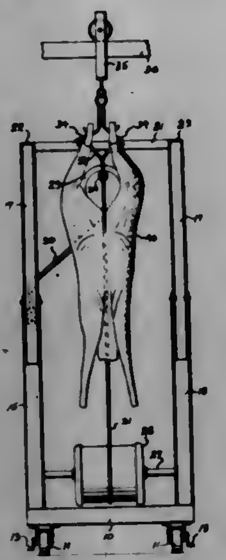
said intermediate portion having a reduced cross sectional thickness at said hinge axis and a greater cross sectional thickness adjacent its juncture with said prong portion, as measured normal to said hinge axis, thereby to reduce flexing of said prong portion and the danger of loosening said prong portion from its adhesive bond within said second member.

3,192,557
FIXTURE FOR STRIPPING MEAT FROM BONES
Asa B. Segur, 1185 S. Ridgeland Ave., Oak Park, Ill.
Filed Sept. 25, 1962, Ser. No. 226,005
5 Claims. (Cl. 17—1)



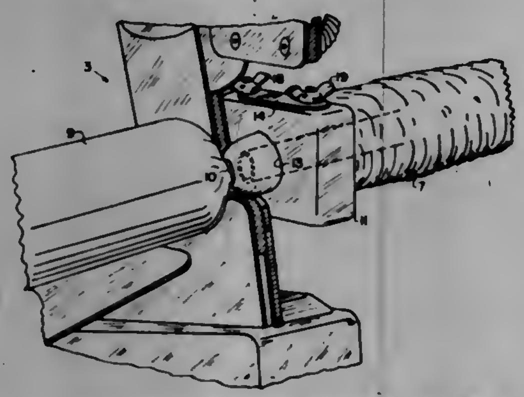
1. A fixture for use in stripping meat from poultry bones comprising a stationary frame, a generally vertical plate rigidly secured at its lower end to said frame and providing a free upper end portion, a pair of spaced parallel upstanding finger elements projecting upwardly from the upper free end portion of said plate and defining a generally vertical slot therebetween, said slot being wider than the narrowest cross-sectional dimensions of the proximal end portion of a coracoid bone to be received therein but being narrower than the largest cross-sectional dimension of said bone at said proximal end portion, and an enlarged opening at the base of said slot, said opening being narrower than the largest cross-sectional dimension of the proximal end of said coracoid bone, whereby, the proximal end portion of a coracoid bone may be inserted into said opening through said slot and then rotated within said opening to lock said bone against longitudinal movement in one direction.

3,192,558
PORTABLE ELECTRIC CALF SKINNER
John T. Niccollai, Jr., Wayne, N.J., assignor of thirty-two and one-half percent to James Niccollai, East Paterson, ten percent to Barney Waks, Paterson, twenty percent to Michael Castro, Oradell, and five percent to Thomas Bracigliano, Oakland, N.J.
Filed Nov. 20, 1963, Ser. No. 325,061
1 Claim. (Cl. 17—21)



A portable calf skinning device of the character described by which hides are stripped from calves freely suspended by the hind legs thereof from an overhead tramway; said device comprising a horizontally disposed platform, a vertically disposed frame-work secured to and extending upwardly from said platform, a reversible electric hoisting mechanism mounted in fixed position on said framework at the upper end thereof, a drum rotatably mounted on said platform, a cable having one end thereof connected to said hoisting mechanism and having a hook secured to the other end thereof, said cable extending downwardly from said hoisting mechanism and around the underside of said drum and thence upwardly therefrom, and a Y-shaped sling adapted to have one end thereof releasably connected to said hook and the other ends thereof connected to the hide, about the hind legs of a calf suspended from said tramway; said electric hoisting mechanism being operative when energized to draw in said cable and thereby pull said sling connected to the hooked end of said cable downwardly and strip a hide downwardly from a calf suspended from said tramway.

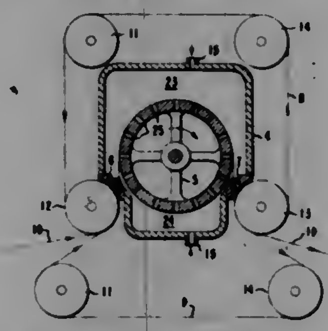
3,192,559
SAUSAGE CASING SIZING APPARATUS
George O. Short, North Hollywood, Calif., assignor to Grand Taste Packing Company, Los Angeles, Calif., a corporation of California
Filed Dec. 20, 1963, Ser. No. 332,103
6 Claims. (Cl. 17—35)



1. The combination with a sausage stuffing machine, including a stuffing horn, through which sausage emulsion is ejected and on which a shirred casing is positioned for filling, and sausage linking means positioned adjacent to

the open end of the stuffing horn to form the filled sausage casing into links, of a casing flow-restricting device comprising a solid resilient member having an aperture of a size larger than said stuffing horn and smaller than the exterior diameter of the shirring casing, said resilient member being in a free floating position at the end of the stuffing horn and restricted against movement by engagement with said sausage linking means with said casing being extended from a shirred position through the aperture in said resilient member and restricted in the rate of movement by frictional engagement therewith.

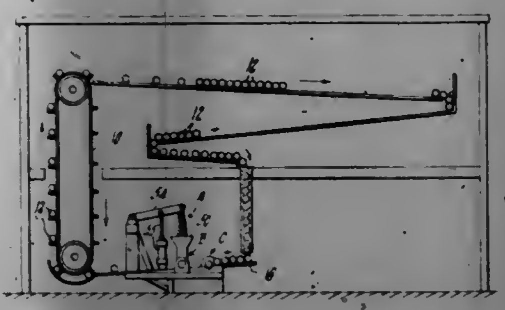
3,192,560
APPARATUS FOR HEAT TREATING POROUS SHEET MATERIAL
Lowell Evan Huffman, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Nov. 8, 1963, Ser. No. 322,419
11 Claims. (Cl. 18—1)



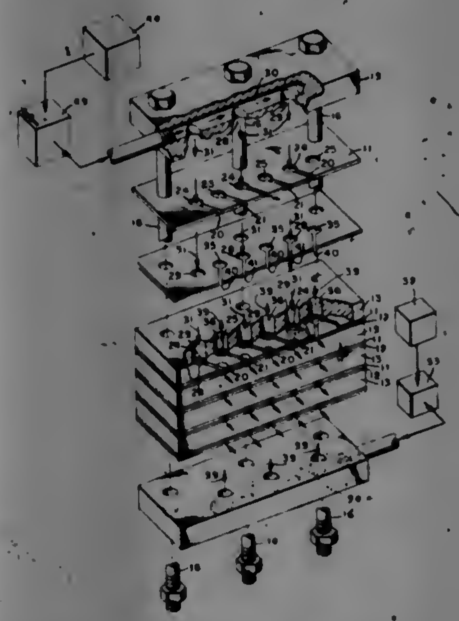
1. Apparatus for heat treating a continuous length of sheet material comprising structure defining a pressure vessel having entrance and exit openings, first and second restraining means each providing an endless conveying surface for engaging, respectively, a major surface of said sheet material and effecting passage thereof in sandwich fashion into said entrance opening through said vessel and out said exit opening, said first restraining means comprising a substantially imperforate flexible band which divides said vessel into a first generally fluid tight chamber through which the sheet material passes and a second fluid tight chamber oppositely disposed of the first, means for establishing a heated fluid under pressure in said first chamber and means for establishing in said second chamber a fluid under a greater pressure than in said first chamber, said second restraining means providing a support for said sheet material and said imperforate flexible band within said vessel whereby the pressure differential between said chambers imparts restraining forces to the sheet material passing through said vessel, said second restraining means further being perforate whereby the heated fluid of said first chamber communicates with said sheet material in said vessel.

3,192,561
APPARATUS FOR MOLDING FIREPLACE LOGS
Edward M. Archer and Frederick W. Vogel, Bellows Falls, Vt., assignors, by mesne assignments, to Mountain Paper Products Corporation, Bellows Falls, Vt., a corporation of Delaware
Filed July 16, 1962, Ser. No. 210,125
3 Claims. (Cl. 18—5)

1. Apparatus for assembling a measured bulk of combustible tree bark chips and binder into a compressed log of substantially uniform density, comprising a horizontally-disposed open-ended hollow split die mold having an upper section and a lower stationary section, means for raising and lowering said upper section to permit introduction of a metered quantity of material into said mold for radial compression when said mold is closed, means for positioning a solid open-ended hollow mold in coaxial alignment with said closed split mold, said solid mold being of a less length than said split mold, a first ram for transferring material compressed in said closed split mold from said split mold into said aligned solid mold, a second ram axially aligned with said first ram for movement into the other end of said solid mold, means for moving said rams into said solid mold to compress said material axially from both its ends inside of both ends of said solid mold and means for retracting both rams to permit said solid mold to be removed from said positioning means.



3,192,562
SPINNERETTE
Fred B. Powell, Decatur, Ala., assignor to Monsanto Company, a corporation of Delaware
Filed June 25, 1962, Ser. No. 204,747.
3 Claims. (Cl. 18—8)

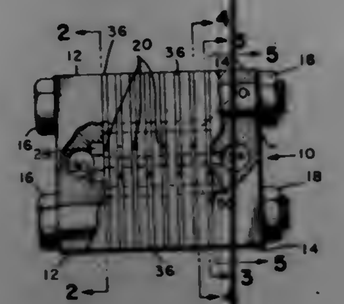


1. A spinnerette, comprising a first sheet, a second sheet positioned against the first sheet, and a pair of plates positioned on opposite sides of the sheets, said plates and sheets being provided with aligned first apertures defining a first fluid passageway, said plates and sheets also being provided with aligned second apertures defining a second fluid passageway spaced from said first passageway, said first sheet having therein a slot extending from a point on the edge of said first sheet to said first passageway, said second sheet having therein a slot extending from the second passageway to the edge of the second sheet and overlapping the slot in the first sheet from said point to a second point spaced from said edge of said first sheet so that spinning compositions flowing through the slots meet before leaving said slots.

3,192,563
LAMINATED SPINNERET
Thomas E. Crompton, Cary, N.C., assignor to Monsanto Company, a corporation of Delaware
Filed June 25, 1962, Ser. No. 204,814
7 Claims. (Cl. 18—8)

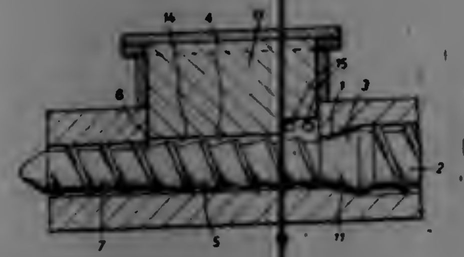
6. For use in fabricating a laminated spinneret, an orifice plate, a bifurcated void formed in said plate to

thereby define a pair of feeder passages converging at a point adjacent the peripheral edge of said plate, an outlet orifice communicating between the point of convergence of said feeder passages and the peripheral edge of said plate to thereby define a spinning orifice.



3,192,564
WORM PRESS FOR KNEADING AND DISPLACING PLASTIC MASSES

Erich Beck, Goggingen, near Augsburg, Germany, and Walter Bosch, Zurich, Switzerland, assignors to Lilon Establishment, Schaan, Liechtenstein
Filed June 19, 1963, Ser. No. 288,940
Claims priority, application Switzerland, June 20, 1962, 7,471/62
4 Claims. (Cl. 18—12)

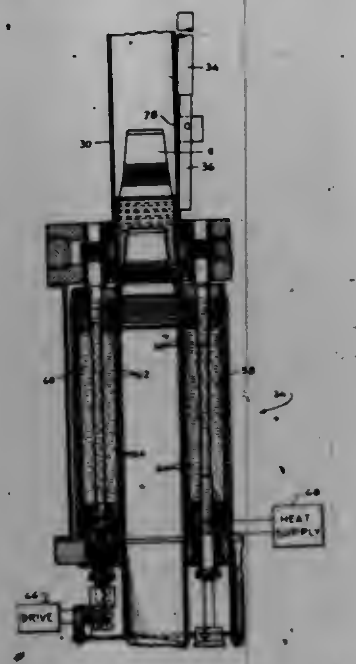


1. A worm apparatus for plastifying and de-gassing plastic masses comprising a housing defining an axial passage comprising a substantially cylindrical inlet portion, a transversely widened de-gassing chamber and a substantially cylindrical delivery portion, a worm member rotatably supported in said axial passage and having a screw-threaded plastifying portion within said inlet portion, a screw-threaded squeezing portion within said de-gassing chamber, and a screw threaded delivery portion within said delivery portion of the said axial passage in said housing, the screw-threads of said worm member in said squeezing portion having a forward flank forming a smaller angle with the axis of the worm member than the rear flank and the outer diameter of the said screw threads within said de-gassing chamber forming a narrow gap with the wall of said de-gassing chamber over a substantial portion of its periphery whereby on each revolution of the worm member part of the material in its groove is forced back through said gap in a thin layer from a zone of local high pressure to a zone in which de-gassing vacuum is effective for removing gases present in said thin layer.

3,192,565
AUTOMATIC RIM ROLLING APPARATUS

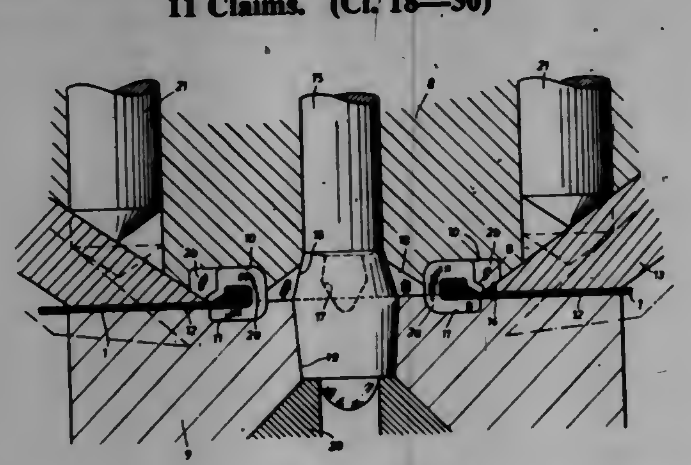
Frank Rukavina, Des Plaines, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Aug. 20, 1962, Ser. No. 218,075
6 Claims. (Cl. 18—19)

2. Apparatus for preventing cocking of individual nestable tapered containers having a wide mouth being fed to a rim rolling apparatus adapted to roll rim beads on thin flexible plastic containers comprising tube means for receipt of intermittently supplied individual containers, an accumulator means associated with and forming an abutment means in said tube means, and a rim rolling station means adjacent the output end of said tube means, said accumulator means comprising abutment means responsive to the presence of a plurality of containers in nested relationship operable to move to a noninterrupting position outside of said tube means upon the accumulation of a predetermined number of containers at said station, said abutment means being movable in a plane parallel with the axis of said tube means, said plurality of containers in nested relationship as a group providing a self-orientation preventing cocking of the individual containers.



3,192,566
APPARATUS FOR FORMING A SLIDE FASTENER

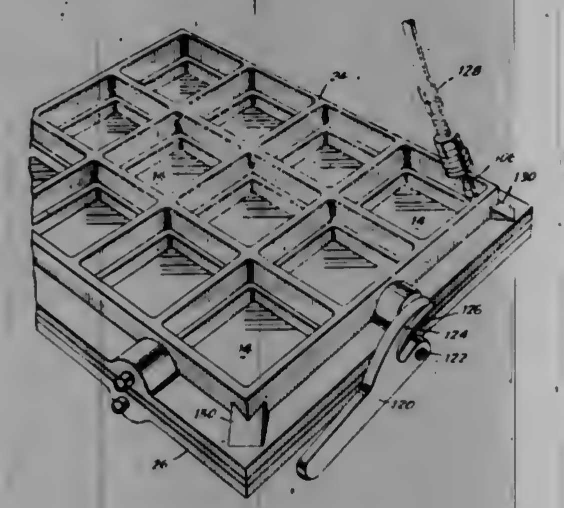
Ernst Ryser, Mendrisio, Tessin, Switzerland, assignor of one-half to Bertrand Voumard, La Chaux-de-Fonds, Switzerland
Original application Jan. 23, 1961, Ser. No. 84,008, now Patent No. 3,146,506, dated Sept. 1, 1964. Divided and this application Jan. 29, 1962, Ser. No. 175,863
Claims priority, application Switzerland, Mar. 31, 1960, 3,644/60
11 Claims. (Cl. 18—30)

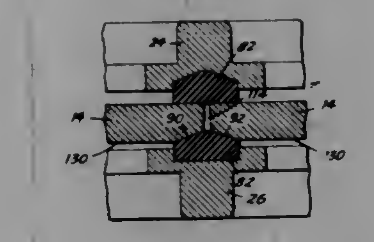


1. Apparatus for die-casting a covered slide fastener comprising a mold including first and second halves joined along a planar separating surface, each half having a recess cooperatively defining with the recess of the other half a cavity corresponding to the shape of the fastener members of the slide fastener, a mold plate movably supported in one of said halves and extending into the recess therein to bound and limit the same, said mold plate having a surface which extends in the plane of the separating surface, said mold plate having a further surface bounding and limiting the recess, the latter said surface being inclined with respect to said separating surface for forming said slide fastener with fastener members having an inclined surface which narrows towards the separating surface, and along which surface the fastener members rest on the mold plate, said mold plate being effective by virtue of the inclined surface thereof to support the thus cast fastener in said one half of the mold after the other half of the mold has been removed, and means for moving the mold plate away from the said one mold half to enable removal of the cast fastener.

3,192,567
MOLD ASSEMBLY FOR FORMING PREGROUTED CERAMIC TILE SHEETS

Ira A. Abernethy, Canton, Robert W. Vail, Burton, Harold R. Feichter, Massillon, and Stephen J. Cable, Canton, Ohio, assignors to United States Ceramic Tile Co., Canton, Ohio, a corporation of Delaware
Filed Nov. 28, 1960, Ser. No. 72,113
3 Claims. (Cl. 18—36)

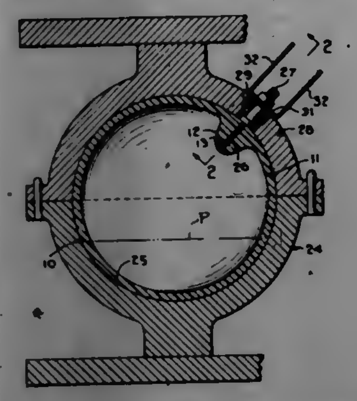




1. A mold assembly for forming pregrouted ceramic tile sheets comprising upper and lower mating mold sections, said sections being formed of a plurality of criss-crossing ribs separated by opened wells, a plurality of criss-crossing grooves formed in the faces of said mold sections midway of said ribs, a resilient gasket received in the grooves of each mold section, said gaskets each forming an aligned lattice network of criss-crossing ribs extending above the faces of said mold adapted to support the edges of spaced ceramic tiles bridging said wells, means for clamping said mold sections together whereby the peripheral edges of the tiles are clamped between the aligned ribs of said gaskets to define an enclosed grout space between adjacent tiles, a frame for engaging the peripheral edges of said gaskets, said frame having two adjacent inner edges tapered to tightly abut the edges of the tiles clamped between said mold sections and two other adjacent inner edges tapered to define a space for grout material between said other edges and the edges of tiles clamped between said mold sections, a grout filling sprue communicating with the juncture of said grout spaces along said two other edges of said frame, means for injecting fluid grout material into said clamped mold sections to fill the spaces between adjacent tiles, and means for heating said clamped mold sections to cure said grout material to a flexible elastomer.

3,192,568
INFLATABLE ARTICLE AND METHOD AND APPARATUS FOR MAKING SAME

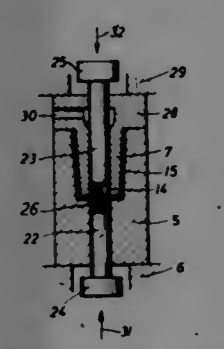
Bryan F. Nicholls, 14 Harlestone Road, Northampton, England
Filed Feb. 21, 1961, Ser. No. 90,836
9 Claims. (Cl. 18—39)



1. Apparatus for forming hollow inflatable seamless articles by deposition of synthetic resin plastic material in the presence of external heat, comprising: a sectional mold having a mold wall defining an article-forming cavity; said mold having a protrusion extending freely inwardly of the article-forming cavity surface; said protrusion having an integral extension passing through and beyond the mold wall presenting a heat-gathering portion substantially within the sphere of maximum temperature of said external heat to which the mold wall is exposed; said protrusion, integral extension, and exposed heat-gathering portion characteristically having a higher coefficient of heat transmission than the mold wall, for depositing an apertured housing of plastic material about the protrusion and integral with a simultaneously deposited article wall, whereby the deposited housing will be of sufficient body and elastic strength to embrace and anchor an air-sealing device within the aperture of the housing under conditions of normal use and abuse of the inflated finished article.

3,192,569
APPARATUS FOR MOLDING ARTICLES OF PLASTIC

Horst Knabel, Hitzbroicher Weg 48, Sieglar, Rhineland, Germany
Filed July 10, 1962, Ser. No. 208,798
Claims priority, application Germany, July 15, 1961, K 44,253; May 23, 1962, K 46,820
4 Claims. (Cl. 18—42)

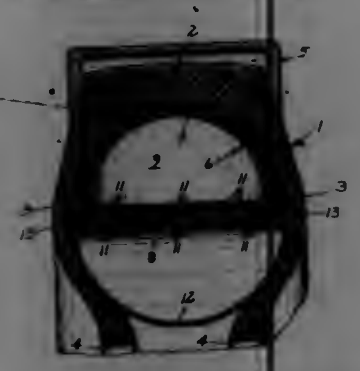


1. A molding apparatus for producing thin-walled plastic articles, comprising complementary mold parts adapted to define a mold cavity between them, said mold parts being formed with a pair of aligned auxiliary chambers on opposite sides of said cavity and directly adjacent to it and in communication with it, said mold parts including plungers extending into and movable within said chambers respectively, said plungers being movable toward and away from each other and adapted to accommodate between them a measured charge of raw plastic material in particulate form, and each plunger being provided with an exteriorly exposed head adapted

to withstand a massive sudden impact effective to move said plungers toward each other so suddenly and with such force that the charge of particulate material can be instantaneously reduced to a molten flowable condition.

3,192,570
DEVICE FOR SUPPORTING TIRE CASINGS IN RETREADING MOLDS

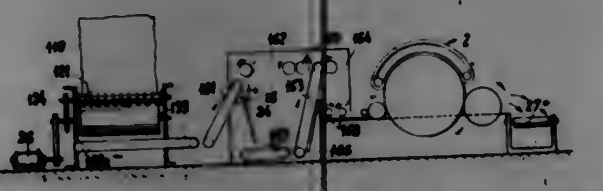
Charles E. Branick, % Branick Mfg. Co.,
P.O. Box 1937, Fargo, N. Dak.
Filed Dec. 20, 1960, Ser. No. 77,072
6 Claims. (Cl. 18—45)



1. In a device for supporting a pneumatic tire casing against the tire engaging surface of a treading mold, an endless cross-sectionally semi-circular elastic curing bag wall defining one wall of a closed annular chamber and engageable with the inner wall surface of a tire casing under the tread portion of said casing, an endless generally cylindrical and radially inwardly recurvable reinforcing band operatively associated with said curing bag wall, means connecting said band for inwardly recurving a circumferential extent thereof for installing or removing same, and valve means extending generally radially through said band when said device is mounted in a tire casing for introduction of fluid under pressure to said chamber to press said curing bag wall against the engaged inner wall surface of the tire casing, said reinforcing band comprising an annulus of elastic material having axially substantially flat inner and outer surfaces and opposite ends engageable with the inner side wall surfaces of the tire casing, and a plurality of endless non-elastic flexible resilient rings embedded in said band and concentric therewith, said rings being disposed in closely axially spaced side-by-side relation substantially throughout the axial dimension of said band and in a plurality of concentric axially extended rows.

3,192,571
FIBER PROCESSING SYSTEM

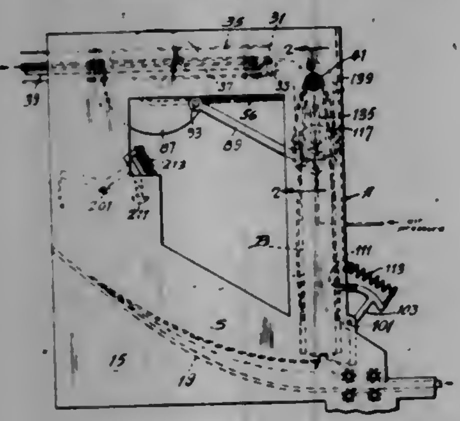
Hubert Halleux, Clemenceau Mulhouse, Haut-Rhin, France, assignor to Societe Alsacienne de Constructions Mecaniques, Mulhouse, Haut-Rhin, France, a company of France
Filed June 29, 1964, Ser. No. 378,930
Claims priority, application France, Nov. 18, 1959, 810,520, Patent 1,251,276; Oct. 28, 1960, 842,455
3 Claims. (Cl. 19—65)



1. A system for preparing and mixing the fibers from a plurality of consecutive bales of fibers for continuous delivery to a plurality of carding machines, comprising conveyor means for moving said bales continuously in a same direction along the same path, a plurality of plucking devices disposed in said path to remove fibers from said bales as they move past the plucking devices, a rotatable stripper roller arranged to strip off the fibers from each plucking device, an arcuate grill partly surrounding each roller and cooperating therewith for further dividing the fibers, each of said plucking devices being associated with one of said carding machines, a casing disposed between each carding machine and its associated plucking device, a wall in said casing extending from the bottom thereof towards the upper space of the casing to divide the latter into two upwardly opening fiber collecting chambers, means to deposit the fibers from the associated rotatable stripper roller in one of said chambers so as to form therein a plurality of superposed horizontal layers composed by the fibers removed by the associated plucking device from each of said plurality of bales, an endless rake conveyor means in said one chamber extending adjacent said wall from the bottom of said one chamber to a point above said wall, said rake conveyor means being adapted to continuously remove approximately the same amount of fibers from each of said superposed layers and to discharge the fibers from the different layers in mixed condition through said upper space into the other fiber collecting chamber, and means to deliver the mixed fibers deposited in said other chamber to the corresponding carding machine.

3,192,572
FIBROUS WEB FEEDING AND FLOW RATE DECELERATING METHOD AND APPARATUS

George Blair Gordon, 1745 Cedar Ave.,
Montreal, Quebec, Canada
Filed June 6, 1962, Ser. No. 200,537
8 Claims. (Cl. 19—161)



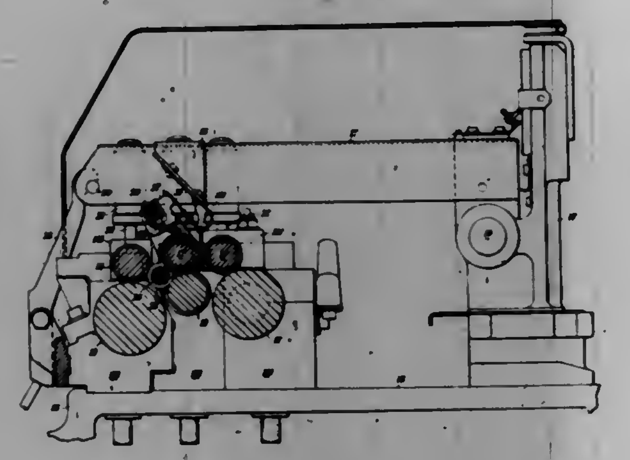
*1. An apparatus for retarding the rate of flow of a web of fibrous material, comprising, an accumulator box having a pair of side walls, a first pair of cooperating conveyor belts adapted to receive and convey the web into said box, a swinging arm pivotally mounted in said box and having a second pair of conveyor belts mounted therein and adapted to receive the web from said first pair of belts and convey it along the length of said arm, means for driving the respective belts in synchrony, means for moving said arm in oscillating pendulum movement back and forth within said box, said box being provided with an arcuate floor adapted to receive the web coming from said second pair of belts and having a delivery end, means on said box for severing the web at each end of the stroke of the arm and operated by said arm thereby to release a length of web at the end of each stroke for addition to the preceding lengths to form a pile of web sections, cooperating rollers adjacent to the delivery end of said floor to engage said pile of web sections and to feed it forward, means for driving the cooperating rollers at a predetermined rate in synchrony with that of said belts whereby the composite web formed by the sections is removed at a speed R^2 which equals

$$\frac{R^1}{N}$$

where R^1 is the rate of entry of the web into the accumulator box and N is the number of sections deposited in arriving at a composite web of constant thickness.

3,192,573
TEXTILE DRAFTING APPARATUS

Walter Nutter, Simonstone, near Burnley, and John Benyon, Bolton, England, assignors to T.M.M. (Research) Limited, Oldham, Lancashire, England, a British company
Filed July 12, 1962, Ser. No. 209,396
2 Claims. (Cl. 19—261)

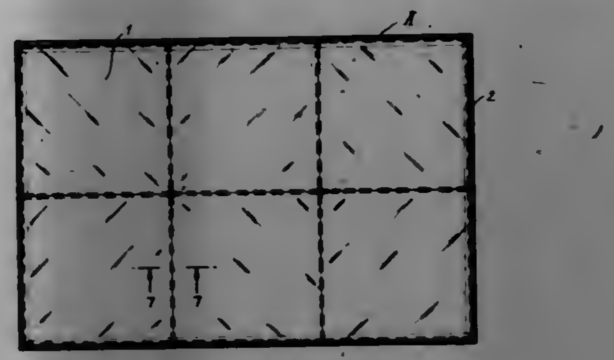


1. Textile drafting apparatus for processing fibres comprising a pair of holding rollers, including an upper and a lower holding roller, and a pair of drafting rollers including an upper and a lower drafting roller, spaced therefrom, the upper and lower of each pair of rollers contacting each other at their respective nips, pressure means positioned between said pairs of rollers for deflecting the fibres being processed from a straight-line path between the nips and causing the fibres to contact one of the holding rollers over an arc of its surface and to align the fibres, as they pass between the nips of the pairs of rollers, with the common tangent plane of the drafting rollers at their nip, said pressure means including a non-rotatable adjustable pressure bar, means for holding said pressure bar a fixed distance from the surface of the upper holding roller, said bar holding means including a carrier connected to each end portion of the pressure bar to support said bar, said carriers being rotatable about the axis of one of the holding rollers, spring means for applying pressure to said carriers, said carriers comprising a bell crank lever one end of said bell crank lever being connected to said pressure bar and the other end serving as an abutment for said spring means, and means for adjusting the upper holding roller about the axis of the lower holding roller to vary the position of the nip of the holding rollers, the extent of the arc of contact of the fibres on the lower holding roller, and the degree of deflection of the fibres by said adjustable pressure bar to thereby direct said fibres into the common plane of tangency between said drafting rollers.

3,192,574
TEMPORARY FLOOR CONSTRUCTION

Myron Jaffe and Lester Bricker, University City, Mo., assignors to Admiral Chair Company, St. Louis, Mo., a corporation of Missouri
Filed Oct. 22, 1962, Ser. No. 231,929
1 Claim. (Cl. 20—8)

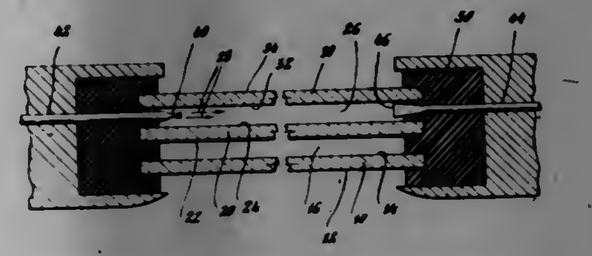
Temporary flooring construction comprising a plurality of flat rigid sections arranged in side by side, edge-abutting, surface-aligned relationship, each of said sections having a lengthwise recess in its side edges confronting adjacent sections, and an elongated key member received within the side recesses of adjacent sections for interengagement of said sections, and a rigid frame surrounding the interengaged sections for maintaining same in edge-abutting relationship, said frame comprising a plurality of frame elements, each of said elements having a flat base plate for underlying adjacent sections and an upstanding flange for snugly abutting the confronting sides of the adjacent sections, each of said sections having a plurality of cylindrical openings, a plurality of cylindrical restraining pins mounted on the inwardly directed face of each of said upstanding flanges,



said pins being axially aligned with, and slideably received within, said cylindrical openings in the confronting side edge of the adjacent section, each frame element extending at one end beyond the related upstanding flange and terminating at its other end spacedly from the end of said related upstanding flange whereby the mutual proximate ends of adjacent frame components will be in overlying relationship, and means for securing said frame elements one to the other in the region of their overlap.

3,192,575
HEAT INSULATING WINDOW

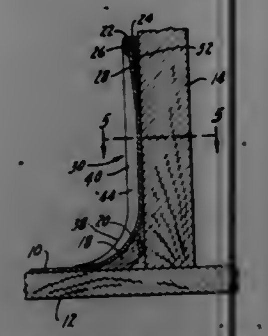
Milton D. Rosenau, Jr., Georgetown, Roderic M. Scott, Stamford, and Paul F. Forman, Ridgefield, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed July 25, 1962, Ser. No. 212,350
6 Claims. (Cl. 20—56.5)



1. A transparent window for insulating a lower temperature area from a higher temperature area while allowing a clear view thereof comprising:

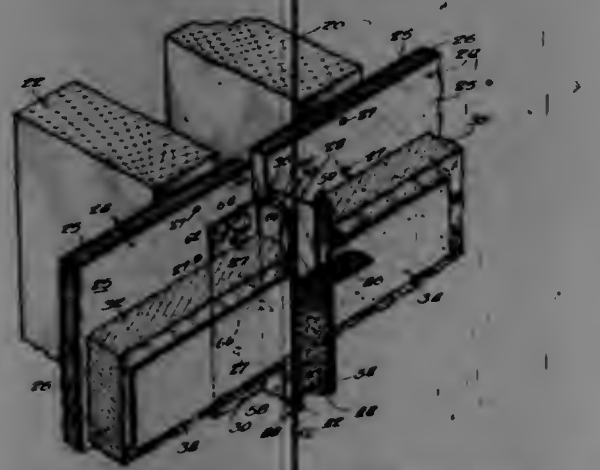
an outer pane of heat resistant transparent material adapted to face said higher temperature area;
an intermediate transparent pane on the side of said outer pane remote from said higher temperature area and spaced from said outer pane;
the space between said outer and said intermediate panes being evacuated so as to be substantially free of any material;
an inner transparent pane spaced from and on the side of said intermediate pane remote from said higher temperature area, therefore being adjacent said lower temperature area;
means for forcing a flow of cooling fluid between said intermediate and said inner panes; and
infrared reflecting means, so positioned as to reflect a substantial portion of the infrared radiation which would otherwise reach said lower temperature area from said higher temperature area back to said higher temperature area.

3,192,576
FLOOR AND WALL JOINT
Merlin A. Wieting, 365 S. Main, Brillion, Wis.
Filed Aug. 9, 1962, Ser. No. 215,876
5 Claims. (Cl. 20—74)



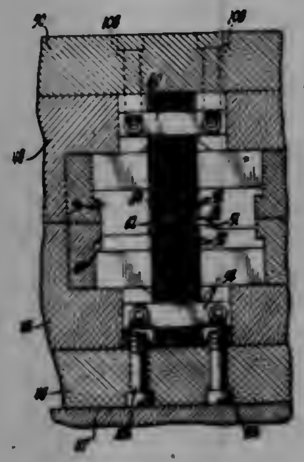
1. A floor and wall joint for a room including a floor undersurface and a wall surface generally at right angles thereto, a flexible floor covering on said floor undersurface and having continuous curved portions extending partly up along the wall surface, a base member extending beneath and contacting the curved portion of the floor covering between the wall and floor, said base member being split at the wall corners of the room, a border member covering the upper edge of said flexible covering adjacent the wall surface, said floor covering being slit at the wall corners of the upwardly extending portions, and a corner member overlying each slit and located at the wall corners of the room, each corner member having converging side walls and a lower curved portion extending outwardly from the corner and overlying the floor cover, said side walls gradually merging into said lower curved portion, each corner member having a hook at its upper end which overlies the border member, each corner further having a generally central lower vertical stabilizer bisecting the angle between said side walls and extending downwadly and beneath said curved portion, said stabilizer extending between the split portions of said base and contacting adjacent base portions to stabilize said corner in position and to prevent sidewise movement of said corner.

3,192,577
CONTROL JOINT FOR BUILDING CONSTRUCTION
Thomas Reginald Barr, Hinsdale, Ill., assignor to United States Gypsum Company, Chicago, Ill., a corporation of Illinois
Filed May 2, 1963, Ser. No. 277,553
5 Claims. (Cl. 20—92)



1. An integral elongated control joint which comprises:
(1) A centrally disposed portion of generally trough shape defined by a pair of control elements extending divergently from a common apex,
(2) A pair of cover members intermediately located along said control elements, each diverging outwardly from its control element,
(3) Each of said control elements terminating in a screed portion connected to the outer edge of said cover member and located further from the apex of said trough than are said cover members,
(4) A pair of key members whose first termini are said screed portions and whose other termini lie outwardly of said control elements and intermediate the termini thereof,
(5) At least one linking member connecting a key member to an angle member, the latter consisting of an upright portion located inwardly of said key member and attached to said linking member and a base portion attached to the other margin of said upright portion and forming therewith an angle of approximately 90°.

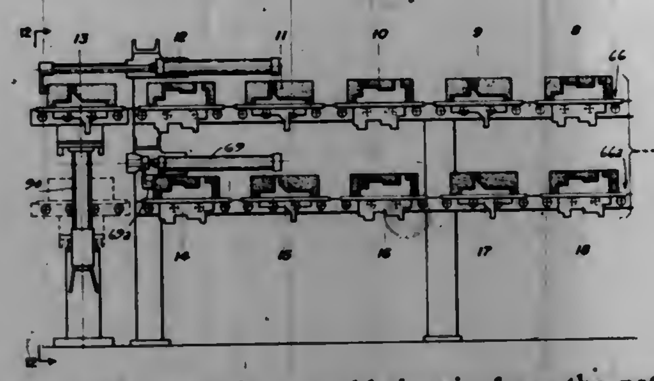
3,192,578
CORE MAKING APPARATUS
Hamilton L. McCormick, Carmel, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application June 8, 1960, Ser. No. 34,792. Divided and this application Aug. 17, 1961, Ser. No. 132,150
5 Claims. (Cl. 22—10)



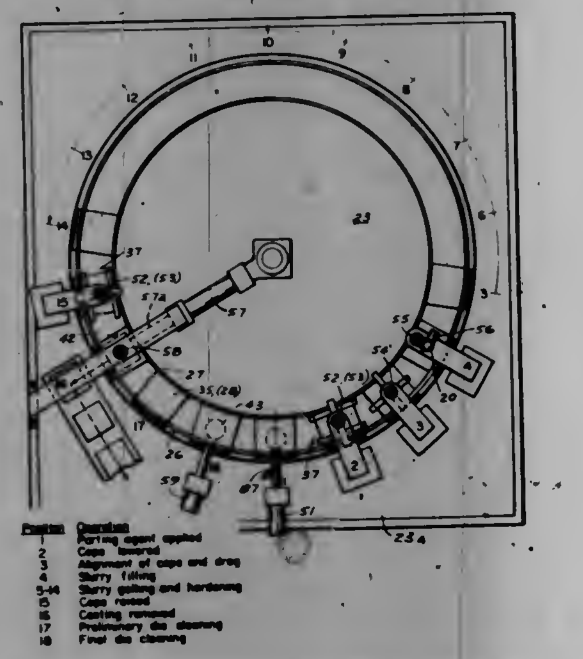
1. Core making die apparatus comprising, in combination, first and second complementary die block members defining a die cavity therebetween, a plurality of first elongated core plates retractably extending through said first die block into said cavity and a plurality of second elongated core plates retractably extending through said die block into said cavity, first movable plate means attached to each of said first core plates, a second movable plate means attached to each of said second core plates, first cam means for supporting said first plate means in a first position whereby said first core plates are retracted from said die cavity and for supporting said first plate means in a second position whereby said first core plates extend into said die cavity a predetermined amount, second cam means for supporting said second plate means in a first position whereby said second core plates are in a retracted position and for supporting said second plate means in a second position whereby said second core plates extend into said die cavity a predetermined amount, piston means for injecting a plastic material into said cavity, means operatively connected to said piston means for sequentially operating said first and second cam means to cause said core plates to project into said cavity when said piston means is actuated to inject plastic material into said cavity.

3,192,579
METHOD OF AND A DEVICE FOR MANUFACTURING COMPOSITE MOLDS
Irwin J. Lubalin, Rockville Center, N.Y., assignor to British Industries Corp., Avnet-Shaw Division, Plainview, Long Island, N.Y., a corporation of New York
Filed Jan. 22, 1963, Ser. No. 253,226
16 Claims. (Cl. 22—20)

10. An assembly for producing a mold for precision casting, said assembly comprising a flask, a pattern plate having on one side a preform mold pattern and on the other side a final form mold pattern, means for moving the pattern plate along a predetermined path and in the direction of said path, a means for placing the flask over the preform pattern of the pattern plate, means along the path for filling the flask of the pattern plate with a hardening slurry to form a preform mold, means for stripping the flask and the preform mold therein from the pattern plate, means for reversing the pattern plate so that the final pattern thereon now faces the flask and the mold therein, means for placing the flask and the preform mold therein over the final pattern, means for filling the flask on the pattern plate with hardening slurry to form the final mold, and means for stripping the flask and the pattern plate from the final mold.

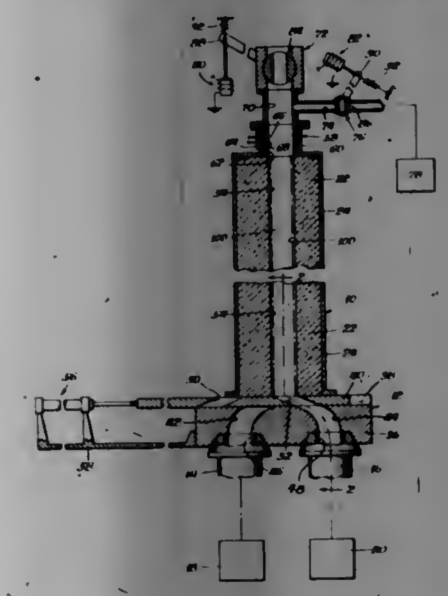


3,192,580
APPARATUS AND METHOD FOR CONTINUOUSLY PRODUCING INVESTMENT MOLDS
Irwin J. Lubalin, Rockville Centre, N.Y., assignor to British Industries Corp., Avnet-Shaw Division, Plainview, Long Island, N.Y., a corporation of New York
Filed Nov. 14, 1962, Ser. No. 237,684
15 Claims. (Cl. 22—21)



1. An installation for repeat production of investment casting molds, said installation comprising a turntable, a plurality of two-part mold dies each including a cope and a drag, the drag of each die being secured to the table for movement in unison therewith and the cope being supported on the table movable between a die-opening position in which the cope is vertically spaced apart with reference to the drag and a die-closing position, and a plurality of stations disposed circumferentially distributed about said turntable, one of said stations including means for moving the cope of each die reaching said station from the open position to the closed position, another of said stations including means for pouring into a closed die reaching said other station a rapidly hardening slurry to form a mold therein, still another station including means for vertically lifting a cope with a hardened mold therein in reference to the drag of the die into a die opening position, a further station including means for ejecting the hardened mold from its cope in the die-opening position, means insertable between the cope and die in the die-opening position to receive the ejected molds, and means to remove the ejected mold from the station.

3,192,581
METHOD AND APPARATUS FOR PRODUCING COMPOSITE METAL ARTICLES
Edmund Q. Sylvester, Shaker Heights, Ohio (% Amsted Research Laboratory, P.O. Box 567, 340 County Line Road, Bensenville, Ill.)
Filed Sept. 19, 1962, Ser. No. 224,752
10 Claims. (Cl. 22—60)

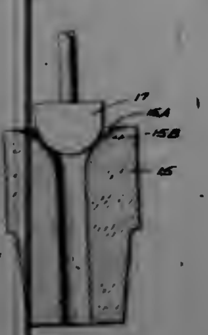


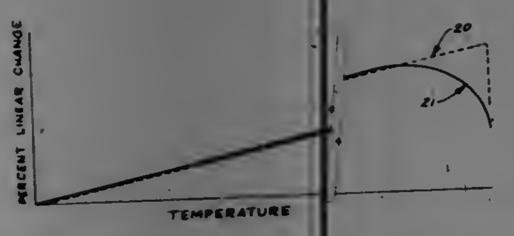
1. A method of making a clad metal article comprising the steps of: filling a mold cavity having an open lower and upper end with molten cladding metal by forcing said cladding metal upwardly into said cavity, allowing said molten cladding metal to partially solidify within said mold cavity, discharging the remaining molten cladding metal from said mold cavity through said open lower end thereby leaving a solidified shell-like member of cladding metal within said mold cavity while at the same time introducing inert gas to said mold cavity so as to continually fill the void within the mold cavity created by the discharged molten cladding metal, displacing the inert gas by filling through said open lower end the shell-like member with a molten metal which is dissimilar to said cladding metal, allowing said shell-like member and last-mentioned molten metal to fuse to each other, allowing all the molten metal within the mold cavity to at least partially solidify to form a clad metal article, and removing said clad metal article from said mold cavity.

3,192,582
BOTTOM POUR LADLE NOZZLE AND STOPPER ROD CONSTRUCTION
Gerald R. Cope, Pittsburgh, Robert K. Scott, Forest Hills, and Fred H. Fanning, Jr., Ingomar, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Oct. 3, 1962, Ser. No. 228,188
9 Claims. (Cl. 22—85)

1. In vessels for handling molten metal, comprised of a shell, a refractory lining in the shell, a stopper-head and stopper-rod assembly operatively associated with said vessel, and a pouring nozzle, the improvement which comprises a fired basic refractory pouring nozzle having an inlet and an outlet, the surface areas of the nozzle which define said inlet being displaceable at operating temperatures to a degree sufficient to provide a contiguous seat substantially conforming to adjacent portions of the

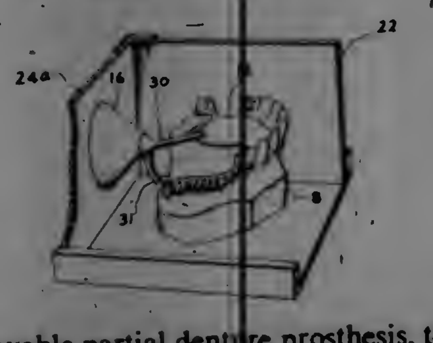
stopper-head when under stopper-head pressure, at least those portions of the stopper-head which contact the displaceable areas of the nozzle fabricated of a material which is substantially inert to said displaceable areas, said nozzle contacting portions of said stopper-head being sufficiently smooth surfaced as to prevent tearing of the stopper-head contacting surface areas of said nozzle, said nozzle mineralogically characterized by about 30 to 50%, by weight, periclase, and about 20 to 35%, by weight, dicalcium silicate, and the remainder being spinel minerals.





3,192,583
REMOVABLE PARTIAL DENTURE PROSTHESIS

William A. Fryrear, Jr., 8220 St. Anthony Church Road, Louisville, Ky.
Filed June 21, 1963, Ser. No. 289,508
4 Claims. (Cl. 22—193)

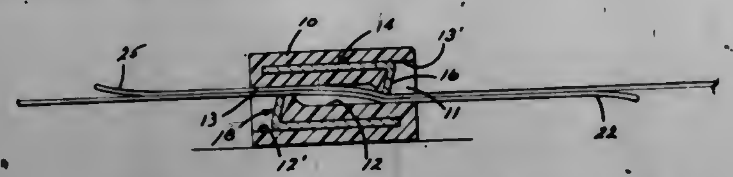


1. In removable partial denture prosthesis, the improvement which comprises forming a pattern on a refractory cast for a removable partial dental appliance, attaching a side sprue to said pattern, placing the refractory cast in an investing form with the sprue in the horizontal position and the pattern in an upward visible position, investing the refractory cast and the pattern thereon, providing a funneled sprue in communication with the end of the sprue, hardening the investment, burning out the pattern and sprue, and centrifugally injecting molten dental metal into the mold to form the dental appliance.

3,192,584
STRAP COUPLER

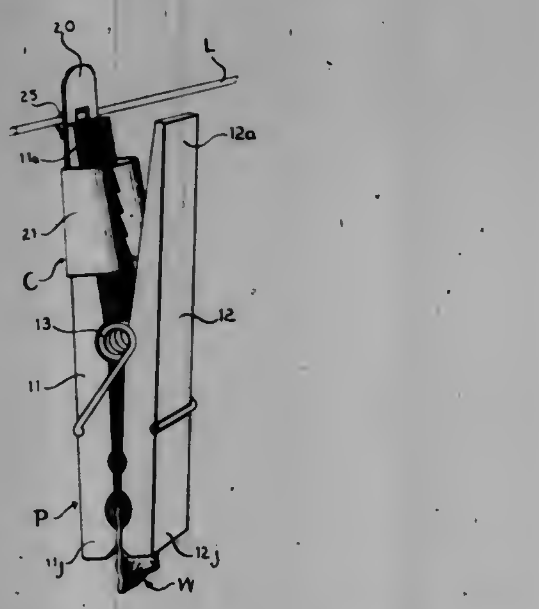
Harry E. Pape, Norwood, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Apr. 17, 1963, Ser. No. 273,706
3 Claims. (Cl. 24—16)

1. A strap coupler comprising a member formed of resinous material, a multi-walled passageway through said member adapted to accommodate a pair of strap ends in overlapping relationship, a first element secured in said member and having a portion extending from a first wall of the passageway toward a second wall of the passageway, said portion sloping from said first wall away from one end of the passageway, a second element secured in said member and having a portion extending from the said second wall of the passageway toward the said first wall, the extending portion of said second element sloping from said second wall away from the other end of the passageway, the extending portion of said first element being arranged to engage and prevent withdrawal of a strap end inserted through the passageway from the said one end of the passageway and the extending portion of said second element being arranged to engage and prevent withdrawal of a strap end inserted through the passageway from the other end of the passageway.



3,192,585
HANGER CLIP AND CLOTHES PIN

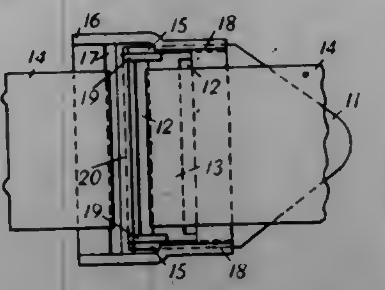
Walter F. Montag, 16146 Puritas Ave., Cleveland 35, Ohio
Filed Aug. 16, 1963, Ser. No. 302,606
6 Claims. (Cl. 24—137)



1. The combination,
with a spring type clothes-pin having a pair of operating lever arms at least one of which is tapered in thickness toward its end,
of a hanger clip formed of metal and adapted to engage said one arm and a line from which the combination is to be suspended;
said clip comprising:
a generally flat elongated body portion,
side portions integral with and bent out of the plane of the body portion toward each other to a spacing somewhat greater than the width of said one arm,
the margins of said side portions being turned inward toward each other and reflected back toward, and terminating in edges spaced from, said body portion and shaped to provide respective sets of serrations in a spaced relation less than said width,
the tips of said serrations lying substantially in a plane inclined inwardly toward the body portion at an angle approximating the taper angle of said one arm and in respective lines inclined toward the body portion,
whereby said arm is received endwise and retained between said body portion and serrations, and
integral means of said body portion of a hook-like form adapted to receive said line.

3,192,586
QUICK-RELEASE FASTENING

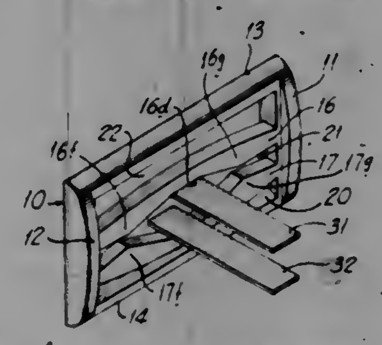
John Meynell Marley, Whittington, near Lichfield, England, assignor to Clearway Couplings Limited, Sparkbrook, Birmingham, England
Filed Oct. 15, 1962, Ser. No. 230,630
Claims priority, application Great Britain, Nov. 21, 1961, 41,567/61
8 Claims. (Cl. 24—196)



1. A quick release fastening comprising the combination of a plate-like first belt attachment having a front surface and a rear surface, means on said first belt attachment member for the connection thereto of an end of a belt extending from the rear surface of the first belt attachment member, at least one projecting portion on said first belt attachment member, a second belt attachment member of generally rectangular frame-like form having identical front and rear surfaces and having formed therein an aperture of maximum width greater than the maximum width of the first belt attachment member for the passage therethrough of the first belt attachment member to assemble the first and second belt attachment members together, a pair of inward projections on said second belt attachment member which are each flush with the front and rear surfaces of the second belt attachment member, and project into the aperture therein from opposite lateral sides and engage the rear surface of the first belt attachment member when the first and second belt attachment members are assembled together, means on one end of the second belt attachment member for the connection thereto of an end of a belt, and means on said second belt attachment member engageable with said projecting portion on the first belt attachment member, when the latter is so presented to the second belt attachment member that the front surface of the first belt attachment member would engage said inward projections on the second belt attachment member, to prevent complete passage of the first belt attachment member through the aperture in the second belt attachment member.

3,192,587
METHOD OF SECURING A STRAP TO A BUCKLE

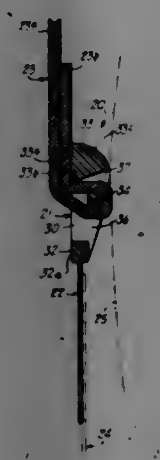
Paul W. White, New Haven, Conn., assignor to Parva Buckle Company, Mount Carmel, Conn., a corporation of Delaware
Filed Jan. 11, 1962, Ser. No. 165,503
1 Claim. (Cl. 24—200)



The method of fixedly securing a portion of a strap for supporting a garment to a one-piece buckle of generally resilient material comprising the steps of forming a strap slot between a pair of crossbars of the buckle with at least portions thereof at a width slightly less than the thickness of a strap, resiliently spreading said portions of the crossbars apart to a width greater than the thickness of said strap, threading a strap between said portions while maintaining said portions apart, and releasing said portions to clamp said strap therebetween.

3,192,588
BUCKLE

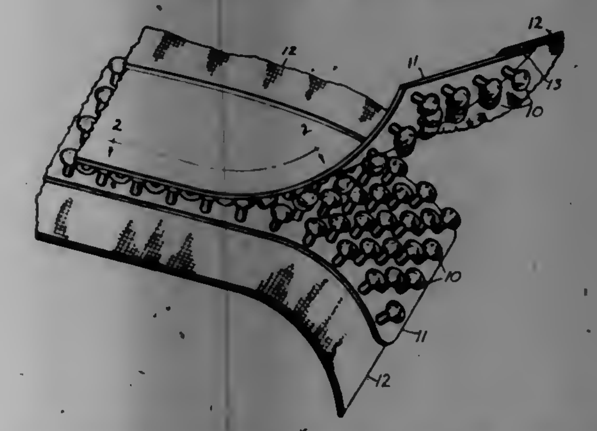
Paul W. White, New Haven, Conn., assignor to Parva Products Company, Mount Carmel, Conn., a corporation of Delaware
Filed Feb. 21, 1962, Ser. No. 174,754
2 Claims. (Cl. 24—200)



1. A unitary buckle for a garment having an adjustable strap wherein one side of the buckle is adapted to bear against the skin of the wearer of said garment comprising a pair of spaced apart side bars, a pair of spaced apart upper and lower end crossbars interconnecting the ends of said side bars, an intermediate crossbar interconnecting said side bars intermediate their ends and defining upper and lower strap receiving slots between said upper and lower end crossbars respectively, and thin tab means integrally formed with said lower end crossbar extending downwardly therefrom and adapted to be attached to said garment, said upper end cross bar having a first surface adapted to bear against the skin of said wearer, said intermediate crossbar having a first surface opposing the skin of said wearer spaced outwardly therefrom an amount substantially equal to the thickness of said strap whereby said strap when threaded thru said slots around said intermediate crossbar presents an outer surface adapted to bear against the skin of the wearer and lying in a common plane with said surface of said upper end crossbar.

3,192,589
SEPARABLE FASTENER

Raymond C. Pearson, 28 Grant Ave., East Rockaway, N.Y.
Filed July 18, 1960, Ser. No. 43,594
3 Claims. (Cl. 24—204)

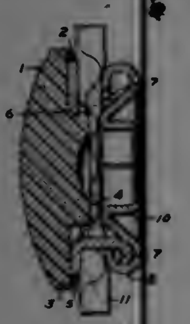


1. In hermaphroditic fasteners of the character described, a fastener element comprising a sheet, a multi-

plicity of studs disposed on one surface of the sheet; each stud being in the form of a solid of revolution, comprising a post surmounted by an enlarged head; said studs being disposed in staggered rows, the spacing between said stud posts being substantially equal to that of the enlarged heads, in directions longitudinal and transverse to said rows, the spacing between stud heads corresponding substantially to post thickness; said sheet being adapted to be secured to a flexible support; said studs being adapted to secure themselves to studs of a companion member of like construction, whereby upon axial approximation of the studs for interlock, said sheet elastically deforms, that heads of studs may pass and settle under each other and resist separation against forces perpendicular and parallel to axis of interlocked studs, and under radially applied strain to said sheet release and effect separation of companion member.

3,192,590
DECORATOR FASTENER ATTACHING DEVICE

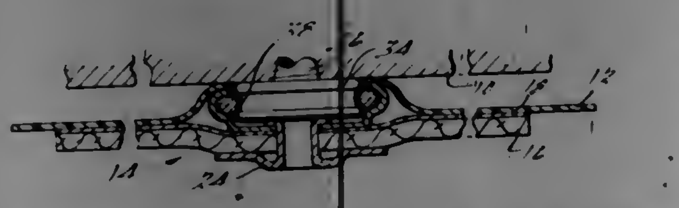
Stuart T. Shears, Belmont, Mass., assignor to United-Carr Incorporated, a corporation of Delaware
Filed Dec. 28, 1962, Ser. No. 248,134
2 Claims. (Cl. 24—216)



2. A decorative fastener attaching device comprising, in combination, a decorative part and an attaching element assembled therewith, said decorative part having a body portion and a projection at a bottom face of the body portion and said attaching element having a base portion located entirely beneath the body portion of said decorative part and having a ring-like peripheral portion, a plurality of gripping fingers extending from an inner periphery of said ring-like portion into gripping engagement with the projection of said decorative part to hold said decorative part and attaching element in assembly, and a plurality of attaching prongs extending from said ring-like portion between the gripping fingers for attaching the device through a suitable support to a fastener.

3,192,591
FASTENER WITH ADHESIVE

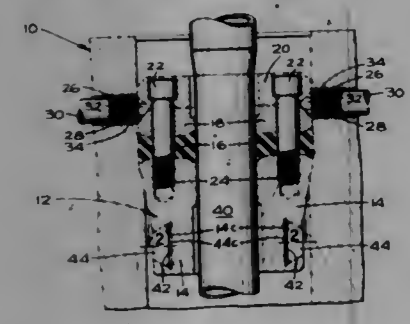
Phil Cherrin, Huntington Woods, Mich., assignor to Abe Cherrin, Detroit, Mich., Lem Cherrin, Oak Park, Mich., Archie Cherrin, Oak Park, Mich., and the estate of Sam Cherrin, deceased
Filed Dec. 19, 1962, Ser. No. 245,843
4 Claims. (Cl. 24—245)



1. A fastener assembly comprising a two-element detachable fastener including a head and a socket, a relatively thin material having an imperforate portion, a backing member having one of said fastener elements secured thereto, means securing the other of said fastener elements to an object, a coating of pressure-sensitive adhesive on the same face of said backing member as said one fastener element, said material being pinched and held between said head and socket at said imperforate portion and said pressure-sensitive material contacting and adhering to said imperforate portion.

3,192,592
HANGER LATCH

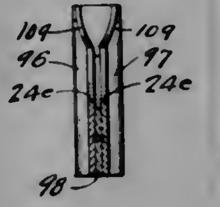
John R. Yancey, Houston, Tex., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Continuation of application Ser. No. 858,702, Dec. 10, 1959. This application May 27, 1964, Ser. No. 370,404
13 Claims. (Cl. 24—263)



1. A hanger for suspending pipe within a well comprising a diametrically split cylindrical body having an annular groove in the periphery thereof, a latch mechanism comprising a diametrically split ring mounted in said groove for circumferential movement relative to said body, said ring and said groove having complementary cross sectional configurations whereby said ring is restrained from movement radially out of said groove, and releasable means forcing said ring against a side wall of said groove to positively align the parts of said body.

3,192,593
CLAMP FOR TUBING

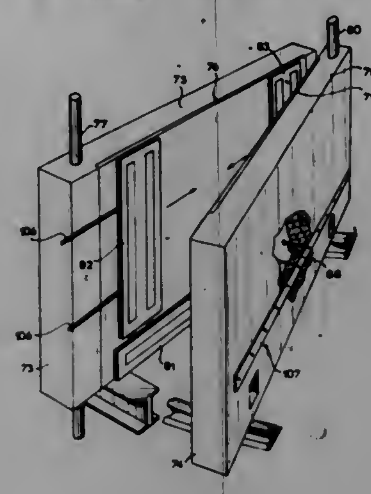
Norton J. Osborn and Richard W. Tabbert, Toledo, Ohio, assignors to The AP Parts Corporation, Toledo, Ohio, a corporation of Ohio
Application Aug. 14, 1961, Ser. No. 131,371, now Patent No. 3,137,053, dated June 16, 1964, which is a division of application Ser. No. 707,237, Jan. 6, 1958. Divided and this application Apr. 24, 1964, Ser. No. 362,310
10 Claims. (Cl. 24—277)



1. A clamp construction adapted to embrace cylindrically shaped telescoped members consisting of a clamping bolt formed with a semicircular portion and spaced parallel portions and a saddle means, said saddle means being formed with spaced tubular portions and means connecting the tubular portions, said connecting means including planar sections arranged in transversely spaced relation, said sections having curved edge regions of not more than 180° and of a curvature substantially the same as that of the semicircular portion of the clamping bolt, said tubular portions having divergent edge zones at the regions of connection of the sections with the tubular portions which overlap the semicircular portion of the clamping bolt, the radii of the semicircular configurations of the clamping bolt and the connecting sections being substantially coincident with the exterior surface of the outer of the telescoped members.

3,192,594
MOLD FOR THE FABRICATION OF MOLDED CONCRETE PANELS

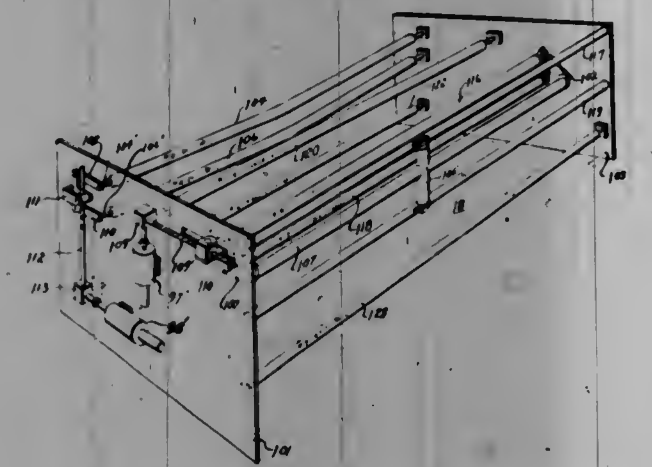
Edouard Fougea, Neuilly-sur-Seine, France, assignor to Constructions Edmond Coignet, Paris, France, a corporation of France
Filed Nov. 1, 1962, Ser. No. 234,689
Claims priority, application France, Nov. 14, 1961, 878,829
3 Claims. (Cl. 25—121)



1. A mold for the fabrication of molded concrete panels, said mold comprising two vertical walls, means mounting said vertical walls for horizontal swinging movement about vertical axes, one of said walls having its pivot axis adjacent one extremity thereof, the other of said walls having its pivot axis adjacent the other extremity thereof with respect to the extremity of the pivot of said one of said walls, the relative positions of the two pivot axes of said walls permitting a variation in the thickness of the concrete receiving space between said walls while permitting said walls to be maintained parallel to one another, and a bottom and end pieces interposed in the space between said walls for determining the dimensions of the edges and the bottom of the panel to be molded.

3,192,595
WEFT STRAIGHTENER

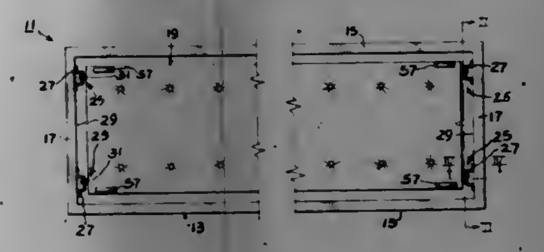
Humphrey Morton, Rte. 4, Box 450, Danville, Va., and Frank W. Leitner, 1218 Canterbury Road, Charlotte, N.C.
Filed Mar. 2, 1962, Ser. No. 177,127
3 Claims. (Cl. 26—51.5)



1. A weft straightener comprising in combination means for guiding fabric along a predetermiend path, a series of skew and bow correcting means deployed in alternating sequence along the path, said sequence being at least skew, bow, skew, bow, means for moving the bow correcting means relative to the path to vary the path length of the farbic travel for correcting bow error, means for moving the skew correcting means relative to the path to vary the path length of the fabric travel for correcting skew error, and means for endering both the bow and skew correcting means simultaneously operative to vary the path for correcting a bowed-skew.

3,192,596
ADJUSTMENT MEANS FOR A CASKET BED

Leslie G. Gruber, 4530 Shady Grove Road, Memphis, Tenn.
Filed July 3, 1961, Ser. No. 121,451
5 Claims. (Cl. 27—12)



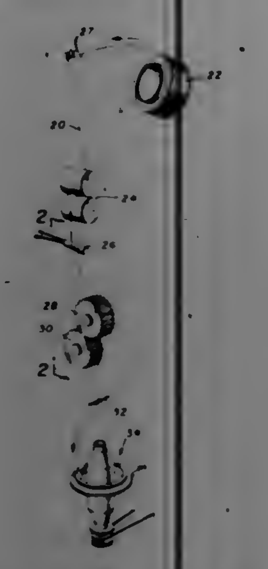
3. In a casket having a casket shell, a vertically movable supporting structure for supporting a corpse in said shell, said supporting structure being laterally spaced from said shell to provide room for moving said supporting structure laterally as well as vertically, adjustment means cooperating between said supporting structure and said shell for holding said supporting structure at a selected height: each of said adjustment means comprising a first element and a second element, one of said elements being fixedly attached to said supporting structure and the other of said elements being fixedly attached to said shell, said first element comprising a substantially horizontally extending cylindrical pin having a head thereon, said second element comprising means providing a path for said pin; said path comprising a vertical slot, a plurality of round-bottomed recesses leading from said slot at vertically spaced places and angled downwardly therefrom, an enlarged entrance and exit opening, and a reduced guide portion connecting said opening and said slot; said pin being in interengaging relationship with said second element in said path; said vertical slot, said recesses and said reduced guide portion being of a size to loosely receive said pin and smaller than said head whereby said pin is movable through said slot into a selected one of said recesses and through said reduced guide portion without being accidentally disengageable therefrom, said pin being normally received in a selected one of said recesses to adjustably support said supporting structure in said shell, said opening being greater in size than said head whereby said head is movable through said opening to engage or disengage said first and second elements, said pin being movable from one of said recesses to another by manipulation of said supporting structure and with said pin and said second element remaining in interengaging relationship during the manipulation.

3,192,597
YARN TEXTURING APPARATUS AND METHOD

Euell K. McIntosh and William H. Hills, Pensacola, Fla., assignors to Monsanto Company, a corporation of Delaware
Filed Aug. 21, 1963, Ser. No. 303,504
7 Claims. (Cl. 28—1)

1. Apparatus for bulking a multi-filament yarn, comprising in combination:
- (a) a pair of driven meshed yarn-crimping gears,
- (b) a source of multi-filament yarn to be bulked, said source supplying yarn to be passed through said gears,
- (c) a snubbing mechanism positioned between said source and said gears for exerting a predetermined braking effort on said yarn whereby said yarn is drawn in the region between said gears and said snubbing mechanism,

(d) said snubbing mechanism being oriented with respect to said gears so that said yarn wraps around part of the periphery of a first of said gears and forms into a substantially flat filament sheet on said periphery before entering into the region where said gears mesh,

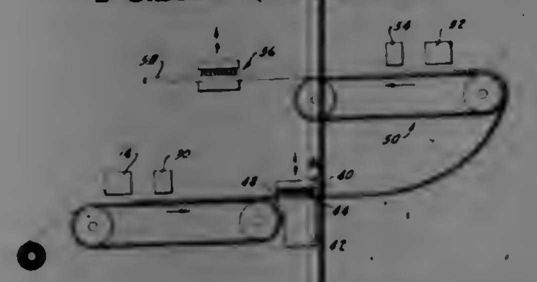


(e) and yarn takeup means for collecting said yarn after a single pass through said gears.

3,192,598
METHOD OF MAKING A FILTER ELEMENT

Ralph W. Stevenson, Muncie, Ind., and Wilfred W. Lowther, Chicago, Ill., assignors to Novo Industrial Corporation, New York, N.Y., a corporation of New York

Filed Jan. 3, 1961, Ser. No. 80,206
2 Claims. (Cl. 28—72.2)



1. A method of making a dimensionally stable filter. including the steps of freely dropping fibers in an initial layer on one side of a screen mesh which will take a permanent set, said fibers laying substantially flat and being disposed substantially parallel to the mesh, needling the fibers of the layer to the screen mesh so as to interlock the layer and mesh. inverting the thus interlocked layer and mesh so that the mesh will be on top and the initial layer on the bottom, freely dropping a second layer of fibers on the other side of the mesh. the fibers of the second layer laying substantially flat and being disposed substantially parallel to the mesh, and thereafter needling the fibers of the second layer to the mesh and into the initial layer to interlock both layers to the screen mesh.

3,192,599
METHOD OF PRODUCING STABLE DRYER FABRICS

Joseph R. Wagner, Knoxville, Tenn., assignor to Huyck Corporation, Stamford, Conn., a corporation of New York

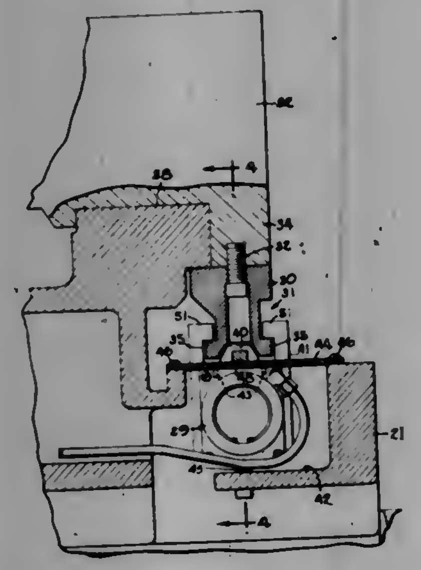
No Drawing. Filed Nov. 27, 1962, Ser. No. 240,435
9 Claims. (Cl. 28—74)

1. A method of producing a belt for use in the drying section of a paper machine or the like which comprises: weaving a fabric of synthetic resin yarns that contract upon increase in temperature and elongate upon passing from a dry to a wet condition, treating the yarns of said fabric with resin adapted to bond the warps and wefts thereof in the region in which they cross, and heat treating the yarns of which said fabric is formed while the latter is under a sufficiently low tension to permit shrinkage, and at a temperature high enough to cause shrinkage, to remove substantially all residual shrinkage therefrom before completion of the final, resin treated fabric.

3,192,600
CLAMP FOR MACHINE TOOL

Gordon H. Jones, Fond du Lac, Wis., assignor to Giddings & Lewis Machine Tool Company, Fond du Lac, Wis., a corporation of Wisconsin

Filed Aug. 28, 1961, Ser. No. 134,449
13 Claims. (Cl. 29—1)



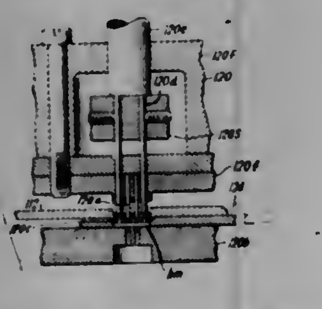
2. A clamp mechanism for machine tool elements movable relative to each other and comprising, in combination, a clamping rail fixed to one said element, a clamping shoe fixed to the other said element, a clamp yoke secured to said other element and disposed in partially surrounding and straddling relation with said clamping rail and said clamping shoe, and means positioned in said clamp yoke and cooperable therewith for pressing the latter and said clamping shoe into opposed frictional gripping engagement with said clamping rail.

3,192,601
PIERCING AND ASSEMBLING MECHANISM FOR ASSEMBLING APPARATUS AND METHODS

Stanley J. Gartner, Emporium, Pa., assignor, by mesne assignments, to Sylvania Electric Products Inc., Wilmington, Del., a corporation of Delaware

Application Feb. 7, 1962, Ser. No. 171,745, which is a division of application Ser. No. 406,930, Jan. 29, 1954, now Patent No. 3,069,749, dated Dec. 25, 1962. Divided and this application Sept. 19, 1963, Ser. No. 309,938

16 Claims. (Cl. 29—25.2)

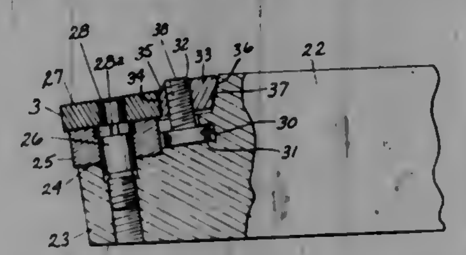


1. In a mount machine including a stem block carrying a stem having wires to receive a mica, a mica-assembling station comprising a feed carrier formed with plural apertures each receiving a mica successively movable into a mica-piercing location, a transfer member formed with a supporting aperture arranged to receive and snugly engage a mica, die means at said location for forming successive micas with a prescribed pierced pattern and including a stripper for displacing successive micas from said feed carrier to said transfer member, gathering means engageable with said wires for locating the wires to correspond to the prescribed pierced pattern, operating means for moving said transfer member along a thrust path and through a predetermined stroke toward said stem block whereby the supported mica is applied to the wires of said stem, and pusher means operable in timed relation to said operating means for freeing the supported mica from said transfer member.

3,192,602
CUTTING TOOL

Ronald R. Copeland, Diamond, Pa., assignor to Greenleaf Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 18, 1963. Ser. No. 317,198
3 Claims. (Cl. 29—96)

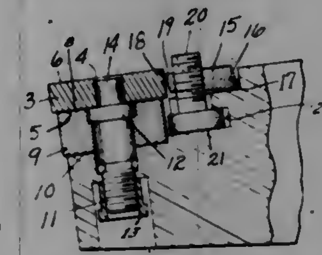


1. An indexable bit cutting tool having a head with a step at the front and a riser at the rear of the step, a polygonal anvil mounted on the step having a pin upstanding above and perpendicular to the upper surface of the anvil, a T-slot extending rearwardly through the riser opposite the rear edge of the anvil, said anvil having its rear edge presented to the riser and blocking the T-slot, an indexable polygonal bit seated on the anvil and having a center hole telescoped over said pin and having an active edge in cutting position and an inactive edge to the rear of said active edge, said head having an upstanding shoulder to the rear of the T-slot lying in a plane inclined downwardly at a wedging angle toward said inactive edge of the bit, a clamp having its front edge engaging said inactive edge of the bit and its back edge engaging said shoulder, and a screw threaded in the clamp having its head in the T-slot for tightening the clamp to wedge the bit between the pin and the front edge of the clamp.

3,192,603
CUTTING TOOL

Walter J. Greenleaf, R.D. 3, Meadville, Pa.

Filed Feb. 6, 1964, Ser. No. 342,967
4 Claims. (Cl. 29—96)

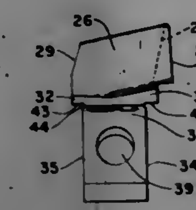


1. An indexable bit cutting tool having a head with a bit seat and a pin fixed to the head and having a portion upstanding above and perpendicular to the bit seat, an indexable polygonal bit seated on said bit seat and having a center hole telescoped over said upstanding portion of the pin and having an active edge in cutting position and an inactive edge to the rear of said active edge, a clamp having a front edge engaging said inactive edge of the bit above the bit seat and a back edge pivoted on the head below the front edge, and means for pivoting the clamp to force the bit edgewise against the pin.

3,192,604
ADJUSTABLE FACE MILL CUTTER

Donald L. Whitmore, Webster, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York

Continuation of application Ser. No. 52,008, Aug. 23, 1960. This application Aug. 9, 1963, Ser. No. 301,023
11 Claims. (Cl. 29—105)

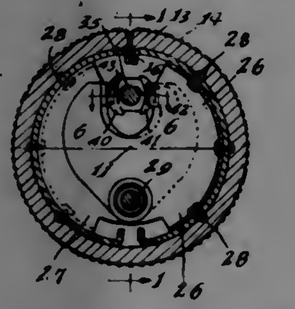


1. A face mill cutter comprising a head having a multiplicity of slots in the periphery thereof, inserted blades having cutting portions extending forwardly from the front of the head and having shanks extending into said slots and confined by the walls of said slots, and headed holding screws extending through said shanks and screw-threaded into threaded bores in the head at the bottoms of said slots, the threads of said screws and openings having a pressure flank angle not substantially exceeding the static angle of friction thereof for minimizing displacement of the slot walls confining an adjacent blade when a holding screw of one blade is tightened or loosened.

3,192,605
BUFFER ROLL DEVICE

Charles R. Walbert, Muskegon, Mich., assignor to Brunswick Corporation, a corporation of Delaware

Filed May 28, 1962, Ser. No. 198,118
9 Claims. (Cl. 29—118)

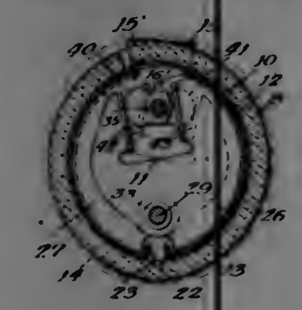


1. A roll device for receiving a buffing sheet or the like secured therearound, comprising, a pair of relatively movable hollow opposed roll sections for supporting the sheet, each section having a plurality of interior transverse brackets fixed at longitudinally spaced positions therein and opposing corresponding brackets in the opposed section, generally diametrically opposite edges on each section with corresponding edges on the opposed section defining pairs of opposed edges, first means pivotally connecting opposed brackets proximate one of said pair of edges and comprising a shaft extending longitudinally through the roll adjacent said one pair of edges and pivotally connecting said brackets for opposite movement of opposed edges in said pairs toward and away from each other, movement of said one pair of edges away from each other being effective for tensioning said sheet on said roll, the other of said pair of edges defining jaws for holding opposite edge portions of said sheet therebetween when said jaws are closed upon movement of said other pair of edges toward each other, said jaws releasing said sheet edge portions when said jaws are open upon movement of said other edges away from each other, cam means including a cam shaft pivotally mounted in the roll proximate said jaws, an opposed pair of cam engageable surfaces on each bracket and disposed on opposite sides of said cam shaft, respectively, and a pair of diametrically opposed cams fixed on said cam shaft

adjacent each pair of opposed brackets, and cooperating respectively with the brackets, each cam cooperable with both cam surfaces on the associated bracket, each cam being engageable alternatively with the respective cam surfaces for opening and closing the jaws responsive to rotation of the cam shaft about 180 degrees, and means for rotating the cam shaft about 180 degrees.

3,192,606
BUFFER ROLL DEVICE

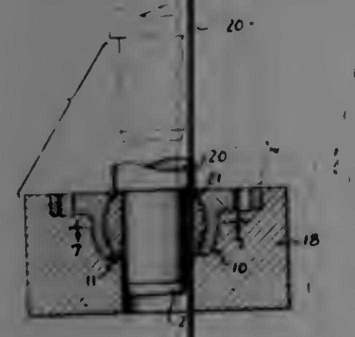
Eric S. Stevens, Muskegon, Mich., assignor to Brunswick Corporation, a corporation of Delaware
Filed July 1, 1963, Ser. No. 291,669
4 Claims. (Cl. 29—118)



1. A roll device comprising, a pair of opposed relatively movable roll halves, the periphery of said roll halves collectively defining a generally cylindrical roll having a central longitudinal axis, a closely fitting cylindrical floor treating sleeve on said cylindrical roll, means pivotally connecting said roll halves on one side of said longitudinal axis, and cam means associated with said roll halves on a diametrically opposed side of said longitudinal axis for moving said roll halves to positions where the exposed peripheral area of said roll halves is substantially less than the peripheral area of said cylindrical roll to enable telescopic application of said sleeve.

3,192,607
METHOD AND APPARATUS FOR MAKING A SELF-ALIGNING PILLOW BLOCK

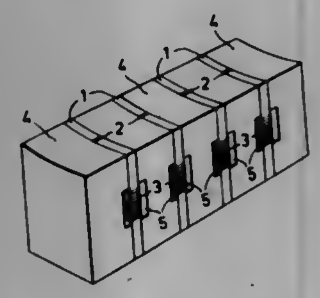
Carl Hilton, Chicago, Ill., assignor, by mesne assignments, to Masten Corporation, Chicago, Ill., a corporation of Illinois
Filed Apr. 16, 1962, Ser. No. 187,872
9 Claims. (Cl. 29—149.5)



1. The method of making a self-aligning pillow block which comprises casting a one-piece rigid metal housing about a bearing composed of elastic sintered powdered metal material having a spherical outer surface and formed with a cylindrical axial bore to provide said housing with a spherical bore partially embracing and retaining said bearing, and then subjecting said bearing to radial compression outwardly from within its bore to cause it to become fixedly compressed, and then removing said compressing forces to cause said bearing to become slightly separated from the internal surface of the housing while remaining pivotally disposed therein and frictionally retained against rotation on its axis.

3,192,608
MULTIPLE FERRITE HEADS WITH WORKABLE METAL SCREENS

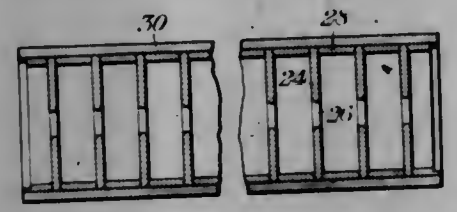
Herre Rinia, Simon Duinker, and Hendrik Johannes Meerkamp Van Embden, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed June 26, 1961, Ser. No. 119,440
Claims priority, application Netherlands, July 26, 1960, 254,218
3 Claims. (Cl. 29—155.5)



1. A method of manufacturing a multiple magnetic head including a plurality of individual magnetic heads composed of ferrite, each individual head having a bearing surface adapted to be placed adjacent a moving magnetic carrier, comprising: placing a plate consisting of metallic non-magnetic material between each pair of ferrite heads, each plate having a bearing surface extending substantially flush with the bearing surfaces of the magnetic heads, said non-magnetic material having an impact strength lying between 0.5 and 10 kg./cm., a bending strength lying between 10 and 45 kg./mm.^{2}, and a hardness lying between 425 and 480 V10, and simultaneously machining the bearing surfaces of the magnetic heads and the plates, whereby a multiple magnetic head is produced having a substantially smooth surface adapted to co-act with said moving magnetic carrier.

3,192,609
METHOD OF MANUFACTURING HOLLOW CYLINDRICAL MEMBERS WITH APERTURED INTERNAL PARTITIONS

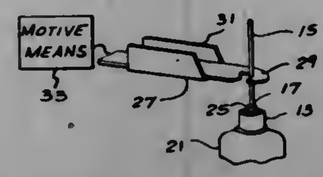
Masatake Murata, Prefecture of Aichi, and Shigeyuki Ikeda, Nagoya, Prefecture of Aichi, Japan, assignors to Shin-Mitsubishi Jukogyo Kabushiki Kaisha, Nagoya, Japan, a corporation of Japan
Filed Feb. 26, 1962, Ser. No. 175,597
Claims priority, application Japan, Feb. 27, 1961, 36/6,034
3 Claims. (Cl. 29—155.5)



1. A method of manufacturing a hollow, cylindrical member including a plurality of apertured partition disks attached on the internal periphery thereof, said method comprising the steps of preparing a plurality of apertured partition disks and a plurality of hollow, cylindrical spacer elements having respective predetermined dimensions with a high degree of accuracy, sandwiching each of said plurality of apertured partition disks between one pair of adjacent hollow, cylindrical spacer elements in lengthwise aligned relationship to form a single cylindrical member, and depositing a cylindrical shell around said single cylindrical member by electroforming technique to join said partition disks and said spacer elements into one unit with said hollow cylindrical spacer elements remaining as they are inside said cylindrical shell.

3,192,610
METHOD OF MAKING AN ELECTRON TUBE TERMINAL

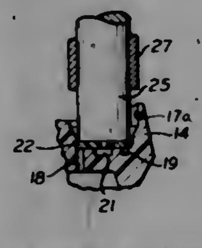
Charles A. Keating, Cannelton, Ind., assignor to General Electric Company, a corporation of New York
Filed June 18, 1962, Ser. No. 203,359
1 Claim. (Cl. 29—155.55)



In the manufacture of an electron discharge device having a plurality of electrodes and a lead wire extending from one of said electrodes through the envelope of the device, which lead wire is of composite structure having an iron core and a copper sheath enveloping the core, the method of forming a top cap connection for said lead wire comprising the steps of securing an apertured metallic cap to said envelope at the part thereof at which the lead projects exteriorly of the envelope, threading said lead through the aperture of said cap, repeatedly bending said lead against the walls of said aperture to break the iron core and copper sheath thereat while streaching the copper sheath beyond the broken end of the iron core, forming the broken end of the wire to provide a copper-domed end of wire to facilitate welding to the wall of the aperture and welding the broken end of the wire to the top cap.

3,192,611
METHOD OF MAKING AND ASSEMBLING THE COMPONENTS OF AN AEROSOL DISPENSER BUTTON

Joseph Briechle, New Canaan, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Aug. 31, 1961, Ser. No. 135,317
4 Claims. (Cl. 29—157)

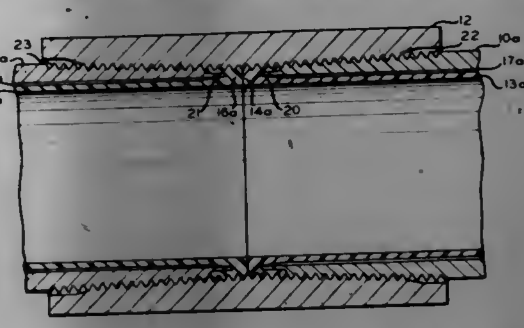


1. The method of forming a dispenser button comprising a body member having a whirl chamber therein and a disc overlying the whirl chamber and having a central perforation therein which is flared outwardly toward the discharge end of the button, said method comprising inserting into a substantially cylindrical socket in such body member into overlying relation to the whirl chamber a concavo-convex disc of somewhat smaller diameter than the cylindrical socket with the concave surface facing outwardly and having a cylindrical central perforation and flattening said disc to transform the cylindrical wall of the perforation into a tapered wall and anchoring said disc in situ by deforming part of the wall of the socket into overlying engaging relation to the rim of the disc.

3,192,612
METHOD OF CONSTRUCTING PLASTIC-LINED CONDUIT

Ralph W. Elliott and Glen G. Hebard, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 5, 1963, Ser. No. 270,856
2 Claims. (Cl. 29—157)

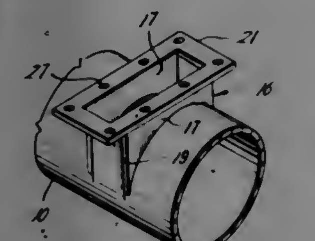
1. The method of sealing a thermoplastic liner to an externally threaded metal conduit section which comprises removing between 2 and 5 threads from the end of said section so as to leave an unthreaded endmost portion on said threaded end section; positioning said liner in said section so that the liner extends beyond the section end; heating the extending end of said liner sufficiently to soften same and turning same over the section end from which



threads have been removed so as to leave a turned liner portion extending about ½-inch beyond the end of the conduit; hardening the turned liner portion; and forming threads on the turned portion of said liner to match the conduit threads.

3,192,613
VALVE AND METHOD OF INSTALLING SAME

Herbert Allen, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex., a corporation of Texas
Filed May 16, 1961, Ser. No. 110,405
2 Claims. (Cl. 29—157.1



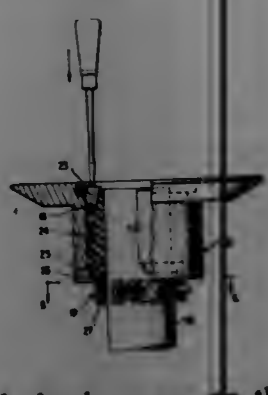
1. A method of installing a valve on a pipe comprising the steps of cutting the pipe laterally along two spaced-apart semi-circular lines and longitudinally along a line which bisects the lateral cuts, bending back the cut portions on each side of the longitudinal cut along lines intersecting the ends of the lateral cuts and into positions to form an opening in the pipe with upstanding walls on each side thereof having a space therebetween at least equal to the diameter of the pipe, assembling a saddle on the pipe with walls fitting the pipe and extending between the upstanding walls thereof, connecting the saddle to the pipe and the upstanding walls and when so assembled providing a hollow base which forms a continuation of the pipe and the upstanding walls and opening, and mounting a bonnet on the base to support a valve member for movement between positions opening and closing the pipe.

3,192,614
POSITIONING, LEVELING AND SUPPORTING DEVICE MOUNTABLE UPON AN UPRIGHT PIPE OR THE LIKE

Leland C. Gardner, Sr., 519 Rich St., Rock Hill, S.C., and Lawson F. Waldrop, Jr., 529 S. York Ave., Rock Hill, S.C.
Filed Feb. 7, 1964, Ser. No. 343,253
2 Claims. (Cl. 29—200)

1. In a means for positioning, leveling and supporting a floor drain, the combination comprising an upright soil pipe stub carried and supported by a trap below floor level, a floor drain including an enlarged top flange to be mounted flush in a floor surface and a depending tubular hub integral with the flange and engageable telescopically over said soil pipe stub, and a positioning, leveling and supporting clamp device substantially surrounding said pipe stub immediately below the tubular hub of the floor drain and being formed of rubber-like material

and having a radially wide substantially flat upper face to directly engage the bottom of the tubular hub, said clamp device being adjustable on the pipe stub for leveling the floor drain and positioning it at the proper elevation, and



manually operable latch means on the clamp device for drawing the same closed into tight gripping relation with the pipe stub so that the clamp device may bear the weight of the floor drain during the installation and sealing thereof to the pipe stub.

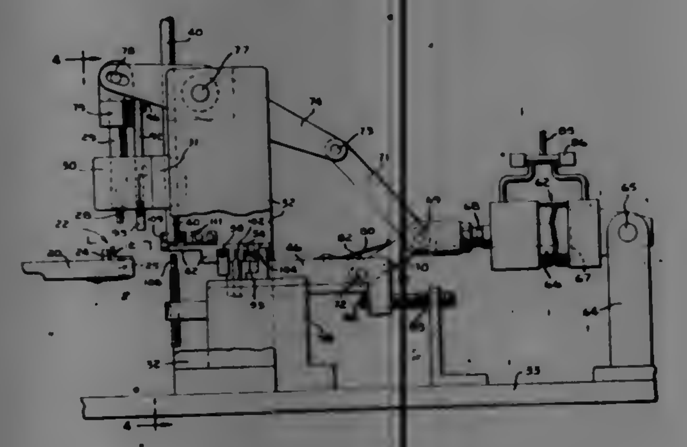
3,192,615

ARTICLE ASSEMBLING APPARATUS

Richard E. Halverson, Westchester, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Nov. 12, 1963, Ser. No. 322,784

6 Claims. (Cl. 29—211)



1. In a device of the type described:
a plunger;
mounting means for supporting said plunger for reciprocatory movement along a first path;
holding means supported on said mounting means for limited movement along a second path transversely of said first path to a retracted position for receiving an article and to a forward position for supporting the article in the path of said plunger;
a fluid operated actuator pivotally supported on said mounting means and having a reciprocatory rod movable in the general direction of the second path;
a link pivotally connected at one end to one end of said rod and connected at the other end thereof to said article holding means for limited pivotal movement thereon to and from first and second positions in acute and less acute angular relation respectively to the second path;
resilient means for urging said link to the first position, the arrangement being such that in response to the forward movement of said rod said article holding means is first moved from the retracted position to the forward position with the link in the first position after which said link is pivoted to the second position, and in response to the return movement of said rod said link is first pivoted from the second position to the first position on said article supporting means after which said article supporting means is moved from the forward position to the retracted position; and
means responsive to the movement of said link to and from the first and the second positions for effecting the reciprocation of said plunger.

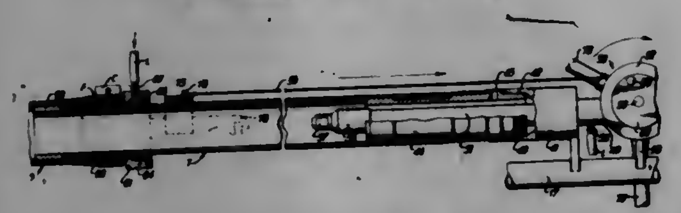
3,192,616

APPARATUS FOR MOUNTING RUBBER SLEEVES ON INNER CORE BARREL TUBES

Benjamin L. Austin, Ogden, and Takeshi Mori, Salt Lake City, Utah, assignors to Christensen Diamond Products Company, Salt Lake City, Utah, a corporation of Utah

Filed May 16, 1960, Ser. No. 29,325

16 Claims. (Cl. 29—234)



1. In apparatus for mounting a pliant, elastic sleeve on a tubular member after the sleeve has been doubled back on itself: a tubular loading device; means for expanding the doubled end portion of the sleeve; means for forcing said loading device into the expanded doubled end portion of said sleeve; means for supporting the tubular member; means comprising a portion of said forcing means for moving said device and sleeve mounted thereon over and along the tubular member to mount the sleeve on the tubular member and means for feeding fluid under pressure through said device into the space between the tubular member and said device and the sleeve while said device is being pulled along the tubular member.

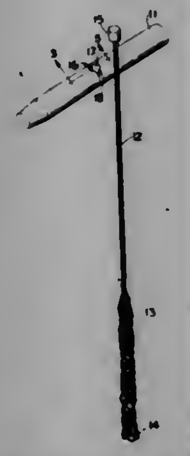
3,192,617

HAND TOOL FOR FACILITATING THE INSERTION OF A SEAL PACKING MATERIAL INTO A NARROW GROOVE FORMED TO RECEIVE SAID PACKING MATERIAL

Edward S. Meyer, 520 Fairfield Ave., Ridgewood, N.J.

Filed May 23, 1962, Ser. No. 196,995

1 Claim. (Cl. 29—278)



A hand tool for facilitating the insertion of a seal packing material into a narrow groove formed to receive said packing material, said tool comprising in combination,
a bar designed to provide a T-shaped grip having a slot retaining means at the center thereof, said slot retaining means having an upper section conforming to the shape of a boss to be inserted in said slot and a lower section adapted to stop penetration of said boss further into said slot but permitting a cable to penetrate therethrough;
a boss adapted to fit into said upper section and to be readily detachable therefrom;
a single strand of cable attached to said boss at the outer end of said cable, said cable being retained in said lower section of said slot retaining means;

a mesh comprising an extension of said cable at the inner end of said cable, said mesh terminating in an open end designed to retain therein an elongated resilient seal packing material, said mesh having a widened throat towards said open end so that said mesh throat will widen upon depressing said open end for insertion of said seal packing material and narrow when upon discontinuing said depressing so that said material will be gripped by said mesh.

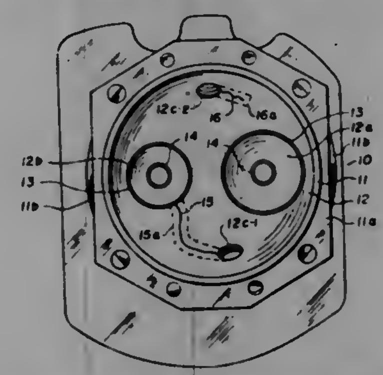
3,192,618

METHOD OF REPAIRING AIRCRAFT CYLINDER HEADS

George A. Altgelt, 8815 Pineridge, San Antonio, Tex.

Filed Feb. 18, 1964, Ser. No. 345,772

7 Claims. (Cl. 29—402)



1. A method of repairing damaged aluminum cylinder heads comprising the steps of
cleaning the cylinder head both internally and externally,
blasting the cylinder head both internally and externally with a material selected from the group consisting of sand, walnut hulls and glass beads,
preheating the cylinder heads to 175°–200° Fahrenheit,
inspecting the cylinder head internally and externally to determine the location of damage,
removing all material bounding the damaged portions of the cylinder head,
heating the cylinder to 600°–650° Fahrenheit,
heating the portion of the cylinder head where the damage occurs until said portion begins to become fluid,
welding the damaged portions utilizing an inert gas and a filler rod containing the same basic composition as the composition of the cylinder head,
allowing the cylinder head to slowly return to ambient temperature,
reworking the repaired portions to return the cylinder head to its original configuration,
heating the cylinder head to 175°–200° Fahrenheit and inspecting the cylinder head,
heat soaking the cylinder head at approximately 550° Fahrenheit for approximately 45 minutes,
allowing the cylinder head to slowly return to ambient temperature,
inspecting the cylinder head, and
chrome plating the cylinder barrel.

3,192,619

LUBRICANT COATING COMPOSITION AND METHOD OF COLD FORMING METALS

Werner Rausch and Wolfgang Wuttke, Frankfurt am Main, Germany, and Eberhard Bohres, Detroit, Mich., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed June 8, 1962, Ser. No. 200,912

Claims priority, application Germany, June 13, 1961, M 49,332

11 Claims. (Cl. 29—424)

1. The method for facilitating the cold forming of metals comprising the steps of applying a coating on a metal surface in an amount sufficient to deposit a substantially dry resin film of from about 1 to about 15 grams per sq. meter, said resin in said coating comprising a cellulose ether selected from the group consisting of methyl cellulose, ethyl cellulose, oxyethyl cellulose, ethylhydroxyethyl cellulose, benzyl cellulose; and mixtures thereof; drying said coating, cold forming the coated metal to the desired configuration, and thereafter removing said coating from the metal surface.

3,192,620

METHOD OF JOINING DIAMOND TO METAL

Albert Huizing and Hubert Jan van Daal, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 23, 1962, Ser. No. 211,831

Claims priority, application Netherlands, Aug. 29, 1961, 268,734

6 Claims. (Cl. 29—473.1)

1. A method of joining diamond to a metal comprising applying an alloy selected from the group consisting of gold-tantalum alloys containing from 1% to 25% by weight of tantalum and gold-columbium alloys containing from 1% to 10% by weight of columbium to opposing surfaces said diamond and metal and melting said alloy in an inert atmosphere.

6. An article comprising diamond soldered to a metal object, said solder consisting of an alloy selected from the group consisting of gold-tantalum alloys containing from 1% to 25% by weight of tantalum and gold-columbium alloys containing from 1% to 10% by weight of tantalum.

3,192,621

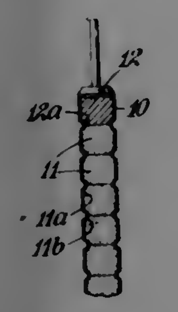
FUEL ELEMENTS FOR NUCLEAR REACTORS

Stefan George Bauer, Hilton, and Norman Battle, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company

Filed July 5, 1960, Ser. No. 40,759

Claims priority, application Great Britain, July 10, 1959, 23,864/59

8 Claims. (Cl. 29—510)

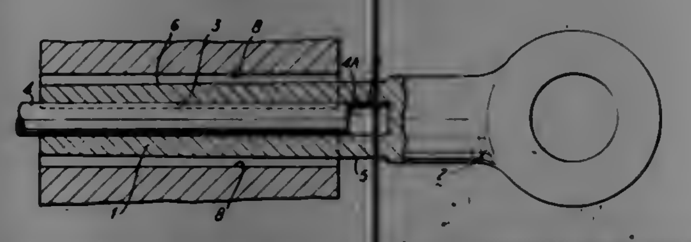


1. In the manufacture of a fuel element for a nuclear reactor, the steps of producing a thin walled tubular casing of uniform internal diameter, producing a plurality of substantially cylindrical pellets of fissile material, each said pellet having an external diameter less than that of the casing so as to be a slack fit in the casing and having at least one rebate in the length thereof, inserting the pellets in end to end relation in the casing, and deforming the casing into contact with the pellets and into said rebates thereby to locate the pellets against displacement lengthwise of the tubular casing.

3,192,622

METHOD OF ATTACHING FITTINGS TO RODS OR TUBES OF RESIN-BONDED FIBRE

Norman George Bannerman, Widnes, England, assignor to British Insulated Callender's Cables Limited, London, England, a British company
Continuation of application Ser. No. 829,717, July 27, 1959. This application June 27, 1963, Ser. No. 291,607
Claims priority, application Great Britain, Aug. 12, 1958, 25,885/58
19 Claims. (Cl. 29—517)

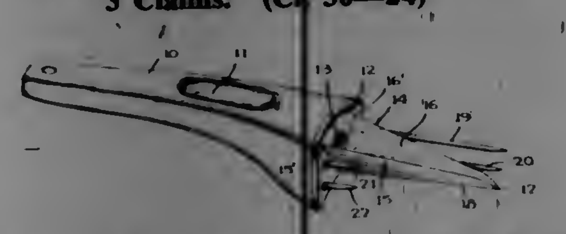


1. A method of making a tension-resistant connection between a metal fitting and an elongated member of resin-bonded glass fibre, comprising placing a sleeve of malleable metal forming at least a part of the fitting, on an appropriate part of the length of the elongated member so that the elongated member, for the purpose of carrying a tensile load, projects at least one end of the sleeve and compressing the sleeve on to the elongated member in such a manner that the compressive force exerted by the compressed part of the sleeve on the elongated member varies from point to point over substantially the entire length of the sleeve and gradually diminishes from a maximum at a place remote from an end of the sleeve at which the elongated member projects, to a minimum at that end of the sleeve.

3,192,623

CULINARY KNIFE

John J. Guerrero, 1214 7th St., Los Alamos, N. Mex.
Filed July 22, 1963, Ser. No. 296,753
3 Claims. (Cl. 30—24)



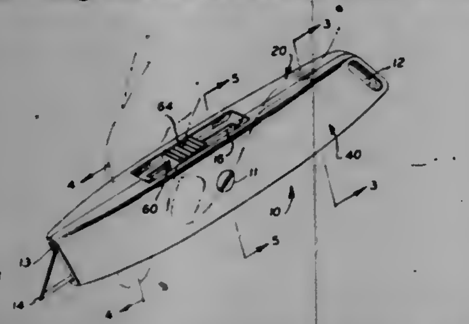
1. In a knife, a handle, an angular, outwardly reduced blade comprising two triangular blade segments rectangularly disposed to each other on a common median line longitudinally affxed to one extremity of said handle and extending outwardly therefrom on the axis thereof, a pair of short parallel guide prongs disposed at one side of said blade in a vertical plane parallel to the vertical plane through the median line of said blade and intersecting one rear corner of said blade, a pair of elongate parallel prongs disposed at the opposite side of said blade in a vertical plane parallel to the vertical plane of said short prongs intersecting the opposite, rear corner of said blade and lying in the same horizontal planes, respectively, as said guide prongs whereby when said blade is fully seated in an article to be cut said guide prongs will penetrate the article in the same relative position as said elongate prongs, and will serve as a guide therefor on the next cut.

3,192,624

KNIFE HANDLE WITH ADJUSTABLE BLADE

Donald Gringer, New York, N.Y., assignor to Allway Mfg. Co., Inc., New York, N.Y., a corporation of New York
Filed Oct. 30, 1963, Ser. No. 320,181
9 Claims. (Cl. 30—162)

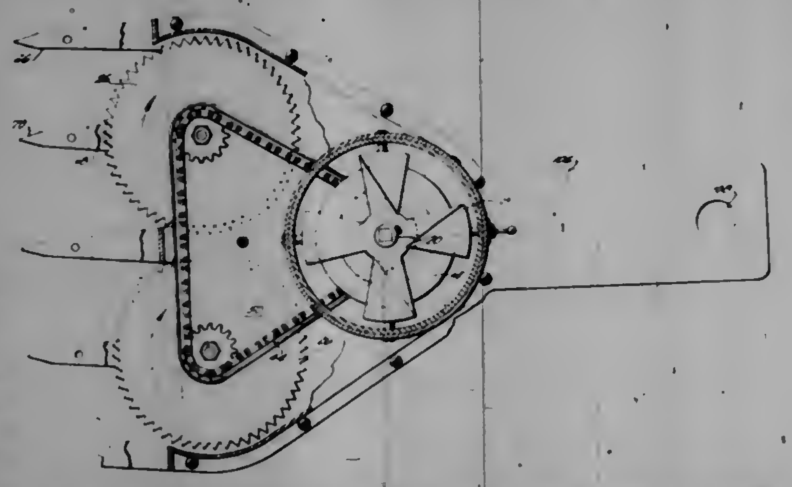
1. A retractable knife comprising a housing defining a hollow interior chamber with a passage thereinto from the front of said housing, said chamber having a top and a bottom, a longitudinal slit extending from the top of said housing into said chamber at the top thereof, a blade carriage within said chamber, said carriage being made of a tough resilient plastic and comprising a simple beam of resilient material, a button disposed outside said housing at the top thereof, and means for connecting said button to a central portion of said beam, said carriage being slidable in said housing toward and away from said passage, said connecting means extending through said slit and being movable therealong when said carriage slides within said chamber, means for supporting said beam at both end said beam being deflectable between said supporting means in a given plane, a blade detachably secured to said carriage in a plane that is parallel to said given plane of deflection of said beam, and detent means associated with said carriage and said housing for releasably holding said carriage against said sliding movement, said detent means being released when said resilient simple beam is deflected.



3,192,625

GARDEN CLIPPER

Otis S. McJohnson, Pasadena, Tex., assignor of 30 percent to Leonard Hill, Pasadena, Tex.
Filed Dec. 24, 1963, Ser. No. 333,016
1 Claim. (Cl. 30—276)

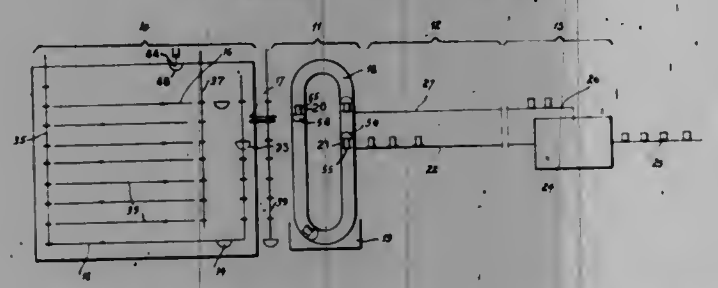


A portable cutting machine comprising a pair of hollow housings one disposed within the other, a motor mounted within said one housing, a base plate secured to said other housing, a pair of cutter assemblies in spaced relationship with one another and each rotatably supported between said other housing and said base plate, each of said assemblies including a circular blade having a portion thereof extending from said other housing to provide exposed cutting surfaces, a power take-off connected between said blades and said motor, said power take-off including a plurality of gears each connected to a respective blade and to said motor, a belt member drivingly engaging said gears, said other housing including a plurality of prongs extending therefrom, some of said prongs being positioned on either side of said exposed cutting surfaces, each of a pair of the others of said prongs being disposed in alignment with the center of a respective blade and equally spaced from said prongs on the sides thereof, a lamp assembly connected to said other housing to provide light on the exposed cutting surfaces and protective means secured to said other housing and enclosing said lamp assembly, said motor including a multiblade fan assembly disposed in said one housing for cooling said motor and providing air flow from said housings past said blades for removing foreign matter therefrom, a hollow handle connected to said other housing and including means for clamping extensions thereto, ball bearing assemblies for mounting said blades and disposed in said other housing and said base plate, a pair of switches, one switch being connected to said lamp assembly and the other switch to said motor, said base plate being smooth and relatively flat and providing a substantially air tight seal with said other housing, a rearwardly extending portion from said base plate of substantially the same length as that of said handle and including a hole disposed for hanging the device on a suitable support, a stabilizing handle adapted for connection to one of the sides of said other housing, and a wire mesh screen secured to a top of said one housing in spaced relationship to said fan assembly.

3,192,626

AUTOMATIC MOULDING DEVICE FOR CHEESES

Bernard Paul Le Boeuf, Avranches, France, assignor of one-half to Ateliers et Chantiers de Nantes, Bretagne-Loire, Nantes, France, a corporation of France
Filed Nov. 14, 1962, Ser. No. 237,599
3 Claims. (Cl. 31—49)



1. Apparatus for making cheese in troughs, comprising a coagulation station including a plurality of vertically spaced and superposed substantially horizontal tracks, vertically movable lift means for receiving troughs therefrom and for moving troughs between vertically superposed ends of the tracks, a pusher frame having portions disposed adjacent each end of the tracks, means for reciprocating the pusher frame horizontally so that reciprocation of the pusher frame in one direction pushes troughs from the lift means at one end of the tracks in said one direction onto the tracks and reciprocation of the pusher frame in the other direction pushes troughs from the lift means at the other end of the tracks in said other direction onto the tracks, and curd-breaking means positioned adjacent the path of said troughs for insertion into the troughs to break up the coagulated mass in the troughs.

3,192,627

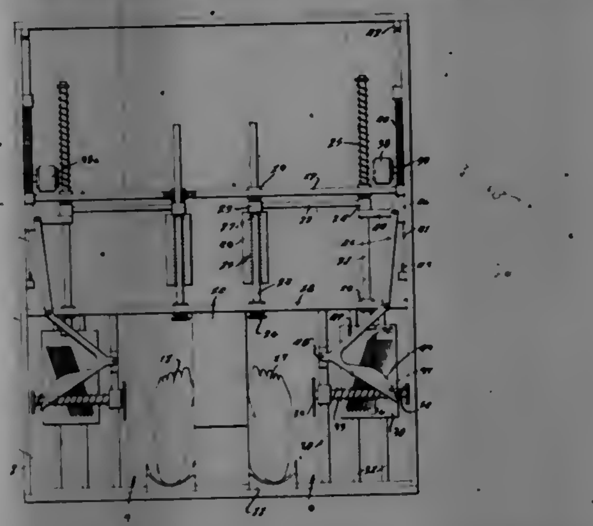
FOOT MEASURING AND PEDOGRAPH REVEALING MACHINE

Milton R. Levitt and Francisco D. Forbes, New Brunswick, N.J., assignors to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Filed Jan. 3, 1962, Ser. No. 164,124
6 Claims. (Cl. 33—3)

1. In a foot measuring and pedograph image revealing machine,

(a) a casing having a
  (a1) platform portion and an
  (a2) upstanding portion,
(b) transparent tread means to support the feet of a user on said platform portion,
(c) means entrapping dark liquid on the top of said tread means,
(d) a viewing screen in the upper part of said upstanding casing portion,
(e) illuminating means for the underside of said tread means,
(f) reflecting means to transfer pedograph images of the feet from the underside of the tread means to said viewing screen,
(g) a pair of foot contacting members for each foot of the user, one to contact the tip of the great toe and the other to contact the side of the foot,
(h) tension spring means urging each of said contacting members toward a foot on said tread means and calibrated to stop upon slight pressure against a foot,
(i) power controlled means to retract said contacting members and place the spring means under tension,
(j) electrical contact means carried by said contacting members,
(k) a series of contact bars in the path of the contact means on each of said members,
(l) circuit means embodying said electrical contact means and said bars,
(m) a series of lamps in said circuit means for each contact means,
(n) and length and width size scales adjacent said series of lamps,

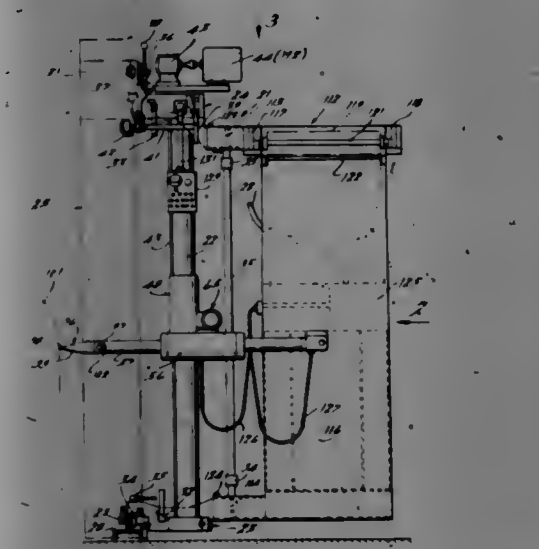
whereby separate lamps will be illuminated to indicate the length and width of a foot on said size scales while the pedograph image of the same foot appears on said viewing screen.



3,192,628

NON-CONTACT CONTOUR TRACER

Arthur J. Wroble and John E. Taylor, Mount Clemens, Mich., and Hans E. Liebert, Rochester, N.Y., assignors to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 11, 1961, Ser. No. 158,496
1 Claim. (Cl. 33—23)

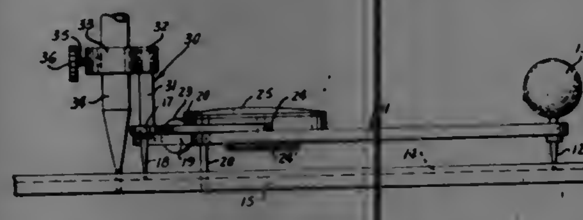


In a non-contact contour tracer, a vertical column, a lead screw on said vertical column, a vertical motor for continuously rotating said lead screw, a horizontal cross arm assembly comprising a support slidably mounted on said vertical column and threadably connected to said lead screw, a cross arm supported for horizontal movement by said support, a servomotor on said horizontal cross arm assembly operably connected to said cross arm, a probe assembly carried by one end of said cross arm, said probe assembly comprising a transducer having a terminal extending from one end thereof, an electrically conductive rod secured to and extending from said terminal, a spherical probe secured to the outer end of said rod, a conical shield having its wider end secured to said transducer and its narrow end terminating inwardly of said probe, and an electrically insulative sleeve on said rod and disposed within the narrow end of said shield, means responsive to variations in the gap between said probe assembly and the surface of an adjacent workpiece to cause the servomotor to shift said cross arm so as to maintain said gap as a constant value, and tracing means carried by the other end of said cross arm.

3,192,629

ADAPTOR FOR SCRIBERS

Dewey H. Morrison, 2606 N. 15th St., Phoenix, Ariz.
Filed July 17, 1963, Ser. No. 295,680
1 Claim. (Cl. 33—23)

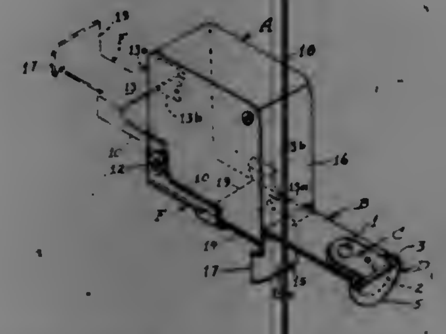


An adaptor for a scriber of the type including a clamping device for holding the round shaft of a conventional printing tip, said adaptor including a shaft of a diameter corresponding to a conventional printing tip, adapted to be engaged in said clamping device and extend upwardly therefrom, a collar having a periphery fixed to the upper end of said shaft, a ring having a periphery and defining an opening substantially larger than the round shaft of a conventional printing tip, means tangentially connecting the periphery of said collar and the periphery of said ring whereby said ring extends in horizontally offset relation to said collar, and means associated with said ring for securing an elongated, substantially cylindrical, portion of a standard writing instrument therein.

3,192,630

MARKING OR CUTTING TIP FOR FLEXIBLE RULE WITH COMBINATION RULE GUIDE AND TIP GUARD

Leo H. Dineson, 1770 Conrad Ave., San Jose 24, Calif.
Filed May 13, 1963, Ser. No. 279,819
6 Claims. (Cl. 33—42)



1. The combination with

(a) a housing having a bottom wall and an end wall with a slot therein disposed near the bottom wall;

(b) a flexible ruler enclosed in said housing and being extensible through said housing slot; and

(c) an angular tip secured to the free end of said ruler; of

(d) a marking tip secured to said angular tip; and

(e) a guide/guard pivotally connected to said housing;

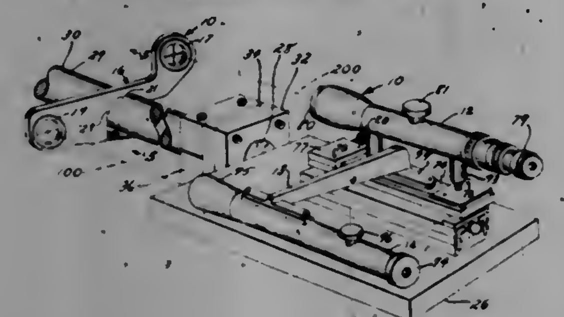
(f) said guide/guard having a member whose surface lies in the same plane as the outer surface of said housing end wall that has the slot therein when said guide/guard is in operative position; said member projecting below said housing bottom wall;

(g) whereby said guide/guard member will act as a guide for said marking tip as the member rides along an edge of the material to be marked; and will act as a guard for protecting said marking tip when said ruler is substantially received within said housing and the marking tip positioned adjacent to the member of said guide/guard.

3,192,631

SHAFT ALIGNMENT APPARATUS

Donald J. Goguen, Mattapan, and John J. Coleman, Rockland, Mass., assignors to C. L. Berger & Sons, Inc., Boston, Mass., a corporation of Massachusetts
Filed June 29, 1962, Ser. No. 206,288
2 Claims. (Cl. 33—46)

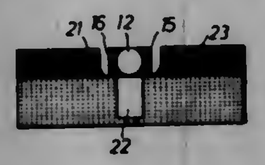


1. Shaft alignment apparatus comprising: a main telescope element, an auxiliary telescope element, means mounting said telescope elements for parallel axial alignment with respect to one end of a shaft, a target element having a pair of target members disposed thereon in fixed mutual relation corresponding to the lateral displacement of the axes of said main and auxiliary telescope elements with respect to each other, and means for mounting said target element at selected points along said shaft and pivotally about the shaft axis, whereby upon the sighting through both telescope elements the target may be aligned to predetermined rotational position.

3,192,632

SIGHTING DEVICES FOR FIREARMS

Georg von Stavenhagen, Leverkusen, Germany, assignor of fifty percent to Fritz Walther, Ulm (Danube), Germany
Filed Jan. 29, 1962, Ser. No. 169,343
Claims priority, application Germany, Feb. 2, 1961, W 29,394; May 15, 1961, W 29,992
5 Claims. (Cl. 33—47)



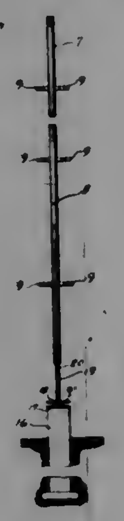
1. A sighting device for firearms, said device comprising in combination a front sight and a rear sight, said front sight comprising a body for attachment to a firearm and having an upper surface terminating in a horizontal line at the rear of said body, a projection on the rear of said body of less width than said body and having an upwardly and forwardly inclined rear sighting surface terminating at said horizontal line and a circular sighting mark on said sighting surface, said mark being tangent to said horizontal line and tangent to the side edges of

said projection, the rear surfaces of said body on opposite sides of said projection being inclined downwardly and forwardly from said horizontal line to the lower rear edge of said body, said rear sight comprising a block for attachment to a firearm and having an upwardly and forwardly inclined rear sighting surface terminating in a horizontal line, said block being formed to provide a leaf projecting upwardly from said last-named horizontal line, the rear surface of said leaf being inclined upwardly and rearwardly, said leaf having a sighting notch in the upper edge terminating at said last-named horizontal line and an elongated rectangular sighting mark on the sighting surface of said rear sight in alignment with the center of said notch, the width of said rectangular mark being equal to the diameter of said circular mark and the upper end of said rectangular mark terminating at said last-named horizontal line, the width of said notch being greater than the width of said front sight body.

3,192,633

BUILDING APARTMENT LEGAL DESCRIPTION REFERENCE MARKER

George R. M. Pratt, 3042 22nd Ave., W., Seattle 99, Wash.
Filed Apr. 12, 1962, Ser. No. 187,101
3 Claims. (Cl. 33—125)



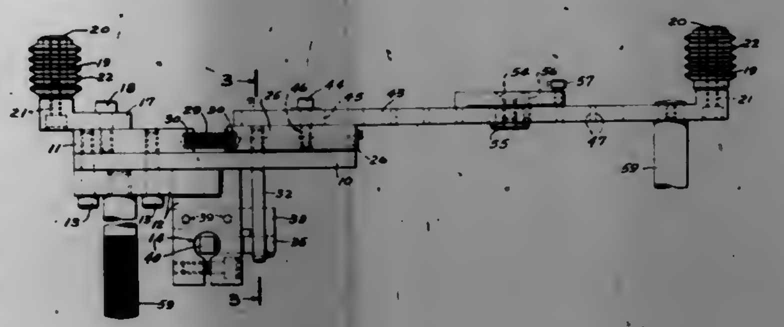
1. A legal description reference marker for apartments in a multistory building, comprising an upper reference column section extending vertically for a distance equal to the composite height of a plurality of floors of such building and having a reference portion accessible to each floor, anchor means securing said upper column section to the structure of the building, a stationary base site section independent of the building foundation fixedly embedded in the ground beneath said upper reference column and thus integrated with the building site, and transition means interposed between said upper reference column section and said stationary base site section indicating relative displacement of said upper reference column section and said stationary base site section resulting from settling of the building relative to said stationary base site section.

3,192,634

DIMENSIONAL GAGE FOR LARGE DIAMETERS

Stanley G. Johnson, West Hartford, Conn., assignor to The Johnson Gage Company, Bloomfield, Conn., a corporation of Connecticut
Filed Nov. 22, 1963, Ser. No. 325,532
11 Claims. (Cl. 33—147)

7. A gaging bar combination for a dimensional gage comprising an elongated gaging bar having ends, the gaging bar having a length and cross-section such that the bar bends slightly under gaging pressure, means at one end to mount a gaging element thereon, means at the other end of the bar to secure the same to a gage, and compensating means secured to the bar in the central region thereof between its ends including a bending member, pad means on one surface of the bending member engaging

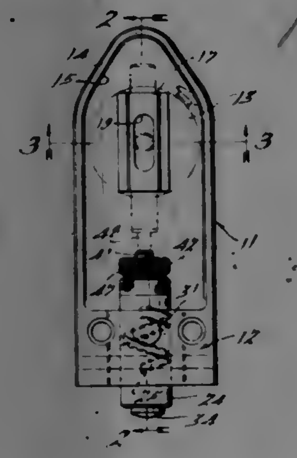


the bar, and clamping means between the gaging bar and the bending member and spaced from the pad means to secure the bending member to the gaging bar and to apply a compensating bending pressure to the bar.

3,192,635

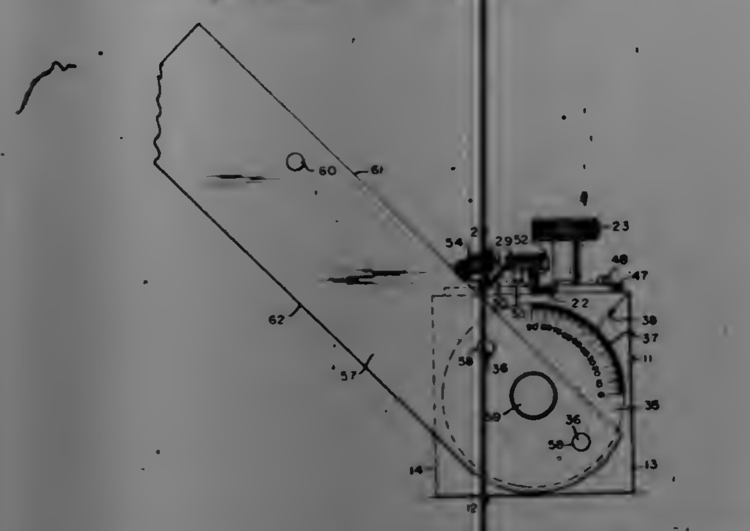
GAGE UNIT

Clair E. Miles, 22590 Statler, St. Clair Shores, Mich.
Filed Apr. 10, 1963, Ser. No. 272,128
3 Claims. (Cl. 33—172)



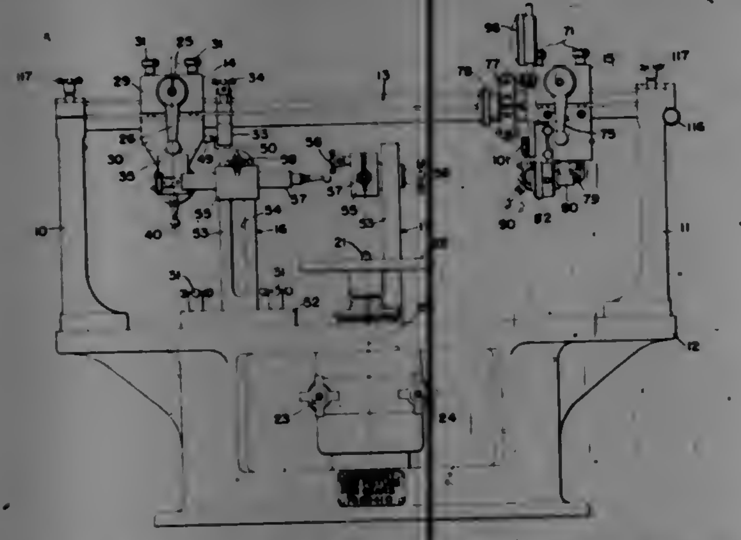
1. In a gage unit, a housing, means on said housing for adjustably securing a plunger type of dial indicator thereto with the plunger extending toward one end portion of the housing, said one housing end portion being spaced a substantial distance from said plunger with the housing portion between said end portion and said plunger being open to one side, a bore in said end portion of the housing, an adjusting sleeve in said bore, a helical groove on said adjusting sleeve, a member carried by said housing and interfitting with said groove, whereby said adjusting sleeve may be axially adjusted by rotation thereof, the length of said sleeve being substantially greater than the length of said bore, whereby one end of said adjusting sleeve will be exposed in one extreme position thereof and the other end in the other extreme position, a pin slidably mounted in said adjusting sleeve, one end of said pin being engageable by said plunger, the other end of said pin being engageable with a workpiece, interengaging shoulders on said pin and adjusting sleeve to limit movement of said pin with respect to said adjusting sleeve in a direction toward said plunger, an adjusting nut threadably mounted on the end of said pin adjacent said plunger, said adjusting nut being accessibly disposed in said open-sided housing portion, means carried by said adjusting nut for locking it in position on said plunger, interengaging surfaces on said adjusting nut and adjusting sleeve for limiting movement of the pin with respect to the adjusting sleeve in a direction away from said plunger, and a spring within said adjusting sleeve and urging said pin away from said plunger.

3,192,636
COMBINATION SINE MARKER AND DIVIDING HEAD
Carl F. Stimetz, 2516 Hansford Place, Cincinnati 14, Ohio
Filed May 15, 1963, Ser. No. 280,594
6 Claims. (Cl. 33—174)



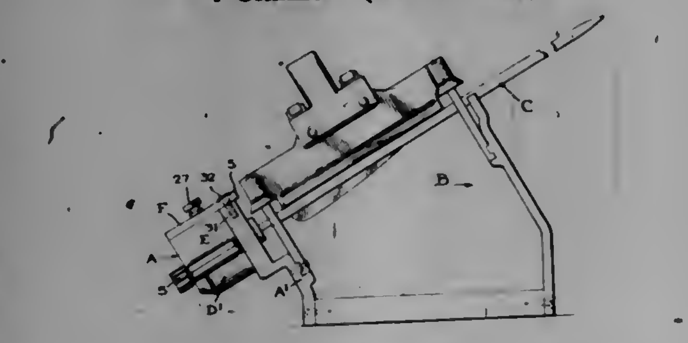
1. A combination sine marker and dividing head comprising;
- (a) a block arranged to set on a surface plate in one position for sines and another position for cosines,
- (b) a transverse shaft in said block,
- (c) a worm on said shaft,
- (d) disks on the respective sides of said block having degree indications thereon rotatable with said shaft,
- (e) a vertical shaft extending through said block,
- (f) a worm on said vertical shaft meshing with said worm wheel,
- (g) a minute indicator on said vertical shaft,
- (h) a second indicator geared to said first named indicator for recording the exact minute,
- (i) a knob secured to said vertical shaft for rotating said shaft and disks, and
- (j) a sine bar attachable to one of said disks by a pair of pins and a central screw and provided with a height gauge pin.

3,192,637
FIXTURE FOR TESTING GEARS
Ronald S. Herbst, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Army
Filed May 24, 1962, Ser. No. 197,552
10 Claims. (Cl. 33—179.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



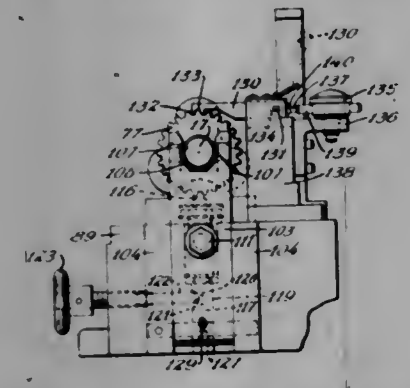
1. A gear testing fixture comprising a base having a pair of concentric circular guideways and supporting a pair of uprights, a spindle supporting a face plate and rotatably mounted upon said base within said guideways, a rail extending across the rotational axis of said spindle and between said uprights, an index carriage assembly carried by and movable along said rail and having an index ball contact, an indicator carriage assembly carried by and movable along said rail and having thereon indicating means actuated by a movable mounted indicator ball contact, means for adjusting said rail to center said indicator ball contact with respect to the rotational axis of said spindle, and a pair of sector index assemblies each supported in and movable along said guideways and each having an index ball contact supported on means adjustable toward and away from said rotational axis by virtue of which each of said ball contacts may be moved radially toward said spindle for indexing and high-precision measuring of gears when positioned upon said face plate.

3,192,638
FEATHER POSITIONING GAUGE FOR FLETCHING JIGS
Royce H. Martin, 115 S. Williams St., Kennewick, Wash.
Filed Dec. 3, 1962, Ser. No. 241,829
4 Claims. (Cl. 33—180)



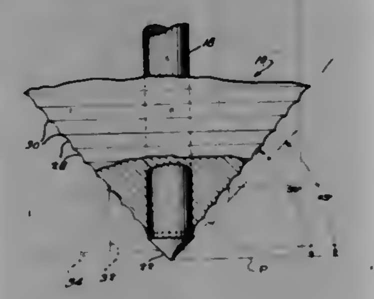
1. A feather positioning gauge for fletching jigs, comprising, in combination,
- a housing having a slot with scale markings on each side and internal journal bearing portions,
- an indexing cylinder rotatably supported in said bearings and having its medial peripheral portion out of contact with the housing and accessible through said slot,
- a feather positioning selector member alternately slidable and fixed in said slot,
- and means on said selector for cooperating with the periphery of the cylinder to hold the latter in a given selected position corresponding to the adjusted position of the selector member relative to said scale markings.

3,192,639
APPARATUS FOR ANGULARLY RELATING MEMBERS ON A SHAFT
Howard M. Tomasko and Robert A. Hill, Minneapolis, Minn., assignors to Waterous Company, St. Paul, Minn., a corporation of Minnesota
Original application Jan. 20, 1960, Ser. No. 3,551. Divided and this application Apr. 18, 1962, Ser. No. 188,311
5 Claims. (Cl. 33—182)



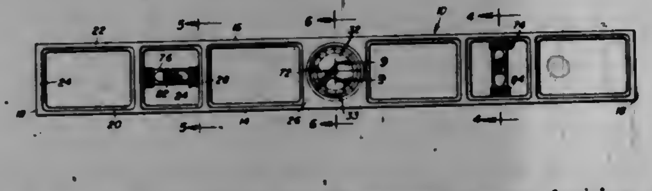
1. An apparatus for properly angularly relating a three lobed pump rotor having a rotor shaft coaxial therewith and fixed thereto with a gear rotatably supported on the shaft, the apparatus including a flat surface on which two of the three rotor lobes are adapted to rest, means positioning the rotor shaft with its axis parallel to said flat surface, means adapted for clamping said rotor against said surface with said two lobes resting thereon, and plunger means supported for movement on an axis normal to said flat surface and including an end for engagement with said gear to hold said gear with the teeth of the gear in fixed angular relation to said rotor lobes.

3,192,640
UNIVERSAL PRECISION TRANSFER CENTER PUNCH
Joseph I. Fournier, 213 Irvington St., New Bedford, Mass.
Filed May 3, 1963, Ser. No. 277,834
9 Claims. (Cl. 33—189)



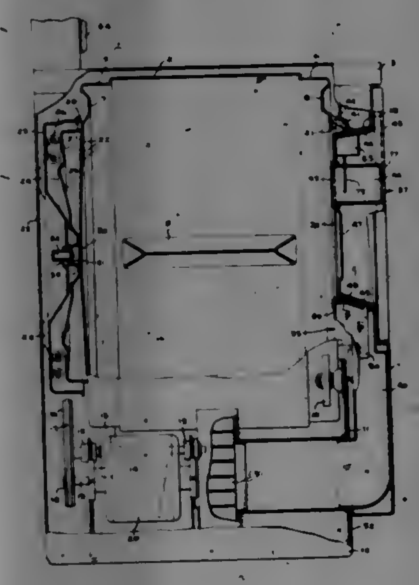
1. A precision center punch comprising an elongated main body portion having a pair of opposed ends, said main body portion having a bore extending axially therethrough, one of said ends having a tapered configuration, said tapered end having a plurality of concentric arcuate grooves formed therein providing adjacent pairs of ribs, said ribs being rounded, and a punch rod slidably mounted in said bore and having an axial length longer than said main body portion.

3,192,641
LEVEL CONSTRUCTION
Beecher B. Jones, 1036 Standish Place N., Owensboro, Ky.
Filed Feb. 11, 1963, Ser. No. 257,485
4 Claims. (Cl. 33—215)



1. A level comprising an elongated frame having parallel flat top and bottom surfaces, and parallel flat end surfaces, said end surfaces being perpendicular to said top and bottom surfaces, said frame including a central body member having a transverse opening therein, a rotor mounted in said opening for rotation about an axis disposed transversely of the frame, a graduated degree scale on each side of the rotor for observation from either side of the frame, a stationary index line associated with each graduated scale, said rotor having a weight incorporated therein for maintaining a constant relationship to a horizontal plane, the top surface of said frame having an opening therein in alignment with the periphery of the rotor and provided with a stationary index line, and a graduated degree scale on the periphery of the rotor thereby enabling the inclination of the frame to be determined from either side or the top of the frame, said frame including a pair of spaced longitudinal members, and a pair of spaced vertical partitions, a spirit level vial assembly disposed between the pair of partitions, a spirit level vial assembly disposed between the spaced longitudinal members, each assembly including a housing and a bubble vial mounted therein, and means mounting each housing for angular adjustment about the longitudinal axis of the assembly, said mounting means including a pair of adjustable screw-threaded members, a partial spherical recess in the inner end of each screw-threaded member and the outer ends of said housing, and a spherical shaft received in aligned recesses for enabling rotation of the assembly and friction locking thereof in adjusted position.

3,192,642
AUTOMATIC FABRIC DRYING MACHINE AND CONTROL MEANS
Philip G. Hughes, Anchorage, Ky., assignor to General Electric Company, a corporation of New York
Filed Nov. 6, 1961, Ser. No. 150,578
14 Claims. (Cl. 34—45)

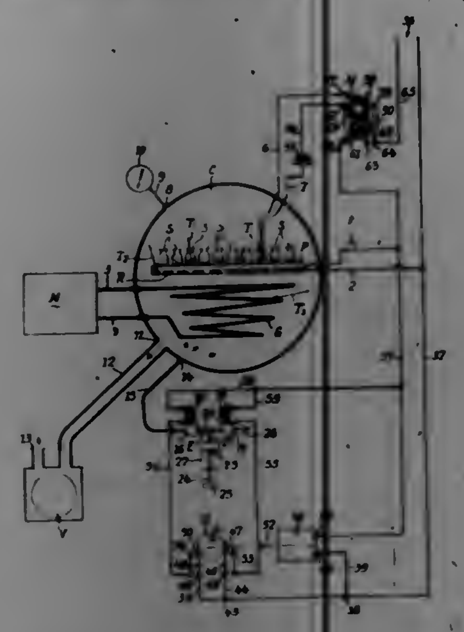


1. A fabric drying machine comprising: a substantially closed fabric container of conductive material; means for drying fabric in said container; means for generating an electric current having a high frequency; means coupled to said generating means and positioned to emit electromagnetic waves of said high frequency into said container; means for measuring the extent to which the emitted waves are reflected from said container, said container being proportioned to said high frequency so that the reflection of said waves changes toward a predetermined pattern as the amount of moisture in the fabrics in said container decrease toward substantial dryness of the fabrics; and means connected to said measuring means and responsive to said predetermined pattern of reflection to shut off said drying means.

3,192,643
APPARATUS FOR REGULATING FREEZE-DRYING OPERATIONS
Louis Marie Antoine Rieutord, Boulogne-sur-Seine, France, assignor to Societe d'Utilisation Scientifique et Industrielle du Froid Usifroid, Boulogne-sur-Seine, France, a French body corporate
Filed Jan. 12, 1962, Ser. No. 165,865
Claims priority, application France, Jan. 17, 1961, 849,961, Patent 1,286,002
2 Claims. (Cl. 34—54)

2. Apparatus for freeze drying a frozen substance containing a frozen liquid under vacuum comprising a chamber, means for continuously removing gas from the chamber thereby to maintain a vacuum in the chamber, means for applying heat to a frozen substance within the chamber, and means actuated by internal electrical conductivity of the frozen substance below a predetermined minimum for injecting a low boiling gas into the chamber while

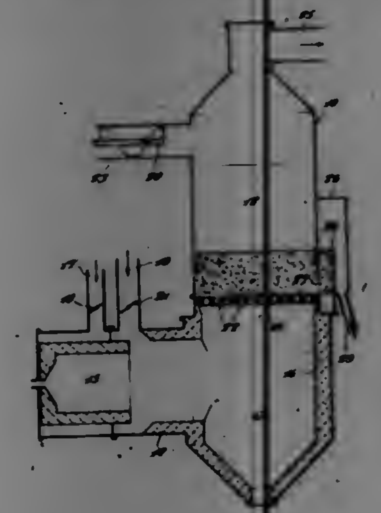
said frozen substance still contains said frozen liquid, thereby to increase the heat transfer to the frozen substance by conduction through said injected low boiling gas.



3,192,644
FLUIDIZED BED APPARATUS

Norman Victor Sydney Knibbs and Edward George Stanley Thyer, Borough Green, England, assignors to Fawkham Developments Limited, Borough Green, England

Filed Mar. 2, 1962, Ser. No. 177,026
1 Claim. (Cl. 34—57)

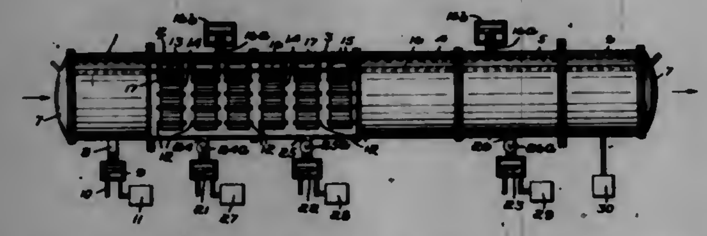


Fluidized bed apparatus comprising a casing having a supporting plate therein, said supporting plate dividing said casing into an upper chamber and a lower chamber, means connected to said upper chamber to feed solid material in particle form thereinto which is supported in said upper chamber on said supporting plate as a bed, said supporting plate having disposed therein a plurality of apertures each having an upwardly convergent portion communicating with said lower chamber and a cylindrical bore integral with the upper end of said convergent portion of the aperture, the length of said cylindrical bore being at least twice the diameter thereof, means connected to said lower chamber to supply a fluidizing medium which passes through said apertures into said bed to subject same to a fluidizing state, shield means disposed above each aperture to cover same, web means disposed between said shield means and said supporting plate around each aperture, said web means being spaced from each other to define slots so that said fluidizing medium passes from said apertures into said bed.

3,192,645
APPARATUS AND METHOD FOR VACUUM FREEZE DRYING SUBSTANCES IN A TUNNEL DRYER HAVING SEALING LOCKS

Georg-Wilhelm Oetjen, Cologne-Marienburg, Wilhelm Nerge, Rodenkirchen, Karlheinz Neumann, Cologne-Bayental, and Justus Moll, Meschenich, Germany, assignors, by mesne assignments, to Leybold-Anlagen Holding, A.G., Zug, Switzerland

Filed July 22, 1960, Ser. No. 44,632
Claims priority, application Germany, Oct. 7, 1959, L 34,426
29 Claims. (Cl. 34—92)

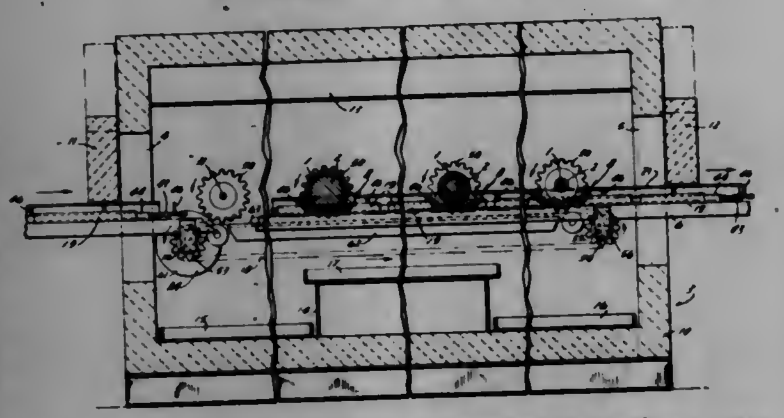


1. A freeze drying method for use in a freeze drying installation having an evacuable feeding lock, an evacuable discharge lock, an evacuable drying chamber connected between the feeding and discharge locks and separated therefrom by door mechanisms adapted to maintain a pressure differential and to allow passage of a material to be dried, a refrigerated condenser connected for gas communication with the evacuable feeding lock, heating means positioned in said drying chamber and adapted to apply sublimation inducing heat to a material being dried, and water vapor removal apparatus connected to said drying chamber and adapted to remove water vapor produced by said sublimation, which method comprises the following steps: positioning the material to be dried into the feeding lock, evacuating the feeding lock, producing within the feeding lock rapid surface evaporation of the material to cause freezing thereof, transporting the frozen material into the evacuated drying chamber, freeze drying the material within the drying chamber, transporting the dried material into the evacuated discharge lock, and removing the dried material from the discharge lock.

3,192,646
APPARATUS FOR CURING PLASTIC TUBULAR MEMBERS

Paul E. Brown, Butler, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York

Filed Apr. 3, 1961, Ser. No. 100,348
5 Claims. (Cl. 34—105)

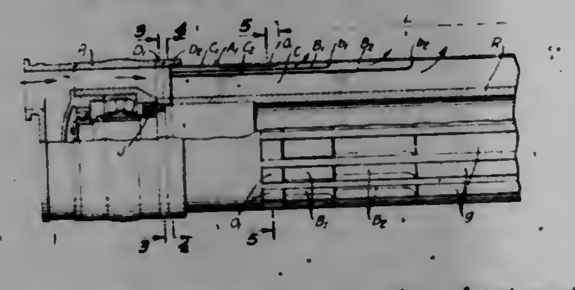


1. A conveyor for moving a mandrel through an oven including a heated fluid means for heating the oven, said mandrel having a tubular heat treatable member encircling the mandrel, comprising releasable end connectors for connecting the opposite ends of the mandrel to the conveyor, longitudinal movable end support means releasably secured to the end connectors of the mandrel for fixedly and rotatably supporting the mandrel at the opposite ends to form a fixed beam support while in the oven, said support means including means permitting rotation of the mandrel about its own axis, means connected to move the mandrel through the oven, drive means operatively coupled to one end of the mandrel to establish and maintain rotation of the mandrel while in the oven without engagement with said covering.

3,192,647
DRYING ROLLS

Henri Robert Strube, Paris, France, assignor to Albert Madeleine, Nord, France and S.R.R.I. Societe de Recherches et de Realisations Industrielles, Paris, France, a French joint-stock company

Filed May 22, 1962, Ser. No. 196,746
Claims priority, application France, Mar. 21, 1962, 891,776
5 Claims. (Cl. 34—122)



1. A drying roll assembly for treating sheet material with gas which is introduced into the roll and is in contact with the sheet material arranged thereover comprising:

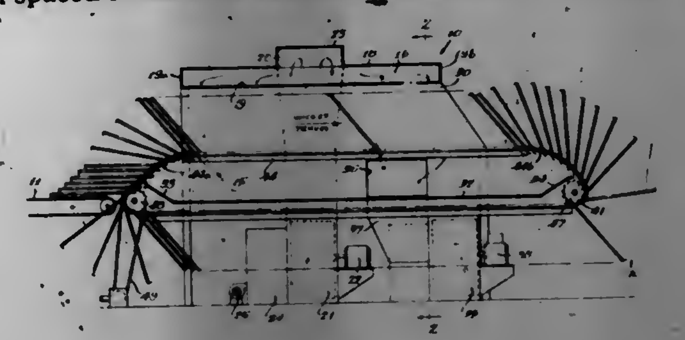
(A) an elongated hollow roll having peripheral opening means for the passage of gas,
(B) plural partition means extending from at least one end of said roll and terminating within said roll for defining a plurality of coaxial annular channels about the longitudinal axis of said roll for the passage of gas parallel to said axis,
(C) terminal means secured to the terminating portion of said partition means, said terminal means extending substantially radially of said axis for directing gases radially through said peripheral opening means and terminating substantially at the outer periphery of said roll,
(D) a plurality of elongated fins disposed in a circular array about said axis extending radially therefrom and passing radially across each of said channels,
(E) means for introducing gas into said roll and in communication with said coaxial annular channels, and
(F) adjustable distributor plate valve means disposed coaxially and in close juxtaposed relation with at least one end of said roll, said distributor plate valve means comprising adjustable aperture means each being of different radial dimension to control the flow of gas through selected ones of said channels.

3,192,648
SHEET DRYER OF CONVEYOR-WICKET TYPE WITH SUCTION WICKETS

Robert R. Seedorf, Park Ridge, Ill., assignor to The Roy M. Moffitt Company, a corporation of Illinois

Filed Sept. 22, 1961, Ser. No. 140,052
4 Claims. (Cl. 34—150)

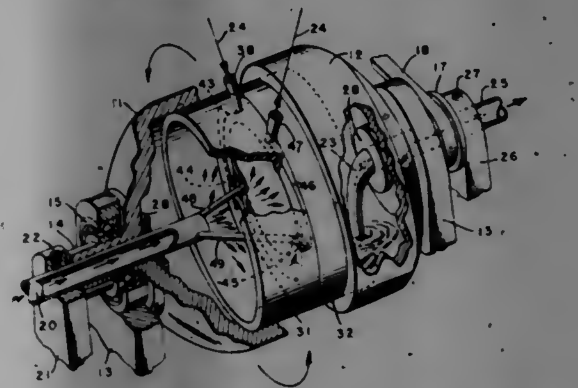
1. In a sheet dryer having a casing with an elongate tunnel chamber for drying sheets, a plenum with perforations opening to the chamber, means for directing heated air to the plenum, an open topped suction box beneath the chamber, means for drawing air from the chamber to the suction box for exhaust, an endless conveyor having one reach passing through the chamber, a plurality of wickets carried by said conveyor one after the other and each having a leading face and each including a wicket base secured to the conveyor to have the wickets in said reach and in the chamber extend at an angle from the vertical, each of said wickets having a hollow interior with holes along the length of the leading face thereof and an open end beneath the level of the wicket bases, means mounting the wicket bases in spaced relation on said conveyor with the spacing being of such magnitude to increase the velocity of air passing between the wicket bases, and means directing the air of increased velocity past the open ends of the wickets to create a negative pressure within the wickets which extends to the holes in the wickets to hold sheets thereon.



3,192,649
STRAND ANNEALER

Fred B. Powell, Decatur, Ala., assignor, by mesne assignments, to Monsanto Company, a corporation of Delaware

Filed Apr. 19, 1962, Ser. No. 188,820
10 Claims. (Cl. 34—155)

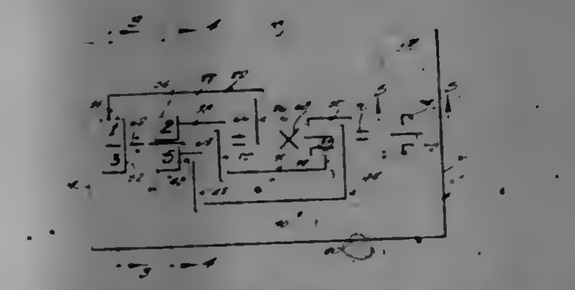


2. An apparatus for treating a strand, comprising a base, a pair of shells rotatably mounted on the base in facing relationship, a pair of seals secured to the shells and having radially-extended contiguous flanges, means connected to the shells for rotating said shells, first guide means adjacent to the flanges for inserting a strand between said flanges, and second guide means spaced from the first guide means for removing the strand from the flanges.

3,192,650
EDUCATIONAL DEVICE

Gildo R. Torchia, 454½ Center St., Johnsonburg, Pa.

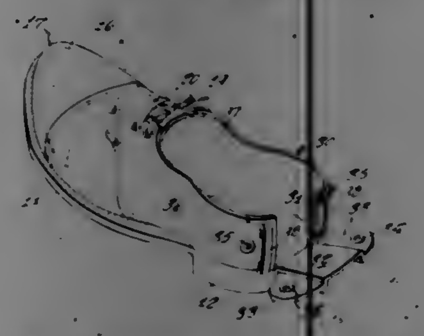
Filed Dec. 19, 1962, Ser. No. 245,788
2 Claims. (Cl. 35—31)



1. In an educational device including a board having an upper surface, there being a first groove in said board upper surface, said groove having spaced leg portions and a bight portion connecting one of the adjacent ends of said leg portions together, said board upper surface being

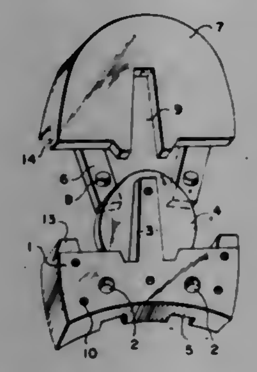
provided with a second and a third groove each of U-shaped configuration, said second groove being partially within and spaced from said third groove, one of the adjacent legs of said second and third grooves being between the leg portions of said first groove with the free end of said second groove one leg between the free end of said third groove one leg and said bight of said first groove, the other adjacent legs of said second and third grooves being exteriorly of and spaced from one of the leg portions of said first groove with the free end of said third groove other leg between the free end of said second groove other leg and one side edge of said board in inverted relation to the free end of one of the adjacent legs of the first groove, an extension on the free end of said second groove one leg, other extensions on each of the free ends of said third groove one and other legs, a first game piece slidably mounted in said first groove from a starting position adjacent the free end of the other of the leg portions of said first groove to a final position adjacent the free end of said first groove one leg portion, a second game piece slidably mounted in said second groove from a starting position at one end of said second groove one leg extension to a final position adjacent the free end of said second groove other leg, and a third game piece slidably mounted in said third groove from a starting position at one end of said third groove one leg extension to a final position adjacent one end of said third groove other leg extension whereby the position of the first and second game pieces will be inverted to occupy positions directly above and directly below one another when moved from starting to final positions, there being numerical indicia on said first, second, and third game pieces and indicia on said board upper surface representing mathematical equations relating to the numerical indicia of said game pieces when in said starting and final positions, the indicia on said first game piece representing a numerical fraction and the indicia on said second and third game pieces representing numerical parts of a fraction.

3,192,651
SHOE HAVING A REAR OPENING
Robert D. Smith, 2742 E. Tremont Ave.. Bronx, N.Y.
Filed Dec. 16, 1963, Ser. No. 330,786
1 Claim. (Cl. 36—2.5)



In a shoe, the combination of a sole, a heel and an upper, said upper having an upper opening for protrusion of a leg of a foot contained within said shoe, said upper having a rear opening communicating with said upper opening, a flap hinged along a lower edge to said heel forming a hinged closure for selectively closing said rear opening, said flap having a central portion that fits within said rear opening to form a continuously even wall on the inner side of said upper, said flap having an offset tab at each lateral side, each of said offset tabs being rearwardly offset respective to said flap for placement against the outer sides of said upper, a looped strap affixed on the outer side of said upper adjacent each vertical edge of said rear opening to receive one of each of said tabs therethrough, a snap fastener element on each of said tabs mounted on a portion of said tab received through said strap, and a corresponding snap fastener element on the outer side of said upper adjacent each of said straps for engagement with said tap snap fastener elements.

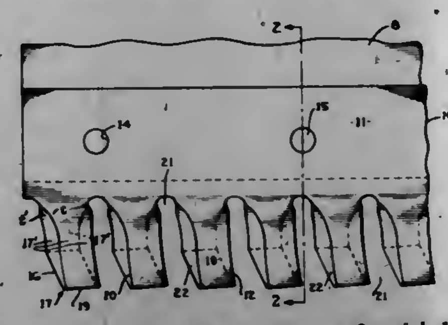
3,192,652
SHOE HEEL WITH DETACHABLE PORTION
Oliviero Melchiorre, Piazza Nazionale 54, Naples, Italy
Filed Sept. 10, 1963, Ser. No. 307,994
Claims priority, application Italy, June 4, 1963, 11,472/63
6 Claims. (Cl. 36—42)



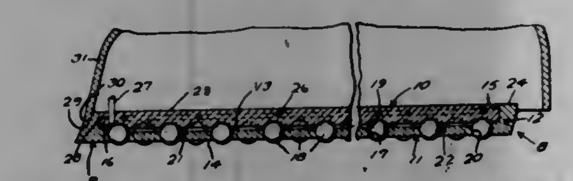
1. A heel comprising
(a) a first heel portion having an exposed face and a flat upper face adapted to engage the bottom of a shoe and to be affixed thereto;
(b) a second heel portion also having an exposed face and a flat upper face adapted to engage the bottom of the shoe and being detachable from the first heel portion, the second heel portion being movable relative to the first heel portion towards and away from an assembled heel position, the said heel portions jointly constituting the heel in said assembled position, with the upper faces engaging the bottom of the shoe and the exposed faces approximately parallel to, and substantially equally spaced from, the upper faces to form a wearing surface of the heel;
(c) engageable guide means on said heel portions for guiding movement of said second heel portion relative to said first heel portion towards and away from the assembled position in a plane generally parallel to said faces;
(d) cooperating locking means on said heel portions for locking the second heel portion on said first heel portion against movement away from said assembled position, said locking means including a locking member on one of said heel portions and a locking aperture in the other one of the heel portions, said locking member and aperture extending transversely of said faces and being freely engageable and disengageable in said assembled position; and
(e) cooperating abutment means separate from said locking means and overlappingly protruding from adjacent edges of said heel portions in planes generally parallel to said faces for preventing movement of said second heel portion in a direction away from said upper faces in said assembled position.

3,192,653
BLADE WITH A PLURALITY OF WEDGE SHAPED TEETH ANGULARLY DISPOSED TO SAID BLADE
Arthur E. Socin, Bucyrus, Ohio, assignor to Shunk Manufacturing Company, Bucyrus, Ohio
Filed Mar. 29, 1957. Ser. No. 649,353
4 Claims. (Cl. 37—141)

3. A work handling tool of the type referred to comprising a substantially thick, blade-like body portion having a plurality of integrally formed, wedge-shaped teeth along one edge thereof, said teeth being substantially thick and having a flat forward face, a twisted root portion having a triangular configuraion when viewed in elevation, said root portion of the tooth being disposed adjacent the blade-like body portion, and having a lateral face thereof facing obliquely and forwardly relative to said body portion, each of said teeth having straight flat scraping edges at the distal end thereof which lie in a single plane.

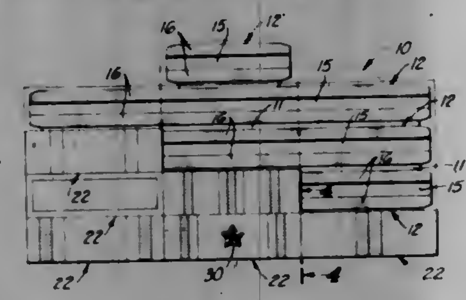


3,192,654
BALL BEARING SOLEPLATE FOR IRON
John S. Weaver, R.D. 1, Breinigsville, Pa.
Filed Mar. 31, 1964, Ser. No. 356,273
7 Claims. (Cl. 38—77)



1. In an iron, a soleplate having a substantially flat bottom face, a multiplicity of ball-shaped sockets in said soleplate each including a restricted bottom portion opening through said bottom face, a ball journalled in each of said sockets, the diameter of each ball being greater than the diameter of the bottom portion of the socket thereof whereby the balls are supported by the sockets in the soleplate with a portion of each ball protruding from said bottom face, each of said sockets including a downwardly facing top portion spaced from said restricted bottom portion a distance such that the top portion of the ball contained in said socket is spaced slightly from the top portion of the socket when the ball is supported by the socket, said balls being displaced upwardly into engagement with the top portions of the sockets when the soleplate is supported by the balls resting on a supporting surface to permit the balls to revolve freely in any direction in the sockets when the soleplate is supported thereon.

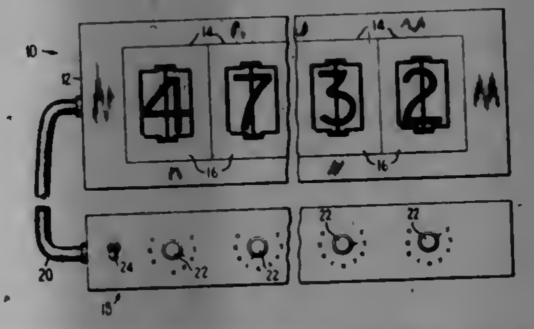
3,192,655
HOLDER FOR CAMPAIGN RIBBONS
Gene L. Harn, 22667 Brentwood St., Colton, Calif.
Filed June 24, 1963, Ser. No. 289,870
1 Claim. (Cl. 40—1.5)



A holder for military campaign ribbons of the type having rearwardly and inwardly turned flanges along the longitudinal edges thereof, including ribbons having emblems attached thereto by prongs that project from the back side of the ribbon and are clinched over, comprising:

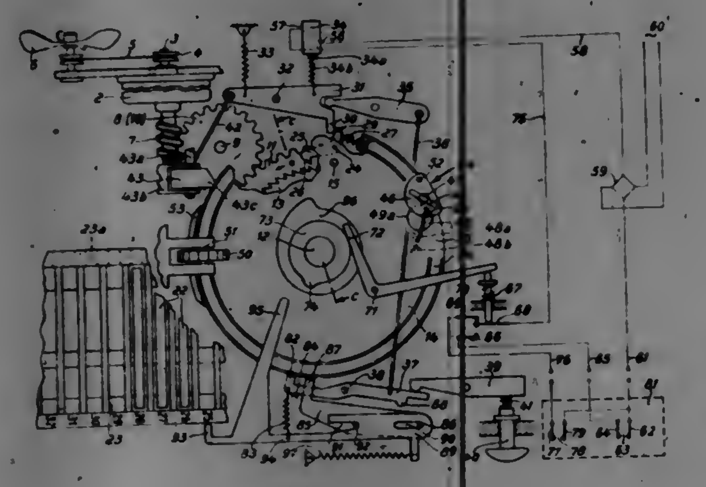
a flat metal plate of generally rectangular configuration;
a plurality of vertically spaced, horizontal bars mounted on the front side of said plate, said bars being parallel to one another and uniformly spaced apart;
each of said bars being formed of strip metal and having a channel-shaped cross-sectional configuration with laterally outwardly turned marginal edges which are slidably engageable by said inwardly turned flanges on said ribbons;
said channel providing a recess behind said ribbon into which said clinched-over prongs may project without interference, whereby said ribbons having attached emblems may be slid lengthwise along said bars;
said outwardly turned marginal edges of said bars being spaced outwardly from said plates a distance greater than the rearward projection of said ribbon flanges;
the bottoms of said bars being bonded on their back sides to said plate;
said holder having rearwardly projecting pins near the corners thereof; and
means insertable onto said pins and releasably engageable therewith to secure said holder to a garment.

3,192,656
REMOTE CONTROL DISPLAY SYSTEM
John W. Christensen, New Canaan, Conn., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Aug. 2, 1962, Ser. No. 214,225
1 Claim. (Cl. 40—52)



Apparatus for displaying a multi-digit character comprising, a support rack for holding a plurality of individual display units, one for each digit of said character, the respective display units being readily removable from and insertable in said support rack, each of said display units including an elongated base member, a viewing frame mounted at one end of said base member, a rotatable shaft carried by said base member, a plurality of elements having indicia-bearing surfaces mounted on said shaft to be carried therewith upon rotation and selectively exposed in said viewing frame; a motor mounted on said base member and coupled to said shaft for rotation thereof, said motor being of the synchronous type which will stop immediately upon removal of power, a source of power for said motor; a multiposition selector switch for each of said display units for controlling the application of power from said source to said motor, each of said selector switches having a plurality of contact positions equal to the number of separate indicia on said elements and a movable contacting member bridging all of said contact positions except the selected position, a like plurality of contacts associated with said motor and supported from said base member, a contact arm operated by said motor for successively meeting said contacts, means including a multi-terminal electrical connector on said base member for electrically connecting each of said contact positions on said selector switch to corresponding respective ones of said contacts associated with said motor, means coupling said contacting member to one terminal of said power source, the other terminal of which is connected through said multi-terminal electrical connector to said motor, means including said connector for coupling said contact arm to said motor, whereby power will be applied to said motor until said contact arm meets the contact connected to the selected contact position on said selector switch, and a common control panel remote from said rack for mounting said selector switches.

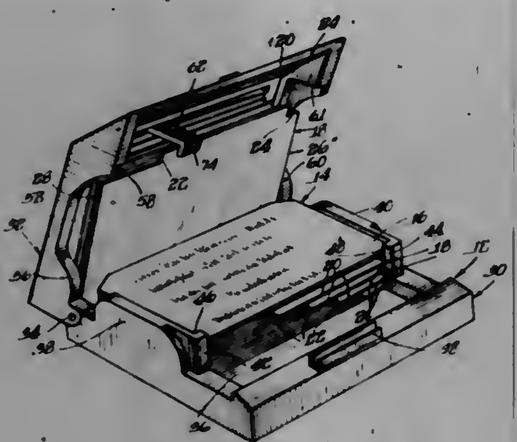
3,192,657
AUTOMATIC SLIDE CHANGING MECHANISM
Hans Mulch, Wetzlar (Lahn), Germany, assignor to Ernst Leitz Gesellschaft mit beschrankter Haftung, Wetzlar (Lahn), Germany
Filed Sept. 20, 1961, Ser. No. 140,182
Claims priority, application Germany, Sept. 23, 1960, L 37,099
6 Claims. (Cl. 40—7[illegible])



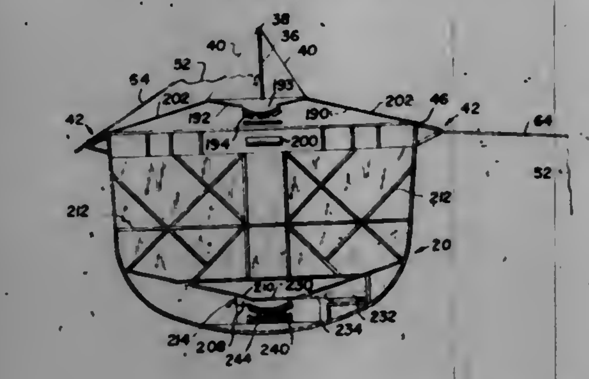
1. An automatic slide changing mechanism for slide projectors, and comprising a unidirectional motor, a gear driven by said motor, a crank disc coaxial with said gear, a pawl pivotally mounted on said crank disc, spring means biassing said pawl to engage said gear, a pivotally mounted lever having a tab on one end thereof engageable with said pawl, means for manually pivoting said lever whereby said pawl is released to engage said gear and thereby drivingly connects said disc with said motor, means interconnecting said crank disc with a slide changing mechanism so that the rotation of said disc actuates the mechanism, a second gear engageable with a slide magazine for intermittently advancing the magazine, actuating means on said disc for actuating said second gear in intermittent movement, a pivotally mounted operating lever projecting into the path of said actuating means, means interconnecting said operating lever and said pivotally mounted lever so that pivoting of said lever will actuate said operating lever to advance said second gear in one of a forward and reverse direction to correspondingly move the slide magazine. said actuating means and the lever connected thereto being so positioned in the direction of rotation of said cam disc that said actuating means is operated by said operating lever after said ratchet has been released to drivingly couple said crank disc and said first gear.

3,192,658
CLASSIFIED DIRECTORY STRUCTURE
Robert S. McGurn, Oak Park, Ill.
(2020 Ruby St., Melrose Park, Ill.)
Filed July 11, 1963, Ser. No. 294,411
8 Claims. (Cl. 40—104)

1. A construction of the type described including a box comprising a bottom member and a top member hingedly connected to said bottom member for movement between opened and closed positions. a plurality of loose unconnected information cards and divider cards generally horizontally disposed in a stack on said bottom member, said stack having a predetermined height. said information cards and said divider cards substantially having a common predetermined length and width. said divider cards separating groups of said information cards, said divider cards including tabs extending outwardly of adjacent edges of all of said cards, said tabs having staggered ends for facilitating selection thereof, all of said tabs being spaced inwardly from opposite end portions of said edges of the cards, abutment means on said bottom member adjacent said opposite end portions of said edges, said abutment means having surfaces disposed substantially in a common plane and having a height at least substantially equal to said predetermined height for engaging said edge end portions of all of said cards for maintaining the cards in alignment, and a selector element shiftably mounted on said top member for selectively engaging the tab of a desired divider card and raising said last mentioned card when the top member is opened.

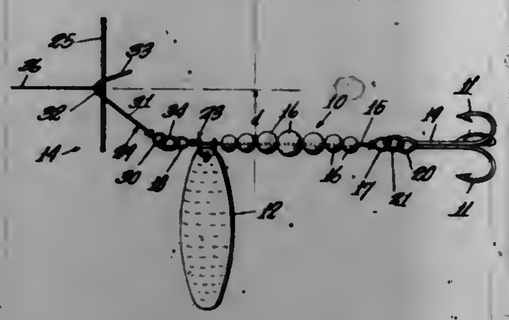


3,192,659
AUTOMATIC FISHING AND FISH HANDLING APPARATUS FOR FISHING VESSELS
Harry C. Rice, 1811 N. Brookfield, South Bend, Ind.
Filed Dec. 12, 1961, Ser. No. 158,857
3 Claims. (Cl. 43—15)



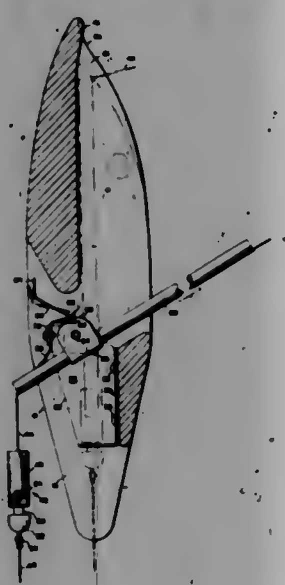
3. In an automatic fishing apparatus, having a tubular member with a guide opening at one end thereof, means for journaling said pole—for pivotal movement within a vertical plane to effect landing effort on the fish, and a fishing line strung through said pole and guided through said guide opening and movable responsively to a fish strike, the structure comprising a combination switch and switch-actuating arm operatively secured to said fishing line to be operated by a fishing strike, fluid-operated power means including a fluid pressure responsive movable wall operatively connected to said pole to effect its angular movement when operated by said switch means from the tension of said line, a second switch located for operative engagement by said pole when it is moved angularly through a sufficient distance to effect landing of the fish and having operative control with said actuating means to effect reverse angular movement of said pole, and means combined with said first switch responsive to the tension of said line, to prevent full reverse movement of said pole until tension is relieved on said line.

3,192,660
SPINNER STABILIZER
Roy C. Guess, Fairgrounds Blvd., R.D. 2, Canfield, Ohio
Filed Nov. 19, 1963, Ser. No. 324,666
5 Claims. (Cl. 43—42.16)



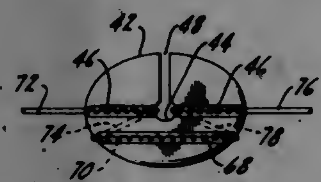
1. A fishing lure comprising
a body including an elongated substantially straight wire having loops at its opposite ends,
a plurality of beads on said wire,
a fish hook having a loop connected to one of said wire body loops,
a light-reflecting blade rotatably mounted on said wire for revolution about the longitudinal axis thereof,
a stabilizer blade having a pair of closely spaced holes,
and a wire connector having a loop at one end connected to the other of said wire body loops, and its other end terminating in a reversely bent free leg diverging from the adjacent wire connector portion thereby defining a substantially U-shaped bight,
said wire connector being secured to said stabilizer blade by having said free leg extending through one of said stabilizer blade holes and having said adjacent wire connector portion extending therearound from the other of said holes thereby to dispose said bight on one side of said stabilizer blade and forming therewith a loop to which a fishing line may be secured, and wherein the divergence between said free leg and said adjacent connector portion prevent inadvertent disassembly of said stabilizer blade from said wire connector.

3,192,661
CASTING BOBBER WITH SELECTIVE LINE RELEASE
David E. Tyrrell, 1526A Spruce Ave., Bremerton, Wash.
Filed Nov. 28, 1962, Ser. No. 240,758
6 Claims. (Cl. 43—44.88)



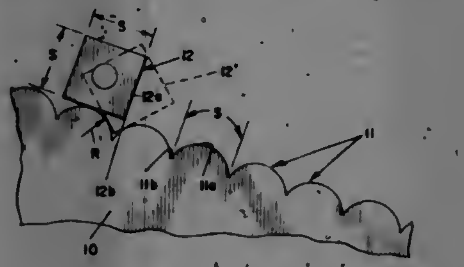
6. For use in combination with a fishing line having a fishing hook at one end and held at the other end under control of a fiisherman; a fishing line bobber, comprising:
(a) guide means on said bobber through which said line freely passes through said bobber;
(b) a stop element attached to said line between said guide means and the hook end of said line;
(c) a retaining means on said bobber configured to engage and retain at least a portion of the stop element between said guide means and said retaining means; and
(d) means permitting relative movement between said guide means and said retaining means responsive to a tug on the held end of the fishing line, applied generally laterally of the bobber, such relative movement disassociating said stop element from said retaining means and from said guide means to release said bobber from the fishing line and enable free movement of the bobber along the portion of the fishing line between said stop element and the held end of the line.

3,192,662
FLEXIBLE SINKERS
Tonnie A. Hoyle, Elmhurst, Ill.
(9344 Meredith Drive, Baton Rouge, La.)
Filed Aug. 5, 1963, Ser. No. 300,035
5 Claims. (Cl. 43—44.91)



1. In a flexible sinker for use on fishing lines or the like, a solid mass including an elastomeric material and a heavy metal intimately mixed and bonded together, said mass having a hole extending completely through it and a pair of grooves extending from the hole outward to opposite edges of the mass, said grooves being normally substantially closed, an additional normally substantially closed groove, generally parallel to said pair of grooves and radially spaced from said hole, said mass being flexible to permit said grooves to be opened for placement and removal of a fishing line therein, said pair of grooves extending generally in opposite directions, and being generally at right angles to the axis of the hole.

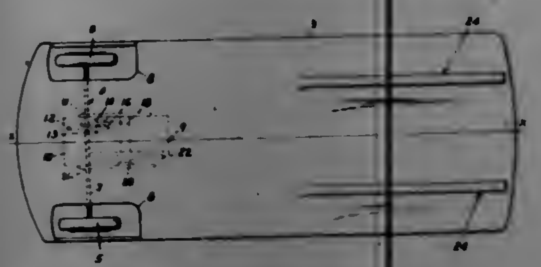
3,192,663
TUMBLING TOY
William Kirschner, Los Angeles, Calif., assignor of one-half to Robert D. Millwater, Torrance, Calif.
Filed Jan. 15, 1963, Ser. No. 251,636
2 Claims. (Cl. 46—202)



1. A tumbling toy comprising, in combination: a ramp structure having alternate ridges and grooves to define a corrugated surface, each of said ridges following a contour defined by the arcuate segment of a circle; and a tumbling member having side portions adapted to roll on said ridges and corner portions adapted to be received in said grooves as said member descends said ramp structure, said member including a square shape in cross section, the side dimension of said square shape being substantially equal to the length of said arcuate segment whereby substantially no sliding engagement takes place between said member and said corrugated surface.

3,192,664
TOY VEHICLE

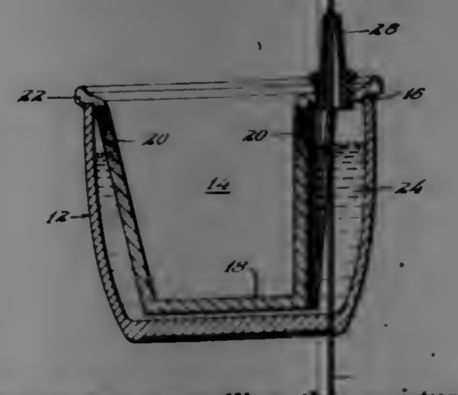
Raymond Travers, 24620 Hawthorne Drive, Euclid 17, Ohio
Filed June 21, 1962, Ser. No. 204,248
3 Claims. (Cl. 46—211)



2. A two-wheeled toy vehicle comprising, a body having an axle journaled adjacent the front end thereof, a pair of oppositely disposed ground engaging wheels fixed to the ends of said axle, a motor means disposed eccentrically within said body and operably coupled for driving engagement with said axle, the rear end of said vehicle being disposed for engagement with the ground so that the vehicle is propelled in an undefined and unpredictable path upon actuation of said motor means, the rear end of said vehicle including at least one ground engaging projection extending downwardly from the body of said vehicle, said ground engaging projection comprising a rib extending longitudinally of the body of said vehicle.

3,192,665
SELF-REGULATORY FLOWER POT

Harold A. Cloud, 465 Lovell, St. Paul 17, Minn.
Filed Dec. 19, 1962, Ser. No. 245,851
3 Claims. (Cl. 47—38.1)



1. A device for controlling the moisture tension of a growing media adapted for the growing of plants and the like comprising:
- (a) a closed reservoir for liquids such as water,
- (b) said reservoir including an impermeable outer shell and an inner open topped liner attached together in fluid tight relationship adjacent the upper edges of the liner to form a reservoir therebetween,
- (c) said reservoir including an inlet communicating with the reservoir and through which the reservoir may be filled with a liquid,
- (d) removable stopper means normally sealing said inlet to the passage of air or liquid therethrough,
- (e) said liner being adapted to contain a growing media therein,
- (f) the portions of said shell and liner adapted to be exposed when said growing media is in place being substantially air impervious,
- (g) portions of said liner adapted to be in contact with said growing media being porous,
- (h) said pores being of such size that liquid in said reservoir will not flow through said pores of said liner when pressure is equal on both sides of said liner,
- (i) said porous portion of said liner including an area adjacent said growing media of larger pore size than the remainder thereof,
- (j) said growing media being adapted to have a moisture tension resulting from the evaporation and consumption of liquid from said media,
- (k) said reservoir being adapted to maintain liquid in said reservoir under vacuum tension,
- (l) whereby said liquid in said reservoir may move from said reservoir to the growing media when the moisture tension in said growing media is greater than the vacuum tension in said reservoir.

3,192,666
METHOD OF PROTECTING FRUIT TREES AGAINST BORERS

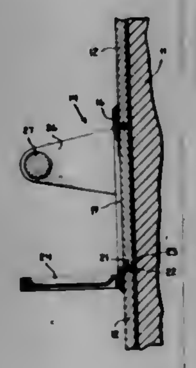
Hans W. Sachs, 29 Virginia Ave., Binghamton, N.Y.
No Drawing. Filed May 10, 1961, Ser. No. 108,994
3 Claims. (Cl. 47—58)

3. A method for protecting peach trees and other trees of the Prunus genus against borers, including both the species *Sanninoidea exitiosa* and the species *Synanthedon pictipes*, comprising
- spraying under pressure an encapsulating band of a non-phytotoxic solution of asphalt in a volatile solvent around the trunk of said tree, said band at least covering the portion of said trunk adjacent the ground, and
- spraying said solution under pressure over and into wounds, crotches and breaks in the bark of said tree, thereby inactivating any borers and larvae present and preventing the entry of any borer, said asphalt being a synthetic asphalt having the following characteristics:

Spec. gravity of 25 at 25° C.	1.000
Penetration:	
At 32° F. (100 gm.)	10
At 77° F. (100 gm.)	144
At 115° F. (100 gm.)	235
Softening point (R & B) ° F.	114.5
Spot test	Negative
Total bitumen, percent	99.8
Bitumen soluble in 86° Bé. naphtha	99.9
Bitumen soluble in CCl_4	99.9
Sulphur, percent	0.16
Paraffin scale	None
Acid number	0.35
Test for phenolic groups	Negative

3,192,667
WALL FIXTURES AND METHOD

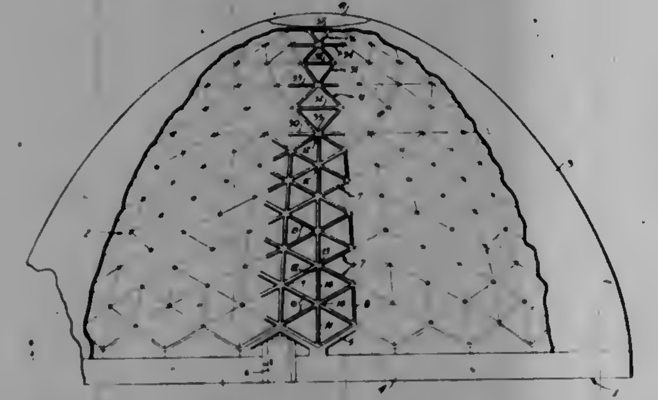
Edward J. Bauer, 1021 E. Michigan St., Indianapolis, Ind.
Filed Nov. 6, 1961, Ser. No. 150,490
2 Claims. (Cl. 50—22)



1. In a building, a wall construction comprising an upstanding wall having an unfinished face; a plurality of wall surfacing elements having finished and unfinished surfaces, with the unfinished surfaces thereof secured to the said unfinished face, said elements being disposed adjacent each other to provide a finished wall surface; a fixture having an outwardly projecting perimetrical flange providing a faceplate, an inwardly projecting flange, and a web connecting said inwardly projecting flange to said outwardly projecting flange, said outwardly projecting flange framing one of said elements and overlying portions of the finished surfaces of others of said elements surrounding said one element, said one element overlying said inwardly projecting flange, and said one element having adhesive on the unfinished surface thereof securing said one element to the unfinished face of said wall and thereby securing said fixture to said wall with said inwardly projecting flange disposed between said unfinished face and said one element.

3,192,668
DOME BUILDING CONSTRUCTION

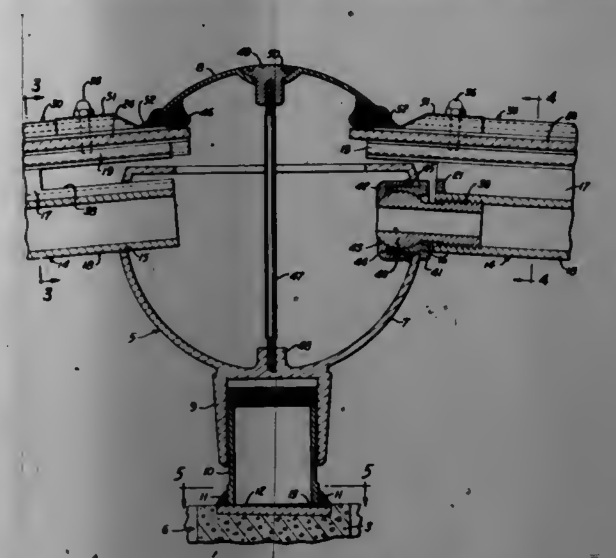
Donald L. Grieb, 777 W. Glencoe Place, Milwaukee 17, Wis.
Filed Mar. 13, 1961, Ser. No. 95,420
8 Claims. (Cl. 50—52)



1. A building framework of generally conoid-shape and comprising:
- a lower section composed of a plurality of separate tiers of generally hexagonal shape precast integral members having abutting vertical sides joined together, each said hexagonal member having a diagonal strut joining the upper corner of each side thereof with the lower corner of the opposite side thereof,
- and a top section composed of concentric separate tiers of diamond pattern integral units with horizontal bisecting struts disposed to provide triangular openings, the struts of horizontally adjacent units being abutted to form a plurality of vertically spaced concentric rings with diagonal braces therebetween, said diagonal struts of said hexagonal members and the diagonal sides of said members and of said diamond shaped units constituting said diagonal braces cooperating together to provide diagonal thrust members extending from the bottom to the top of the framework in both directions around the same.

3,192,669
SKYLIGHT CONSTRUCTION

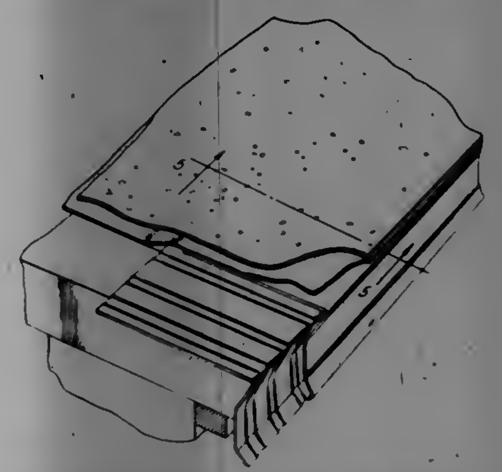
Ronald G. Hawkins, Cedarburg, Wis., assignor to Super Sky Products Company, Thiensville, Wis., a corporation of Wisconsin
Filed May 11, 1962, Ser. No. 193,975
10 Claims. (Cl. 50—52)



1. A dome skylight construction comprising a substantial number of skylight panes arranged in spaced edge-to-edge relation with adjacent panes disposed in angularly related planes, said panes being disposed in a predetermined pattern thus providing a plurality of spaced hub centers adjacent the corners of said panes, individual rafters disposed between the edges of adjacent panes, hub members at said hub centers and carrying the ends of said rafters, means securing at least one end of each rafter to a corresponding hub member, and means beneath and supporting individual hub members thereby supporting said dome skylight construction.

3,192,670
ROOFING CONNECTOR PLATE

Lee B. Jones III, P.O. Box 6310, Jacksonville 5, Fla.
Filed June 22, 1962, Ser. No. 204,324
3 Claims. (Cl. 50—67)



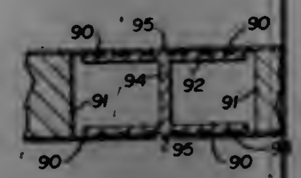
1. A connector plate for interconnecting roof edging strips comprising:
- an elongated blank having a plurality of substantially flat surfaces alternately dispersed transversely of said blank and spaced by a plurality of parallel intermediate depressed surfaces, said connector plate being uniformly longitudinally bent thereby defining:
- a horizontal top portion, adapted to be positioned on sheathing adjacent a roof edge,
- a downwardly and inwardly inclined portion extending from a longitudinal edge of said top portion,
- a vertical front panel extending downwardly from a lower edge of said inclined portion, and
- a bottom flange extending outwardly and downwardly from a lower edge of said front panel.

3,192,671
PANEL STRUCTURES

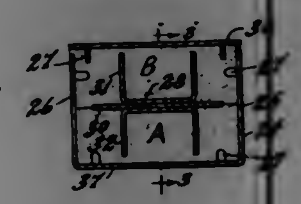
Margaret J. Smith, Akron, Ohio, assignor to The United States Stoneware Company, Tallmadge, Ohio, a corporation of Ohio
Filed Apr. 10, 1961, Ser. No. 101,971
5 Claims. (Cl. 50—368)

4. The combination of an edge element and two panels, each panel comprising a core and two parallel surface sheets which protrude beyond one edge of the core thereof, the core of each panel being subject to attack by moisture and being exposed at the edge of the panel within its edge element, said protruding portions of the surface sheets of the respective panels extending toward one

another, the edge element being composed of two parallel walls and a spacer between them, said two walls being within the protruding portions of the surface sheets and close enough thereto to provide capillary spaces therebetween, there being a plurality of more than two grooves in the outer surfaces of the two walls each extending longitudinally thereof, the grooves in each wall nearest the cores of the panels being filled with adhesive which adheres to the panel nearest to it, and the grooves in each wall farthest from the cores being empty and forming a break in the capillary space between that wall and the surface sheet adjacent to it.



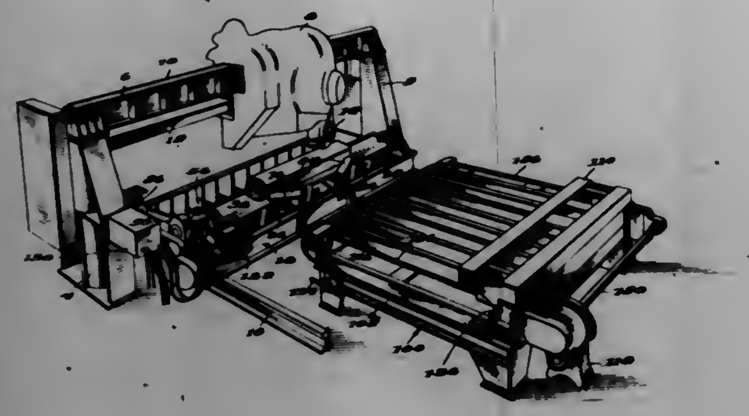
3,192,672
BRICK WITH COMOLDED INTERNAL PLATES
Russell Pearce Heuer, Villanova, Pa., assignor to General Refractories Company, a corporation of Pennsylvania
Filed Mar. 20, 1961, Ser. No. 96,884
2 Claims. (Cl. 50—416)



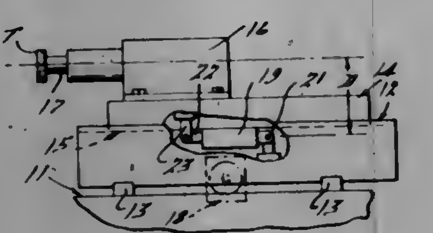
1. A basic refractory brick comprising a body consisting substantially of basic refractory material containing magnesia, said brick being generally of rectangular form and having four lateral faces and two end faces, oxidizable metallic external plates extending over the bulk of said four lateral faces of the brick, an oxidizable ferrous metallic internal separator plate extending longitudinally of the brick and dividing the brick into separate compartments, oxidizable ferrous metallic U-shaped internal plates in the body of the brick, means securing the bases of the said U-shaped internal plates to the separator plate, wherein said internal plates are disposed so that each lateral face of the brick has at least one internal plate disposed transverse to said lateral face, and each of two opposite lateral faces of the brick have two internal plates disposed transverse to said opposite lateral faces, said internal separator plate and said U-shaped internal plates being in comolded relationship with said body, there being refractory between said internal plates and said external plates, said internal plates dividing the body into at least six refractory cells, and on oxidation of said internal plates and reaction with said basic refractory, each of said cells near one end of the brick after exposure to elevated temperature having areas of reaction between the metal of the plate and the refractory along at least two adjoining sides of said cells.

3,192,673
GRINDING MACHINES
James L. Hensley, Clinton, Tenn., assignor to Tysaman Machine Company, Knoxville, Tenn., a corporation of Delaware
Filed Apr. 10, 1963, Ser. No. 272,091
11 Claims. (Cl. 51—34)

5. In a grinding machine having an overhead traversing rotary grinding wheel, billet handling apparatus comprising a frame, said frame being mounted on wheel means, means for selectively rotating the wheel means to propel the frame relative to the grinding wheel, a billet holding fixture, means mounting the fixture on the frame, receptacle means on the frame adjacent the fixture in position to receive a billet from the fixture, and means for displacing a billet from the fixture into the receptacle means, said receptacle means including a conveyor, and means for selectively operating the conveyor to dispense the billet off the frame.



3,192,674
GRINDING MACHINE HAVING CROSS FEED TABLE AND WHEELSLIDE
Paul A. Grobey, Springfield, Vt., assignor to Bryant Chucking Grinder Company, Springfield, Vt., a corporation of Vermont
Filed Sept. 5, 1961, Ser. No. 135,829
4 Claims. (Cl. 51—50)

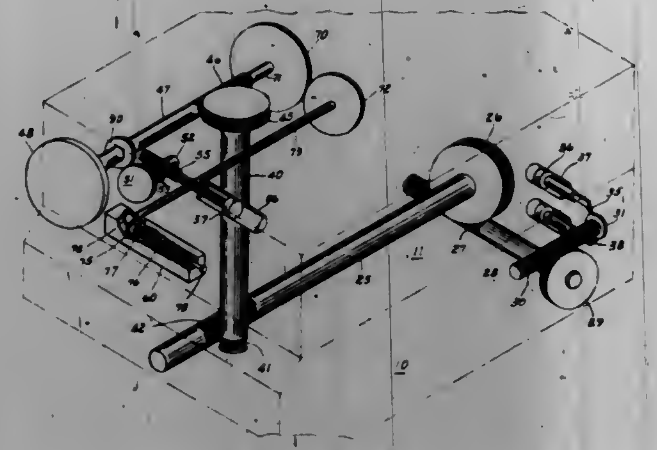


4. In a grinding machine, an elongated bed, a workhead mounted adjacent one end of said bed, transverse ways adjacent the other end of said bed, a cross feed table mounted on said ways, a feed case mounted on the forward side of said bed, a handwheel and handwheel shaft mounted on said feed case for transversely shifting said cross feed table on said ways, a pair of parallel flat transversely spaced longitudinally extending ways on said cross feed table, bearings carried by the underside of said wheelslide and resting on said last-mentioned ways, a longitudinal recessed portion between said wheelslide and cross feed table, a reciprocating traverse cylinder in said recessed portion and connecting said cross feed table and wheelslide, a wheel spindle mounted on said wheelslide, and a manual traverse handwheel mounted on said cross feed table and adapted to be engageable with said wheelslide.

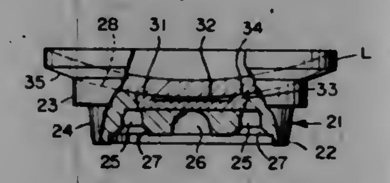
3,192,675
FEED INDICATOR FOR MACHINE TOOLS
John R. Fries and Ralph E. Price, Waynesboro, Pa., assignors to Landis Tool Company, Waynesboro, Pa.
Filed July 16, 1962, Ser. No. 211,937
11 Claims. (Cl. 51—165)

10. In a grinding machine, a grinding wheel support, a grinding wheel rotatably mounted on said wheel support, a feed mechanism, power means operable between predetermined limits for actuating said feed mechanism to

advance and retract said wheel support, manual actuating means to set said feed mechanism for advance by said power means to a position corresponding to a known dimension, a dimension registering means operable by said manual actuating means and initially adjustable to show said known dimension, said dimension registering means being thereafter continuously connected to said manual actuating means to show when said feed mechanism is set for any selected dimension within the range of said feed mechanism.



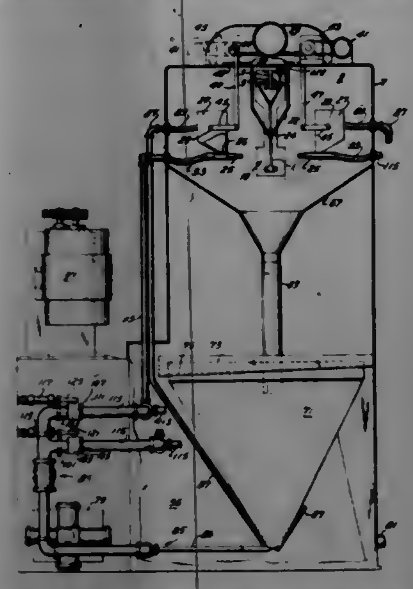
3,192,676
LENS BLOCKS
Lloyd A. Buckminster, Geneva, N.Y., assignor, by direct and mesne assignments, of one-half to Textron, Inc., Providence, R.I., a corporation of Rhode Island, and one-half to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Original application Jan. 27, 1960, Ser. No. 4,950, now Patent No. 3,049,766, dated Aug. 21, 1962. Divided and this application Aug. 2, 1962, Ser. No. 214,261
4 Claims. (Cl. 51—216)



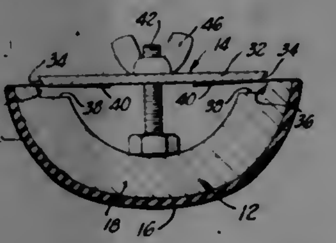
1. A lens block comprising
(a) a centrally-disposed disc adhered directly to one side of a lens blank for holding said blank in an operating machine during one step in manufacture of the lens, and
(b) a body surrounding said disc and adhered directly to the same side of the blank in intimate contact therewith for holding the blank during a previous step in manufacture of the lens,
(c) said body being made of an alloy having a lower melting point than the material of said disc and than the lens blank.

3,192,677
ABRASIVE IMPINGEMENT CLEANING PROCESS
Willard Lewis Johnson, Southfield, Robert G. Millhiser, Detroit, Alfred H. Sorensen, Lathrup Village, and Peter Kosar, Garden City, Mich., assignors to Ajem Laboratories, Inc., Livonia, Mich.
Filed Nov. 13, 1961, Ser. No. 152,379
8 Claims. (Cl. 51—321)

1. The method of removing paint accumulations which comprises subjecting such accumulations after initial drying, but before development of maximum tenacity and resistance to abrasion, to a jet blast with a high velocity liquid carrying abrasive grit and comprising a paint remover ingredient and a surfactant ingredient in an aqueous vehicle.

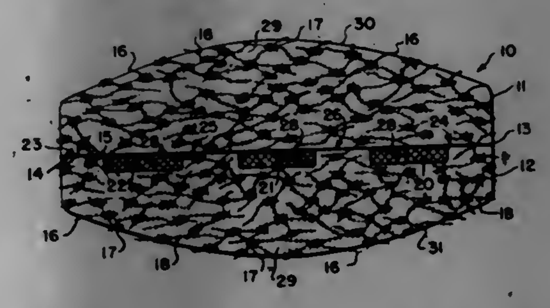


3,192,678
POOL CLEANING TOOL
Lodovico N. Buratti, 7542 New Castle Ave., Reseda, Calif.
Filed Dec. 26, 1961, Ser. No. 162,017
1 Claim. (Cl. 51—390)



In a pool cleaning device, the combination of: an elongated body of semi-ciylindrical cross section, said body having angularly oriented extremities adapted to permit its insertion into areas of reduced accessibility, said body also having a pair of lands formed therein, each of said lands having beveled side edges at their outer extremities; a plate having a pair of beveled side edges on said lands; an abrasive covering on said body extending over said lands; a resilient cushion between said covering and said body to permit said covering to conform to irregularities in the pool surface; and means for clamping said plate against said lands to draw said covering tightly into engagement with said cushion.

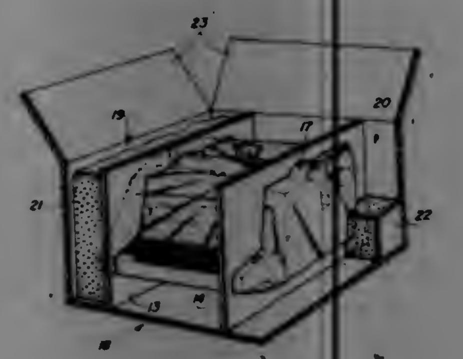
3,192,679
SCOURING ARTICLES
John A. Cameron, Fort Lauderdale, Fla., assignor to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed Oct. 9, 1961, Ser. No. 143,914
5 Claims. (Cl. 51—402)



1. An abrasive, detergent-containing scouring article, comprising a lofty low density three-dimensional first batt section composed of a plurality of flexible tough organic fibers that are intermingled and disposed in random

arrangement and form a network of intercommunicating voids extending throughout said section, said fibers being bonded together at spaced locations where they cross and contact one another to unite said section into an integral resilient structure throughout its dimensions, said section having a work contacting surface, a second batt section joined to said first section along a surface of said first section other than said work contacting surface, and at least one strip of detergent material disposed at the juncture of said first and second batt sections and extending therebetween, said strip being substantially included within the volume of said first batt section so that all areas at said juncture of said batt sections other than those areas which abut said strip abut each other and are joined at their areas of abutment without excessive deformation, said strip being sufficiently cohesive to retain its shape when dry and being activatable in the presence of solvent to pass detergent through said network of voids to said work contacting surface of said first batt section.

3,192,680
PACKAGING METHOD
Stanley Mantell, West Hartford, and Maurice S. Gilbert, Granby, Conn., assignors to Royal McBee Corporation, New York, N.Y., a corporation of New York
Original application Nov. 25, 1960, Ser. No. 71,530, now Patent No. 3,033,358, dated May 8, 1962. Divided and this application Feb. 28, 1962, Ser. No. 176,303
2 Claims. (Cl. 53—27)

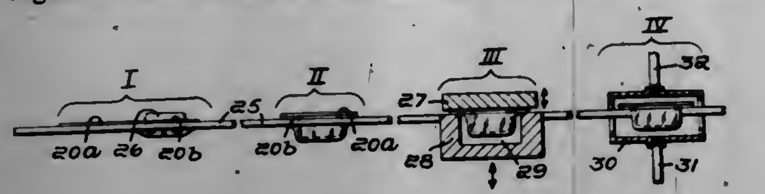


1. In a method of packaging in a container a product having opposite sides of irregular contour, the steps of
- imperviously sealing the product in wrapping material,
- forming holes in a pair of substantially rigid bulkheads contoured to snugly receive the said sides of the product,
- inserting said product sides through said holes whereby the product is supported against movement in two directions,
- disposing said bulkheads and supported product in said container with said bulkheads spaced inwardly of their respective adjacent container sides thereby forming a pair of spaced chambers,
- introducing a foam producing material into said chambers only whereby when said material sets said product will be resiliently supported in a direction normal to the planes of said bulkheads,

and closing said container.

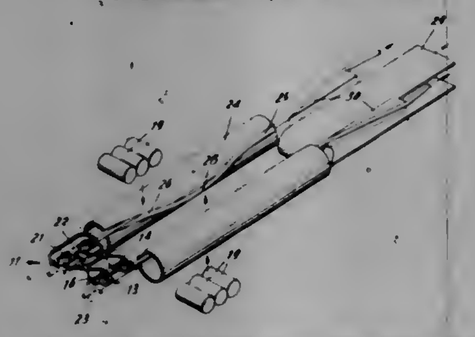
3,192,681
METHOD OF FORMING BLISTER TYPE PACKAGES
George Greenbaum, Brookline, Mass.
(% Linvure Co., 169 A St., Boston 10, Mass.)
Filed Nov. 1, 1961, Ser. No. 149,464
3 Claims. (Cl. 53—30)

1. The method of packaging an article which comprises disposing the article between two portions of a backer having an opening covered by a sheet of thin heat-shrinkable material, pushing said article along with a portion of said sheet in substantially unstressed condition through said opening, securing said backer portions together around said article with said sheet between them,



and applying heat to said sheet portion to shrink said sheet portion to approximately the contour of said article.

3,192,682
METHOD OF PACKING CYLINDRICAL CONTAINERS
Richard Bernat, Jr., Yonkers, N.Y., assignor to Snapomatic, Inc., a corporation of New York
Filed May 10, 1962, Ser. No. 193,770
4 Claims. (Cl. 53—32)

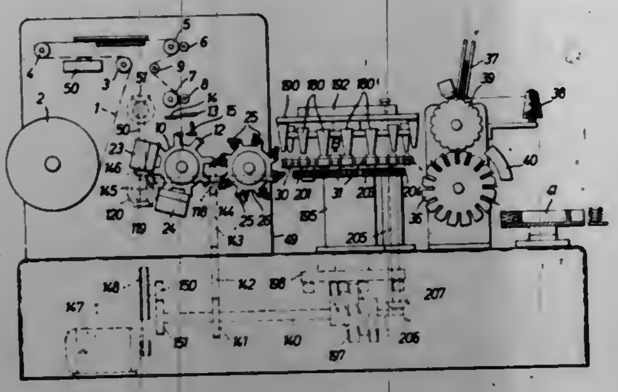


4. A method of packing cans in six-can units comprising, in combination, providing a flexible plastic receptacle having therein carrying means, a central webbing and four perforated can-holders having appropriately embossed elements thereon; mechanically inserting into each of said holders a peg, each of said holders and corresponding pegs being pivotable on one axis; rotating said inserted pegs on said axis through an angle of about 105 degrees and subsequently counter-rotating said inserted pegs on said same axis through an angle of about 15 degrees to a final position substantially at right angle with the original pre-rotational position, the direction of rotation of two of said pegs being clockwise and that of the other and opposite two pegs being counterclockwise; inserting three cans between some of said appropriately embossed elements of said pegs on one side of said webbing during said rotating of the pegs; inserting three other cans between some others of said appropriately embossed elements of said pegs on the opposite side of said webbing between said rotating and counter-rotating, and preferably during said counter-rotating of the pegs; and mechanically disengaging said inserted pegs from said holders for the proper removal of the can-filled receptacle.

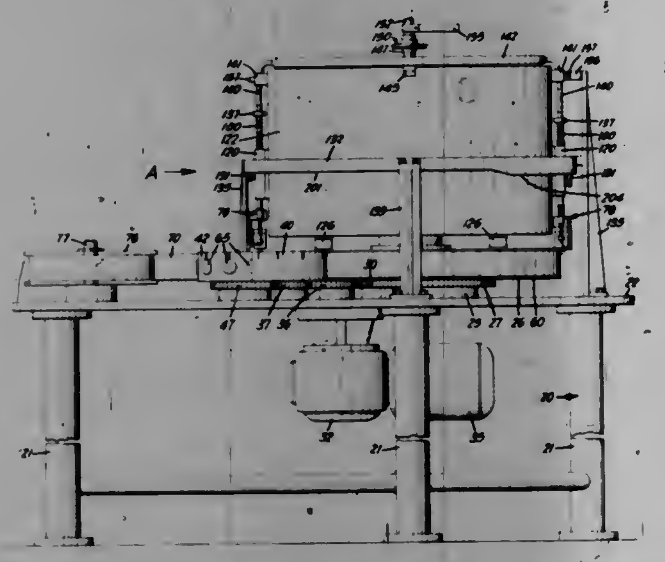
3,192,683
BAG MAKING MACHINE
Alfred Gräfingholt, Stuttgart-Bad Cannstatt, and Rudolf Branstner, Fellsbach, Wurttemberg, Germany, assignors to Fr. Hesser Maschinenfabrik-Aktiengesellschaft, Stuttgart-Bad Cannstatt, Germany, a corporation of Germany
Filed Apr. 6, 1962, Ser. No. 185,673
Claims priority, application Germany, Apr. 12, 1961, H 42,276
17 Claims. (Cl. 53—134)

1. A machine for manufacturing bags with folded bottoms comprising means for feeding a continuous web of material from which said bags are to be made, rotatable means having a plurality of gripper devices successively movable to a position adjacent the path of said web, means for severing said web at desired length each time the web is adjacent a gripper device in said position, means cooperable with any said gripper device in said

position for folding the adjacent severed length of web transversely between its ends into a predetermined bag bottom fold, and means for closing the severed and folded web longitudinally, whereby a folded bottom, open top bag may be produced, wherein each of said gripper devices includes a mouth area with folding tongue therein and a pair of shims rotatably biased against said tongue, the arrangement being such that said tongue in conjunction with the aforesaid folding means causes said web to be folded onto said tongue and said shims releasably secure the folded web against said tongue.

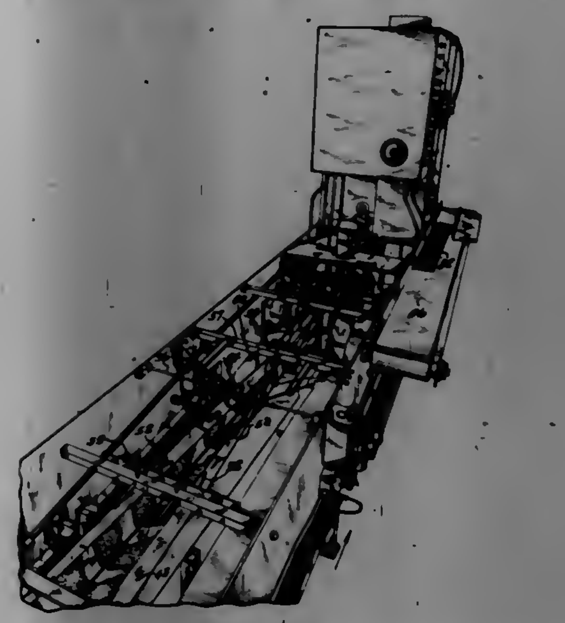


3,192,684
APPARATUS FOR MAKING PACKAGE TAPES
Vincent A. Iannucci, West Lawn, Pa., assignor to Rudd-Melikian, Inc., Hatboro, Pa., a corporation of Pennsylvania
Filed Mar. 12, 1962, Ser. No. 180,926
2 Claims. (Cl. 53—180)



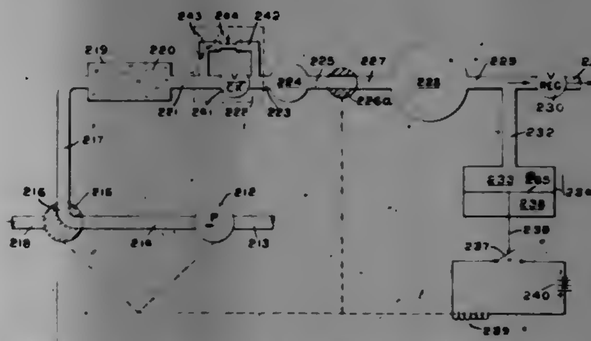
2. In a machine for making a package comprising a pocket containing a packaged material, said machine including a forming drum having a recess in the periphery thereof, means for delivering two superimposed strips of tape material to the periphery of the drum in a position overlying said recess, mechanism cooperating with said drum for dimpling said superimposed strips into said recess to define and pre-shape an unexpanded pocket, said mechanism comprising a dimpling member arranged to travel in an arc conforming with the periphery of the drum, whereby to retain the superimposed strips indented into said recess throughout a portion of the angular motion of the drum, a masking element adapted to engage with the strips in the region surrounding said recesses, mounting means providing for yielding engagement of both the dimpling member and the masking element with the strips against the periphery of the drum, and mechanism providing for sequential engagement of said member and said element, with the dimpling member being engaged before the engagement of the masking element.

3,192,685
VARIABLE PACKAGING MACHINE
Thomas L. Harrison, Menomonee Falls, John S. Miller, Jr., Milwaukee, and Alfred J. Backus, West Bend, Wis., assignors to Pratt Manufacturing Corp., Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 28, 1962, Ser. No. 183,308
9 Claims. (Cl. 53—180)



1. In a continuous packaging machine having means for continuously feeding a flat web of sheet material, means for forming said web into a channel-shaped cross section with upstanding flanges between which relatively flat articles to be packaged are adapted to be positioned, means for gradually urging the moving web into V-shape with the axis of the V on the longitudinal center line of the web and with an article portion on each side of said center line, means for urging said flanges inwardly toward one another and then downwardly over portions of the relatively flat articles, means for thereafter bringing opposite portions of the web into juxtaposition with the articles therebetween, and means for thereafter severing the juxtapositioned web portions between the articles.

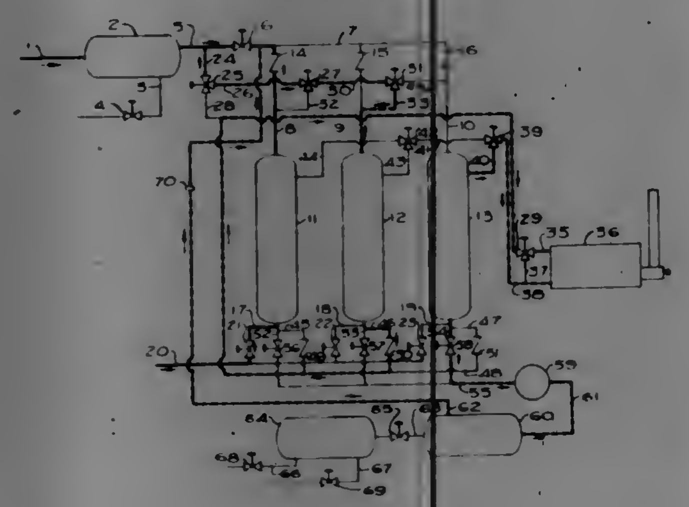
3,192,686
DEHYDRATOR METHOD
William E. Berkey and John R. Schuster, Elyria, Ohio, assignors, by mesne assignments, to Lear Siegler, Inc., Santa Monica, Calif., a corporation of Delaware
Filed Apr. 10, 1961, Ser. No. 103,953
1 Claim. (Cl. 55—21)



A method of supplying a fractionated gaseous component of a gaseous mixture comprising a gaseous component and a foreign component to a region of requirement utilizing an adsorbent bed having a first end and a second end, comprising passing a feed stream of a gaseous mixture containing a gaseous foreign component in a first flow direction from said first end to said second end of said adsorbent bed initially relatively free of said foreign component at a preselected initial relatively high pressure, said adsorbent being preferentially selective for said foreign component, adsorbing said foreign component in said adsorbent bed and leaving an unadsorbed gaseous component, discharging said unadsorbed gaseous component from said bed through a first conduit means containing a flow control means to a first storage vessel, passing said unadsorbed gaseous component from said first storage vessel to a second storage vessel through a second conduit means containing a valve means to provide for a flow of gas from said first storage vessel to said second storage vessel and alternately from said second storage vessel to said first storage vessel as required, and passing said component from said second storage vessel through a third conduit means to a region of requirement, discontinuing the passing of said feed stream through said bed at a predetermined first pressure of said unadsorbed gaseous component in said second storage vessel wherein said first pressure is lower than said relatively high pressure, preventing the flow of gas from said second storage vessel to said first storage vessel, desorbing said foreign component from said adsorbent bed and passing said desorbed component from said first end of said bed in a second flow direction opposite to said first flow direction and passing said unadsorbed gaseous component from said first storage vessel through said first conduit means and through said bed in said second flow direction, resuming the passing of said feed stream through said bed upon attaining a second pressure of said component in said second storage vessel ~~which is~~ lower than said first pressure and simultaneously permitting the gas to flow from said second storage vessel to said first storage vessel and intermittently back-flowing said gaseous component from said first storage vessel through said adsorbent bed.

3,192,687
METHOD AND APPARATUS FOR PROCESSING A NATURAL GAS STREAM

Alfonso F. Silva and Leonard M. Hall, Oklahoma City, Okla., assignors to Black, Sivalls & Bryson, Inc., Kansas City, Mo., a corporation of Delaware
Filed June 26, 1962, Ser. No. 205,328
5 Claims. (Cl. 55—33)



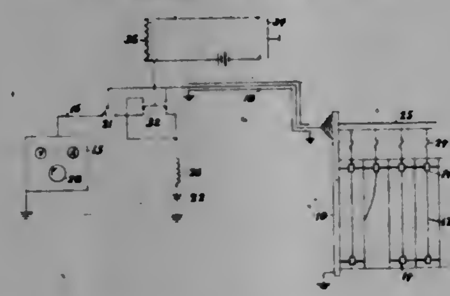
1. The improvement in the process of adsorbing components from a natural gas stream in which at least three adsorbent beds remove condensables from the stream and are simultaneously and continuously but alternately going through an adsorption cycle where the bed adsorbs and becomes saturated with the components, a heating cycle where the saturated bed is heated to dry the adsorbed components out of the saturated bed, and a cooling cycle where the heated bed is cooled in preparation for the next adsorption cycle comprising,

when the flow of the natural gas stream is normal placing the first of said beds on the adsorption cycle, the second of said beds on the cooling cycle, and the third of said beds on the heating cycle,

during the period when the flow of said natural gas stream is greater than normal placing two of said beds on the adsorption cycle while the third bed goes through the heating and cooling cycles.

3,192,688
MEANS FOR CLEARING SHORT CIRCUITS IN ELECTRICAL PRECIPITATORS

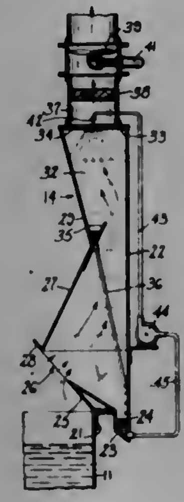
Hans Klemperer, Belmont, Mass., assignor to Refractory & Insulation Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 10, 1964, Ser. No. 336,937
3 Claims. (Cl. 55—139)



1. In an electrostatic precipitator having a bank of electrodes, a power lead connected to each electrode, fuse means intermediate said electrodes and said power lead, a power supply, means for blowing any of said fuses which are connected to a faulty electrode having a low voltage arc-over, said means comprising a capacitor, switch means operable to selectively connect said power supply to the capacitor or to the precipitator, and other switch means operable to discharge said capacitor through the faulty electrode to blow the fuse leading thereto.

3,192,689
AIR SCRUBBING DEVICE

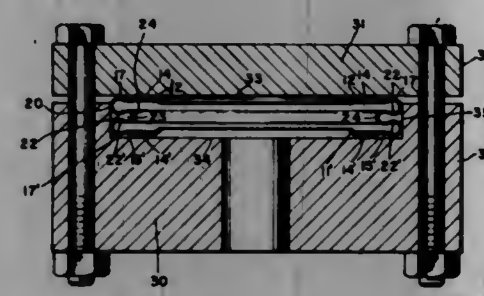
Avery B. Smith, 6 Doris St., Wallingford, Conn.
Filed Apr. 25, 1963, Ser. No. 275,626
8 Claims. (Cl. 55—229)



1. In an air scrubber for association with a tank open at the top to the ambient atmosphere and having therein a substance into which an article may be temporarily placed through said top for treatment by the substance which tends to contaminate the atmosphere above the tank, the improvement including a hood in close proximity to the open top of the tank having the major portion thereof of vertically arranged and having a wall structure comprising front, rear and side walls defining an air conduit which is oblong in cross section, the wall structure having means at one end defining an air inlet, closely overhanging a portion of the tank top but leaving a large portion of the open top accessible for the placement of articles in the tank, and having at the other end means defining an air outlet, said air inlet means providing an opening extending horizontally a distance approximating one transverse dimension of said open top and the air inlet being considerably larger than the air outlet, said side walls converging toward one another in the direction of the air outlet, the front wall having an inclined portion tending to entrap any air over the tank tending to enter the air conduit and extending in a direction toward the rear wall, which with the latter and the side walls restricts the air conduit intermediate of its ends, the front wall between said restriction and the means defining the air outlet having a portion inclined in a direction away from the rear wall and extending toward the air outlet, a baffle-like part extending between the side walls in fixed relation thereto forming a further restriction of the air conduit, said baffle-like part defining at least in part a trough, a power-driven air impeller operatively connected to said air conduit on the upstream side of said trough to suck air over the tank into the air conduit and expell it through said outlet, a spray nozzle for connection to a fluid source, located in the air conduit in spaced and opposing relation to said trough to spray substantially all of a cross-sectional area of the air conduit and entrap air contaminants, means defining a fluid deflector and sump spaced below said trough, said sump communicating with the lower end of the air conduit formed by the aforementioned wall structure, said trough overhanging said deflector, and said deflector being arranged to deflect fluid from the nozzle, including that temporarily collected in said trough from the nozzle, to the sump, said baffle-like part and said deflector serving to prevent fluid from the nozzle and any contaminants entrapped in the fluid from entering the tank and serving to direct by gravity any entrapped contaminants to the sump, the restriction of the air conduit, formed at least in part by said baffle-like part providing in itself at least part of the trough, tending to provide a nontortuous air path, and tending to increase the speed of air flow from one part of the air conduit to another to thereby increase the air suction.

3,192,690
SEALING RING WITH E-SHAPED RADIAL SECTION

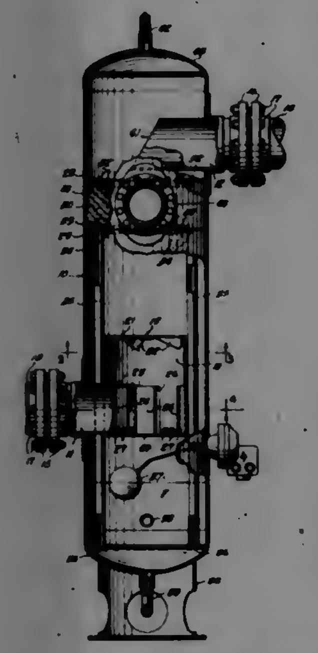
Dudley D. Taylor, 11623 35th Place, Beltsville, Md.
Filed Jan. 3, 1963, Ser. No. 249,194
4 Claims. (Cl. 220—46)



4. The combination with a body having a cavity bounded by a cylindrical wall rising from a flat sealing surface and a cover plate having a flat face forming one side of the cavity; of a sealing ring engaging the flat sealing surface, the cylindrical wall and the inner surface of the cover plate; said sealing ring having a radial section of general E-shape, the short horizontal bar of the E being a loop with the two sides of the loop slightly out of contact with each other when the cover plate is in contact with the outer surface of the body, the neutral axis being at the inner end of the loop, and the sealing ring having the upper and lower arms of the E each provided with two spaced convex portions touching the cover plate and the flat sealing surface of the cavity, said convex portion of the arms being separated by a depression having a convex portion facing the interior of the ring and the arms therefore each having a concave portion facing the proximate flat surface so that the sealing ring resiliently engages the cover plate and the flat sealing surface each in two spaced circular lines and engages the cylindrical wall in two spaced circular lines.

3,192,691
GAS, OIL AND WATER SEPARATOR

Spencer C. Ely, P.O. Box 333, Jal, N. Mex.
Filed Nov. 28, 1960, Ser. No. 72,118
3 Claims. (Cl. 55—325)



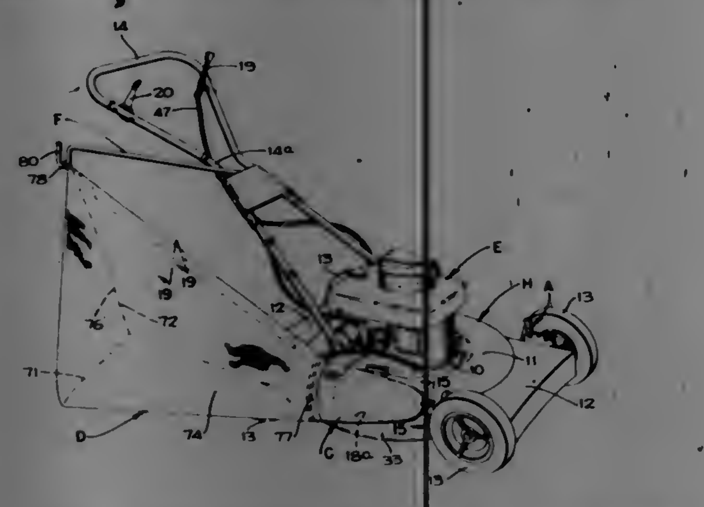
1. An oil, water and gas separator having a vertically disposed cylindrical housing and a fluid inlet conduit in the lower portion of said housing and an outlet conduit in the upper portion thereof, a cylindrical fluid receiving element supported concentrically of said housing and having said inlet conduit connected to one side at the bottom thereof, a baffle tangentially disposed across the inlet opening of said inlet conduit in said element directing the fluids in a circular motion therein, a series of vertically elongated circumferentially spaced openings in said element, each having a baffle coextensive therewith extending tangentially into said element in the direction of movement of said fluids for impeding the circular motion of liquids therein, a plurality of radially disposed openings in the top of said element, a baffle for each radial opening depending into said element in a counter-clockwise direction whereby to conduct said fluids clockwise upwardly therein, and a filter chamber having a filtering material therein extending completely across said housing between said element and said outlet conduit whereby to filter out liquids remaining in the fluids prior to their entering said outlet conduit.

3,192,692
ROTARY MOWER AND GRASS CATCHER

Arthur John Slemmons, Los Gatos, Calif., assignor to FMC Corporation, a corporation of Delaware
Original application Sept. 22, 1960, Ser. No. 58,602, now Patent No. 3,132,457, dated May 12, 1964. Divided and this application Feb. 25, 1963, Ser. No. 266,773
The portion of the term of the patent subsequent to Apr. 15, 1980, has been disclaimed
3 Claims. (Cl. 56—25.4)

1. A combined rotary mower and cutting collecting assembly comprising a housing having a thin walled cutting deflector portion, said deflector portion having a regular semitoroidal internal surface, said housing deflector portion being circumferentially continuous and being of uniform radial width and contour around its entire circumference, a blade, means mounting said blade for rotation about the major housing axis, and means for rotating said blade, said blade having forwardly sharp-

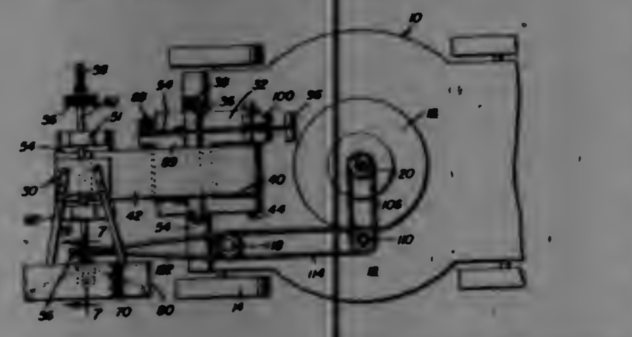
ened end portions inclining inwardly in a direction contrary to the direction of blade rotation, said upwardly inclining end portions of the blade lying within the outer peripheral half of said housing deflector portion, said blade having forwardly sharpened intermediate portions lying within the inner peripheral half of said housing deflector portion, said end portions of the blade cutting material and imparting both a tangential and an upward velocity to the cut material, said housing deflector portion deflecting the cut material around its internal surface and downward into the path of the intermediate



blade portions, said intermediate blade portions further cutting the cut material, said end portions of the blade causing re-circulation of a substantial portion of said re-cut material within the outer peripheral half of said housing deflector portion, said deflector portion having a cut material discharge opening formed in the outer peripheral half thereof, said opening lying entirely within the confines of said deflector portion with the edge of said opening being circumferentially continuous, a porous collecting bag, and means for mounting said bag for receiving cuttings that are blown through said discharge opening.

3,192,693
TRIMMER ATTACHMENT FOR POWER LAWN MOWER

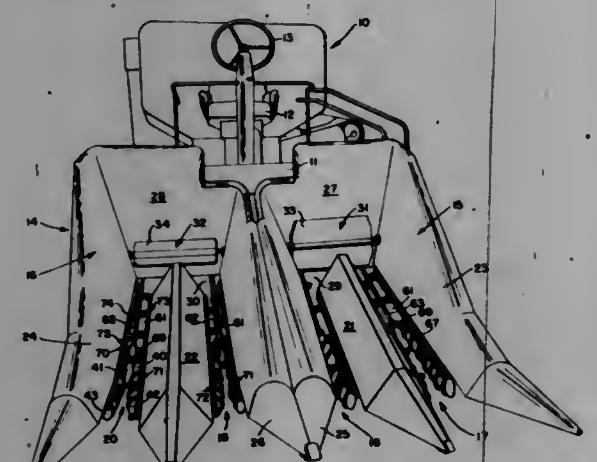
Ragnvald Bergeson, 381 Colonial Court, Dunedin, Fla.
Filed July 2, 1963, Ser. No. 292,300
10 Claims. (Cl. 56—25.4)



1. A lawn edging and trimming attachment for power lawn mowers of the type having a support frame together with a rotatable grass mowing element mounted upon said frame and a source of power on said frame connected to said element, said attachment comprising a base, means mounting said base on said frame at one end thereof of the latter, a carriage tiltably mounted on and pivoted at its rear end to the rear end of said base and overlying said base, an edger shaft extending transversely of said frame, means journaling said shaft upon said carriage, an edger blade secured upon said shaft and disposed in laterally spaced relation to said frame, said carriage and said shaft extending forwardly beyond said frame, driving means connecting said shaft to said source of power, means for adjustably tilting said carriage about a horizontal axis for vertically adjusting said edger blade, said tilting means comprising a member extending transversely of said base and carriage and pivoted at its lower end to the forward portion of said base, said member having a supporting surface slidably engaging the underside of said carriage and an actuator pivoted to said member for effecting swinging of the latter for tilting of the carriage.

3,192,694
CORN HARVESTER

Wayne E. Slavens, Des Moines, Iowa, assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed May 16, 1963, Ser. No. 280,997
6 Claims. (Cl. 56—106)



1. Corn harvesting structure comprising: housing structure defining a plurality of fore-and-aft extending passages terminating at open rear ends and a rear upright transverse wall having material discharge opening means for passing material from the rear ends of the passages; snapping rolls supported on the housing structure in opposed relation on opposite sides of the passages and having forward ends with spiraled outer surfaces effective to auger material rearwardly and rear ends having axially extending lugs on their surfaces for aggressively drawing material downwardly; roll points forwardly of and connected to rotate with the forward ends of the rolls; laterally extending plates supported on the housing structure above the rolls and having opposed edges on opposite sides of the passages, each of the edges having a lower fore-and-aft extending portion above the spiraled end of the respective roll and an upper fore-and-aft extending portion above the aggressive rear end of the respective roll, the upper and lower edge portions of each plate being laterally offset from one another whereby the spacing between the edge portions above the spiraled forward ends is relatively wide so as to permit comparatively unobstructed movement of materials being moved by the spiraled forward ends and is relatively narrow above the aggressive rear ends of the rolls so as to limit downward movement of material between those portions of the plates; a pair of gathering chains above the plates and having opposed inner runs on opposite sides of the passages and closely adjacent the respective plates for moving material rearwardly in the passages; and transverse beater means at the rear of the passages forwardly of the wall and above the rear portions of the plates for moving material from atop the rear plate portions rearwardly through the discharge opening means.

3,192,695
TREE TRIMMING MACHINE OR THE LIKE

Clyde O. Leydig and Yigal Michelson, both of P.O. Box 276, Exeter, Calif.
Filed Feb. 25, 1963, Ser. No. 260,477
4 Claims. (Cl. 56—235)

1. In combination:

(a) a T-shaped boom having a vertically extending head and a horizontal stem portion both being integral with each other;

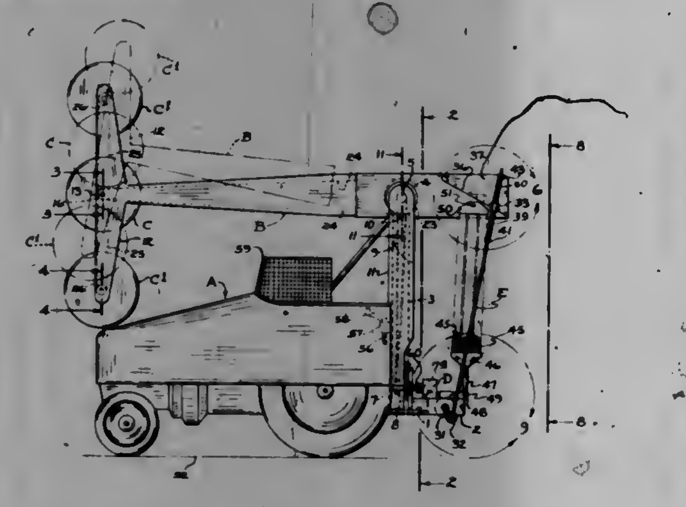
(b) means for pivotally supporting said stem so that the T-shaped head lies in front of the pivot supporting means and so that a portion of said stem lies on the side of said pivot supporting means opposite said head and in a plane that is normal to the pivotal axis and the stem can be swung into an angular position from the horizontal;

(c) a plurality of disc-shaped saws rotatably carried by said T-shaped head and arranged vertically one above another and with at least one disc saw positioned below said stem and at least one disc saw positioned above said stem; said saws lying in a common plane that is normal to the pivotal axis and having portions projecting in front of said T-shaped head;

(d) means for oscillating said boom in a substantially vertical plane and including a reciprocating pitman;

(e) a crank for reciprocating said pitman;

(f) a sleeve slidably mounted on said pitman and having a trunnion that extends at right angles to the pitman axis;



(g) yielding means for limiting the movement of said sleeve on said pitman;

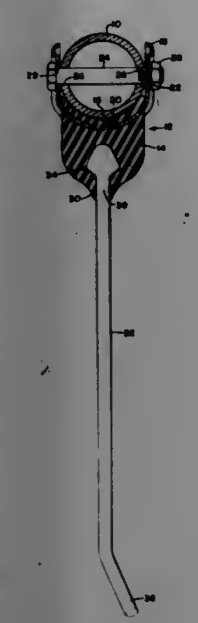
(h) said stem having a row of trunnion-receiving openings lying in a line that is disposed on the stem portion that lies on the opposite side of the pivot from said head portion; said line of openings extending away from said pivot but being inclined so that the opening disposed nearest to said pivot is disposed farthest from said crank and the opening disposed farthest from said pivot is disposed nearest to said crank;

(i) whereby said trunnion is mounted in a selected opening in said stem for altering the amplitude of the swing of said boom; said trunnion when placed in said opening disposed nearest to said boom pivot causing said pitman to swing said boom through its greatest arc with one end of the arc lying in a horizontal plane that extends betwen said pivot and said crank; and said trunnion when placed in said opening disposed farthest from said boom pivot causing said pitman to swing said boom through its smallest arc with the same end of the arc lying substantially in the same horizontal plane.

3,192,696
CROP-ENGAGING TINE MEANS

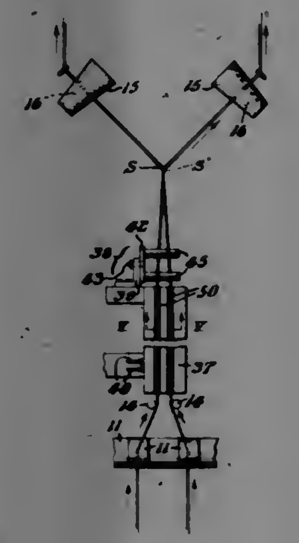
James A. Hurry, Denver, Colo., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Filed Feb. 19, 1964, Ser. No. 345,957
8 Claims. (Cl. 56—400)

8. Crop-engaging tine means for mounting on the tine support of a crop-handling machine, comprising: an elastomer block having first and second portions positionable respectively proximate to and spaced from the support; and a rake tine of relatively rigid material other than the block and having a generally pear-shaped head embedded in the block with its small-diameter portion toward the first end of the block and a shank rigidly joined to the large-diameter portion of said head and projecting outwardly from said second block portion to a terminal crop-engaging end.



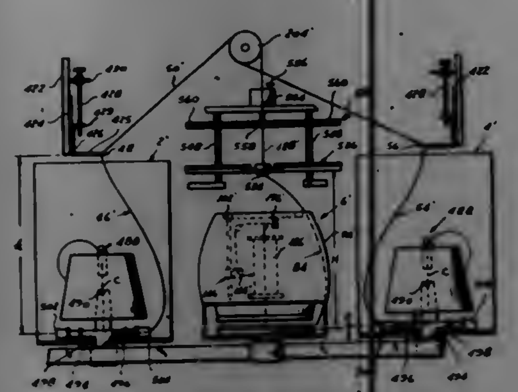
3,192,697
APPARATUS AND METHOD FOR FALSE TWISTING YARNS

George A. Carruthers, Harleysville, Pa., assignor to Turbo Machine Company, Lansdale, Pa., a corporation of Pennsylvania
Filed Aug. 26, 1963, Ser. No. 304,528
10 Claims. (Cl. 57—34)



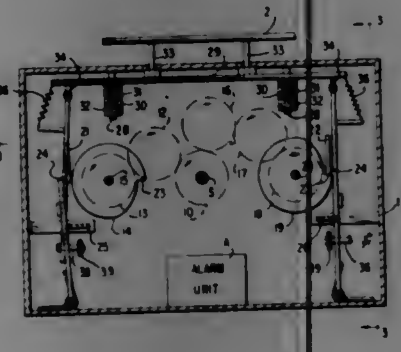
1. Apparatus for modifying heat-settable yarn filaments comprising means for feeding a plurality of yarn sets in a downstream direction, heating means downstream of said feeding means and in a heat-setting zone through which the yarns of each set thereof pass in a twisted, tensioned condition, withdrawal means downstream of said heating means for separating said yarns from each other and combining yarns from different sets, and combined separating and friction means located intermediate said heating means and said withdrawal means in contact with said yarn sets to divert each of said yarn sets from a straight line path of movement, and to direct said yarn sets respectively into different paths of movement.

3,192,698
TWISTING SPINDLE BALLOON CONTROL
Alfred W. Vibber, West Englewood, Teaneck, N.J.
(560 Riverside Drive, New York, N.Y.)
Filed Jan. 27, 1960, Ser. No. 4,973
50 Claims. (Cl. 57—5[illegible].83)



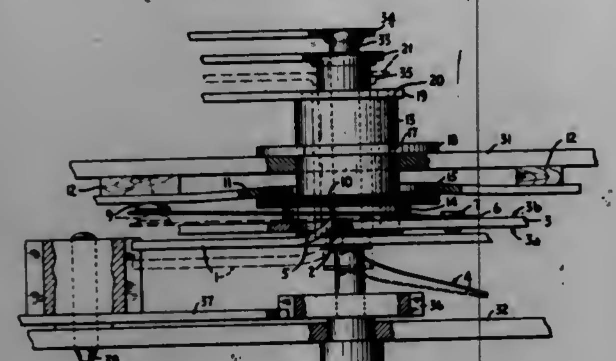
1. In strand-twisting apparatus, in combination, mechanism for rotating a yarn strand in the form of a balloon and for pulling the yarn forward, a central guide at the apex of the ballooning yarn, mechanism for controlling the size of the balloon comprising an annular member rotatably supported near said apex in concentric relation therewith and adapted to be turned in one direction by the revolving balloon, means for yieldingly turning said member in the opposite direction, and means controlled by the rotation of said member for controlling the size of the balloon.

3,192,699
DUAL ALARM CLOCK
Carol D. Stout, 6 N 121 Poplar, Wood Dale, Ill.
Filed Dec. 3, 1963, Ser. No. 327,689
15 Claims. (Cl. 5[illegible]16.5)



1. An alarm control system for a clock having a clock mechanism and an alarm mechanism which is capable of sounding at a plurality of preselected times comprising cam means mounted for rotation by said clock mechanism including first and second cams capable of being individually manually positioned in relation to the respective times at which the alarm is to be sounded, each of said cams having a notched portion indicating the time position thereof with regard to a standard position, follower means associated with each of said cams and capable of sounding said alarm mechanism in response to engagement with the notched portion of a respective cam, control means associated with each follower means capable of individually deactivating said respective follower means, shut-off means associated with each control means and controlled by a respective follower means for effecting operation of a respective control means to deactivate a respective follower means only when said follower means is effective to activate said alarm mechanism, and means for simultaneously actuating the shut-off means associated with each control means.

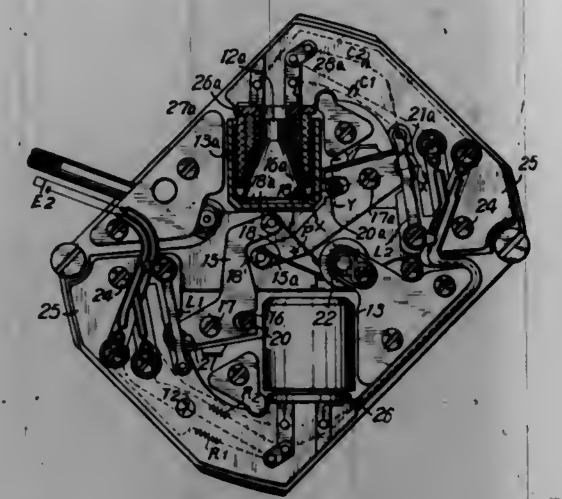
3,192,700
TIMING AND ALARM MECHANISM
Marc Walter, Bry-sur-Marne, France, assignor to Societe Anonyme dite: Jaz S.A., Paris, France
Filed Feb. 7, 1963, Ser. No. 257,812
Claims priority, application France, Feb. 16, 1962, 888,225
5 Claims. (Cl. 58—20)



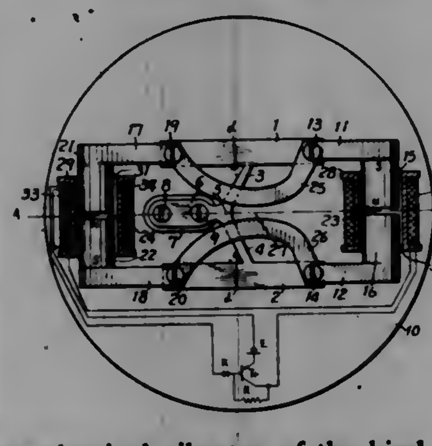
1. Timing and alarm mechanism comprising in combination a casing; an hour plate member and a control plate member and means mounting said members for coaxial rotation with respect to each other and to said casing and for limited relative axial displacement; means driving said hour member at a uniform angular velocity as a function of time; means for manually presetting said control member to a desired angular position at which an alarm is to sound; spring means biassing said members axially toward each other; a projection extending axially from one of said members into engagement with a side surface of the other member for riding over said surface as said hour member revolves with time; an aperture formed in said other member in a position to receive said projection of said one member on said hour member being rotated to a position corresponding to the preset position of the control member; a spring strip secured to the opposite side of said other member and having an edge portion overlapping a generally radial edge surface of said aperture a small predeterminable circumferential distance into the aperture, said strip being normally spring biassed axially towards said other member under a force less than that of said spring means whereby to be displaceable away from said other member by the action of said projection upon said overlapping edge portion as said projection is received into said aperture; an electric contact carried by said strip; an annular contact element carried by said casing coaxially with said members for engagement by said strip contact in the displaced position of the strip; and an alarm circuit including a source of electric power and an alarm signal device connected to said source and to said contacts so as to be energized from said source on engagement of said contact; whereby the alarm signal device will be energized as said hour member reaches said position corresponding to the preset position of the control member and will be deenergized on expiry of a time lapse determined by the distance of overlap of said edge portion of said other member with respect to said edge surface of the aperture.

3,192,701
VIBRATORY MOTION CONVERTER FOR AN ELECTRIC TIMEPIECE
Kazuo Tanaka, 105 3-chome, Seki-machi, Nerima-ku, and Yoshiaki Kato, 518 1-chome, Hiratsuka, Shinagawa-ku, both of Tokyo, Japan
Filed Nov. 30, 1962, Ser. No. 241,351
9 Claims. (Cl. 58—23)

1. Mechanical vibrator for the time base of a time piece and the like, comprising a rigid elongated base element rigidly and detachably mounted upon a stationary panel of said time piece, a cantilevered oscillating element connected to each end of said base element, said oscillating elements being shaped and dimensioned to have substantially equal natural frequencies and said oscillating elements also extending in opposite directions in the plane of said base element and at equal distances from the central axis of said base element, said base and oscillating elements being arranged substantially in a Z-configuration for substantially avoiding otherwise possible position errors, a permanent magnet attached to the tip end of each of said oscillating elements, and a drive and sensing coil assembly mounted upon said stationary panel for cooperating with each of said magnets.

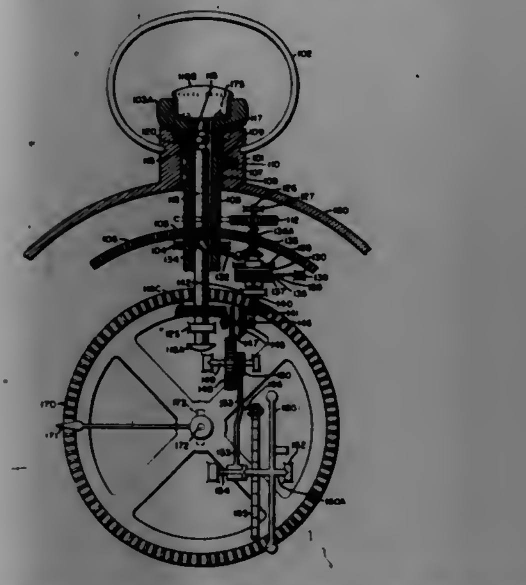


3,192,702
MECHANICAL VIBRATOR FOR TIME BASE
Yoshiaki Kato, 518, 1-chome, Hiratsuka, Shinagawa-ku, and Kazuo Tanaka, 105–7, 3-chome, Seki-machi, Nerima-ku, both of Tokyo, Japan
Filed Apr. 11, 1963, Ser. No. 272,394
7 Claims. (Cl. 58—23)



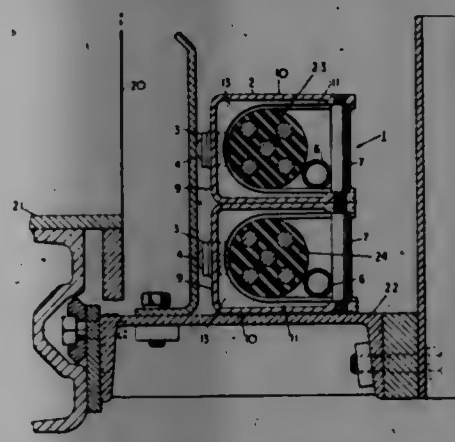
1. In a mechanical vibrator of the kind specified herein, two oscillatory masses which are arranged in substantially a common plane and which have two sets of opposing spaced magnetic pole faces with flux flowing therebetween, one set at each of two opposite ends of the oscillator; a stationary member; two spring members each having one end rigidly connected to one of said two masses and its other end mounted on the stationary member so as to permit oscillation of said masses with respect to one another substantially in said common plane and thereby change the spacing between the pole faces in each set, each said spring member being positioned so that the mass to which it is attached has its center of gravity falling substantially along the longitudinal axis of said spring member; means for detecting movement of said oscillatory masses with respect to one another and providing electric signals as a function thereof; and electromagnetic means for varying the flux flowing between said opposing spaced pole faces differentially as a function of said signals so as to cause one set of the pole faces to approach each other and the other set of pole faces to move away from each other.

3,192,703
AUTOMATICALLY RATE REGULATED TIMEPIECES
Oscar H. Dicke, 211 S. Washington St., New Bremen, Ohio
Filed June 14, 1963, Ser. No. 289,456
20 Claims. (Cl. 58—85.5)



1. A semi-automatically rate regulated timepiece comprising; a casing; time measuring mechanism in said casing; rate regulating means in said casing which may be adjusted to determine the speed at which said time measuring mechanism shall operate; a time indicating hand operatively connected to and driven by said time measuring mechanism; a sleeve rotatably and longitudinally slideably mounted in an opening in said casing; a stem supported coaxially in said sleeve for independent rotary motion and for endwise sliding motion; means for locking said stem against independent rotary motion with respect to said sleeve when said stem and sleeve both assume either their normal pushed-in or their abnormal retracted position; means for operatively coupling said stem for transferring rotary movement of said stem to rotary movement of said time hand when said stem in a retracted position; and means for operatively connecting said sleeve for transferring rotary movement of said sleeve to movement of said rate regulating means when said sleeve is in a retracted position.

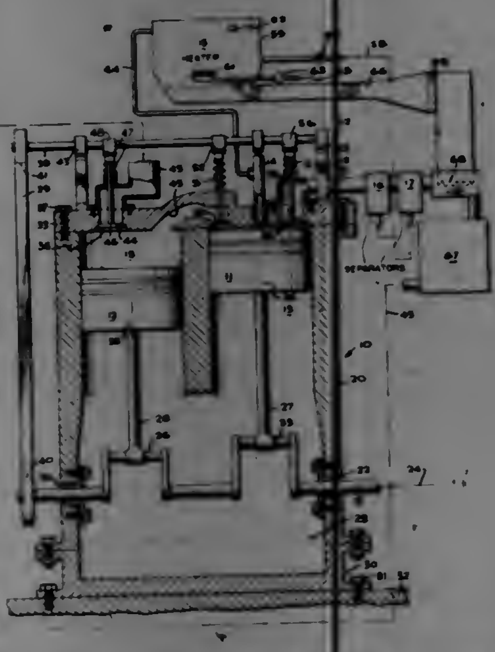
3,192,704
MEANS FOR PROTECTING THE SUPPLY CABLES OF MINING MACHINES
Ronald L. J. Macrae, Ashby-de-la-Zouch, England, assignor to Coal Industry (Patents) Limited, London, England
Filed Mar. 1, 1962, Ser. No. 176,698
4 Claims. (Cl. 59—78.1)



1. Means for protecting a flexible supply cable arranged to connect a source of supply to a unit movable relative to said source of supply, comprising a chain adapted to receive and carry said flexible supply cable,

said chain comprising a plurality of links each having a lower horizontal limb, an upper horizontal limb spaced above said lower horizontal limb and an upstanding portion interconnecting said upper and lower limbs to form a generally U-sectioned link, said links being arranged with their limbs direction all in the same direction towards one side of the chain to define an opening longitudinally of the chain, into which opening said flexible supply cable can be fully inserted, and means pivotally connecting adjacent links to each other for relative movement about parallel and horizontal axes disposed transverse to the length of the chain, each horizontal limb of a link having a length in the direction of the chain, greater than the distance separating immediately adjacent limbs on adjacent links and further having opposed lateral edge portions disposed transverse to the length of the chain, which edge portions are inwardly turned towards the central axis of the chain whereby when the chain is folded back on itself, an upper length of the said chain can slide freely on a lower length of the said chain.

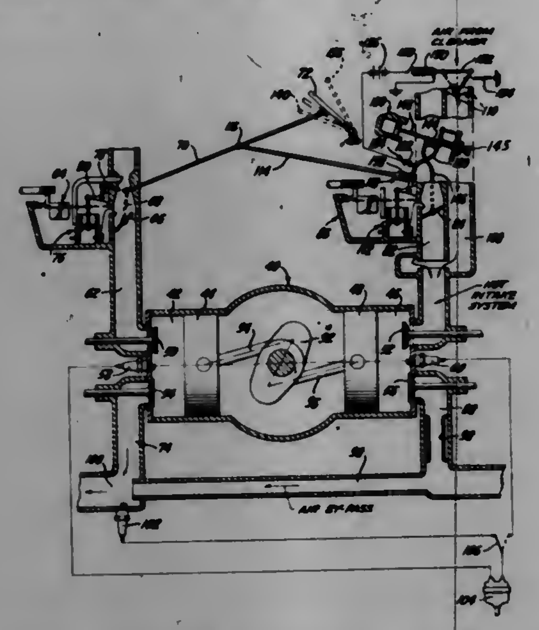
3,192,705
HEAT OPERATED ENGINE
Wendell S. Miller, 1341 Comstock Ave., Los Angeles, Calif.
Filed Aug. 31, 1961, Ser. No. 135,322
15 Claims. (Cl. 60—27)



1. A reciprocating engine including a cylinder and contained piston to be driven relative to one another by expansion of a gas within the cylinder, means for introducing said gas into the cylinder, means for heating a liquid, and means for injecting said heated liquid into said gas at a plurality of different progressively decreasing temperatures and at a plurality of different piston positions respectively during expansion of said gas in the cylinder, whereby said heated liquid induces expansion of the gas and drives the piston and cylinder relative to one another by energy derived from the heat of the liquid.

3,192,706
SYSTEM FOR REDUCING THE EMISSION OF UNBURNED COMBUSTIBLES FROM AN INTERNAL COMBUSTION ENGINE
John Dolza, 810 State St., Fenton, Mich.
Filed Oct. 26, 1962, Ser. No. 233,333
14 Claims. (Cl. 60—30)

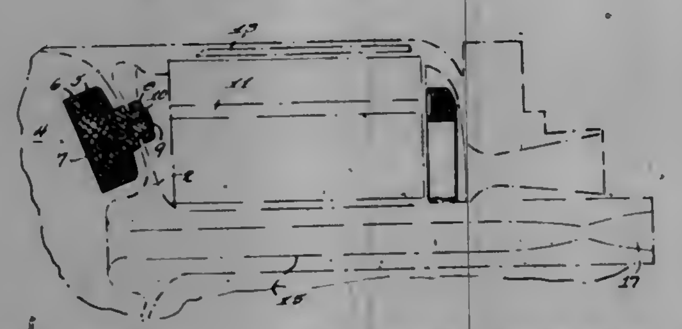
13. A split engine system of the type including a first carburetion device for supplying a combustible mixture to one-half the engine cylinders under all engine operating conditions and a second carburetion device for supplying a combustible mixture to the other half of the cylinders under normal or high power operating conditions, said second carburetion device being inoperative to supply a combustible mixture under coasting or idling conditions, in which an air passage is adapted to bypass air around the second carburetion device and to supply such air to said other half of the cylinders when the latter device is rendered inoperative to supply a combustible mixture, a common exhaust passage for receiving the exhaust gases from all of the engine cylinders, an exhaust cross-over passage for conveying the exhaust gases from the continuously operating cylinders to the common exhaust passage, a pipe disposed within said cross-over passage and communicating at one end with the air bypass passage, the other end of said pipe terminating proximate the inlet of the cross-over passage permitting air preheated substantially to the temperature of the exhaust gas entering the cross-over passage to mix with and oxidize a large portion of the unburned combustibles contained in said exhaust gas.



3,192,707
ROCKET FUEL COMPRISING DIMETHYLNITROSAMINE AND A LIQUID OXIDIZER
Karl Klager, Sacramento, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
No Drawing. Filed Oct. 25, 1962, Ser. No. 234,279
16 Claims. (Cl. 60—35.4)

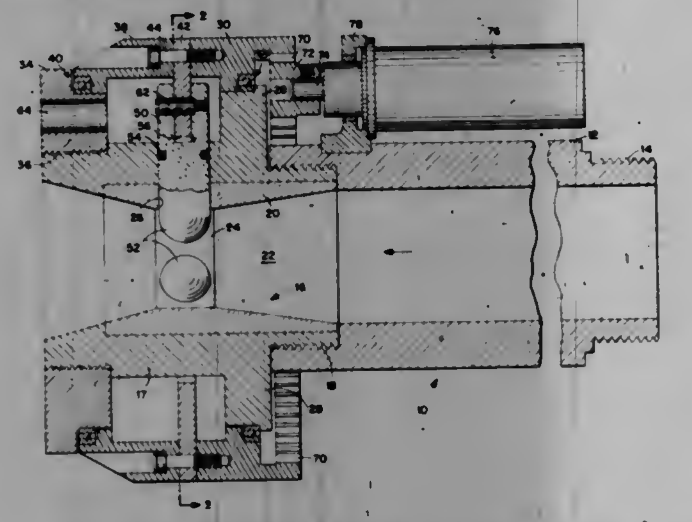
9. A rocket fuel comprising a homogeneous mixture of dimethyl nitrosamine with a compound selected from the group consisting of hydrazine and lower alkyl-substituted hydrazines.

3,192,708
ROCKET MOTORS
William Hugh Nicolson, Kidderminster, and Wilfred Doyle, Kingswinford, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Aug. 24, 1961, Ser. No. 133,659
Claims priority, application Great Britain, Sept. 15, 1960, 31,883/60
10 Claims. (Cl. 60—35.6)



1. A double chamber dual thrust rocket motor in which a propellant in each chamber is ignited substantially simultaneously comprising: a motor casing; a partition within said casing dividing the interior thereof into two chambers; a solid propellant charge in each of said chambers; a propulsion nozzle associated with each of said chamber; and means for igniting said solid propellant charges substantially simultaneously, said means including means defining a port through said partition for conducting heat energy through said partition and for restricting passage of gas therethrough to prevent any appreciable loss of pressure therethrough during burning of said propellant charges, an igniter associated with each of said propellant charges, at least one of said igniters being adjacent said port whereby ignition of the other of said igniters will ignite said one igniter by heat energy passing through said port.

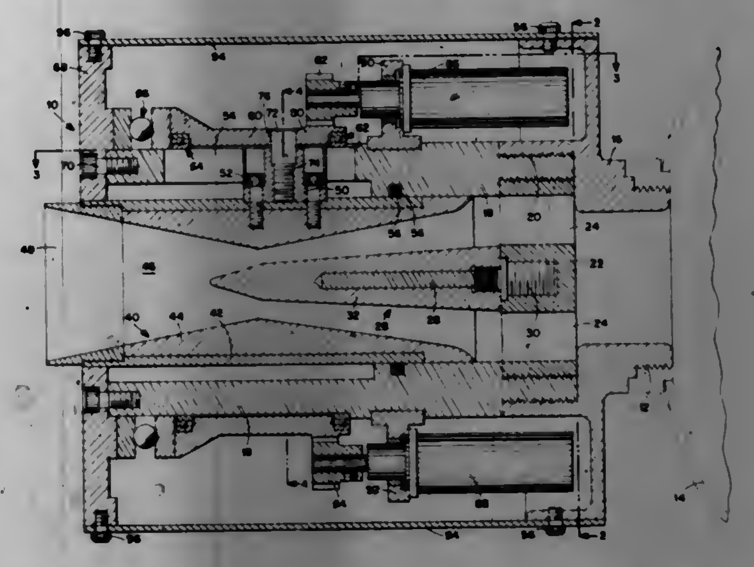
3,192,709
VARIABLE THROAT NOZZLE
Sammie Lloyd Hardy, Madison, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 17, 1962, Ser. No. 231,301
1 Claim. (Cl. 60—35.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)



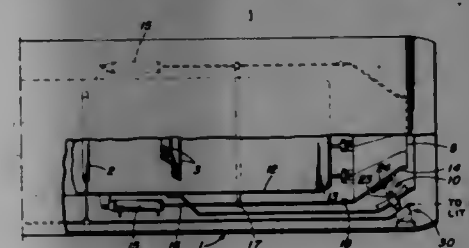
A variable throat area exhaust nozzle for a jet type motor comprising a liner having a venturi shaped longitudinal passageway therethrough defining a restricted throat area, a plurality of radial passageways of circular cross section in said liner communicating with said restricted throat area, a plurality of cylindrical probes mounted for reciprocation one within each of said radial passageways, said probes having spherical inner ends projecting into said throat area, the outer ends of said probes being bifurcated, a cam plate slidably received between the ears of the bifurcated ends of all of said probes, said cam plate having a plurality of cam slots formed therein corresponding in number to the number of said probes, a pin fixed to the ears of the bifurcated end of each of the probes and extending through one of the cam slots in said cam plate, a sleeve rotatably mounted by antifriction bearings on the outer surface of said nozzle, said cam plate being fixed to said sleeve, an internal ring gear on said sleeve, a servomotor fixed to said nozzle, and a spur gear fixed to said servomotor and meshing with said ring gear.

3,192,710
VARIABLE THROAT NOZZLE
Walter B. Wilson, Jr., Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Oct. 17, 1962, Ser. No. 231,303
3 Claims. (Cl. 60—35.6)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A nozzle assembly for a rocket motor comprising: a main support sleeve fixed to said motor and projecting rearwardly therefrom, a nozzle sleeve slideably mounted within said support sleeve for longitudinal movement only with respect to said support sleeve, said nozzle sleeve having a venturi shaped inner surface, a conical probe fixed to said motor and projecting rearwardly therefrom through said nozzle sleeve, a third sleeve mounted on said support sleeve for rotation with respect thereto, and means interconnecting said third sleeve and said nozzle sleeve whereby rotation of said third sleeve imparts longitudinal movement to said nozzle sleeve relative to said probe, and means for imparting rotation to said third sleeve before and during the firing of said rocket motor.



3,192,711
NOZZLE POSITION AND AFTERBURNER LIGHTING INDICATOR
Bob C. Miller, San Gabriel, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 29, 1962, Ser. No. 241,092
5 Claims. (Cl. 60—35.6)

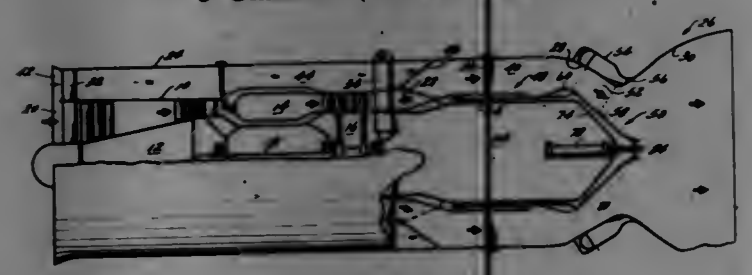


1. In combination with a jet engine having an afterburner, an afterburner outer casing, an afterburner fuel system, an exhaust nozzle and means for varying the area of said nozzle, the improvement comprising means operably connected to said nozzle for indicating the position of said nozzle, means for indicating the presence or absence of a condition of ignition and/or combustion in the afterburner, said last mentioned means thereby indicating an afterburner lighted or ignited condition, said last mentioned means comprising a rack which is fixedly secured to one of the flaps of said nozzle, a roller operably attached to said nozzle flap, cam means fixedly secured to said afterburner outer casing, said roller being in mating contact with said cam means, a pinion gear driven by said rack, a shaft operably connected to said pinion gear, valve means located at the terminal end of said shaft, piston means having an upper portion operatively mounted within said valve means, passages in said piston to permit flow therethrough when said valve means is in position to interconnect said passages, resilient means located between said valve means and said upper portion of said valve means urging said valve means into an unaligned position, a housing surrounding the lower end of

said piston means, an inlet and outlet in said housing, the lower end of said piston means being of larger diameter than said other end, locking means in said piston and housing for preventing rotation of said piston with respect to said valve means and said housing, biasing means located between the lowermost end of said piston means and said housing wall for urging said piston means into the forward position thereof, thereby preventing flow from said housing inlet to said housing outlet via said passages in said valve means when said piston means is subjected to pressure overcoming said biasing means, said piston means functions to move a distance sufficient to align said passages with said ports in said housing as the temperature in the nozzle area increases due to the increased flow of heated gases from said afterburner, the leaves of said nozzle displaying an inherent characteristic of expanding sufficiently to cause said rack to move, thereby forcing said pinion to rotate the shaft and rotary valve thereon whereby as said valve rotates the passages in said piston means are interconnected by said rotary valve thus permitting flow therethrough to indicate a successful afterburner ignition.

3,192,712
LOAD BALANCING ARRANGEMENT FOR ANNULAR VARIABLE AREA JET EXHAUST NOZZLE

Dudley Owen Nash, Cincinnati, Ohio, and Kenneth Glyn Hagen, Paoli, Pa., assignors to General Electric Company, a corporation of New York
Filed Dec. 31, 1962, Ser. No. 248,480
5 Claims. (Cl. 60—35.6)



5. In jet propulsion powerplant:

a turbojet engine, said turbojet engine including an annular duct, a compressor, combustion means, and a turbine all coaxially arranged for series flow therethrough in the order named;

a ramjet engine, said ramjet engine including an annular by-pass duct disposed about the turbojet duct, an annular wall coaxially spaced within said by-pass duct and located immediately downstream of said turbine, movable wall means cooperating with said annular wall to form a combustion chamber in combination with said by-pass duct, and means for initiating combustion located in said chamber;

annular support member wall means, said wall means including a cylindrical portion fixed within said annular ramjet engine wall;

a hollow annular plug member, said plug member including an upstream cylindrical portion slidably supported from said wall means, a generally conical downstream portion, and a crowned portion intermediate said upstream and downstream portions and forming a throat area in the nozzle in cooperation with a convergent portion of the by-pass duct, said throat area being located on the downstream side of said crowned portion;

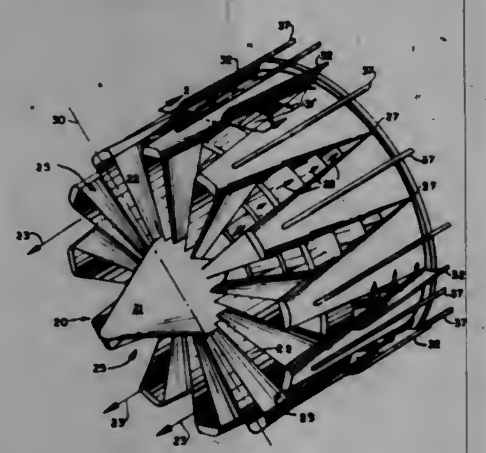
motor means fixed within said plug member, said motor means moving said plug member axially with respect to said wall means over a range of upstream positions for turbojet or ramjet operation, and a second extreme downstream position for rocket operation wherein said crowned portion abuts said convergent portion of the by-pass duct for sealing thereof;

a pressure regulating system for said hollow annular plug member, said system including first seal means located on an exterior surface of said cylindrical portion at the upstream end thereof, a second seal means located on an interior surface of said cylindrical portion in the same radial plane of said member as said first seal means, and at least one orifice in said generally conical portion, wherein flow of combustible fluid over said seals and through said plug member orifice during operation is constant irrespective of the axial position of the plug member so that the internal pressure of said member is maintained at a predetermined level below that of said fluid, said pressure level in combination with forward thrust exerted on the downstream side of said crown by the exhaust gases being such as to reduce to a minimum the force required to move said plug member against the aerodynamic loads imposed thereon by said exhaust gases in said range of operating positions;

and a series of combustion cells peripherally arranged about the downstream end of said by-pass duct and having propellant-supplying means connected thereto, said cells opening into the area bounded by the downstream end of said by-pass duct and forming a rocket motor in combination with said plug member when said member is in an extreme downstream position.

3,192,713
COMBINED THRUST REVERSAL AND SOUND REDUCTION NOZZLE

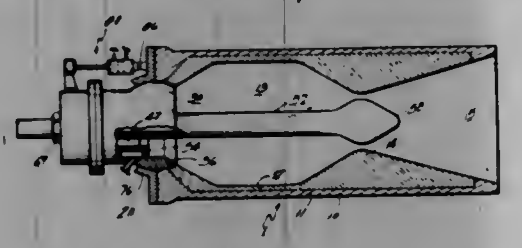
John Baird, Fair Oaks, Calif., assignor to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed Mar. 21, 1958, Ser. No. 723,022
6 Claims. (Cl. 60—35.54)



1. A combined thrust reversal and sound reduction nozzle for attachment to the tail pipe of a jet engine which nozzle is positioned to the rear of said tail pipe so as to pass through said nozzle, exhaust gases flowing rearward of said jet engine, said nozzle having a longitudinal central axis in alignment with the longitudinal center of said tail pipe, said tail pipe having a central plug covering the central area of said tail pipe, said central plug being so disposed and arranged so as to become successively smaller and terminate in a point rearward of the exhaust position of said tail pipe, said nozzle comprising: radial wall structure uniformly disposed and arranged about said central plug so as to form a circumferential array of a plurality of individual interior radial exhaust channels arranged about said plug and extending in a direction rearward from the exhaust position of said tail pipe toward the point of said plug, said wall structure which forms said interior exhaust channels also forming exterior radial intervening valleys on said nozzle, individual intervening valleys being formed in said nozzle exterior between each two nearest adjacent interior channels; a plurality of hinged pairs of gates, there being a pair of gates provided for each of said interior exhaust channels, said gates being disposed substantially radially and forming a portion of the rearward end of said exhaust channels; and control means for moving said hinged gates about their respective hinges so as to substantially block by means of said gates, said interior exhaust channels and said exterior intervening valleys in such a manner so as to divert exhaust gases normally flowing in a direction rearward from the exhaust exit of said interior exhaust channels into directions toward and around the engine and tail pipe through said intervening exterior valleys on said nozzle, thereby providing reverse thrust operation of said jet engine nozzle due to the changed direction of said exhaust gases.

3,192,714
VARIABLE THRUST ROCKET ENGINE INCORPORATING THRUST VECTOR CONTROL

Frederick R. Hickerson, Newton, N.J., assignor to the United States of America as represented by the Secretary of the Navy
Filed Oct. 31, 1961, Ser. No. 149,132
2 Claims. (Cl. 60—35.54)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A variable thrust reaction engine comprising an open ended combustor enclosing a combustion chamber and a throat area,

said combustor having a spherically shaped inner surface coaxial with the combustor axis in the forward end thereof,

a tubular injector casing defining within it an injection chamber contiguous to said combustion chamber and having a spherically shaped outer surface mated with the combustor's spherically shaped inner surface for pivotal movement thereof,

a tubular pintle support secured to the forward end of said injector casing having intermediate its ends an internal web supporting a tubular projection extending partly forward into said injection chamber and concentrically spaced therefrom,

actuating means externally disposed of said engine and articulately connected to said combustor and injector casing for inclining said casing relative said combustor with actuation thereof,

an annular shuttle mounted for axial movement on said tubular projection having a propellant cavity therein and a plurality of axially spaced outlets in its inner wall for passing a propellant from said cavity into said injection area,

an elongated pintle mounted for axial movement in said tubular projector having a bulbous rearward end for varying the size of said throat area with movement of the pintle and having a plurality of axially spaced outlets in its outer surface for introducing a second propellant into said injection area,

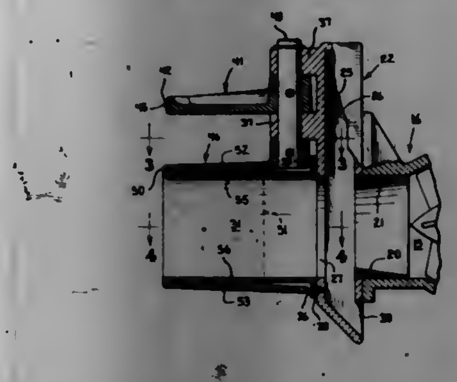
piston means mounted on said pintle and disposed for movement in said pintle support at the forward end of said web,

means securing said shuttle to said piston,

and means for introducing fluid pressure between said web and said piston for axial movement of said piston, whereby said pintle and shuttle are moved axially and the outlets therein are sequentially covered or uncovered by said tubular projection of said pintle support and said bulbous end of said pintle varies said throat area.

3,192,715
JET STEERING DEVICE

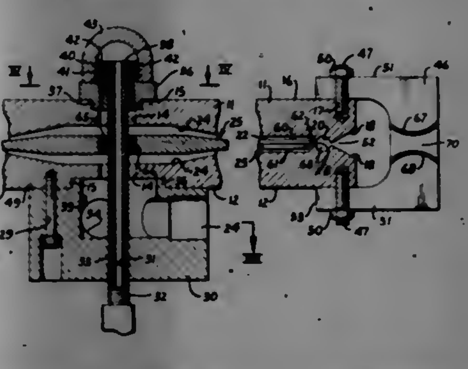
William N. Engel and Richard L. Cochran, Indianapolis, and Troy G. Humphrey, Beech Grove, Ind., assignors to The Buehler Corporation, Indianapolis, Ind., a corporation of Indiana
Filed Mar. 8, 1962, Ser. No. 178,343
1 Claim. (Cl. 60—35.55)



A steering system for watercraft comprising a rigid conduit mounted on the craft and extending and opening rearwardly thereof, means for pumping water through said conduit to exhaust from said opening, said conduit being constricted at the opening thereof to form the water into a smooth jet, a flexible conduit of constant circular cross section fixed to and extending rearwardly of said craft in sealed communication with said rigid conduit opening, said flexible conduit having a greater diameter than the opening of said rigid conduit, a rigid annular member surrounding said flexible conduit and extending rearwardly of said watercraft substantially the same distance as said flexible conduit, said rigid annular member being pivoted to said craft for swinging about a vertical axis adjacent and bisecting said opening, said annular member tapering rearwardly in central front-to-rear horizontal section from a size substantially greater than said flexible conduit to a size approximately the same as said flexible conduit, said annular member having from front-to-rear an inside vertical spacing between its top and bottom portions which is approximately equal to the outside vertical spacing between the top and bottom portions of said flexible conduit from front-to-rear thereof, and means for swinging said annular member about said axis to horizontally deflect said flexible conduit, said rigid annular member being freely movable relative to said smooth flexible conduit.

3,192,716
REACTION ENGINE

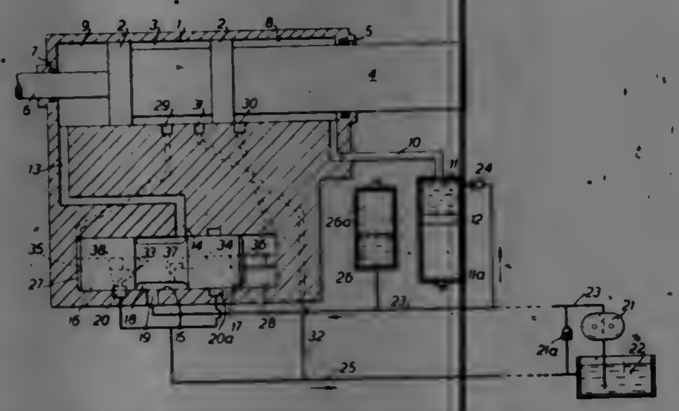
Eugene Funk, 2910 S. Virginia Road, Reno, Nev.
Filed Dec. 21, 1962, Ser. No. 246,476
6 Claims. (Cl. 60—39.69)



1. In a reaction engine an annular detonation chamber, said chamber being formed of facing members having complementary semi-circular grooves and spaced from each other leaving a transverse space between, means for feeding an explosive mixture to said annular chamber, and a continuous peripheral open exhaust outlet from the transverse space between the facing members of said an-

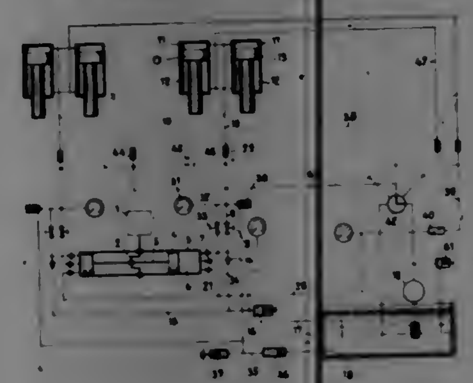
nular chamber for a total of 360°, permitting the continuous successive release of energy comprising shock waves and exhaust.

3,192,717
HYDRAULICALLY OPERATED RECIPROCATING APPARATUS
Norman Lee, Coventry, England, assignor to Keelavite Hydraulics Limited, Coventry, England, a company of Great Britain
Filed June 18, 1963, Ser. No. 288,776
Claims priority, application Great Britain, June 19, 1962, 23,584/62
5 Claims. (Cl. 60—51)



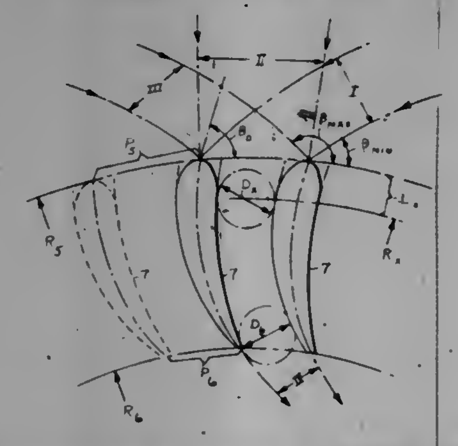
1. Hydraulically-operated reciprocating apparatus comprising a double-acting working piston disposed within a working cylinder with which it forms working chambers of different effective cross-sectional area to the liquid pressures in which working chambers the oppositely directed faces of the working piston are respectively subject a source of working liquid pressure, a hydraulic accumulator, preferably of the gas-loaded type, the liquid chamber of which is connected directly to the working chamber of smaller cross-sectional area and is connected to the source of working liquid pressure through valve means permitting relatively free flow from the source of liquid pressure into the accumulator while resisting to a substantial degree flow in the opposite direction, and control valve apparatus arranged to connect the working chamber of larger cross-sectional area alternately to the source of working liquid pressure and to a relief passage.

3,192,718
MULTIPLE PISTON DISTRIBUTIVE PUMP WITH HYDRAULIC SYSTEM FOR THE SYNCHRONIZED OPERATION OF A PLURALITY OF WORKING CYLINDERS
Hans Bieri, Liebefeld, near Bern, Switzerland, assignor to H. Bieri & Sohn, Liebefeld, near Bern, Switzerland, a firm
Filed May 14, 1963, Ser. No. 280,399
Claims priority, application Switzerland, May 14, 1962, 5,774/62
15 Claims. (Cl. 60—52)



1. A hydraulic multiple piston operating system, comprising a plurality of operating units, each unit including at least one working cylinder and a working piston therein forming a working chamber, at least one pump cylinder and a pump piston therein, each pump cylinder having a first inlet means for a working fluid, a second inlet means including a check valve, and an outlet means including a check valve, each operating unit further including conduit means connecting said working chamber with said second inlet means and with said outlet means, respectively; drive means for reciprocating said pump pistons of all said operating units so that said working pistons are operated; a discharge conduit connected to said outlet means; and a check valve in said discharge conduit.

3,192,719
HYDRODYNAMIC TORQUE CONVERTER
Sven-Olof Kronogård, Gothenburg, Sweden, assignor to Aktiebolaget Volvo, Gothenburg, Sweden, a corporation of Sweden
Filed Mar. 27, 1962, Ser. No. 182,760
Claims priority, application Sweden, Nov. 8, 1955, 10,049/55
4 Claims. (Cl. 60—54)

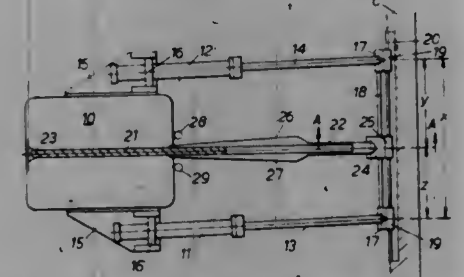


1. In a hydrodynamic torque converter of the three-element type comprising a housing, a bladed pump element, a bladed turbine element and a bladed reactor element, said housing and said three elements forming a closed toroidal circuit established between inner and outer walls in which fluid is circulated, said circuit having substantially radial and parallel wall portions establishing radial inflow and radial outflow sections connected together by inner and outer bladeless bend sections, said pump and turbine elements being located in said radial outflow section and said reactor element being located in said radial inflow section, a driving element connected to said pump element and a driven element connected to said turbine element, the improvement wherein the ratio of the radial distance between outer and inner circles tangent respectively to the inlet and outlet edges of the blades of said reactor element to the distance between corresponding points on the outlet edges of adjacent reactor blades lies within the limits of 1.6 to 2.5, and the distance between surfaces of adjacent blades of said reactor element at a point located between .25 and .35 of the radial distance between said outer and inner circles as measured from said outer circle is substantially .55 of the distance between corresponding points on the inlet edges of adjacent blades of said reactor element but larger than the throat measurement between adjacent reactor blades at the outlet.

3,192,720
ANTICORROSIVE BACK-FILL METHOD
Edward Schaschl and Glenn A. Marsh, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed June 5, 1961, Ser. No. 114,676
4 Claims. (Cl. 61—35)

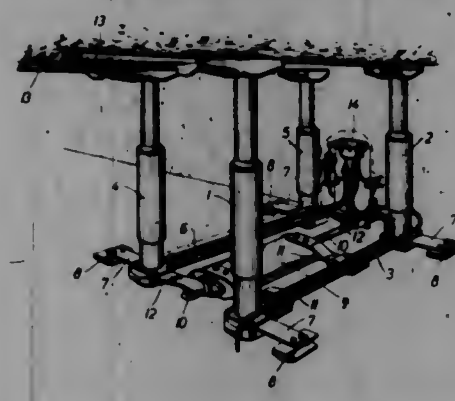
1. The method of preventing the corrosion of a steel structure to be supported in earth which comprises forming a supporting layer of a corrosion-resistant moisture barrier between the earth and said steel structure, said barrier comprising sand about 0.01 to 0.1% by weight of alkali metal sulfite and about 1% to 10% by weight of bentonite, said sand having particle sizes all of which pass through a 40-mesh sieve.

3,192,721
ROOF SUPPORTS FOR MINES AND THE LIKE
Joseph Gaskell, Wigan, England, assignor to Gullick Limited, Wigan, England, a British company
Filed Mar. 25, 1963, Ser. No. 267,579
Claims priority, application Great Britain, Apr. 6, 1962, 13,258/62
5 Claims. (Cl. 61—45)



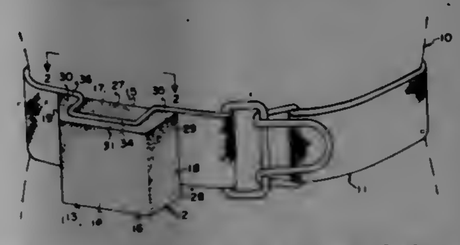
1. A mine roof support comprising a base member supporting vertically extensible and retractable props, a pressure fluid ram means pivotally mounted on said base member at one end, the other end having pivoted attachment means for securement to an anchorage whereby said ram means is operative, when supplied with pressure fluid, to advance the base member horizontally toward the anchorage, an aligning device having a pair of telescopic elements, one of said telescopic elements being pivotally attached to said base member and the other of said telescopic elements being provided with securing means slideably mounted relative to said attachment means, and cooperating inclined track means and follower means, said inclined track means facing laterally and being mounted on one of said aligning device and base member and engageable with said follower means, said follower means being mounted on the other of said aligning device and base member, whereby when the aligning device is telescoped, during advance of the support base member, said track means and the follower means co-operate to correct lateral movement of the support as resulting from inclination of a mine floor.

3,192,722
MINING SUPPORT
Julius Herrmann, Altlunen, and Erich Hoffmann, Nordlunen, Germany, assignors to Gewerkschaft Eisenhutte Westfalia, Westphalia, Germany, a corporation of Germany
Filed Sept. 14, 1960, Ser. No. 55,891
Claims priority, application Germany, Jan. 27, 1956, G 18,861; July 9, 1956, G 20,040; Oct. 9, 1959, G 28,124
36 Claims. (Cl. 61—45)



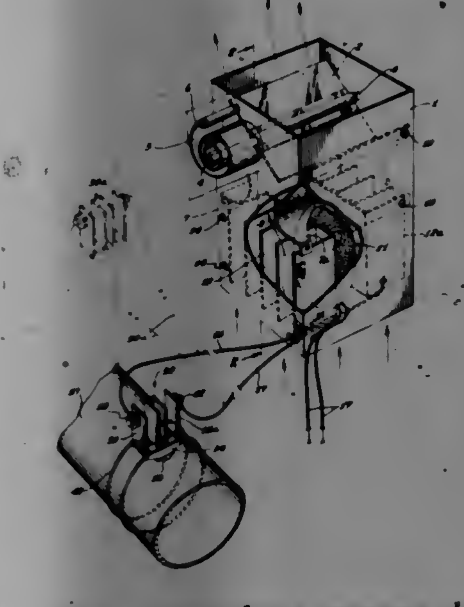
1. In a prop and conveyor arrangement for mines, in combination, elongated conveyor means adapted to extend along a mine face; front prop means located adjacent said conveyor means; rear prop means located adjacent said front prop means; and advancing means common to said conveyor means and said front and rear prop means and operatively connected to said conveyor means and said front and rear prop means for advancing said conveyor means, said front prop means, and said rear prop means toward the mine face, said advancing means including three elongated coaxial elements cooperating telescopically with each other and connected with said conveyor means, said front prop means, and said rear prop means so that when one of said elements move axially, the means connected therewith will also move.

3,192,723
DIVING WEIGHT
Kenneth L. Apperson, 1412 Maple Ave., Haddon Heights, N.J.
Filed Nov. 2, 1962, Ser. No. 235,072
2 Claims. (Cl. 61—70)



1. A weight for attachment to a diver's belt, said weight comprising a horizontally elongate generally rectangular solid body having top and bottom surfaces and inner and outer side surfaces, said body being formed with an upwardly opening groove of generally U-shaped configuration in plan and having a bight portion extending longitudinally of said body and a pair of leg portions extending in angulate relation from respective ends of said bight portion through the inner side surface of said body, said bight and leg portions of said groove extending substantially straight downward from said top body surface and tapering in the direction away from said top body surface, whereby a diver's belt inserted edgewise in said groove is frictionally retained therein by the combined wedging action of the groove taper and binding action on the belt at the bends thereof.

3,192,724
REGULATED THERMOELECTRIC COOLING SYSTEM
Jerry W. Cummings, Redondo Beach, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California
Filed Apr. 3, 1961, Ser. No. 100,460
11 Claims (Cl. 62—3)



10. A cooling system for a gaseous discharge lamp comprising a thermoelectric cooler having a cold junction

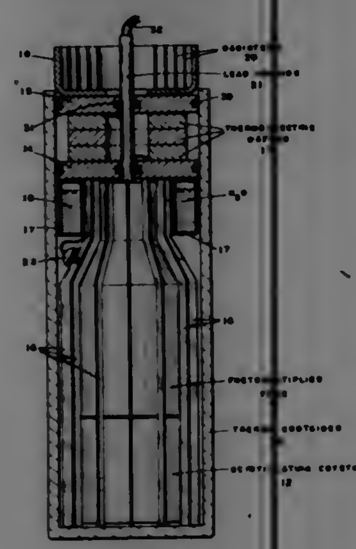
and adjacent electrically separated ends constituting parts of a hot junction, a cooling fin attached to each of said ends, an electrical supply connection to each of said fins, said cold junction being exposed, means engaged with said fins for wrapping around a lamp to be cooled with said cold junction in contact with the envelope wall of the lamp, a thermoelectric generator with output leads operatively connectable to said supply connections of said cooler, and means connected to said generator for regullating the output voltage thereof in direct proportion to ambient temperature.

3,192,725
TEMPERATURE STABILIZED RADIATION DETECTORS

Donald H. Britton, Wilmer A. Hoyer, and Robert C. Rumble, Houston, Tex., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed Nov. 29, 1962, Ser. No. 240,901

5 Claims. (Cl. 62—3)



5. A method for maintaining the temperature of a radiation detector unit at a substantially constant low level during well logging operations comprising surveying a well with said detector unit while controllably refrigerating said detector unit by supplying electrical energy to a thermoelectric device arranged adjacent said detector unit in response to temperature increases above said low temperature level and by employing a heat sink containing a freezable medium and surrounding said detector unit whereby said temperature is maintained at a level such that some but not all of the freezable medium contained in said heat sink is frozen.

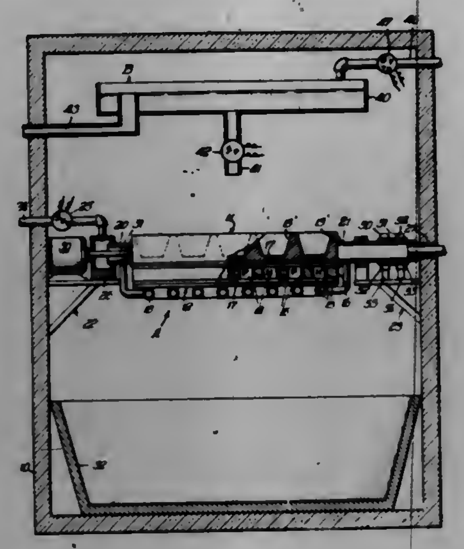
3,192,726
THERMOELECTRIC ICE MAKER

Alwin B. Newton, York, Pa., assignor to Borg-Warner Corporation, a corporation of Illinois

Filed May 22, 1964, Ser. No. 369,390

11 Claims. (Cl. 62—3)

1. Ice making apparatus comprising a pivoted mold having a cavity therein; a thermoelectric module carried by said mold, said module having a sink side and a load side, said load side being in thermal communication with said cavity; means to pivot said mold to thereby invert said cavity; a thermostat carried by said mold and in thermal communication with said cavity, said thermostat controlling the operation of said means for pivoting the mold; and means for changing the direction of current through said thermoelectric module upon pivoting of said mold whereby upon heating the cavity, ice within the cavity will be discharged therefrom.



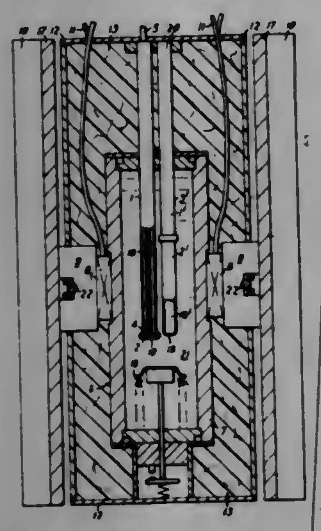
3,192,727
ISOTHERMAL REFERENCE APPARATUS

John Henry Ashby, London, and Donald Moore Barton, Langley, Buckingham, England, assignors to De La Rue Frigistor Limited, London, England, a British company

Filed June 12, 1964, Ser. No. 374,748

Claims priority, application Great Britain, July 12, 1963, 27,809/63

7 Claims. (Cl. 62—3)



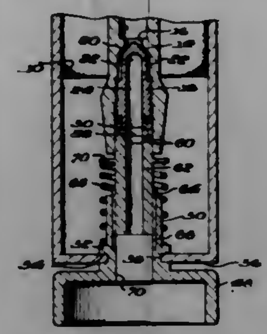
1. An isothermal reference apparatus for maintaining a thermocouple junction at a reference temperature and comprising a chamber; walls to said chamber defining an interior thereto; a freezable liquid within said chamber, said liquid being freezable at a temperature close to said reference temperature; an elongated tube of circular cross-section extending through and thermally insulated from at least one of said walls, and including a first portion having a closed end situated deep into the interior of the said chamber and a second portion giving access to the exterior of the said chamber, the diameter of said tube being less than 20% of the length of said first portion; an interior wall surface to said tube closely adjacent to said closed end providing a location for at least one thermocouple junction; thermoelectric cooling means positioned adjacent the walls of said chamber effective to cool the latter to freeze the liquid therein; means sensitive to the change of state of said liquid and control means operatively associated with said sensitive means to supply current to said thermoelectric means when a certain proportion of said liquid is frozen.

3,192,728
AIR COOLER FOR PROTECTIVE SUITS

Walter Timm, Pittsburgh, Pa., assignor to Mine Safety Appliances Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 9, 1964, Ser. No. 373,646

4 Claims. (Cl. 62—5)



1. An air cooler comprising:
a vortex tube having an air passage;
a tubular valve within said vortex tube having an outlet passage in communication with and in axial alignment with said air passage and being adapted to open and close communication between said passages on rotation thereof on the axis of said outlet passage, said valve means having an outer end, at least one radial groove in said outer end;
a housing having side walls and an end wall spaced from said vortex tube, an opening in said end wall in alignment with said outlet passage;
a tubular valve operator having an air passage in communication with said outlet passage and the outside of said housing through said opening, one end of said valve operator engaging said valve end and having at least one radial rib adapted to engage said at least one radial groove;
means to urge said valve operator against said valve; and
means outside said housing to rotate said valve operator.

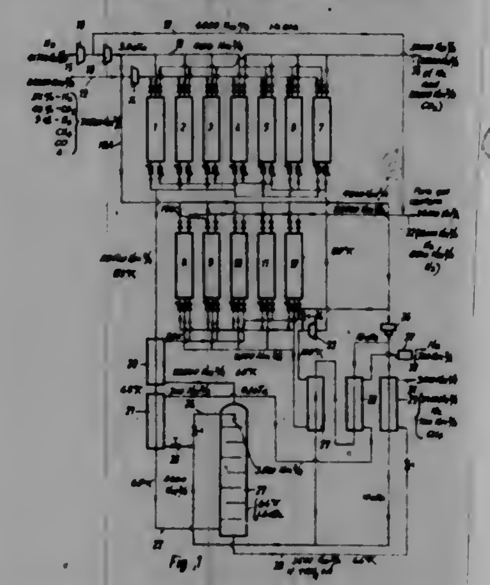
3,192,729
PROCESS AND APPARATUS FOR PURIFYING GASEOUS MIXTURES

Rudolf Becker, Munich-Solln, Germany, assignor to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft, Wiesbaden, Germany

Filed Nov. 29, 1961, Ser. No. 155,573

Claims priority, application Germany, Dec. 1, 1960, G 31,052

15 Claims. (Cl. 62—13)



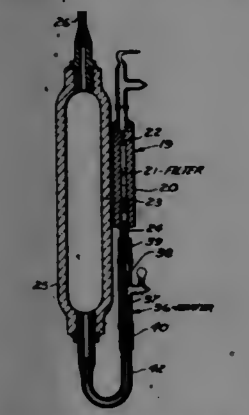
1. A process for purifying a gas by the separation of condensible impurities therein in low-temperature regenerators, and comprising the steps of reducing the temperature of a gaseous mixture having condensible components therein in a first low-temperature regenerator to condense the impurities therein and to obtain a cold purified gas, cooling a gas introduced from an outside source by a heat exchange with said cold purified gas in a second low-temperature regenerator whereby the first regenerator is used for the gaseous mixture and the second regenerator is used for warming said cold purified gas, and scavenging the condensed impurities from the first regenerator by the gas introduced from an outside source and cooled in the second regenerator, with the quantity of the cooled outside-source gas being approximately equal to the quantity of the cold purified gas produced.

3,192,730
HELIUM REFINING BY SUPERFLUIDITY

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Alvin F. Hildebrandt

Filed Feb. 5, 1963, Ser. No. 256,484

8 Claims. (Cl. 62—15)



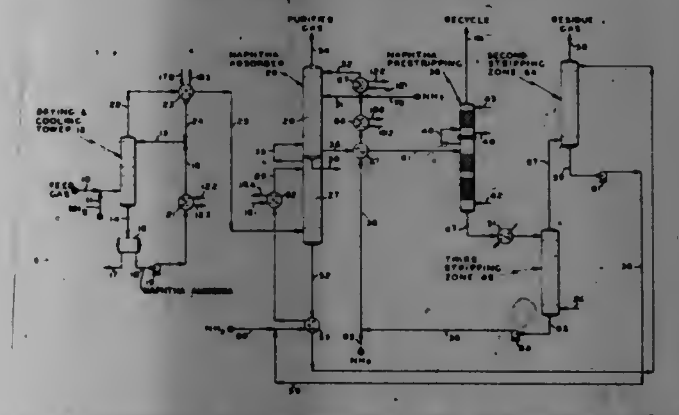
1. A process for refining helium by separating impurities which are solids under conditions at which said helium is superfluid comprising bringing helium to the lambda II state; and passing said helium through a filter, said filter having pore sizes sufficiently large to pass said helium in the lambda II state but sufficiently small to substantially prevent the passage of impurities.

3,192,731
AMMONIA ADDITIVE IN LOW TEMPERATURE HYDROCARBON-WATER SYSTEMS

Leo Friend, New Rochelle, N.Y., and George Craig Grubb, Eatontown, N.J., assignors to Pullman Incorporated, a corporation of Delaware

Filed Mar. 17, 1961, Ser. No. 96,456

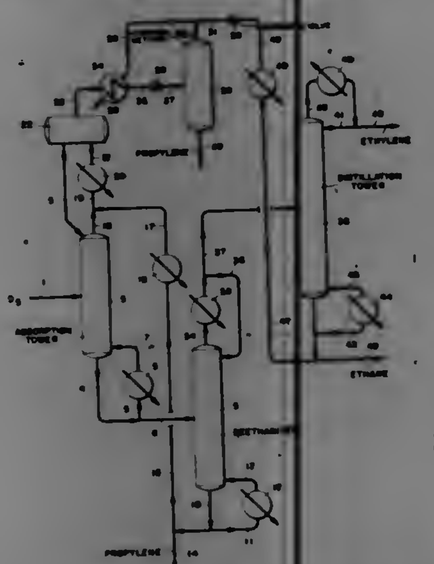
16 Claims. (Cl. 62—17)



1. A method for preventing the formation of solids in a system having separate liquid hydrocarbon and liquid water phases maintained at temperatures below the freezing point of water which comprises maintaining small controlled amounts of ammonia in said system sufficient to produce an ammonia-water solution having a freezing point below said temperatures and to produce a hydrocarbon-ammonia solution having an ammonia concentration in equilibrium with the ammonia concentration in the ammonia-water solution but insufficient to solubilize said

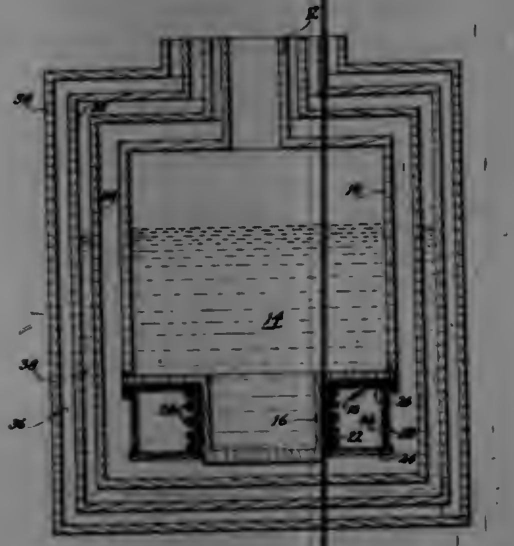
liquid water phase in said liquid hydrocarbon phase, whereby water can be separated by phase separation.

3,192,732
LOW TEMPERATURE REFRIGERATION IN ETHYLENE PLANTS
Robert P. Cahn, Millburn, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Apr. 24, 1961, Ser. No. 105,144
11 Claims. (Cl. 62—17)



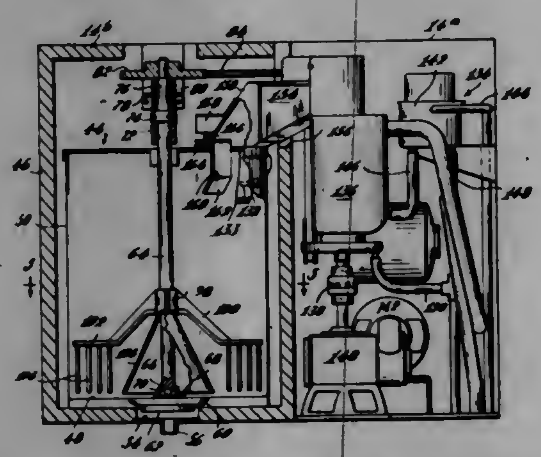
1. An improved process for utilizing at low temperatures the refrigeration available in a high pressure liquid ethane stream which comprises flashing the liquid ethane stream at a temperature in the range of 0 to —150° F. and from a pressure in the range of 75 to 400 p.s.i.g. to a pressure in the range of 50 to 150 p.s.i.g. in the presence of a cool lighter gaseous stream supplied at a temperature below —80° F. and utilizing the combined stream to effect refrigeration of another stream.

3,192,733
SPOOL MOUNTING OF DELAY LINE ON LIQUID HELIUM CRYOSTAT
Raymond J. Goetz, Baltimore, Md., and Alfred J. Cummings, Las Vegas, Nev., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Sept. 25, 1963, Ser. No. 311,602
5 Claims. (Cl. 62—45)



1. A cryostat apparatus for maintaining electronic components in a superconducting state comprising a container for cryogenic fluid, said container having a generally cylindrical bottom portion of a predetermined diameter, and a second portion above said bottom portion of a diameter greater than that of said bottom portion, means connected with said second portion for inserting cryogenic fluid in said container, and a spool comprising a cylinder of a size to fit over said cylindrical bottom portion, and a flange at each end of said cylinder, and means for fixedly mounting said spool on said bottom portion in thermal contact therewith, said spool having a volume extending between the outer diameter of said cylinder and said flanges in which electronic components to be cooled to their superconducting state may be mounted.

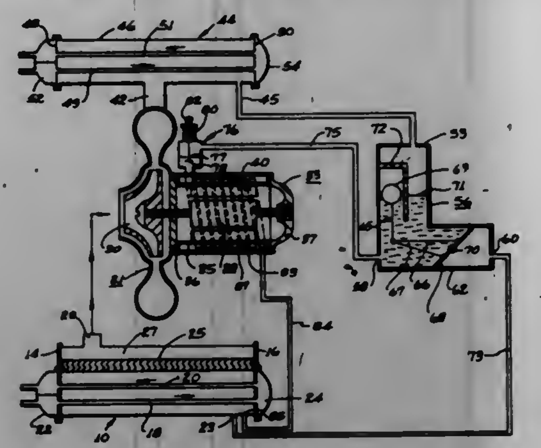
3,192,734
CABINET FOR DISPENSING GRANULATED ICE
Herbert F. Swanson, Boxford, Mass., assignor to Market Forge Company, Everett, Mass., a corporation of Massachusetts
Filed Nov. 8, 1961, Ser. No. 150,912
13 Claims. (Cl. 62—137)



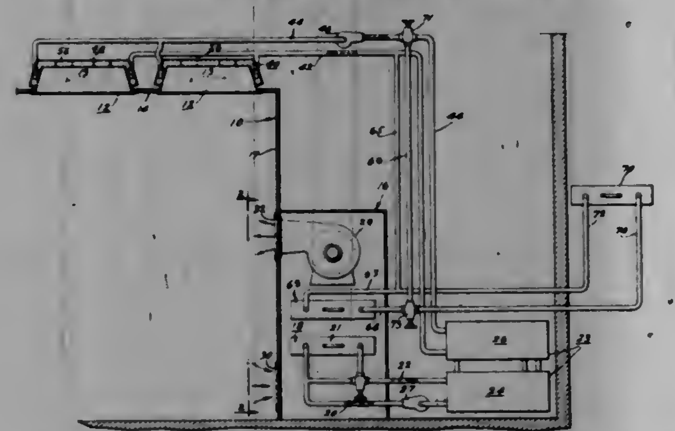
4. For use with a cabinet of the kind described, a dispenser comprising a storage bin for holding a quantity of granulated ice, said bin having in its bottom a centrally disposed opening for discharging water and an eccentrically disposed opening for discharging ice a shroud overlying the centrally disposed opening for preventing access of ice thereto, said shroud and wall of the bin providing an annular space at the bottom of the bin, said eccentrically disposed discharge opening being situated at the bottom of the annular space, a comb situated in the annular space at the bottom of the bin, means supporting the comb for movement in a horizontal plane parallel to the bottom, vertically disposed teeth carried by the comb adapted to sweep ice granules adjacent the bottom across the eccentrically disposed discharge opening, a plurality of teeth fixed to the bottom adjacent the eccentrically disposed opening at the far side, relative to the direction of movement of the comb, said fixed teeth being arranged to alternate with teeth on the comb, a part blocking discharge through said ecentrically disposed discharge opening, and means operable, by retraction of said part, to initiate movement of the comb.

3,192,735
COOLING COIL FOR HERMETIC MOTOR USING SYSTEM REFRIGERANT
Richard L. Bernhard, Birmingham, Mich., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 12, 1961, Ser. No. 139,330
8 Claims. (Cl. 62—222)

8. In a refrigeration system including a motor-drive compressor, a condenser and an evaporator coupled in operable relation, and having a high pressure compressor-condenser side and a low pressure evaporator side, the improvement wherein the motor has a rotor and stator separated by an annular gap, a jacket structure comprising a coil-like shape surrounding at least a portion of the stator and in intimate heat-exchange relation thereto, means including a conduit for introducing liquid refrigerant into said jacket from the high pressure compressor-condenser side, said conduit including an orifice restrictor mechanism, and means including a conduit for returning refrigerant from the jacket to the low pressure evaporator side to result in the major portion of the refrigerant flashing to vapor in effective contact with the stator to remove heat therefrom.



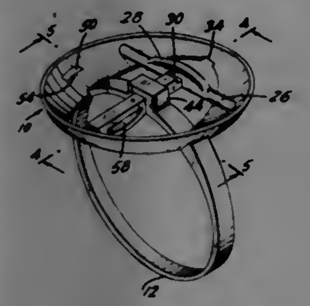
3,192,736
AIR CONDITIONING SYSTEM AND METHOD
Robert G. Werden, 221 W. Glenside Ave., Glenside, Pa.
Filed Aug. 30, 1963, Ser. No. 305,448
5 Claims. (Cl. 62—238)



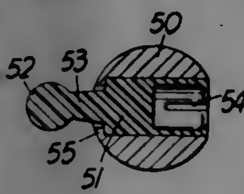
1. In a system for conditioning air in an enclosed space, lighting means, a fixture for said lighting means, an air conditioning unit including a cooling coil, a refrigerating unit consisting of an energy input section and a cooling section and conduit means connecting said cooling section with said cooling coil for circulating a refrigerant between said cooling coil and said cooling section, and means for collecting heat energy given off by said lighting means and utilizing it in said energy input section of said refrigerating unit to condition the refrigerant circulated between said cooling section and said cooling coil, said means for collecting said heat energy consisting of a cooling chamber disposed adjacent said lighting means and first flow lines connecting said cooling chamber to said energy input section of said refrigerating unit and means for circulating a heat absorbent fluid through said lines between said cooling chamber and said energy input section whereby heat energy of said lighting means is absorbed by said fluid in said lines and given off by said fluid to said energy input section.

3,192,737
RING WITH DETACHABLE, CONVERTIBLE MOUNTING
Jack Schechter, North Caldwell, N.J., and Jack L. Shaw, New York, N.Y., assignors to Palais Jewelers, Inc., New York, N.Y., a corporation of New York
Filed May 4, 1961, Ser. No. 107,702
6 Claims. (Cl. 63—1)

1. An item of convertible jewelry comprising a mount, a ring band, and quickly operable means for detachably attaching the mount to the ring band, said means including an elongated latch, means pivotally connecting an end of said latch to the mount, disengageable catch means holding the free end of the latch to the mount in a closed position in which the length of the latch extends in a direction perpendicular to the plane of the ring band, in which the latch crosses under the ring band and in which the mount is external to the ring band, a portion of said latch intermediate the ends thereof in said closed position contacting and pressing outwardly against the inside of the ring band while portions of the mount on opposite sides of the latch contact and press inwardly against the outside of the ring band, said ring band having an open ended groove which faces toward the inside of the band and which extends from one side of the band all the way to the other side of the band, said latch having a transverse cross-section shaped to be fully received within said groove and to provide a first tongue-and-groove interengagement which presents oppositely directed pairs of abutting surfaces perpendicular to the plane of the ring band and generally radially to said band, and said mount and ring band having a second tongue-and-groove interengagement which presents a pair of oppositely directed abutting surfaces parallel to the plane of the ring band.



3,192,738
ORNAMENTAL BEADS AND LIKE BODIES
Geoffrey Russell Stafford Charles and William Troutbeck Sanderson, Marlow, England, assignors to Chelton (Hong Kong) Limited, Hong Kong, a corporation of Hong Kong
Original application Sept. 22, 1959, Ser. No. 841,536, now Patent No. 3,066,501, dated Dec. 4, 1962. Divided and this application Nov. 29, 1962, Ser. No. 241,003
Claims priority, application Great Britain, Dec. 4, 1958, 39,189/58
3 Claims. (Cl. 63—2)



1. In a necklace, a pair of beads formed of a rigid synthetic plastic material having the rigid properties of polystyrene with each of said beads having a body portion with a cavity extending entirely therethrough with opposite external openings in the body portion, and an insert of resilient synthetic plastic material having the flexible and resilient properties of polyethylene secured in the cavity of the body portion of each bead, said insert having an integral neck and head projecting from one of the openings in the body portion and a socket means with a mouth portion at the other opening adapted to receive the head on the end of the neck on the adjacent bead, said mouth having a lip means forming a restricted opening into said socket means and said restricted opening being normally of a size too small to admit said head of said adjacent bead, said lip means being deformable to admit said head whereby the head of one bead can be fitted into and retained in the socket means of the other bead with the one

bead head portion extending into the other bead socket means and the other bead lip means adjacent the one bead neck to thereby join the beads together while permitting relative angular adjustment of the two beads by movement of the one bead head in the other bead socket means due to the loose fit of the one bead lip means around the other bead neck.

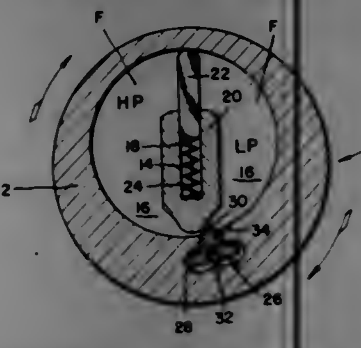
3,192,739

SEALING DEVICE

Christopher K. Brown, Sayre, Pa., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Apr. 18, 1963, Ser. No. 273,939

10 Claims. (Cl. 64—26)



1. For an impulse tool for applying a torque to an object, said impulse tool comprising:

(a) housing means sealingly containing a fluid,

(b) spindle means in said housing means and in said fluid,

(c) drive means operatively associated with one of said housing means and said spindle means for causing relative rotary movement between said housing means and said spindle means,

(d) the other of said housing means and said spindle means being adapted to engage said object,

a sealing device comprising:

(1) sealing means on one of said housing means and said spindle means,

(2) one of said housing means and said spindle means being provided with a sealing device cavity,

(3) a sealing member resiliently disposed in said sealing device cavity to permit oscillating movement of said sealing member,

(4) a sealing portion on the other of said housing means and said spindle means,

(5) said sealing portion and said sealing member being disposed in sealing relation during a relatively small portion of each revolution of said relative rotary movement,

(6) said sealing member being forced against said side wall by said sealing portion while disposed in sealing relation,

(7) said sealing portion and said sealing member and said sealing means being operable during said relatively small portion of each revolution of said relative rotary movement to dynamically seal off a portion of said fluid so that the pressure in said portion of the fluid and on said other increases thereby causing the other of said housing means and said spindle means to rotate with respect to said one and to apply a torque to said object.

3,192,740

FRICTION CLUTCH

Stephen Stamates, Waterbury, Conn., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed June 7, 1963, Ser. No. 286,383

9 Claims. (Cl. 64—30)

1. A friction clutch comprising;

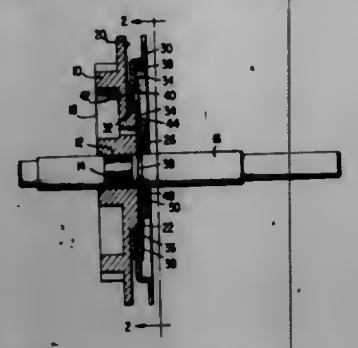
a shaft,

a driving member fixed to the shaft,

a circular boss formed on the driving member concentric with the shaft,

a driven member rotatably mounted on the boss adapted to frictionally engage the driving member,

a slot formed diametrically in the circular boss,



a bowed clutch spring including a central portion mounted on the shaft and received in the slot,

said spring including at least one end portion extending from the central portion into engagement with the driven member to resiliently urge the driven member into frictional engagement with the driving member,

and means detachably interlocking the central portion of the clutch spring with the shaft to prevent axial displacement of the clutch spring relative to the shaft and driving member.

3,192,741

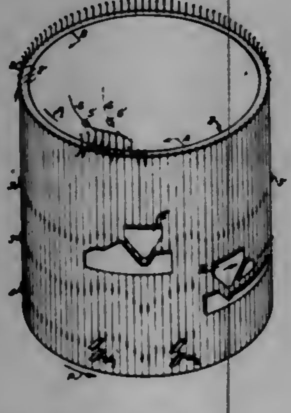
CIRCULAR KNITTING MACHINE FOR THE PRODUCTION OF PARTIALLY REINFORCED HOSE GOODS AND METHOD THEREFOR

Ewald Hänel, Ingolstadt, Germany, assignor to Schubert & Salzer Maschinenfabrik Aktiengesellschaft, Ingolstadt (Danube), Germany, a German corporation

Filed June 2, 1961, Ser. No. 114,513

Claims priority, application Germany, Aug. 19, 1960, 28,353

22 Claims. (Cl. 66—49)



1. A process for the circular knitting of partially reinforced hosiery, such as hose having at least one of a reinforced heel, toe, sole, and the like, by means of an endless reinforcement thread in addition to a base thread which comprises jointly knitting the base thread for the hosiery and the endless reinforcement thread along the desired reinforcement portion of one course from the starting edge of said reinforcement portion, continuing the knitting of the base thread alone from the terminal edge of said reinforcement portion in forward direction around to the starting edge of said reinforcement portion to complete the course, while knitting the endless reinforcement thread alone in a next intermediate reinforcement thread course in reverse direction back to the starting edge of said reinforcement portion, and repeating the cycle, whereby hosiery is knitted having a reinforced portion alternately containing a course of jointly knitted base and reinforcement threads and an intermediate course of separately knitted reinforcement thread.

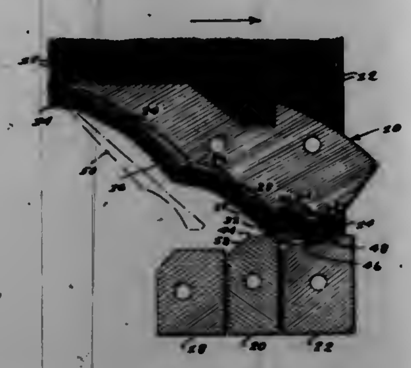
3,192,742

STITCH CAM STRUCTURE

Salomao J. Haddad, Charlotte, N.C., assignor to Carolina Knitting Machine Corporation, a corporation of North Carolina

Filed May 8, 1962, Ser. No. 193,234

10 Claims. (Cl. 66—57)



1. In a circular knitting machine, means for manipulating needles including first means for sequentially forming measured loops, second means for maintaining a plurality of such measured loops in advance of drawing, and third means for subsequently manipulating said needles in sequence to draw said measured loops gradually to allow substantially increased operating speed and to a limited depth to draw each loop sufficiently loose to tolerate the substantially increased operating speed.

3,192,743

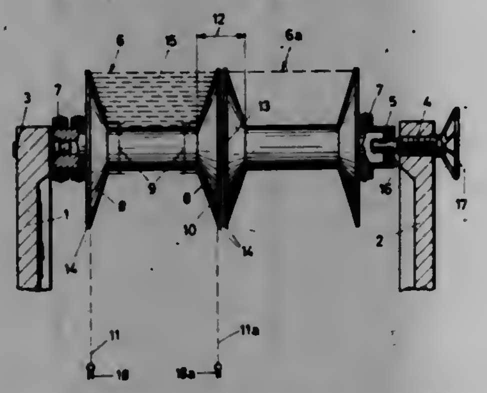
WARP THREAD BEAM ARRANGEMENT FOR WARP KNITTING MACHINES

Karl Kohl, Hainstadt am Main, Germany, assignor to Karl Mayer, Offenbach am Main, Germany

Filed Sept. 4, 1962, Ser. No. 221,133

Claims priority, application Germany, Sept. 6, 1961, M 50,231

3 Claims. (Cl. 66—86)



1. In a warp knitting machine, a plurality of guide needles and a warp thread beam arrangement comprising a beam support frame, a longitudinally extending beam means for supporting a corresponding plurality of warp threads mounted on said support frame transversely thereof, means for rotatably supporting the beam means on said support frame, and at least two pairs of flange means extending substantially perpendicularly to the beam means, the flange means of each pair being spaced from each other along the beam means and one flange means of each pair being adjacent to one flange means of an adjacent one of said pairs, the beam means extending between each pair of said flange means supporting respective ones of said warp threads, each flange means of each pair having a generatrix forming a frusto-conical support for a respective outermost one of said warp threads supported on the beam means extending therebetween and the smaller diameters of the frusto-conical supports facing each other, the inclination of the frusto-conical supports being so selected that the outermost warp threads withdrawn from the respective beam means along said supports are guided along a straight path to a corresponding one of said guide needles and, when in contact with the outer edges of the flange means, pass the outer edges tangentially.

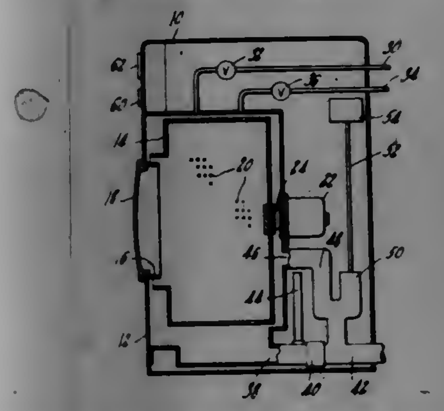
3,192,744

LAUNDRY APPARATUS

William W. Pittendreigh, New Bedford, and Buddy J. Long, Westport, Mass., assignors to Hoyt Manufacturing Corporation, Westport, Mass., a corporation of Massachusetts

Filed July 1, 1963, Ser. No. 291,667

3 Claims. (Cl. 68—12)



1. In apparatus for washing fabrics or the like, the combination of a tub for containing a washing solution of water and a sudsing detergent,

timer means for normally cycling the apparatus through wash and rinse cycles in an automatic and continuous manner,

means responsive to said timer means for introducing hot and cool water into said tub,

means in said tub responsive to said timer means for agitating the fabrics in said washing solution in a washing operation,

a main outlet at the bottom of said tub,

a main conduit for connecting said main outlet to a drain system,

a valve responsive to said timer means to control the flow of washing solution from said tub through said main outlet and main conduit to the drain system,

an overflow outlet disposed in said tub above the normal water level therein,

an overflow conduit connected to said overflow outlet for discharging excess washing solution from said tub into the drain system,

pressure sensitive means coupled to said overflow conduit including a chamber closed at its upper end, and

a pressure sensitive switch connected to said chamber at said upper end and operable in response to an increase in pressure of said closed chamber,

means responsive to the operation of said switch to interrupt the cycling control of the apparatus by said timing means, to open said valve to allow washing solution to flow through said main conduit to said drain system, and simultaneously to actuate said cool water introducing means to reduce the amount of suds in said tub,

and means responsive to the deactuation of said switch upon reduction of pressure in said chamber to close said valve, deactuate said cool water introducing means, and allow said timing means to resume cycling control of the apparatus.

3,192,745

AUTOMATIC WASHING MACHINE WITH MEANS FOR DRYING SMALL ARTICLES

John Bochan, Louisville, Ky., assignor to General Electric Company, a corporation of New York

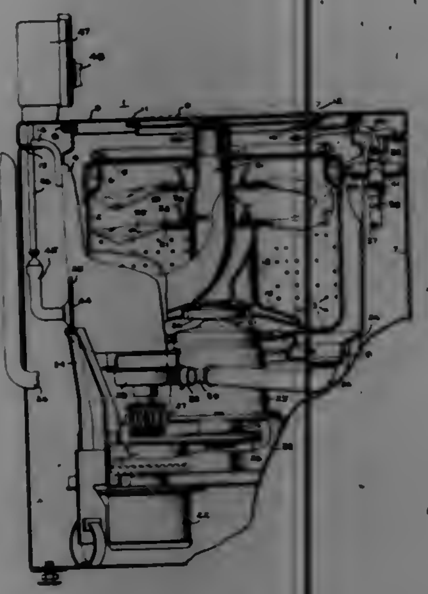
Filed Oct. 29, 1962, Ser. No. 233,660

7 Claims. (Cl. 68—23)

1. A washing machine comprising:

(a) a clothes receptacle mounted for rotation on a substantially vertical axis;

(b) a movably mounted agitator extending up in said receptacle substantially on said vertical axis;
(c) means for effecting a washing motion of said agitator;



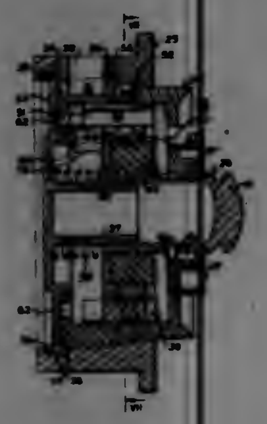
(d) means for effecting high speed rotation of said receptacle and said agitator for the centrifugal removal of liquid from clothes;
(e) means for securing clothes arranged to be positioned on said agitator and movable therewith when so positioned; and
(f) a cabinet enclosing said receptacle, said cabinet having air inlet and outlet openings formed therein communicating with the interior of said receptacle.

3,192,746

COMBINATION LOCK

Roscoe E. Lehman, Hagerstown, Md., assignor to Vulcana Corporation, Hagerstown, Md., a corporation of Maryland

Filed June 4, 1962, Ser. No. 199,836
9 Claims. (Cl. 70—315)



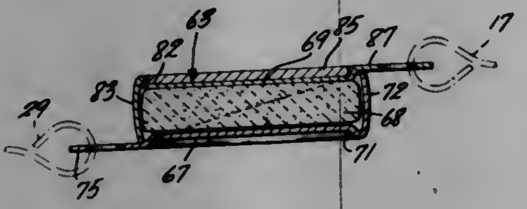
5. A combination lock which comprises operatively connected relatively movable members, a plurality of tumblers carried by one of said members and engageable in channels formed in another of said members, a first and second set of axially movable selectors mounted in a third of said members selectively engageable with said tumblers to hold said tumblers in securing engagement with said channels, said selectors having clearance seats into which said tumblers may recede to be free of said channels, actuation means carried by one of said members for imparting axial movement singly to each of said selectors either to present clearance seats to said tumblers or to retain said tumblers in said channels, reset means incorporated in one of said members for simultaneously restoring said selectors to their original position after actuation of any or all of them.

3,192,747

MAGNETIC KEY HOLDER

Leo K. Stupell, Croton, and Norman J. Stupell, Scarsdale, N.Y., assignors to Stupell Industries, Ltd., New York, N.Y.

Filed June 14, 1962, Ser. No. 202,549
2 Claims. (Cl. 70—456)



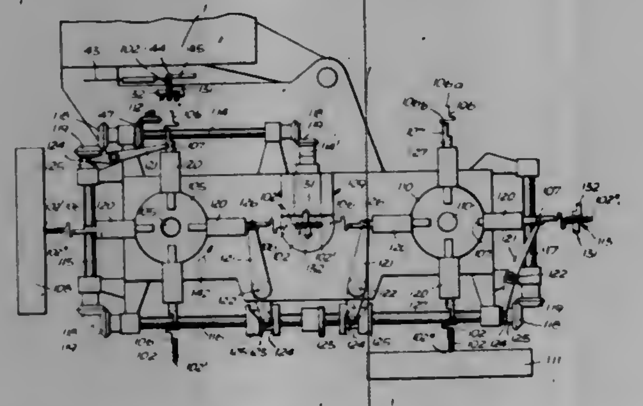
1. A key holder comprising two interfitting elements, one of said elements comprising a shallow steel cup having a bottom, a rim, a central axis substantially perpendicular to said bottom and a disk-shaped permanent magnet secured in said cup, the other of said elements comprising a steel cover for said cup constituting an armature for said magnet, two key-holding means, means for attaching one of said key-holding means to the periphery of said cup, means for attaching the other of said key-holding means to the periphery of said cover, the points of attachment being normally opposite one another on a line approximately normal to said axis, the rim of said cup having a height at a point opposite said point of attachment greater than the thickness of said magnet and sloping downwardly to approximately zero height adjacent said point of attachment, and said cover having a rim portion complemental to the rim of said cup when the cover and cup are in assembled position, whereby the portion of the rim of said cover opposite said point of attachment is engageable with the periphery of said magnet to provide a mechanical interlock resisting separation of said cup and cover by a pull in opposite direction on said attaching means.

3,192,748

METHOD AND APPARATUS FOR PRODUCING COIL SPRINGS

Gerhard Lange, Reutlingen, Baden-Wurttemberg, Germany, assignor to Wafios Maschinenfabrik Wagner, Ficker & Schmid, Reutlingen, Baden-Wurttemberg, Germany, a company of Germany

Filed Nov. 7, 1962, Ser. No. 235,968
Claims priority, application Germany, Nov. 9, 1961, W 31,034; Nov. 10, 1961, W 27,153
17 Claims. (Cl. 72—14)



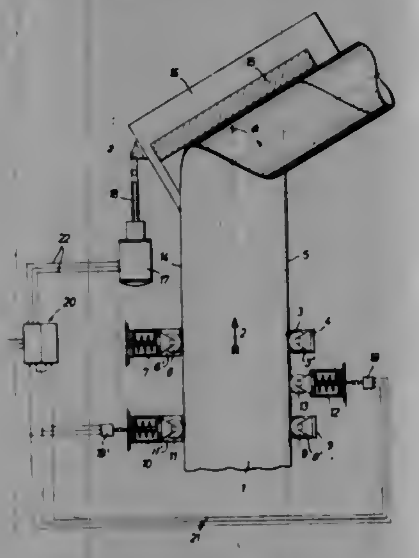
7. In a machine for producing coil springs of metal wire, means for conveying coil springs successively by means of pickup members from their point of production, where after being wound they are adapted to be located in an accurately fixed position toward and past additional work stations to which said springs are successively presented in an accurately fixed position, and then to a point of ejection of the springs, first pickup members for removing said springs successively from said point of production means for revolving said first pickup members along a circular path, so that said first pickup members move successively toward and past a first work station where they are stopped and successively present said coil springs to said first work station for working upon one end of each of said springs, second pickup members for receiving said springs successively from said first pickup members, means for transferring said springs successively from said first pickup members to said second pickup members, means for revolving said second pickup members along a circular path, so that said second pickup members move successively toward and past a second work station where they are stopped and successively present the coil springs to said second work station for working upon the other end of each of said springs, and means for ejecting the springs successively from said second pickup members.

3,192,749

CONTROL MECHANISM FOR FEEDING STRIP STOCK TO A HELICAL SEAM PIPE MAKING MACHINE

Wilhelm Eckhardt, Paris, France, assignor to Driam S.A., Vaduz, Liechtenstein

Filed Jan. 2, 1962, Ser. No. 163,577
Claims priority, application Germany, Jan. 4, 1961, D 35,108
5 Claims. (Cl. 72—17)



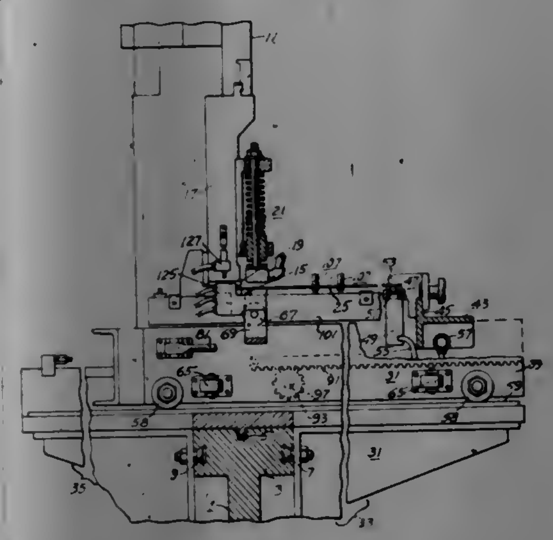
1. A mechanism for automatically adjusting and controlling the angular position of a forming tool of a pipe making machine relative to the direction of feed of the strip stock to be formed into a helical seam pipe comprising a pair of rollers rotatably mounted in a fixed position behind and spaced from each other and adapted to engage with one longitudinal edge of the strip stock, a second pair of rollers rotatably mounted opposite to said fixed rollers and yieldable transversely to said direction of feed and adapted to engage resiliently with the other longitudinal edge of said strip stock, a fifth roller rotatably mounted intermediate said fixed rollers and also yieldable transversely to said direction of feed and adapted to engage resiliently with said first edge, resilient pressure means acting upon said yieldable rollers, and electric control means responsive to the transverse movements of said fifth roller and of at least one of said second pair of rollers for adjusting and controlling the angular position of said forming tool relative to said direction of feed in accordance with any deviations in shape of said strip stock.

3,192,750

SEQUENCE CONTROL FOR MACHINE RAM

Rolland A. Richardson, Alameda, Calif., assignor to Pacific Industrial Manufacturing Co., a corporation of California

Filed Jan. 2, 1962, Ser. No. 163,592
6 Claims (Cl. 72—22)



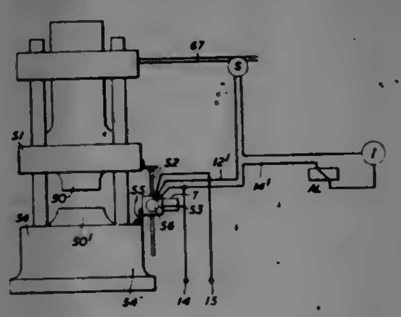
1. In a machine having a bed plate adapted to mount a lower tool,
a reciprocally mounted ram adapted to carry an upper tool for cooperation with the lower tool in effecting an operation on work,
a table assembly for supporting work for movement between said cooperating tools to process said work,
said table assembly including
slidably mounted work advancing means,
means for moving said work advancing means toward said reciprocally mounted ram and said bed plate,
and means for halting said work advancing means and actuating said ram in accordance with a predetermined space sequence pattern for halting said work advancing means and a predetermined stroke depth sequence pattern for said ram.

3,192,751

INDICATORS

Peter Norris Baker, deceased, late of Sheffield, England, by Raymond Baker, administrator, Sheffield, England, assignor to The British Iron and Steel Research Association, London, England, a British association

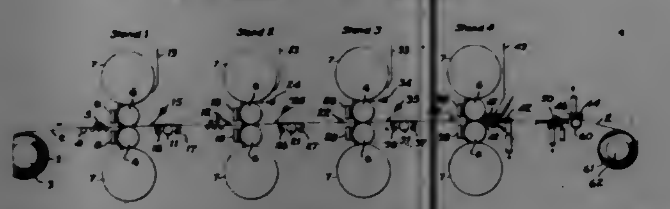
Continuation of application Ser. No. 51,844, Aug. 25, 1960. This application Dec. 3, 1963, Ser. No. 327,844
7 Claims. (Cl. 72—35)



2. A forging press having a pair of press tools and at least one reciprocable press member for causing closure and separation of said tools, and which press comprises indicating means responsive to said moveable press member to provide an electrical signal representing the separation of said tools, and a device responsive to engagement of an article by both said tools to cause said indicating means to provide a static representation of the current press tool separation.

3,192,752
COLD ROLLING ALUMINUM AND PRODUCT

James D. Dowd, New Kensington, Pa., and Albert A. Perrier, Maryville, Tenn., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 27, 1963, Ser. No. 291,145
6 Claims. (Cl. 72—45)



1. In the continuous cold rolling of aluminum strip in a multi-stand rolling mill, the improvement comprising the following steps in combination.

employing an oil-in-water emulsion as both the coolant and the source of oily lubricant for the rolls and strip,

spraying the emulsion onto the strip and the rolls at the entry side of each mill stand,

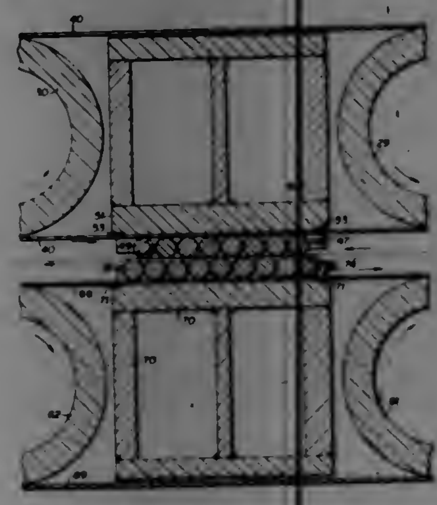
also applying the emulsion in an amount providing a substantially uniform coating upon at least the top surface of the strip exiting from the mill stand immediately preceding the final mill stand, at a location nearer said preceding than said final mill stand, thus applying a substantially uniform amount of oily lubricant directly upon said surface promptly upon its leaving the preceding mill stand, and

directing blown air across at least the edges and top surface of the strip exiting from the final mill stand in directions tending to remove emulsion therefrom so that the strip is substantially free of emulsion except for residual oily lubricant on its surfaces,

whereby aluminum strip is produced by continuous, multi-stand, cold rolling, in the presence of a cooling and lubricating oil-in-water emulsion, which strip is characterized by having substantially uniform, smooth surfaces from the standpoint of surface irregularities, which surfaces are substantially free from water stain or the tendency to water stain by reason of retained water.

3,192,753
STRIP PROCESSOR

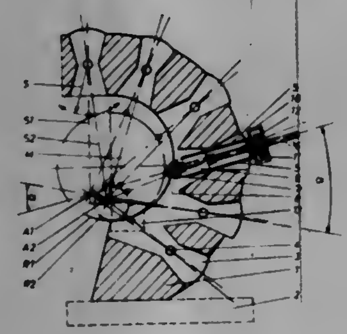
Douglas A. Turner, P.O. Box 224, Salem, Ohio
Filed June 8, 1962, Ser. No. 201,159
10 Claims. (Cl. 72—128)



1. In a strip processor for conditioning metal strip including a frame having an entry end and an exit end, two pairs of pin blocks supported in vertically and horizontally spaced relation on each side of said frame defining a pathway therebetween for said strip extending from the entry end to the exit end of said frame, a series of pins mounted in aligned spaced relationship in each of said blocks, the pins in each pair of said pin blocks being vertically offset from one another, two series of work rolls positioned between the pins on one side of said frame and the pins on the other side of said frame and having their ends engaged by said pins and extending transversely above and below said pathway for said strip in vertically offset relation, and power driving means for said work rolls comprising two pairs of pulleys rotatably supported in said frame, each of said pairs of pulleys being on a common horizontal plane, said pairs of pulleys being spaced vertically relative to one another, and endless belts trained over said pulleys and means for tensioning said belts, platens supported in vertically spaced relation in said frame between the pulleys of each of said pairs of pulleys, a portion of one of said belts being positioned between one of said platens and one of said series of work rolls and a portion of the other one of said belts being positioned between the other one of said platens and the other one of said series of work rolls.

3,192,754
APPARATUS FOR SPIRAL PIPE MANUFACTURING

Lothar Kehne, 1 Tennenbacher Strasse, Emmendingen, Baden, Germany, and Theo Langen, 4 Waldstrasse, Rheinsheim, Kreis Bruchsal, Germany
Filed July 10, 1961, Ser. No. 122,914
Claims priority, application Germany, July 14, 1960, K 41,188
6 Claims. (Cl. 72—49)



1. In an apparatus for manufacturing spiral pipe of varying diameters from a spirally wound strip without the use of a mandrel, a pipe shaping arrangement comprising two semi-circular jaws, each having a plurality of radially extending flaring passages therethrough, a plurality of pipe forming tools arranged over an arc of about 120° and pivotally and adjustably mounted in said flaring passages of said jaws with each tool being individually pivotable about a transverse axis thereof, said pipe forming tools having pressure heads on the inner ends thereof to engage the outer surface of a pipe being formed and being also slidable substantially radially with respect to the central longitudinal axis of the pipe being formed, the central longitudinal axis of the pipe being formed being asymmetrically positioned with respect to the central longitudinal axis of said semi-circular jaws.

3,192,755
CAN BODY MAKING MACHINE

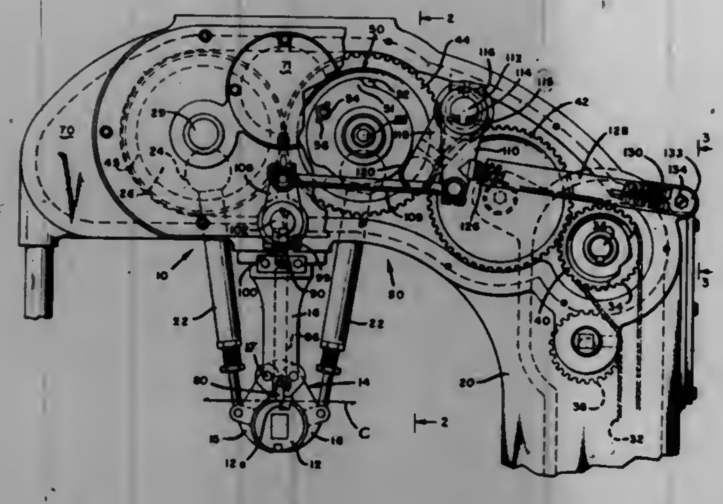
Ed Laxo, Hayward, Calif.; Thelma E. Laxo, executrix of said Ed Laxo, deceased, assignor to Thelma E. Laxo
Filed May 3, 1962, Ser. No. 192,140
12 Claims. (Cl. 72—156)

1. In a can body forming machine including a mandrel for supporting a can body blank and a reciprocable shoe for clamping a can body blank against said mandrel, means for clamping said shoe comprising:

a wedge cam block for clamping said shoe against said mandrel,

a complementary wedge member slidable across said cam block and operable in a first position to wedge said cam block to clamp said shoe against said mandrel and in a second position to release said cam block,

cam follower means connected to drive said wedge member,

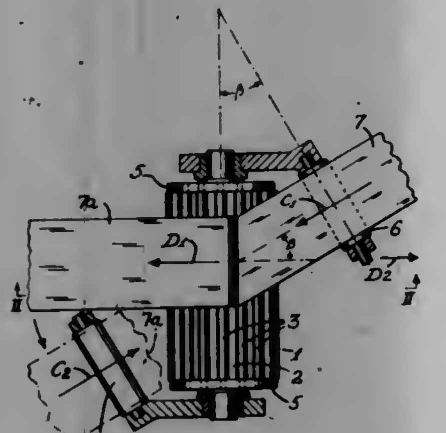


a rotary cam operatively associated with said cam follower means and including high and low cam profile portions, and

means for adjusting the relative lengths of said high and low cam profile portions.

3,192,756
CONTROL OF DIRECTIONAL PROPERTIES OF METALS AND THEIR ALLOYS

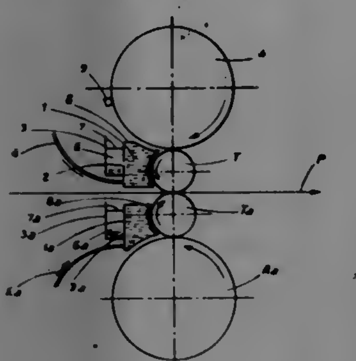
Frederick D. Cartwright, 2 Cachet Heights, Cachet Road, Lambton, Germiston, Transvaal, Republic of South Africa
Filed Apr. 5, 1963, Ser. No. 270,959
Claims priority, application Great Britain, Apr. 10, 1962, 13,865/62
11 Claims. (Cl. 72—167)



1. A method of controlling the directional properties of an elongated metal element comprising subjecting at least one pair of opposed surfaces of the element to a plurality of displaced rolling passes between at least one pair of coacting rolls, each displaced rolling pass comprising the steps of feeding the element longitudinally to the rolls in a direction displaced at an acute angle from a plane normal to the axes of the rolls, and causing the element to emerge from the rolls in a direction lying substantially in said normal plane, the direction of feed being displaced to the same side of the normal plane in at least two of the displaced passes when viewed in the direction of feed.

3,192,757
LUBRICATING AND COOLING DEVICES FOR ROLLING MILL ROLLS

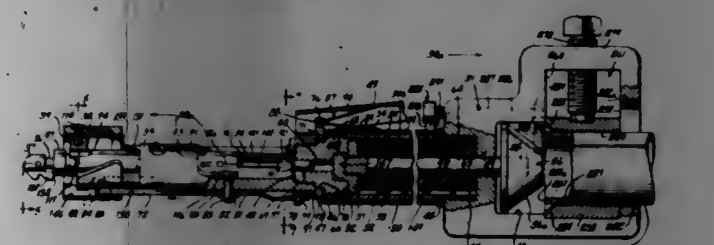
Lucien Diolot, Neuilly-sur-Seine, France, assignor to Societe Nouvelle Spidem, Paris, France, a French corporation
Filed Feb. 13, 1962, Ser. No. 172,965
Claims priority, application France, Feb. 20, 1961, 853,252
4 Claims. (Cl. 72—236)



1. A device for lubricating and cooling the surface of rolling mills rolls comprising means closely adjacent a portion of the surface of one of said rolls for supporting a quantity of cooling fluid against said surface portion over the entire length thereof, said supporting means including a plurality of compartments each individually supplied with cooling fluid and overflow means associated with said supporting means for collecting that portion of cooling fluid which said supporting means is incapable of supporting.

3,192,758
EXPLOSIVELY ACTUATED FLARING TOOL

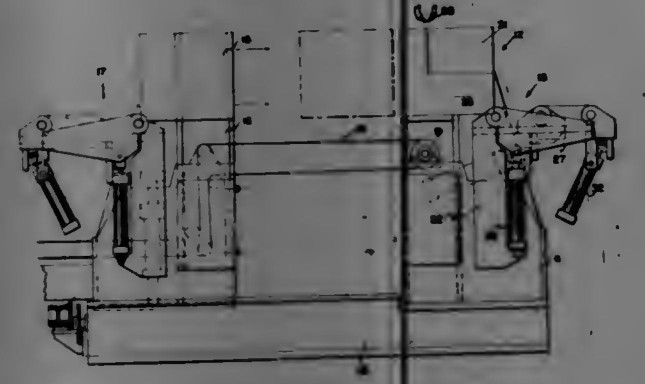
Robert T. Catlin, Trumbull, and Arthur J. Landa, Shelton, Conn., Robert J. Service, Ilion, N.Y., and Robert O. Swain, Trumbull, Conn., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
Original application Aug. 10, 1960, Ser. No. 48,764, now Patent No. 3,126,630, dated Mar. 10, 1964. Divided and this application Oct. 18, 1962, Ser. No. 231,398
The portion of the term of the patent subsequent to Mar. 31, 1981, has been disclaimed
22 Claims. (Cl. 72—316)



1. An explosively actuated flaring tool comprising: a barrel having a breech end and a muzzle end, barrel closure means including a cartridge receiving chamber at said breech end of the barrel, an apertured abutment member at said muzzle end of the barrel, a piston slidable within said barrel and including an abutment surface facing towards said muzzle end of the barrel, an elongated rigid member attached to said piston to project from said piston abutment surface towards and in alignment with the aperture of said apertured abutment member for passage therethrough, said elongated rigid member terminating in a flaring tool instrumentality, buffer means comprising a stacked assembly of elastically deformable buffer rings of thick rubber-like material interleaved with rigid impact rings, said buffer means slidably interposed on said elongated rigid member and extending substantially the length of said barrel and engaging said piston abutment surface and said apertured

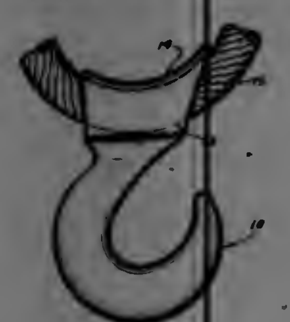
abutment member, and means for firing a cartridge within said cartridge receiving chamber, whereby said buffer means substantially determines the length of stroke of said piston and elongated rigid member in response to the firing of such cartridge, and substantially instantaneously restores said piston and elongated rigid member to their initial positions upon completion of said stroke.

3,192,759
SHEET METAL BENDING MACHINE
Clyde I. Pelton and Edward P. Schneider, Warren, Ohio, assignors to The Taylor-Winfield Corporation, Warren, Ohio, a corporation of Ohio
Filed May 23, 1962, Ser. No. 196,978
7 Claims. (Cl. 72—319)



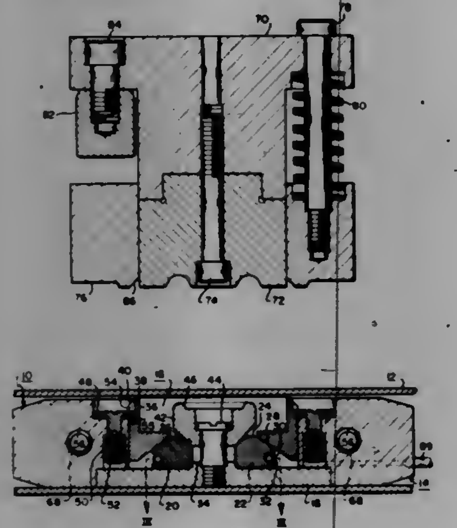
1. A sheet metal bending machine for forming cabinet structures and the like comprising an anvil die having a first linear lower radiused corner about which sheet metal is to be bent, a wing assembly mounted for rotation about the linear axis of said radiused corner and mounting a bending die which engages the sheet metal to wrap the same around said corner to thereby form an end wall of the product, said anvil die having a second radiused corner spaced from the first corner and extending linearly in parallel relation with said first corner, a recess in said anvil die extending inwardly from the linear axis of said second corner and thus providing a third linearly extending corner in parallel relation with the first and second corners, a pair of separate ancillary bending wings pivotally mounted on said wing assembly for rotation about spaced parallel axes, said ancillary bending wings carrying bending dies to engage the sheet metal and wrap the same closely about said second and third corners, and means carried by said wing assembly to rotate said ancillary bending wings about their respective axes and relative to said wing assembly.

3,192,760
METHOD OF FORGING CHOKER HOOKS
Robert E. Timberlake, Cumberland Center, Maine, assignor to American Hoist & Derrick Company, St. Paul, Minn., a corporation of Minnesota
Filed Dec. 29, 1960, Ser. No. 79,362
2 Claims. (Cl. 72—341)



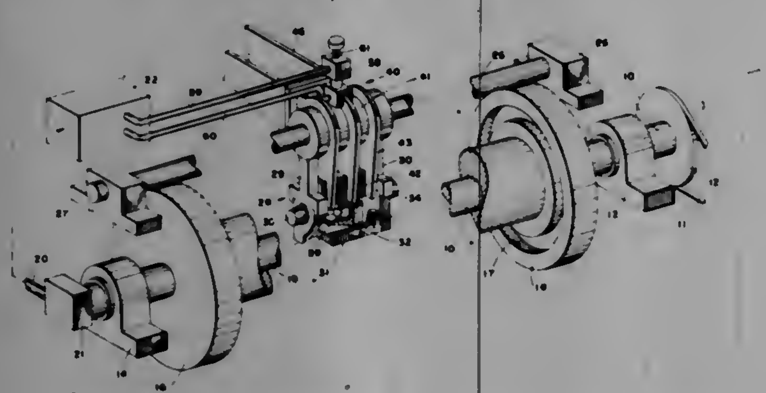
1. A method of forming choker hooks including the steps of: forging a choker hook blank having an elongated upper eye portion parallel to the plane of the hook, drilling a hole longitudinally through said eye portion parallel to the plane of the hook, heating said elongated eye portion, placing said eye with the upper wall thereof adjacent a curved forming block, and forcing complementary curved punches into said hole to cooperate with said forming block to form an upper wall of said eye into a longitudinally curved shape the inner wall portions defining said hole closest to said hook remaining substantially straight.

3,192,761
PUNCH AND DIE ASSEMBLY
Thomas E. Hoskins, Moon Township, Allegheny County, Pa., assignor, by mesne assignments, to Raceways, Inc., New Brunswick, N.J., a corporation of Delaware
Filed July 28, 1961, Ser. No. 127,737
10 Claims. (Cl. 72—464)



1. A punch and die assembly comprising a die member having a plurality of laterally movable, spring mounted segments forming an annular segmented ring, the sides of the segments sloping outwardly forming inner and outer bearing surfaces, an actuating cam resting on the inner bearing surface of the segments and movable downwardly to expand the segmented ring, and a solid annular die ring resting on the outer bearing surface of the segments, the die ring being raised by lateral movement of the segments, and a punch having inner and outer members movable with respect to each other, the inner member being adapted to contact the actuating cam and force it downwardly.

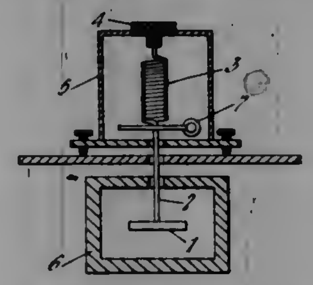
3,192,762
CONTROLLED MOTION SHOCK TESTING
John T. Muller, Box 32, Livingston, N.J.
Filed Jan. 15, 1963, Ser. No. 251,648
12 Claims. (Cl. 73—12)



1. Apparatus for applying a transient shock motion to an object comprising data storage means, the data representing motions to be imparted to said object independent of the mass and weight thereof, a member operatively coupled to said storage means and oscillated as a function thereof, object carrying means spaced from said member and adapted to hold said object, coupling means adapted

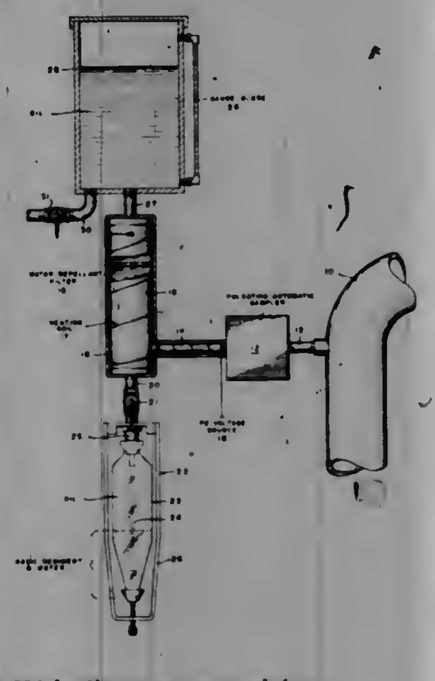
in two different positions to interconnect and disconnect respectively, said oscillating member and said object carrying member, two-way actuator means coupled to said coupling means for positioning said coupling means to either of the desired of said two positions, control means for energizing said actuator means, and synchronizing means in synchronized connection with said oscillating member and said control means for disabling said control means except during a predetermined period of movement of said oscillating member.

3,192,763
APPARATUS FOR DETERMINING THE COEFFICIENT OF THERMAL EXPANSION OF SOLIDS
Desmond Smart, Newcastle-upon-Tyne, England, assignor to C. A. Parsons & Company Limited, Newcastle-upon-Tyne, England, a British company
Filed Apr. 2, 1963, Ser. No. 270,016
Claims priority, application Great Britain, Apr. 6, 1962, 13,280/62
5 Claims. (Cl. 73—16)



1. An apparatus for determining the coefficient of thermal expansion of a solid body, said apparatus comprising a spring having a known torsion constant, said spring being suspended with one end fixed, said body being suspended from the other end of said spring to provide a torsional pendulum, means for changing the temperature of said body and means for measuring the periodic time of oscillation of said body at different temperatures.

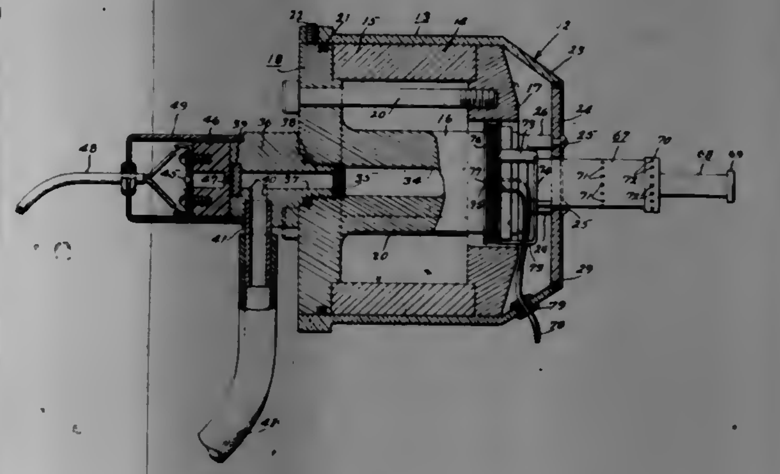
3,192,764
BS & W INDICATOR
Albert W. Jasek, Houston, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Filed July 3, 1961, Ser. No. 121,422
3 Claims. (Cl. 73—53)



1. A BS & W indicator comprising:

a generally cylindrical chamber having the axis thereof extending vertically adapted to separate BS & W from oil;
a water-repellent filter arranged to extend generally horizontally across the interior of said chamber and dividing said chamber into upper and lower sections;
means connected to said chamber for feeding oil containing BS & W to be separated and measured to the lower part of the lower section of said chamber;
a tube connected to the bottom of said chamber for collecting BS & W separated from the oil in said chamber and graduated to measure the amount of BS & W collected in said tube;
a storage vessel mounted above said chamber fluidly communicating with the upper section thereof for storing oil separated from BS & W in said treating chamber and filtered through said filter; and
means for measuring the amount of oil processed through said filter and collected in said vessel, said lower section having sufficient capacity and height such that the oil stream velocity passing through said treating chamber does not exceed the rate BS & W separates and settles from the oil.

3,192,765
VIBRATION TONOMETER
David A. Keiper, Philadelphia, Pa., assignor to The Franklin Institute, Philadelphia, Pa., a corporation of Pennsylvania
Filed July 17, 1962, Ser. No. 210,405
10 Claims. (Cl. 73—80)

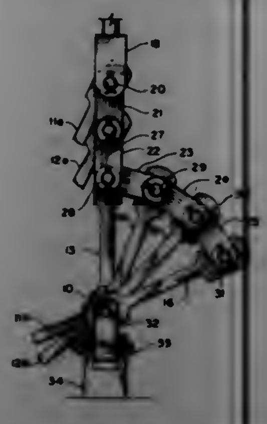


1. A vibratory surface-indenting tonometer, as for measuring the intraocular pressure response of an eyeball, comprising in combination, a vibratory plunger having an end contact element for engaging the part to be tested, a coil carried by said plunger, a magnet having elongated pole pieces embracing said coil, means for supplying said coil with a direct current component to bias the coil and plunger axially, means for supplying said coil with alternating current component for vibrating it at any biased position of said coil relative to said pole pieces, and means responsive to the signal produced by the amplitude of movement of said coil relative to said pole piece for determining said amplitude of movement of said coil.

3,192,766
MULTI-SPECIMEN TESTING APPARATUS
Robert D. Keys, Arapahoe County, Colo., assignor to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland
Filed Aug. 14, 1962, Ser. No. 218,204
11 Claims. (Cl. 73—95)

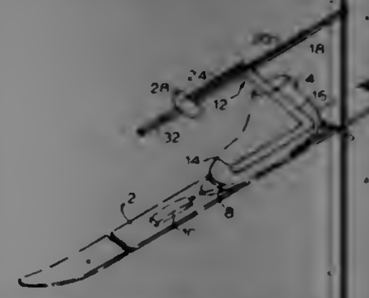
1. An apparatus for sustained tensile failure testing of at least two elongated test specimens having first and second end portions comprising: a mounting pin for rotatably and commonly retaining said first end of each of said test specimens, at least one link connection rotatably coupled to said second end of at least two of said test specimens in a manner separating said second ends in

a spaced relationship, and means for applying forces between one end of said link connection and said mounting pin for sequentially tensile stressing said test specimens to rupture failure.



3,192,767
TORQUE MEASURING DEVICE FOR DETERMINING THE SAFETY OF SKI FOOT FASTENINGS

John O. Outwater, 62 Overlake Park, Burlington, Vt.
Filed Apr. 30, 1963, Ser. No. 276,822
1 Claim. (Cl. 73—139)

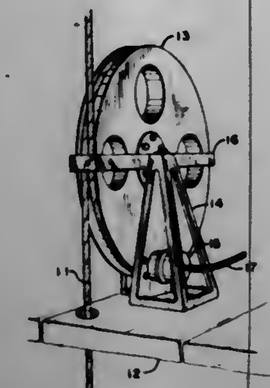


A device for measuring the tenacity of self-releasing means which holds a ski boot on a ski, comprising a dummy last consisting of a substantially L-shape member having a foot portion and a stem portion integrally connected to one another, the length of said foot portion being considerably longer than the width thereof, said foot portion being adapted to engage lengthwise within the foot of the boot, the free end of the foot portion engaging in the toe portion of the boot on one side of the boot, the juncture of the foot and stem portion engaging in the heel portion of the boot on the opposite side of the boot, and the stem portion extending outwardly through the ankle of the boot, a torque bar non-rotatively affixed intermediate its ends to the top of stem portion and providing two arms extending outwardly in opposite directions from the stem portion, whereby to apply torque to the boot via said L-shape member tending to cause said self-releasing means to free the boot from the ski, and means for measuring the deflection of at least one arm relative to the stem portion upon application of said torque.

3,192,768
LINE TENSIOMETER

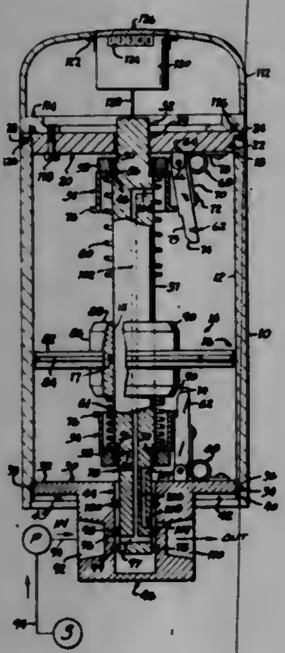
Alexander B. Hildebrandt, Tulsa, Okla., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Dec. 5, 1961, Ser. No. 157,104
8 Claims. (Cl. 73—143)

1. Apparatus for measuring tension in a cable comprising support means, a sheave, and load responsive means, said sheave being pivotally mounted on said support and carrying at least one full turn of said cable about its perimeter such that the cable extends in opposite directions from essentially a single point along the perimeter thereof, whereby tension in said cable generates a force couple tending to rotate said sheave about its pivotal axis, the pivotal axis of said sheave extending in the plane of said sheave perpendicularly from the point on said perimeter which lies substantially in alignment with the cable extensions therefrom, said load responsive means being mounted in a position to sense the rotative force imparted to said sheave by said couple.



3,192,769
LOW FLOW METER FOR LIQUIDS

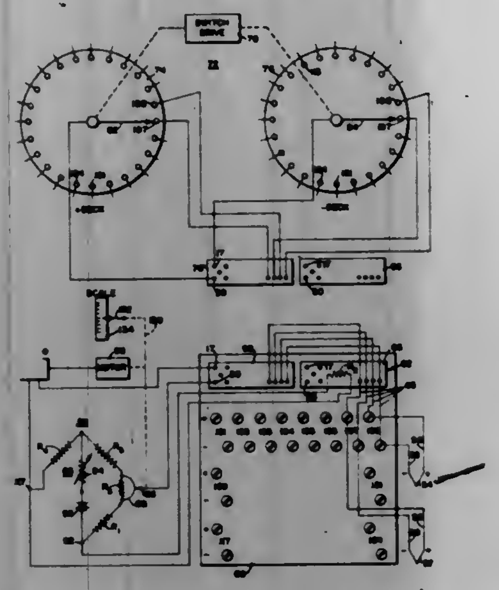
Edmund H. Blakeman, 1155 Fairfax, Pontiac, Mich.
Filed May 31, 1963, Ser. No. 284,503
3 Claims. (Cl. 73—251)



1. In a flow meter for liquids,
a cylinder having each end closed by a cylinder head, each cylinder head including a coaxial bore,
a valve rod in said cylinder and extending between said cylinder heads and having the ends slidably received in said bores for reciprocation relative to said cylinder,
a piston having a bore receiving said valve rod and movable in said cylinder between said heads and relative to said rod,
means for locking said valve rod at its extremes of travel,
means operable by said piston to move said rod in the direction of piston travel and release said locking means,
one of said cylinder heads having an inlet port and an outlet port, said valve rod having two fluid passages one of which communicates with said inlet port on one end and on the other end with the space on one side of said piston while the other of said passages communicates with the space on the opposite side of said piston and said outlet port when said valve rod is in one position and said first named passage communicates with said outlet port and said second named passage communicates with said inlet port when said valve rod is in another position.

3,192,770
MULTI-POINT MEASURING APPARATUS

Michael E. Bash, 32 Flannery Ave., Poughkeepsie, N.Y.
Filed Apr. 8, 1960, Ser. No. 21,021
2 Claims. (Cl. 73—341)

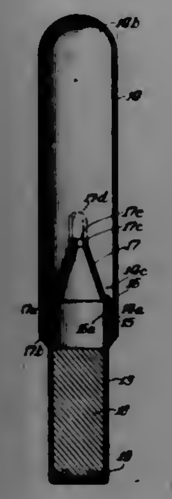


1. In a multi-point measuring instrument having a measuring circuit for selectively measuring the electromotive force produced by each of a plurality of thermocouples, a separate terminal box comprising a terminal board having a plurality of pairs of input terminals adapted to have a corresponding plurality of thermocouples connected thereto, the cold reference junctions of each of said thermocouples normally being at each of said pairs of input terminals, a first multiple socket assembly having a relatively small socket area mounted on said terminal board, means including thermocouple extension wires for transferring said cold reference junctions from said input terminals to respective sockets of said socket assembly thereby to concentrate said transferred cold reference junctions to the relatively small socket area, a second multiple socket assembly mounted on said terminal board, means for connecting each of said transferred cold reference junctions to said second assembly whereby said terminal board is easily serviced and replaced, means for sequentially connecting each of said pairs of input terminals to said measuring circuit through said respective sockets and said second socket assembly, said measuring circuit including a temperature-sensitive means adapted to compensate for the effects of variations of the temperature of said transferred cold reference junctions, said last named means being nounted adjacent said first socket assembly at substantially the center of said socket area whereby the temperature of said temperature-sensitive means and said transferred cold reference junctions is substantially the same thereby to compensate accurately for the effects of any temperature changes of said transferred cold reference junctions, and a multiple plug assembly means adapted to mate with said first socket assembly for selectively connecting certain of said input terminals together whereby said sequential connecting means effects additional measurements at the plug-assembly-connected input terminals.

3,192,771
HEAT SENSITIVE UNIT

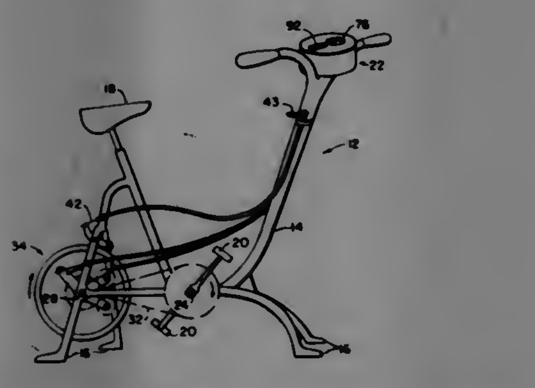
Seth Ira Stearns, Elgin, Ill.
(3505 44th St., Moline, Ill.)
Filed Sept. 2, 1960, Ser. No. 53,798
4 Claims. (Cl. 73—358)

1. In a temperature sensitive device adapted to undergo a structural change as a result of a temperature increase to a predetermined temperature to thereby give warning of said temperature increase, a portion transportable regardless of temperature, comprising: a container having an extending neck portion, at least said neck portion being of an incisible material adapted to be cut to form an opening therein; and an amount of a substance in said container which is solid at temperatures below a predetermined point and in a liquid state above said predetermined point, said substance being capable of changing from a solid to a liquid at temperatures in excess of said predetermined temperature, said substance containing a plurality of objects adapted to pass through said opening in said neck portion, said neck portion being insertable in a second container having an opening for receiving the same so that said substance can automatically enter said second container when in said liquid state, said neck portion being disposed in said second container opening a distance sufficient to prevent the return of at least part of said substance and said objects to said first container.



3,192,772
WORK-CALIBRATED EXERCISING APPARATUS

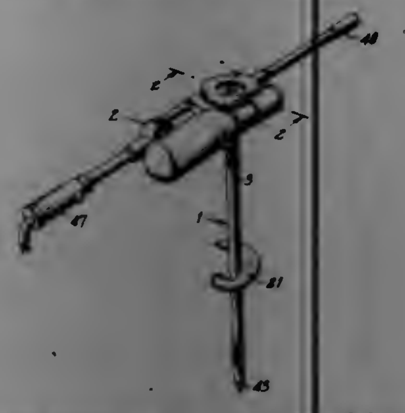
Peter H. Tarter, 497 Huntington Ave., Boston, Mass.
Filed Oct. 25, 1961, Ser. No. 147,520
7 Claims. (Cl. 73—379)



1. Work-calibrated exercising apparatus having, in combination, a manually rotatable chain driving sprocket wheel, a work load device provided with a chain driven sprocket wheel; a continuous chain connecting said sprocket wheels, an idler sprocket wheel engaging the tension side of the chain, means to support the idler sprocket wheel pivotally with provision to urge it resiliently in the direction of increasing chain tension, a flexible shaft secured to the idler sprocket wheel for rotation therewith, a flexible push-pull wire secured at one end to the idler sprocket wheel support means and adapted for axial translation as a function of chain tension, a digit wheel counter having a visible dial, a frictionally-driven wheel to operate the counter, and an analog integrator to turn the frictionally-driven wheel having a first input device connected to the flexible shaft to rotate therewith and a second input device connected to the other end of the push-pull wire.

3,192,773
AUTOMATIC GRAIN BIN SAMPLER

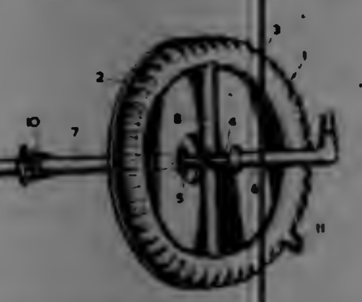
William H. Wilson, 217 W. Second, Hutchinson, Kans.
Filed Mar. 20, 1961, Ser. No. 96,820
5 Claims. (Cl. 73—425.2)



1. A grain sampling device comprising a shaft adapted to be inserted in a body of grain including a longitudinally extending hollow cylindrical portion comprising a sample receiving chamber having a lateral port for ingress to said chamber, and a shutter for controlling ingress to said port comprising a shell mounted for rotation around said cylindrical portion having a central aperture adapted to be moved into registry with said port and having closure walls on each side of said aperture adapted to close said port on relative rotary movement between said shell and cylindrical portion to position said aperture on either side of said port, said shell having a fin extending laterally of and generally longitudinally of the exterior of said shell and adapted to engage in the grain of a body thereof on insertion of said cylindrical portion in said body of grain whereby rotation of said shaft will cause relative rotary motion between said shell and said cylindrical portion to either open said port or close it with either one or the other of said closure walls and stop means on said shell and cylindrical portion to terminate relative rotary motion between said shell and cylindrical portion to stop said shell in port closing position on rotation of said shaft in either direction to a position to close said port by either closing wall and to maintain said shell in port closing position on continued rotation in the same direction and auger means to feed said shaft into a body of grain on rotation thereof and means to rotate said shaft.

3,192,774
APPARATUS FOR DETERMINING THE RELEASE RATE OF DRUGS, WITH PROTRACTED OR DELAYED ACTION, OR OF OTHER SUCH SUBSTANCES

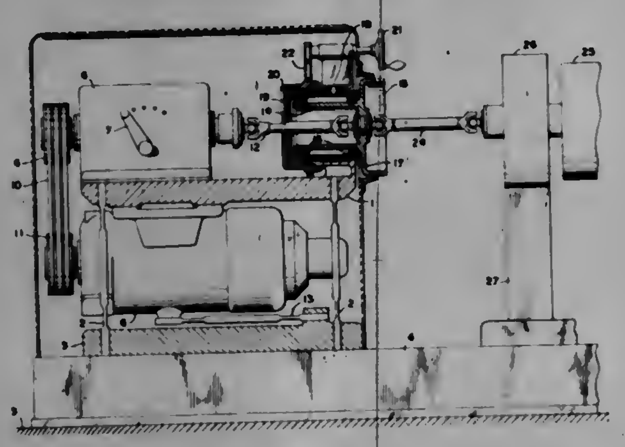
Johan R. A. Simoons, Haarlem, Netherlands, assignor to N.V. Koninklijke Pharmaceutische Fabrieken v/h Brocades-Stheeman & Pharmacia, Amsterdam, Netherlands, a corporation of the Netherlands
Filed Feb. 15, 1962, Ser. No. 173,553
Claims priority, application Netherlands, Feb. 24, 1961, 261,630
4 Claims. (Cl. 73—432)



1. Apparatus for determining the release rate of drugs, with protracted or delayed action, said apparatus comprising: a container in the form of a hollow ring-shaped body having an irregularly contoured inner surface; means supporting said ring-shaped body so that it is rotatable about its own axis; a pair of radially inwardly extending tubes each carried by said supporting means and connecting the interior of said ring-shaped body with a supply-tube and a discharge-tube respectively, said supply- and discharge-tubes being located concentrically with the axis of the ring-shaped body; an opening in said ring-shaped body for the introduction or removal of said drugs and a closure for said opening.

3,192,775
DRIVE FOR ROTATING WORKPIECES, PARTICULARLY FOR BALANCING MACHINES

Klaus Federn and Carl Ohly, Darmstadt, Germany, assignors to Carl Schenck Maschinenfabrik G.m.b.H., Darmstadt, Germany, a corporation of Germany
Filed Mar. 21, 1962, Ser. No. 181,489
Claims priority, application Germany, Mar. 22, 1961, Sch 29,422
5 Claims. (Cl. 73—460)



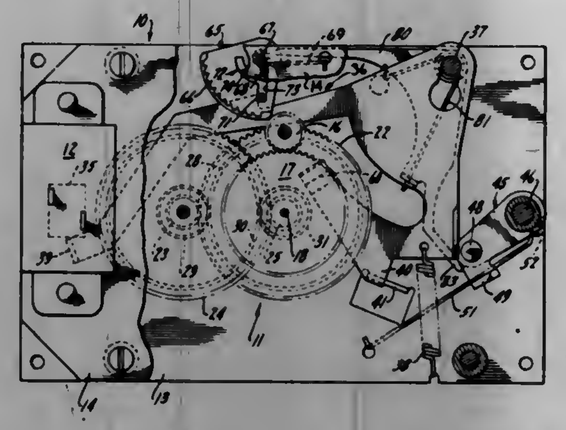
1. A drive for rotating workpieces in vibratory testing machines, particularly balancing machines, comprising a rigid machine structure, workpiece-journalling support means vibratorily mounted on said structure and capable of vibratory motion in a given measuring direction, an intermediate rigid frame, spring means vibratorily mounting said frame on said machine structure independently of and spaced from said support means, an electric drive motor and a transmission connected to said motor, said motor and transmission being fastened to said frame, and coupling means for drivingly connecting said transmission with the workpiece to rotate the latter, said coupling means being vibratorily isolated from the support means relative to said measuring direction, said coupling means having parts whose rotary speed is synchronous with the workpiece rotation, said spring means comprising rods supporting said parts relative to said machine structure so as to permit vibratory movement of said parts separately from the workpiece in said measuring direction.

3,192,776
TIMER DROWSE MECHANISM

Thomas F. Ring and Raymond A. Keane, Athens, Ga., assignors to General Time Corporation, New York, N.Y., a corporation of Delaware
Filed July 31, 1963, Ser. No. 298,976
7 Claims. (Cl. 74—3.5)

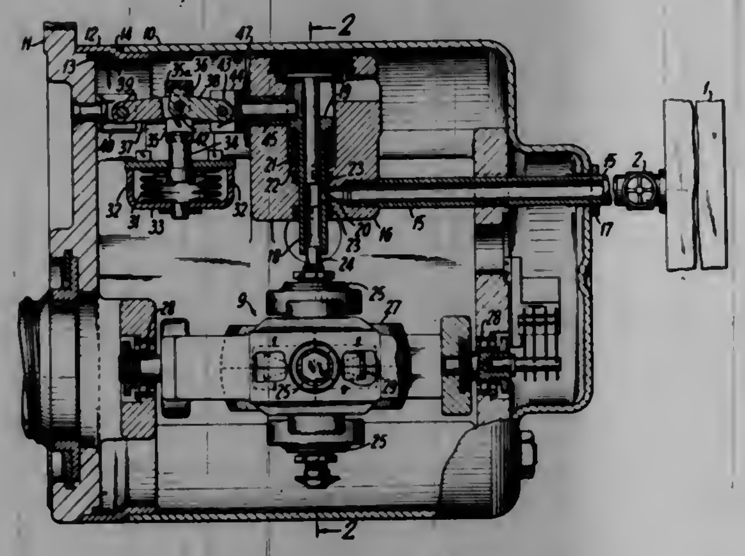
1. In a timer having a switch and a timing train with a gear wheel, the combination comprising, a shiftable switch operator movable to and from a switch operating position in which said switch is operated, a drowse cam rotatably and shiftably mounted adjacent said gear wheel, means defining a cam and follower interconnection between said drowse cam and said operator, said interconnection having a first segment allowing the operator to move to and from said switch operating position without shifting the drowse cam and to hold the drowse cam in a

cocked position when the operator is not in said switch operating position, said interconnection also having a second segment allowing the drowse cam to rotate from said cocked position when the operator is in said switch operating position and to prop the operator in switch operating position by shifting of the drowse cam against said gear wheel, whereby momentarily moving said operator to switch operating position releases the drowse cam from cocked position and causes the drowse cam to hold the operator in switch operating position until said gear wheel rotates the drowse cam back into cocked position.



3,192,777
HIGH PRESSURE GAS ENERGIZED GYROSCOPE

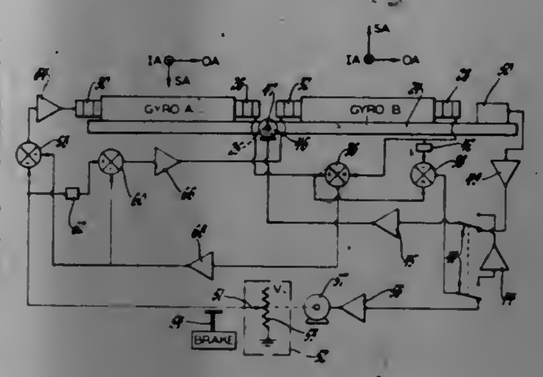
Norman C. Zatsky, Huntington, and Lawrence J. Lief, New Rochelle, N.Y., assignors to the United States Time Corporation, Waterbury, Conn., a corporation of Connecticut
Filed July 5, 1962, Ser. No. 207,490
4 Claims. (Cl. 74—5.12)



1. A gas powered gyroscope mechanism comprising a hermetically sealed chamber, a gyroscope assembly disposed within said chamber, a gas supply input conduit leading into said chamber, a valve mechanism disposed within said chamber removably interconnecting said conduit and said gyroscope and controlling the gas into said chamber, said gyroscope being adapted to operate from energy stored in said gas and to discharge energy depleted gas into said chamber, pressure sensitive means disposed within said chamber and responsive to the pressure of the energy depleted gas, and actuator means interconnecting said pressure sensitive means and said valve mechanism to actuate said valve mechanism on response of the pressure sensitive means and thereby to disconnect said conduit from said gyroscope and to shut off the flow of gas into said gyroscope when the internal pressure of the energy depleted gas has attained a predetermined value.

3,192,778
TWIN GYRO STABILIZATION SYSTEM

James T. Ephgrave, Shorewood, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 5, 1962, Ser. No. 207,650
7 Claims. (Cl. 74—5.34)



1. In a gyroscopic apparatus, means for eliminating from output signals representing angular precessions of the gyro wheel about its output axis errors caused by torques due to the kinematics of the gyroscope which act about the spin axis and output axis of the gyro wheel comprising a platform, first and second single degree of freedom gyroscopes mounted on the platform, each gyroscope having an input axis, a spin axis perpendicular to the input axis and an output axis mutually perpendicular to the input axis and the spin sxis, the gyroscopes being prealigned with the output axes parallel and the input axes anti-parallel, each gyroscope including a gyro wheel adapted to spin about the spin axis whereby the wheel is caused to precess about the output axis in accordance with torques applied about the input axis, driving means for providing rotation of the wheel of the first gyroscope in an opposite direction with respect to the wheel of the second gyroscope whereby the vector representation of the input axis and the vector representation of the spin axis of the first gyroscope is of an opposite sense from the vector representation of the input axis and the vector representation of the spin axis, respectively, of the second gyroscope, each gyroscope having a signal generating means associated therewith operative to develop output signals in accordance with precessions of the wheel about its output axis, and difference means associated with each signal generating means and operative to develop difference signals in accordance with the differences between the output signals developed by the signal generating means asociated with the first gyroscope and the signal generating means associated with the second gyroscope whereby the difference signals are free from errors caused by torques due to the kinematics of the gyroscope which act about the spin axis and output axis of the gyro wheel.

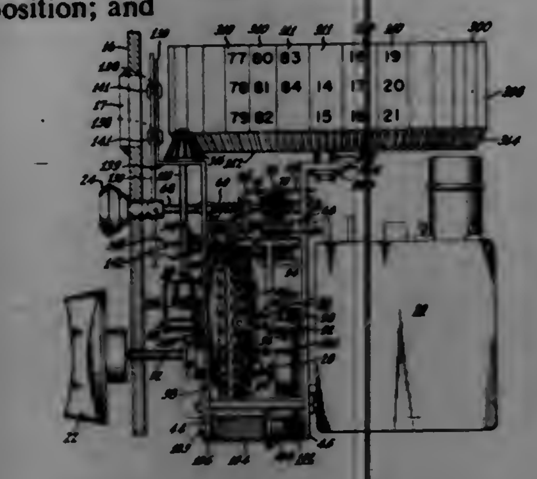
3,192,779
INDICATOR MECHANISM

Theodore D. Smith, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 10, 1964, Ser. No. 343,787
12 Claims. (Cl. 74—10)

1. A channel indicator mechanism for television receivers having a tuner including means to provide step-by-step tuning of said tuner so that each step covers a portion of the television and means for presetting said tuner to select a desired channel at each step position comprising:

a dial member having a plurality of groups of channel indicia imprinted thereon, said plurality of groups of channel indicia indicating the channels that can be selected at said various step positions;

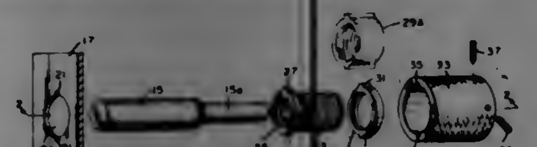
means coupling said dial member to said step-by-step tuning means for sequential display of said plurality of groups of channel indicia at a reference viewing position; and



indicating means coupled to said preset tuning means to designate a selected indicium of said group of channel indicia.

3,192,78
LIMIT STOP MECHANISM

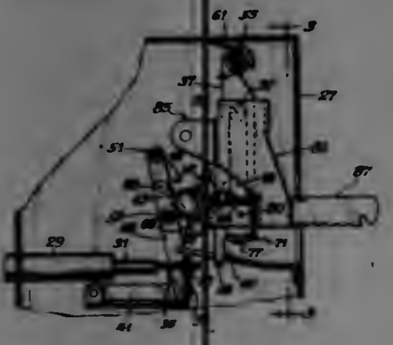
Ross E. Stauffer, Wall Township, Monmouth County, N.J. (Box 225, R.R. 2, Farmingdale, N.J.)
Filed Mar. 6, 1962, Ser. No. 177,929
3 Claims. (Cl. 74—10.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A limit stop mechanism for controlling the number of rotational turns of a shaft comprising an external threaded collar surrounding a portion of said shaft and within which said shaft is rotatable, means for securing the collar from any rotational movement about said shaft, a slug having at least one key on its outer peripheral surface, said slug being threadably engageable on said collar for linear movement on said collar and a knob having a bore and at least one longitudinal keyway that meshes with the key of said slug secured to said shaft whereby said slug is mutually rotatable with said knob in either clockwise or counterclockwise direction, and wherein said knob includes means within said bore for limiting the linear movement of said slug over said collar.

3,192,7
TUNING APPARATUS

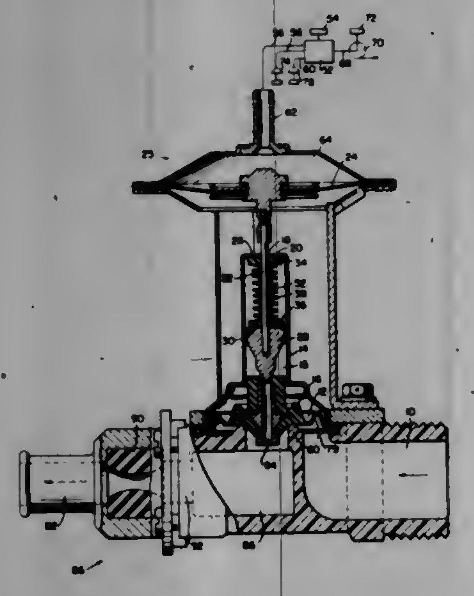
Charles E. Lyon, Jr., Des Plaines, Ill., assignor to Motorola, Inc., Franklin Park, Ill., a corporation of Illinois
Filed June 19, 1963, Ser. No. 289,078
2 Cialms. (Cl. 74—10.31).



1. A presettable actuator assembly for use in tuning apparatus having a treadle bar mechanism, said assembly including in combination, a pivotal elongated member having an aperture therein, a cam rotatably mounted on said elongated member adjacent said aperture for engaging the treadle bar mechanism to operate the same, said cam and said elongated member being pivotal in parallel planes, a clamping lever having first and second ends and being pivotally supported at said first end in said aperture and having a first portion between said first and second ends engageable with said cam to clamp the same against said elongated member, said clamping lever being pivotal in a plane transverse to said parallel planes, an actuator member pivotally mounted on said elongated member and having an extension thereon for pushbutton actuation and further having a projection thereon, said actuator member being pivotal in a plane parallel with said parallel planes, said clamping lever further having a second portion at said second end engageable with said projection and providing a mechanical advantage for said clamping lever to clamp said cam when engaged, said actuator member being operable to pivot said elongated member to operate the treadle bar mechanism, and being further operable to pivot with respect to said elongated member to cause said clamping lever to clamp said cam.

3,192,782
FLEXIBLE SEAL

Clarence Wantz, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware
Filed Nov. 2, 1961, Ser. No. 149,596
7 Claims. (Cl. 74—18.2)



1. In combination: a separating wall to separate substances on opposite sides of said wall, said wall having a shaft receiving opening therein surrounded by a sealable surface; a shaft passing through said opening generally transversely to said sealable surface, said shaft having means providing a sealable surface generally transverse to said shaft; an elastic hermetic tubular sleeve snugly and slidingly surrounding said shaft between said surfaces and having elastic flanges at its ends having nonsliding sealing engagements respectively with said respective sealable surfaces; and spring means outside said sleeve and pressing said flanges against said respective sealable surfaces.

3,192,783
ENGINE

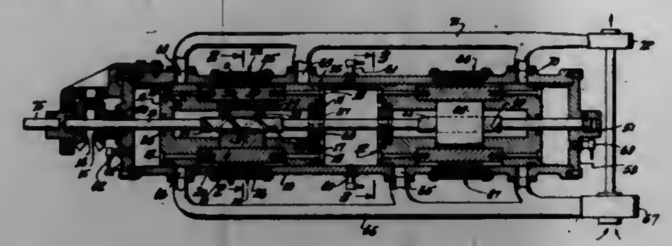
Robert C. Cruzan, 1801 W. Lorella Ave., La Habra, Calif.
Filed Sept. 28, 1962, Ser. No. 226,819
8 Claims. (Cl. 74—89)

2. In an internal combustion engine of the type having its cylinder, piston and shaft concentrically mounted, low friction converting means comprising:

a closed cylinder having a longitudinal axis;

a longitudinally oriented shaft rotatably mounted at each end of said cylinder;

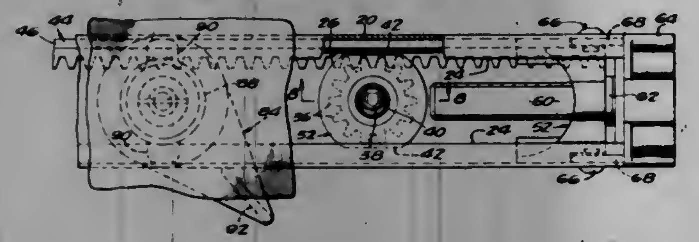
a piston having cylindrical ends disposed in said cylinder with said shaft extending through the ends thereof; and



a plurality of ball bearing raceways formed between selected adjacent surfaces of said cylinder, shaft and the intermediate part of said piston to fully convert reciprocating motion of said pistons into rotary movement of said shaft.

3,192,784
NON-TRAVERSING VERTICAL BLIND

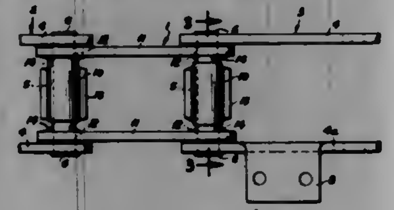
Robert J. Cayton, Los Angeles, Calif., assignor to Louverdrape, Inc., a corporation of California
Filed Mar. 12, 1962, Ser. No. 178,928
5 Claims. (Cl. 74—91)



1. In a blind of the type having a series of rotatable vertically extending louvers the combination of an open channel having a series of holes through the end wall thereof and opposed ribs spaced from said end wall, an L-shaped rack having one leg extending between and slidably guided by a rib and the end wall of said channel and a second tooth bearing leg, a gear element having teeth thereon meshing with said rack, a protuberance on said gear element projecting through one of said holes, said gear element having a base with flattened portions permitting same to pass between said ribs in one position of rotation thereof and which base engages under said ribs in a different position of rotation thereof to retain said gear element in said channel.

3,192,785
BLOCK LINK FOR CHAIN

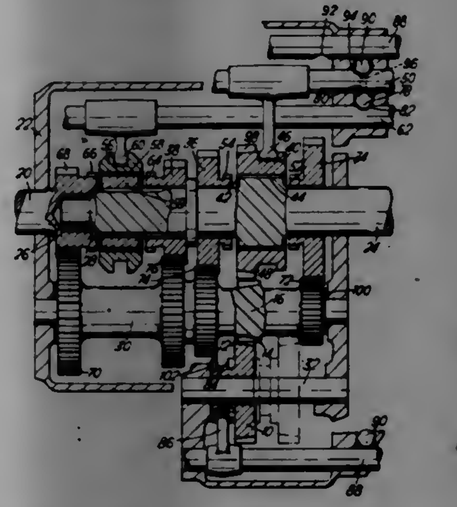
Nels E. Pearson, Evergreen Park, Ill., assignor to Rex Chainbelt Inc., a corporation of Wisconsin
Filed May 13, 1963, Ser. No. 279,972
4 Claims. (Cl. 74—255)



1. A chain for operation over a sprocket comprising block links, pin links and intermediate bushings, each block link being of integral, stamped construction and including spaced, parallel side bars having holes at each of the ends thereof and U-shaped barrels aligned between corresponding holes of the side bars, each pin link including pins extending through corresponding holes of said side bars and plates assembled on the projecting ends of the pins, each bushing being assembled on a pin and fitting within the barrel of the block link so as to be turnable with respect to the pin and the barrel, each said bushing being of a length allowing movement of the bushing on the pin between side bars.

3,192,786
TOOTHED MESHING GEARS WITH PARALLEL AXES

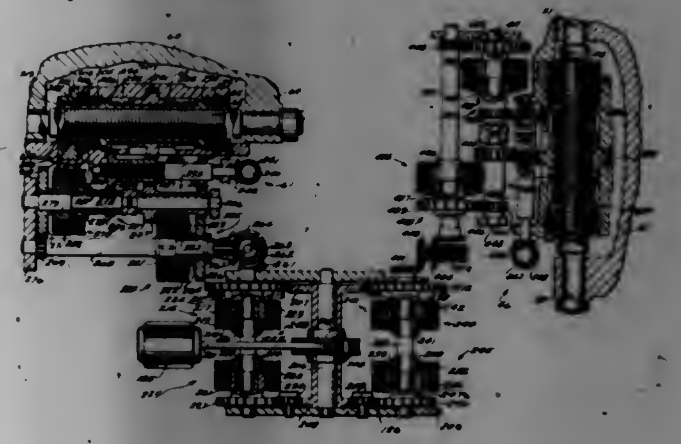
Thomas Charles Felix Stott, Harpenden, England, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Feb. 11, 1963, Ser. No. 257,473
Claims priority, application Great Britain, Feb. 16, 1962, 5,974/62
11 Claims. (Cl. 74—333)



1. A sliding mesh gear assembly comprising parallel input, idler and output axles, a toothed input gear disposed on the input axle, a toothed output gear disposed on the output axle and a toothed idler gear which is axially slidable along the idler axle in one direction into meshing engagement with both the input gear and the output gear, both flanks of the teeth of the respective gears being axially tapered such that the interengaging pairs of tooth flanks have complementary tapers in a sense such that during operation of the idler gear is biased in the said one direction irrespective of which gear is driving, a first thrust member adapted to limit axial movement of the idler gear in the said one direction, and second and third thrust members respectively adapted to limit axial movement of the input and output gears in the opposite direction.

3,192,787
MACHINE TOOL DRIVE MECHANISM

Kurt A. Riedel, Milwaukee, and Carl M. Karcher, Brookfield, Wis., assignors to Kearney & Trecker Corporation, West Allis, Wis., a corporation of Wisconsin
Filed Sept. 1, 1960, Ser. No. 53,532
18 Claims. (Cl. 74—365)



1. In a machine tool; a power source; a transmission operably connected to be driven by said power source,

said transmission having a plurality of shiftable gears and a plurality of non-shiftable gears said shiftable gears being arranged to be individually shifted for establishing a plurality of transmission outputs; a plurality of fluid actuated shifting mechanisms each of which is operably connected to individual shiftable gears of said transmission for actuating said shiftable gears into a plurality of combinations of positions with each combination of positions establishing a different transmission output; a fluid distribution valve conditionable to a plurality of conditions for effecting a distribution of fluid pressure to said shifter mechanisms for actuating said shifter mechanisms to selectively position said shiftable gears for establishing a selected transmission output; a source of fluid pressure operably connected to said distribution valve; an electric motor connected to said fluid distribution valve and operable when energized to adjust said valve to any one of a plurality of conditions for directing fluid pressure to said shifter mechanisms for establishing different transmission outputs; a plurality of coincidence switches carried by said distribution valve; a plurality of cams carried by said distribution valve and operably connected to be rotated by said electric motor when said motor operates to condition said distribution valve, said cams being disposed in position so that each of said cams when rotated is operable to actuate and deactuate a selected one of said coincidence switches, said cams being arranged for operating said associated switches in a plurality of coded combinations; a control member; a plurality of selector switches equal in number to said coincidence switches and carried by said control member; a transmission output selector operably connected to said control member and having indicia indicating the plurality of different transmission outputs, said selector being operable when selectively positioned at a particular transmission output setting to actuate one or more of said selector switches in coded combination; an electrical circuit operably connected to said selector switches and said coincidence switches, said circuit also being connected to said electric motor; and means operably connected in said circuit to effect energization of said motor whereupon said motor operates to adjust said distribution valve and to rotate said cams for actuating said coincidence switches and when said coincidence switches are actuated in the same combination that said selector switches have been actuated said electrical circuit operates to deenergize said motor which will then have adjusted said distribution valve so that fluid pressure will be distributed to said fluid actuated shifter mechanisms for establishing a selected transmission output which coincides with the output indicated by said selector.

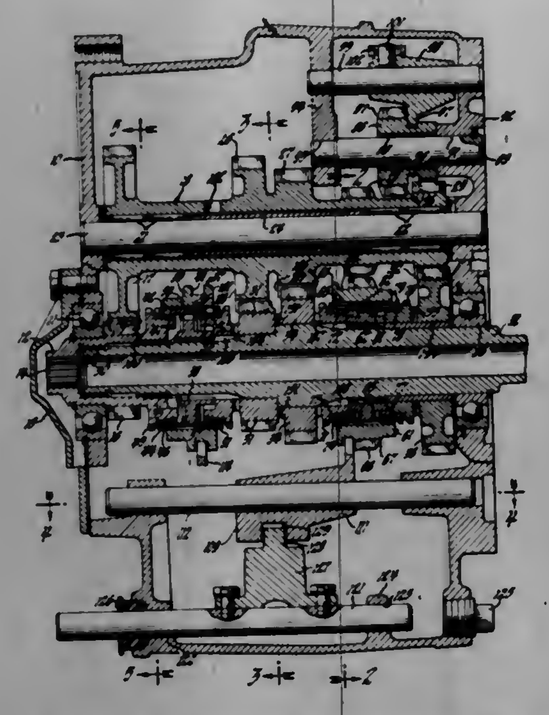
3,192,788
TRANSMISSION

James W. Fodrea, Rochester, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Aug. 30, 1961, Ser. No. 134,919

23 Claims. (Cl. 74—375)

1. In a transmission, an input member, an output member, an input gear driven by said input member, an output gear rotatably mounted on said output member and meshing with said input gear, clutch means on said output member and said output gear having a clutch member mounted for rotation with said output member and spaced from said output gear in neutral and movable toward said output gear to engaged position to connect said output gear to drive said output member, a reverse output gear mounted on said clutch member, a reverse input gear on said input member, said reverse output gear in said neutral position being transverse!y aligned with said reverse input gear, a reverse idler gear mounted in neutral position between said reverse output gear and said output gear and shiftable to mesh with said reverse output and reverse input gears, said reverse output gear being spaced from said output gear not substantially more than the width of said reverse idler gear and said reverse output gear on moving with said clutch member from neutral to engaged position of said clutch member meshing with said reverse idler gear.

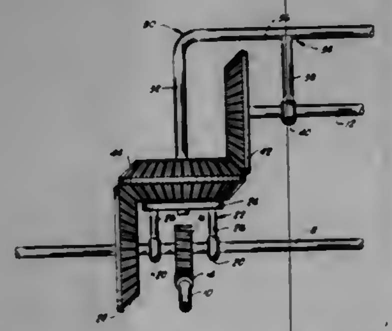


3,192,789
UNIVERSAL MECHANICAL POWER TRANSMISSION COUPLING

Billy J. Savage, 2116 S. Boston Drive, Fort Smith, Ark.

Filed Mar. 18, 1963, Ser. No. 265,942

9 Claims. (Cl. 74—385)



1. A power transmission assembly for interconnecting a rotating driving shaft to a rotated driven shaft through a non-rotating supporting arm and permitting said interconnected shafts to assume any angle relative to each other, said transmission comprising:
(a) an idler shaft extending substantially normal to one of said interconnected shafts;
(b) gear means connected between said one interconnected shaft and said idler shaft for transferring rotary motion between said idler shaft and said one interconnected shaft, said gear means retaining said one interconnected shaft and said idler shaft in power-transmitting engagement when said one interconnected shaft is bodily rotated about the longitudinal axis of said idler shaft in a manner such that the longitudinal axis of said one interconnecting shaft remains in a tangential relationship to an imaginary circle of predetermined radius coaxially positioned with respect to the longitudinal axis of said idler shaft;
(c) yoke means rotatably journalled on said idler shaft;
(d) a first gear wheel keyed to said idler shaft for rotation therewith;

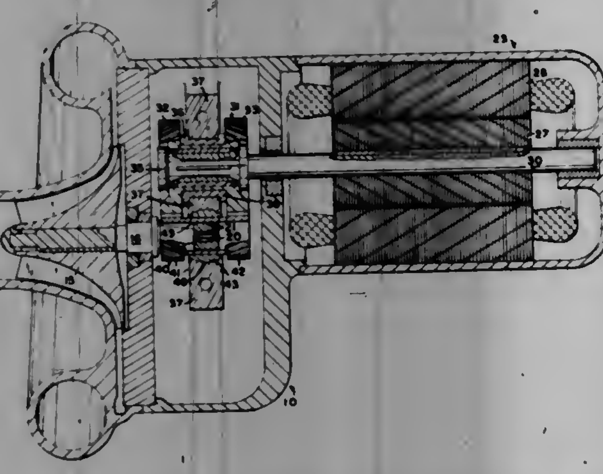
(e) a second gear wheel rotatably supported on said yoke mechanism in spaced relation from said idler shaft and engaging said first gear wheel at a predetermined angle to change the direction of the axis of rotative movement from that of the axis of said first gear wheel;
(f) a supporting arm rotatably journalled on said yoke means for rotation relative to said second gear wheel and about the axis of rotation of said second gear wheel, said supporting arm rotatably journalling said other interconnected shaft and fixing said shaft in a plane extending through the axis of rotation of said second gear wheel; and
(g) a third gear wheel coaxially keyed to said other interconnected shaft and drivingly engaging said second gear wheel whereby said third gear wheel may be revolved around the axis of rotation of said second gear wheel when said supporting arm is rotated in said yoke.

3,192,790
TRANSMISSION GEARING

James W. Endress, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed Jan. 29, 1962, Ser. No. 169,507

5 Claims. (Cl. 74—410)



1. In a centrifugal compressor having an impeller mounted for rotation on an impeller shaft, transmission gearing for connecting the impeller shaft to a drive motor having a motor shaft, said gearing comprising: a motor gear mounted on the motor shaft, said motor gear having two axially spaced helical gear surfaces of opposite and equal helical angles; a bearing supporting said spaced helical gear surfaces for rotation; a toothed member fixed for rotation with the impeller shaft; a driven gear between said toothed member and said motor gear; a toothed surface on said driven gear engaging said toothed member; two spaced gear surfaces on said driven gear engaging said spaced gear surfaces on said motor gear; and a bearing supporting said driven gear for rotation and axial rocking relative to said motor gear, the said toothed means and the means for supporting said second gear member being located between the spaced external gear surfaces on said second gear member, whereby there will be an equalization of pressure distribution over the gear tooth faces.

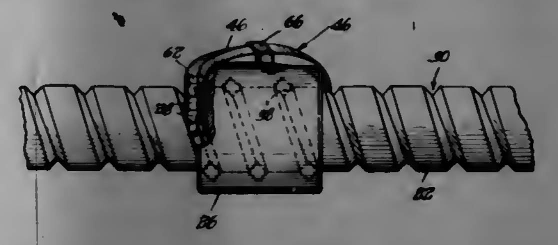
3,192,791
ANTIFRICTION SCREW AND NUT ASSEMBLY

Daniel F. Greby, Chicago, Ill., assignor, by mesne assignments, to Textron Inc., Providence, R.I., a corporation of Rhode Island

Filed June 7, 1962, Ser. No. 200,719

8 Claims. (Cl. 74—424.8)

1. An antifriction nut and screw assembly, comprising, in combination, an elongated screw defining a helical groove therein, a nut defining a central axial bore receiving said screw, said nut defining an internal helical groove confronting said helical screw groove to define therewith a first passage of helical shape extending through said nut and being generally square in transverse section, opposite ends of said nut defining two substantially parallel end grooves extending inwardly in the same direction in generally tangential relation to adjacent portions of said nut groove, a bearing roller return channel of generally U-shape including two parallel leg portions extending from an intervening connecting portion of the channel, said channel defining a second passage of generally U-shape extending through the channel and being substantially square in transverse section, said connecting portion of the channel having an approximately ninety degree twist therein forming a similar twist in the corresponding portion of said second passage, said channel being mounted on said nut with the two leg portions of the channel positioned in said respective end grooves of the nut to connect opposite ends of said second passage with said first passage so that the first and second passages together form an endless passage, and an endless procession of generally cylindrical bearing rollers disposed in said endless passage to circulate therethrough upon relative rotation of said nut and screw and to transmit forces between said screw and nut through rolling engagement with the screw and nut.

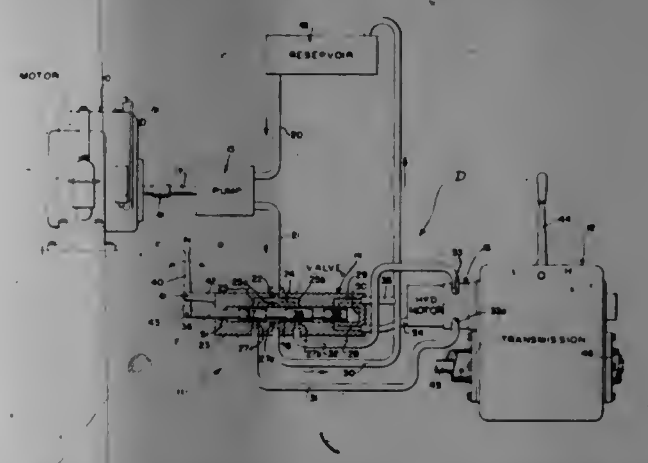


3,192,792
DRIVE AND POWER TRANSMISSION ARRANGEMENT

Raymond R. Szaj, Hales Corners, Wis., assignor to Colt Manufacturing Company, Inc., Winneconne, Wis., a corporation of Wisconsin

Filed Feb. 27, 1964, Ser. No. 347,899

1 Claim. (Cl. 74—472)



A drive and power transmission arrangement including a prime mover, means for regulating the speed of the prime mover, a drive shaft operatively connected to said prime mover, a hydraulic pump having a suction and a discharge side, and a hydraulic system comprising said pump, a reservoir connected with said suction side of said pump, a regulating valve in said system connected with said discharge side of said pump, a reversible hydraulic motor, and a return line from said valve in said system communicating with said reservoir, said valve including a chamber casing, a centrally located fluid chamber within said chamber casing, a valve inlet port communicating with said fluid chamber and with said discharge side of said pump, an outlet port communicating with said valve inlet port, said return line leading from the last-mentioned port providing a continuous flow of fluid from said pump, through said valve and to said reservoir, two additional inlet ports in said valve, communicating with said discharge side of said pump, and two separate outlet ports, each opposite a respective inlet port, a valve element including lands and grooves, slidably received in said chamber casing and shiftable into positions to alternately open one inlet port into communication with its respective outlet port and to simultaneously close the outlet valve port communicating with said return line, to block the flow of fluid from said pump through said valve to said reservoir, pipe lines communicating with said separate outlet ports and with said hydraulic motor, positioned for causing the motor to operate in one direction by reason of fluid flow in one line, or in the other direction by reason of fluid flow in the other line, an exhaust line from said motor communicating with said return line to said reservoir, said valve element having means interposed between said exhaust line from said motor and said return line to close off the flow of fluid from said exhaust line when the first mentioned valve inlet port is in communication with said return line through the first mentioned outlet port, a transmission assembly, a pair of outwardly extending axles operatively connected to said transmission, said hydraulic motor and said transmission being in direct driving relation with each other, means for shifting said valve element whereby the speed and direction of rotation of said axles may be regulated, and said transmission having means for changing from a high to a low gear ratio for further regulating the speed of rotation of said axles regardless of the speed of rotation of said prime mover.

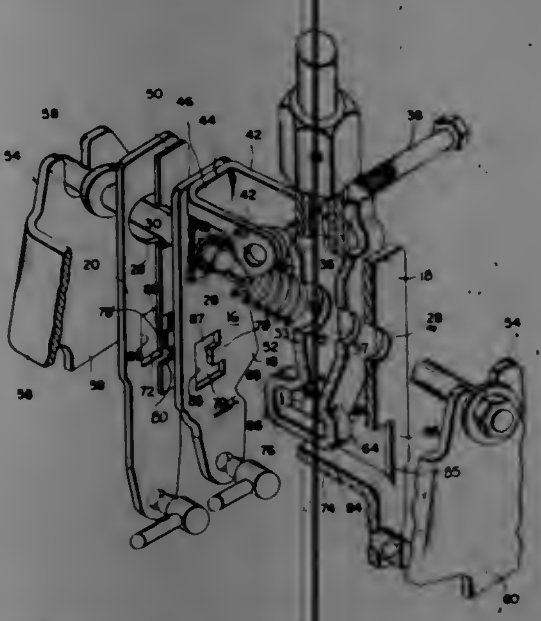
3,192,79

GEAR SHIFT

George H. Hurst, Jr., Abington, and William G. Campbell, Chalfont, Pa. (Both of 341 W. Glenside Ave., Glenside, Pa.)

Filed Mar. 18, 1964, Ser. No. 352,772

7 Claims. (Cl. 74—476)



5. A gear shifting mechanism for a transmission including a first gear selector plate having a neutral position and movable to a first position to shift said transmission to first gear and movable to a second position to shift said transmission to second gear, a second gear selector plate having a neutral position and movable to a first position to shift said transmission to third gear and movable to a second position to shift said transmission to fourth gear position, a third gear selector plate having a neutral position and located adjacent said second selector plate, said third plate being movable to shift said transmission to reverse gear, there being a first opening in said first plate, a second opening in said second plate and a third opening in said third plate, all of said openings being in registration when said plates are in their respective neutral positions, an operating handle, mounting means pivotally mounting said operating handle between said first and second selector plates, a first engaging portion at the lower end of said handle and movable into and out of said first opening to integrate said handle with said first plate, a second engaging portion at the lower end of said handle and movable into said second opening to integrate said handle with said second plate, said second engaging portion being also movable through said second opening into said third opening to integrate said handle with said third selector plate, and said biasing means normally biasing said operating handle toward said second selector plate.

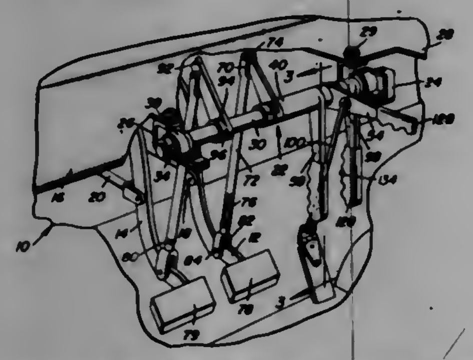
3,192,794

BRAKE, CLUTCH AND ACCELERATOR HAND CONTROL FOR PARAPLEGICS

Pless Counts, Box 229, Salem, Mo.

Filed June 8, 1962, Ser. No. 201,086

4 Claims. (Cl. 74—481)



1. A control device for the brake pedal means and accelerator pedal of a vehicle having a dashboard disposed above said pedal and pedal means, said device comprising an elongated shaft, means journaling said shaft from the dashboard, an accelerator hand operated control lever journaled on said shaft substantially in alignment with the accelerator pedal, means connecting the lever and accelerator pedal for depressing the accelerator pedal when the lever is depressed, a brake arm rigidly attached to said shaft and substantially aligned with the brake pedal means, means operatively connecting the brake arm and the brake pedal means, a brake hand operated control lever rigid with said shaft adjacent the accelerator lever whereby the hand operated levers may be manipulated in maneuvering the vehicle, said shaft journaling means including a pair of brackets, bearing means mounted on said shaft, and mounting means adjustably supporting the bearing means from the brackets for enabling the shaft to be journaled from the brackets when the brackets are misaligned.

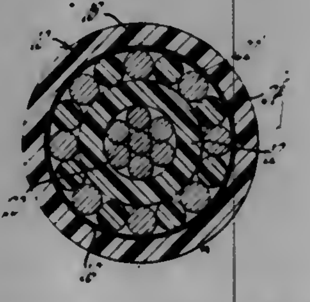
3,192,795

FLEXIBLE CONDUIT

Donald R. Pierce, Ambler, Pa., assignor to Teleflex Incorporated, North Wales, Pa., a corporation of Delaware

Filed May 2, 1962, Ser. No. 191,978

5 Claims. (Cl. 74—501)



1. A flexible conduit assembly comprising a tubular member, a multiplicity of wires wrapped helically about said tubular member with a long lead, adjacent of said wires being circumferentially spaced from each other, a plurality of low frictional resistance plastic elements helically wrapped about said tubular member with a long lead and disposed within the spaces between adjacent wires, said elements being of sufficient diametral size to maintain adjacent of said wires in a non-abutting relationship, and a flexible core element movably supported within said tubular member.

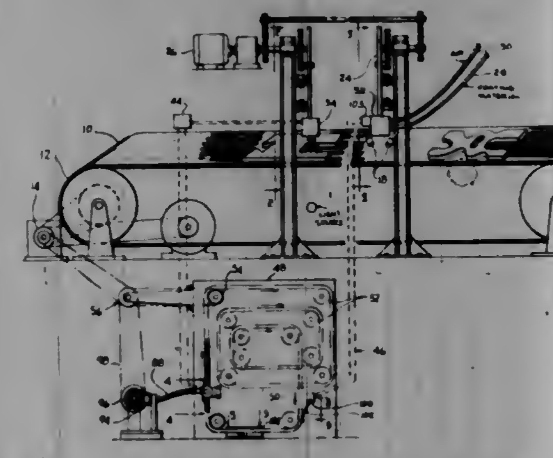
3,192,796

MEMORY SYSTEM FOR SPRAY COATING MACHINES OR THE LIKE

Donald J. Peeps, Rossford, and Francis W. Hoffman, Toledo, Ohio, assignors to The De Vilbiss Company, Toledo, Ohio, a corporation of Ohio

Filed Feb. 12, 1960, Ser. No. 8,296

1 Claim. (Cl. 74—568)



A memory device for controlling coating of a plurality of workpieces carried by a conveyor, said memory device comprising a single endless chain having a plurality of links, a plurality of pin-holding bodies carried by said links transversely to the longitudinal extent of said chain, said bodies having passages extending longitudinally therethrough, a memory pin carried by each of said bodies and protruding from opposite ends of said bodies beyond said links, said memory pins being slidably received in said passages for longitudinal movement with respect thereto, one of said pins and said bodies being magnetized and the other of said pins and said bodies being of magnetic material whereby said pins are fixedly held in said passages in any attained position, means supporting and guiding said chain over a predetermined tortuous path, means for driving said chain at a predetermined lineal speed, means adjacent a portion of said path for displacing said memory pins in said pin-holding bodies to predetermined positions in said passages, and means adjacent said path for returning the displaced memory pins to their first positions.

3,192,797

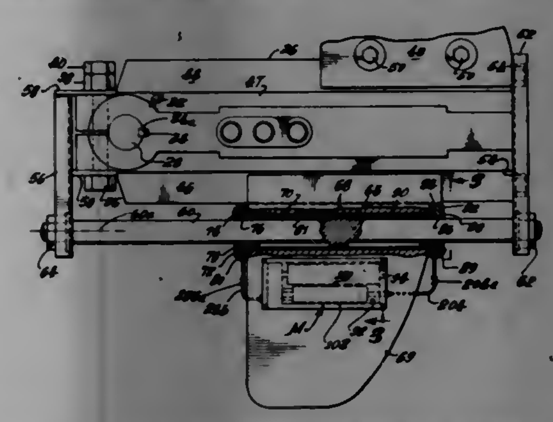
APPARATUS AND METHOD FOR COUNTERBALANCING A WEIGHT BALANCED RECIPROCATING MACHINE

Edgar W. Patterson, 12040 Old River School Road, Downey, Calif.

Filed Apr. 13, 1959, Ser. No. 806,131

11 Claims. (Cl. 74—591)

1. The method of automatically changing a weight balanced rotating crank arm that rotates in a substantially vertical plane from either an underbalanced or overbalanced to a perfectly balanced condition including the steps of: slidably mounting a counterbalance weight for longitudinal movement on said crank arm; providing first, second and third confined spaces on said crank arm; completely filling said first and second confined spaces with a hydraulic liquid; subjecting said liquid in said first space to the weight of said counterweight minus the centrifugal force thereon during the period said crank arm is in the upper half of the cycle of rotation thereof; subjecting said liquid in said second space to the weight of said counterweight plus the centrifugal force thereon during the period said crank arm is in the lower half of the cycle of rotation thereof; discharging said liquid in said first space to said third space during said rotation of said crank arm through the upper half of said cycle; restricting said discharge of said liquid from said first to said third space to dampen the movement of said counterbalance weight relative to said crank arm; providing a movable member that can be moved to a first position where it obstructs the discharge of said liquid from said second space to said third space; generating a first force by the rotation of said crank arm through said lower half of said cycle thereof that is initially of such magnitude as to counteract twice the centrifugal force generated by said rotation of said counterbalance weight; applying said first force to said movable member during at least a portion of the period said crank arm is in said lower half of said cycle; moving said movable member to a second position during the period said crank arm is in the lower half of said cycle to permit said liquid in said second space to discharge into said third space; restricting the flow of said liquid from said second space to said third space to dampen the movement of said counterbalance weight relative to said crank arm; and allowing the force of gravity to move said counterbalance weight relative to said crank arm as said crank arm rotates until said weight assumes a position relative thereto at which said crank arm rotates through one-half the cycle of rotation thereof in the same time as required to rotate through the other one-half thereof.



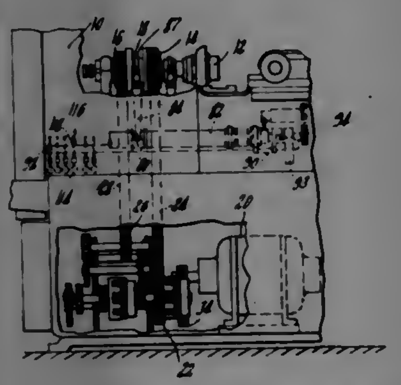
3,192,798

SPINDLE TRANSMISSION

William E. Twamley, Providence, R.I., assignor to Brown & Sharpe Manufacturing Company, Providence, R.I., a corporation of Rhode Island

Filed Aug. 28, 1962, Ser. No. 219,942

4 Claims. (Cl. 74—722)

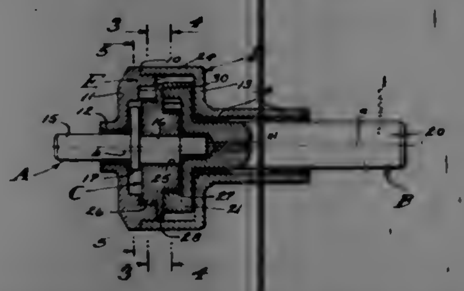


1. A variable speed transmission for a machine tool spindle having, in combination, a rotary spindle, a rotationally driven power input element, a first spindle driving element, a second spindle driving element, a spindle clutch shiftable to connect said spindle driving

elements alternatively to drive said spindle, driving connections between said power input element and said first spindle driving element including a first pair of pick-off gears forming a first rate changer partially defining a first transmission line, further driving connections between said first rate changer and said first spindle driving element including a second pair of pick-off gears forming a second rate changer connected to be driven from said first rate changer and defining with said first rate changer a second transmission line, clutching means shiftable to connect said first or said first and said second rate changers alternatively to drive said first spindle driving element to provide a first and second group of speeds for said spindle, a third pair of pick-off gears forming a third rate changer connected to be driven from one of said first or said first and second rate changers defining in combination therewith a third transmission line connected with said second spindle driving element providing a third group of speeds for said spindle, and means for shifting each of said spindle clutch and said clutching means to selectively connect any one of said first, second and third transmission lines to drive said spindle.

3,192,799
TRANSMISSION DRIVE ELEMENTS

James B. Pamplin, Garden Grove, Calif., assignor to Paul Huska, Los Angeles, Calif.
Filed Aug. 13, 1962, Ser. No. 216,616
4 Claims. (Cl. 74—805)

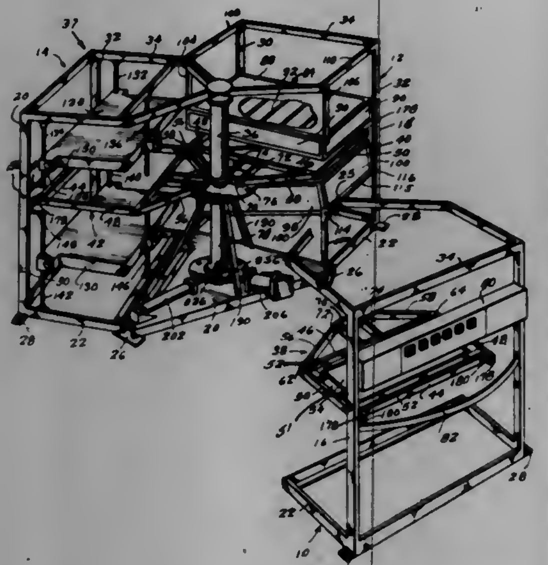


1. A transmission drive with two pairs of independently meshed elements, and including:
(a) the first pair of said elements comprising a stationary element with an internal gear form and an element with an external gear form rotatable eccentrically within and in meshed engagement with the said internal gear form,
(b) the second pair of said elements comprising a rotating element with an internal gear form and an element with an external gear form rotatable eccentrically within and in meshed engagement with the said internal gear form,
(c) the two inner rotatable elements being revoluble on a radially resilient mounting and coupled to revolve eccentrically together on the common axis of the two internal gear elements, and each pair of elements comprising, one element having uniformly undulating and alternately concave seats and convex lobes, and the other element having uniformly spaced convex projections to engage constantly with said undulating seats and lobes of the said one element.

3,192,800
ROTATABLE TURRET MOLDING MACHINE

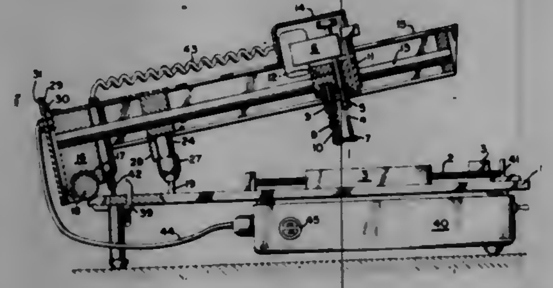
J Edward Kostur, Elmhurst, Ill.; Pioneer Trust & Savings Bank, executor of the estate of said Kostur, deceased, assignor to Comet Industries, Inc., Bensenville, Ill., a corporation of Illinois
Filed Sept. 8, 1961, Ser. No. 138,220
17 Claims. (Cl. 74—822)

16. In a machine including a rotatable frame means, a drive assembly adapted to rotate the frame means through a predetermined angle about the axis of rotation comprising; in combination, a movable member adapted to be connected with and disconnected from said frame means, means for connecting and disconnecting said frame means and said movable member, a pair of cylinder devices for moving said movable member and said frame means when connected together from a first position to a second position, said cylinder devices being pivotally mounted about respective axes lying in spaced apart relationship and at least one of said devices being in its extreme position when said frame is in said first and second positions, said cylinder devices being adapted to return said movable member to said first position when disconnected from said frame means, and means for controlling operation of said cylinder devices.



3,192,801
PIVOTABLE AND INDEXABLE ARM DRILL

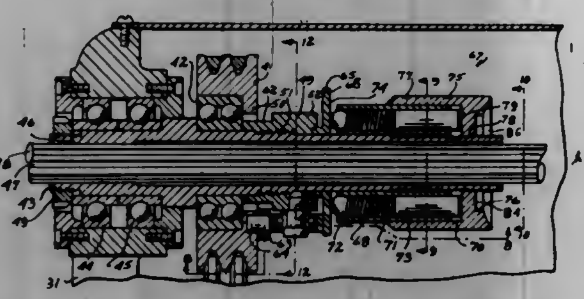
William P. Gingras, Rockville, Md., assignor to Jonker Business Machines, Inc., a corporation of Delaware
Filed Mar. 22, 1962, Ser. No. 181,759
5 Claims. (Cl. 77—5)



1. An apparatus for the drilling of data-encoding holes in selected coordinate positions of superimposable record cards, comprising
(a) a generally horizontal base plate having means thereon to position in flat stacked alignment a number of such record cards,
(b) X-axis linear horizontal guide means secured to said base plate and extending parallel to one flat dimensional direction of the stacked cards,
(c) an X-axis carriage mounted to slide along said X-axis guide means,
(d) Y-axis linear guide means secured to said X-axis carriage, extending perpendicular to the lengthwise direction of said X-axis guide means, and bodily rotatable through a vertical arc about the lengthwise direction of said X-axis guide means,
(e) a Y-axis carriage slidably mounted on said Y-axis guide means, and
(f) a record-card drilling device carried by said Y-axis carriage in position to engage and to drill data-encoding holes in selected coordinate positions of the aligned record cards, as said Y-axis guide means is swung downward in its vertical arc.

3,192,802
TORQUE CONTROL MECHANISM

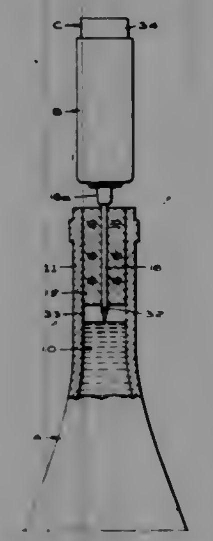
Edward W. Schatzman, South Fort Mitchell, Ky., assignor to The Avey Division of The Motch & Merryweather Machinery Co., Covington, Ky., a corporation of Ohio
Filed Dec. 4, 1962, Ser. No. 242,312
8 Claims. (Cl. 77—32.7)



1. In a torque control mechanism of the class described the combination of a driven sleeve for rotating a tool, a yieldable coupling associated with said driven sleeve yieldable to torque on said sleeve and including a plate encircling the driven sleeve and movable axially thereof, a barrel secured to said driven sleeve in spaced relation behind the plate, a plurality of coil springs axially of said barrel circumferentially of the driven sleeve, a nut having a front face and a rear face threaded on said driven sleeve in spaced relation behind said barrel and threadedly adjustable toward said barrel, said springs being under compression between the plate and the front face of the nut yieldably resisting plate movement axially of the driven sleeve, said nut having a radial groove between its front face and rear face providing in said nut a radial flange including the nut rear face with said flange radially transversely cross-cut between diametrically opposite points on the periphery of the nut to provide a plurality of ears, and means associated with each ear for actuating the same relative to the nut and driven sleeve for impinging each ear on the driven sleeve threads for locking the nut in position.

3,192,803
CORK EJECTOR WITH PRESSURIZED LIQUID PROPELLANT

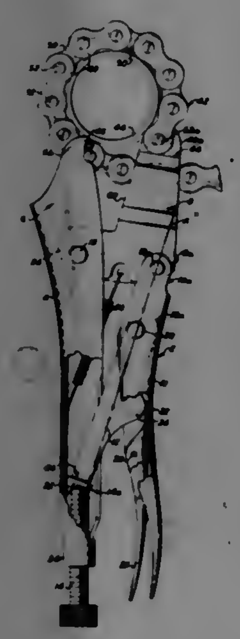
George J. Federighi, Belvedere, Calif. (% Stero Chemical Mfg. Co., 70—13th St., San Francisco, Calif.)
Filed Mar. 30, 1964, Ser. No. 355,685
1 Claim. (Cl. 81—3.2)



In a cork ejector with pressurized liquid propellant:
(a) a tubular holder defining a bore and a base, the latter having a tube-receiving socket and a shoulder associated with the socket;
(b) a container enclosing a pressurized liquid propellant that is non-medicated and non-toxic;
(c) the container being slidably disposed in the bore of the holder, and being movable toward and away from the base;
(d) a tubular needle having an upper end anchored to the base and projecting below the latter, and being made to be pushed through a cork in a bottle containing liquid;
(e) the container being provided with an outlet tube for discharge of the propellant;
(f) the outlet tube removably projecting into the tube-receiving socket;
(g) the needle communicating with the outlet tube to receive the liquid propellant therefrom, and being made to convey the liquid propellant to the interior of the bottle to eject the cork with a sudden thrust or impact, when the liquid propellant expands in the interior of the bottle below the cork;
(h) the outlet tube being slidable inwardly and outwardly relative to the container;
(i) a normally closed dispensing valve means sealing the outlet tube against escapement of the liquid propellent from the container;
(j) the valve means being arranged to be unseated, when the outlet tube is moved inwardly relative to the container;
(k) the lower end of the outlet tube bearing against the shoulder, when the container is pushed inwardly of the holder to a predetermined position, and the shoulder urging the outlet tube inwardly of the container to unseat the valve means, when the container is pushed further into the holder beyond this predetermined position;
(l) the outlet tube communicating with the lower part of the container to receive the liquid propellant therefrom, when the valve means are opened, and the needle extends downwardly through the cork;
(m) and the container being provided with a short fitting in the lower end of the container and extending only a short distance within the container and including an opening therein placing the liquid propellant directly in communication with the valve means.

3,192,804
CHAIN CLAMPS

Christian Petersen, De Witt, Nebr., William L. Becker, Denver, Colo., and Emil A. Allemeier, Spencerville, Ohio, assignors to Petersen Mfg. Co., Inc., De Witt, Nebr., a corporation of Nebraska
Filed Sept. 20, 1962, Ser. No. 225,073
4 Claims. (Cl. 81—66)



1. In a wrench having a pair of relatively movable hand gripping members, the improvement which comprises one of said members having a forward end extending beyond

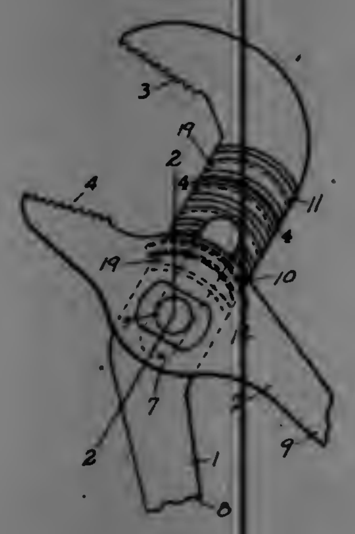
the forward end of the other of said members, said one member forward end forming a claw portion, a movable clamping element interconnecting said members, said movable clamping element including a leg pivotally connected at one end to the forward end of said other member and at its other end to said one member beneath said claw portion; said element including an integral arm projecting from said leg, a length of chain pivotally connected to the end of said arm, said chain being adapted to be wrapped peripherally of a work piece and to then extend past said arm, said arm having a portion thereof off-set from the plane of the remainder of said arm, said offset portion having a base portion out of alignment with said claw portion, said base portion and the remainder of said arm defining between them an opening in alignment with said claw portion whereby said chain is disposed within said opening when extending past said arm, said claw portion being engageable with said chain upon manual operation of said members whereby said chain grips tightly against a major portion of the periphery of said work piece.

3,192,805
PLIERS

Howard H. Manning, Meadville, Pa., assignor to Channellock, Inc., Meadville, Pa., a corporation of Pennsylvania

Filed Apr. 17, 1963, Ser. No. 273,703

3 Claims. (Cl. 8[illegible]414)



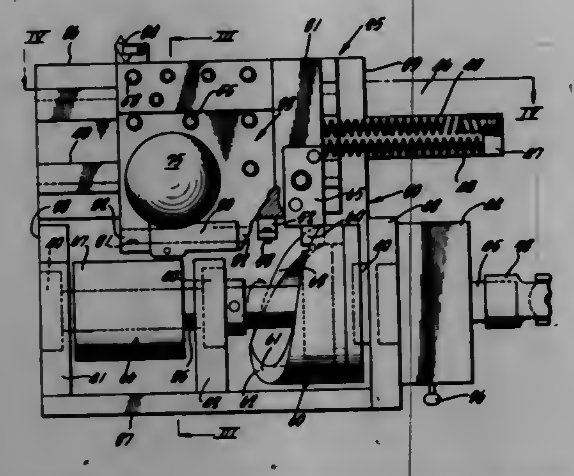
1. In pliers having a pair of crossed members with a pivotal joint between the numbers comprising a pin in one member and a slot in the other member slidably receiving the pin and preventing lateral shifting of said one member relative to the other member in a direction crosswise of the slot but freely permitting movement of said one member relative to the other member lengthwise of the slot and with jaws on the members offset to one side of the centerline of the slot said pivotal joint comprising an arcuate rib on said one member and a plurality of open ended grooves on the other member extending crosswise of the slot and separated from each other by walls of thickness decreasing on opposite sides of the centerline of the slot, the arcuate rib being centered on the pin and the grooves being centered on the center line of the slot, said rib being receivable in any one of the grooves to provide a connection between the members carrying the working pressure of the jaws, the rib and the groove in which the rib is received having surfaces engaging under working pressure of substantially the same radius and undercut at an angle to cause the engaging surfaces to cling together under working pressure, the angle of undercut on the engaging surface of the rib being greater than the angle ot undercut on the engaging surface of tne groove to shift the working pressure toward the bottom of the wall separating the grooves.

3,192,806
THREAD CUTTING ATTACHMENT FOR AN ENGINE LATHE AND THE LIKE

William A. Bisbee, Los Angeles, Calif., and George C. Kaiser, 9200 Marshall St., Rosemead, Calif.; said Bisbee assignor to said Kaiser

Filed July 1, 1963, Ser. No. 292,004

13 Claims. (Cl. 82—5)



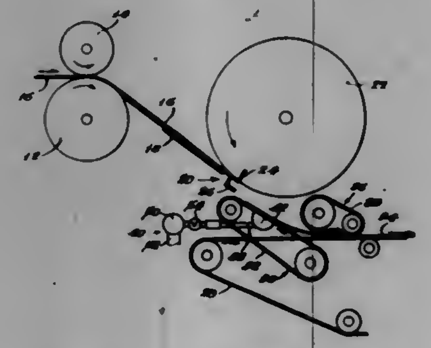
1. Apparatus for cutting threads and adapted to be mounted to a machine tool having a carriage and a rotatable chuck adapted to hold a workpiece, the apparatus comprising
- (a) holder means for holding a thread cutting tool,
- (b) a base member adapted for connection to the machine tool carriage and mounting the holder means for reciprocal motion of the holder means between spaced apart first and second positions,
- (c) holder drive means engaged between the base member and the holder means for reciprocating the holder means and adapted to be operably connected in driven relation to the chuck for operation responsive to rotation of the chuck,
- (d) means for moving the tool along a selected path fixed relative to the chuck axis of rotation during each movement of the holder means from its second to its first position, and
- (e) indexing means for moving the tool a selected amount laterally of the selected path after each movement of the holder means from its first to its second position, each movement of the tool by the selected amount being added to the total of prior such movements.

3,192,807
SHEET CONTROL SYSTEM FOR PAPER CUTTERS

William J. Haselow and William E. Aschenbrenner, Wisconsin Rapids, Wis., assignors to Consolidated Papers, Inc., Wisconsin Rapids, Wis., a corporation of Wisconsin

Filed Jan. 21, 1963, Ser. No. 252,950

7 Claims. (Cl. 83—24)



1. Apparatus for conveying sheets of material away from a rotary cutter comprising conveyor means arranged to receive sheets from the cutter, means for biasing the said sheets toward said conveyor means, said biasing means comprising a suction assembly including an elongated suction box mounted beneath said conveyor means transversely of the direction of sheet movement, said box having a plurality of partitions therein spaced apart transversely of the direction of sheet movement dividing the interior thereof into a plurality of suction chambers, conduit means communicatively connecting each of said chambers to a vacuum source, and valve means in each of said conduit means.

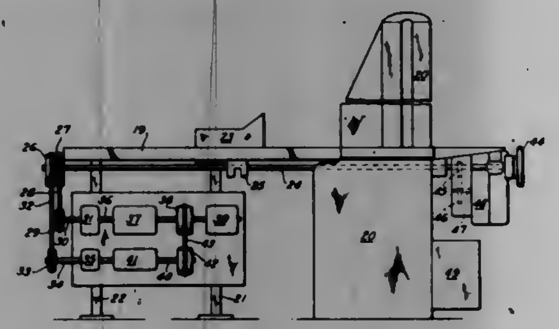
3,192,808
CONTROL MECHANISM FOR PAPER-CUTTING MACHINES

Eric C. W. Fielder and John A. Jackson, Southend-on-Sea, Essex, England, assignors to E. K. Cole Limited, Southend-on-Sea, Essex County, England

Filed Mar. 7, 1963, Ser. No. 263,573

Claims priority, application Great Britain, Mar. 9, 1962, 9,060/62

5 Claims. (Cl. 83—71)



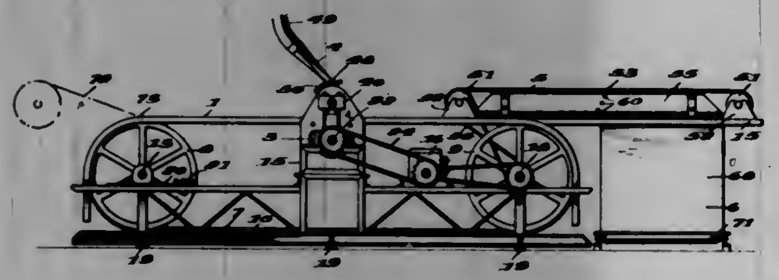
4. Control apparatus for the movement of a backfence in a guillotine type cutting machine, having means whereby a body upon which cutting is to be performed is caused to be advanced at a predetermined rate to consecutive positions according to a predetermined programme represented by pulse signals recorded on twin tracks of magnetic tape, means for recording programme signals on each track, means for causing a stop signal on either track to stop the movement of the backfence and means operated by a coincidence of stop signals on the two tracks to initiate the operation of a cutting knife.

3,192,809
ROTARY CUTTING APPARATUS

Fred P. Crouch and Wilbur M. Lockrow, Winston-Salem, N.C., assignors, by mesne assignments, to Hanes Corporation, Winston-Salem, N.C., a corporation of North Carolina

Filed May 27, 1963, Ser. No. 283,252

8 Claims. (Cl. 83—100)



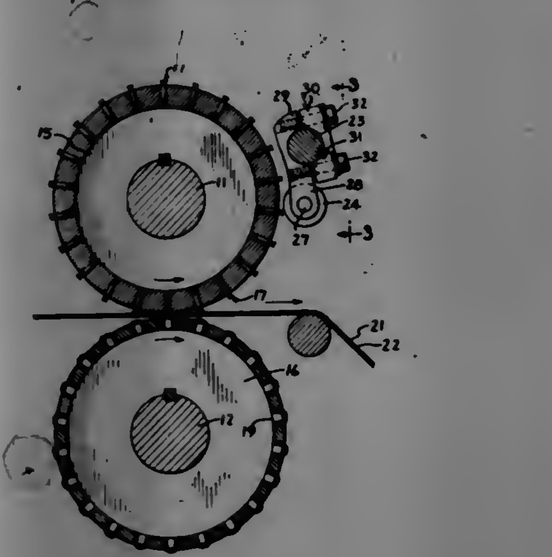
1. Apparatus for continuously cutting a web of knitted or woven cloth into a plurality of repeating garment blank portions, comprising: a hard-surfaced non-resilient pressure roller, and bearing supports mounting the roller for rotation about a fixed horizontal axis; an opposed non-resilient roller mounted for rotation about an axis parallel to the pressure roller axis, the cutter roller having at its periphery raised hard-surfaced cutting edges shaped to form a plurality of garment blank portions from a web of cloth with intermediate waste portions; collar means rigidly holding the cutter roller against the pressure roller; means for rotating the pressure roller at a predetermined peripheral speed with a corresponding rotation of the cutter roller at the same peripheral speed; means for feeding the web of cloth from one side to the bite between the cutter roller and the pressure roller at a linear speed equal to the said peripheral speeds to cut the web of cloth into the blank portions and the waste portions; a vacuum waste disposal system for selectively removing and collecting the waste portions from the cutter roller; belt transfer means including a vacuum system for selectively attracting only the blank portions, and comprising a pair of end rolls, a plurality of spaced parallel endless belts passing around the end rolls and movable between a garment blank receiving section and a garment blank depositing section, a hood mounted within the area confined by the rollers and the belts, the hood being open at the bottom and including port means for communication with a vacuum source to attract the blank portions to the belts through the spaces from below the belts at the receiving section, means for mvoing the belts and the attracted blank portions from the receiving section to the depositing section, flapper valves extending transversely of the hood and intermediate the ends thereof to divide the hood and the belts therebelow into the receiving section and the depositing section, the port means being on the receiving section side of the hood, and means for breaking the vacuum in the hood at the depositing section and releasing the blank portions from the belts when the blank portions reach a predetermined position at the depositing section.

3,192,810
PUNCHING MECHANISM WITH TOOL SMOOTHING MEANS

Jack D. Amato, Norridge, Ill., assignor to Arvey Corporation, Chicago, Ill., a corporation of Delaware

Filed Oct. 30, 1962, Ser. No. 234,045

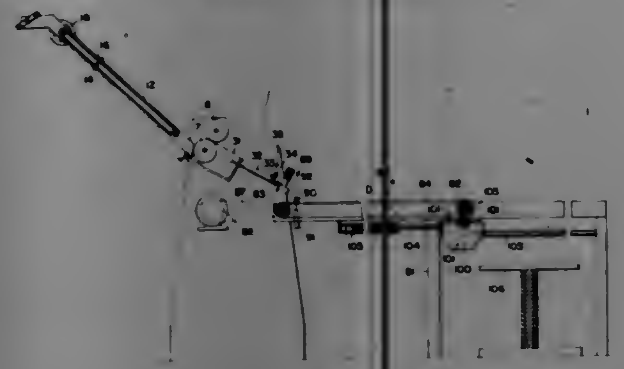
5 Claims. (Cl. 83—174)



1. Mechanism for punching spaced perforations in a moving web comprising a frame, a pair of oppositely rotatable driven rolls mounted for rotation on spaced parallel shafts carried by said frame, a plurality of angularly spaced radially extending punches carried by and projecting from the peripheral surface of one of said rolls, a plurality of angularly spaced dies disposed in the other roll and opening to the periphery thereof in mating relationship to said punches, a third shaft carried by said frame parallel to said other shafts and a leveling idler roll carried by said third shaft, the peripheral surface of said leveling roll being disposed closely adjacent to but outwardly of the normal peripheral path of said punches and within the peripheral path of abnormalities elevated above said normal peripheral path.

3,192,811
FABRIC STRAIGHTENING AND CUTTING DEVICE

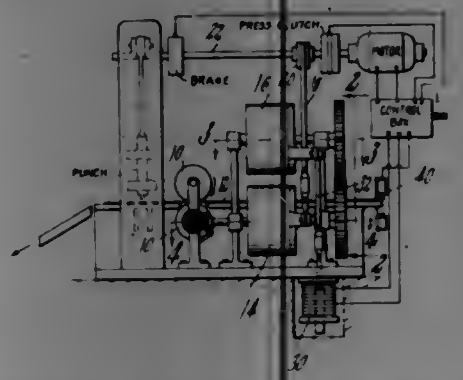
Reid W. Simmons, Deerfield, Fla., assignor, by mesne assignments, to Sjostrom Automations, Inc.
Filed July 10, 1961, Ser. No. 123,409
12 Claims. (Cl. 83—175)



1. A device for severing successive sections from a continuous length of flexible material along transverse lines coincident with transverse elongated portions having a thickness less than other portions of said material comprising, feeding means for feeding said continuous length forwardly, straightening means positioned in spaced relation to said feeding means and through which said flexible material is adapted to pass, means for maintaining a forward tension on said material, said straightening means comprising a pair of straightener rolls parallel with one another and positioned on either side of and transversely to said forward moving length, means for rotating said straightener rolls in a direction opposite to said forward movement and means for causing intermittent engagement of said rolls with said continuous length, said intermittent engagement being at intervals in accordance with the location of one of said elongated portions, to restrain the forward movement of and move said other portions of said material rearwardly to align one of said elongated portions with said straightener rolls, and means for transversely cutting said length along said one elongated portion.

3,192,812
PUNCH PRESS WITH DUAL FEEDING DRIVE MEANS

Henry L. Coesens, Newmarket, N.H., assignor to The Macallen Company, Inc., Newmarket, N.H., a corporation of New Hampshire
Filed Feb. 6, 1964, Ser. No. 342,982
7 Claims. (Cl. 83—209)



1. In a punch press or the like, including a main driving clutch and brake, adapted to operate on intermittently moved strips of workpiece material,

a pair of feed rolls rotatably mounted to grip therebetween and feed successively to the press strips of said workpiece material,

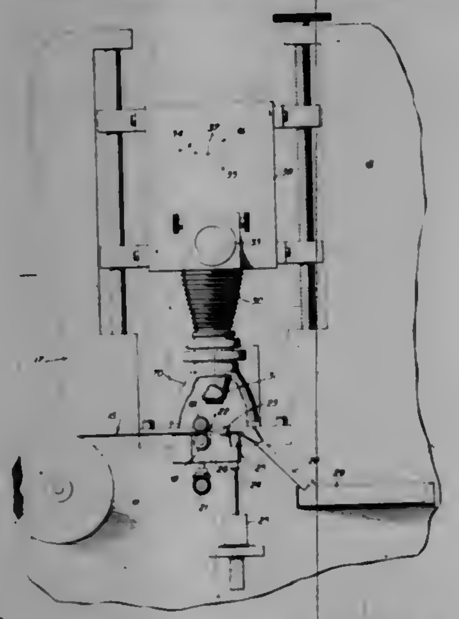
a primary feeding drive for said feed rolls connected to and normally mechanically driven step-by-step from the press,

an auxiliary feeding drive for said feed rolls operative when said primary feeding drive is temporarily inoperative and mounted and driven separately to feed the forward end of a strip of said workpiece material,

control means connected to the main driving clutch to stop and brake the press and also stop the primary feeding drive while the trailing end of a preceding strip is in a final complete unit punching position, and then to cause the auxiliary feeding drive to move said forward end of the following strip into an initial complete unit punching position.

3,192,813
ARTICLE POSITIONING APPARATUS

Frank A. Berberick, Trenton, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 7, 1962, Ser. No. 192,831
13 Claims. (Cl. 83—365)



1. Apparatus for positioning an article in a predetermined position relative to an axis, said article having a measurable characteristic varying periodically along a dimension transverse to the axis, comprising:

means for producing a signal proportional to a comparison of said characteristic for portions of said article on opposite sides of said axis;

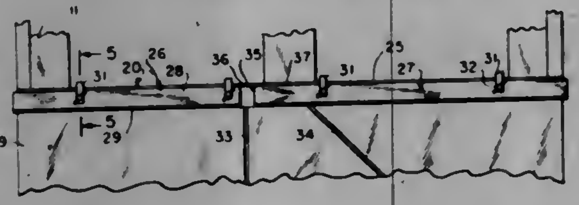
means for superimposing a predetermined signal on said first-mentioned signal;

means for translating said article toward said predetermined position in response to said signals; and

means responsive to the sum of said two signals and connected to said superimposing means for removing said predetermined signal before said article reaches said predetermined position, whereby said translating means positions the article in said predetermined position in response to the first-mentioned signal only.

3,192,814
WORK FENCE FOR RADIAL ARM SAW MACHINE

Christian B. Zimmerman, Lancaster, Pa., assignor, by mesne assignments, to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed June 4, 1963, Ser. No. 285,295
1 Claim. (Cl. 83—467)



For use with a radial arm saw machine having a frame and a work table secured to the frame, the work table having a plurality of saw kerfs formed therein, and the machine further having a motor-driven saw blade traversable above the table, an adjustable non-deteriorating work fence for the machine, comprising:

(a) a first longitudinal angle member secured to the frame of the machine and having one longitudinal edge thereof disposed adjacent to the back edge of the work table;

(b) said first angle member further having a rearward upstanding longitudinal side portion with respective slots therein forming a continuation of the saw kerfs in the table;

(c) a pair of second longitudinal angle members nested within and slidably mounted on said first angle member independently of each other and in a direction parallel to the back edge of the work table;

(d) said second angle members being alined with each other and each having a respective longitudinal horizontal portion disposed below the saw kerfs in the work table;

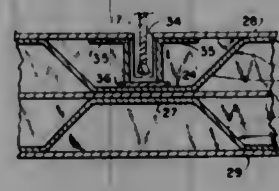
(e) said respective longitudinal horizontal portions of said second angle members being disposed between the back edge of the work table and said rearward longitudinal side portion of said first angle member;

(f) each of said second angle members further having a right-angularly disposed upstanding longitudinal side portion thereof which is disposed adjacent to the back edge of the work table and which extends above the top surface of the work table, thereby forming a stop for a workpiece; and

(g) means to clamp said pair of longitudinal angle members to said first angle member, whereby said members may be slidably adjusted independently of each other along the back edge of the work table and may be brought into close proximity with each other at selected points to form a continuation of any one of the saw kerfs in the table.

3,192,815
WORK TABLE FOR STATIONARY POWER-OPERATED MACHINE

Christian B. Zimmerman, Lancaster, Pa., assignor, by mesne assignments, to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed June 4, 1963, Ser. No. 285,294
3 Claims. (Cl. 83—471)



1. A work table for a radial arm saw machine in which a motor-driven saw blade is traversed above the table; said work table comprising:

(A) a corrugated sheet having a series of longitudinal flutes, said flutes being arranged substantially parallel to the direction in which the saw blade is traversed above the table;

(B) a plate secured on top of said corrugated sheet, whereby a substantially-flat surface is provided for supporting a workpiece; and

(C) a longitudinal kerf formed in said plate in substantial alinement with the traversing saw blade;

(D) said longitudinal kerf being formed between an adjacent pair of said longitudinal flutes in said corrugated sheet;

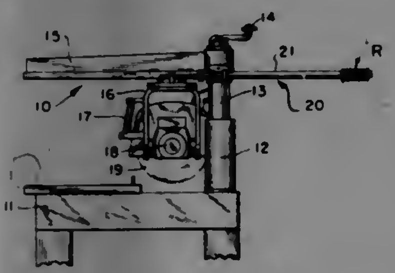
(E) whereby the saw blade projects through said longitudinal kerf between said adjacent flutes to a predetermined depth below said plate;

(F) whereby a smaller arcuate portion of the saw blade is in engagement with the workpiece at any one time; and

(G) whereby a frictional "drag" on the blade is precluded and a cleaner cut is obtained, especially on metal-cutting operations.

3,192,816
TRAVERSE CONTROL MEANS FOR POWER TOOL

Christian B. Zimmerman, Lancaster, Pa., assignor, by mesne assignments, to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed June 4, 1963, Ser. No. 285,296
9 Claims. (Cl. 83—489)



1. In combination with a stationary power tool including a manually-reciprocable tool carriage having a cutting stroke and a return stroke, traverse control means for the carriage, comprising:

(a) a cylinder and means to mount the cylinder on the stationary power tool and to align its axis with the axis of recriprocation of the tool carriage;

(b) a piston reciprocable in said cylinder;

(c) a tubular piston rod secured to one side of said piston and projecting beyond one end of said cylinder;

(d) means to couple said piston rod to the tool carriage for reciprocation in unison;

(e) said cylinder being completely filled with a fluid on both sides of said piston;

(f) fluid passage means formed in said piston and communicating one side of said piston with the other side of said piston;

(g) resiliently-biased valvular means normally closing said fluid passage means, said valvular means being opened to admit fluid to the piston rod side of said piston only on the return stroke of the tool carriage;

(h) auxiliary fluid passage means formed in said piston, communicating one side of said piston with the other side of said piston, and including a valve seat;

(i) an axially-movable adjusting rod within said tubular piston rod and having a conical tip cooperating with said valve seat to form an orifice, thereby restricting the flow of fluid from the piston rod side of said piston and through said piston on the cutting stroke of the tool carriage, and thereby regulating the maximum rate of traverse of the tool carriage on its cutting stroke; and

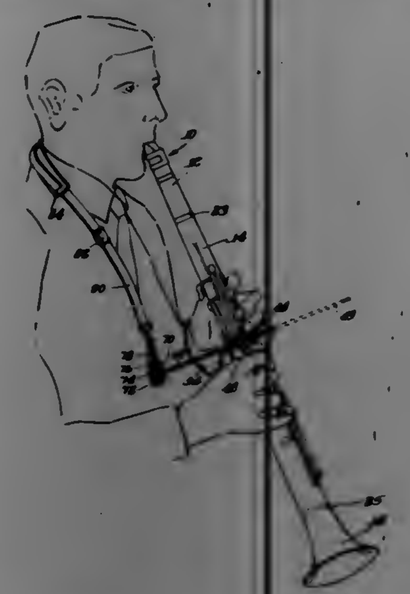
(j) manually-manipulatable means to adjust the axial position of said adjusting rod, whereby the orifice is variable, and whereby the traverse control means may be adjusted for the optimum cutting of different materials.

3,192,817
CLARINET POSITIONER

Harry A. Schmidt, Tallahassee, Fla., assignor to G. Leblanc Corporation, Kenosha, Wis., a corporation of Wisconsin
Filed June 23, 1964, Ser. No. 377,363
10 Claims. (Cl. 84—327)

1. A positioner for a musical wind instrument, said positioner comprising: a positioning band adapted to fit

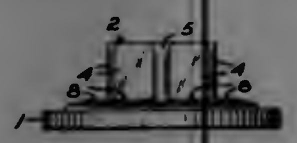
around said instrument; means to secure said band to said musical instrument; a shaft secured to said positioning band in a position extending radially outwardly from the band, said shaft having a rear end spaced apart from the end secured to the positioning band; a chest disc



adapted to fit against the chest of a musician holding the musical instrument, said disc being secured to the far end of said shaft in a position with the shaft extending radially outwardly from the plate and from the musician's chest; and means connected to the disc to support the disc from about the musician's neck.

3,192,818
THREADED NUT DEVICE WITH SHAVED WRENCH ENGAGING SURFACES

Norman J. Hughes, Melrose, Mass., assignor to United-Carr Incorporated, a corporation of Delaware
Filed Sept. 25, 1962, Ser. No. 226,096
1 Claim. (Cl. 85—32)

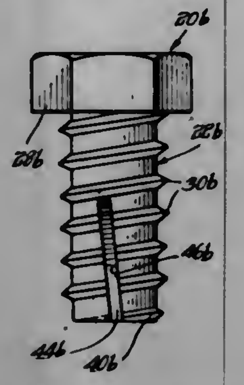


A threaded nut device formed from drawn sheet metal and having a thin walled barrel portion provided with an internal circular wall threaded to engage a screw shank and an outer wall having a plurality of wrench engaging outer surfaces extending lengthwise of the barrel portion only, said nut also having shaved portions extending from said barrel portion adjacent ends of the wrench engaging flat surfaces, a flange at one end of said barrel portion having an annular recess therein and said shaved portions located in said recess.

3,192,819
THREAD FORMING SCREW HAVING OVAL THREADS AND A CUTTING EDGE

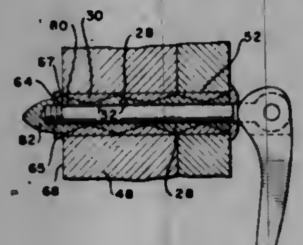
Walter M. Hanneman, Wheaton, Ill., assignor to Illinois Tool Works Inc., a corporation of Delaware
Filed Apr. 3, 1961, Ser. No. 100,225
1 Claim. (Cl. 85—47)

A screw member adapted for application to an unthreaded workpiece; and comprising a headed shank having thread convolutions extending from the leading end toward the head and including full size thread convolutions providing a holding section spaced from the leading end, the thread convolutions tapering from the holding section toward the leading end to facilitate initial application thereof to a workpiece, the periphery of the thread convolutions in transverse section normal to the shank axis defining an oval with major and minor crest axes with the minor crest diameter greater than the major root diameter, the shank having a longitudinal slot from the leading end through at least one full size thread convolution on the major axis with the thread convolutions continuous from one edge of the slot to the opposite edge thereof, the said slot providing a serrated cutting edge located substantially along a longitudinal line defined by the intersection of the major axis with the thread periphery, the thread periphery disposed diametrically opposite to said cutting edge providing a firm work engaging abutment to resist transverse forces resulting from opeartive rotative engagement of the cutting edge with the workpiece.



3,192,820
QUICK RELEASE PIN

Kenneth H. Pitzer, Los Angeles, Calif., assignor of two-thirds to Paul Gross, Tarzana, Calif.
Filed Jan. 16, 1961, Ser. No. 82,944
7 Claims. (Cl. 85—69)



1. A quick release pin device which comprises a pin, a radially expansible bushing mounted on said pin, a first member connected to one end of said pin and abutting one end of said bushing, the diameter of said first member being no greater than the diameter of said bushing in expanded position, said bushing at said one end thereof having a surface outwardly inclined from said first member, a radially expansible ring mounted on said inclined surface, a second member slidably mounted on said pin adjacent the other end of said bushing, and means connected to said pin for applying pressure against said second member and against said other end of said bushing, to thereby compress said bushing between said members and cause radial expansion of said bushing and radial expansion of said ring along said inclined surface.

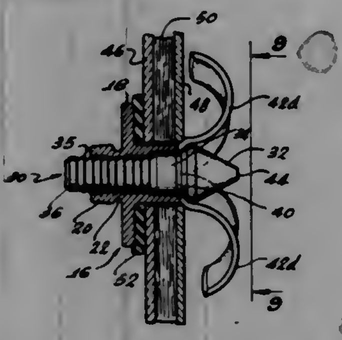
3,192,821
BLIND RIVET HAVING A GROOVED AND DEFORMABLE LOCKING BOSS

George Siebol, Garden Grove, Calif., assignor to Olympic Screw & Rivet Corporation, Downey, Calif., a corporation of California
Continuation of application Ser. No. 87,257, Feb. 6, 1961. This application Nov. 19, 1962, Ser. No. 239,868
4 Claims. (Cl. 85—77)

1. A blind rivet adapted for insertion from the top side in aligned apertures in overlapped structural sheets and setting under tension therein:

- a tubular body having an axial passage from end to end therethrough;

- a flange formed adjacent a top end of said body and of a diameter substantially larger than said body to seat against the topmost of said sheets;
- a pin for setting said rivet received in said passage with a tail portion protruding from the top end and a head protruding from the other end of said body, said head having an annular setting surface facing generally toward said body and adapted upon pulling of said head against the end of said body by tension applied to said tail portion to deform an end-adjacent portion of the body progressively radially outward to wedge the thus deformed portion between said setting surface and the undermost of said sheets at the edge of the aperture therein to clamp said sheets together between the flange and thus deformed portion of said body;



and lock means to lock said pin after setting, comprising:

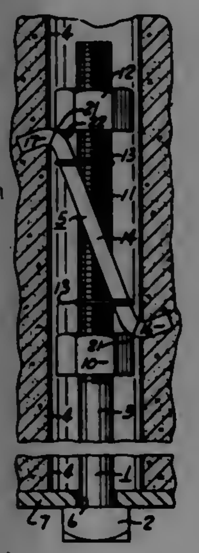
- an annular boss on the top of said flange, closely surrounding the end of said axial passage, said boss having an outer circumferential groove formed therein closely adjacent the top surface of said flange, and said boss having a top surface end adapted to receive pressure to axially compress said boss by reactive forces resulting from tension applied to said tail portion of said pin, said boss having strength at said groove capable of withstanding axial compressive forces therein up to a predetermined force at which said boss yields radially inwardly at said groove, said predetermined force being greater than a force required to deform said end adjacent portions of said body outwardly to clamp said sheets together;
- and a series of axially spaced apart circumferential serrations on said pin spaced from said setting surface by a distance less than the length of said axial passage and the spacing of successive serrations in said series being substantially less than the width of said groove, whereby upon tensioning of said pin to deform said body and the simultaneous application of said reactive force to said end surface of said boss, the grooved boss portion of said boss buckles inwardly to engage at least one of said serrations to lock said pin in place under tension in said passage when said tension and reaction force reaches a predetermined value.

3,192,822
LINK TYPE ANCHOR

Albert H. Genter, Mount Lebanon, Pa.
(769 Larchmont Road, Pittsburgh 16, Pa.)
Filed May 1, 1963, Ser. No. 277,980
4 Claims. (Cl. 85—79)

1. A mine roof bolt assembly to be anchored in a drilled hole penetrating an upper rock strata from the roof of a mine, the lower strata loose due to mining, consisting of

- a roof bolt plate to embrace the mine roof around the drilled hole and having a bolt hole therethrough,
- a roof bolt to extend through said bolt hole to clamp said roof bolt plate against the roof and hold the rock strata in place,
- a threaded section on the upper end of said bolt,
- a nut threadably operable on the upper end of said bolt section,
- an abutment in the form of a bead on the bottom of said nut,
- means defining a non-movable shoulder adjacent the lower end of said threaded bolt section,
- a non-deformable link consisting of an intermediate portion and opposite ends which are bent in opposite directions in parallel planes and at an angle lateral of the intermediate portion of said link,
- an opening through the intermediate portion of said link to permit free movement and diagonal positioning of said link on said roof bolt,
- said free movement of said link limited by said nut and said shoulder means to prevent said link from escaping over the same,



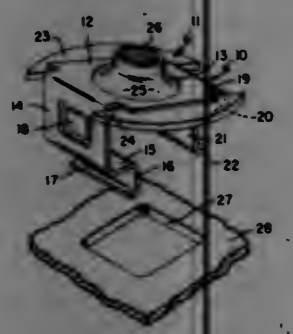
- said nut and said shoulder forming substantially parallel pressure applying opposed abutment faces and spaced apart sufficiently to permit said link to lie substantially diagonally with respect to said bolt and said opposed abutment faces in order to enter and slide up into said drilled hole in the mine roof,
- said opposite ends of said diagonally positioned link upon insertion of the roof bolt assembly into said drilled hole have sufficient contact with the sides of the drilled hole in order to frictionally engage the surface and permit the abutment on said nut to cooperate with the opening in said link to hold said nut while said bolt is turned to draw said nut toward said shoulder,
- said opposed abutment faces expelling the opposite ends of said diagonal link laterally causing the link ends to penetrate the sides of the drilled hole to form a bridge anchor from which said nut and bolt draw said plate tightly against the mine roof to support the lower strata from the upper strata.

3,192,823
CAGE NUT ASSEMBLY WITH A PIVOTAL NUT

Robert A. Munse, Perrysburg, Ohio, assignor, by mesne assignments, to The Bishop and Babcock Corporation, Toledo, Ohio, a corporation of Ohio
Filed Apr. 19, 1963, Ser. No. 274,117
3 Claims. (Cl. 85—80)

1. A cage nut assembly comprising a unitary spring metal retainer having a centrally apertured flat inclined base, a depending arm of appreciable length at one side of said base terminating in an outwardly facing hook element for engaging the edge of a panel aperture, an inwardly extending latching tongue on said arm with the free end thereof juxtaposed to said hook element, a short tab on the opposite side of said base provided with an inward bend contiguous with said base and terminating in an outwardly facing hook element generally aligned with

said first hook element, and a nut member of substantially rigid material fitting said retainer and rockable about said inward bend as a pivot so as to lie in a raised inclined position or a lower horizontal position disposed beneath and captured by said latching tongue, whereby with said nut member in its raised inclined position said arm can freely flex to enable the hook element carried thereby to be rocked toward the other hook element for facilitating the application of the retainer to a panel aperture and with said nut member in its lowered horizontal position said latching tongue retains the same and flexure of said hook elements toward each other is prevented.

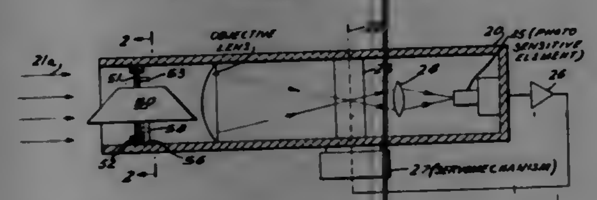


3,192,824
SCANNING SYSTEM FOR LIGHT TRACKING DEVICE

Adolph H. Rosenthal, Forest Hills, N.Y., assignor to Kollsman Instrument Corporation, Elmhurst, N.Y., a corporation of New York

Filed Dec. 20, 1960, Ser. No. 77,199

4 Claims. (Cl. 88—1)



1. A light source tracking system comprising telescope means for imaging the light of a light source to be tracked in a focal plane, a scanning means, a light sensing means and an image rotating means; said scanning means including a vibrating aperture movable in the plane of said focal plane and vibrating along a substantially straight line with simple harmonic motion; said vibrating aperture having a null position along the optical axis of said telescope means; said light sensing means being positioned along the optical axis of said telescope means; said vibrating aperture being interposed between said telescope means and said light sensing means; said image rotating means being positioned in front of said telescope means and said scanning means; said image rotating means being rotatable from a first fixed position to a second fixed position to rotate said image in said focal plane through a predetermined angle.

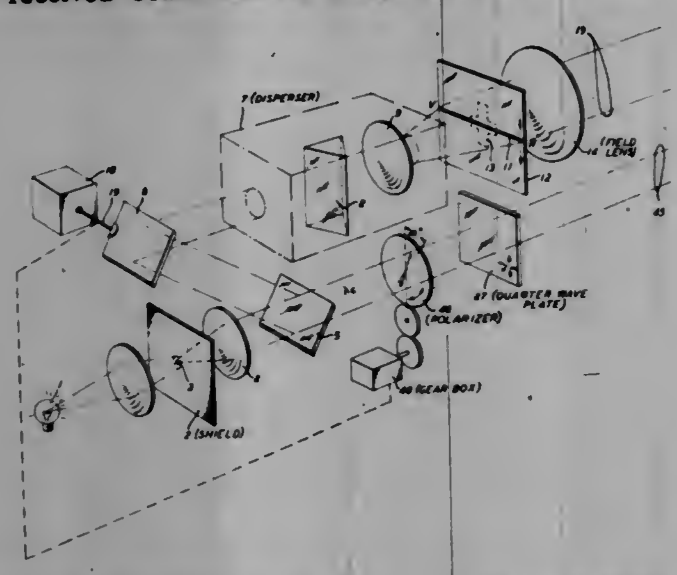
3,192,825
SPECTRALLY CODED OPTICAL TRANSMISSION OF IMAGES

Jeofry S. Courtney-Pratt, Springfield, and Edward Eisner, Bernardsville, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 18, 1961, Ser. No. 145,852

10 Claims. (Cl. 88—1)

8. Image transmission apparatus which comprises a source of a narrow beam of polychromatic light, means for diverting the light of a preassigned wavelength λ_c from said beam, means for spreading the remaining wavelengths of said beam into a spectrum, means for selectively illuminating the several elements of a single line of an object field with the successively different wavelengths of said spectrum, means for progressively sweeping said illumination over said field in a direction substantially perpendicular to said line, means for modulating light of said diverted wavelength λ_c in coordination with said sweeping operation to provide a control signal, means for together transmitting the light of said field as thus illuminated and the light of said wavelength λ_c as thus modulated as a composite beam to a remote location, means at said remote location for receiving said composite beam, means for dverting light of said wavelength λ_c from said received beam, means for directing the undiverted light of said received beam into an image field in a fashion to selectively illuminate the adjacent elements of a single line of said image field with successively different wavelengths of said light, means for progressively sweeping said image line illumination over said image field in a direction substantially perpendicular to said image line, means for recovering the modulation envelope of the light diverted from said composite beam, means for developing from said recovered envelope a signal that varies in synchronism with the operations of said first-named sweeping means. and means for governing the operations of said image line sweeping means in synchronism with the variations of said last-named signal.



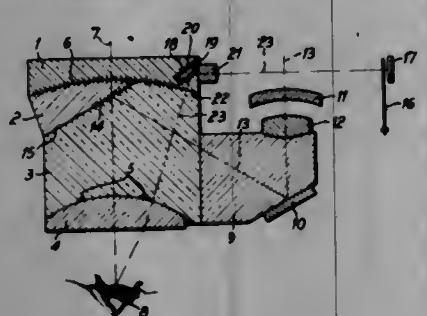
3,192,826
BLOCK TYPE ALBADA VIEWFINDER WITH INDICATOR VIEWING MIRROR AND LENS CARRIED BY FRONT ELEMENT

Friedrich Papke, Braunschweig, Germany, assignor to Voigtlander A.G., Braunschweig, Germany, a corporation of Germany

Filed Oct. 17, 1961, Ser. No. 145,599

Claims priority, application Germany, Nov. 2, 1960, V 12,195

2 Claims. (Cl. 88—1.5)



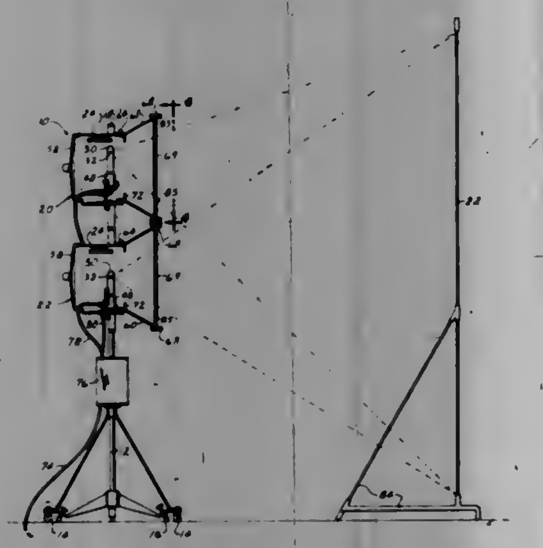
1. A block type Albada distance measuring and ranging viewfinder, for photographic cameras, comprising, in combination, a front object facing lens having a concave inner surface; intermediate block means, of transparent material, having a convex object facing end surface forming an interface with said concave surface; a partially light-permeable mirror disposed in said interface; a rear optical element, of transparent material, having an object facing surface forming an interface with the eye facing end surface of said block means; an image limiting frame disposed in said last-named interface in substantially the focal plane of said mirror for imaging by the latter at substantially infinity a partially light-permeable oblique mirror in said intermediate block means intersecting the optical axis of said viewfinder inwardly of said mirrored interface and facing said rear optical element; an optical system disposed laterally of said intermediate block means and effective to direct light rays from the object laterally into said intermediate block means and to said oblique mirror, said oblique mirror directing the latter light rays to the eye of an observer looking through the viewfinder; a slot formed in a lateral surface of said front lens, located in its entirety in the vicinity of said lateral surface of said front lens, spaced forwardly from said intermediate block means, and said slot being a blind bore with parallel side walls formed in the front portion of the lateral surface of the front lens and extending inwardly and obliquely to terminate forwardly on the cancave inner surface and extending generally oblique to the optical axis of the viewfinder; a reflecting mirror positioned in said slot in the path of light rays from an indicator or the like located laterally extraneous of the viewfinder; and a plano-convex collimator lens mounted on said lateral surface of said front lens in advance of said reflecting mirror with its plano surface cemented to the lateral surface of said front lens in alignment with the reflecting mirror in said slot, said path of light rays extending through said collimator lens to said reflecting mirror and said collimator lens being designed and constructed to provide an image of the indicator, or the like, at substantially infinity in the field of view of an observer looking through the viewfinder, said collimator lens being situated in its entirely forwardly of and in non-overlapping relationship with respect to said intermediate block means, and said reflecting mirror being oriented and arranged to reflect said light rays to the eye of an observer looking through said rear optical element, to provide an image of the indicator or the like at substantially infinity in the field of view of such observer; whereby, due to the positioning of said reflecting mirror in said slot and said partially light-permeable oblique mirror in said intermediate block means, interference between the light rays directed by the said optical system laterally into said intermediate block means and those providing said image of the indicator or the like is prevented.

3,192,827
LENSLESS SLIDE PROJECTION APPARATUS

Elemer Nagy, 21 Beverly Road, West Hartford, Conn.

Filed May 22, 1961, Ser. No. 111,666

3 Claims. (Cl. 88—24)



1. A lensless slide projector unit, comprising; a support, a pair of slide projectors mounted upon said support, said projectors having housings with substantially parallel longitudinal axes, said projector housings having first portions and second portions rotatably mounted thereon for adjustment about their longitudinal axes, said second portions defining housing openings at one end thereof, incandescent bulbs having substantially point light sources therein mounted within said first housing portions, support means on said second housing portions for retaining transparent slides in planes extending perpendicular to the longitudinal axes, and means in at least one of the slide projectors for adjusting the longitudinal distance between its bulb and support means.

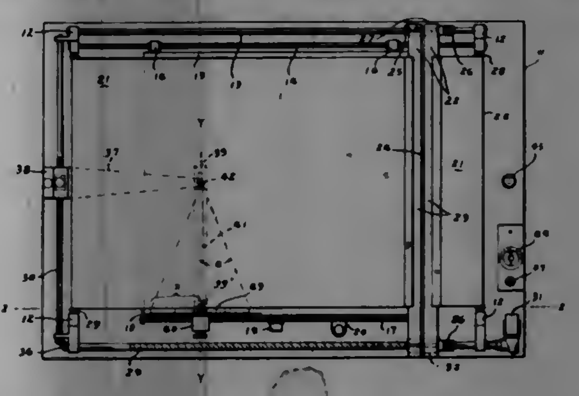
3,192,828
PRINTING EASEL FOR SENSITIZED MEDIA

Ernest R. Swanson, 3862 Lafayette Ave., St. Louis 10, Mo.

Filed May 29, 1962, Ser. No. 198,655

4 Claims. (Cl. 88—24)

(Granted under Title 35, U.S. Code (1952), sec. 266)



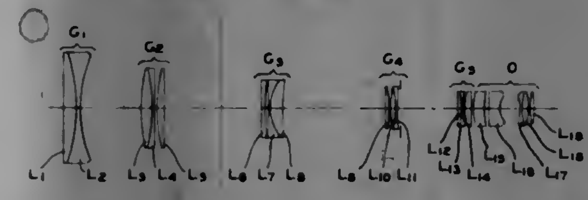
1. A sensitized media printing easel for a projected image comprising in combination: a base having mounting brackets thereon; a linear guide shaft connected to said mounting brackets; a media-holding platen having a guide bushing affixed thereto, said guide bushing receiving said guide shaft to slidably mount said platen thereon for linear movement and guidance therealong; a scan bar having an adjustable aperture slit and a scan drive bushing; a first drive shaft journaled in said mounting brackets parallel to said guide shaft, and operatively received by said scan drive bushing for movement therealong; a second drive shaft journaled in said mounting brackets and having rotational linkage to said first drive shaft; a cam drive means for conveying motion between said second drive shaft and said platen; and means rotating said drive shafts to move said platen and said scan bar relative to each other in parallel directions.

3,192,829
VARIFOCAL LENS SYSTEM OF WIDE VARIFOCAL RANGE

Keizo Yamaji, 310 4-chome, Denenchofu, Otaku, Tokyo, Japan

Filed June 16, 1961, Ser. No. 120,131

3 Claims. (Cl. 88—57)



1. A varifocal lens system having a movable and a fixed portion arranged on a common optical axis, the movable portion comprising three axially spaced lens components, each of the outer two components of the movable portion having a refractive power of the same sign and equal to the other in magnitude, each of the outer components of the movable portion also being movable an amount directly proportional to the amount the inner component of the movable portion is moved at all stages of component movement, the inner component having a

refractive power of sign opposite to that of each outer component, the fixed portion comprises two lens components of which one is in front of and the other is to the rear of the movable portion, the focal length of the fixed front lens component being equal to that of the fixed rear lens component, the fixed front lens component having a refractive power of the same sign as the inner movable component, mechanical means coupling the outer movable components to each other at a fixed distance from each other, the focal lengths f_2, f_3 and f_4 of, respectively, the front outer movable, the inner movable and the rear outer movable components meeting the conditions that:

$$f_2>0;\ f_3<0;\ f_4>0;\ f_2=f_4$$

$$[4(f_2+f_3)^2-f_2(f_2+2f_3)]T^2+4f_2^2(f_2+f_3)T-4(f_2+f_3)^2f_2^2=0;$$

$$M=m_2m_3m_4$$

$$m_2=\frac{-f_2}{f_2+T}$$

$$m_3=\frac{\frac{f_2T}{f_2-T}-f_2-2(f_2+f_3)}{f_3}$$

$$m_4=\frac{T-f_2}{f_2}$$

where 2T is the total movable distance of the outer movable components, M^2 is the zoom ratio of the system, m_2, m_3 and m_4 are the respective magnification powers of the front outer movable component, the inner movable component and the rear outer movable component when all the movable lens components are sufficiently thin,

$$1.2|f_3|<\tfrac{1}{2}(T_2+T_4)<1.8|f_3|$$

and

$$0.6T_3<\tfrac{1}{2}(T_2+T_4)<0.9T_3$$

where $T_{\text{subscript}}$ is the distance through which the front and rear movable component, respectively, is movable, means for moving the movable portion in such manner that both outer movable components move axially in the same direction while the inner movable component moves axially in the opposite direction to produce the image of a spatially fixed object at a spatially fixed position while the magnification of the whole system is continuously varied by such movement of the movable components and the individual magnifications of the three movable components simultaneously and uniformly increase and decrease and at one position of its such movement each of the three movable components functions simultaneously with the other two movable components at a magnification substantially equal to -1, the distance d_{24} between the outer movable components is defined by

$$0.8|f_3|<d_{24}<3.2|f_3|$$

during their movement, the relation between the displacement t of the outer movable components and the displacement s of the inner movable component is

$$(f_2^2-t^2)s^2+2t^3s-t^2(t^2-2f_2f_3)=0$$

where t and s are the displacements measured from the location at which both the outer and the inner movable components produce a magnification of minus 1, the focal length f_1 of the fixed front lens component is nearly equal to that of the rear fixed component and satisfies the relation

$$f_1=(T-2f_2)k$$

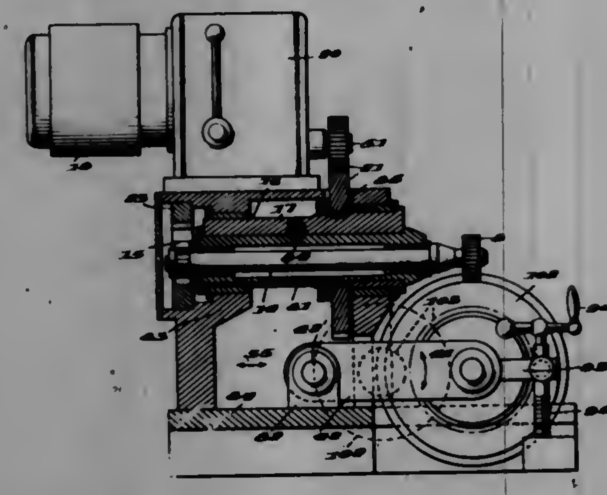
where k is a factor representing the lens thickness and is of a value less than 1 but greater than 0, and the front outer movable component comprises a front positive member and a rear positive member separated by an air space, the front positive member consists of a positive and a negative lens cemented together, and the rear positive member is a single lens of which the front convex surface has a radius of curvature larger than $f_2/2$ but smaller than $3f_2$ and the rear surface has a radius of curvature numerically larger than $2f_2$.

3,192,830
MACHINE FOR THE MANUFACTURE OF GEARS

Fritz Kleinstück, Jahnstrasse 51, Gaggenau, Murgtal, Germany

Filed Feb. 23, 1962, Ser. No. 175,371

17 Claims. (Cl. 90—3)



1. Machine for the production of externally toothed gears comprising shaft means, means to mount a master gear and a gear blank on said shaft means, means mounting at least that part of the shaft means which carries the gear blank for movement thereof with its axis travelling in a circle, means to move said shaft means cyclically in said circle, a pair of material-removing members, having straight material removing faces, means mounting said members for rotation adjacent a first part of such circle opposite a gear blank carried by the shaft means in a position to engage such blank when the axis of the shaft is in the part of the curve adjacent such members, means positioned opposite the master gear including an internally toothed curved part having a number of teeth per degree different from the number of teeth of the master gear engageable with the master gear in the second part of the circle remote from the members, and a straight rack engageable with the master gear during the time when the axis is in the part of the curve adjacent the members for guiding the blank during the removal of material therefrom, said rack having a plurality of teeth, the surface on one side of each rack tooth being parallel to a line from the center of the circle perpendicular to the longitudinal axis of the rack.

3,192,831
GEAR GENERATOR

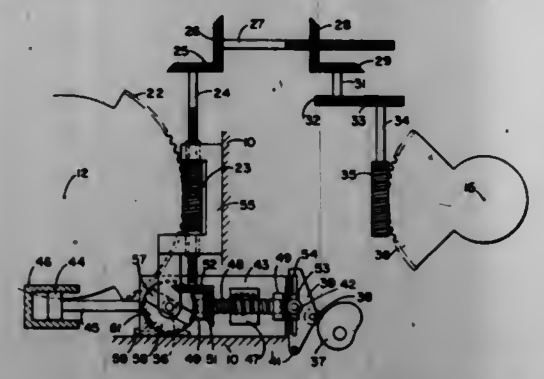
Ernst J. Hunkeler, Fairport, N.Y., assignor to The Gleason Works, Rochester, N.Y., a corporation of New York

Filed June 13, 1963, Ser. No. 287,535

16 Claims. (Cl. 90—5)

1. A gear generator comprising a tool support upon which tool means are mounted for cutting motion, a rotatable work spindle and a support therefor, said supports being arranged for relative movement in time with rotation of the spindle to effect rolling generating motion between a work gear on the spindle and said tool means, a generating gear train drivingly connecting for such generating motion the spindle and the movable one of said supports, said train including change gears whereby coarse changes may be made in drive ratio between the

work spindle and the movable support, and, for effecting fine changes in said ratio, an adjustable-ratio proportioning device having rectilinearly reciprocable input and output slides both of which are connected to said train.



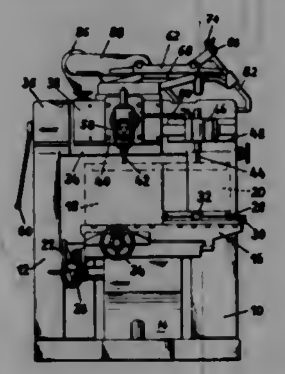
3,192,832
TRACER MILLING MACHINE

Johann Müller, Munich, Germany, assignor to Hans Deckel, Munich, Germany, and Friedrich Wilhelm Deckel, Zug, Switzerland

Filed Nov. 15, 1963, Ser. No. 323,934

Claims priority, application Germany, Nov. 21, 1962, D 40,325

11 Claims. (Cl. 90—13.1)



1. A tracer milling machine of the type having a table for a work piece and a model adapted for movement in three directions comprising: a pair of machine columns disposed in spaced relation, a tool head connected for rotation about a horizontal axis between said machine columns, said tool head carrying faces disposed parallel to the axis of rotation, a roughing tool, surface means carrying said roughing tool connected to one of said faces, a first feeler connected to said roughing tool, a finishing device having a tool and second feeler connected to another of said faces, whereby said roughing tool and finishing device are alternately brought into working position above the table by rotation of said tool head.

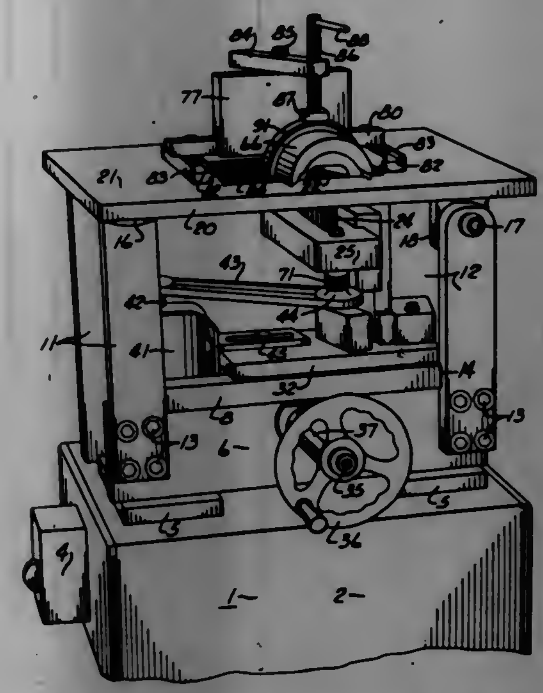
3,192,833
MILLING MACHINE FOR CUTTING AIR VENTS IN GLASS MOLDS

Edward W. Carroll, 1729 N. Main St., Washington, Pa.

Filed June 6, 1963, Ser. No. 285,990

7 Claims. (Cl. 90—15)

1. A machine for milling the surface of a workpiece consisting of a base, ways on said base, a carriage slidable along said ways, a plurality of rotary milling cutters rotatably mounted in a housing on said carriage and disposed in a direction transversely of said ways, drive means on said carriage interconnecting said rotary milling cutters, motor means on said carriage to actuate said drive means, feed means on said base to move said carriage along said ways and feed said rotary milling cutters to perform work, a table supported from said base and having an outer gauge surface with linear open slots for extending said milling cutters therethrough, a clamp to mount a workpiece on said table gauge surface over said linear open slots and to gauge the setting of each of said milling cutters, and means to extend said housing to position each rotary milling cutter to the same relative cutting depth to mill simultaneously openings in the surface of the clamped workpiece.

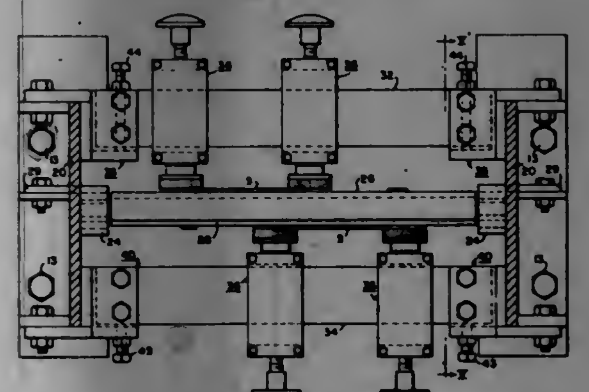


3,192,834
DEVICE FOR DEBURRING METAL STRIP

Edward A. Laine, Leechburg, Pa., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania

Filed Apr. 5, 1963, Ser. No. 270,930

12 Claims. (Cl. 90—24)

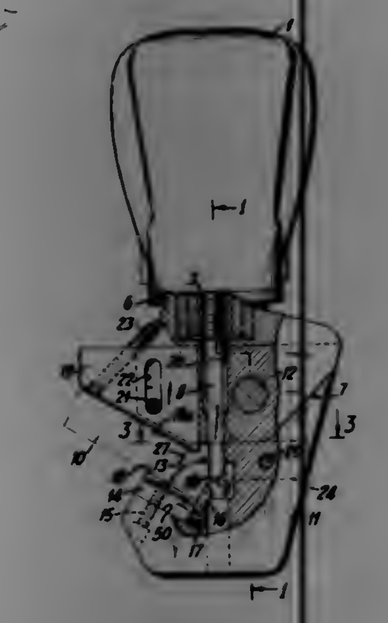


1. Apparatus for removing edge burrs from a plurality of narow strands slit from a wide strip of metal wherein the burrs of both edges of each strip extend in the same direction and the burrs on adjacent strips extend alternately up and down, said apparatus comprising, first means adapted to divert the strips having edge burrs extending up onto an upper path of travel, second means adapted to divert the strips having edge burrs extending down onto a lower path of travel, a first set of cutters positioned to deburr the edges of the strips on the upper path of travel, a second set of cutters positioned to deburr the edges of the strips on the lower path of travel, and means to selectively position said first and second sets of cutters laterally with respect to the paths of travel of the strands.

10. Apparatus for removing an edge burr from a moving strand of material comprising, a roll journaled for rotation and disposed to support the moving strand with the burr directed away from the roll, a circular cutting head, means rotatably supporting said cutting head adjacent said roll, and means to position said cuting head to engage the burr between the cutting head's outer periphery and its axis of rotation.

3,192,835
BEVELING TOOL

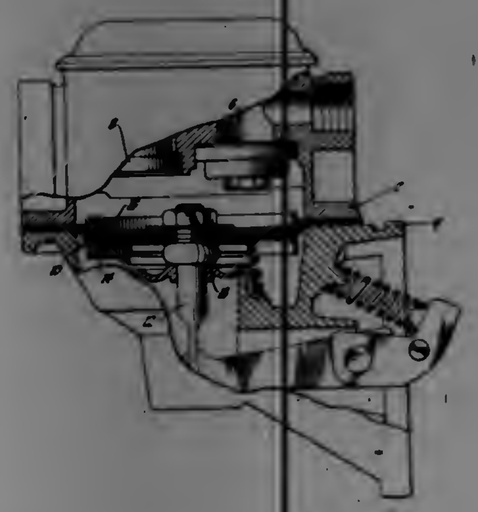
Berthold Leibinger, Stuttgart-Weilimdorf, Germany, assignor to Firma Trumpf & Co., Stuttgart-Weilimdorf, Germany
Filed Aug. 20, 1963, Ser. No. 303,234
Claims priority, application Germany, Jan. 15, 1963, T 23,330
18 Claims. (Cl. 9[illegible]—24)



1. A portable tool for beveling the edges of workpieces, comprising; a head, a cutting tool reciprocable in said head, a stirrup supported by said head and having a supporting plate for the workpiece arranged at an angle in respect to said reciprocable cutting tool, counter holder means on said stirrup extending at an angle to said supporting plate and forming an abutment for locating the end of the workpiece adjacent the reciprocating cutting member, and holding down means carried adjacent the upper portion of said stirrup adapted to overlie the workpiece positioned on said supporting plate means.

3,192,836
DIAPHRAGM FOR FUEL PUMPS AND THE LIKE

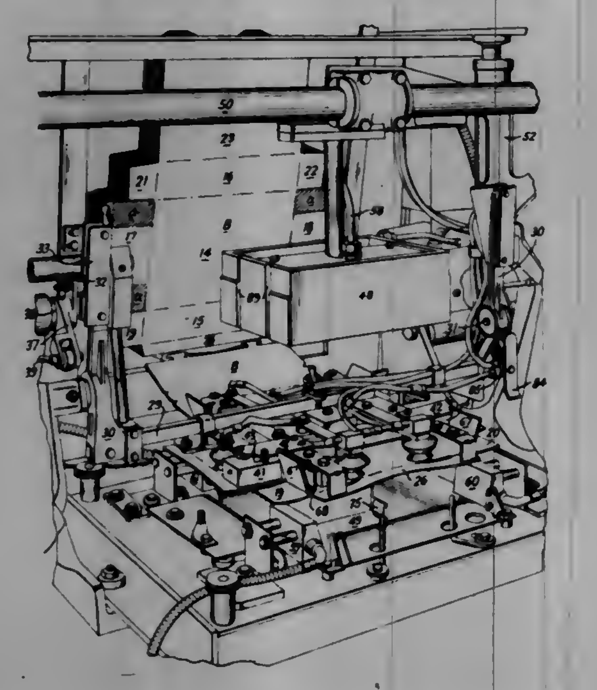
Karl Schwartzwalder, Holly, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 19, 1962, Ser. No. 224,757
6 Claims. (Cl. 9[illegible]—103)



1. A pump diaphragm comprising a relatively thick continuous layer of cloth reinforced foamed butadiene acrylonitrile elastomer having bonded on each side thereof and co-extensively therewith a thin layer of nonporous fluid impervious butadiene acrylonitrile elastomer.

3,192,837
METHOD OF AND DEVICE FOR FORMING HEAT SEALABLE BLANKS INTO BOX SHAPE

Sigurd Johannes Hoyrup, Monta Vista, and Richard V. Pagendarm, Hillsborough, Calif., assignors, by mesne assignments, to Bradford Speed Packaging and Development Corp., New York, N.Y., a corporation of Delaware
Filed June 7, 1962, Ser. No. 200,727
12 Claims. (Cl. 93—51)



1. The method of handling a blank of paperboard comprising a bottom, front and back walls articulated to said bottom, corner flaps articulated to said walls, and end panels articulated to said bottom, said blank comprising areas on both surfaces at which a heat sealable plastic coating is preapplied, in a machine for forming the blank into box shape and adhering blank portions at the said areas, the machine comprising a blank magazine, a forming die, a feeder for carrying individual blanks from the magazine to the die and a plunger for forcing the blank through the die, the method comprising:

applying from one side of the blank heat to the bonding areas of the end panels while the blank is being transported by said feeder from the magazine to the die;

depositing said blank above the mouth of the die and applying from the other side of the blank heat to the bonding areas of the corner flaps while the blank is substantially at rest above said mouth;

then engaging the blank by the plunger and folding first the said walls and flaps against the plunger and then folding the end panels into contact with said flaps;

then passing the flaps and panels while the box is still on the plunger through the nip of a pair of rollers;

and then withdrawing the plunger from the box at a point beyond the nip.

3,192,838
LAND PACKER

Andrew G. Cook, Lucky Lake, Saskatchewan, Canada
Filed Jan. 2, 1962, Ser. No. 163,628
7 Claims. (Cl. 94—50)

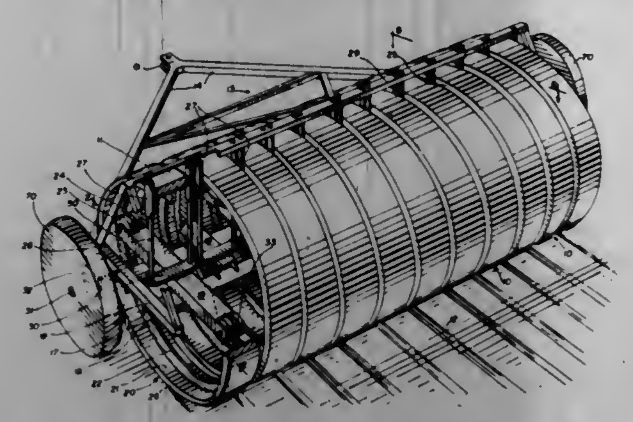
1. In a land packer,

(1) a towable transverse horizontally extending frame,

(2) having ground engaging support wheels journalled in opposite ends thereof,

(3) a plurality of thrust and guiding members in said frame aligned with the towing direction and having thrust roller means journalled in the forward and rearward ends of each of said members,

(i) portions of the periphery of said roller means being radially offset from adjacent portions, and

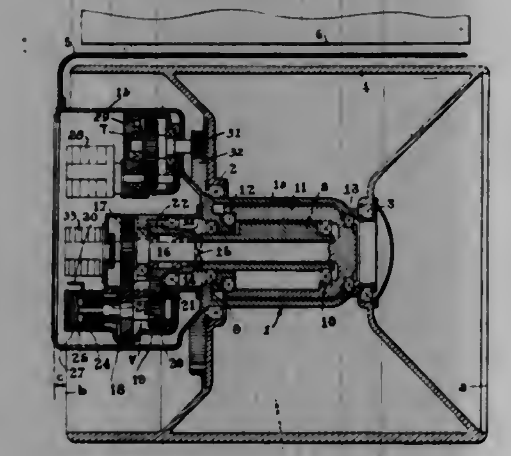


(4) a like plurality of annular packer wheels disposed between said support wheels and spaced closely axially apart along said frame,

(ii) the inner periphery of said packer wheels comprising complementary radially formed surface portions engageable by and spaced radially from opposed peripheral portions of respective roller means interfitting said inner surface portions in flange-and-groove relationship, whereby to prevent axial displacement of said packer wheels with respect to said frame but allowing limited displacement therebetween in the vertical direction.

3,192,839
ADJUSTABLE VIBRATION CYLINDER, NOTABLY FOR ROAD ROLLER

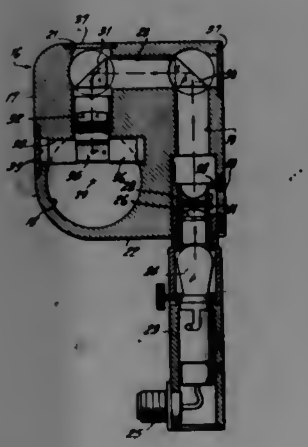
Claude Vivier, Charleville (Ardennes), France, assignor to Richier S.A., Paris, France
Filed Aug. 14, 1962, Ser. No. 216,897
Claims priority, application France, Aug. 17, 1961, 870,916, Patent 1,304,711
1 Claim. (Cl. 94—50)



In a machine, notably a road roller, comprising a frame and a cylinder mounted under said frame, an arrangement for rotatably driving said cylinder, vibrating said cylinder in a fixed direction extending at right angles to its axis of rotation, and permitting the adjustment of this direction during the operation of the road roller, said arrangement comprising a body having a portion of hollow stub-shaft configuration on which said cylinder is rotatably mounted, and another portion constituting a casing on which said frame is resiliently mounted, members mounted in said stub-shaft shaped body portion and consisting of a first hollow unbalanced weight rotatably mounted about the axis of rotation of said cylinder, said first unbalanced weight having an inner axial extension, a second hollow unbalanced weight mounted on said inner extension of said first unbalanced weight and rotatable coaxially in said first unbalanced weight, and members mounted in said casing-forming body portion and consisting of a first driving member rotatably driving said cylinder, a second driving member having a shaft rigidly connected to said inner extension of said first unbalanced weight, a pinion keyed on the shaft of said second driving member, a transmission shaft rotatably mounted parallel to the shaft of said second driving member, a sleeve mounted on, and rigidly coupled for rotation with, said transmission shaft, a journal-forming shoulder on said sleeve, said casing being formed with a thrust shoulder corresponding to said journal-forming shoulder of said sleeve, and with a bearing surface, a compression spring bearing against said casing bearing surface and slidably urging said sleeve on said transmission shaft to a limit contact position of said journal-forming shoulder of said sleeve with said thrust shoulder of said casing, hydraulic means delivering into the gap formed between said casing thrust-shoulder and said sleeve journal-forming shoulder the amount of compressed fluid necessary for keeping said sleeve on said intermediate shaft in the desired position against the resistance of said spring, said sleeve having at least one helical groove formed therein, a pinion rotatably mounted on said transmission shaft and rotatably solid with the shaft of said other driving member by meshing engagement with the pinion keyed on the shaft of said other driving member, said sleeve and therefore said transmission shaft being rotatably solid with said pinion rotatably mounted on said transmission shaft with an angular setting adjustable through said hydraulic means, through the intermediary of a stud extending radially through said pinion and engaging said helical groove of said sleeve, a pinion rigidly keyed on said transmission shaft, a bell-shaped member rigidly connected to said other unbalanced weight, a circular set of teeth cut in the outer periphery of said bell-shaped member and a reversing pinion meshing simultaneously with said pinion rigidly keyed on said transmission shaft and with said circular set of teeth cut in the outer periphery of said bell-shaped member.

3,192,840
RETICLE PRINTING DEVICE

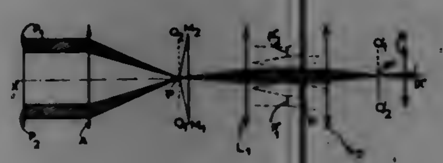
Frank G. Back and Ludwig Sterflinger, Glen Cove, N.Y., assignors to Zoomar, Inc., Glen Cove, N.Y., a corporation of New York
Filed May 10, 1962, Ser. No. 193,830
1 Claim. (Cl. 95—1.1)



A reticle printer for attachment to the lens barrel of a camera or the like comprising, a substantially rectangular block disposed at right angles to the longitudinal axis of the lens barrel, a first, second and a third bore in the block, said bores being substantially parallel to the sides of the block and forming a continuous rectangular path, a lens barrel receiving opening in the block in communication with the third bore, a lamp housing secured to the block in communication with the first bore and extending laterally of the block, a light source in the lamp housing, a first prism within the block at the intersection of the first and second bores to receive the light from the light source, a diffuser between the light source and the first prism, a reticle within the first bore between the diffuser and the first prism, a second prism within the block at the intersection of the second and third bores to receive the light from the first prism, a third prism carried by the block and at least partly extending into the lens barrel and adjacent the wall of said barrel to receive the light from the second prism and direct it on to the focal plane of the camera, the light from the lamp, the first and second prism traversing a path normal to the optical axis of the camera lens and the light from the third prism being convergent with the said optical axis.

3,192,841
TELEMETER VIEW-FINDER

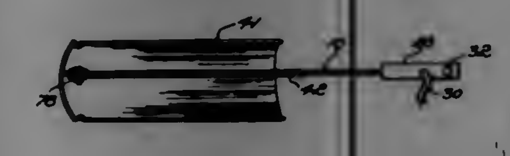
Lucien Reymond, Paris, France, assignor to Societe d' Optique et de Mecanique de Haute Precision, Paris, France, a company of France
Filed Mar. 19, 1962, Ser. No. 180,744
Claims priority, application France, Mar. 28, 1961, 857,079
6 Claims. (Cl. 95—64)



1. In a telemeter view-finder for a photographic objective having a diaphragm with an adjustable diaphragm aperture for the objective, a sighting objective, at least one double prism, an intersection angle for said prism located in the plane of the true image formed by said sighting objective, a two part carriage separated by an air space, an eye-piece, inlet apertures in front of said sighting objective, the images of said apertures being combined into a single true axial image in said air space, and means in the air space disposed in the path of the light rays forming redundant non-axial true images of said inlet apertures for receiving said light rays in order to adjust the diaphragm aperture of the photographic objective said means including at least one photoelectric cell electronically connected to said diaphragm.

3,192,842
METHOD AND APPARATUS FOR PHOTOCOPYING BOOK PAGES

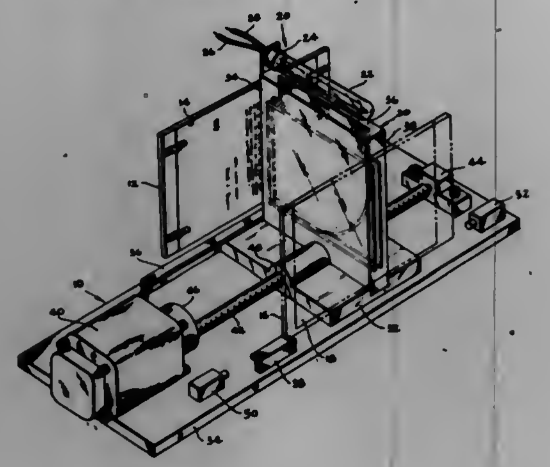
Robert L. Heiss, 5308 N. Lakewood Ave., Chicago, Ill.
Filed July 13, 1961, Ser. No. 123,704
5 Claims. (Cl. 95—73)



5. A book copier comprising a thin flat panel having substantially parallel sides formed of material having the optical characteristics of polymerized methyl methacrylate, a linear source of light extending along one edge of said panel, one of said substantially parallel sides being rough and the other of said substantially parallel sides being polished, said substantially parallel sided panel being sufficiently thin to be received between the leaves of a closed book adjacent the binding theerof and induce no significant curvature, with reference to photocopying, in the printed portion of the leaf which said rough side faces.

3,192,843
OPTICAL DEVICE

Narinder S. Kapany, Woodside, and David F. Capellaro, Belmont, Calif., and Ralph G. Ostensen, Morton Grove, Ill., assignors, by direct and mesne assignments, to SCM Corporation, a corporation of New York
Filed Mar. 12, 1962, Ser. No. 179,026
1 Claim. (Cl. 95—73)

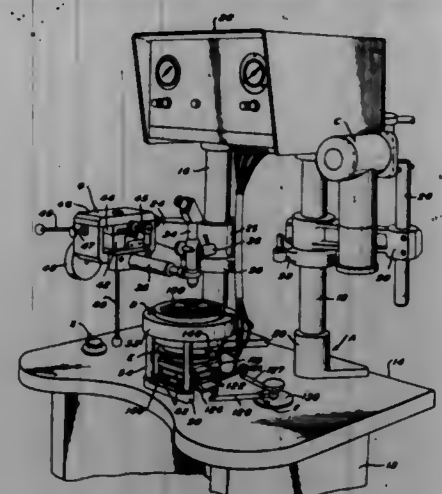


In an optical image transfer device, a bundle of light conductive fibers all terminating at one end in a first common surface, a first group of uniformly spaced ones of said fibers extending from said first common surface and terminating at their opposite ends in a second common surface, a second group of uniformly spaced ones of said fibers interspersed with the fibers of said first group, said second group of fibers extending from said first common surface parallel to said first group for a short distance and then curving so that their opposite ends terminate in a third common surface, each fiber of said second group being in contact with at least one other fiber of said second group and at least two fibers of said first group along its end region adjacent said one common surface, means for supporting an image bearing sheet in adjacent uniformly spaced relation to said first common surface, a source of light for uniformly irradiating said opposite ends of said second group of fibers, means for supporting a photo responsive element in uniformly spaced relation to said second common surface for irradiation by any light emitted from said opposite ends of said first group of fibers, and means for producing relative motion between said sheet supporting means and said bundle such that the surface of said sheet is progressively scanned by said one ends of said fibers, said motion producing means alternately producing said relative motion in opposite directions, whereby said relative motion may be oppositely directed for the scanning of successive sheets.

3,192,844
MASK ALIGNMENT FIXTURE

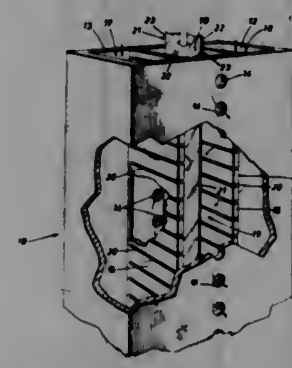
Peter R. Szasz and Frederick W. Kulicke, Jr., Philadelphia, and Albert Soffa, Wynnewood, Pa., assignors to Kulicke and Soffa Manufacturing Company, Fort Washington, Pa., a corporation of Pennsylvania
Filed Mar. 5, 1963, Ser. No. 262,981
18 Claims. (Cl. 95—73)

16. An alignment fixture for orienting geometric indicia on a mask having parallel plane surfaces with respect to a semi-conductor wafer surface comprising a frame, a mask chuck holding the mask in said frame so that the surfaces of the mask are exposed, a wafer chuck holding a wafer in said frame so that one wafer surface is adjacently spaced from one of the mask surfaces, piston means to slide said mask and wafer chucks toward one another in a straight line and resiliently press opposed surfaces of the mask and the wafer into abutment with each other, universal joint means automatically orienting said mask and wafer chucks with respect to each other and collocating the opposed surfaces of the mask and wafer into a common plane interface as they are pressed together, means to slide said mask and wafer chucks apart in a straight line while maintaining said opposed mask and wafer surfaces in juxtaposed spaced apart parallel planes, and manipulating means in said frame for orienting the mask indicia in a plane about rectangular and polar axes with respect to the said wafer surface whereby a pattern of the indicia may accurately be disposed with respect to the wafer surface independently of variations in wafer thickness.



3,192,845
APPARATUS FOR TRANSPORTING FILM STRIPS ON A FLUID CUSHION

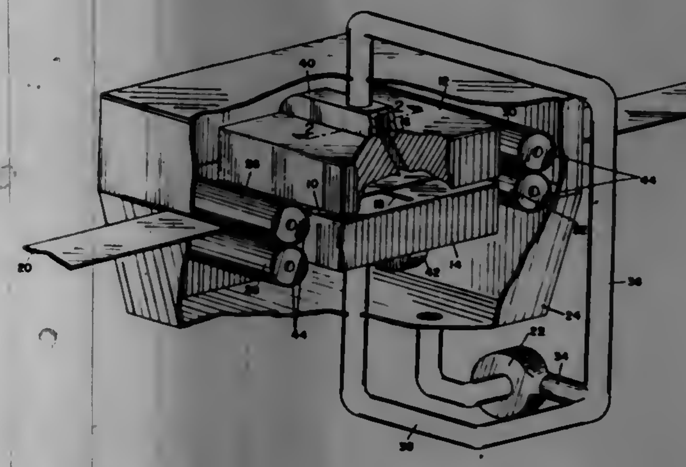
Gunther Schmidt, Scarborough, Ontario, Canada, assignor to Houston Schmidt Limited, Toronto, Ontario, Canada
Filed Mar. 29, 1962, Ser. No. 183,643
19 Claims. (Cl. 95—89)



6. Film strip processing apparatus comprising a housing defining a film strip receiving compartment and having first portions and second portions, said second portions joining adjacent ones of said first portions, said film strip receiving compartment being defined by and said housing comprising two spaced apart side walls each having a plurality of openings extending therethrough along the length thereof, said film strip being positioned in said compartment within the confines of said side walls with both major surfaces of said film strip extending across said compartment and both edges of said film strip adjacent the openings in said side walls, means for introducing film processing liquid into said first portions of said housing and directing said liquid against both of said major surfaces of said film strip with sufficient force to maintain said film strip suspended in said first portions of said housing within the confines of said one set of side walls and with said edges adjacent the openings in said side walls of said first portions of said housing, and means for introducing a gas into said second portions of said housing and directing said gas against both of said major surfaces of said film strip with sufficient force to maintain said film strip suspended in said second portions of said housing within the confines of said side walls and with said edges adjacent the openings in said side walls of said second portions of said housing, said liquid being expelled from said film strip receiving compartment of said first portions of said housing through said openings in said side walls of said first portions of said housing, said gas being expelled from said film strip receiving compartment of said second portions of said housing through said openings in said side walls of said second portions of said housing.

3,192,846
DATA PROCESSING APPARATUS

Malor Wright, Lexington, Mass., assignor to Itek Corporation, Lexington, Mass., a corporation of Delaware
Filed Aug. 22, 1961, Ser. No. 133,268
5 Claims. (Cl. 95—94)



1. Processing apparatus for rapid fluid processing of photographic strip material moving through said apparatus in a predetermined direction, comprising:

a housing having inlet and exit openings formed therein;

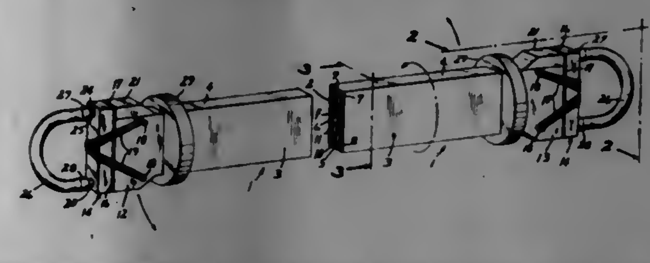
a pair of spaced symmetrical fluid applicator means positioned within said housing and having opposed surfaces providing a passageway between said inlet and exit openings, said opposed surfaces each having fluid communications means formed therein for providing moving fluid layers between said opposed surfaces, along said predetermined direction, at a first velocity;

fluid supply means coupling said fluid communication means and a source of processing fluid for providing said fluid; and

transport means for transporting said strip of photographic material through said passageway at a second velocity with both surfaces of said strip in simultaneous contact with said moving fluid to establish relative velocity between said strip and said fluid for providing simultaneous fluid support for said strip and fluid agitation for the surface thereof, whereby said photographic material is processed.

3,192,847
LINEAR FILM DEVELOPING TANK

Siret H. Ener, 1219 Fifield, St. Paul, Minn.
Filed July 23, 1962, Ser. No. 211,654
1 Claim. (Cl. 95—97)



Film developing apparatus for elongated strips of film, said film developing apparatus comprising:

(a) an elongated tank body having spaced longitudinally extending side walls and spaced longitudinally extending edge walls connecting with said side walls and further defining an elongated developing chamber adapted to receive an elongated strip of film, said chamber having one of its transverse dimensions generally equal to but slightly less than the width of said film strip and its other transverse dimension considerably greater than the thickness of the film but considerably lesser than said one transverse dimension, the inner surface of one of the side walls of said tank body defining a plurality of longitudinally spaced protuberances which project inwardly toward the other of said side walls and which are adapted to maintain a slight spacing between the film and said one side wall,

(b) closure means for the opposite ends of said tank body, said closure means at the ends of said tank body being removable to provide for the insertion and removal of said film strip, said closure means at each end of said tank body comprising:
  (1) a closure member,
  (2) a sealing gasket interposed between said closure member and said tank body,
  (3) securement means for fastening said closure member to the tank body, and
  (4) an outwardly projecting stub post,

(c) said tank body defining a pair of opposite longitudinally extending film edge receiving grooves which open toward one another and into said chamber, said grooves being arranged and adapted to position said film strip within said chamber in a transversely generally arcuate configuration,

(d) a closable liquid opening communicating with said developing chamber and defined by the closure member at one end of said tank at a position in spaced relation to the stub post of said closure member, said liquid opening being adapted for the insertion into said chamber and drainage therefrom of developing liquids,

(e) a closable fluid opening communicating with said developing chamber and defined by the closure member at the other end of said tank at a position in spaced relation to the stub post of said closure member, said fluid opening being adapted for the entry of air into said chamber upon the drainage therefrom of the developing liquid and for the exhaust of air from said chamber upon the insertion therein of said liquid,

(f) a pair of flexible tubing sections one of which has one of its ends connected to said liquid opening and the other of which has one of its ends connected to said fluid opening, the other end of said tubing section being adapted for engagement with the adjacent stub post defined by said closure members, and

(g) said tank body including a pair of generally cylindrical transversely extending body portions one each of which is positioned adjacent an opposite end of said tank body, the diameter of said cylindrical body portions being generally equal to the transverse dimension of said tank body.

3,192,848
AIR FLOW CONTROL SYSTEM

Richard W. Townsend, Scottsdale, Ariz., assignor to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed June 21, 1962, Ser. No. 204,228

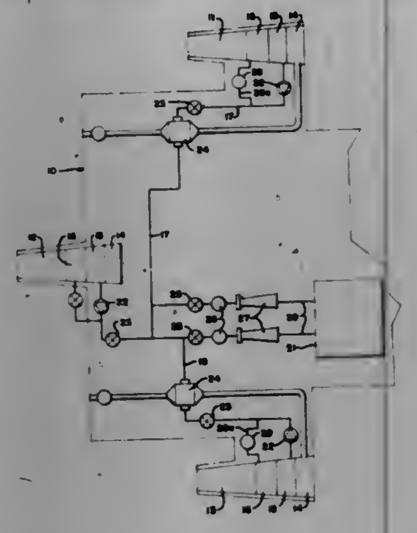
24 Claims. (Cl. 98—1.5)

1. Apparatus for controlling the supply of bleed air in accordance with predetermined requirements to a main supply duct from a jet engine having intermediate and high-pressure compressor stages connected to the duct, comprising:

(a) a first valve for controlling the flow from the high-pressure stage into the main supply duct;

(b) means for maintaining said first valve in a normally closed position;

(c) a second valve for controlling the air flow from the intermediate stage into the main supply duct;



(d) a flow sensor in the main supply duct downstream of said valves and having servo means associated therewith to actuate said second valve to allow air flow from the intermediate stage in accordance with the predetermined requirements, such servo means including means for adjusting said air flow to compensate for changes in downstream pressure; and

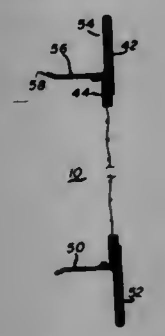
(e) means for opening the normally closed first valve from the high-pressure stage when the air flow supplied by the intermediate pressure stage is insufficient for the predetermined requirements.

3,192,849
VENT CONSTRUCTION

Richard D. Massengale, 1070 Ticonderoga Drive, Sunnyvale, Calif.

Filed Apr. 22, 1963, Ser. No. 274,447

2 Claims. (Cl. 98—37)



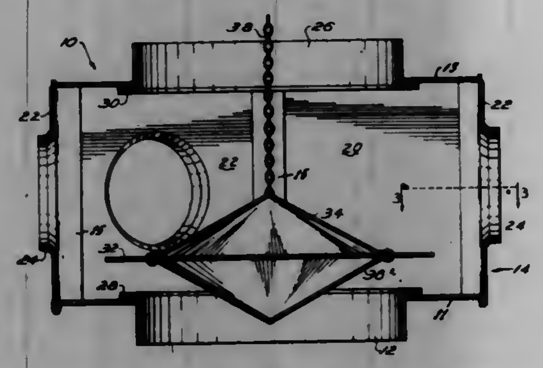
1. A vent construction comprising four elongated members joined together to form a rectangular frame having a rectangular opening, each member formed of flat strips bent in the form of a U-shaped frame member, one of the legs of the U-member having its free edges extending toward the center of the opening and forming a peripheral flange or seat, the other leg of said U-shaped member being bent at right angles to form an outwardly extending mounting flange, said mounting flange being spaced away from the opening and the free edge of the first leg of the U-shaped member; a wire mesh member including a mesh screen and a peripheral frame of substantially U-shaped cross section, said screen being crimped in said peripheral frame and said peripheral frame being dimensioned for sliding reception into said rectangular opening and adapted to seat against said peripheral flange and a plurality of elastic, inwardly extending retaining means in said mounting flange, the inner edge of said retaining means being placed to yieldably engage one side of said edge member while the other side is seated against said peripheral flange whereby to releasably hold said wire mesh member in place.

3,192,850
MANIFOLD

Wayne T. Martin, Lubbock, Tex., assignor to Electric Heating Supply, Inc., Lovington, N. Mex., a corporation of New Mexico

Filed Feb. 1, 1963, Ser. No. 255,513

4 Claims. (Cl. 98—38)



1. A manifold for an air distribution system comprising:

(a) a chamber having top, bottom, and side walls,
(b) a hot air inlet on the bottom,
(c) a cold air inlet on the top,
(d) the two inlets axially aligned and
(e) of correlative size and shape,
(f) a valve seat surrounding each of said inlets, and
(g) a plurality of outlets on the sides,
(h) a valve mounted within the chamber, and
(i) means for operating said valve in a vertical translational movement between said valve seats.

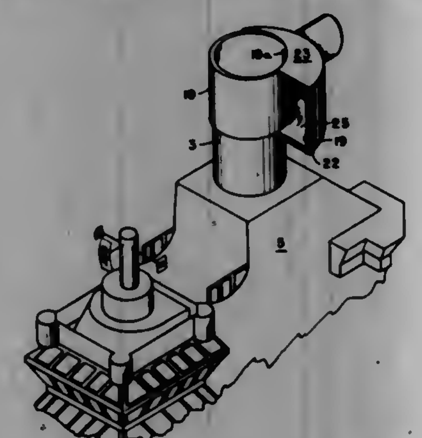
3,192,851
SMOKE CONTROL APPARATUS

Friedrich O. Ringleb, Woodbury Heights, N.J., assignor to the United States of America as represented by the Secretary of the Navy

Filed May 31, 1963, Ser. No. 284,758

4 Claims. (Cl. 98—60)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Apparatus for controlling the discharge of a fluid from an open flue, said apparatus comprising:

(a) a tubular conduit having a slit which extends along the full length of one side thereof, the juxtaposed lateral edges of the slit tubular conduit being respectively spiralled inwardly and outwardly from one another;

(b) means for enclosing the slit tubular conduit between overlapping portions of its spiralled upper and lower edges;

(c) means for rotatably mounting the spiralled tubular conduit on the open end of the flue with the longitudinal axis of the inner convolution of the conduit in substantial alignment with the longitudinal axis of the flue;

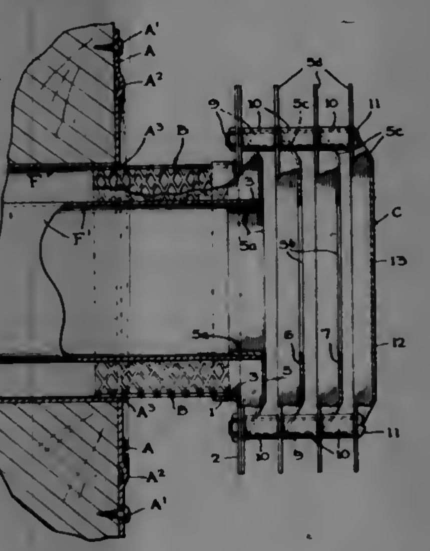
(d) and means for orienting the opening between the outer lateral edge of the spiralled tubular conduit and the juxtaposed surface of the tubular conduit into the direction of external fluid flow about the flue and conduit.

3,192,852
VENT FOR ROOM SPACE HEATERS

Marvin L. Stark, Anchorage, and Frank C. Lewis, Louisville, Ky., assignors to Peerless Manufacturing Division, Dover Corporation, Louisville, Ky., a corporation of Kentucky

Filed July 31, 1963, Ser. No. 298,839

2 Claims. (Cl. 98—62)



1. A combined air intake and gaseous flue venting unit for fuel burners of room space heaters and the like, comprising,

a rectangular supporting plate (A) having a rectangular opening,
a rectangular expanded metal fresh air intake member (B) fitted into said rectangular opening and secured to said supporting plate (A),
and a gas dispersion outlet unit (C) fitted to the outer end of said fresh air intake member,
said unit including,
an inner supporting plate (2) having a rectangular collar (1) to which the rectangular expanded metal mesh is welded,
a gaseous flue connecting plate (5) having a central opening defined by an annular flange (5*a*) for connecting with the gaseous flue of the burner installation,
an outer impervious plate (12),
and a series of plates (6, 7) between said supporting plate (5) and the outer impervious plate (12), all of the series of plates having registering openings,
and means for securing all of the plates of the gaseous dispersion outlet unit in spaced relation and to the supporting plate (2).

3,192,853
DOCUMENT DISINTEGRATING METHOD

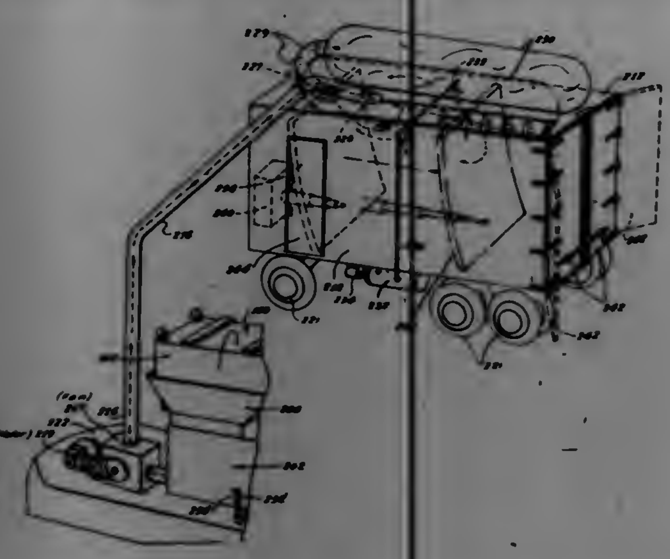
James E. O'Connor, Los Angeles, Calif., assignor to Document Disintegration, Inc., Los Angeles, Calif., a corporation of California

Original application Apr. 5, 1963, Ser. No. 285,162. Divided and this application Nov. 27, 1964, Ser. No. 414,328

5 Claims. (Cl. 100—39)

4. A method of accumulating and destroying documents including: collecting the documents in receptacles having locked doors thereon and positioned at predetermined locations in a particular area; moving the filled receptacles to a common document-destroying station for discharge into a document-destroying mechanism; inverting each receptacle over the document-destroying mechanism in a

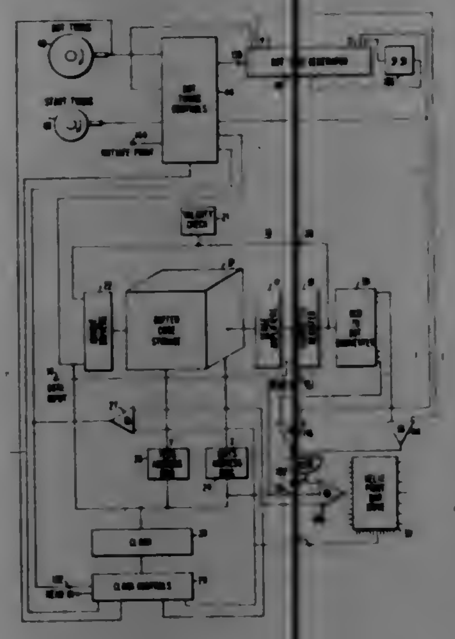
locked relationship with the mechanism; unlocking the doors of each receptacle inverted over the mechanism to permit the contents thereof to be discharged into the mechanism; milling the documents discharged into the



mechanism in a plurality of successive steps in the mechanism; pneumatically conveying the milled material from the mechanism to a press; and compressing the milled material in the press.

3,192,854
PRINTER CONTROL SYSTEM

Van C. Martin, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 27, 1963, Ser. No. 268,365
4 Claims. (Cl. 101—93)

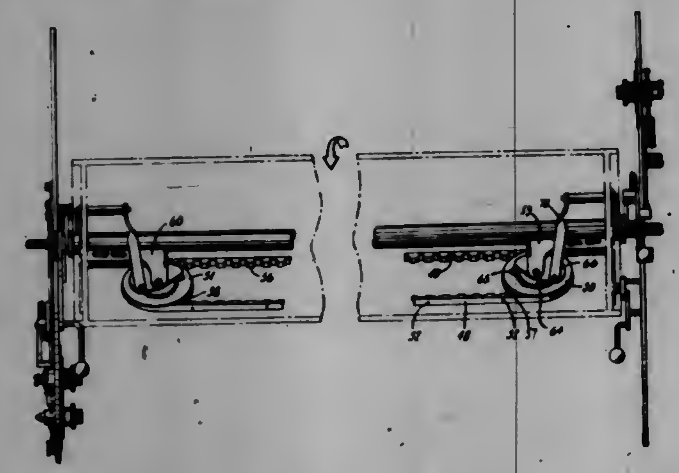


1. The combination with a helix and bar print mechanism having a rotating cylinder with a plurality of raised helical print surfaces and a plurality of movable print anvils actuable toward and away from the cylinder along a substantially horizontal line to print on a record medium moving at a constant vertical speed therebetween of

(a) buffer storage means for storing representations of a line of characters according to one code,
(b) a character register connected to the buffer storage means for receiving the coded representation for one character at a time from the buffer storage,
(c) code conversion means having output lines for each dot position of a dot matrix for converting the representation of each character in the register from said one code to outputs on particular ones of the dot lines defining the character,
(d) dot timing means including a counter advanced in timed relation with movement of the helices to produce dot pulses as the helices pass each dot position of the character dot matrix,
(e) circuit means ANDing the outputs of the dot timing means and the conversion means to produce an output for each dot required for the character at the corresponding dot time,
(f) operating means individual to the print anvils for moving them toward the cylinder, and
(g) circuit means for serially scanning the buffer storage and the anvil operating means each dot time and operable jointly with said ANDing circuit means to effect serial operation of said operating means selectively.

3,192,855
MACHINE FOR DUPLICATING WITH AXIALLY MOVABLE MASTER SHEET

Ronald Max Ford, Abbots Morton, and Denis Percy Crane, Olton Solihull, England, assignors to Frank R. Ford Limited, London, England, a British company
Filed June 19, 1963, Ser. No. 288,982
9 Claims. (Cl. 101—132.5)

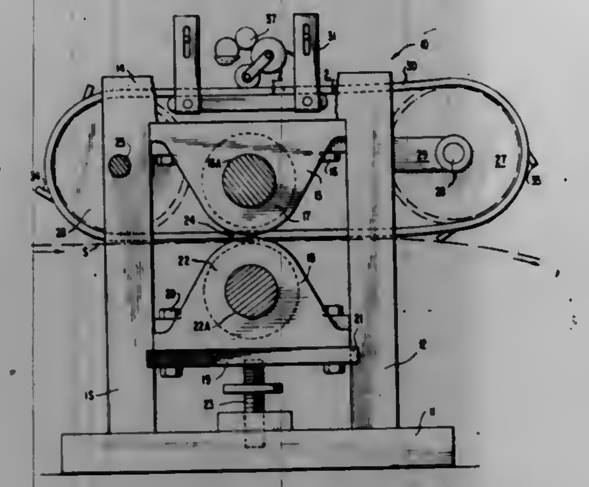


1. In a duplicating machine comprising a supporting structure, a rotatable master cylinder having a radially outwardly presented face for carrying at least one master sheet from which impressions of matter thereon can be taken, and for carrying at least one masking sheet, and a pressure roller co-operative with said master cylinder; the improvement comprising,

a first sheet holding means on said master cylinder for securing said master sheet thereon,
a second sheet holding means on said master cylinder for securing said masking sheet thereon and spaced circumferentially of said master cylinder from said first sheet holding means,
at least one of said sheet holding means including an endless belt having a sheet-engaging face defining one of the boundaries of at least a predetermined portion of the length of an axially extending slot in said master cylinder,
means for moving said belt comprising pulleys disposed at opposite ends of said slot and around which said endless belt passes,
indexing mechanisms mounted on said master cylinder respectively for rotating said pulleys in opposite directions, said indexing mechanisms each comprising a pawl element and a ratchet element, said indexing mechanisms including means for automatically disengaging each pawl from its associated ratchet element upon completion of a stepwise driving movement so that the pulleys are free to rotate in either direction according to which one of said indexing mechanisms is selected for actuation,
and actuating mechanism mounted on said supporting structure of said machine for selectively operating either of said indexing mechanisms.

3,192,856
REPETITIVE CYCLE ROTARY IMPRESSION MACHINE

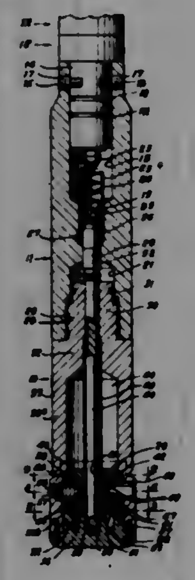
Thomas W. Gavin, 3695 Orchard Road, Wantagh, N.Y.
Filed Sept. 1, 1964, Ser. No. 393,680
13 Claims. (Cl. 101—259)



1. A rotary impression machine comprising a framework, a pair of endless flexible carrier means mounted on said framework, said carrier means being in spaced apart parallel relation, means to drive at least one of said carrier means, the path of movement of said carrier means having a planar portion, a plurality of slats attached to and extending between each of said carrier means and being separate from and independent of each other, impression members carried by at least some of said slats, said slats being in abutting relation to each other during said planar movement of said carrier means, the leading end of each slat being pivotally connected to and fixed to travel with said carrier means, and compensating means connecting the trailing end of each slat to said carrier means and permitting limited movement of the trailing end of said slat with respect to said carrier means, whereby said slats will move apart from said abutting relation during non-planar movement of said carrier means.

3,192,857
WELL TUBING CUTTING DEVICE

Glenn B. Christopher, Fort Worth, Tex., assignor to Jet Research Center, Inc., Arlington, Tex., a corporation of Texas
Filed Oct. 8, 1962, Ser. No. 229,151
4 Claims. (Cl. 102—20)

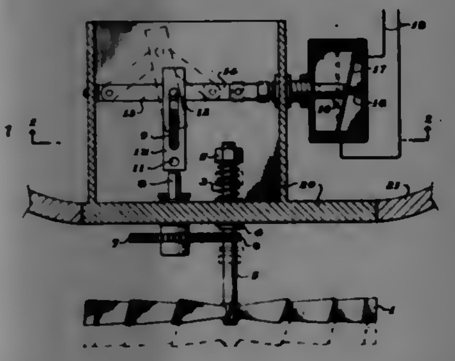


1. A device for severing well tubing and the like comprising:

(a) a short cylindrical, pressure-resistant housing including a hollow body portion and a separate end plug sealingly closing the lower end of said body;
(b) said body portion having a thick annular side wall and a thick top wall integral therewith;
(c) said side wall providing a single first horizontal annular groove in the exterior surface of the lower portion thereof;
(d) said side wall providing a second horizontal annular groove in the interior surface of said lower portion thereof immediately below said first annular groove and said side wall having a thin section bounding the outer periphery of said second groove;
(e) said body portion below said first annular groove having an outside diameter greater than the body portion above said first annular groove;
(f) a generally cylindrical, shaped explosive charge cartridge having a main charge of explosive material with an outwardly-opening, annular, lined cavity in the periphery mounted facing said thin section of said side wall and adapted upon being fired to produce a radially expanding planar cutting jet adapted to sever said side wall at said thin section;
(g) said cartridge being positioned within said hollow body portion to place the upper surface of said main charge of explosive material in a horizontal plane lying between said first and second annular grooves;
(h) means maintaining said cartridge in said position within said hollow body portion;
(i) said top wall and said cartridge providing axial openings therethrough adapted to receive a portion of a detonating fuse;
(j) said housing and said cartridge defining therebetween a substantially unobstructed space above said cartridge providing an expansion chamber for upwardly acting forces produced upon detonation of said cartridge;
(k) said body adapted to be cleanly broken transversely at said first annular groove by detonation of said cartridge whereby said body portion above said first annular groove will remain at substantially the same diameter as before detonation of said cartridge; and
(l) the side wall of said body above said first annular groove being of sufficient thickness and strength to remain intact and to be substantially undistorted after said cartridge is fired.

3,192,858
ARMING DEVICE FOR AERIAL BOMBS

Carl B. Crumb, Jr., Cincinnati, Ohio, assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 19, 1945, Ser. No. 583,497
3 Claims. (Cl. 102—81.2)



1. An arming device for an aerial bomb, comprising a wind operated propeller fixed on a rotatably mounted shaft, a gear train to transmit the propeller torque on said shaft to a screw, said gear train being normally engaged and adapted to be disengaged by longitudinal movement of said shaft, a slider link co-operative with and adapted to move longitudinally with respect to said screw by the rotation of said screw, a toggle linkage having a movable

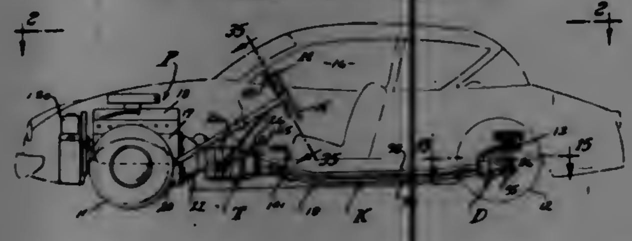
pivot point thereof attached to said slider link, a plunger adapted to be given reciprocal motion by said toggle linkage and an electrical switch mechanism normally urged in an unarmed position activated by said plunger.

3,192,859
FLUID TRANSMISSION AND CONTROL

Ransom Y. Bovee, Sepulveda, Calif., assignor to Monovalve Motors Corporation, Los Angeles, Calif., a corporation of California

Filed Jan. 27, 1961, Ser. No. 85,387

21 Claims. (Cl. 103—11)



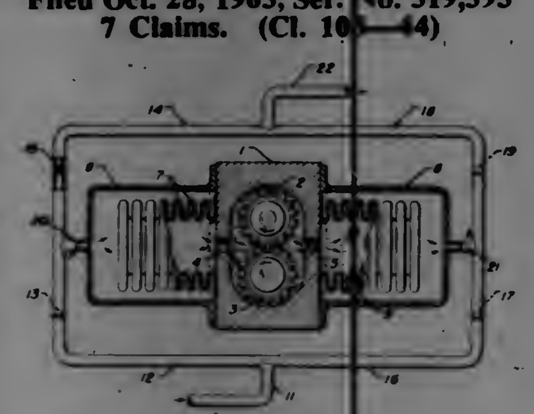
1. A multiple pump unit and control assembly adapted to be driven by a prime mover, and including, a case with a plenum therein having opposed seat faces, a low volume port and a high volume port in the case and opening into the plenum at one seat face and in communication with low and high volume pumps respectively, a suction passage from each of said pumps and opening into the plenum, said pumps having driving connection with the prime mover, a pair of flow tubes opening into the plenum at the other seat face to receive the pump flow, and a valve element rotatable between said seat faces and through a plurality of positions controlling flow to a point of use and selectively to a position whereby flow is from the plenum and through both pumps and from both ports to enter through an aperture in the valve element and then through one tube to re-enter the plenum through the other tube.

3,192,860
DOUBLE-ACTING BELLOWS PUMP

Leslie C. Hardison, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Oct. 28, 1963, Ser. No. 319,393

7 Claims. (Cl. 103—44)



1. A fluid pump comprising:

(1) A pair of fluid-tight chambers;

(2) a resilient bellows member mounted within each of said chambers, said bellows member being free to expand and contract within its chamber and the interior thereof being sealed from the interior of the chamber;

(3) a bidirectional positive displacement pumping means;

(4) means providing fluid communication from the interior of one bellows member through said pumping means to the interior of the other bellows member;

(5) a body of liquid filling said bellows members and said pumping means;

(6) first and second valved suction conduits separately connecting with said chambers;

(7) first and second valved discharge conduits separately connecting with said chambers;

(8) means for driving said pumping means in both forward and reverse directions; and

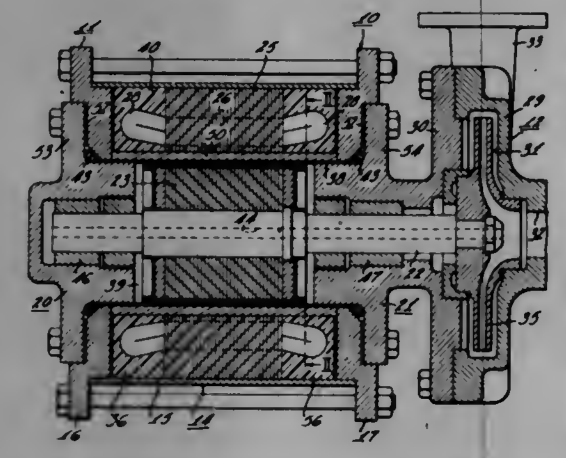
(9) means for periodically reversing the driving direction of said pumping means in response to a predetermined displacement of said pumping means in each direction.

3,192,861
HIGH TEMPERATURE CANNED MOTOR PUMP

Jan E. Haegh, Cincinnati, Ohio, assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Mar. 6, 1963, Ser. No. 263,290

3 Claims. (Cl. 103—87)



3. An electric motor pump unit comprising: a motor casing having an annular yoke and axially spaced end housing, bearing housings mounted in said end housings, and forming with said yoke and end housings a motor chamber, a pump casing connected to said motor casing and defining an impeller chamber therein, a shaft rotatably mounted in said bearing housings and extending into said rotor chamber, a thin cylindrical can positioned between said bearing housings and said motor end housings and extending through said motor chamber to hydraulically separate said motor chamber into a rotor chamber and a stator chamber, a stator assembly mounted within said stator chamber, a rotor mounted on said shaft and positioned within said rotor chamber, a pump impeller mounted on said portion of said shaft extending into said impeller chamber, a layer of thermal insulating material surrounding said can to reduce the rate of heat transfer between said rotor chamber and said stator chamber and a layer of thermal insulating material positioned between said motor end housings and said bearing housings.

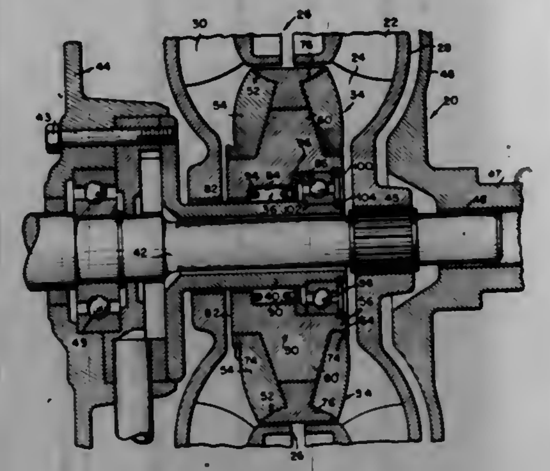
3,192,862
BLADED ELEMENT FOR FLUID TORQUE CONVERTERS AND THE LIKE

Carl N. Schrader, Jr., Trenton, Mich., assignor, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware

Filed Mar. 13, 1961, Ser. No. 95,218

6 Claims. (Cl. 103—115)

1. In a peripherally bladed reactor assembly for a hydrodynamic torque transmitting device having a substantially toroidal liquid circuit therethrough and comprising a stationary mounting sleeve, said bladed reactor assembly comprising separately formed coaxially mounted inner and outer blade support shrouds, a plurality of equiangularly spaced apart spokes rigid with said inner shroud and extending radially therefrom, a plurality of substantially radially extending hollow blades mounted on said spokes in fixed oriented position between said inner and outer shrouds in rigid end abutment with both of said shrouds, said inner shroud having a hollow hub formed with a bore provided with a hardened surface, torque transmitting means interposed directly between said sleeve and said hardened surface, and means integral with the roots of each of said blades defining an outwardly concave fluid circuit directing surface within said device, all of said concave blade surfaces being cooperatively contoured in circuit directing relation to form a substantially continuous smooth portion of said passageway.



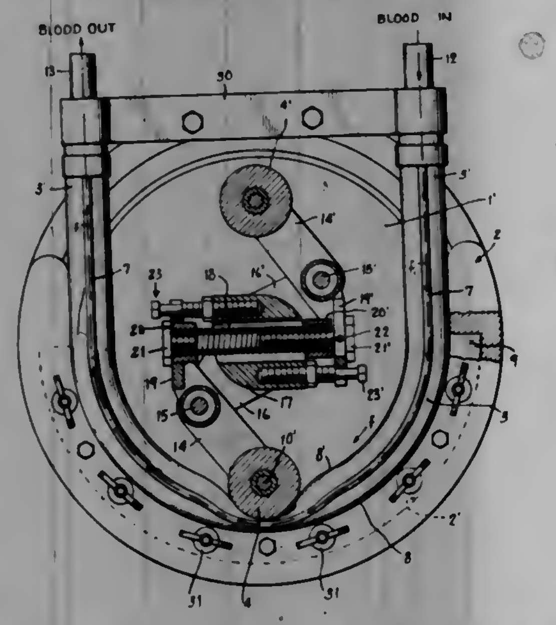
3,192,863
BLOOD PUMP

Louis Vadot, Grenoble, Isere, France, assignor to Societe Grenobloise d'Etudes et d'Applications Hydrauliques, Grenoble, France, a corporation of France

Filed Mar. 14, 1962, Ser. No. 179,628

Claims priority, application France, Mar. 17, 1961, 4,346, Patent 1,291,725

5 Claims. (Cl. 103—149)



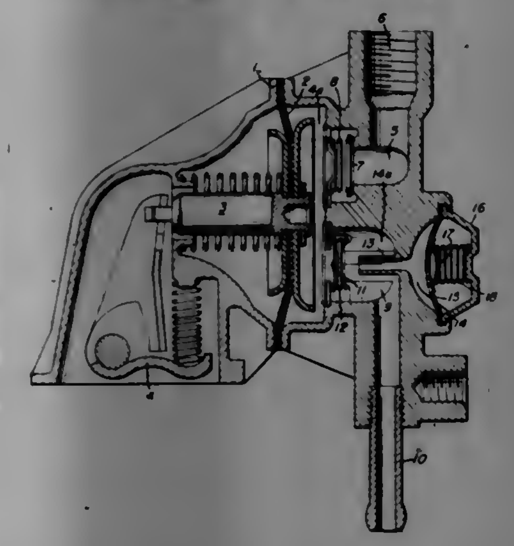
1. A blood pump comprising a pump body having a horizontal central axis, a U-shaped guide seat mounted on said body with the arc-shaped central portion thereof disposed below and centered about said central axis, a flexible resilient U-shaped tube seated on said guide seat and having its ends extending upwardly on opposite sides of said central axis, means on the upper portion of said pump body for supporting the ends of said tube, a plurality of pressure rollers mounted on said body with their axes in spaced parallel relation to said central axis for rotational movement about the latter and in engagement with the arc-shaped central portion of said tube, means supporting said pressure rollers for movement as a whole about pivotal points offset from lines connecting said roller axes with said central axis, and means for resiliently biasing each pressure roller into contact with said tube with a given, substantially constant bearing pressure, said tube having a flattish, convexo-convex shape and including an outer wall seated on said guide seat and an inner wall engaged by said pressure rollers, said flattish walls being substantially uniform in thickness throughout their widths, being oppositely convex and meeting at their side edges in acute angles, said tube along the longitudinal lines of juncture of the walls thereof being of substantially the same thickness as in the walls thereof and having in cross-section a transverse axis parallel to said central axis and substantially greater in length than its conjugate axis and such that all symmetrically opposite portions of the walls thereof come into contact when the tube is flattened by a roller to completely close the tube without leaving any lateral openings, the outer wall of said tube having a central longitudinally extending integral fin of substantial cross-sectional area for securing said tube to said guide seat, and the inner wall of said tube being smooth to enable the rollers to uniformly contact the same throughout its width.

3,192,864
DIAPHRAGM PUMP

Pier Vincenzo Notte, 18 Via Caboto, Turin, Italy

Filed Jan. 19, 1962, Ser. No. 167,252

1 Claim. (Cl. 103—150)



A diaphragm pump for pumping fluid from a fluid source to a fluid-utilizing means, comprising a casing containing a fluid-tight pump chamber defined by a deformable diaphragm element, means to deform said deformable element, pump intake means for coupling said chamber to said fluid source, said pump intake means including a suction-operated intake valve, and pump delivery means for coupling said chamber to said utilizing means, said delivery means including a discharge chamber and a pressure-operated discharge valve interposed between the pump and discharge chambers, a closed variable volume chamber opposite said pressure-operated discharge valve, conduit means connecting said closed variable volume chamber and said discharge chamber and projecting into said discharge chamber, a spring seat surrounding said conduit in said discharge chamber, and spring means mounted on and guided by said spring seat and pressing against said pressure-operated discharge valve whereby the closed chamber functions as a lung for the diaphragm pump.

3,192,865
HYDRAULICALLY ACTUATED PUMP

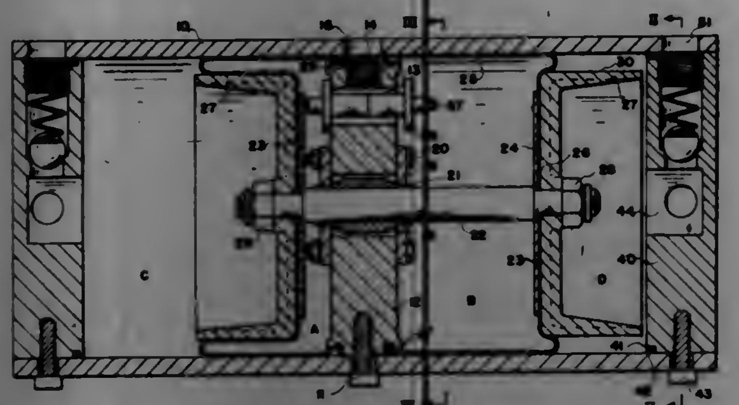
Francis J. Klempay, 5635 Tippecanoe Road, Canfield, Ohio

Filed Sept. 10, 1963, Ser. No. 307,901

12 Claims. (Cl. 103—152)

1. In a hydraulically actuated diaphragm-type fluid pump a thick disk-like mounting member having a centrally disposed axial bore therethrough, a rod passing through and slideably received in said bore and mounting at each of its ends a cup-shaped piston having its open

end extending away from said mounting member, sleeve-like flexible diaphragms having ends secured in fluid-tight relation to the outer peripheral portion of said mounting member and having their outer ends secured to inner portions of said cup-shaped members in fluid-tight relation thereto, a tube enclosing said diaphragms and pistons to



thereby provide pumping chambers which are fluid-tight with relation to the pressure chambers encompassed by said diaphragms and existing between opposite sides of said mounting member and said pistons, and means to supply hydraulic fluid under pressure to said pressure chambers alternately while simultaneously exhausting hydraulic fluid from the opposite chamber.

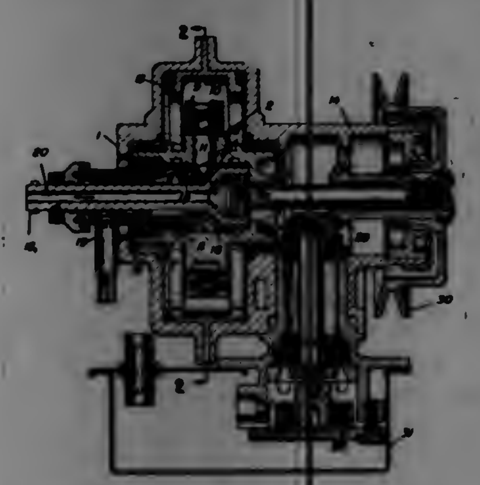
3,192,866
VOLUMETRIC MACHINE

Pierre Ernest Mercier, Piscop by Saint Brice, France, assignor to Societe Anonyme Andre Citroen, Paris, France

Original application Aug. 8, 1961, Ser. No. 130,055, now Patent No. 3,099,223, dated July 30, 1963. Divided and this application Feb. 11, 1963, Ser. No. 257,633

Claims priority, application France, Apr. 17, 1954, 667,527, Patent 1,098,499; Mar. 28, 1955, 55,163

3 Claims. (Cl. 103—161)



1. In a volumetric machine capable of operating as a fluid generator under pressure or as a motor utilizing fluid under pressure the combination comprising a body, a central core fixed to said body, a plurality of radial cylinders in said body, a cam, a plurality of pistons with alternating movements in said cylinders, means controlled by said cam controlling the alternating movements of each piston, a distributor mounted axially in said body, said distributor comprising a first fixed element, a second angularly movable element, inlet orifices and delivery orifices in said central core communicating with each cylinder, inlet orifices in said fixed element and delivery orifices in said movable element cooperating with said first named inlet and delivery orifices, means controlling the angular position of said movable element with relation to said first fixed element, means for subjecting said elements on one hand to the delivery pressure and on the other hand to elastic pressure.

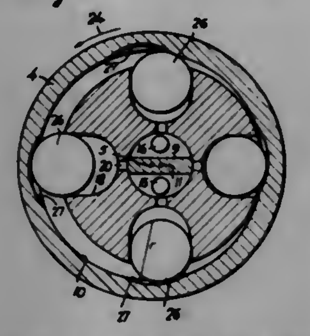
3,192,867
MACHINE ADAPTED TO OPERATE AS PUMP, COMPRESSOR OR MOTOR

Gustaf Erik Bjorklund, Stockholm, Svante Roland Edvardsson, Solna, and Rolf Gustaf Eriksson, Stockholm, Sweden, assignors to Aktiebolaget Dentatus, Hagersten, Sweden, a corporation of Sweden

Original application June 15, 1959, Ser. No. 820,233, now Patent No. 3,106,167, dated Oct. 8, 1963. Divided and this application Feb. 27, 1963, Ser. No. 261,401

Claims priority, application Sweden, June 24, 1958, 5,982/58

3 Claims. (Cl. 103—161)



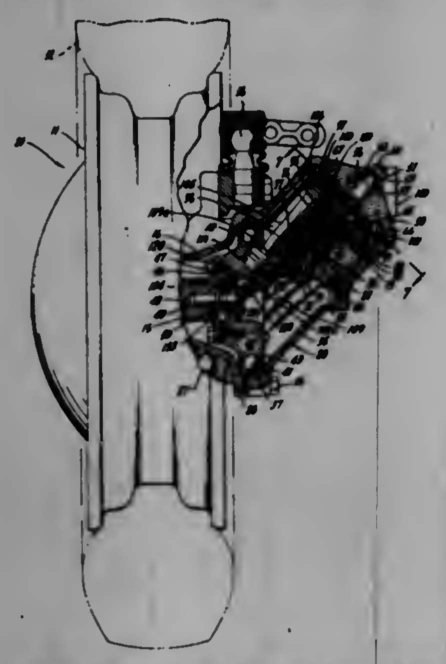
1. A machine adapted to operate as a pump, compressor or motor comprising a centrally disposed pintle having inlets and outlets, a cylinder block surrounding said pintle, rolling piston elements mounted reciprocably and rotatably in the cylinder spaces of said cylinder block, and a ring surrounding the cylinder block and adapted to rotate about an axis disposed eccentrically with respect to the pintle, said ring having concave recesses having concave surfaces in engagement with the rolling piston elements and comprising entraining means between the ring and the cylinder block effecting common rotation of the ring and the cylinder block relative to the central pintle.

3,192,868
DRIVE CONNECTION FOR FLUID DEVICE

Gunnar A. Wahlmark, 211 S. Rockford Ave., Rockford, Ill.

Filed Aug. 22, 1961, Ser. No. 133,233

11 Claims. (Cl. 103—162)



1. A swash plate type fluid device comprising a swash plate mounted for rotation about a predetermined axis, a cylinder block mounted for rotation about an axis oblique to said first mentioned axis, the maximum permissible angle between said axes being substantially in excess of 30°, said block having a plurality of cylinders therein, piston rods reciprocable in said cylinders and a drive connection between said cylinder block and said swash plate, said drive connection including ball joints on the free ends of said piston rods and corresponding sockets in said swash plate, each of said sockets being unitary with said

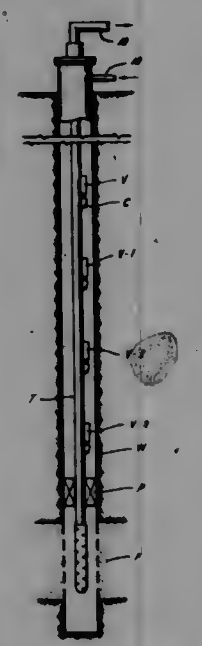
plate and enclosing an arc in excess of 180°, said ball joints having circumferentially disposed relief means thereon decreasing the projected circumference thereof in a plane perpendicular to the axes of corresponding piston rods whereby said ball joints are freely insertable in said sockets when said rods are generally parallel to the axis of rotation of said swash plate and universally retained therein when said rods extend obliquely to said last mentioned axis throughout each rotational cycle of said swash plate and cylinder block.

3,192,869
GAS LIFT METHOD

John H. McCarvell and Willis C. Carlisle, both of Box 7288, Houston, Tex.

Filed Oct. 28, 1963, Ser. No. 319,158

5 Claims. (Cl. 103—233)



1. A method of gas lifting oil or other liquid in a well comprising the steps of:

(a) mounting a plurality of longitudinally spaced fluid actuated valves on a tubing string,
(b) positioning the tubing string in a well casing with an annulus therebetween,
(c) setting each of said valves to open at substantially the same pressure gradient,
(d) forming a head of liquid in the tubing string above the uppermost valve to be opened for initially opening same to establish fluid communication from the annulus to the interior of the tubing string, and
(e) continuously introducing lifting gas into the annulus and through one or more of said valves to bubble the gas into the well liquid above the valve for reducing its density sufficiently to enable the bottom hole pressure of the well to raise same for discharge at the upper end of the tubing string.

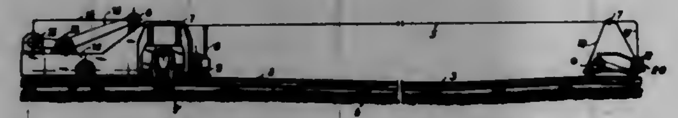
3,192,870
TRACK ALIGNING ARRANGEMENT

Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna I, Austria, and Wilhelm Mayer, Nordbahnstr. 52/8, Vienna II, Austria

Filed Mar. 3, 1961, Ser. No. 93,082

Claims priority, application Austria, Mar. 7, 1960, A 1,771/60

7 Claims. (Cl. 104—7)



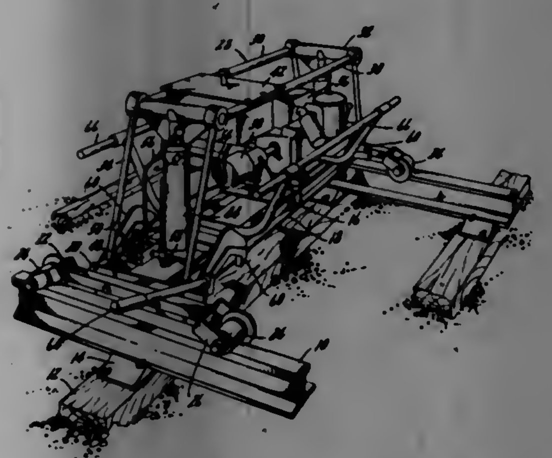
2. In a track aligning arrangement, in combination; a first and a second mobile vehicle each adapted to travel on the track, the first vehicle traveling on an aligned section of the track and the second vehicle being on a track section to be aligned; an elongaed flexible tension member having two end portions respectively secured to said vehicles and tensioned between said vehicles; pulley means on one of said vehicles, said flexible tension member being trained over said pulley means for varying the length of the tension member and thereby to vary the distance between the vehicles; track moving means on said first vehicle and spacedly superposed on a track section to be aligned and adjacent the aligned track section; and means for moving said second vehicle on the track at a speed at least equal to that of said first vehicle.

3,192,871
RAIL LIFTER

Edward H. Krause, Jr., New Berlin, Wis., assignor to Nordberg Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Feb. 25, 1963, Ser. No. 260,555

5 Claims. (Cl. 104—7)



1. In a rail lifter, a frame adapted to span the rails, wheels attached to the frame for moving it along a railroad track, a pair of spaced pivotal hooks on each side of the frame said hooks pivoting about axes above the rails, each pair of hooks being pivotal outwardly toward the rails and being spaced apart a distance greater than the width of a tie, manual means for independently pivoting each pair of hooks into position to grip a rail, from inside, and under the bottom flange of the rail, a pair of fluid rams mounted on the frame and positioned to apply an upthrust adjacent and inside of each rail and between each rail and the underlying tie, and means for independently operating each ram.

3,192,872
SUSPENDED VEHICLE

Alfred Parent, Lot et Garonne, Lavardac, France

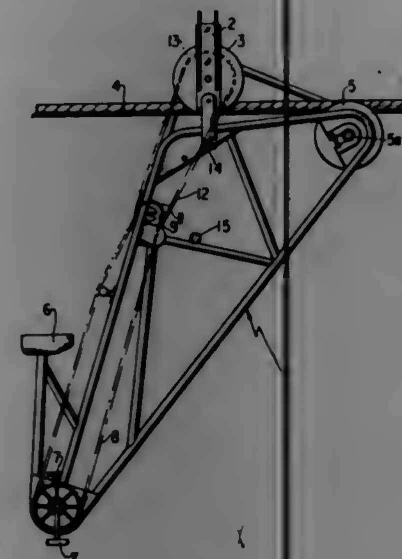
Filed Nov. 15, 1963, Ser. No. 324,117

Claims priority, application France, July 23, 1963, 942,400

6 Claims. (Cl. 104—93)

1. A vehicle adapted to be supported on at least one cable and to move along said cable comprising a frame, an operator's station, a suspension roller axle rotatably mounted on said frame, at least one suspension roller fixedly mounted on said suspension roller axle, said at least one suspension roller being adapted to straddle at least one cable when the vehicle is in use, a gripping roller axle offset from said suspension roller axle and rotatably mounted on said frame, at least one gripping roller fixedly mounted on said gripping roller axle, said at least one gripping roller being adapted to grip the bottom of at least one cable and to prevent the vehicle from swaying, each of said suspension roller and said gripping roller being adapted to act on the same cable, a drive for rotating said suspension roller axle and a braking device for

locking the suspension roller axle and immobilizing the vehicle, said frame having its center of gravity offset from said suspension roller axle whereby the vehicle rotates

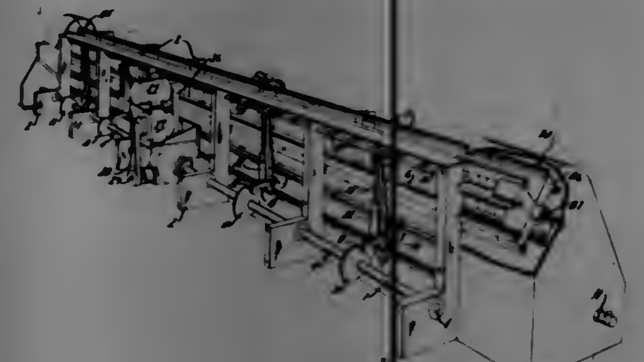


around said suspension roller axle and forces said offset gripping roller axle having at least one gripping roller against the bottom of the cable.

3,192,873
AUTOMATIC ASSEMBLY MACHINE

Lyell C. Tullis, Janesville, Wis., assignor to Gilman Engineering & Mfg. Co., Inc., Janesville, Wis., a corporation of Wisconsin

Filed Sept. 3, 1963, Ser. No. 306,386
19 Claims. (Cl. 104—162)



1. In a machine of the class described, a conveyor track, a series of work carrying platens disposed to be moved along said track, reciprocating drive means disposed parallel to said track, means adapted to interlock said drive means with said platens only during one direction of movement of the drive means to advance said platens along said track step by step with periods of dwell between successive advancing movements, a rotatable crank having a throw corresponding to the distance of each successive advancing movement of said platens, a Scotch yoke associated with said crank and carried by said reciprocating drive means to actuate the latter in accordance with the rotation of said crank, and means to rotate said crank.

3,192,874
DISCHARGE OUTLET ASSEMBLY FOR A HOPPER

George B. Dorey, Westmount, Quebec, Canada, assignor to Enterprise Railway Equipment Company, Chicago, Ill., a corporation of Illinois

Original application Dec. 30, 1958, Ser. No. 783,749, now Patent No. 3,109,388, dated Nov. 5, 1963. Divided and this application Oct. 30, 1963, Ser. No. 320,220
7 Claims. (Cl. 105—247)

1. In a hopper having an opening for discharge of lading, in combination,

(a) a frame bordering the hopper opening including side walls at each side of the opening,

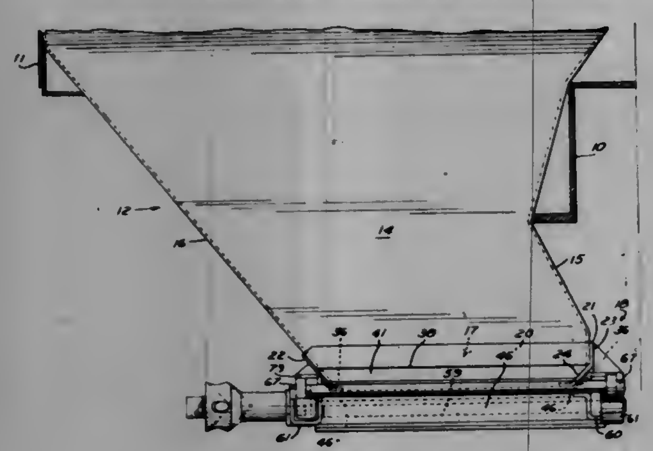
(b) a sliding gate movable between the side walls of the frame for controlling discharge of lading and

(c) means for moving the gate including:

  (1) a rotatable shaft journalled in the side walls of the frame and extending beyond said walls to provide end portions projecting outwardly beyond said walls,

  (2) toothed pinions non-rotatably mounted on the projecting shaft extensions and

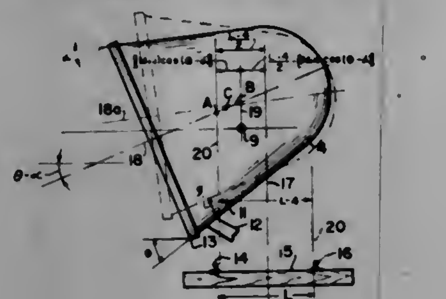
  (3) toothed rack bars juxtaposed to the gate and connected therewith and having engagement with the teeth of the pinions for moving the gate by rotation of the shaft.

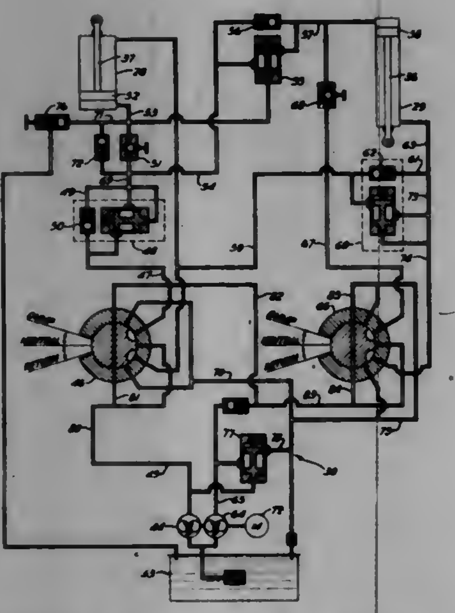


3,192,875
DUMPING APPARATUS FOR A VEHICLE MOUNTED TILTING SLAG POT

William C. Kroeger and William M. Loupe, Youngstown, Ohio, assignors to The William B. Pollock Company, Youngstown, Ohio, a corporation of Ohio

Filed Jan. 31, 1962, Ser. No. 170,195
9 Claims. (Cl. 105—271)



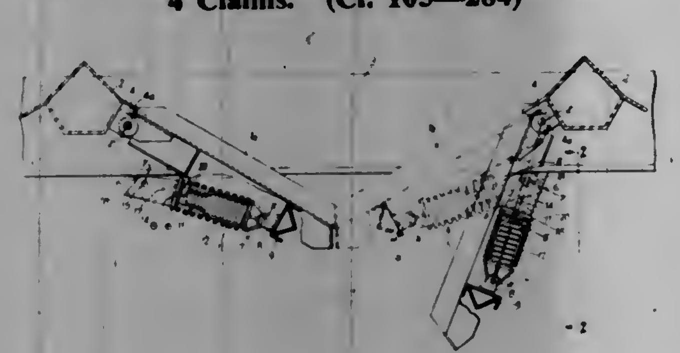


1. In apparatus for dumping a slag pot carried by a wheeled vehicle having a frame thereon wherein dumping is to one side of said vehicle, the invention comprising a trunnion ring normally disposed in a horizontal position upon said frame for mounting said slag pot in a vertical position, said trunnion ring having at substantially diametrically opposite sides first and second support members on each side which straddle its central axis of rotation and which are disposed upon said frame, said ring having one of said first and second support members forming with its counterpart at the opposite diametrical side of said ring a pivot mounting therefor upon said frame to permit rotation thereof about an axis offset laterally from said central axis whereby rotation of said ring about its offset axis causes said pot carried by said ring to travel from said vertical position to a full dump position whereat its contents are emptied therefrom, said vehicle having a portion disposed to define said full dump position by engagement with a side of said pot, said pivot mounting being located laterally a distance from the vertical center line of said pot such that the center of gravity of said pot and its contents is within the span of the wheels widthwise of said vehicle during travel of said pot from said vertical position to said full dump position, motor means operatively connected to said ring to rotate same about said pivot mounting to move said pot from said vertical to said full dump position, means forming a fluid under pressure system operatively connected to said motor means and including a fluid flow means for delivering a controlled amount of fluid under pressure to said motor means to impart a regulated slow rate of travel to said pot about said pivot mounting from said vertical position through at least a first portion of rotation towards said full dump position, including means for delivering fluid under pressure to said motor means to rotate said pot through an arc to a bumping position whereat said pot is spaced apart from said portion of said vehicle and including volume fluid means for delivering a substantial amount of fluid under pressure to said motor means for impacting said pot against said portion from said bumping position.

3,192,876
SPRING LOADED DOOR CONSTRUCTION FOR RAILROAD HOPPER CAR

Robert C. Ortner, Cincinnati, Ohio, assignor to Ortner Freight Car Company, Cincinnati, Ohio, a corporation of Kentucky

Filed June 20, 1963, Ser. No. 289,347
4 Claims. (Cl. 105—284)



1. A spring loaded door closing device for railroad hopper cars and the like wherein the hopper door is hingedly connected to the hopper car along a hinge line Z and is movable downwardly from a closed to an open position, said device comprising a first mounting member pivotally connected to the outer side of the hopper door at a pivot line X remote from the hinge line Z of said hopper door, a shaft secured at one end to said first mounting member and projecting outwardly therefrom, a second mounting member configured to slidably receive the opposite end of said shaft, said second mounting member being pivotally connected at a pivot line Y to a fixed support lying beneath and in spaced relation to the hinge line Z of said hopper door, a helical spring surrounding said shaft and extending between said first and second mounting members, the location of said pivot line Y being so chosen that:

(a) when said hopper door is in the closed position the longitudinal axis of the closing device, as defined by a straight line XY extending between the pivot lines X and Y, is angularly related to a plane ZX passing through the hinge line Z and the pivot line X, and

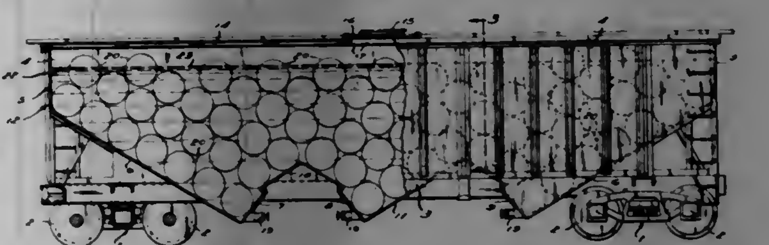
(b) when said door is moved to the open position the pivot line X is moved toward pivot line Y and the helical spring is compressed to slightly less than fully solid condition, and the longitudinal axis of the closing device, as defined by the straight line XY, lies in near parallelism to the plane ZX,

and stop means operative to establish the open position of said hopper door and prevent the door from swinging beyond the said open position, whereby the opening movement of the door is cushioned by the helical spring as it is compressed and yet the door is positively stopped before the closing device reaches the dead-center position in which its longitudinal axis parallels the plane ZX.

3,192,877
TANK CONVEYANCE WITH MOVABLE BAFFLES

James J. Wright, Bratenahl, Ohio, assignor to Cleveland Technical Center, Inc., Cleveland, Ohio, a corporation of Delaware

Filed Mar. 28, 1963, Ser. No. 268,689
16 Claims. (Cl. 105—360)



1. A conveyance for transporting liquids comprising a tank having an interior adapted to contain a body of liquid of substantial depth and having a free surface, the proportions of said tank interior being such that when said tank is subjected to acceleration in the direction of its length the liquid tends to surge therein, means for reducing the forces on the tank from surging liquid comprising a plurality of baffle members each of a specific gravity substantially greater than that of the liquid and including an outer wall defining a cross section of substantial area and a generally hollow interior and having an opening in the wall permitting liquid to flow substantially freely into and out of said baffle member, and means supporting said baffle members so that they can move generally parallel to the direction of acceleration of said tank independently of each other and said tank and so that when the free level of liquid is at rest said baffle members are only partially immersed in said liquid with portions thereof extending below the free level of the liquid and other portions thereof extending above the free level of the liquid, said baffle members being disposed in relatively close proximity to each other generally throughout the area of the free level of the liquid.

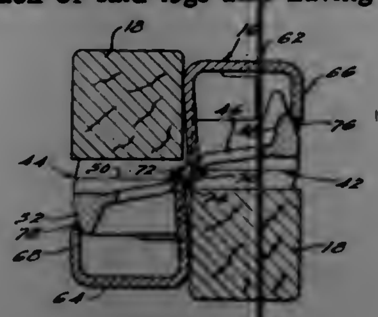
3,192,878
CROSS MEMBER

Henry L. Dunlap, Detroit, Mich., assignor to Evans Products Company, Plymouth, Mich., a corporation of Delaware

Filed May 9, 1962, Ser. No. 193,578
4 Claims. (Cl. 105—369)

1. In a crossbar of the type described, a crossbar body including a longitudinally extending metal reinforcing member having a central web and a pair of flanges at opposite sides of said web and extending in substantially opposite directions therefrom, an end fitting including an attachment portion adapted to be attached to a suitable

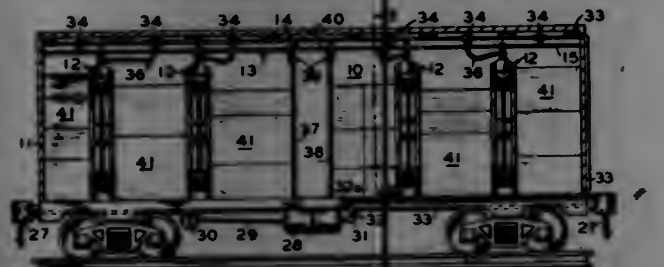
support and a pair of independent spaced legs disposed on opposite sides of said central web, each of said legs having a first portion extending at right angles to said central web and having an edge extending along and welded to said web, each of said legs also having a second portion integral with and extending generally at right angles thereto and parallel to said central web and having a portion extending along and welded to one of said flanges of said reinforcing member, each of said legs co-operating with one of said flanges and an adjacent part of said central web to define a box-shaped section.



3,192,879
PRESSURE CONTROLLED CARGO DUNNAGE BULKHEAD SYSTEM FOR FREIGHT CARS

Jerome R. Pier, Trafford, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed Apr. 26, 1962, Ser. No. 190,287
10 Claims. (Cl. 105—369)



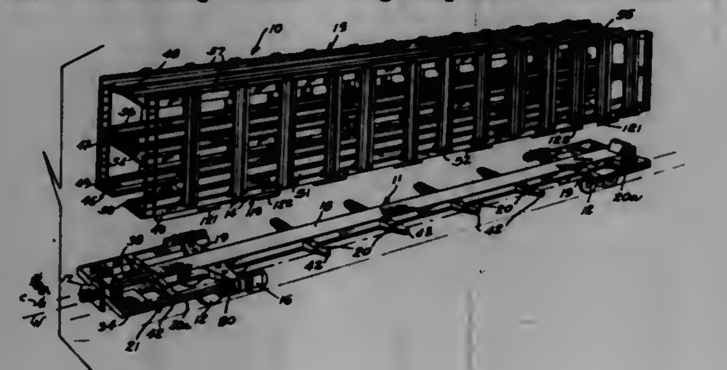
1. An expandable bulkhead unit for providing a low shorting pressure in a range of one-half to three pounds per square inch between cargo units in a freight carrying conveyance, comprising: a pair of panel members, a plurality of expandable members disposed in spaced relationship with one another between said panel members, each expandable member having a surface area having a maximum diameter of substantially 12 inches in contact with each of said panel members and having a chamber expandable in response to increase in pressure therein occasioned by changes in ambient pressure and temperature and contractable in response to decrease in pressure therein occasioned by changes in ambient pressure and temperature to move said panel members apart or toward each other, respectively, and input means on each bag for connection in common to a supply means having a pressure when connected to said expandable members having said surface area inflates said expandable members to effect an exertion of a pressure in said pressure range on said cargo by said panel members.

3,192,880
CUSHIONING ARRANGEMENT FOR RAILWAY VEHICLES

Ralph B. Bergstrand, Homewood, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed Apr. 16, 1962, Ser. No. 187,786
3 Claims. (Cl. 105—454)

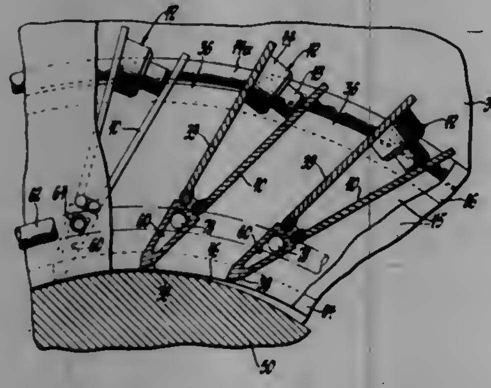
1. In a railway car having an underframe including bolsters and a superstructure movably mounted on said underframe for lengthwise movement thereof, a cushioning arrangement comprising cushion pocket means having stop means and forming separate enclosures fixed to said underframe on the free end of one of each of said bolsters; said cushion pocket means each including a vertical member fixed to said one free end and outwardly extending upper and lower horizontal members, spaced end walls fixed to said vertical and horizontal members so as to provide said stop means, openings in each of said end walls, and a cover detachably fastened to the outer ends of said upper and lower members to enclose said cushion pocket, a plurality of retractable cushioning means each being movable between an extended and a contracted position, one of each of said cushioning means being disposed within one of each of said cushioning pocket means between said stop means, and cushioning actuating means including rods fixed to said superstructure for movement therewith and associated with respective ones of said cushion means, said rods being arranged in opposing pairs through said end wall opening and engaging the opposite ends of said respective one cushioning means so that upon impact in buff or draft causing relative movement of said superstructure and said underframe so that each of said cushioning means is contracted by movement of one of an associated rod toward one of said associated stop means.



3,192,881
MACHINE FOR WAFERING FORAGE CROP MATERIAL

Vernon J. Lundell, Cherokee, Iowa, assignor to Massey-Ferguson Services N.V., Netherlands Antilles, a corporation of the Netherlands Antilles

Filed Oct. 22, 1963, Ser. No. 317,999
6 Claims. (Cl. 107—14)

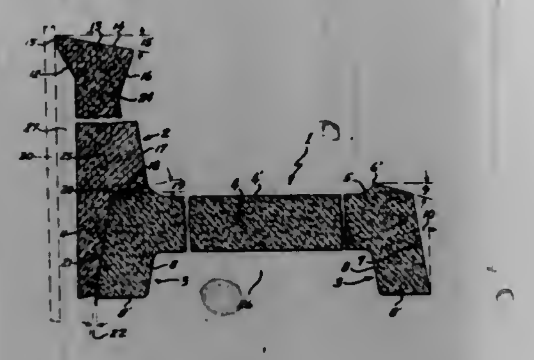


1. In a forage crop wafering machine having an extruder-feed chamber for receiving and wafering comminuted crop material, the combination comprising, an annular array of die cells of outwardly converging cross section disposed within said extruder-feed chamber, said die cells being separated at the entrance ends thereof by sharp edged die points and having movable wall portions adjacent the exit ends thereof, said die points each being formed with a hollow center portion, means for engaging the comminuted crop material delivered to said chamber adjacent the entrance ends of said die cells to force the crop material into and through said die cells so as to form it into compact wafers, and means for communicating a heated fluid to said hollow die points to facilitate the formation of high quality wafers from said forage crop material.

3,192,882
KITCHEN COUNTER TOP OR THE LIKE

Donald L. McFarland and John L. Benty, Long Beach, Calif., assignors to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed June 17, 1963, Ser. No. 288,339
12 Claims. (Cl. 108—27)

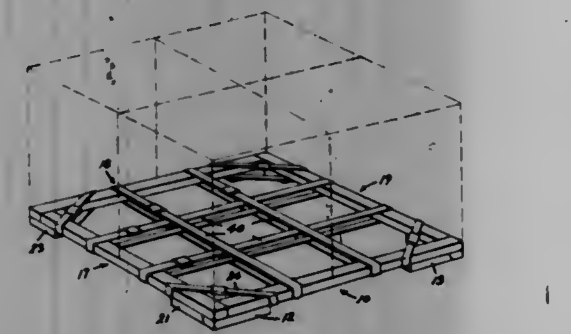


1. An integrally molded composite, unitary, symmetrical counter top formed of wood fibers bound together with a thermosetting resin and having a thermosetting resin-impregnated sheet laminated thereto, comprising: a horizontally extending body member having spaced leg members integrally connected thereto, each leg member being comprised of an upper surface inclined downwardly and outwardly and spaced above the upper surface of said horizontally extending body member to provide a drip lip, said upper inclined surface being connected to said upper surface of said horizontally extending body member by a curved portion, an outer side surface inclined downwardly and outwardly, a bottom surface spaced below said body member to provide a space below said body member and an inner side surface extending upwardly from said bottom surface to said body member.

3,192,883
LOAD CARRYING COLLAPSIBLE PALLET

John T. Massengale, West Chester, Pa., assignor, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Mar. 22, 1963, Ser. No. 267,113
2 Claims. (Cl. 108—56)

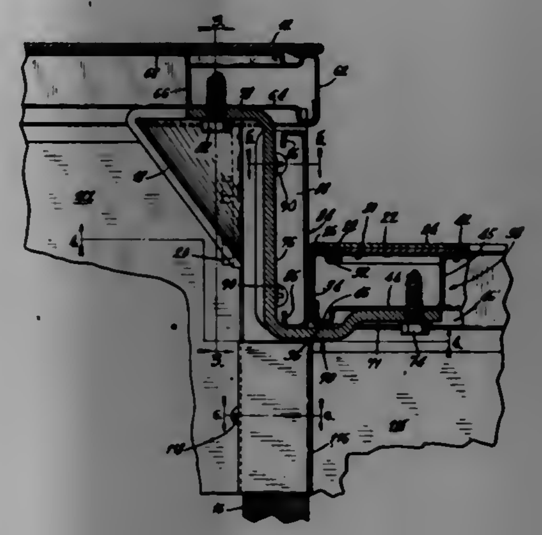


1. A load-carrying collapsible pallet comprising a plurality of structural units each of which comprises a substantially straight member extending at one end beyond a first floor engaging foot element secured thereto and having secured thereto a second floor engaging foot element which extends beyond the other end of the member, said plurality of units being assembled into a rectangular framework with the straight member of each unit overlying the second floor engaging foot element of an adjacent unit and flexible tie means extending about the corners of the rectangular framework for holding said units in assembled relationship, said foot elements preventing said flexible tie means from slipping.

3,192,884
DESK STRUCTURE

Earl F. Hamilton and Ralph B. Lay, Columbus, Ind., and Donald L. Moore, Gallatin, Tenn., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana

Filed June 12, 1963, Ser. No. 287,397
1 Claim. (Cl. 108—92)



In combination with a unit of metal furniture having a top supported on a plurality of ground-engaging legs, a desk structure, comprising

(a) a shelf structure having a depending border skirt provided with an inwardly extending stretch,

(b) a pair of laterally spaced brackets at one end of said shell structure each having a first flange parallel to said shelf structure connected to said inwardly extending stretch and interconnected by an upwardly projecting web to a second flange generally parallel with said first flange and connected to the underside of the top on said unit of metal furniture for mounting said shelf structure thereon in parallelism therewith,

(c) said first and second flanges on each bracket being laterally offset from each other and the bracket webs extending obliquely therebetween for mounting said first flanges adjacent a pair of lateral edges on said shelf structure and said second flanges substantially inwardly from a lateral edge of the top on said unit of metal furniture,

(d) a pair of ground-engaging legs mounted on said inwardly extending stretch at the end of the shelf structure remote from said brackets, and

(e) a plate extending transversely of said shelf structure between said shelf structure and the bracket webs and connected to the top and one leg of said unit of metal furniture.

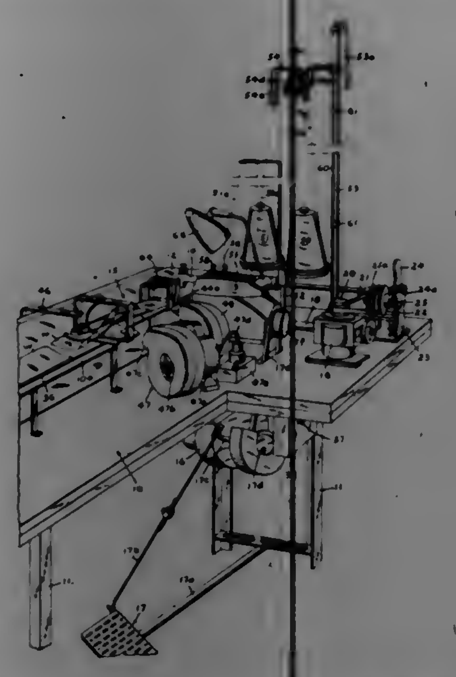
3,192,885
AUTOMATIC HEMMING UNIT

Roderick G. Timm, Harris Mills, Inc., 6 Johnes St., Newburgh, N.Y.

Filed Aug. 15, 1961, Ser. No. 131,552
21 Claims. (Cl. 112—2)

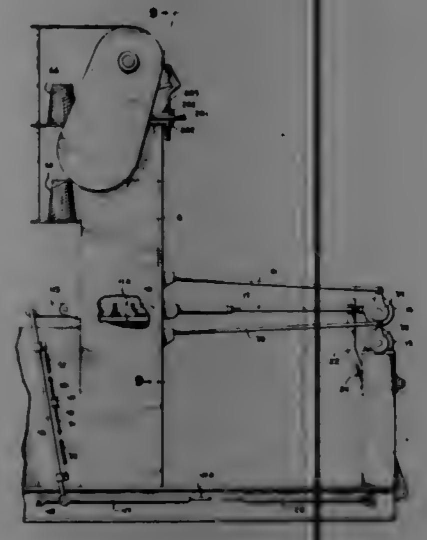
6. Apparatus for forming a blindstitch seam in a folded edge of each of a succession of work pieces which comprises a sewing machine having a throat plate, an elongated work support in the plane of said throat plate, means incorporated in said apparatus for automatically and continuously advancing a succession of work pieces in spaced relation along the surface of said work support and delivering the same to and through the stitch forming zone of said sewing machine, means for fold-

ing one of the longitudinal edges of each work piece into an S-shaped fold as the work piece is being advanced by said advancing means toward the throat plate of said sewing machine, and means in said sewing machine for forming a blindstitch seam along a fold line of each work piece as it is being advanced.



3,192,886
BEDDING COMPONENT MANUFACTURING MACHINE

James A. Cash, Jr., La Grange, Ky.
Filed Apr. 5, 1962, Ser. No. 185,296
9 Claims. (Cl. 112—2)

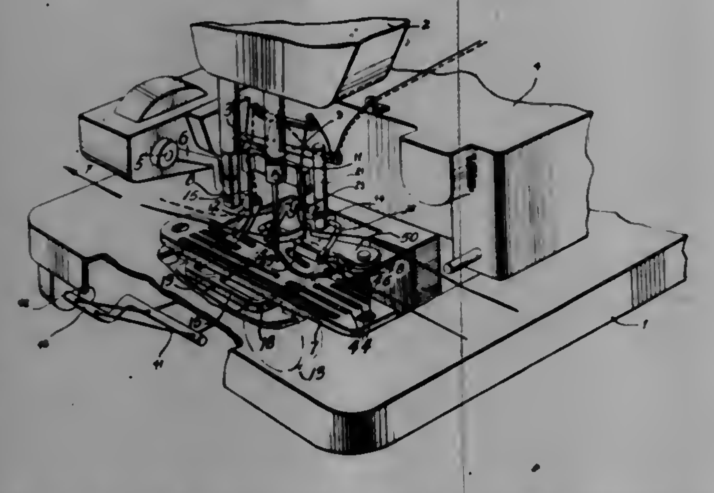


1. A multi-needle machine of the intermittent feed type for securing together the components of an elongate multilayer web by progressively sewing the web in the direction of its length along a number of longitudinally-extending transversely-spaced stitch lines, comprising:

(A) a frame having, between its longitudinally-spaced front and rear ends,
   (1) a transversely spaced pair of upright frame members and
   (2) a vertically spaced pair of cross members extending horizontally from one upright member to the other and secured to both,
      (a) the upper cross member being hollow;
(B) web advancing means operable, when actuated, to advance the web forwardly between said upper and lower cross members in intermittent fashion, said advancing means including
   (1) a pair of pinch rolls mounted on the frame to receive the advancing web between them,
   (2) an oscillatable lever pivotally mounted on the frame,
   (3) a one-way clutch connected to drive one pinch roll, and
   (4) an arm interconnecting said lever and clutch for clutch-driving purposes;
(C) a multi-needle bar
   (1) extending transversely between said lower and upper cross members, and
   (2) supporting a transversely extending succession of vertically-arranged horizontally-spaced sewing needles;
(D) an upper needle-operating mechanism operable, when actuated, to reciprocate said needle bar vertically and thereby move said needles downwardly and upwardly through the web to form depending loops of sewing thread on the under side thereof, said mechanism including
   (1) a first rotary power shaft crossing said machine within said upper hollow cross member,
   (2) a pair of transversely-spaced blocks supporting said multi-needle bar for vertical reciprocation,
      (a) said blocks being mounted on said upper cross member for vertically slidable movement, and
   (3) motion-converting power-transmitting means interconnecting said first shaft with each block to use the rotary movement of said shaft to effect the vertically slidable needle-reciprocating movement of said blocks;
(E) a lower thread-locking mechanism operable, when actuated, to engage and lock said sewing-thread-loops; and
(F) drive means
   (1) for actuating said web-advancing and needle-operating means to advance the web and reciprocate the needles alternately, and
   (2) for actuating the thread-locking mechanism in timed relationship with the needle-operating mechanism so as to engage and lock each succession of depending sewing thread loops.

3,192,887
SEWING MACHINE FOR OVERCASTING

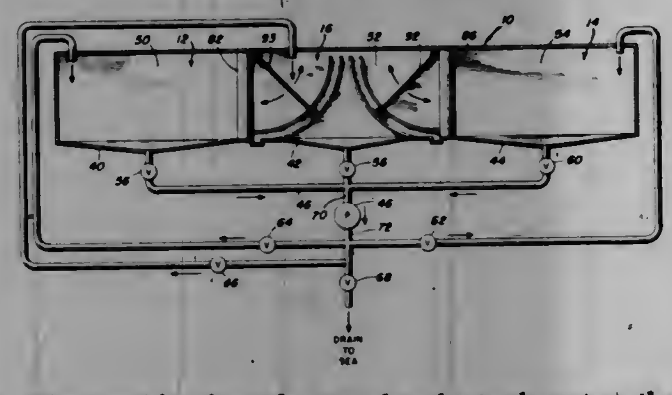
Emile Perl, Saacy sur Marne, France, assignor to G. M. Pfaff A.G., Kaiserslautern, Germany
Filed June 2, 1960, Ser. No. 33,408
Claims priority, application France, Feb. 13, 1960, 818,427
11 Claims. (Cl. 112—162)



8. A sewing machine for sewing together two superimposed widths of fabric comprising, means for securing said two widths together along a line of stitching parallel to the borders of said fabric widths and at a distance therefrom, means for effecting relative borderwise deflections of said widths at first and second sewing stations for disposing only one of said widths for a sewing operation at said first station and for disposing only the other of said widths for a sewing operation at said other station, and means for sewing a first edging on the border of said one width at said first station and a second edging on the border of said other width at said second station, each of said edgings being secured only to the associated border.

3,192,888
COMBINATION STABILIZATION AND HEELING SYSTEM FOR ICE BREAKERS

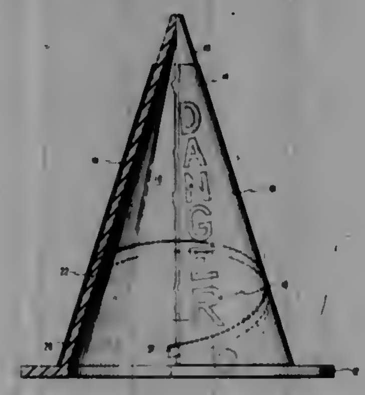
Sheldon B. Field, Floral Park, N.Y., assignor to John J. McMullen Associates, Inc., New York, N.Y., a corporation of New York
Filed Sept. 19, 1963, Ser. No. 310,111
7 Claims. (Cl. 114—125)



1. The combination of a vessel and a tank system therefor comprising an elongated enclosure transversely positioned in the vessel, wall means compartmenting said enclosure to define a wing tank on each end of said enclosure and an interconnecting central compartment, means within said tank means to dissipate energy from liquid moving longitudinally in said tank means, a pair of gate means mounted for movement between a first position in which the gate means divides the interior of said tank means into three compartments and a second position in which the gate means leaves the interior substantially unobstructed, and means to actuate said gate means and move same between said first position and said second position, pump means, first valve means connected to said pump means for enabling said pump means to draw liquid from one or any combination of each said wing tank and said central compartment, and second valve means connected to said pump means for enabling said pump means to deliver liquid to one or any combination of each said wing tank and said central compartment.

3,192,889
ROAD MARKER

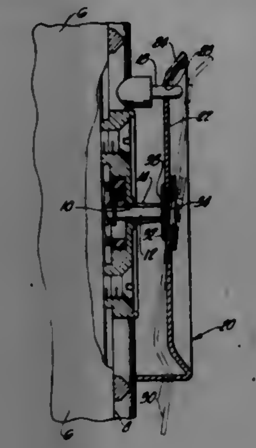
Cleveland B. Crudgington, 495 Kietzke Lane, Reno, Nev.
Filed Aug. 16, 1962, Ser. No. 217,324
2 Claims. (Cl. 116—63)



1. A road marker comprising a hollow cone of rubber having a pedestal, and loosely telescoped over said cone a trunco-conical jacket of paper having a brightly painted outer surface and on its inner surface a strip of adhesive in the form of a loop that is tilted relative to the plane defined by the bottom edge of said jacket.

3,192,890
FUSE FOR FIRE ALARMS

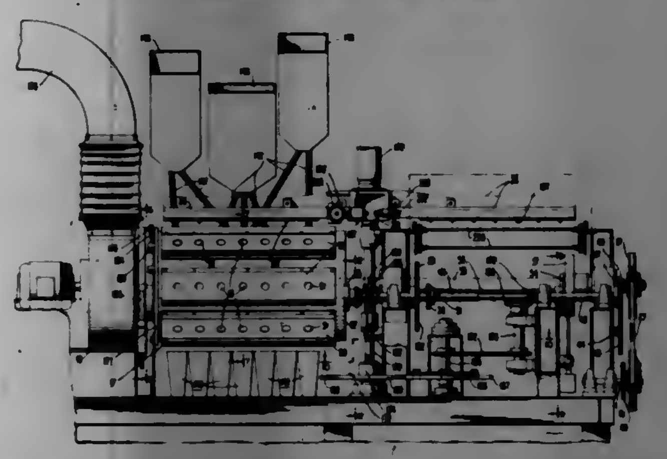
Randolph J. Smith, Anaheim, Calif., assignor to Interstate Engineering Corporation, Anaheim, Calif., a corporation of California
Filed July 30, 1963, Ser. No. 298,743
3 Claims. (Cl. 116—114.5)



1. In a fire alarm, a housing, a spring-biased control latch extending outwardly from the housing and movable outwardly relative thereto, a pair of spaced fuse elements supporting posts carried by and extending outwardly from said housing adjacent said control latch and having enlargements on their outer ends, a fuse element having a thermally releasable portion engageable with said control latch to hold it against the bias of its spring, said fuse element having spaced keyhole apertures to accommodate said supporting posts, each aperture having a portion larger than the enlargement on its respective post, and a portion smaller than the enlargement to permit locking of the fuse element on the posts under the pressure of said spring-biased control latch.

3,192,891
FLAVOR COATING APPARATUS

Elmore F. Maehl, Fanwood, N.J., assignor to National Biscuit Company, a corporation of New Jersey
Filed July 18, 1961, Ser. No. 124,877
7 Claims. (Cl. 118—16)



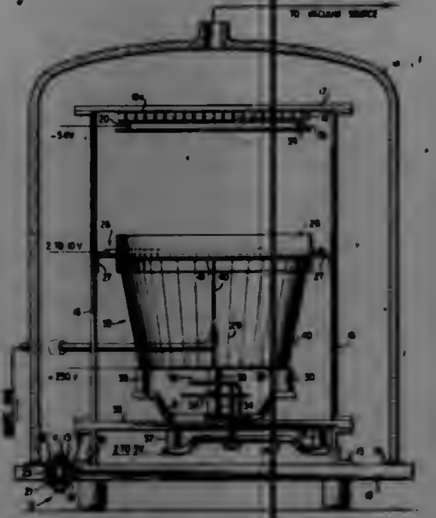
1. A machine for flavor coating cones comprising a cone holding cylinder, means for transferring a group of cones to a group of inwardly converging frustoconical sockets in said holding member at a first position thereof, cone retaining means coacting interiorly of said cone holding cylinder whereby a vacuum may be applied to the exterior surface of said cones to normally draw the latter within said sockets, gear means for axially rotating said group of cones while under said vacuum retention, means for intermittently rotating said cone holding cylinder for transferring said group of cones in sequence to a second position for adhesively spraying said cones, a third position for flavor spraying said cones, and a fourth position for ejecting said cones, and means at said fourth position for transferring said cones from said cone holding cylinder to a drying conveyor.

3,192,892

ION BOMBARDMENT CLEANING AND COATING APPARATUS

Marlin M. Hanson and Paul E. Oberg, Minneapolis, and Robert W. Olmen, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 24, 1961, Ser. No. 154,527
14 Claims. (Cl. 118—49.1)



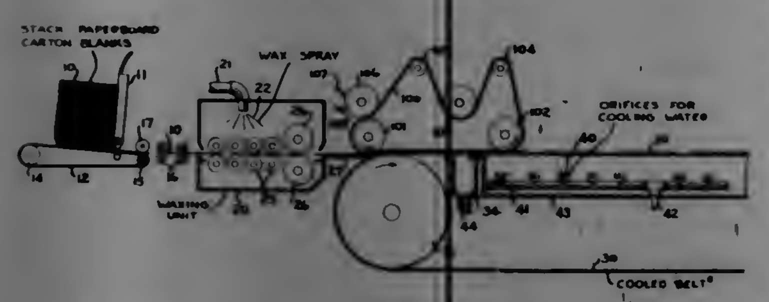
1. An evacuated ionization chamber for cleaning a substrate and depositing a film of metallic material thereon and for altering the characteristics of said film comprising a source of electrons disposed within said chamber, a volume-type grid, a voltage source connected between said source of electrons and said grid, said voltage source establishing a voltage gradient sufficient to attract electrons into the volume enclosed by said grid, an ionizable gaseous material disposed within the confines of said grid, said gaseous material being ionized by said electrons, a target including said substrate material, a source of target potential, said target potential establishing a voltage gradient sufficient to attract said ions to said target.

3,192,893

APPARATUS FOR PRODUCING HIGHLY GLOSSY PROTECTIVE SHEETS

Richard M. Bauer, George W. Forcey, and Walter H. Osterlund, Neenah, Wis., assignors to American Can Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 16, 1962, Ser. No. 217,390
1 Claim. (Cl. 118—69)



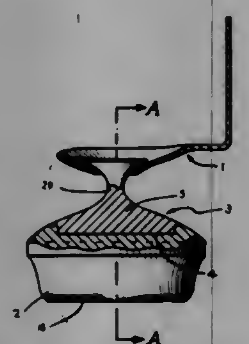
In a machine for providing a highly polished specular wax composition surface on a succession of paperboard sheets employing means for applying a molten wax composition to both sides of said sheets, a flexible endless planar conveyor means having a highly polished smooth exterior surface, means for maintaining said conveyor surface at a temperature substantially below the congealing point of the wax composition, means for moving said conveyor in a substantially horizontal plane while said sheets are maintained thereon in fixed, adhered contact with the planar surface thereof, and means for guiding said conveyor through a curvilinear return path, the improvement comprising pressure applying means for successively applying a coated surface of said sheets while said coating is in molten condition in intimate overall and fixed adhered contact with said conveyor surface and for maintaining such contact under pressure of said pressure applying means until said coating in contact with said planar conveyor is in a congealed state and said coating on the reverse side of said sheet in direct contact with said pressure applying means is in a partially congealed state, said pressure applying means comprising a flexible endless traveling belt, a series of rollers for carrying said belt during a sufficient portion of its travel in contact with and at a speed coincident with said planar conveyor means during its movement in a horizontal plane to effect complete congealing of said coating except for a thin layer thereof in contact with said pressure applying means, means for maintaining said belt within a predetermined temperature range higher than that maintained on said planar conveyor means and below the congealing point of said wax composition, and means for adjusting the length of travel of the portion of said belt in contact with said planar conveyor means so that said contact may be terminated at a point at which the coating on said reverse side of said sheets is completely congealed except for a thin layer thereof in contact with said pressure applying means.

3,192,894

SUPPORT FOR AN ARTICLE

Robert B. Staver, 191 Hillview Ave., Los Altos, Calif.

Filed Aug. 12, 1963, Ser. No. 301,534
8 Claims. (Cl. 118—76)



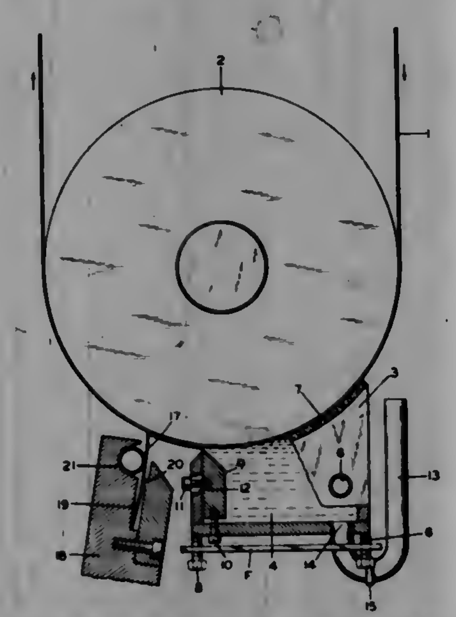
1. In combination, a body of material of a size to be grasped by the hand and manipulated thereby, said body having an upper surface portion; a member extending upwardly from and attached to at least part of said upper surface portion of said body, said body having an opposite surface for application to an object to be treated, said member including means for holding said body of material including a slender stem portion, said stem portion being sufficiently slender to be positioned comfortably within the crotch of two adjacent squeezing fingers of a hand without spreading said fingers to an uncomfortable degree when the article is in use, said combination comprising said body of material; said member; a support means having an opening to facilitate engagement of the intermediate support means with said support means; and at least two intermediate support means portions of the member, the first of which is disposed generally upwardly from said stem portion to cooperate with the support means to support the article therefrom with the body of material being located downwardly from said intermediate support means, while leaving said stem portion and the space lying generally outwardly from said stem, substantially unobstructed whereby said intermediate support means may be engaged with or removed from said support means conveniently while said holding means is engaged in the crotch between said fingers; and the surface of the member located outwardly from the base of the stem portion and facing generally upwardly when the body of material is positioned downwardly with respect to the member, which surface conforms to the cooperating surface of the support means located outwardly from the opening in said support means and generally facing upwardly, so as to provide a second intermediate support means for resting the article upon the support in an inverted position with the body of material being located generally upwardly from the cooperating surface of the support means and with the article resting with reasonable secureness on the support means while the stem portion extends downwardly through the opening in said support means, this leaving the surface of the body of material adapted for application to an object being treated facing upwardly so that the immediate object to be treated may be brought into useful contact with said surface of application.

3,192,895

WEB COATING APPARATUS

Merrill F. Galer, Monroe, Conn., assignor to Time Incorporated, New York, N.Y., a corporation of New York

Filed Apr. 18, 1962, Ser. No. 188,426
8 Claims. (Cl. 118—126)



1. A coating apparatus for a moving web comprising a tank for a coating composition, said tank having a front wall extending transversely of the direction of the web and a side wall at both ends of the front wall, said side walls confining and directing flow of the coating composition toward the front wall, a rotatable cylinder above said tank for supporting a web of paper and passing it downwardly into said tank, the upper edges of the side walls near the front wall being substantially complementary to said cylinder, an adjustable metering bar on said front wall extending lengthwise of said cylinder in spaced relation thereto for regulating the flow of coating composition between said metering bar and the web, and a coating blade spaced from said front wall and outside said tank for spreading the coating composition evenly on the web and removing excess coating composition from said web.

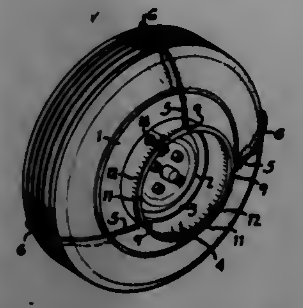
3,192,896

TIRE MASK

Reginald H. Sterns Irving, 8797 Kimberly Court, Detroit 4, Mich.

Filed Jan. 26, 1962, Ser. No. 169,070
2 Claims. (Cl. 118—505)

1. In a paint spray tire mask for a vehicle wheel and tire assembly having an elongate rectangular member of flexible sheet material which is flat along one elongated edge and adapted to be flexed into a circular band of a selected diameter substantially corresponding to the outer diameter of the wheel by overlapping the opposite end portions of the member, and clamp means for clamping the overlapping end portions of the member against each other to maintain the band at the selected diameter; attachment means for mounting the band in position upon a wheel and tire assembly with said one edge of the band engaged with the side of the tire adjacent the periphery of the wheel with the band projecting axially from the side of the tire, said attachment means comprising a plurality of tension springs coupled at one end to said band at spaced points along the edge of the band remote from the tire, and hook means coupled to the opposite end of each tension spring engageable in the tread portion of the tire the attachment means extending radially outwardly from said band to retain the band in position upon the tire by resiliently biasing the one edge of the band axially against the side of the tire while leaving completely unobstructed the area circumscribed by the band.

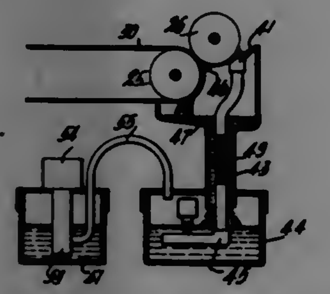


3,192,897

ELECTROSTATIC PRINTING APPARATUS

Charles J. Young, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Original application Dec. 28, 1960, Ser. No. 78,930. Divided and this application Dec. 29, 1961, Ser. No. 163,313
5 Claims. (Cl. 118—637)



1. Apparatus for applying liquid developer composition to a continuous web bearing a latent electrostatic image, said apparatus comprising a pair of pressure rollers adapted to contact opposite surfaces of said web, one of said rollers being adapted to have said web contact a substantial portion of the periphery thereof, the other of said rollers being positioned in a plane above said one roller so as to make substantially line contact with said web, drive means for rotating said rollers to move said web therebetween, means for washing said other roller with said liquid developer composition to substantially obliterate offset images formed on said other roller as a result of previous development of electrostatic images on said web with said other roller, rotation of said other roller providing means for carrying developer composition into contact with said image bearing web and forming a turbulent nip of developer composition between said image bearing web and said other roller, and sump means for collecting developer composition flowing down over the surface of said image bearing web on said portion of said one roller.

3,192,898

LIMNOLOGICAL PROCESS

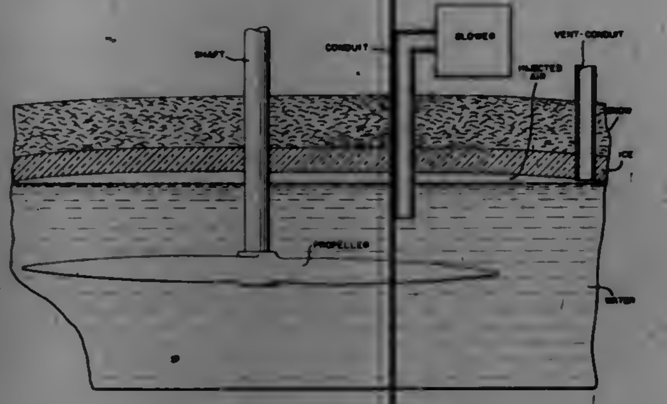
Thomas H. Oster, 156 S. Franklin St., Dearborn, Mich.

Filed Feb. 5, 1962, Ser. No. 171,130
10 Claims. (Cl. 119—3)

5. A process for altering the limnology of an at least partially frozen body of water comprising injecting a large volume of air at a pressure of not over two pounds per square inch adjacent the ice water interface whereby

the ice and water are pneumatically separated over a substantial area.

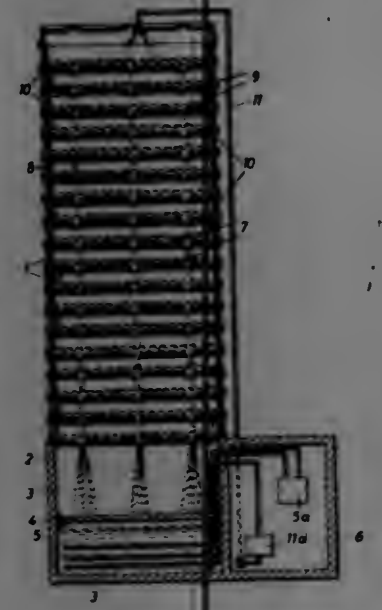
8. A process for altering the limnology of a large body of water comprising submerging an open propeller in said



body of water to a stationary position and by means of such propeller imparting to large volumes of water motion having a vertical component and a velocity not in excess of four feet per second while said propeller is maintained at said stationary position.

3,192,899
DEVICE FOR THE STORAGE OF SHELLFISH

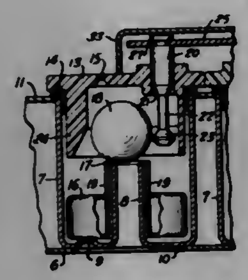
John Desmond Lucey and Henry Neil Johnson, Bridlington, England, assignors to Lobstor (Bridlington) Limited, Bridlington, England, a British company
Filed May 29, 1962, Ser. No. 198,589
Claims priority, application Great Britain, May 30, 1961, 19,395/61
7 Claims. (Cl. 119—4)



1. A unit for storing live shellfish which comprises a plurality of trays disposed in vertical alignment one above the other, a water feeding device for feeding water to the uppermost tray, each tray having at least one perforation in the base thereof such that water fed to the uppermost tray passes through each tray, the number and size of the perforations in the base of each tray providing means for controlling the water flow therethrough, in relation to the amount of water from the feeding device supplied to the uppermost tray, to maintain a depth of water in the tray sufficient for providing for partial immersion of the shellfish in each tray, a reservoir below the trays for receiving water from the lowermost tray and a pump for feeding water from the reservoir to the water feeding device.

3,192,900
AUTOMATIC RELEASE MECHANISM FOR MILKING APPARATUS

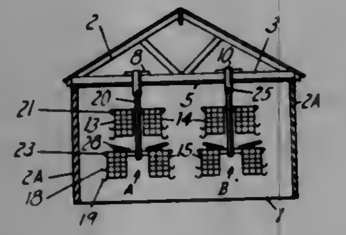
Donald E. Lippke, Delavan, Wis., assignor, by mesne assignments, to Sta-Rite Products, Inc., Delavan, Wis., a corporation of Wisconsin
Filed Nov. 13, 1962, Ser. No. 236,954
8 Claims. (Cl. 119—14.08)



6. In an automatic shutoff apparatus for a milking system, a container, a lid for the container, a series of cups mounted on the lid with each cup having an outlet opening communicating with the container and having an inlet opening connected to an animal's teat, a cover for each cup, a valve disposed in each cup to open and close the outlet opening in the cup, a valve actuating member extending within each cup and having a lower portion selectively engageable with the respective valve for unseating the valve and establish a vacuum to the animal's teat and start the flow of milk and having an upper end located outside of the respective cup, a connecting member located on the upper surface of the lid and connected to the upper ends of the valve actuating members, a closure plate having a downwardly extending flange disposed in engagement with said covers, said closure plate extending over said connecting member and said valve actuating members to enclose the same, and means connected to the lid for holding the closure plate down against the covers.

3,192,901
EGG LAYING HOUSE AND CAGE SUPPORT THEREFOR

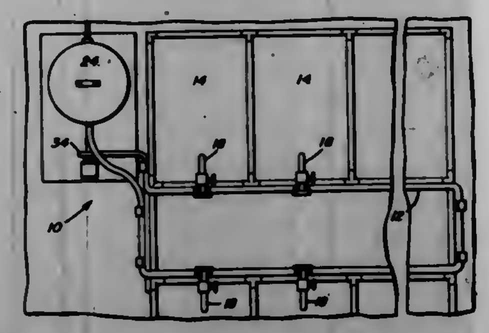
Patrick J. Wolff, 9443 West P Ave., Kalamazoo, Mich.
Filed Apr. 6, 1964, Ser. No. 357,416
16 Claims. (Cl. 119—17)



16. A cage support for egg laying houses comprising a rigid upright with vertically spaced rigid cross members secured thereto below the upper end of the upright, said cross members being adapted to project into and support cages on each side of the upright, the lower of said cross members being longer than the upper cross member on each side by an amount greater than the transverse width of said upright,
a support element attachable to a fixed portion of a laying house,
and means forming a selectively vertically variable and laterally rigid connection between the upper end of said upright and said support element with laterally overlapping engagement between the upright and the support element.

3,192,902
AUTOMATIC FEEDER

Diemer L. Gammill, Rte. 1, Petersburg, Tenn.
Filed Aug. 12, 1963, Ser. No. 301,565
4 Claims. (Cl. 119—51.11)



1. In an automatic liquid feeder for animals, a closed wall feed container, a single elongated animal feed supply line, said supply line having one end thereof in communication with the interior of the feed container through the walls adjacent the bottom thereof, and the other end thereof in communication with the interior of the container through the walls adjacent the top thereof, a plurality of feeding nipples communicated with said supply line at longitudinally spaced points therealong, and pump means operatively associated with said supply line for effecting the forced circulation of feed from the bottom of the container through the supply line and back into the top of the container, said supply line, outwardly from the first end thereof communicated with the bottom of the container, extending vertically to a height generally above the normal uppermost feed level of the feed container and maintaining this height throughout the feeding nipple portion until communicated with the upper end of the container, thereby preventing gravity flow of the feed from the container into the supply line.

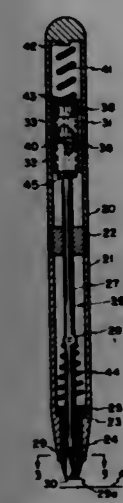
3,192,903
PROTECTIVE KEEL BONE COVERING FOR DOMESTIC FOWL

Joseph M. Vandepopuliere, Ballwin, Mo., assignor to Ralston Purina Company, St. Louis, Mo., a corporation of Missouri
Filed Mar. 7, 1963, Ser. No. 263,496
3 Claims. (Cl. 119—143)

2. A protective covering for protecting the skin and feather covering in the keel bone area of domestic fowl against blister, comprising a continuous layer of adhesive adapted to be secured to the exposed outer surface of the feather covering in the keel bone area and spaced by the feather covering from said skin, and a continuous protective overlay over the adhesive and secured thereto, said protective overlay, when said protective covering is secured to a domestic fowl, being spaced by the feather covering and layer of adhesive from the skin of the keel bone area, whereby the feathers of the feather covering beneath the protective overlay are held together by the adhesive and prevented from spreading while acting as a cushion between the protective overlay and the skin of the keel bone area.

3,192,904
WRITING INSTRUMENT

Frank T. Johmann, 49 Hampton Drive, Berkeley Heights, N.J.
Filed Nov. 9, 1961, Ser. No. 151,376
14 Claims. (Cl. 120—42.03)



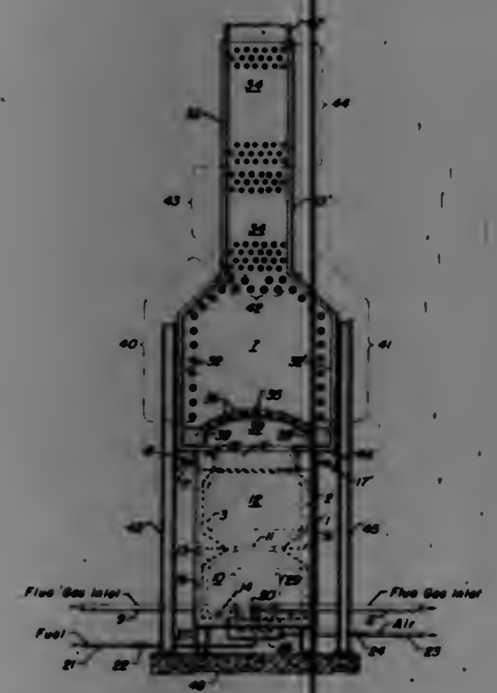
10. In a tip-actuated ballpoint writing instrument comprising a barrel having upper and lower ends, a hood unit projecting downwardly from the lower end of said barrel, a ballpoint cartridge unit including a writing ball, and means for switching the relative position of said cartridge unit and said hood unit between a point protracted position wherein said writing ball projects through said hood unit and a point retracted position wherein said writing ball is concealed within said hood unit, said means being responsive to pressing the writing tip end of said instrument into contact with a rigid surface and then releasing from said contact to thereby longitudinally move said hood unit and said cartridge unit relative to each other and said barrel to attain said switching, and a non-dotting surface-contacting end defined by said instrument proximate said ball point, said surface-contacting end contacting a writing surface when said instrument is held at right angle to said writing surface during said switching, said writing ball contacting said writing surface when protracted and said instrument is positioned for writing at a writing angle to said writing surface.

3,192,905
COMBINED CARBON MONOXIDE OXIDIZER AND FLUID HEATER

Marion W. Barnes, Glenview, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Dec. 30, 1963, Ser. No. 334,469
2 Claims. (Cl. 122—7)

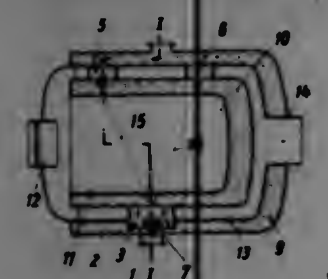
1. A combined apparatus for oxidizing residual combustibles in a flue gas stream and for effecting the heating of fluids, which comprises in combination, a superposed elongated fluid heater chamber having a lower radiant heating section and an upper restricted cross-sectional area convection heating section with flue gas discharge means therefrom, at least one bank of fluid conduits extending along each of the elongated wall portions of said lower radiant heating sections and at least one bank of fluid conduits extending longitudinally and parallel with the elongated wall portions of said upper convection heating section, an upwardly arching refractory checkerwork floor section for said heater chamber having the crest of the arch thereof extend centrally between and longitudinally parallel with the elongated walls of the lower radiant heating section, a plurality of flue gas oxidizing chambers positioned at spaced longitudinal distances below said heater chamber and said arched checkerwork refractory floor, an elongated hot gas plenum section also positioned below the latter and above said gas oxidizing chambers to interconnect each of the latter whereby hot gases

therefrom may be uniformly distributed upwardly through the checkerwork refractory floor section, each flue gas oxidizing chamber of the plurality thereof including an upper cylindrical combustion section, a lower cylindrical flue gas inlet section and an intermediate restricted diameter gas mixing zone, said upper gas combustion section having a hot gas outlet connecting to and discharging into said elongated plenum section, fuel burner means extending axially upwardly through the lower end of the said gas inlet section producing a high temperature flame and radiant heat therein, air inlet ports extending through the lower end of said gas inlet section and spaced around said fuel burner means, and flue gas inlet port means connecting tangentially with the interior lower end portion of said gas inlet section, whereby heat and air will mix with said tangentially introduced flue gas stream and the resultant heated mixture will swirl centrifugally through said lower section to have hot oxidized gases pass upwardly through said superposed mixing zone and said combustion section and thence to said elongated plenum section and said arched checkerwork refractory floor section of the heater chamber.



3,192,906
BOILERS FOR REDUCING TEMPERATURE GRADIENT AND IMPROVING WATER CIRCULATION

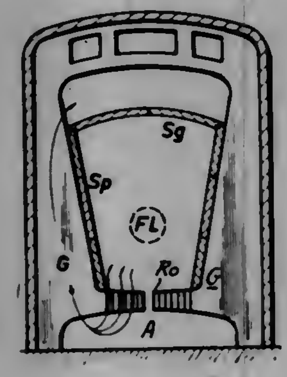
Heinz Gerbert, Biberacher Strasse 54/4, Schwendi, Germany
Filed Jan. 28, 1963, Ser. No. 254,174
Claims priority, application Germany, Feb. 1, 1962, V 21,9[illegible]7
9 Claims. (Cl. 122—136)



1. In a boiler, in combination:
(a) an outer jacket means including spaced inner and outer walls enclosing a first heating space of annular cross section about a horizontally extending axis,
  (1) said inner wall enclosing a central space adjacent said axis, and
  (2) said heating space being radially separated from said central space by said inner wall;
(b) an inner jacket means in said central space,
  (1) said inner jacket means including spaced inner and outer walls enclosing a second heating space of annular cross section about said axis,
  (2) the inner wall of said inner jacket means forming a combustion chamber adjacent said axis, and radially separating said second heating space from said combustion chamber;
(c) inlet means for feeding a fluid to be heated to a first portion of said first heating space downwardly spaced from said axis;
(d) first conduit means connecting said first portion of said first heating space with a first portion of said second heating space;
(e) second conduit means connecting a second portion of said second heating space upwardly spaced from said first portion thereof with a second portion of said first heating space upwardly spaced from said axis,
  (1) said first conduit means extending upward from said first toward said second heating space, and said second conduit means extending upward from said second toward said first heating space,
  (2) said first conduit means including at least one conduit connecting said heating spaces and flaring in a direction from said second toward said first heating space,
  (3) the effective flow section of said second conduit means being substantially greater than the effective flow section of said first conduit means; and
(f) outlet means for withdrawing a heated fluid from one of said heating spaces.

3,192,907
HEATER OF UNIFORM SPECIFIC LOADING

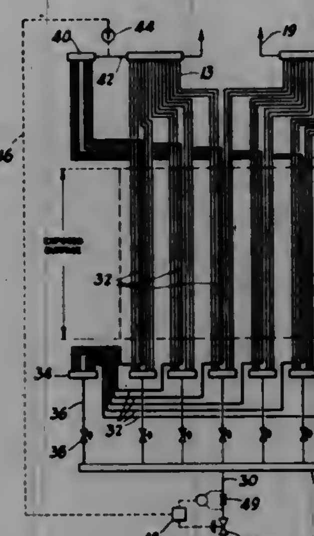
Eugen Fehr, Wallisellen, Zurich, Switzerland (% A.G. für Oelfeuerungen, Winterthurerstr. 153/156, Zurich, Switzerland)
Filed Sept. 15, 1961, Ser. No. 138,489
Claims priority, application Switzerland, Sept. 17, 1960, 10,538/60
1 Claim. (Cl. 122—225)



In a single-pass hot-water heating boiler comprising water-containing boiler sections, a water-bearing grate integral with said sections, said sections forming between them flues of upwardly constantly decreasing cross-section laterally open to the inside, a firebox having upwardly diverging sides defined by said sections, an ashpit communicating with said flues, and top outlets for said flues, the improvement comprising removably assembled fireclay bricks lining the firebox sides and being set on edge loosely on top of each other, and a plurality of loosely and removably assembled arched fireclay bricks to form a vault bearing on the top edges of the brick lining.

3,192,908
METHOD AND APPARATUS FOR CONTROLLING THE TEMPERATURE OF VAPOR CREATED IN A VAPOR GENERATOR

Willburt W. Schroedter, West Hartford, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Nov. 15, 1962, Ser. No. 240,470
3 Claims. (Cl. 122—448)

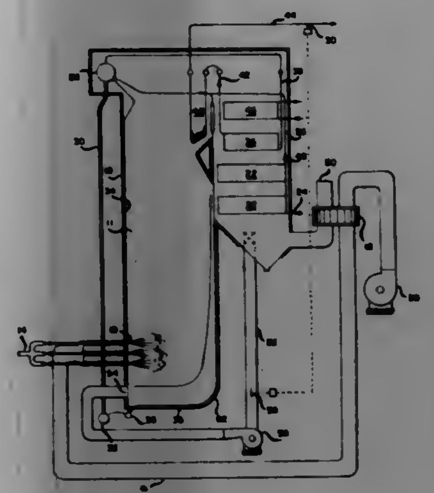


1. In a vapor generator in which heat is exchanged between a liquid working medium and a gaseous working medium and having the heating surface thereof comprised of tubes conducting said liquid medium and being exposed to said gaseous medium, said tubes being connected in parallel and divided into sub-circuits, the combination of means for regulating the rate of supply of at least one of said mediums to said vapor generator, a control tube conducting liquid working medium associated with each sub-circuit, inlet and outlet header means common to said control tubes to the exclusion of said sub-circuits connecting said control tubes in parallel, a variable flow restricting device common to all of said control tubes and associated with said inlet header means, said flow restricting device having a restricting value to have superheated vapor received in said outlet header means, means associated with said outlet header means for sensing the temperature of superheated vapor, and means for operating said flow regulating means in response to the temperature sensed by said sensing means.

3,192,909
USE OF GAS RECIRCULATION FOR SUPERHEAT TEMPERATURE CONTROL

Elva Richardson, West Hartford, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 27, 1963, Ser. No. 333,903
1 Claim. (Cl. 122—478)

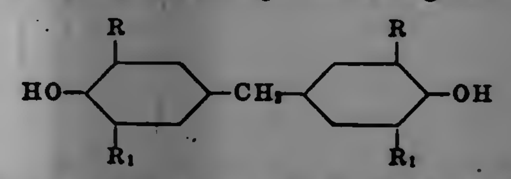
In a steam generating unit, a furnace having front, rear, side and bottom enclosing wall means, said bottom wall means being substantially horizontal, all of said wall means including steam generating tubes, short flame burner means mounted in the lower portion of the front wall means, gas passageway means connected to the upper portion of the rear wall means, steam heating means positioned within the gas passageway means, outlet means positioned in the front wall means below the short flame burner means, said outlet means extending substantially across the entire front wall means, a duct having an inlet end connected to the gas passageway means downstream of the steam heating means, and having an outlet end connected to the outlet means, a fan located in said duct for causing cooled combustion gases to flow from the inlet end of said duct to the outlet end, the outlet means being positioned in the front wall means such that the cooled combustion gases are introduced into the furnace in a direction substantially parallel to the bottom wall means, thereby forming an effective blanket of cooled combustion gases between the flame issuing from the short flame burner means and the bottom wall means, the corner joining the bottom wall means and the rear wall means being rounded sufficiently to prevent undue turbulence of the cooled combustion gases as they flow around such corner, so that an effective blanket of cooled combustion gases is also formed between the flame and the rear wall means.



3,192,910
TWO-CYCLE INTERNAL COMBUSTION ENGINE FUEL

Thomas H. Coffield, Farmington, and Allen H. Filbey, Walled Lake, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Nov. 15, 1961, Ser. No. 152,678
8 Claims. (Cl. 123—1)

8. The method of operating a two-cycle spark ignition internal combustion engine which comprises as the fuel supplying step introducing into the combustion chamber a fuel/oil mixture, the weight ratio of said fuel to said oil being at least about 15/1, said mixture containing as an additive therefor a compound having the formula



$$HO-C_6H_2(R)(R_1)-CH_2-C_6H_2(R)(R_1)-OH$$

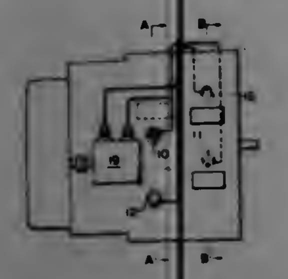
wherein R is an alkyl group of 1–8 carbon atoms and R_1 is an alpha-branched alkyl group of 3–8 carbon atoms, igniting said fuel/oil mixture in said combustion chamber, thereby producing gaseous combustion products, and causing said combustion products to act on a piston, thereby producing a driving force.

3,192,911
FUEL INJECTION SYSTEM FOR MULTI-ROTOR ROTARY ENGINES

Hiroshi Tado, Suita-shi, Osaka, Japan, assignor to Yanmar Diesel Engine Co., Ltd., Kita-ku, Osaka, Japan, a corporation of Japan
Filed May 29, 1962, Ser. No. 198,591
Claims priority, application Japan, July 28, 1961, 36/26,766
2 Claims. (Cl. 123—8)

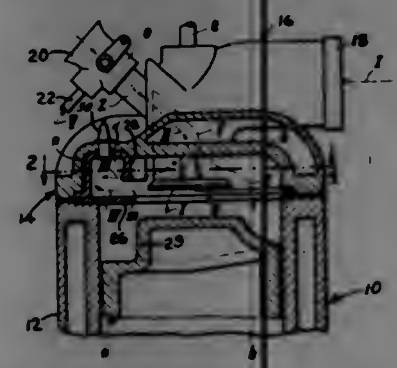
1. A rotary piston internal combustion engine comprising a housing with at least two separate axially spaced cavities, with the inner surface of the peripheral wall of each cavity having a two lobe epitrochoidal profile, and said profiles of each cavity being in axial alignment with each other, a single shaft extending through both of said cavities, a rotor mounted in each cavity and disposed on said shaft for rotating the shaft, said shaft having eccentrics fixed thereto, one eccentric being dis-

posed in each cavity, said eccentrics being offset 180° apart from the other, each rotor being mounted for relative rotation about its eccentric as its eccentric rotates, a main and an auxiliary fuel injection valve in communication with each cavity for supplying fuel to rotate said rotor therein, said main and auxiliary valves of said separate cavities being disposed on diametrically opposite sides of said shaft, and two fuel injection pumps, one fuel pump being connected to each of said auxiliary valves and the other fuel pump to each of said main valves for supplying fuel when the rotors are at their compression stage.



3,192,912
INTERNAL COMBUSTION ENGINE CONSTRUCTION AND METHOD

Friedrich Stümpfig, Bismarckstrasse 31,
Nurnberg, Germany
Filed Apr. 10, 1961, Ser. No. 102,041
Claims priority, application Germany, Apr. 14, 1960,
St 16,361
23 Claims. (Cl. 123—30)



1. In a method of operating an internal combustion engine of the kind wherein the engine includes a cylinder head piston construction defining a cylinder space, said cylinder space communicating

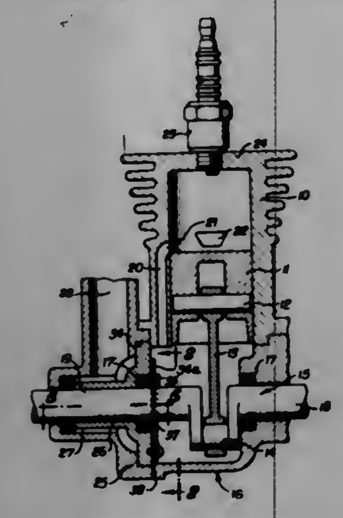
(a) with an evaporation chamber having a hot wall during operation and

(b) with an air compression space also communicating with said evaporation chamber

and wherein the major amount of combustion air is introduced into said cylinder space while fuel is injected into said evaporation chamber and deposited on the hot wall thereof to evaporate therefrom and wherein a minor portion of the combustion air in the cylinder space is thereafter compressed in the evaporation chamber while a major portion is compressed in the air compression space, whereafter towards the end of the compression the fuel-air mixture in the evaporation chamber is ignited at an ignition location, the improvement which comprises that the fuel vapor formed in the evaporation chamber prior to the ignition is urged and concentrated toward the ignition location in the evaporation chamber while access of pure air from said cylinder space and said compression space to said ignition location is substantially prevented at least at a time immediately prior to ignition and that the burning mixture formed upon ignition within the evaporation chamber is then ejected in the form of a thin layer and at great speed over the wall of said evaporation chamber and into said air compression space to cause evaporation and combustion of fuel particles deposited on said evaporation chamber wall.

3,192,913
VALVE APPARATUS FOR INTERNAL COMBUSTION ENGINES

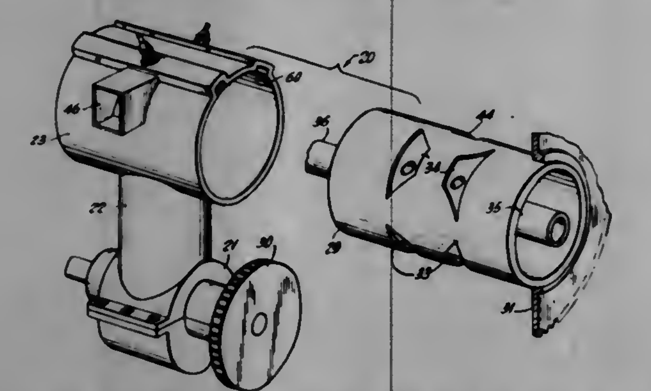
Henry T. M. Rice, San Gabriel, Calif., assignor to Ohlsson & Rice, Inc., Los Angeles, Calif., a corporation of California
Filed Apr. 13, 1964, Ser. No. 359,375
9 Claims. (Cl. 123—73)



1. In a two-cycle internal combustion engine having a cylinder, a crankshaft, and a crankcase for said crankshaft adapted to receive a fuel mixture for compression and transfer to the cylinder, a valve device controlling the induction of the fuel mixture into the crankcase comprising a valve body having an inlet adapted to communicate with the crankcase, and a valve element constructed and arranged to normally and inherently tend to occupy a position opening said inlet in the absence of a pressure differential acting thereon and adapted to be engaged with said valve body to close said inlet in response to compression of the fuel mixture in the crankcase.

3,192,914
POWER AND PUMPING APPARATUS

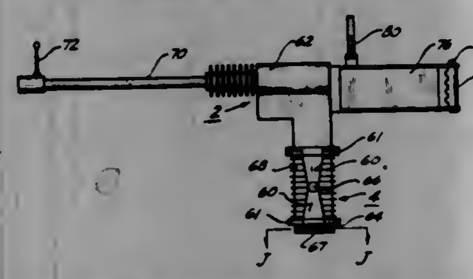
Thomas Kopczyk, 105 Magnolia Ave., Jersey City, N.J.
Filed Feb. 25, 1963, Ser. No. 260,424
3 Claims. (Cl. 123—78)



1. In an internal combustion engine for operation on a four-stroke cycle, in combination, a crankshaft, a cylinder, a piston operatively connected to said crankshaft for reciprocation in said cylinder, a hollow cylindrical casing of greater internal diameter than said cylinder and intersecting the outer end of said cylinder at right angle thereto, a generally hollow cylindrical head and valve member disposed in rotatable sealing relation in said casing, said piston being formed with an arcuately concave head which approaches said rotary cylindrical head and valve member to a point of substantially negligible clearance therewith at the outer end of said piston's stroke, means forming peripheral inlet and exhaust valve ports in said rotary member in circumferentially displaced relationship predetermined in accordance with said four-stroke cycle operation, conduit means including manifolds within said rotary member and rotary tubular joints connecting said peripheral inlet and exhaust ports to exterior inlet and exhaust means respectively, means forming a combustion cavity in the periphery of said rotary head member axially displaced from said ports and circumferentially disposed in four-stroke cyclically determined locational relation to said ports, positive means interconnecting said rotary member and crankshaft to drive said rotary head and valve member from said crankshaft at timed two-to-one rotational speed reduction, whereby said rotary member may sweep said ports and said combustion chamber into and out of communication with the interior of said cylinder in cyclic cooperation with four successive strokes of said piston, ignition means disposed at the interior surface of said casing and communicating with said combustion cavity during a portion of the registry of said cavity with said cylinder, and means forming an auxiliary exhaust port in said casing remote from said cylinder and disposed to be operatively opened to and by said moving combustion cavity.

3,192,915
APPARATUS FOR PROJECTING ANIMAL FOOD

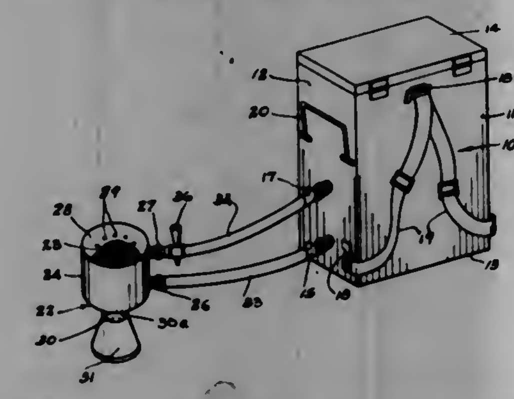
Kenneth S. Norris, 5 Fruit Tree Road, Portuguese Bend, Calif., and Rollin C. Johnson, 2931 McCall St., San Diego, Calif.
Filed May 28, 1962, Ser. No. 198,028
15 Claims. (Cl. 124—11)



1. An animal feeding apparatus which comprises:
support means;
- a plurality of projectiles containing animal comestible food;
- a barrel mounted on said support means for directionally aligning one of said food projectiles as it is ejected from said animal feeding apparatus, said barrel having a breech end and a muzzle end;
- propulsive means mounted on said support means for ejecting said food projectile through said barrel and out the muzzle end of said barrel;
- trigger means connected to said propulsive means for actuating said propulsive means; and
- food projectile feeding means mounted on said support means for supplying said food projectile in register with said breech end of said barrel and said propulsive means.

3,192,916
PORTABLE HOT WATER HEATER

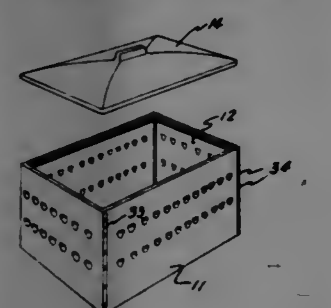
Mickey Vincent Vitkay, Bairdsford, Pa., assignor of one-half to Anthony N. Duryea, Rural Ridge, Pa.
Filed Jan. 7, 1963, Ser. No. 249,665
1 Claim. (Cl. 126—5)



A portable cooking and hot water heater comprising a water tank provided with a removable top, two valved connections, one above the other formed in the side of the tank, a heating element formed with a burner positioned in the bottom of a casing, the top of the casing forming a cooking hot plate, a double coil burner formed within the casing of the burner, the coil terminating in ends one above the other, means on the ends of the coil for detachably mounting the heating element of the valves on the side of the tank, with the top valve closed to assist in the heating of the water and a water dispensing valve mounted on the top of the coil for removing the water.

3,192,917
DISPOSABLE OVEN LINER

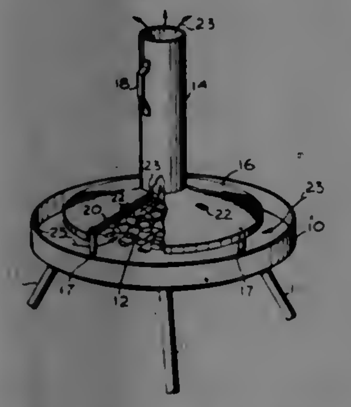
Harold J. Baert, Minneapolis, Minn.
(3406B Elizabeth, Lynwood, Calif.)
Filed Jan. 5, 1962, Ser. No. 164,538
1 Claim. (Cl. 126—19)



A disposable oven liner of the character described, comprising a single sheet of thin aluminium cut to fold into a rectangular container, each end of which has its vertical edge terminating in a crimped rib forming an intermediate flap and an outer flap, the outer flap having a plurality of vertically disposed and equally spaced circular openings therein, the edge of each side having like spaced depressions therein, each depression forming a protruding button that engages within one of said circular openings in the outer flap of the said container which has all of its upper edges rolled over and terminating in an inwardly extending lip, a removable dome-shaped lid that is rectangular when viewed from the top, the dome resting on said lips, and all four walls of the said rectangular container having a plurality of ventilation ports, each one of which is stamped outwardly from the side, the said ventilation ports being in two rows, one above the other and parallel to one another, and each ventilation port being in equal spaced relation to the other ventilation port, thereby providing means of ventilating the said container.

3,192,918
CHARCOAL STARTING ARRANGEMENT FOR A HOME-STYLE BARBECUE GRILL

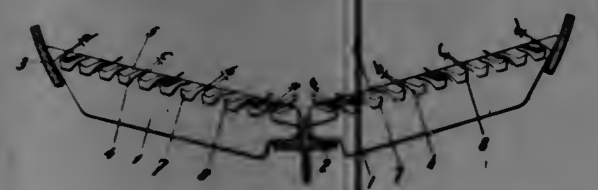
Stuart L. Ridgway, 20952 West Canyon Trail, Topanga, Calif.
Filed Dec. 7, 1960, Ser. No. 74,252
5 Claims. (Cl. 126—25)



1. In combination with the firebowl of a home-style barbecue grill adapted to contain a relatively flat layer

of charcoal on the bottom thereof; a central chimney having an unrestricted flow area of about twelve square inches and a length of about twelve inches to develop substantial draft therethrough; a substantially horizontal outwardly extending flange secured on the lower end of said chimney and having a slightly conical configuration to cover at least a major portion of the layer; and a plurality of legs approximately two inches in length and affixed to the flange about the periphery thereof for supporting said flange on said firebowl about one inch above the top surface of the layer in order to direct the flow of hot flames and gases from the periphery of said flange against the layer.

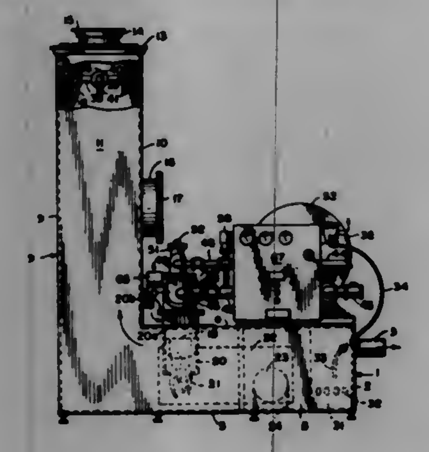
3,192,919
FURNACE GRATE WITH FIRE BARS
Marius van Uye Pieterse, Haamplein 24,
The Hague, Netherlands
Filed July 11, 1962, Ser. No. 209,114
8 Claims. (Cl. 126—163)



1. A furnace grate for effecting combustion of fine granular fuel in a furnace having a central area and spaced opposite sides, comprising a plurality of fire bars adapted to be supported in side by side relation in a furnace, each of said fire bars being adapted to be supported at one end in the central area of the furnace and at the other end at a side of the furnace, each of said fire bars having a plurality of spaced ribs extending along the length and projecting laterally therefrom to form a plurality of air channels between said spaced ribs, each rib of a fire bar having an upper end forming a substantially planar slope with the upper ends of the other ribs of the fire bar and a lower end spaced from its upper end and underlapping the upper end of the next adjacent rib of the fire bar in a manner whereby a line through the upper end of a rib perpendicular to the plane of the slope formed by the upper ends of the ribs of the fire bar passes through the lower end of the next adjacent rib of the fire bar, each of the air channels between the ribs of each of said fire bars having a minimum cross-sectional area at one part thereof and the minimum cross-sectional areas of the air channels between the ribs of each of said fire bars having maximum dimensions in the area of said one end of said fire bar and minimum dimensions in the area of said other end of said fire bar, the dimensions of said minimum cross-sectional areas decreasing from said one to said other end.

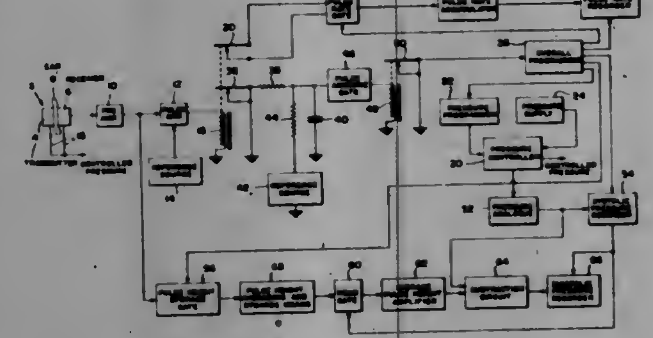
3,192,920
COMBUSTION APPARATUS AND CONTROL SYSTEM THEREFOR
Walter G. See, Crown Point, and Arthur Williams, Munster, Ind., assignors to Submerged Combustion, Inc., Hammond, Ind., a corporation of Indiana
Filed Sept. 3, 1963, Ser. No. 305,955
6 Claims. (Cl. 126—360)

1. A combustion apparatus comprising:
(a) a pilot tube,
(b) a first pair of concentric tubes about said pilot tube, defining a pair of annular passageways, one for fuel and one for combustion supporting gas, said tubes making up an inner burner,
(c) a second pair of concentric tubes about said first pair of tubes, defining a second pair of annular passageways, one for fuel and one for combustion supporting gas, said tubes making up a second burner,
(d) means for introducing fuel and combustion supporting gas separately to (a), (b) and (c), said means comprising a distributor head on (b) and (c),
(e) a burner plate at the outer end of each of the fuel passageways of (b) and (c), said burner plate having holes therein,
(f) the outer ends of each of said passageways for combustion supporting gas of (b) and (c) having openings therein of larger total cross sectional area than the total cross sectional area of the holes in each of said burner plates of (b) and (c), respectively,
(g) a flange about the outermost tube,



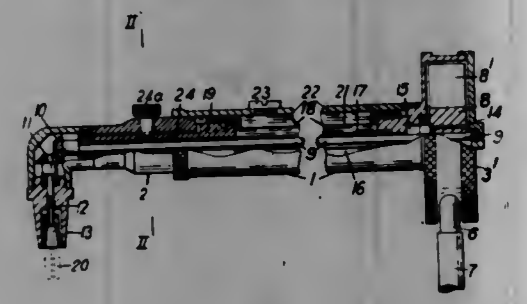
(h) a combustion chamber secured in liquid tight engagement with said flange, said combustion chamber being tubular, surrounding the outer ends of (a), (b) and (c), and extending beyond the ends of (a), (b), and (c), said combustion chamber having an opening at its outer end of smaller cross sectional area than the cross sectional area of said combustion chamber, the size of said combustion chamber and said opening being such as to produce back pressure within said chamber when said burner is in operation, and
(i) means for variably controlling the introduction of fuel and combustion supporting gas to (b) and (c).

3,192,921
BODY FUNCTION MEASURING APPARATUS
Roger D. Erickson and Larry J. Girard, Littleton, and Samuel F. Drury, Denver, Colo., assignors to Honeywell Inc., a corporation of Delaware
Filed July 10, 1961, Ser. No. 122,885
8 Claims. (Cl. 128—2.05)



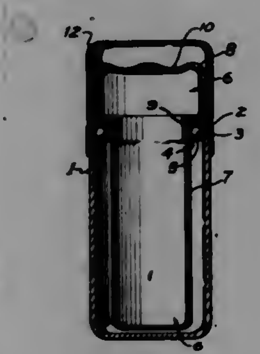
1. A body-function monitor comprising, in combination, means for transmitting energy through a body member, detector means for receiving said energy transmitted through said body member and producing a series of electrical pulse signals corresponding to the dimensional changes in blood vessels in said body member in accordance with the variations in blood pressure due to the pulsing thereof, first means responsive to said electrical pulses to produce a blood pulse rate indication, control means for progressively occluding the blood vessels in said body member to produce a corresponding change in the amplitude in the electrical pulse signals, means responsive to said changes in the amplitude of said pulse signals to produce a control signal when said amplitude drops below a predetermined value, analogue means coupled to said control means for producing an analogue signal corresponding to the condition of said control means, and means responsive to said control signal for indicating the value of said analogue signal at the time of the occurrence of said control signal, said value of said analogue signal corresponding to systolic blood pressure.

3,192,922
INSTRUMENT FOR DENTAL CARE
Alexander Winkler, 12 Ness Ziona St., Tel Aviv, Israel
Filed Mar. 19, 1962, Ser. No. 180,640
6 Claims. (Cl. 128—62)



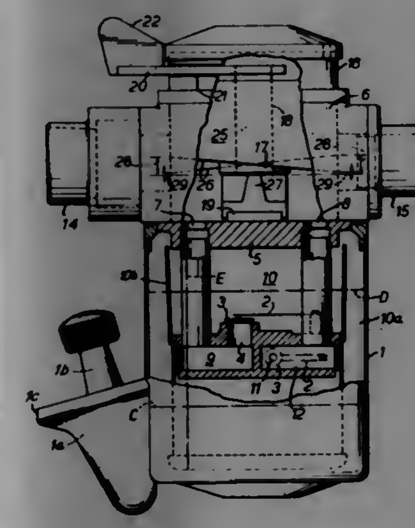
1. An instrument for the treatment of the teeth by means of a treating member, comprising: a housing; a treating member extending from the housing; a water drive for driving said treating member; an inlet port for admitting water under pressure into the housing for driving said water drive; a mixing chamber; a path through said housing for the flow of water from said water drive through said mixing chamber and out of the housing at a point near the treating surfaces of the treating member; means enabling at least a part of the water from the water drive to be diverted to said path; a treating material chamber adapted to contain a treating material; means shielding said treating material chamber from said path of the water; and means providing communication between said treating material chamber and said mixing chamber so as to enable said treating material to mix in said mixing chamber with the water passing through said mixing chamber.

3,192,923
COSMETIC DISPENSING AND SKIN MASSAGING APPLICATOR
Dolletta Ackerman, 813 N. Orange Grove Ave.,
Hollywood, Calif.
Filed June 4, 1962, Ser. No. 199,925
6 Claims. (Cl. 128—65)



4. A cosmetic applicator, comprising:
(a) a cosmetic-receiving cartridge structure having a perforated massaging end and being otherwise closed;
(b) a case structure surrounding the major portion of said cartridge, said massaging end projecting beyond said case structure;
(c) and means for freely journaling said cartridge structure with respect to said case structure whereby, an off-center contact of said massaging end with a skin surface, said massaging end rotates freely and massages the skin surface as said cosmetic is applied thereon.

3,192,924
VOLATILE ANAESTHETIC VAPORIZING APPARATUS
William Edmondson and Wilfred Jones, Keighley, England, assignors to Cyprane Limited, Keighley, England, a company of Great Britain
Filed Feb. 11, 1963, Ser. No. 257,673
Claims priority, application Great Britain, Feb. 15, 1962,
5,809/62
9 Claims. (Cl. 128—188)

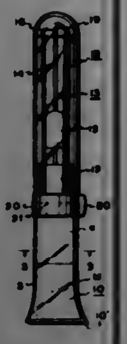


1. Vaporizing apparatus for a volatile anaesthetic including,
a body forming a container for liquid anaesthetic and wherein such liquid can be vaporized by the inflow of gas;
a through chamber for gas located above said container;
a main inlet to and a main inlet outlet from said chamber for the through flow of gas; a gas inlet port from said chamber to said container; a gas-anesthetic vapor outlet port from said container to said chamber;
a rotary plate valve located in said chamber and normally closing said ports;
barrier means in said chamber forming a pair of faces having equal gradients of a predetermined formation and lying immediately over said valve;
said valve having surfaces to move in one plane adjacent said faces to combine therewith in forming means for controlling a flow area therebetween for gas flowing through the chamber between its main inlet and main outlet;
manual operating means for causing rotation of the valve initially and to uncover said gas inlet port and gas-vapour outlet port and upon further rotation to vary the size of said flow area of the through gas chamber by movement of the valve surfaces in relation to said gradient faces thereby reducing the flow of gas through said chamber for diluting mixture with the outgoing anaesthetic vapour.

3,192,925
DISPOSABLE SYRINGE DEVICE
James Robert Cunningham, 2288 South 20th East,
Salt Lake City, Utah
Filed Aug. 25, 1961, Ser. No. 134,004
12 Claims. (Cl. 128—216)

1. A disposable syringe including, in combination, a collapsible medicinal container, a quantity of medicament vacuum-packed within said container, releasable means for constraining, prior to release, said collapsible medicinal container against collapsing prior to a desired

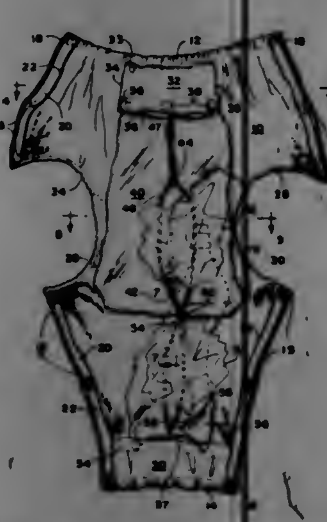
time, needle means affixed to said container but normally sealed from communication with the interior thereof, and



means for selectively providing communication between said needle and the interior of said container.

3,192,926
HYGIENIC DIAPER

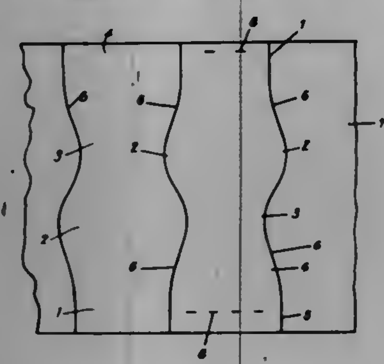
Harriet L. Callaghan, 1111 Boren Ave., Seattle 1, Wash.
Filed Nov. 13, 1962, Ser. No. 236,995
3 Claims. (Cl. 128—286)



1. A hygienic diaper of elongated form, comprising: (a) an outer covering of pliable material having a substantially reduced transverse crotch portion and a front and a rear portion; (b) said crotch portion having elastic edging means on both sides of said crotch portion for holding said diaper snugly to the wearer; (c) the longitudinal edges of each of the front and rear portions having reinforcement material; (d) coacting fasteners secured in said reinforcement material to provide a panty type garment when secured in place on a human body; (e) a heading, transversely disposed, at each end of said outer covering; (f) elastic means passing through each of said headings and secured under tension at each longitudinal margin of said outer covering and causing a puckering of covering material; (g) said elastic means at each end of said outer covering coacting to provide a stretchable waist portion for said diaper; (h) a rear flap secured at the end margin of the rear end of said covering and a front flap secured to the front end margin of said covering by stitching disposed longitudinally of said covering and stitching transversely of said covering, leaving the flap margin most remote from the ends of said covering unsecured; (i) a plurality of fasteners on said unsecured flap margins; (j) a relatively large, transparent, liquid-tight bag secured to said rear flap and a smaller liquid-tight bag secured to said front flap by said fasteners, said large and said small bags being joined together near said crotch portion; (k) said bags having longitudinal openings to substantially be over the discharge openings of the human wearing said diaper; (l) a disposable, absorbent stuffing for said bags and (m) elastic means on each side of said openings and disposed to normally tend to close said openings.

3,192,927
ABSORBENT STRIP FOR DIAPERS AND BAND FOR CUTTING THE SAME

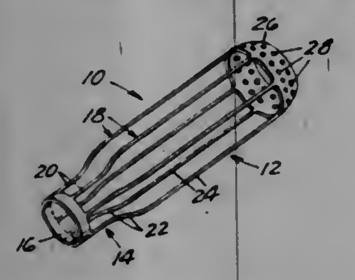
François Raymond Jules Chauviere, Autheuil-Authouillet, Eure, France, assignor to Societe Anonyme: Papeterie de l'Eure, Paris, France
Filed June 29, 1962, Ser. No. 206,427
Claims priority, application France, July 7, 1961, 867,249, Patent 1,301,419
3 Claims. (Cl. 128—287)



1. Diaper means for use on an infant comprising an elongated sheet of absorbent material having a series of diapers partially cut transversely therein so as to be readily removed therefrom, every other diaper in said series when viewed in plan having a first section defining a substantially rectangular configuration, a second section extending from said first section and having outwardly curved sides, a third section extending from said second section and having inwardly curved sides, and a fourth section extending from said third section and defining a substantially rectangular configuration; the width of the narrowest portion of said third section being narrower than that of said first and fourth sections; the other diapers disposed between said every other diaper having the same configuration thereof but in the opposite direction thereto to save material; each transverse line of partial cut forming one edge of two diapers disposed one on either side of said line.

3,192,928
GYNECOLOGIC APPLIANCE FOR VAGINAL DISTENTION

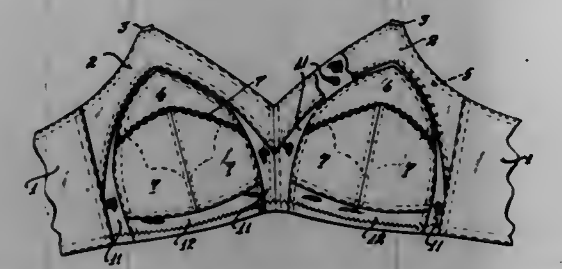
Robert R. Horton, St. Paul, Minn., assignor, by mesne assignments, to Unimed, Inc., a corporation of Delaware
Filed May 2, 1961, Ser. No. 107,270
2 Claims. (Cl. 128—341)



1. A readily insertable and removable vaginal distension device for holding the lining of the vagina in a distended condition accessible from the exterior thereof, said device comprising an elongate skeletal body of generally tubular form, said body comprising proximal and distal end forming rings, circumferentially spaced longitudinally extending skeletal fingers interconnecting said end rings to one another, said fingers bowing outwardly from said end rings and forming an enlarged smoothly arcuate intermediate portion adjacent said proximal end ring and remote from said distal end ring to facilitate retention of the device within the vagina by conformance of the hymeneal ring area of the vagina with said proximal end portion of said body behind said enlarged intermediate portion, said device being adapted for self retention wholly within the vaginal cavity for maintaining the vaginal lining in a distended state while providing minimal structural contact with said lining.

3,192,929
BRASSIERE

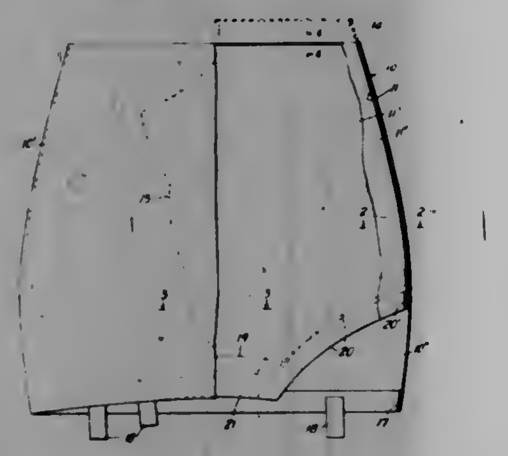
Sam Guberman, 161 W. 27th St., Bayonne, N.J.
Filed May 15, 1963, Ser. No. 280,604
2 Claims. (Cl. 128—489)



1. A brassiere having a front and a rear construction including back bands, two cups, and including shoulder straps, and in which each cup is surrounded by an elastic insert, which brassiere consists of two cup members, inverted U-shaped elastic inserts secured at their outer side margins to and surrounding the side and top margins of the cups and joined at the vertical center of the brassiere, back bands secured to said elastic inserts at their outer side edges, and a yoke member substantially covering each of said elastic inserts, inner ends of said yoke members being secured together between the cups and being free from attachment directly to the cups, upper margins of said yoke member being secured to upper margins of the elastic inserts and outer margins of said yoke members being seamed to the back bands, and shoulder straps connected to the yoke members.

3,192,930
GARMENT COMPRISING RELATIVELY ADJUSTABLE GIRDLE AND PANTY BODY PARTS

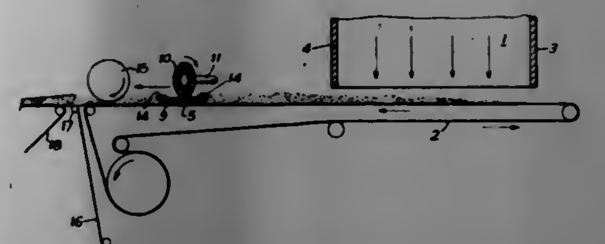
Simon Grishman, Yonkers, N.Y., assignor to William Gluckin & Company, Inc., New York, N.Y., a corporation of New York
Filed Nov. 9, 1962, Ser. No. 236,650
3 Claims. (Cl. 128—519)



1. A garment of the character defined comprising a girdle body part and a panty body part arranged within the girdle part, the girdle part having front and rear portions integrally joining front and rear portions of the panty part, said front and rear portions of each part being joined in seams at sides of the garment, said joined parts forming at the waistband portion of the garment a variable fold coupling, and said coupling providing free relative adjustment of the girdle and panty parts one with respect to the other in varying position relationship of the parts and in adapting said girdle and panty parts of the garment to predetermined desirable fit and positioning upon the body of the wearer.

3,192,931
TOBACCO-MANIPULATING MACHINES

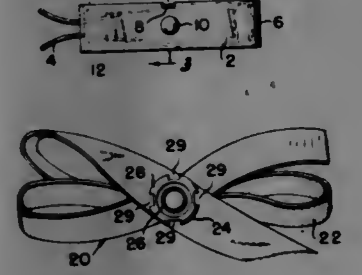
Raymond Lanore, Paris, France, assignor to Usines Decoufle S.A., Paris, France, a French company
Original application Dec. 16, 1957, Ser. No. 702,905, now Patent No. 3,032,041, dated May 1, 1962. Divided and this application Nov. 27, 1961, Ser. No. 155,149
Claims priority, application France, Jan. 10, 1957, 729,217
1 Claim. (Cl. 131—61)



In the manufacture of cigarettes having denser tobacco portions at their ends than elsewhere, a method of producing a continuous wrapped cigarette rod in which the tobacco is denser at zones where the cigarette rod is to be cut than at other parts along its length, and of producing the said cigarettes from the said rod, which method comprises conveying an elongated tobacco filler stream which contains, substantially along its whole length, an excess of tobacco over that required for said cigarette rod, trimming the filler stream so as to remove therefrom in continuous alternation (1) less than the whole of said excess tobacco and (2) the whole of said excess tobacco, thereby leaving unremoved from the filler stream more residual tobacco per unit length of the filler stream at regularly spaced positions along the filler stream, and less residual tobacco per unit length of the filler stream between the said positions, the said positions corresponding to the said zones where the cigarette rod is to be cut, enclosing the trimmed filler stream, containing more tobacco at the said positions than therebetween, in a continuous wrapper to form the continuous cigarette rod, and cutting the wrapped cigarette rod at the said zones.

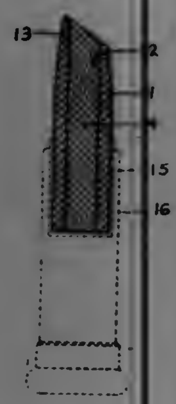
3,192,932
MULTIPURPOSE BARRETTE

Dorothy J. Hart, 644 Terrace Drive, Annandale, Va.
Filed Mar. 6, 1963, Ser. No. 263,184
4 Claims. (Cl. 132—47)



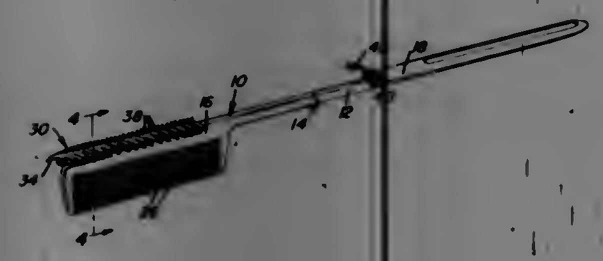
1. A hair barrette comprising:
(a) a support,
(b) a hair clasp attached to said support,
(c) a first ornament,
(d) a first snap fastener removably connecting said first ornament to said support,
(e) first locating means for preventing rotational movement of said first ornament relative to said support,
(f) a second ornament,
(g) a second snap fastener associated with said first ornament removably connecting said second ornament,
(h) and second locating means for preventing rotational movement of said second ornament relative to said first ornament.

3,192,933
DUAL-SHADED LIPSTICK COMPRISING CONCENTRICALLY ARRANGED COSMETICS
Theodore G. Prince, 399 Passaic St., Hackensack, N.J.
Filed Aug. 3, 1961, Ser. No. 128,999
4 Claims. (Cl. 132—79)



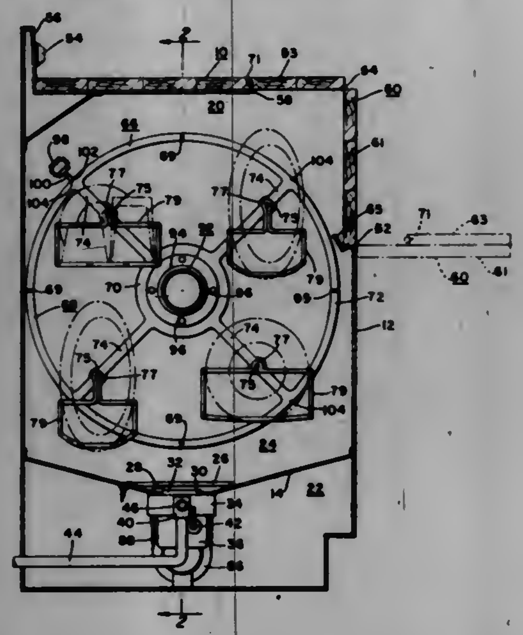
1. A lipstick comprising:
(a) a hollow cosmetic rod whose wall thickness is substantially equal to one-half the diameter of the hollow in the rod;
(b) a cosmetic core of a lighter cosmetic than the cosmetic rod, disposed inside of the hollow cosmetic rod and in intimate contact therewith.

3,192,934
BEAUTICIANS' COMB WITH REMOVABLE AUXILIARY TEETH
Salvatore J. Catania, 2531 S. 50th St., Omaha, Nebr.
Filed May 25, 1962, Ser. No. 197,691
5 Claims. (Cl. 132—136)



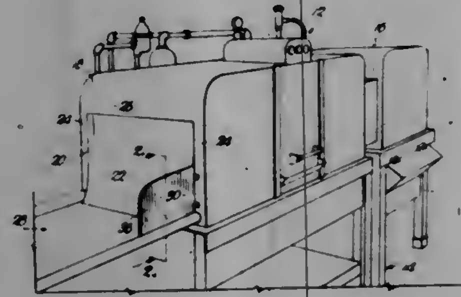
1. A multiple purpose comb comprising an elongated flat plate-like back and a handle projecting longitudinally therefrom, said back having a set of longitudinally spaced main teeth projecting in the plane of said back perpendicularly from one longitudinal edge thereof, said back having a longitudinal slot adjacent its other longitudinal edge defining thereby a rod-like arm lying in the plane of said back and said slot and arm extending substantially the full length of the main teeth and from the end of the back remote from said handle, an auxiliary tooth assembly detachably and axially slidably mounted upon said arm, said auxiliary tooth assembly including an elongated body having a bore by which it is slidably received upon said arm, a set of laterally and outwardly projecting auxiliary teeth on said body, said auxiliary teeth curing outwardly and downwardly from said body with their outer ends terminating above the base of said main teeth.

3,192,935
DISHWASHER WITH ROTARY RACK AND SPRAY TUBE
William A. Hanifan, Southgate, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 30, 1963, Ser. No. 305,616
4 Claims. (Cl. 134—142)



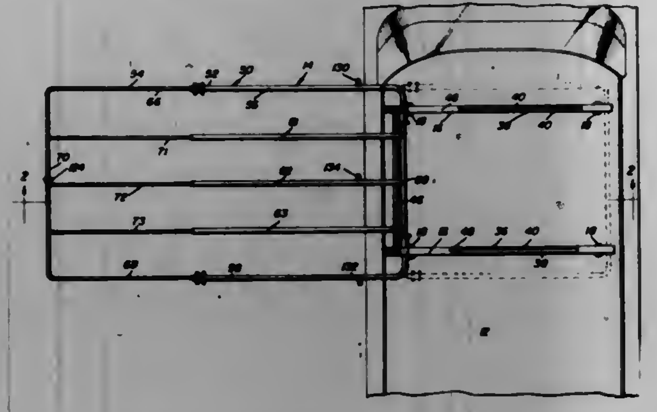
2. A dishwasher comprising, means forming a washing compartment, rotatable frame means supported within said washing compartment for movement relative thereto, said frame means having the axis of rotation thereof disposed in a horizontal plane, dish supporting means pivotally secured to said rotatable frame means, said dish supporting means including means for maintaining dishes thereon in an upright position during rotation of said frame means, washing fluid distributing means located concentrically within said rotatable frame means including a rotatable spray tube for directing washing fluid in a random fashion across articles supported on said dish supporting means, and means for rotating said spray tube independently of rotation of said frame means to affect a further random distribution of washing fluid against the surface of articles supported on said dish supporting means.

3,192,936
WATER SHIELD FOR DISHWASHERS
Tom W. Devine, 4703 W. 78th Terrace, Prairie Village, Kans.
Filed May 10, 1963, Ser. No. 279,381
7 Claims. (Cl. 134—183)



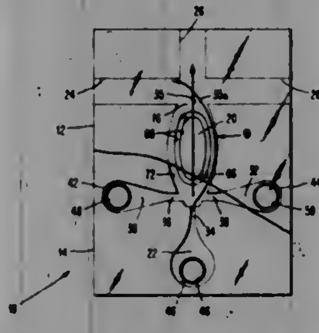
1. In combination with a dishwasher having means defining openings therein to allow dishes to pass therethrough; a water shield for such an opening for preventing the passage of water therefrom, said shield being in the form of a vertically disposed plate positioned perpendicularly with respect to said opening and to one side thereof, said plate having a laterally extending flange removably securing the same to the means defining said one side of the opening.

3,192,937
RETRACTIBLE VEHICLE CANOPY
Eugene S. Carter, Chico, Calif., assignor to himself and Dora Rosella Carter, Chico, Calif.
Filed July 11, 1963, Ser. No. 294,297
10 Claims. (Cl. 135—7.1)



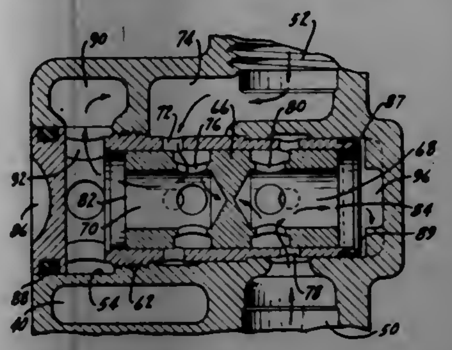
1. A retractible vehicle canopy including a plurality of elongated generally horizontal guide means adapted to be secured to a vehicle top and to extend transversely thereof, said guide means each defining a longitudinal horizontal transverse slot extending longitudinally thereof, roof-forming frame means including a longitudinal side member defining one marginal edge portion of said frame means extending transversely of said guide means and including portions slidably disposed in said slots for movement from one end of said guide means toward the other end of said guide means, and means carried by the opposite marginal portion of said frame means remote from said one marginal portion having the upper end portion of at least one depending supporting leg member secured thereto for support of said opposite marginal portion from the surface supporting said vehicle, said other end of said guide means including means defining an upwardly opening channel extending transversely thereof, slide means slidably disposed in said slots and pivotally secured to said one marginal edge portion for movement about an axis extending transversely of said guide means and laterally shiftable with said frame means during sliding movement of the latter relative to said guide means, said opposite marginal portion including anchor means extending transversely of said guide means and receivable in said channel when said frame means is in the retracted position.

3,192,938
FLUID MULTI-STABLE DEVICE
Peter Bauer, Ambler, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 5, 1961, Ser. No. 135,824
17 Claims. (Cl. 137—81.5)



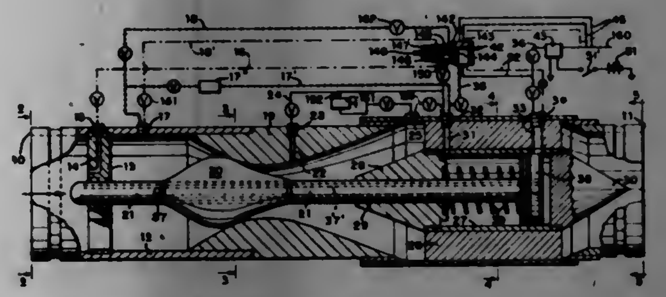
1. A fluid device comprising an oval-shaped chamber creating a vortical flow within said chamber of a portion of power fluid applied thereto, means for applying power fluid to said chamber, a plurality of outlets from said chamber, means for applying control fluid to said chamber to selectively direct said power fluid through one of said outlets and to cause said vortical flow of fluid within said chamber to maintain said power fluid directed through said selected outlet.

3,192,939
ANTI-SCALD VALVE ASSEMBLY
Alfred M. Moen, 25 Lakeview Drive, Grafton, Ohio
Filed Jan. 15, 1962, Ser. No. 166,346
6 Claims. (Cl. 137—100)



1. In combination, a housing, a chamber in the housing, hot and cold water inlets in the housing in communication with the chamber, hot and cold water outlets at opposite ends of the chamber, an anti-scald device in the chamber effective to maintain a balanced supply of hot and cold water to the hot and cold water outlets regardless of changes in the hot and cold water pressure at the inlets, a second chamber in the housing, passages, respectively, from said hot and cold water outlets in the first chamber to the second chamber, said passages opening into said second chamber at opposite sides thereof, a mixing valve in said second chamber effective to mix hot and cold water, and an outlet in said housing in communication with said second chamber to receive water from said mixing valve.

3,192,940
FLUID CONTROL VALVES
Terje T. Wiersholm, Milwaukee, Wis., assignor to The Hell Co., Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 7, 1963, Ser. No. 249,636
4 Claims. (Cl. 137—220)



1. A control valve for use in a fluid conduit comprising: a tubular body having an intermediate Venturi throat forming a valve seat, a valve stem supported axially of the tubular body for slidable movement and extending through said throat, a plug carried by said stem on the upstream side of said throat, a piston carried by said stem on the downstream side of said throat, a cylinder for said piston providing fluid pressure chambers on both the upstream and downstream sides of the piston, means supporting said cylinder in the body while permitting substantially straight flow through the body around said cylinder, pressure sensing means for transmitting upstream pressure to said fluid pressure chamber of the cylinder on the downstream side of the piston to urge the plug away from the throat, means affording communication between a portion of the valve body downstream of said plug and said fluid chamber of the cylinder on the upstream side of the piston for transmitting pressure to urge the plug toward the throat, a fluid discharge line in communication with said cylinder on the downstream side of said piston, a pilot valve in said discharge line having a valve member controlling the bleeding of fluid from said cylinder through said discharge line and having pressure responsive means for moving said valve member, and pressure sensing means communicating at one end with said

pressure responsive means of the pilot valve and having spaced branches at its opposite end, one of which connects with a restricted portion of the Venturi throat downstream of the plug and adjacent thereto and the other of which connects farther downstream in the valve body between the plug and said cylinder, and a needle valve in said last mentioned branch, said needle valve being so adjustable and the points of connection of said branches with the valve body being so located with respect to the Venturi throat and with respect to each other that the difference in pressure at the two points of connection is equal to the friction loss downstream of the valve, whereby the sensed pressure acting upon the pilot valve is substantially the same as the pressure which it is desired to maintain in the fluid conduit a predetermined remote distance downstream of the valve unit regardless of the amount of flow.

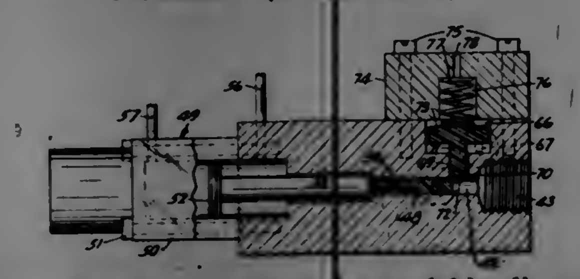
3,192,941

APPARATUS COMPRISING A DEVICE FOR BLENDING AND APPLYING RESINS TO A SURFACE WITH SOLVENT CLEANING MEANS

James G. Tyhurst, Minneapolis, Minn., assignor to Polystructures, Incorporated, Minneapolis, Minn., a corporation of Minnesota

Filed Feb. 7, 1962, Ser. No. 171,675

4 Claims. (Cl. 137—240)



1. Valve apparatus for metering and blending two or more liquid components of a thermo-setting resin system, said apparatus comprising a valve housing structure having a mixing chamber therewith and having an outlet communicating with said mixing chamber, said housing structure having a plurality of inlet ports communicating with said mixing chamber, a shiftable valve element formed of compressible elastic material positioned within said mixing chamber and extensibly and retractably shiftable relative thereto to open and close said inlet ports, said valve element being of a cross-sectional size greater than the cross-sectional size of the mixing chamber whereby to sealingly close said inlet ports when extended into said mixing chamber and retractable to open said inlet ports, means for shifting said valve element, and means for flushing and removing residual traces of the thermosetting resin from the mixing chamber at the end of the blending or metering operation, said means for flushing comprising a discharge passage communicating with said mixing chamber and a valve mechanism disposed in flow control relationship with respect to said discharge passage movable between passage open and passage closed positions, means resiliently biasing said valve mechanism to passage closed position, and means for flowing solvent under pressure into said passage, means responsive to the pressure of said solvent in said passage effective against said resilient bias means to move said valve mechanism to passage open position.

3,192,942

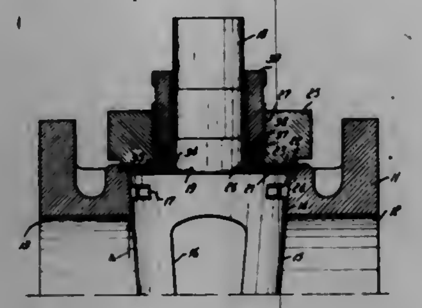
PLUG VALVE ASSEMBLY

Paul A. Manor, Pittsburgh, Pa., and Charles V. Staller, Yonkers, N.Y., assignors to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 663,175, June 3, 1957. This application Aug. 1[illegible], 1961, Ser. No. 133,283

17 Claims. (Cl. 137—246.19)

1. In a plug valve, a body having a plug seating bore, a plug rotatably mounted in said bore and having a stem projecting through a body opening, a stem packing comprising two axially spaced rigid annular members positively separated by an intermediate annular leg rigid with one of them and extending into abutment with the other, annular deformable substantially non-elastic O-rings radially compressed between opposite sides of said leg and the stem and body opening respectively, and an axially adjustable gland on said body surrounding said stem outwardly of the packing and adapted when adjusted in one direction to displace said members as a unit toward the top of said plug to positively transmit plug seating pressure from said gland to said plug without affecting the radial seal of said packing in the assembly.



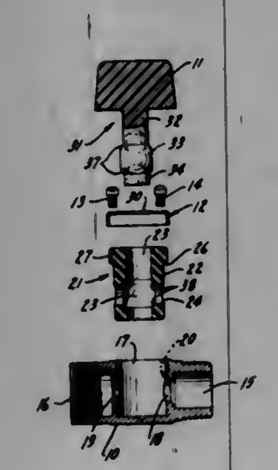
3,192,943

CARTRIDGE BALL VALVE

Alfred M. Moen, 25 Lakeview Drive, Grafton, Ohio

Filed June 27, 1962, Ser. No. 205,606

7 Claims. (Cl. 137—315)



1. In a ball type stop valve, a generally rigid housing, a passage therethrough and a valve chamber in communication with said passage, a relatively compressible valve liner means positioned in said chamber, one end portion of said liner means being exposed at one end of said passage, transverse and longitudinal passages extending through said liner means in communication with each other, a valve stem member in the longitudinal passage of said liner, handle means on said stem member beyond said liner means and a valve member on said stem member within said liner means, said valve member provided with a transverse passage, said stem provided with an intersecting longitudinal passage extending to its inner end, means for exerting a longitudinal compressive force on said liner, said means comprising a generally rigid part in contact with the exposed end portion of said liner means, means interlocking the rigid part and said liner means against relative rotational movement, whereby torque may be applied to the liner through said rigid part during removal of the valve seat unit, and adjustable means for holding said rigid member in adjusted position with respect to said housing and said liner means.

3,192,944

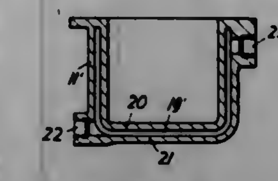
CARBURETOR

Friedrich K. H. Nallinger, 5 Albrecht-Durer-Weg, Stuttgart, Germany

Filed Aug. 4, 1960, Ser. No. 46,617

Claims priority, application Germany, Aug. 8, 1959, N 17,071

4 Claims. (Cl. 137—375)



1. In a carburetor for internal combustion engines with a float chamber forming a metallic cotainer having wall portions including a cylindrical wall and a circular imperforate bottom wall, means for insulating the inside of said chamber from the heat of the outside of said chamber comprising a hollow heat-insulating member having further wall portions including a further cylindrical wall and a further circular imperforate bottom wall, at least one of said further wall portions being detachably seated in surface contact with one of said first-named wall portions.

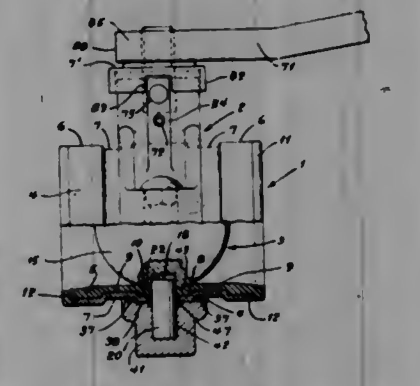
3,192,945

BUTTERFLY VALVES

James Blakeley, Markham Township, Ontario, Canada, assignor to Victaulic Company of America, Union, N.J., a corporation of New Jersey

Filed Oct. 26, 1961, Ser. No. 147,782

15 Claims. (Cl. 137—375)



1. In valve mechanism for controlling the flow of fluids, a valve disc, means positioned at opposite ends of a diameter of said disc for mounting said valve disc for rotatable movement about a diameter thereof extending substantially through the center thereof and means included in said mounting means for providing free floating movement of said valve disc in the plane thereof for the centering of the same with respect to a valve seat.

3,192,946

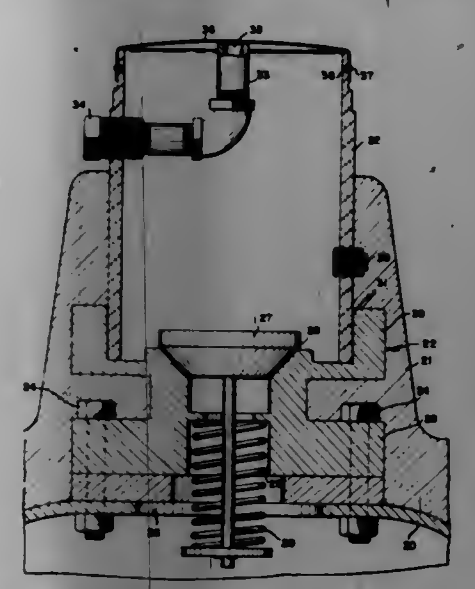
BREATHER CHECK VALVES

Terje T. Wiersholm, Milwaukee, Wis., assignor to The Heil Co., Milwaukee, Wis., a corporation of Wisconsin

Filed Apr. 15, 1963, Ser. No. 273,034

4 Claims. (Cl. 137—375)

1. In an insulated fluid tank for cryogenic service having a relief valve with an external portion including a valve member, supported directly on said tank, a protecting cover formed of material of low thermal conductivity supported in a position surrounding and covering said valve member and projecting externally of the tank therefrom, vent means carried by said protecting covering and having an inlet end within the interior of said protecting cover and having an outlet end communicating with the atmosphere constituting the sole means for communication between the interior of the cover and the atmosphere, and means outwardly of said vent means normally directly closing said inlet end of said vent means to normally prevent admission of atmosphere to the interior of the cover and so supported as to be responsive to minor pressure within said protecting cover, when there is minor leakage past said valve member, for opening said inlet end of said vent means.



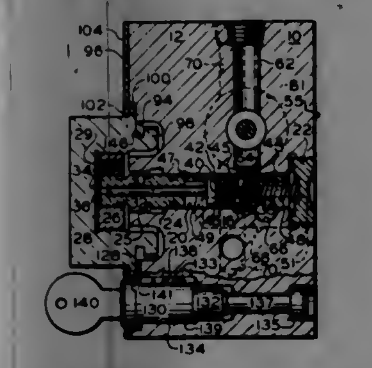
3,192,947

TAMPER PROOF THROTTLE VALVE

George F. Elston, Birmingham, and Gerald F. Tess, Roseville, Mich., and Laurence J. Evans, Denver, Colo., assignors to Sperry Rand Corporation, a corporation of Delaware

Original application June 9, 1958, Ser. No. 740,803, now Patent No. 3,082,787, dated Mar. 26, 1963. Divided and this application Sept. 18, 1962, Ser. No. 232,632

4 Claims. (Cl. 137—385)



1. In a flow regulating valve for use in a hydraulic power transmission system, a body member having a flow passage extending therethrough, a resiliently biased throttle valve extending into said flow passage for restricting the flow therethrough, means for adjusting the position of the throttle valve in the passage, means shiftably mounted in the body engageable with the adjusting means to maintain the throttle in adjusted position, manually operable means for actuating the shiftable means engageable for operation through an access aperture, manually operable aperture control means for opening and closing the aperture comprising a cylinder rotatably mounted in the body, an arm member rotatable by said cylinder to close and open the access aperture, and a key member insertable in said cylinder for rotating the cylinder.

3,192,948

BALL VALVE WITH SEALING CAPSULE

Clifford E. Anderson, Jesse S. Downs, and Ronald A. Gulick, Houston, Tex., assignors to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

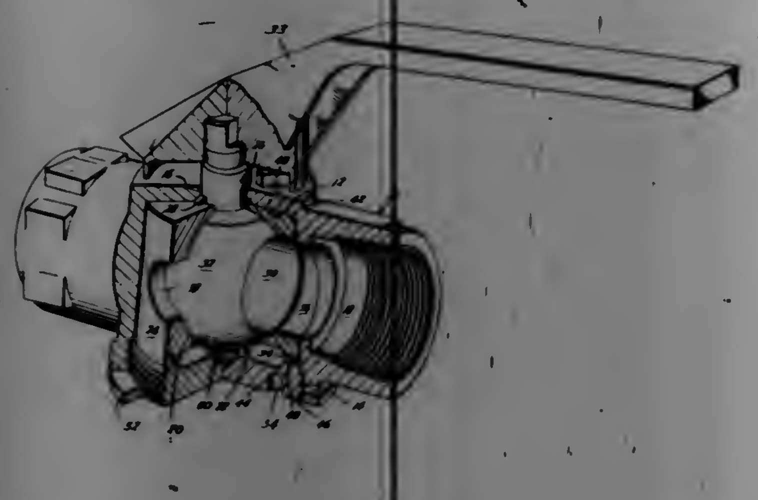
Filed June 5, 1961, Ser. No. 114,872

7 Claims. (Cl. 137—454.6)

1. A rotatable spherical plug valve comprising:

(1) a valve body having:

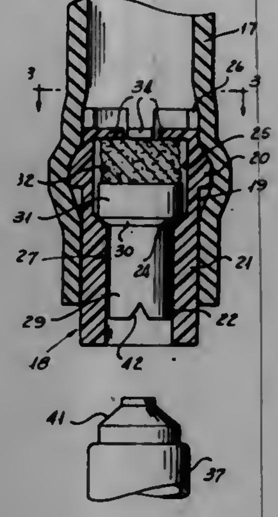
(a) a frusto conical open ended valve chamber the open end of which is provided with threads,
(b) an aperture in the body opposite the open end of the valve chamber,
(c) axially aligned inlet and outlet passages communicating with said chamber;



(2) an integral valve and seat unit positioned in said valve chamber, said unit being formed of
(a) a rotatable generally spherical valve member having
(1) an integral stem extending from one end of the valve member and passing through the aperture in the body,
(2) a through passage alignable in the open position with the aligned inlet and outlet passages of the valve body,
(3) solid portions covering in the closed position the inlet and outlet passages of the valve body,
(b) an integral seat member of moldable resilient material yieldingly deformable to conform to minor surface irregularities about said spherical valve member, said seat member having
(1) a generally frusto conical outer configuration generally conforming to the configuration of the valve chamber,
(2) axially aligned flow passages aligned with the inlet and outlet passages of the body but being of a slightly greater diameter,
(3) an annular metal ring positioned in each of said flow passages being of the same inner diameter as the inlet and outlet passage and having an axial length slightly less than the axial length of the passage,
(4) diametrically opposed pressure relief passages at right angles to the flow passages;
(3) means in the body co-operating with the seat member to retain the seat member non-rotative;
(4) a circular seal positioned about the stem and serving as a stem seal;
(5) a threaded bonnet engaged with the threads in the open end of valve chamber closing the open end of the valve chamber and applying a force on the unit to establish
(a) a seal between the spherical valve member and the seat member,
(b) a seal between the seat member and wall of the valve chamber,
(c) a seal between the valve chamber and bonnet;
(6) means retaining the bonnet in position;
(7) a handle attached to the protruding end of the stem, said handle having a portion co-operating with the means securing the unit non-rotative whereby said means acts as a stop for the opened and closed positions of the valve.

3,192,949
SPRING BIASED CHECK VALVE

Peter G. De See, Hawthorne, N.J., assignor to Halkey-Roberts Corporation, Paramus, N.J., a corporation of New Jersey
Filed July 10, 1962, Ser. No. 208,844
4 Claims. (Cl. 137—540)

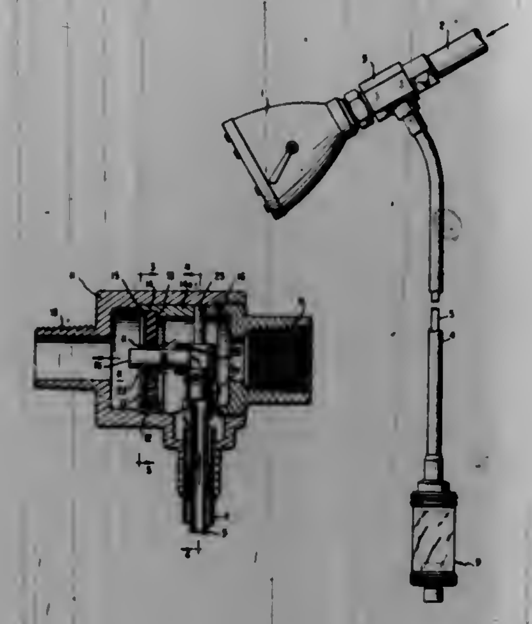


1. A check valve having a body made of hard, substantially unyielding material, said body having a rear and a forward end, a passage through the body from its rear to its forward end, a first annular seat converging in the direction toward the forward end of the body longitudinally of the passage and disposed on the inner wall of the passage transversely to the axis thereof, the first part of the passage, rearwardly of the larger diametered end of the first seat, having a first, larger diameter, the second part of the passage, forwardly of the smaller diametered end of the first seat, having a second, smaller diameter, a valve element in the passage in the body, said valve element being made of relatively soft resilient rubber-like material, the valve element having a second annular seat thereon converging in the same direction as the first seat, the first and second seats being adapted to seal the passage against escape of fluid outwardly therethrough when the valve element is thrust forwardly and to permit the flow of fluid through the passage when the valve element is moved rearwardly with respect to the valve body, the valve element having first and second parts which loosely but guidingly are engaged by the first and second parts, respectively, of the passage, the said first part of the valve element extending a substantial distance into the first part of the passage for selective engagement by a valve element unseating member introduced into the outer end of the second part of the passage, abutment means on the valve body spaced rearwardly beyond the first, larger diametered part of the valve element, and means lightly resiliently urging the valve element forwardly toward its sealing position comprising a disc-like body of resilient porous foamed plastic material interposed between the abutment means and the first, larger diametered part of the valve element, said disc-like body overlying a predominant portion of the area of said first part of the valve element.

3,192,950
APPARATUS FOR INJECTING MATERIAL INTO A FLUID FLOW

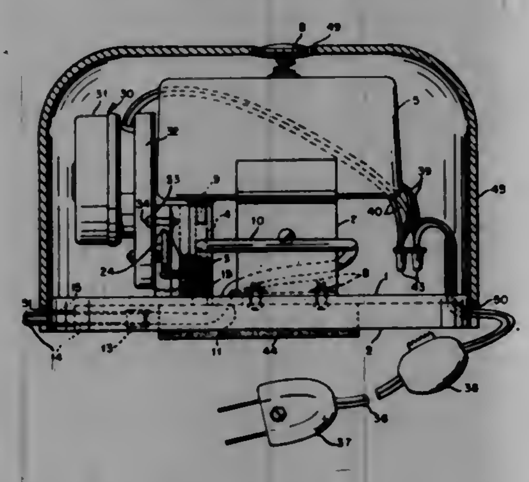
Wilfred W. Weese, Middle Village, Flushing, N.Y., and Ben Zeldin, 71—68 Yellowstone Blvd., Forest Hills, Queens, N.Y.; said Weese assignor to said Zeldin
Filed Sept. 21, 1962, Ser. No. 225,207
19 Claims. (Cl. 137—564.5)

1. An apparatus for introducing material into a flow of fluid, said apparatus comprising:
passage means for said flow of fluid,
apertured, flow diverting means extending transversely across the interior of said passage means,
first conduit means in fluid communication with said passage means upstream of said flow diverting means, and
second conduit means intersecting and extending into said passage means, said second conduit means having an outlet downstream of said flow diverting means and an inlet to receive material,
means for introducing material into said inlet of said second conduit means,
port means adjacent said inlet of said second conduit means and intersecting a wall portion thereof, said port means being in fluid communication with said first conduit means whereby fluid may flow from said first conduit means directly into said second conduit means.



3,192,951
PULSATOR

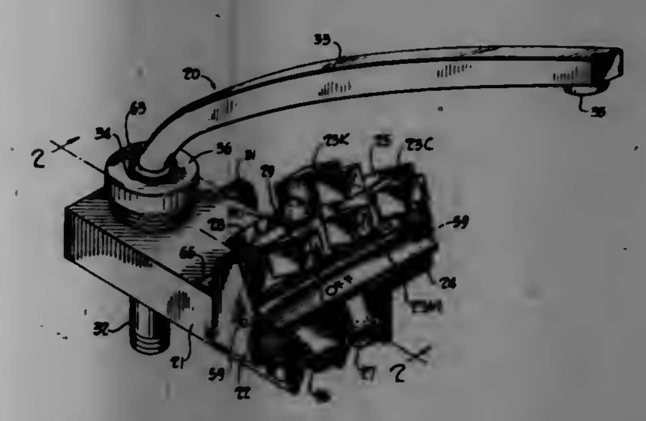
William Weiss, Buffalo, N.Y., assignor to Rotary Hospital Equipment Corporation, Buffalo, N.Y., a corporation of New York
Filed July 27, 1962, Ser. No. 212,794
14 Claims. (Cl. 137—565)



1. In a pulsator, in combination: a supporting base; an upright member supported by the base and having an air flow passage; an air pump supported by and above the base and operative to deliver a continuous current of air; means of communication between the air pump and the air flow passage; the upright member being provided with a recess with which the air flow passage communicates; a spring loaded air control valve comprising a valve head of disk form fitted in the recess and an operating stem directly connected to and projecting in normal relation from the valve head; the recess enclosing an annular seat against which the valve head may be held in closed position and the stem having a portion which projects through the recess and beyond the upright member; a line of tubing having communication with the air flow passage and through which the air delivered by the pump flows when the valve head is in its closed position, the line of tubing being an element for the delivery of the air supplied by the pump to a device which is subject to the operation of the pulsator; and a continuously rotatable cam element engageable along its edges with the projecting portion of the stem and operative by such engagement so to displace the stem as to move the valve head cantwise between open and closed positions, the air delivered by the pump escaping to atmosphere in the open position of the valve head and flowing through the line of tubing in the closed position of the valve head; the stem engaging edges of the cam element being formed to provide for the maintenance of the valve head in its open and closed positions for predetermined periods.

3,192,952
PUSH BUTTON ACTIVATED MIXING FAUCET

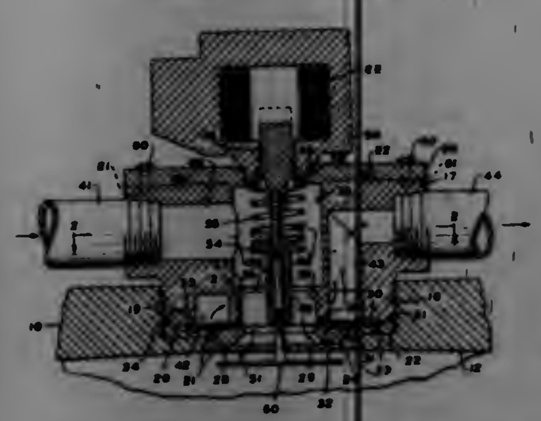
Irlin Botnick, 16604 Stockbridge Ave., Cleveland 28, Ohio
Filed June 26, 1961, Ser. No. 119,426
1 Claim. (Cl. 137—607)



In a hot and cold water mixing device of the type having a slidable piston valve for each of the hot and cold water lines, mounted side-by-side in a case, with their respective operating piston rods in parallel relation and movable in a straight-line between open and closed positions, selective piston rod moving means, comprising in combination, a housing mounted on the case, covering the free ends of the valve piston rods; a cam member pivotally mounted in the housing in alignment with each piston rod end; each cam having two spaced and parallel mounting ears, with its respective valve piston rod end centered therebetween, the cam ears also having opposed arcuate cam tracks operatively connected to their respective valve piston rod through a cam follower mounted through the rod end and slidably engaged in said track; the respective hot and cold water control cams having elongated actuating fingers extending laterally thereof, and disposed edge-to-edge and parallel to one another, the cams being pivotable by their respective fingers between a first position, wherein the piston valves are in their closed positions, and a second position, wherein the piston valves are in their open positions; the hot water control cam finger having a plurality of steps of progressively greater depth; and, a plurality of actuating buttons mounted for reciprocating movement in the housing, above the hot and cold water control cam fingers; the first and last of said buttons being engageable only with the hot or cold water control cam fingers, respectively, the intermediate buttons all being engageable with the cold water control cam fingers, each of the intermediate buttons also being engageable with one of the hot water control cam finger steps, whereby a plurality of predetermined hot or cold, or hot and cold water mixtures may be automatically secured by depressing a single actuating button.

3,192,953
CHECK VALVES

Robert C. Wolf, Hatboro, and John C. Bowen, Davisville, Pa., assignors to Pressure Products Industries, Inc., Hatboro, Pa., a corporation of Pennsylvania
Filed Dec. 18, 1961, Ser. No. 160,024
3 Claims. (137—614.19)

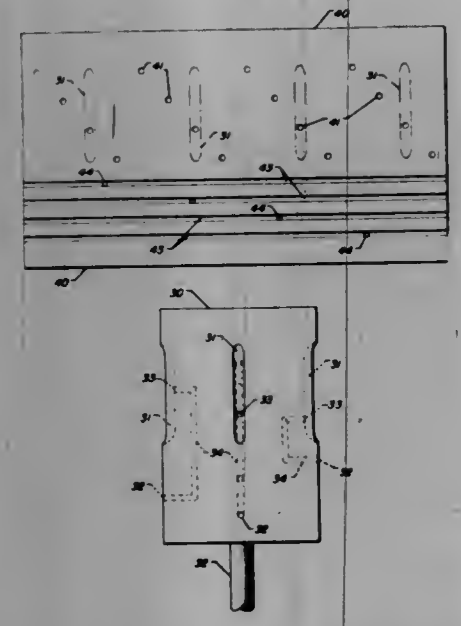


1. A valve construction comprising a head with an inner face and having a valve opening with a shoulder therearound, a valve ring mounted in said opening in engagement with said shoulder, said valve ring having an annular shoulder terminating at an inner face with a central opening therethrough and a plurality of delivery openings around the outer margin of said last mentioned inner face, said valve ring having a recess in an opposite face, valve means in said annular recess and controlling the flow through said plurality of delivery openings, a unitary valve housing having a mounting portion mounted in said valve opening, in engagement with said valve ring, said valve housing having a body with an interior annular fluid passageway at the inner end of said mounting portion and in facing relation to said valve ring, said body having a fluid passageway offset to one side in said body portion connected to said annular fluid passageway and with a fluid outlet connection disposed in one direction for delivery of fluid from said delivery openings, said valve housing body having a central passageway closed at its outer end and communicating with said central opening, said central passageway having a fluid inlet connection disposed in an opposed direction to said outlet connection, said central passageway having a valve stem guide mounted therein, a valve having a stem in said guide guide and having a disc shaped closure member for engagement with said last mentioned inner face for closing said cental opening, said last mentioned inner face being closely spaced with respect to said inner face of said head to accommodate said closure member with the delivery openings communicating with the edge of said closure member, and a resilient member in said central passageway urging said stem away from a seated position with said disc shaped closure member disengaged from said inner face of said ring.

3,192,954
DISTRIBUTING VALVE

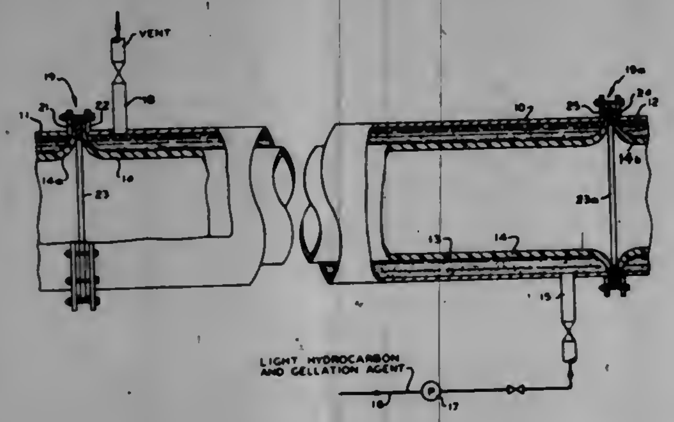
Clarence G. Gerhold, Palatine, and Donald B. Broughton, Chicago, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Oct. 18, 1963, Ser. No. 317,261
9 Claims. (Cl. 137—625.11)

1. A valve comprising a cylindrical valve casing having a plurality of ports extending through the casing, a cylindrical rod shaped plug having two ends within said casing and rotatable therein, the exterior surface of the plug being in fluid-tight contact with the interior surface of the casing, a plurality of spaced circular grooves formed in one of said exterior and interior surfaces wholly within the area of fluid-tight contact between the plug and the casing and extending 360° around the axis of rotation of said plug, all of said parallel circular grooves disposed between one of said ends of the plug and the ports, a conduit communicating with each of said circular grooves and extending through a wall of the casing to the exterior of the casing, a plurality of recesses corresponding in number with said circular grooves disposed in and circumferentially spaced around the exterior surface of the plug contacting the casing, said ports in the casing being spaced around the periphery thereof so that each of the ports is in communication with each of said recesses at some point in the rotation of the plug and each of said recesses is in communication with only one port for any adjusted position of the plug, and a plurality of passageways corresponding in number with said circular grooves extending through the plug, each passageway continuously connecting one of said recesses in the plug with one of said circular grooves whereby each recess is in continuous communication with a corresponding circular groove for all positions of said plug.



3,192,955
REINFORCED CORROSION RESISTANT CONDUIT

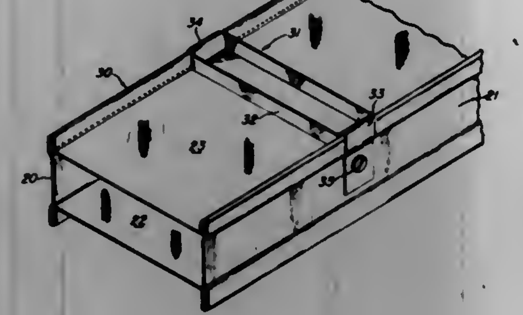
William B. Buck and Gearld I. Freeze, Oklahoma City, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 14, 1961, Ser. No. 103,089
6 Claims. (Cl. 138—140)



2. A corrosion resistant and pressure resistant pipe line assembly comprising sections of steel pipe connected together to form a pipe line; sections of resinous pipe positioned in said pipe line so as to provide an annulus beteen a section of resinous pipe and steel pipe and secured to said steel pipe so as to prevent communication of fluid in the resinous pipe with the steel pipe and with the annulus; and a gel substantially filling said annulus between a section of resinous pipe and a section of said steel pipe.

3,192,956
PREFABRICATED CONDUITS

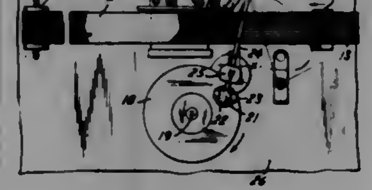
Louis Josephson, New York, N.Y., assignor to Elgen Manufacturing Corp., Long Island City, N.Y., a corporation of New York
Filed Apr. 3, 1962, Ser. No. 184,837
5 Claims. (Cl. 138—163)



1. A length of substantially flat, collapsed, flexible, coilable conduit comprising:
a pair of elongated, coilable metal sides;
a pair of opposed, elongated, flexible, coilable fabric sides;
and means, along a longitudinal edge portion of each side, marginally connecting each side in a pair of sides to the other pair of sides;
the width of at least one fabric side being at least equal to the combined widths of the two metal sides.

3,192,957
HIGH SPEED PATTERN CHANGER

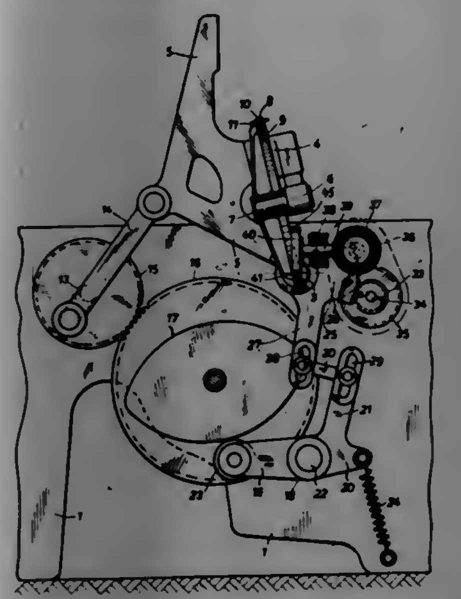
Harry T. O'Neill, New Bedford, Mass., assignor to The Continental Elastic Corporation, New Bedford, Mass.
Filed Oct. 15, 1963, Ser. No. 316,294
8 Claims. (Cl. 139—55)



1. In a loom having means for forming a shed from longitudinally extending warp threads, and means to move a filling thread substantially transversely through the shed to weave a fabric, said shed forming means comprising a plurality of spaced parallel heddle frames extending transversely across the warp threads, each of said frames carrying a plurality of heddle wires each having an eye to accommodate a warp thread, means mounting said heddle frames for vertical reciprocation; the combination therewith of a plurality of cam shafts corresponding in number to the number of heddle frames, a cam carried by each cam shaft, drive means for said cam shafts, said drive means being normally disconnected from said cam shafts, means selectively to connect said drive means to said cam shafts for a predetermined interval, linkage between each of said cams and an associated heddle frame to reciprocate the latter to form the shed with rotation of said cams, each of said cams having arcuate portions during which no driving motion will be imparted to the associated linkage, whereby said cams will impart driving motion to the associated linkage only after said drive means has been connected to said cam shaft and said cam has rotated a predetermined amount.

3,192,958
DRIVE FOR GRIPPER LOOMS

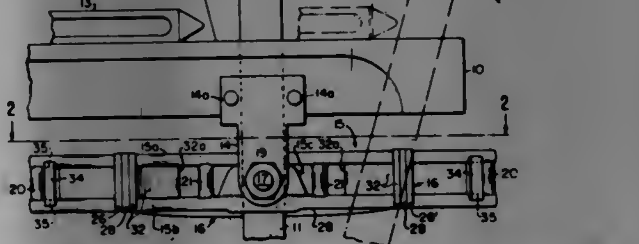
Josef Birmans and Gustav Dubs, Arbon, Switzerland, assignors to Adolph Saurer Ltd., Arbon, Switzerland
Filed Apr. 15, 1963, Ser. No. 272,949
Claims priority, application Switzerland, Apr. 18, 1962, 4,842/62
4 Claims. (Cl. 139—122)



1. In a gripper loom including a frame, a shaft mounted for rocking displacement in said frame, a slay mounted on said shaft, and a flexible gripper carrier, and guide means for said gripper carrier distributed across the slay for effecting picking while the slay is in motion, a picking drive comprising a pair of gears mounted for rotary displacement on said frame and on said slay, respectively, and so disposed relative to one another that their rolling circles coincide in a common point of contact located on the pivotal axis of said shaft of said slay.

3,192,959
PICKER STICK CHECKS FOR LOOMS

Victor Gravitt, Chickamauga, Ga., assignor to Page Belting Company, Concord, N.H., a corporation of New Hampshire
Filed June 10, 1963, Ser. No. 286,799
4 Claims. (Cl. 139—165)



1. A picker stick control assembly comprising a pair of spaced parallel guide rods in combination with a flexible loop-shaped strap having a sliding connection at its ends with said guide rods, said connections comprising oppositely disposed notches defining areas in the strap of less width than the spacing of the guide rods.

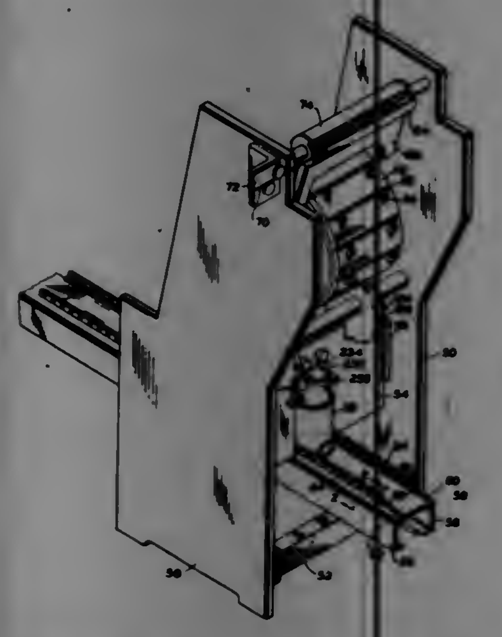
3,192,960
APPARATUS FOR AND THE PROCESS OF MAKING AND ATTACHING BAILS TO EARLESS CONTAINERS

Cyril H. T. Woodward, 160 Howard Ave., Rochelle Park, N.J.
Filed Sept. 27, 1962, Ser. No. 226,078
20 Claims. (Cl. 140—75)

1. Apparatus for forming and attaching bails to earless containers, each container having bail-end receiving groove portions formed in the end portion of the rim

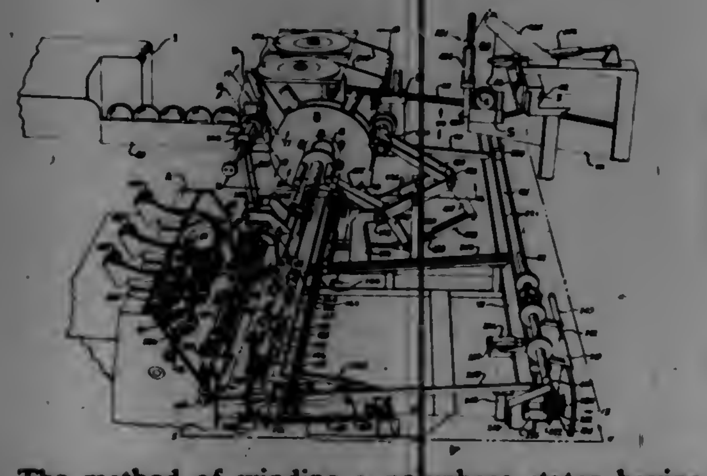
surrounding the open end of the container, each groove having spaced sidewalls, the apparatus comprising:

- (a) means for cutting a wire to a predetermined length;
- (b) means for forming protuberances in a single plane on each end of the wire, each protuberantly formed end having a length portion greater than the diameter of the wire;
- (c) means for forming the protuberantly ended wire into a U-formed bail with at least one protuberance being disposed with its major axis at substantially right angles to the plane of said bail;



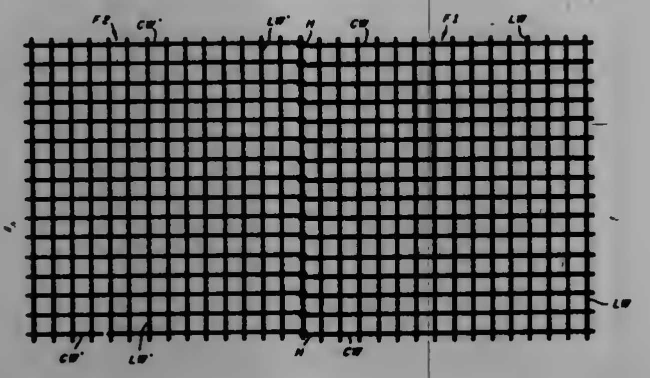
- (d) means for transferring the U-formed bail to the bail end receiving groove portions in the earless containers;
- (e) means to insert the protuberantly formed ends of the U-formed bail into oppositely disposed portions of the bail-end receiving groove portions;
- (f) means for grasping and turning at least one end of the bail end so that the plane of the turned protuberance is disposed to lie in the plane of the bail, the protuberant end so turned engaging the side walls of the groove and upon engagement deforming at least one side wall to form a pivotal-retaining socket for said protuberantly formed bail end; and
- (g) means for releasing the bail-engaged earless container from the apparatus.

3,192,961
AUTOMATIC STATOR WINDING MACHINE AND PROCESS
Harry W. Moore, 5051 Kittridge Road, Dayton, Ohio
Filed Feb. 16, 1961, Ser. No. 89,804
23 Claims. (Cl. 140—92.1)



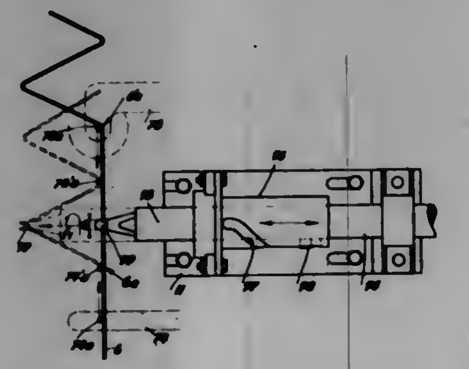
1. The method of winding a polyphase stator having inwardly directed pairs of slots, said method including the steps of winding the coils for each phase in seriatim, transferring each of the coils after being wound into fixed spaced relation with respect to the other coils of the same phase and with respect to the coils of the other phases, transferring the wound coils arranged in fixed spaced relation with one phase registering with the slots in the stator for said one phase, transferring the coils of said one phase to the stator slots, then moving the coils of a second phase into registry with the slots in the stator for said second phase, transferring the coils of said second phase to the stator slots and repeating the operations until all the phases have been transferred to the stator.

3,192,962
METHOD OF MAKING HINGED TWO PIECE WIRE FABRIC
Robert E. First, Willowick, Albert L. Stoeckel, Euclid, and William H. Stokes, Lakewood, Ohio
Original application Mar. 22, 1961, Ser. No. 97,584. Divided and this application Feb. 27, 1964, Ser. No. 347,940
4 Claims. (Cl. 140—107)



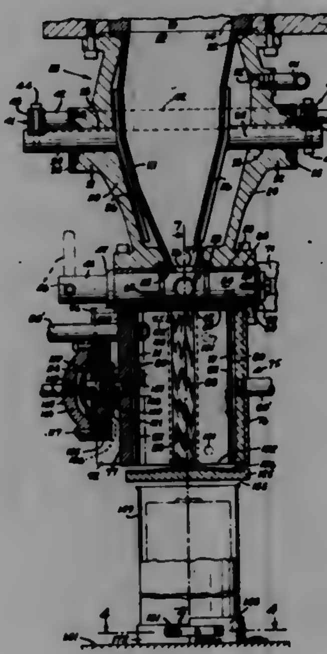
1. The method of making hinged two piece fabric having longitudinal wires connected by cross wires which comprises providing two pieces of fabric of approximately the same size having the desired length and width, the first of said pieces having an open hook on each of the cross wires along one outer edge thereof, positioning one of said pieces on top of the other piece with one edge longitudinal wire of the second piece in the hooks of the first piece, then clamping the hooks around said edge longitudinal wire.

3,192,963
MANUFACTURING LATTICE FRAMES
Jacques Barbou, Paris, France, assignor to Societe Davum, Villeneuve-la-Garenne, Seine, France, a corporation of France
Filed Sept. 24, 1962, Ser. No. 225,791
Claims priority, application France, Oct. 27, 1961, 877,308
25 Claims. (Cl. 140—112)



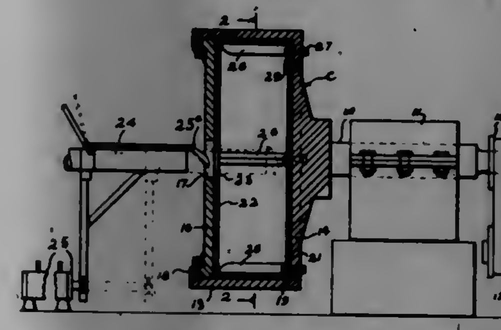
1. The method of producing lattice frames for reinforced concrete girders: supplying lengths of material, wherefrom to form the lattice and the frame members, there being at least one lattice member and one frame member and as many lengths of material as there are members; gripping the material of said at least one frame member during predetermined intervals and releasing said material during other intervals; gripping the material of said at least one lattice member during predetermined intervals and releasing said material during other intervals; moving said materials from first position to second positions while said materials are gripped, the separation of said first and second positions of the material of said at least one frame member being equal to the distance separating two consecutive contact points on the same frame member, between said at least one member and said at least one lattice member, and the separation between said two positions of said at least one lattice member being equal to the amount of material necessary for the said at least one lattice member to span the distance between said two consecutive contact points; and shaping the material of said at least one lattice member, whereby to form a lattice by gripping said lattice material by spaced gripping means, engaging a substantial length of said lattice material between said spaced gripping means by an engagement means, moving the said engagement means in a direction transverse the axis of said lattice material to bend said lattice material into a shape responding to the sides and top of a trapezoid, and rotating said engagement means through about 90° whereby to position the top of said trapezoid in a direction substantially normal to the sides of said trapezoid, and whereby to form said lattice material into a shape which in end elevation appears triangular; securing said at least one lattice member to said at least one frame member; and repeating said series of steps, thereby producing a continuous lattice frame.

3,192,964
METHOD AND EQUIPMENT FOR COMPACTING COMMINUTED MATERIALS OR THE LIKE
Clarence W. Vogt, Box 232, Weston, Conn.
Filed Aug. 25, 1961, Ser. No. 133,979
15 Claims. (Cl. 141—12)



11. The method of charging a receptacle with comminuted material, which comprises charging a chamber with loose comminuted material and while so charging the chamber initially compacting the loose material, reducing the volume of such chamber to further compact such material, and thereafter increasing the volume of such chamber to release the material therein in compacted form into such receptacle.

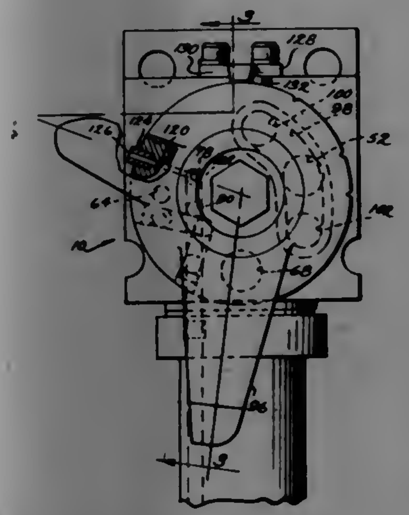
3,192,965
PROCESS AND APPARATUS FOR CENTRIFUGALLY BALING FIBROUS MATERIALS AND THE LIKE
Lloyd B. Smith, 824 N. 31st St., Birmingham, Ala.
Filed Dec. 4, 1962, Ser. No. 242,215
12 Claims. (Cl. 141—12)



1. In the centrifugal baling of fibrous materials, the steps of:

- (a) delivering the fiber to the inside of a rotating centrifuge, and,
- (b) intentionally inducing the bale as it is being thus formed to cleave along predetermined generally radial lines.

3,192,966
APPARATUS FOR FILLING CONTAINERS WITH CARBONATED LIQUID
Rudolph H. Breeback, Baltimore, Md., assignor to Crown Cork & Seal Company, Inc., Philadelphia, Pa., a corporation of New York
Filed Feb. 20, 1963, Ser. No. 259,822
12 Claims. (Cl. 141—56)



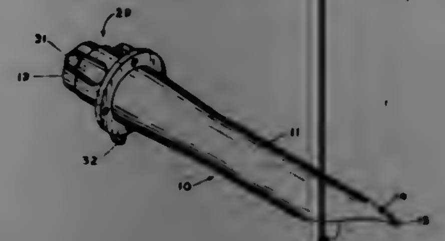
1. In a filling head for filling containers with a carbonated liquid: a body member provided with a portion adapted for sealing engagement with a container, said body member including a liquid passage extending therethrough and adapted to connect a liquid reservoir under pressure with a container, said body element further including a gas passage extending therethrough and adapted to connect a body of gas under pressure with the container, a first valve means carried by said body element and operable upon rise of the level of liquid in the container to a predetermined level to close said gas passage adjacent its opening into the container before the container is removed from the filling head, and a second valve means carried by said body member and cooperating with said liquid and gas passages and operable to open said passages to establish liquid flow to the container and vent flow of gas to the body of gas, said second valve means being operable to close said liquid and gas passages after the container is filled and after said first valve means is closed at points spaced from the container, said second valve means including means to reduce pressure of gas in the portion of the gas passage between

said first valve means and the point in the gas passage where said second valve means closes the same.

3,192,967

BAG FILLING DEVICES

Herbert V. White, Jr., and James H. Wetsel, Borger, Tex., assignors to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey
Filed July 2, 1962, Ser. No. 207,126
4 Claims. (Cl. 141—67)

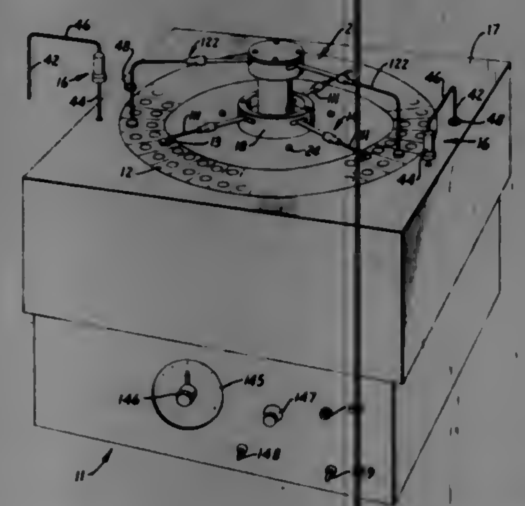


1. A filler tube for bag filling and handling machines comprising a horizontal tubular body having its opposite inner and outer ends open, said body having the outer open end tapered downwardly and inwardly forming a guide point on the upper portion thereof, an air vent conduit extending longitudinally of the lower portion of said body within said body in fixed relation thereto, said conduit having inner and outer ends with its outer end open and contiguous with the outer open tapered end of said body, a suction conduit extending longitudinally within said body at the upper portion thereof in fixed relation thereto, said suction conduit having a length substantially less than half the length of said air vent conduit, said suction conduit having inner and outer ends with its outer end open and terminating intermediate the inner and outer ends of said body and a connector ring detachably secured to said body communicating respectively with the inner end of said air vent conduit and the inner end of said suction conduit.

3,192,968

APPARATUS FOR PERFORMING ANALYTICAL PROCEDURES

Hans Baruch, Berkeley, and Dalny Travaglio, Kensington, Calif., assignors, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J.
Filed July 2, 1962, Ser. No. 207,121
18 Claims. (Cl. 141—82)

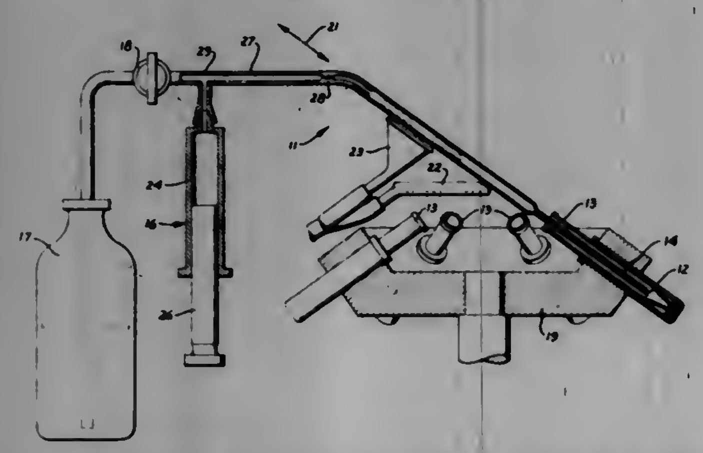


1. An apparatus for automatically conducting analytical procedural steps, comprising a plurality of containers for receiving liquid and moving through a plurality of sample stations, conveying means for conveying said containers in a cyclic path and through said plurality of stations, a transfer device capable of moving a pipette from an operative position in a container containing samples at one of said sample stations to an operative position in a container at another of said sample stations, pump means capable of taking up a measured quantity of liquid in the pipette when the probe is in operative position to receive sample and delivering liquid by reverse flow when the probe is in operative position at another container, said pump means also being capable of transferring liquid in the pipette in a form which is substantially free from contamination by prior liquids transferred, reagent delivery means having an outlet positionable at any of a number of stations, and means for removing the treated sample at one of said sample stations.

3,192,969

AUTOMATIC SAMPLE HANDLING APPARATUS

Hans Baruch, Berkeley, and Erik W. Anthon, Kensington, Calif., assignors, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J.
Filed July 2, 1962, Ser. No. 207,111
14 Claims. (Cl. 141—90)



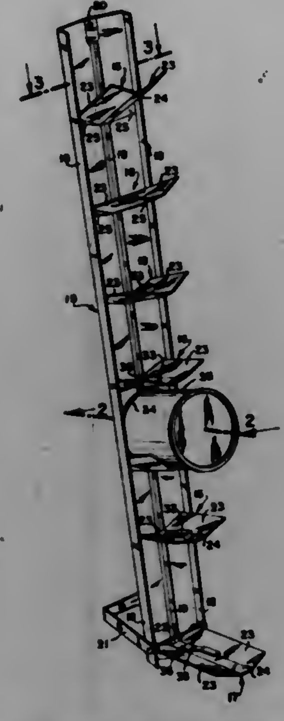
11. An apparatus for transferring a measured quantity of liquid sample from a supply site to a sample receiving site, comprising probe means providing a conduit having an end adapted for contacting a body of liquid sample at the supply site for taking a measured quantity of liquid sample into said conduit, reservoir means for containing a supply of other liquid to be expelled through said conduit after said sample, pump means operatively connected to said probe means and reservoir means and formed for taking in a measured quantity of liquid sample, and valve means interposed between said probe means and said reservoir and formed for cooperating with said pump means to expel said measured quantity of liquid sample from said probe means followed by a desired quantity of said other liquid.

3,192,970

DRAINING DEVICE FOR OIL CANS

Scott E. Allen, Los Angeles, Calif., assignor, by mesne assignments, to The Huffman Manufacturing Company, Dayton, Ohio, a corporation of Ohio
Filed Mar. 1, 1962, Ser. No. 176,660
8 Claims. (Cl. 141—106)

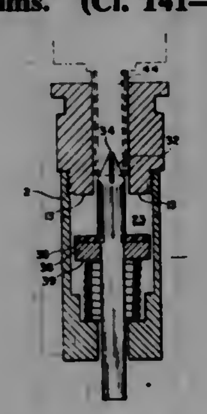
7. A device for simultaneously draining a plurality of oil cans each having a dispensing opening in one end adjacent the peripheral edge thereof, said draining device comprising a rack disposed in approximately upright position, said rack comprising an elongated member trough-shaped in cross-section having a central lengthwise drainage channel and flaring flat surfaces on the respective opposite sides thereof and having parallel flanges projecting forwardly from the side margins of the flat surfaces, a plurality of shelves in spaced relation lengthwise of the trough member for supporting individual cans on their sides, each shelf being trough-shaped in cross-section and having flaring flat side surfaces, each shelf having ears projecting respectively from the opposite edges of the flaring surfaces near one end, said ears being disposed parallel to one another and having aligned apertures therethrough, said ears being disposed between and in contact with the inner surfaces of the trough member flanges and pivoted thereto through said respective apertures, shelves being foldable about their respective pivots into intimate contact with the trough member, and being swingable outwardly therefrom into can-draining position, the inner edges of their flaring side portions engaging the flaring flat surfaces of the trough member to cooperate with said pivots in supporting the shelves.



3,192,971

GAS LIGHTER FILLER VALVE MECHANISM

Yoshio Kanamaru, Tokyo, Japan, assignor to Japan Gas Lighter Association, Tokyo, Japan
Filed June 12, 1964, Ser. No. 374,726
Claims priority, application Japan, Apr. 28, 1964, 39/23,931
4 Claims. (Cl. 141—286)

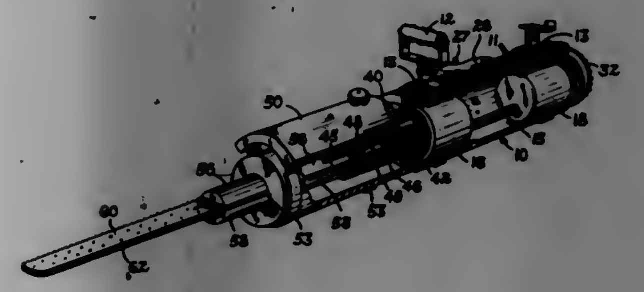


4. In a lighter mechanism for liquified gas, the combination including a casing having a reservoir contained therein and filler valve means carried by said casing and affording a simultaneous escape of gas from said reservoir and charging of said reservoir with said liquified gas under pressure, comprising
(A) an outer valve member fixed to said casing, said outer valve member including a central passageway, communicating at one end thereof with the atmosphere, window means located in said outer valve member and providing communication between said passageway and said reservoir, and valve seat means within said outer valve member;
(B) an inner valve member mounted to move within said outer valve member between open and closed positions; said inner valve member including means for causing said liquified gas to jet from within said outer valve member to said window means; said inner valve member further including shoulder means located below said means for causing said liquified gas to jet; said shoulder means forming a part of said inner valve member and resting in abutting relationship with said valve seat means when said inner valve member is in closed position;
(C) mounting means affording substantially rectilinear sliding movement of said inner valve member with respect to said outer valve member; and
(D) spring means urging said inner valve member toward said closed position.

3,192,972

OPPOSED PISTON CUTTING APPARATUS

William L. Tenney, Crystal Bay, Minn.
Filed June 29, 1961, Ser. No. 120,696
5 Claims. (Cl. 143—68)

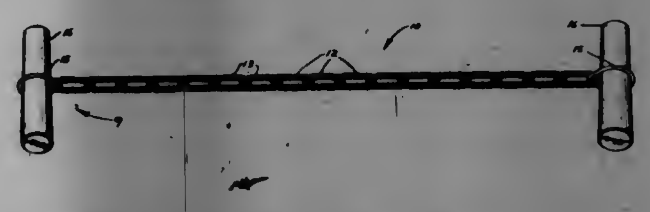


1. A lightweight portable, self-contained, reciprocating cutting device comprising a main housing having means for supporting and guiding said housing, an engine cylinder formed in said housing, a pair of cutting blades extending from one end of said housing and having cutting teeth in side by side relation adapted to reciprocate in opposed parallel directions producing a cutting action, a pair of opposed drive pistons in said cylinder defining therebetween a space for combustion and expansion of combustible charges, means for introducing fresh charges into said space and for exhausting products of combustion from said space in timed relation to movement of said piston, means for supplying a combustible mixture to said charge introducing means including a fuel tank and a carburetor mounted on said housing, means connecting one of said pistons to a corresponding one of said blades and the other said piston to the other said blade for concurrent movement thereof producing opposed cutting movements of said blades in response to movement of said pistons, and energy storing means acting upon said pistons in opposition to the force resulting from combustion of a charge in said cylinder for storing energy and returning it to compress a combustible charge introduced into said space between said pistons while driving said blades in a return stroke.

3,192,973

FLEXIBLE SAW STRUCTURE

Maurice H. O'Link, St. Cloud, Minn., assignor to Stearns Manufacturing Company, St. Cloud, Minn., a corporation of Minnesota
Filed Feb. 28, 1964, Ser. No. 348,029
4 Claims. (Cl. 145—31)

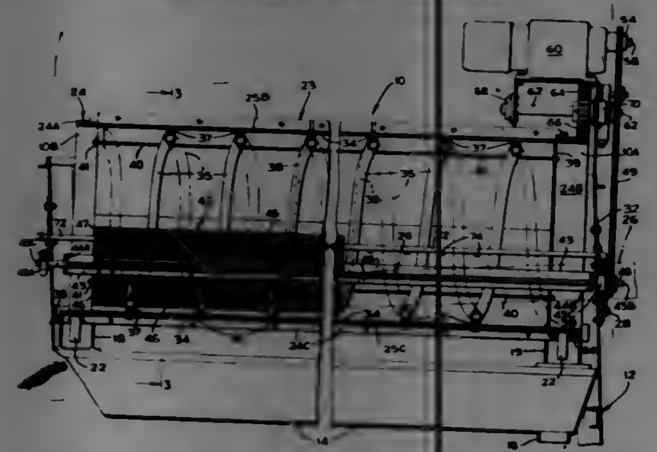


1. A flexible hand saw comprising
a saw blade formed of a multiplicity of links,
each of said links comprising a cylindrical rod, cutting teeth projecting from said rod spaced circumferentially thereabout,

said cylindrical rods being reversely curved to form endless links,
said links respectively being linked with one another, and
handle portions carried at either end of said blade.

3,192,974
PEELING APPARATUS

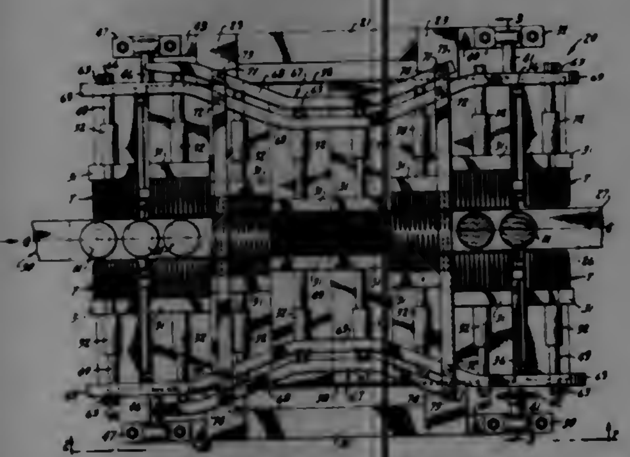
Frank D. Hickey and Katsuji Hirahara, San Jose, and Gerald R. Anderson, Campbell, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed July 2, 1962, Ser. No. 206,785
12 Claims. (Cl. 146—50)



1. In an apparatus for gently removing soft outer flesh from a fruit without damaging underlying flesh which is still of soft and delicate character although harder than said outer flesh, a drum having an inner surface circumscribing the longitudinal axis of the drum, means mounting the drum in a reclined position for rotation about said axis, means for rotating the drum whereby fruit in the drum is tumbled as a result of frictional engagement of said surface with the fruit, an elongated, generally rectangular cluster of resiliently flexible bristles having base ends held together and outer tips free to move relatively to each other, said cluster having opposite sides, means mounting said cluster so that it extends lengthwise in said drum and so that it can move about an axis substantially parallel to said drum axis, and means for imparting movement to said cluster about said cluster axis for repeatedly bringing a side of the cluster against the tumbling fruit whereupon the bristles flex back from their base ends so that the soft fruit is scraped off by the side of the cluster and the tips of the bristles without damaging contact with said underlying flesh.

3,192,975
MUFFIN SPLITTING MECHANISM

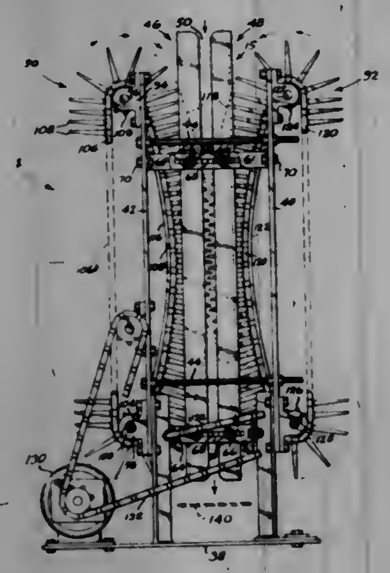
Eugene M. Noel, 238 Main St., Cambridge 42, Mass.
Filed Feb. 17, 1961, Ser. No. 90,084
16 Claims. (Cl. 146—72)



1. A muffin splitting mechanism comprising a frame, a muffin conveyor moving along said frame, a plurality of tines movable transversely of said conveyor for entering and withdrawing from muffins carried on said conveyor, means for moving said tines in muffin entering and withdrawing directions comprising an endless strand moving parallel with said conveyor, means affording a connection between said strand and said tines to move said tines with said strand, said connection including a first member fixed to said strand and a second member supporting said tines and movable with respect to said first member in a direction transverse to the movement of said strand, and means for reciprocatively moving said second member at predetermined intervals to enter and withdraw said tines from muffins on said conveyor.

3,192,976
METHOD OF AND DEVICE FOR SEMIDIVIDING BAKERY GOODS

Charles L. Clock, Rte. 2, Box 214, Sherwood, Oreg.
Filed July 8, 1960, Ser. No. 41,676
12 Claims. (Cl. 146—241)

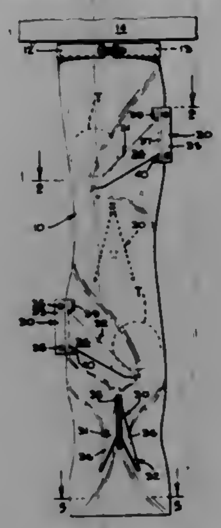


1. Apparatus for partially dividing bakery goods such as muffins and the like comprising a frame, means on the frame defining an elongated passage along which such goods are transported with elongated openings provided along opposite sides of said passage, and cutter means disposed along each side of said passage and protruding thereinto through said openings, each cutter means comprising plural piercing fingers spaced from each other along the length of said openings and means mounting the said fingers for movement along the length of said passage with said piercing fingers moving so as to penetrate into and then be withdrawn from goods in said passage.

11. A method of partially dividing a bakery good such as a muffin and the like comprising piercing the bakery good, while it travels along a longitudinal path, by an agency moving synchronously therewith and while the bakery good is freshly made and still flexible and resilient, to produce therein plural elongated penetrations disposed in a plane that divides the bakery good, each of said penetrations being prepared through the steps of first piercing the outer surface of the good, and then injecting into and thence retracting from the body of the bakery good a piercing agency moved primarily in a path paralleling the penetration and with a minimum of lateral movement of said agency adjacent the surface of the good, and allowing the pierced surface of the good to close itself on retraction of the piercing agency with such closing occurring because of the resilient and flexible nature of the good.

3,192,977
FRUIT PEELING METHOD

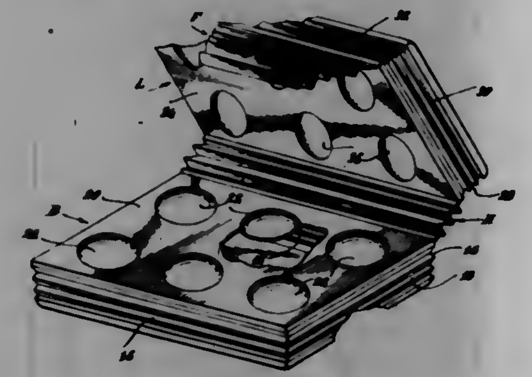
Paul C. Bean, Cupertino, Calif., assignor to FMC Corporation, a corporation of Delaware
Original application Nov. 12, 1957, Ser. No. 695,727, now Patent No. 3,024,821, dated Mar. 13, 1962. Divided and this application June 14, 1961, Ser. No. 117,077
5 Claims. (Cl. 146—241)



4. The method of removing the loosened peel from fruit which includes the steps of effecting the advance of a fruit along a predetermined path, successively deflecting the advancing fruit in different directions extending transversely of said path to place the fruit in several different aspects relative to said path, and while the fruit is in each of said aspects simultaneously applying pressure against several side regions of the fruit, said pressure being applied in a plane that is perpendicular to the direction of advance of the fruit, thereby to strip peel from the advancing fruit.

3,192,978
SHOCK-PROOF CARTON

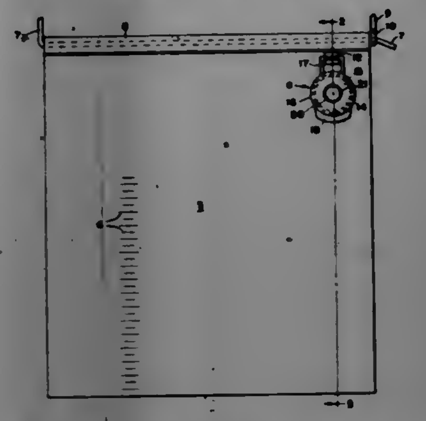
William Horvath, Bridgeport, Conn., assignor to David E. Zimmer, trustee, Bridgeport, Conn.
Filed June 27, 1963, Ser. No. 291,144
3 Claims. (Cl. 150—.5)



1. A shock-proof carton for fragile articles which comprises: a first member formed of semi-rigid material, having pleated side walls and having at least one resilient outer wall thereof arranged to engage a first portion of each of the fragile articles; a second member formed of semi-rigid material, having pleated side walls and having at least one resilient outer wall thereof arranged to engage a second portion of each of the fragile articles; pleated hinge means interconnecting said members in spaced relationship to retain the fragile articles therebetween under slight compression when the carton is closed; and means including a pleated flap on one of said members arranged to selectively cooperate with a portion of the pleated side walls on the other of said members for securing said members to effect closure of the carton; said members, said pleated hinge means and said pleated flap comprising a self-contained unit.

3,192,979
FLEXIBLE BAG

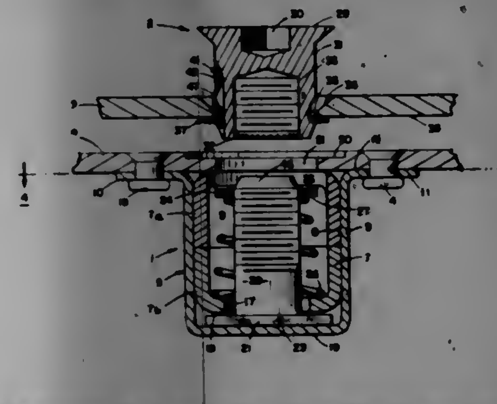
Syvilla C. Nolan, 5130 NE. 28th Ave., Pompano Beach, Fla.
Filed June 26, 1963, Ser. No. 290,736
1 Claim. (Cl. 150—8)



A urinary drainage bag assembly comprising
(a) a drainage bag having an envelope portion,
(b) a tubular supporting hem extending along the top portion of said envelope portion,
(c) said tubular hem providing space for accommodation of a supporting frame member,
(d) an opening in said bag near the top portion thereof,
(e) said opening located below said tubular hem,
(f) said opening being formed by an enlarged surrounding portion of said bag,
(g) a hinge-holding means located near said opening,
(h) a cover member of a size adapted to fit over said enlarged surrounding portion,
(i) said cover member having a hinge member in said hinge-holding means,
(j) a lifting lip on said cover member located diametrically opposite said hinge member,
(k) a knockout portion located near the center of said cover member for forming a hole therein,
(l) said hole formed by said knockout portion adapted to snugly receive a urinary drainage tube, and
(m) said opening in said drainage bag being large enough to receive the end of an ordinary water faucet.

3,192,980
CAPTIVE FASTENER ASSEMBLY WITH ROTATION PREVENTION MEANS

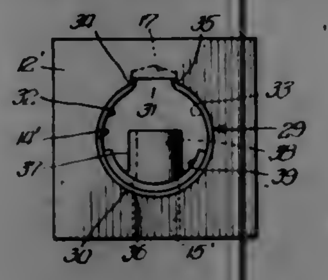
Bobbie S. Sauter, Woodland Hills, Calif., assignor to Deutsch Fastener Corp., Los Angeles, Calif., a corporation of California
Filed July 10, 1961, Ser. No. 123,958
10 Claims. (Cl. 151—41.5)



1. A fastener for securing together two members having matching apertures therethrough comprising a stud assembly adapted for association with one of said members to be fastened, and a nut assembly adapted for association with the other of said members to be fastened, said stud assembly including a first receptacle having an open end and tab means projecting outwardly from said end for providing means to attach said first receptacle to said one member, a second receptacle fixedly received in said

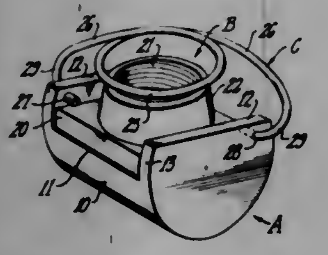
first receptacle, said second receptacle having a first end wall adjacent said open end of said first receptacle and a second and opposite end wall adjacent and spaced from the end of said first receptacle opposite said open end thereof, said end walls of said second receptacle having aligned apertures therethrough, a stud member in said receptacles, said stud member having a head portion received between said opposite end walls of said first and second receptacles, said first and second receptacles including means for retaining said head portion with freedom for limited lateral movement and for substantially precluding rotation thereof about the axis of said stud, and a threaded shank extending through said opening in said second end wall of said second receptacle to the interior of said second receptacle, a washer in said second receptacle around said shank of said stud, said washer being axially movable in said second receptacle, said second receptacle including means for substantially precluding rotational movement of said washer about its axis, said washer having radial teeth on the surface thereof adjacent said first end of said second receptacle, and a spring in said second receptacle biasing said washer toward said first end of said second receptacle, said nut assembly including a stud-receiving member having a head for engagement with said other member to be secured, and a shank extending therefrom for insertion through said apertures in said members to be fastened, said stud-receiving member having an axially extending threaded aperture in said shank for threadably receiving said shank of said stud, said stud receiving member being further provided with radial teeth on the end of said shank opposite said head for engagement with said teeth on said washer, whereby said washer by being urged against said end of said stud-receiving member by said spring offers resistance to rotation of said stud-receiving member, said stud-receiving member having an annular groove in the shank thereof, a circumferentially compressible split annular member for engagement with said shank of said stud-receiving member in said groove for preventing removal of said stud-receiving member from a member to be fastened with which said stud-receiving member is associated, and a radially expansible spring on said stud-receiving member for engaging said other member to be fastened and yieldably holding said stud-receiving member in a position with the head of said stud-receiving member spaced from the surface of said member to be secured.

3,192,981
BARREL NUT
Harold Le Roy Oliver, 3845 Ver Halen Court, Culver City, Calif.
Filed Oct. 3, 1962, Ser. No. 228,056
3 Claims. (Cl. 151—41.75)



1. In combination with a member having a cylindrical opening and an intersecting bolt receiving bore, a unitary barrel nut comprising a sleeve having a generally cylindrical periphery received in said cylindrical opening, which sleeve has an axially extending split in the wall thereof forming a pair of oppositely disposed generally semi-circular shaped retainer arms, said arms having an initial radius of curvature greater than the radius of said cylindrical opening and being adapted to be manually flexed into conformance with the curvature of the cylindrical opening for establishing a snug frictional engagement with the same, said sleeve having in the wall thereof an aperture oppositely disposed from said split and in coaxial alignment with said bolt receiving bore, said sleeve having a tubular portion secured thereto around the aperture therein and extending radially inwardly from said sleeve for a distance less than the inside diameter of the sleeve, said tubular portion having its outer wall surface in spaced relation with the inside surfaces of said retainer arms, and which tubular portion has an axially extending threaded opening therein in co-axial alignment with said aperture in said sleeve.

3,192,982
BARREL NUT WITH RETAINER SPRING
Frederick W. Rohe, 5191 S. Bradford, Placentia, Calif., and Charles S. Phelan, Tustin, Calif.; said Phelan assignor to said Rohe
Filed Oct. 19, 1962, Ser. No. 231,758
2 Claims. (Cl. 151—41.75)

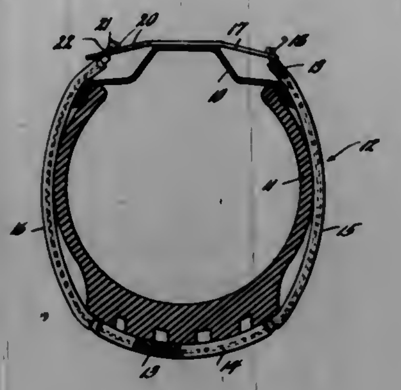


1. In a barrel nut assembly for installation in a body having a mounting bore and a bolt hole intersecting said bore at right angles, in combination: a retainer cradle including a bridge having a segmental-cylindrical bearing wall for mating engagement with the wall of said bore, a chordal nut seat, and a pair of lips projecting radially from the ends thereof, said lips having in their diagonally opposite extremities, respective retainer bores extending parallel to the sides of said bridge; a nut including a non-circular base supported on said seat and engaged between said lips so as to be held against rotation, and a nut body projecting from said base radially with reference to said bearing wall, said nut body having an internal bolt thread; and a retainer of spring wire including a central coil adapted to yieldingly bear against said body in an area concentric with said bolt hole and diametrically opposite said cradle, a pair of arms extending from said coil longitudinally of said cradle to diagonally opposite corners thereof, a pair of return bends at the outer ends of said arms, and a pair of retainer tips constituting continuations of said return bends, extending inwardly from the remote end faces of said cradle through said bores and thereby attaching said spring to said cradle, and terminating in retainer portions projecting inwardly above the respective corners of said nut face; the shortest distance from the ends of said retainer tips to the opposite lips being less than the shortest distance from the respective portions of the nut body adjacent the respective retainer tips to said opposite lips.

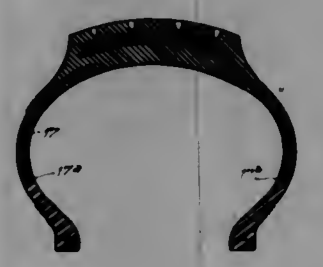
3,192,983
TRACTION DEVICE FOR VEHICLE TIRES
John Broocks Dalton and Reginald S. Elliott, Warsaw, Ind., assignors to The Dalton Foundries, Incorporated, Warsaw, Ind., a corporation of Indiana
Filed Apr. 23, 1964, Ser. No. 362,032
5 Claims. (Cl. 152—221)

1. Traction device for vehicle tires, comprising a length of flexible cable, an elongated ground-engaging member having a longitudinal bore threaded on and surrounding

the mid-portion of said cable length, the length of said member approximating the width of the tread portion of a vehicle tire, said member being formed of flexible, resilient, tough, abrasion-resistant polyurethane material, tubular shields of rubber-like material covering said cable substantially from its respective ends to said member, each said shield making overlapping engagement with the adjacent end of said member, and means for interconnecting the respective ends of said cable for securing said device about a tire, mounted on a vehicle wheel, in a plane substantially radial to the axis of said wheel.



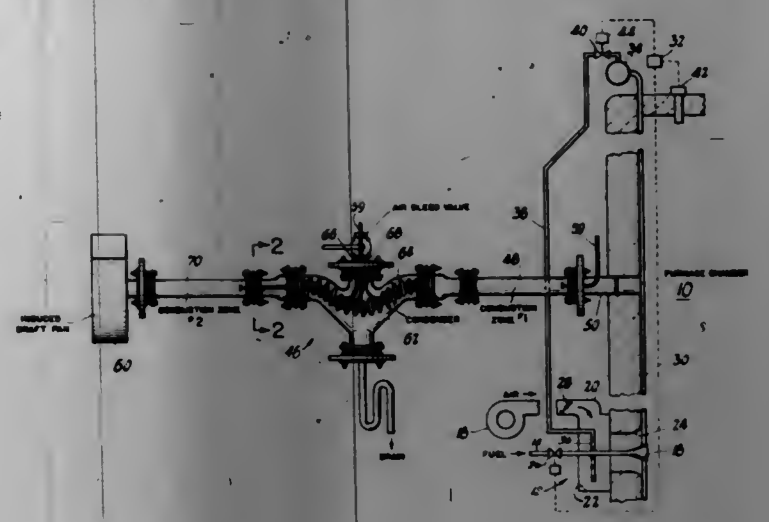
3,192,984
PNEUMATIC TIRE
Pierre Marcel Bourdon, Paris, France, assignor to "Michelin & Cie," Clermont-Ferrand, France
Filed Jan. 15, 1958, Ser. No. 709,132
16 Claims. (Cl. 152—354)



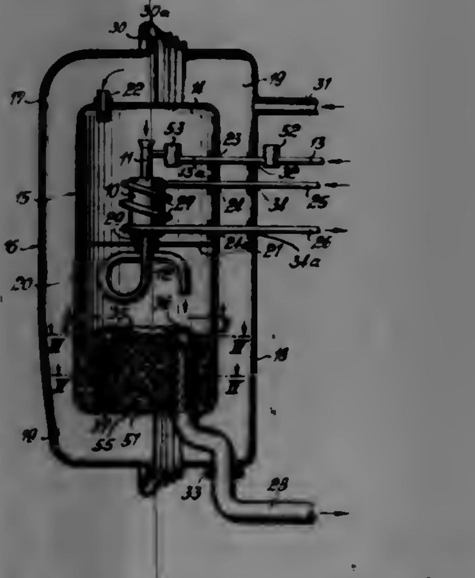
1. A pneumatic tire casing comprising sidewalls, a tread portion joined to and between the sidewalls, a running tread band on said tread portion and beads at the free edges of said sidewalls, at least two tread reinforcing plies substantially coextensive with said tread band, reinforcing fabric-ply means extending from about the midpoint of each sidewall to a position at least slightly beyond the nearer edge of said tread reinforcing plies, said sidewalls otherwise being free from reinforcing plies at least in the vicinity of said beads, the portions of the sidewalls which are free from reinforcing plies being formed of elastomeric material having a modulus of elasticity of at least 800 grams per square millimeter at 100% elongation.

3,192,985
METHOD AND APPARATUS OF FURNACE OPERATION
William L. Livingston, Bloomfield, Mathew P. Stengel, Windsor, and Larry D. McNair, West Hartford, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Feb. 14, 1962, Ser. No. 173,202
15 Claims. (Cl. 158—1)

1. In combination a furnace into which fuel and air are introduced with the fuel being burned therewithin, means for introducing into the furnace an inert gas and means for sampling the furnace atmosphere including burner means for burning the furnace atmosphere as received from the furnace, means operative to remove the inert gas added to said atmosphere and means receiving the atmosphere with the inert gas thus removed and effective to ignite and burn the same if it is flammable.



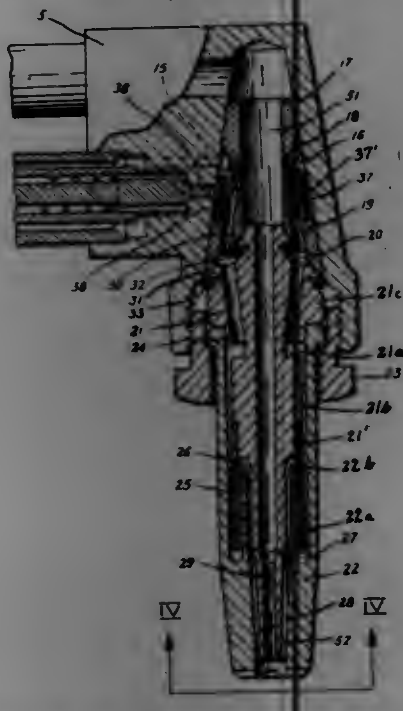
3,192,986
PULSE JET BURNER
Franz Haag, Plochingen (Neckar), Germany, assignor to Junkers & Co. G.m.b.H., Wernau (Neckar), Germany
Filed Nov. 4, 1963, Ser. No. 321,134
Claims priority, application Germany, Nov. 10, 1962, J 22,632
15 Claims. (Cl. 158—4)



1. In a pulse jet burner, in combination, a shell defining a closed soundproofing space; port means in said shell forming an inlet for an oxygen-containing gaseous medium into said soundproofing space; a combustion chamber arranged entirely within said soundproofing space so that combustion gases possibly escaping from said combustion chamber through a leak therein will enter said soundproofing space; a suction duct connected at one end to said combustion chamber, said suction duct passing therough said soundproofing space and through said shell so that it inlet end which is adapted to receive fuel is located outside of said shell, said uction duct having intake opening mean located within said soundproofing space in said shell to receive not only oxygen-containing gaseous medium entering said soundproofing space through said port means, but also to reconvey into said combustion chamber any combustible gases which might have escaped from said combustion chamber into said soundproofing space; and a resonance duct connected to said combustion chamber and passing through said shell so as to convey spent gases from said combustion chamber to the outside of said shell.

3,192,987
GAS TORCHES

George L. Hammon, Oakland, Calif., assignor to Hammon Precision Equipment Company, Oakland, Calif., a corporation of California
Original application Apr. 18, 1960, Ser. No. 22,944. Divided and this application Apr. 23, 1962, Ser. No. 189,484
5 Claims. (Cl. 158—27.4)

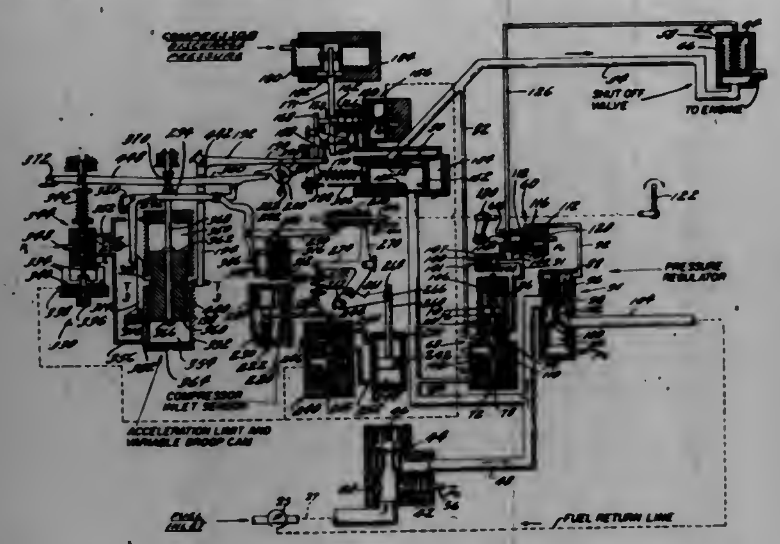


1. A gas torch for mixing a liquid and a vapor comprising a body portion and a mixer unit therein, two separate annular spaces formed between said body portion and said mixer unit, a plurality of aspirating tubes in said mixer unit, a first plurality of ports in said mixer unit for transmitting vapor under high pressure from a first one of said annular spaces into said aspirating tubes, a second plurality of ports between a second one of said annular spaces and said aspirating tubes, said second plurality of ports being located downstream from said first plurality of ports, means for supplying a liquid under relatively lower pressure to said second annular space whereby the vapor, in passing through the aspirating tubes draws liquid into said tubes and mixes therewith, and a wick in said second annular space for metering substantially the same amount of liquid to each of said second plurality of ports.

3,192,988
FUEL CONTROL WITH PRESSURE CONTROL MEANS

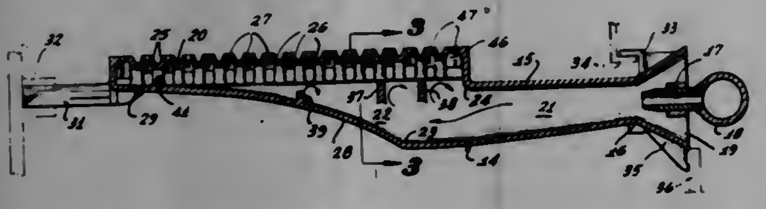
Robert D. Porter, Simsbury, Conn., and Charles F. Stearns, East Longmeadow, Mass., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Original application June 3, 1960, Ser. No. 33,822. Divided and this application Sept. 11, 1962, Ser. No. 223,308
5 Claims. (Cl. 158—36.4)

1. In a fuel control for a turbine type power plant having a combustion section, a pump driven by said power plant for pressurizing fuel, passage means connecting the discharge end of said pump to said combustion section, a throttle valve located in said passage means in combination with a shutoff valve in said passage means downstream from said throttle valve, a fluid pressure regulating control system comprising a regulating valve having connection means for bypassing said throttle valve, a servo device having fluid connecting means for controlling said regulating valve, said servo device including pilot valve means for sensing the pressure upstream and downstream of the throttle valve, the improvement comprising a switch-over valve located between said last mentioned means and said regulating valve and connected in series relation therewith, additional passage means interconnecting said shutoff valve and said switchover valve and means for positioning said switch-over valve to disconnect said pilot valve means from said regulating valve and connect it to the inlet end of said pump for permitting said regulating valve to bypass all the fuel in said passage means around said throttle valve, and simultaneously connect said shutoff valve to the discharge end of the pump for blocking off fluid flowing to the power plant.



3,192,989
GAS BURNER

Avy L. Miller, 13246 Saticoy St., North Hollywood, Calif.
Filed Nov. 26, 1962, Ser. No. 239,879
11 Claims. (Cl. 158—114)



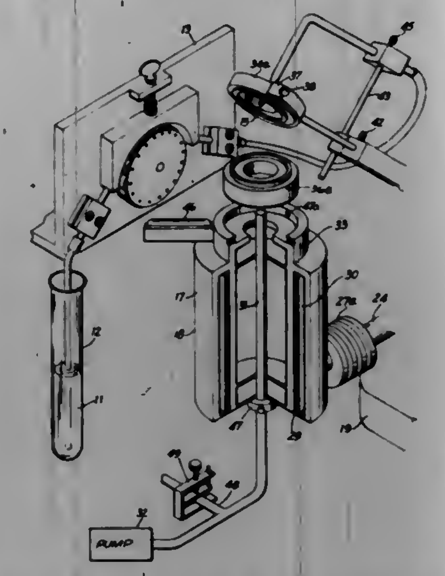
1. A gas burner having an elongated body providing a distribution chamber at one end and a forwardly diverging diffusion chamber at its opposite end communicating with the adjacent end of the distribution chamber, said diffusion chamber having a fuel inlet end opposite the end communicating with said distribution chamber; means providing burner exit orifices for the gaseous fuel at the top of said body portion and extending substantially throughout the length of the distribution chamber in communication therewith, the bottom wall of said distribution chamber progressively approaching the top wall to decrease the cross-sectional area of the distribution chamber from the end of the diffusion chamber to the closed end of the distribution chamber; and a transverse baffle in the inlet portion of the distribution chamber between the side walls and spaced from the top and bottom walls thereof and with the plane of the baffle substantially at right angles to the axis of the burner body to slow the flow of gaseous fuel and cause turbulence to increase the pressure within the distribution chamber.

3,192,990
FILM TYPE LIQUID CONCENTRATION APPARATUS

Samuel Natelson, 15 Parkwold Drive W., Valley Stream, N.Y.
Filed Sept. 4, 1962, Ser. No. 221,171
7 Claims. (Cl. 159—5)

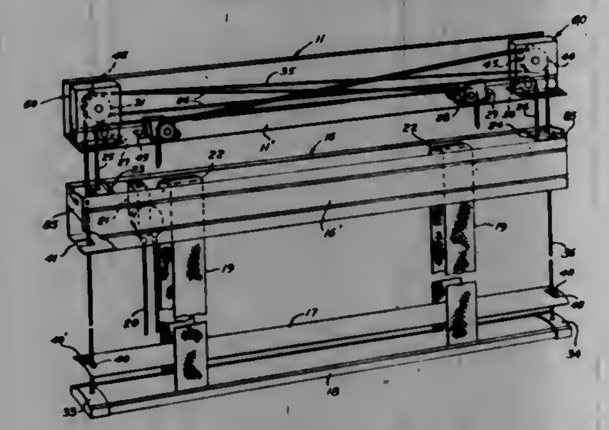
1. A method of evaporating a liquid to yield a solid substance from a sample capable of being analyzed for trace elements; comprising the steps of defining a spot shape

useful in the further processing of the sample, on a flat absorbent medium, heating the outer edge of this medium, cooling that portion of said medium under said defined spot shape, and having drops of the liquid fall in said defined spot shape, whereby successive drops are evaporated forming a coherent concentration of the substance sought.



3,192,991
VENETIAN BLIND ARRANGEMENT

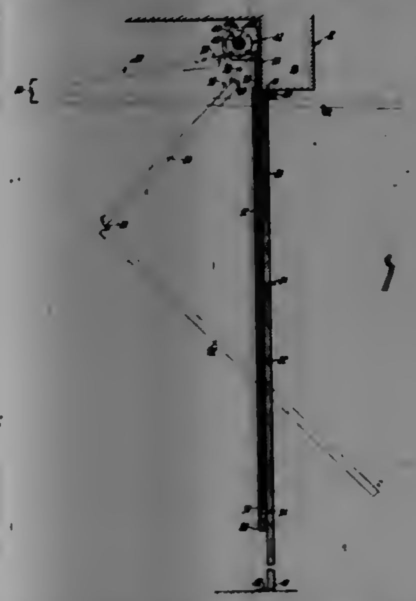
Joseph A. Anderle, Clifton, N.J., assignor to Levolor Lorentzen, Inc., Hoboken, N.J., a corporation of New Jersey
Filed Dec. 18, 1961, Ser. No. 159,850
1 Claim. (Cl. 160—167)



In a combination Venetian blind and hoisting head in which (a) the Venetian blind includes a head bar, a ladder-and-slat assembly, a tilter incorporated in the head bar for tilting the slats, and a bottom bar, (b) the hoisting head is horizontally disposed and above the head bar of the Venetian blind when the hoisting head and Venetian blind are mounted, (c) the hoisting head has pulley wheels and two cord locks, some of the pulley wheels being at the cord locks and other of the pulley wheels being separated from the cord locks, (d) the head bar of the Venetian blind is horizontally disposed when the blind is mounted and is suspended by hoisting cords which extend upwardly from the head bar, over pulley wheels of the hoisting head, and downwardly through the first of the two cord locks of the hoisting head, whereby the head bar of the Venetian blind may be raised and lowered and be held in adjusted position, and (e) lift cords extend upwardly from the bottom bar, upwardly through the Venetian blind, over pulley wheels of the hoisting head and downwardly through the second of the two cord locks of the hoisting head, whereby the bottom bar may be raised and lowered, and be held in adjusted position; the improvement which comprises: (1) the head bar and hoisting head each being upwardly-opening U-shaped sheet-metal channels with the operating elements mounted therein, (2) the head bar, slats and bottom bar of the Venetian blind being of substantially equal length and each having end portions adapted to be nested within vertical guide-channels at the two sides of a window opening, (3) the hoisting head having end portions in vertical alignment with such end portions of the head bar, (4) the hoisting head having pulley fittings at such end portions of the hoisting head, these pulley fittings having the pulley wheels of the hoisting head that are separated from the cord locks, (5) the two cord locks being located inwardly of said pulley fittings, (6) the hoisting cords being attached to the end portions of the head bar that are adapted to be nested within vertical guide channels, extending upwardly, over pulley wheels of said pulley fittings, over a pulley wheel at the first cord lock and through the first cord lock, (7) that hoisting cord which enters the hoisting head at the end thereof nearest the first cord lock being reeved over a pulley wheel of the pulley fitting at the opposite end of the hoisting head before proceeding to the first cord lock, (8) the lift cords being attached to the end portions of the bottom bar that are adapted to be nested within vertical guide channels, extending upwardly through the Venetian blind, over pulley wheels of said pulley fittings, over a pulley wheel at the second cord lock and through the second cord lock, and (9) that lift cord which enters the hoisting head at the end thereof nearest the second cord lock being reeved over a pulley wheel of the pulley fittings at the opposite end of the hoisting head before proceeding to the second cord lock.

3,192,992
OVERHEAD SECTIONAL DOOR

Carl G. Hasselmark, New Britain, Conn., assignor to The Stanley Works, New Britain, Conn., a corporation of Connecticut
Filed Jan. 8, 1963, Ser. No. 250,179
1 Claim. (Cl. 160—207)



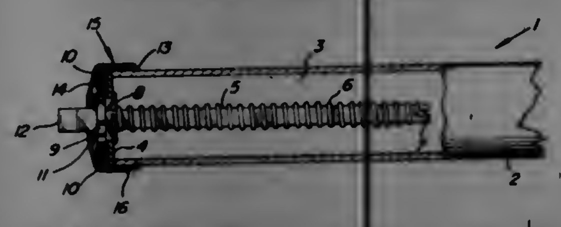
For use in combination with a door frame having a pair of spaced upright door jambs, a horizontal header connecting the door jambs and defining therewith a doorway opening, and an elongated weather strip mounted on the lower surface of the header to extend horizontally between the door jambs, an overhead door structure comprising a door having a closed position disposed vertically within the doorway opening beneath the horizontal header and including a rigid upper door leaf and a rigid lower door leaf, the lower door leaf being of substantially greater vertical dimension than the upper door leaf, the upper door leaf in the closed position being spaced below the header and in engagement with the depending weather strip, first hinge means connecting the upper and lower door leaves providing for outward pivotal movement of the lower door leaf relative to the upper door leaf about a horizontal axis, door guide means including a vertically extending track on the door frame and a track follower mounted on the lower door leaf engageable with the track, second hinge means connecting the upper door leaf and door frame providing for pivotal movement of the upper door leaf inwardly of the doorway opening about a horizontal axis, said second hinge means having connected to the upper door leaf elongated hinge arms spaced from the header with the upper door leaf in engagement with the weather strip and spacing the axis of pivotal movement of the upper door leaf to a point above the doorway, and door operating means providing an overcenter bias on the door urging the door when partially open to a fully open position and maintaining the door in a closed position with the upper door leaf urged against the weather strip, the distance between the axes of pivotal movement of the upper and lower door leaves being substantially equal to the distance between the axis of pivotal movement of the lower door leaf and said track follower whereby with the door in a fully open position the upper door leaf is positioned entirely above the doorway and the lower door leaf extends through the doorway opening in engagement with the weather strip and forwardly and downwardly to provide a canopy shield for the doorway.

3,192,993
SHADE ROLLER CONSTRUCTION

Orin N. Crider, Chicago Heights, Ill., assignor to Slick Industrial Company, Chicago Heights, Ill., a corporation of Delaware

Filed May 10, 1963, Ser. No. 279,540

2 Claims. (Cl. 1[illegible]—324)



1. A shade or like roller construction comprising a roller member; a spindle rotatably mounted in said roller member and extending beyond one end of the latter; a generally cup-shaped bearing member mounted on said spindle adjacent said one end of said roller member and extending beyond the latter; and an annular cover member mounted on said roller member at said one end of the latter, said cover member having a centrally located opening through which said spindle rotatably passes, said opening being larger in size than the size of said spindle but smaller in size than the size of said bearing member, and the edges of said cover member adjacent said opening being shaped to nest with and being rotatably received in and engaged with said cup-shaped bearing member.

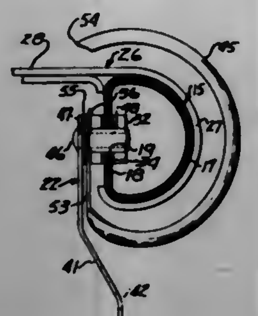
3,192,994
TRAVERSE ROD WITH SLIDE RINGS

Joseph V. Graber and Ferdinand F. Salzmann, Madison, Wis., assignors to Graber Manufacturing Company, Inc., Middleton, Wis., a corporation of Wisconsin

Filed Aug. 14, 1961, Ser. No. 131,187

6 Claims. (Cl. 1[illegible]—345)

3. A curtain or drapery rod fixture comprising, an elongated rod having a longitudinally extending slot defining a trackway, a plurality of drapery slides each including a slide body having opposed track receiving grooves in opposite sides slidably mounted in the trackway, said slide bodies having an outer portion disposed outside the rod and an outer face laterally offset from a plane through said track receiving grooves, a drapery support pendant, means mounting one end of the pendant on the said outer face of the slide for swinging movement about an axis transverse to said trackway, said slide bodies each having opposed ornament mounting grooves in said outer portion extending generally parallel to said outer face and located intermediate said outer face and said track receiving grooves, and a plurality of like decorative members each having a mounting portion, said decorative members having a pair of prongs spaced apart for detachable reception in said ornament mounting grooves to enable insertion and removal of said decorative members from the slide bodies while the pendants remain attached to the slide bodies, said decorative members having a decorative portion extending from the mounting portion and adapted to extend at least part way around the rod.

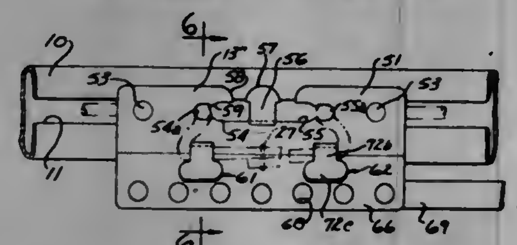


3,192,995
MASTER SLIDE WITH CORD LOCK

John N. Graber and John J. Hoare, Madison, Wis., assignors to Graber Manufacturing Company, Inc., Middleton, Wis., a corporation of Wisconsin

Filed Oct. 23, 1962, Ser. No. 232,364

5 Claims. (Cl. 160—345)



1. In combination, a traverse rod assembly including a traverse rod and a traverse cord, a drapery rod master carrier comprising an elongated slide plate having slide buttons attached to one side at spaced points therealong slidably supporting the plate on the rod, said slide plate having first and second cord receiving notches located intermediate said slide buttons defining first and second oppositely facing cord engaging seats at the ends of the first and second notches receiving the end portions of the traverse cord, and first and second locking tab means on the plate respectively adjacent said first and second cord engaging seats independently locking the end portions of the cord to the carrier, said first and second locking tab means each including at least one tab integrally joined at one end to the plate and having a locking portion laterally spaced from the other side of said plate a distance less than the thickness of the traverse cord to wedge and clamp the cord ends to the plate, said one tab of said first and second locking tab means being spaced apart a distance greater than the spacing between said seats and located relative to the first and second seats to form a reverse bend in the cord ends as they pass through the respective cord seat and under the locking portion of said one tab associated with each seat.

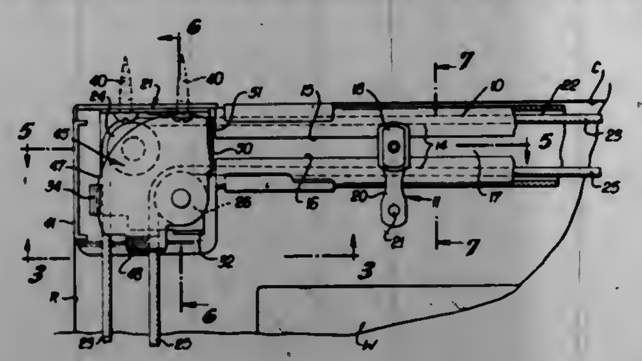
3,192,996
APPARATUS FOR SHIFTING DRAPERY

Joseph C. Greenstadt, Los Angeles, and David F. Ziers, Monterey Park, Calif., assignors to Manufacturing Specialties Co., Inc., Gardena, Calif., a corporation of California

Filed Jan. 7, 1963, Ser. No. 249,777

1 Claim. (Cl. 160—345)

In apparatus for shifting drapery and the like: a traverse rod along which an operating cord is movable for shifting the drapery along the rod, said rod having an open end through which drapery hangers can be mounted on the rod or removed therefrom; support means adjacent to said open end of said rod and including a pair of support pins; a pulley rotatably mounted on each of said support pins, said pulleys being adapted to have oppositely movable runs of the operating cord passing thereover; a cover pivotally mounted on one of said support pins and adapted for swinging to closed position with respect to both pulleys and said open end of said rod to prevent axial withdrawal of the runs of the cord from said pulleys and of hangers from said rod, said cover being swingable to an open position with respect to said pulleys and said rod to permit axial placing of the runs of the cord over said pulleys and axial removal of the runs of the cord from said pulleys, as well as removal and insertion of the hangers through said open end of said rod.

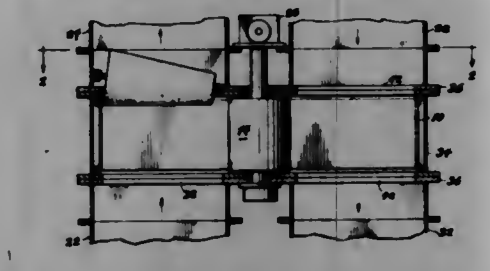


3,192,997
CLEANING ARRANGEMENT FOR ROTARY REGENERATIVE HEAT EXCHANGER

George D. Braddon, Norman D. Clark, and Aloysius Klein, Wellsville, N.Y., assignors, by mesne assignments, to Combustion Engineering, Inc., a stock corporation of Delaware

Filed Aug. 29, 1961, Ser. No. 134,644

6 Claims. (Cl. 165—5)



1. In a rotary regenerative heat exchange apparatus having a cylindrical housing with end plates at opposite ends thereof that include circumferentially spaced apertures for the flow of a heating fluid and a fluid to be heated, and a rotor mounted concentrically within said housing including a mass of perforate heat absorbent material adapted to be alternately contacted by the heating fluid and the fluid to be heated as the rotor is turned about its axis, cleaning means for the removal of deposits adhering to an end portion of said rotor comprising a brush means rotatably mounted adjacent thereto having bristles adapted to rotate at the same peripheral speed as the adjacent face of the rotor and progressively penetrate the perforate end portion of the heat absorbent material in response to movement of the rotor about its axis.

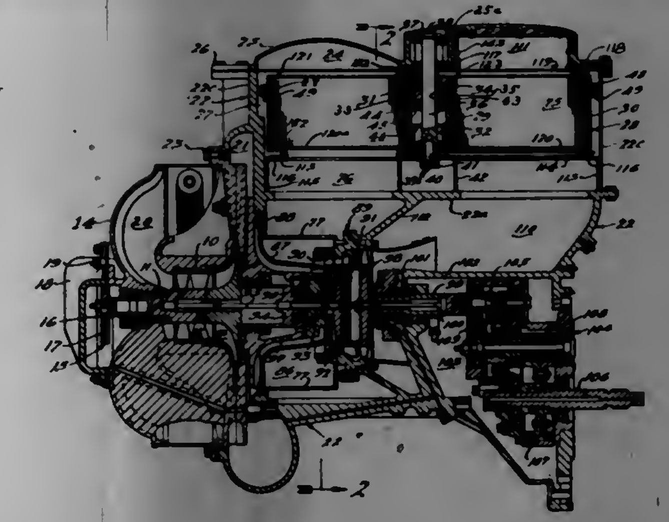
3,192,998
ROTARY REGENERATOR SEALING STRUCTURE

Richard Chute, Huntington Woods, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Dec. 20, 1960, Ser. No. 77,126

7 Claims. (Cl. 165—9)

1. In combination, a rotary regenerator for a gas turbine engine, means for mounting said regenerator for rotation about an axis, said regenerator having a matrix and axially opposed end surfaces adapted to conduct separate streams of gases axially therethrough, means for effecting a seal between said gases including a sector plate having an inner sealing surface engaging one of said end surfaces in sliding sealing relationship and having an opposite outer surface, said sector plate also comprising an annular rim and a cross arm partitioning the area bounded by said rim into two sectors for axial passage of said separate streams of gases therethrough respectively, a spacer having a continuous portion extending entirely around the area of one of said sectors and being welded to said outer surface of said sector plate at a continuous seam extending entirely around the latter area, said continuous seam extending the length of said cross arm along an edge thereof, said edge being proximate the other of said sectors, said continuous seam also extending across said rim to adjacent the outer periphery of said rim, and thence along the radially outer peripheral edge of said rim around said latter area, and means for isolating said sealing surface from the stress induced by said seam comprising a channel-shaped slot extending in said arm and rim lengthwise of said seam at a location between said seam and inner surface and opening edgewise of said edges, one of the channel sides of said channel-shaped slot being comparatively flexible and containing said outer surface and seam, the sides of said slot being generally transverse to said axis.

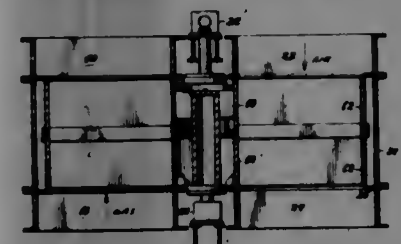


3,192,999
TELESCOPIC ROTOR CONSTRUCTION FOR A ROTARY REGENERATOR

Richard Stockman, Friendship, N.Y., assignor to Combustion Engineering, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 28, 1963, Ser. No. 268,625

6 Claims. (Cl. 165—9)



1. Rotary regenerative heat exchange apparatus having a rotor carrying a mass of heat absorbent material alternately between a heating fluid and a fluid to be heated comprising a rotor shell, a central rotor post having a plurality of telescopic parts, support trunnions at opposite ends of the rotor post secured to independent parts of the telescopic rotor post, partition members extending radially from the rotor post to the rotor shell to form a series of sectoral compartments for the heat absorbent material, means for rotating the rotor about its axis, and support

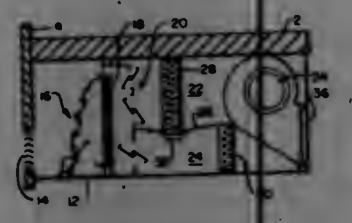
bearings fixedly mounted at each end of the rotor to rotatably support the spaced trunnions with a fixed spacing therebetween.

3,193,000
UNIT VENTILATOR

Charles J. Bressoud, Whittier, Calif., assignor to American Air Filter Company, Inc., Louisville, Ky., a corporation of Delaware

Filed Nov. 10, 1961, Ser. No. 151,508

6 Claims. (Cl. 165—16)



1. In a room unit ventilator including a cabinet having a room air inlet and an outdoor air inlet, an air outlet, and blower means for inducing the flow of air through said cabinet:

(a) primary damper means movable in a range between one extreme position blocking said room air inlet and an opposite extreme position blocking said outdoor air inlet;

(b) means forming a separate cooling passage and a separate heating passage between said air inlets and said air outlet, each passage having a heat exchanger therein adapted to selectively receive a tempering medium of the character of the passage with said heat exchangers at times simultaneously receiving their respective tempering mediums;

(c) secondary damper means at the inlet end of said passages movable in a range between one extreme position blocking said cooling passage and an opposite extreme position blocking said heating passage;

(d) means operating said primary damper means throughout said range in accordance with departures in room temperature from a desired temperature when said heating passage heat exchanger is receiving a tempering medium, and restricting operation of said primary damper means to a part of said range limiting admission of outdoor air when only said cooling passage heat exchanger is receiving a tempering medium;

(e) and means operating said secondary damper means toward said one and said opposite extreme position to vary in proportioning fashion the air directed through said separate passages in response to departures of said room temperature respectively below and above said desired temperature, irrespective of whether both or only one of said heat exchangers is receiving a tempering medium.

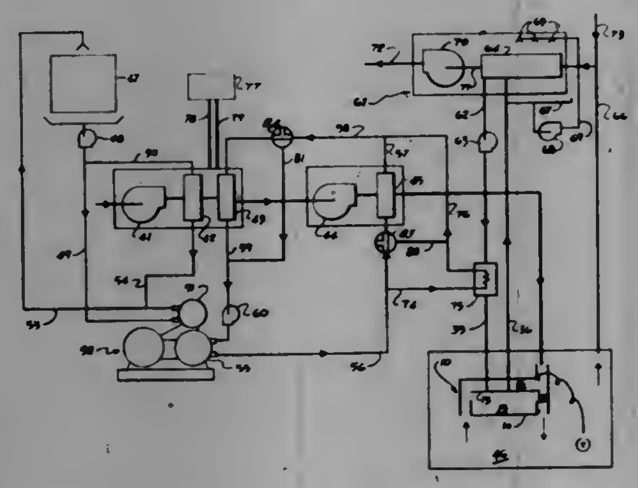
3,193,001
COMFORT CONDITIONING SYSTEM

Gershon Meckler, Toledo, Ohio, assignor, by mesne assignments, to Lithonia Lighting, Inc., a corporation of Georgia

Filed Feb. 5, 1963, Ser. No. 256,421

21 Claims. (Cl. 165—27)

1. An apparatus for comfort conditioning of an enclosed space, comprising, in combination, a first dehumidifier, a second dehumidifier, a cooler, a lighting fixture, said fixture including a closure member, a reflector having integral passage means for circulation of a first heat transfer fluid therethrough, a light diffuser in spaced relationship to said reflector, means for mounting a light source within said closure member between said reflector and diffuser, whereby said diffuser will transmit and diffuse light incident thereon and will reflect radiant heat energy towards said reflector, a first air flow passage within said fixture for circulation of air from said space through said fixture in thermal contact with said light source, a second air flow passage within said fixture for circulation of air from said space through said fixture but out of thermal contact with said light source, a third air flow passage within said fixture connected to said first and second passages whereby air flow through said third passage into said space will induce air circulation from said space, through said first and second passages, and hence into said third passage, and a damper for regulation of the relative amounts of air flow through said first and second passages, means for circulating air through said first and second dehumidifiers and said third passage to said space, means for exhausting air from said space, through said cooler and venting outside said space, means for circulating a second fluid through said cooler in direct heat exchange relationship with said exhausted air from said space, and means for circulating said first heat transfer fluid from said passage means of said reflector through said cooler whereby said first heat transfer fluid is cooled by said exhausted air and said second fluid, and means for circulating a third heat transfer fluid through said first and second dehumidifiers to absorb energy therefrom.



3,193,002
FEED WATER HEATERS FOR STEAM TURBINE PLANT

Hugo Heinrich Ludolf Ritz and Vincent Power, Newcastle-upon-Tyne, England, assignors to C. A. Parsons & Company Limited, Newcastle-upon-Tyne, England

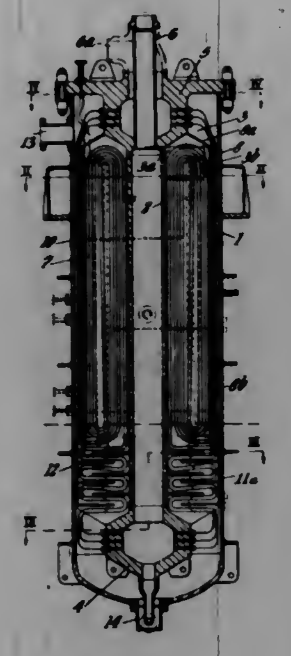
Filed Apr. 10, 1961, Ser. No. 101,905

Claims priority, application Great Britain, Mar. 10, 1961, 8,923/61

4 Claims. (Cl. 165—139)

1. A feed water heater for steam turbine plant comprising a casing, an internal duct located within the casing and extending through the major portion of the length of said casing to form an annular space between the outer surface of the duct and the inner surface of the casing, a header at each end of the duct each header comprising curved walls, a plurality of tubes arranged in radial planes within said annular space, inlet ends of all the tubes passing through the curved walls of one header and outlet ends of all the tubes passing through the curved walls of the other header, inlet and outlet pipes for feed water attached to one of the headers, one pipe passing through said header and communicating with the internal duct, to provide a flow path for feed water through the headers, tubes and through the full length of the internal duct, inlet means for steam adjacent the header connected to the outlet ends of the tubes and outlet means for condensed steam adjacent the other header; the flow path for steam through the casing comprising a desuperheater

section, a condensing section and a condensate section, the condensing section being located immediately above the condensate section and having radial walls therein dividing the annular space into a number of sector-shaped compartments extending from the surface of condensate in the condensate section, there being a passage at one axial end of each radial wall, the passage at the end of one radial wall being at the opposite end to that of the adjacent radial wall whereby steam can flow from the desuperheating section into a sector-shaped compartment and then successively via said passages through a series of such compartments in opposite axial directions in adjacent compartments until finally it enters the condensate section.

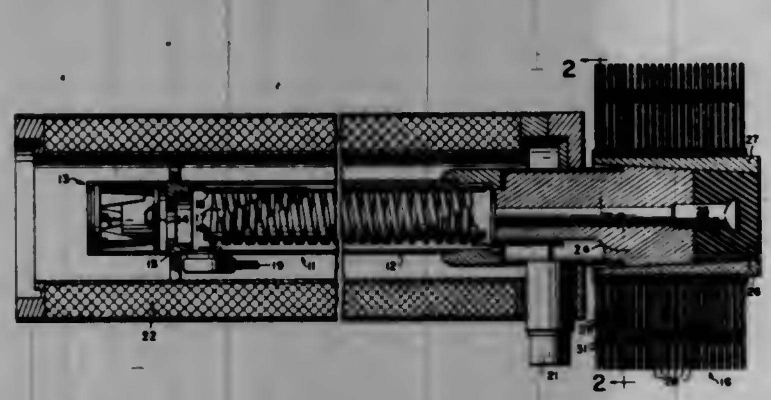


3,193,003
HEAT EXCHANGE APPARATUS HAVING ADDITIONAL CONDUCTING PATHS

Peter A. McCuen, Palo Alto, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California

Filed July 3, 1961, Ser. No. 121,724

5 Claims. (Cl. 165—185)



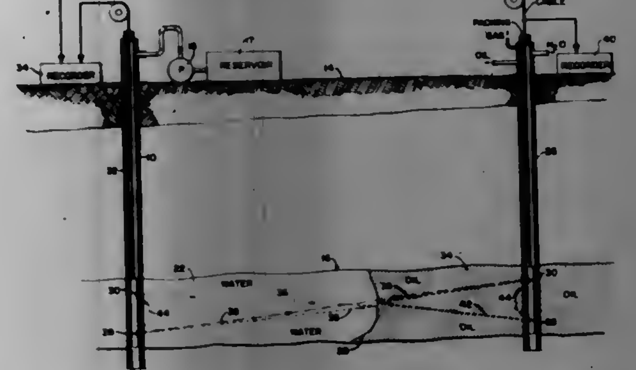
1. Cooling apparatus for an electron device comprising, a metallic member defining a longitudinal axis, a plurality of fins radiating from said metallic member, first means substantially transversely oriented with respect to said longitudinal axis forming a low thermal resistance path from said metallic member to an outer portion of said fins, the thermal resistance of said first means being less than the thermal resistance of any one of said plurality of fins, and second means forming a low thermal resistance path, said second means being spaced from said metallic member and coupled to said first means and to said fins whereby the temperature of each of said fins is maintained approximately uniform over the entire fin.

3,193,004
METHOD FOR DETERMINING THE POSITION AND RATE OF ADVANCE OF A DISPLACEMENT FRONT IN A SECONDARY RECOVERY SYSTEM FOR PRODUCING PETROLEUM

James C. Albright and Earl W. Sutton, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed July 3, 1961, Ser. No. 121,464

3 Claims. (Cl. 166—4)



1. In a secondary recovery system for recovering oil from an oil-bearing formation of the type characterized by an injection well and at least one producing well, the method of determining the location of a displacement front which comprises:

(a) injecting a displacement fluid into said oil-bearing formation from said injection well to displace the oil in said formation ahead of a moving interface formed between said fluid and the oil;

(b) transmitting a sound wave through said formation to said interface from a point in said formation horizontally spaced from said interface on one side thereof;

(c) detecting said sound wave at a listening station horizontally spaced from said interface and on the opposite side thereof; and

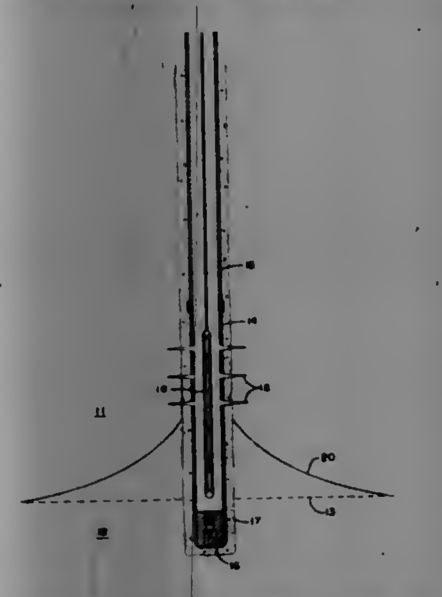
(d) registering the travel time of said sound wave through the formation from its point of transmission to said listening station whereby the position of said interface in said formation may be determined.

3,193,005
WELL COMPLETION AND LOGGING METHOD

Frank H. Hunter and George W. Widner, Tulsa, Okla., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed Oct. 24, 1961, Ser. No. 147,326

6 Claims. (Cl. 166—4)

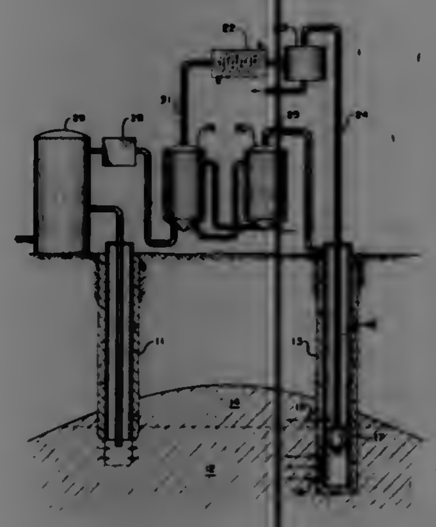


1. In the recovery of petroleum from an oil bearing horizon penetrated by a well bore, said horizon having an

oil-water contact, a test procedure for determining the relationship between water coning height and draw-down pressure differential which comprises casing said bore opposite said horizon with a non-conductor of electricity, perforating said casing at a level of said horizon substantially above said oil-water contact, flowing said well at a substantially constant drawn-down pressure differential, and logging said horizon by electromagnetic induction while flowing said well, to determine the height of water intrusion caused by said pressure differential.

3,193,006
PETROLEUM RECOVERY WITH INERT GASES

Warren K. Lewis, Newton, Mass., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Nov. 3, 1961, Ser. No. 150,005
1 Claim. (Cl. 166—7)



A method for recovering petroleum from a subterranean gas cap reservoir penetrated by an injection well and a production well which comprises reacting ferrosoferric oxide with air to remove oxygen from the air, thereby producing ferric oxide and a substantially pure stream of nitrogen gas, reacting said ferric oxide with a gaseous hydrocarbon to produce carbon dioxide and ferrosoferric oxide, injecting said nitrogen into the gas cap of said reservoir, concurrently and separately injecting said carbon dioxide into the oil zone of said reservoir, producing displaced petroleum from said production well, separating hydrocarbon gases from said produced petroleum, and reacting said separated gases with said ferric oxide.

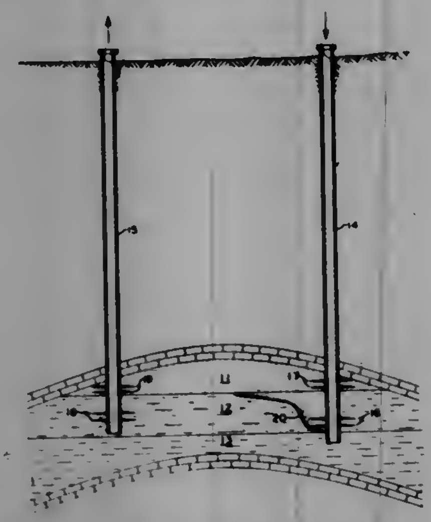
3,193,007
METHOD FOR CONTROLLING INJECTIVITY PROFILES

Othar M. Kiel, Vincent V. Valleroy, and Bertram T. Willman, Tulsa, Okla., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
No Drawing. Filed June 29, 1962, Ser. No. 206,180
5 Claims. (Cl. 166—10)

5. A method for controlling the injection profile in a permeable formation surrounding a wellbore during the injection of a fluid through said wellbore and into said formation, wherein a first zone of said formation initially accepts said fluid more readily than a second zone thereof, which comprises introducing into said wellbore a plugging agent selected from the group consisting of benzoic acid, naphthoic acid, calcium hydroxide, polyvinyl alcohol, and polyvinyl acrylamide, whereby the flow of said fluid into said first zone is temporarily and selectively restricted, thereby causing increased acceptance of said fluid by said second zone, and then continuing to inject said fluid, whereby said plugging agent is dissolved and dissipated within said formation, whereupon the injection profile in the formation surrounding said wellbore is rendered more uniform.

3,193,008
UNDERGROUND COMBUSTION METHOD FOR PRODUCING HEAVY OIL

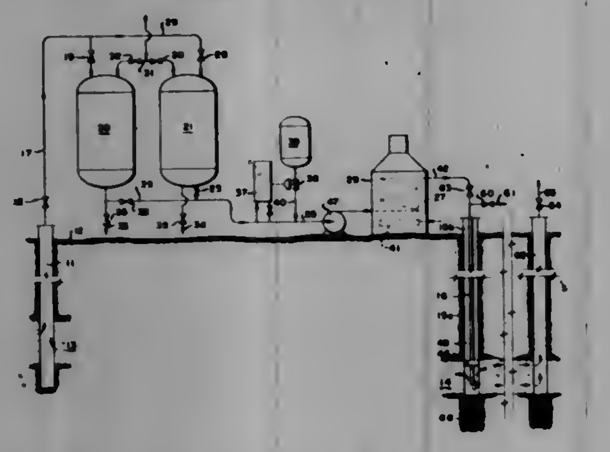
Thomas V. Moore, Neuilly, France, assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Nov. 29, 1961, Ser. No. 155,771
3 Claims. (Cl. 166—11)



1. A method for the recovery of highly viscous petroleum from an underground reservoir penetrated by an input well and an output well, said reservoir being characterized by (1) having an oil zone which is substantially impermeable to gas, (2) having an oil water transition zone below said petroleum zone, and (3) a water zone below said transition zone, which comprises completing said input well in said transition zone at a depth sufficient to establish therein permeability to gas, injecting an oxygen-containing gas via said input well into said transition zone only, under combustion-sustaining conditions, whereby said viscous petroleum is mobilized, and producing said petroleum from said output well.

3,193,009
USE OF LOW-GRADE STEAM CONTAINING DISSOLVED SALTS IN AN OIL PRODUCTION METHOD

Eugene W. Wallace, Oak View, John A. Pryor, Ventura, Bryant W. Bradley, Pasadena, and George H. Holliday, West Covina, Calif., assignors to Shell Oil Company, New York, N.Y., a corporation of Delaware
Filed Feb. 28, 1963, Ser. No. 261,684
7 Claims. (Cl. 166—11)



1. In a method of recovering a hydrocarbon material from an underground formation in which it occurs, the steps of

drilling a well from the ground surface into said hydrocarbon-containing underground formation,

obtaining a supply of water containing ions of a scale-forming alkaline earth metal salt,

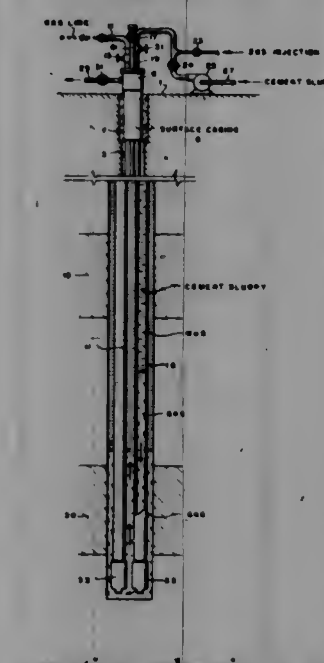
treating the water to convert the alkaline earth metal salt to a soluble alkali metal salt,

generating low-grade steam from said treated water, said steam having a quantity of water in liquid phase sufficient to maintain the soluble salts dissolved therein and in a concentration greater than the dissolved salt concentration of the water supply, and

injecting the low-grade steam and the soluble salts carried therein through said well and contacting the hydrocarbon-containing underground formation in communication therewith for a time sufficient to improve the flow characteristics of said hydrocarbon material.

3,193,010
CEMENTING MULTIPLE PIPE STRINGS IN WELL BORES

Walter J. Bielstein, Corpus Christi, Tex., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed July 10, 1963, Ser. No. 294,037
6 Claims. (Cl. 166—21)



1. In a well operation wherein a plurality of pipe strings are run into a well bore at least partially filled with drilling fluid to coextend side-by-side therein from the earth's surface, and wherein a cementitious fluid is pumped down one of the pipe strings and up the annulus therearound to bond the pipe strings to the sides of the well bore, the improvement comprising: entraining a gasiform fluid through at least the lower portion of the drilling fluid in the annulus around the pipe strings and in the space between the pipe strings; and pumping a bank of said gasiform fluid down one of the pipe strings sufficient in volume to form a gaseous bank between the cementitious fluid and the drilling fluid.

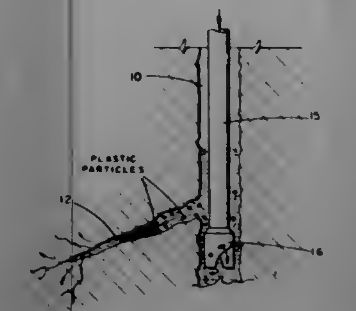
3,193,011
METHOD FOR RESTORING LOST CIRCULATION

James A. Rickard, Houston, Tex., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed May 18, 1962, Ser. No. 195,844
3 Claims. (Cl. 166—33)

1. A method for restoring lost drilling fluid circulation in a borehole containing a zone of lost circulation extending laterally from the borehole in a cracked formation comprising the steps of:

adding to a fluid capable of being circulated in said borehole small, solid particles consisting essentially of partially polymerized thermosetting plastic granules adapted to set at borehole temperatures;

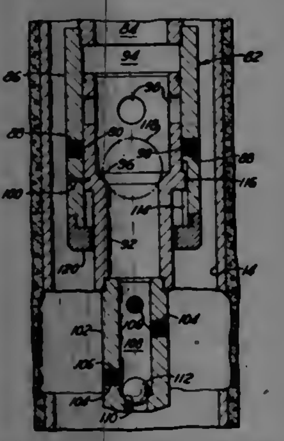
displacing said particles radially outwardly from said well bore into said zone of fluid loss in said cracked formation; and



then ceasing displacement of said particles for a period of time sufficient to permit said particles to concentrate, defluidize, coagulate, and set in said zone of fluid loss to form a solid plastic plug in and thereby seal said zone of loss.

3,193,012
METHOD OF CUTTING A NOTCH IN AN UNDERGROUND FORMATION PENETRATED BY A WELL

Jimmie L. Huitt, Glenshaw, and Joseph L. Pekarek, Penn Hills, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed May 29, 1961, Ser. No. 113,432
4 Claims. (Cl. 166—35)



1. A method of hydraulically cutting a notch in a subsurface formation penetrated by a well having casing set therein by means of a high velocity stream of a cutting fluid discharged from a nozzle for initiation of a fracture in the subsurface formation, comprising cutting a circumferential opening in the casing wall having a width at least four times the diameter of the nozzle at the desired depth to expose the subsurface formation, thereafter centering a nozzle opposite the circumferential opening and directing a high velocity stream of a cutting fluid from the nozzle through the circumferential opening in the casing wall to cut a notch in the formation, and rotating the nozzle about a vertical axis and in a horizontal plane adapted to direct the high velocity stream through the circumferential opening while discharging the high velocity stream of a cutting fluid from the nozzle.

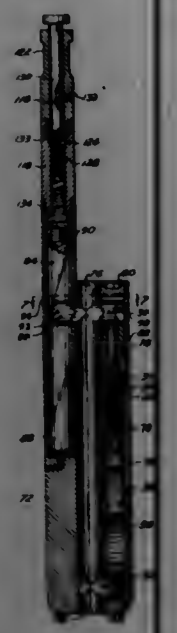
3,193,013
WIRE LINE CUTTER

John D. Whiteside P.O. Box 1225, Andrews, Tex.
Filed Nov. 5, 1962, Ser. No. 235,377
2 Claims. (Cl. 166—54.5)

1. A wire line cutter comprising:
(a) an elongated body,
(b) a longitudinal opening through said body adapted for a line to be cut to pass through,
(c) an explosive charge within said body,
(d) a knife within said body,
(e) means responsive to detonation of the said explosive charge for moving said knife into said longitu-

dinal opening whereby movement of said knife cuts a line therein,

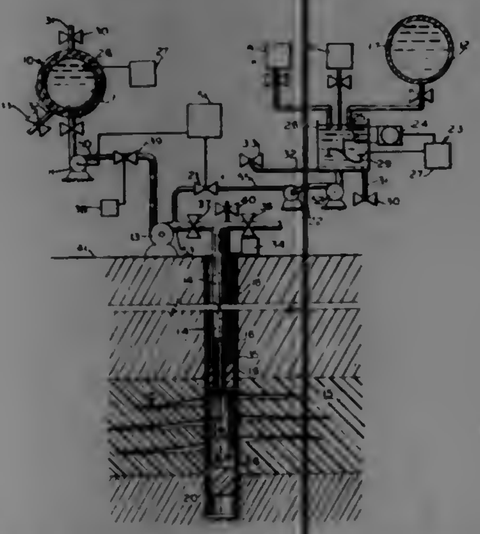
(f) a second explosive charge in said body,



(g) clamp means adjacent said longitudinal opening for clamping a line within said opening to said body,
(h) means responsive to detonation of said second explosive charge for actuating said clamp means, and
(i) means responsive to said detonation of said second explosive charge and said actuating of said clamp means for initiating the detonation of said first mentioned explosive charge.

3,193,014
APPARATUS FOR FRACTURING SUBSURFACE FORMATIONS

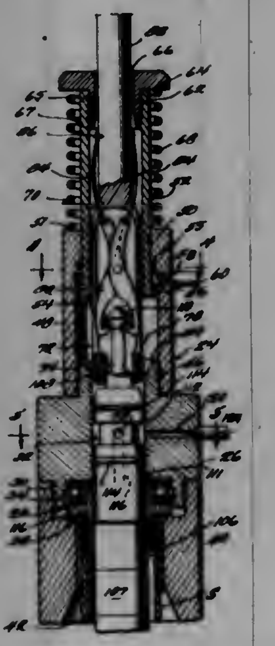
William Armistead Hill, 517 Roosevelt Ave., Borger, Tex.
Original application Aug. 9, 1962, Ser. No. 215,829.
Divided and this application Mar. 13, 1964, Ser. No. 351,779
5 Claims. (Cl. 166—57)



1. Apparatus for treating an underground formation comprising, in operative combination, a fracturing liquid container, an outlet therefrom open to the bottom thereof, a first conduit operatively connected thereto; a first pump means, a pump inlet thereon, a pump outlet thereon, said first conduit operatively connected to said pump inlet, a second conduit operatively connected to said pump outlet; an insulated high pressure container, a first outlet therefrom open to the bottom thereof, a third conduit operatively connected to said outlet, a second pump means, an inlet thereon and an outlet thereon and a fourth conduit operatively connected to said outlet for said second pump, said inlet to said second pump being operatively connected to said third conduit; a well bore extending from the ground surface to said underground formation, a fifth conduit in said well bore, an upper inlet thereto and an outlet therefrom adjacent said formation, sealing means between the outside of said fifth conduit and the inside of said well bore above the lower outlet of said fifth conduit; said second conduit and fourth conduit being operatively connected at a junction near the top of said well, a well inlet valve with an inlet operatively connected to said junction and said well inlet valve having an outlet, said inlet valve outlet being operatively connected to the top portion of said fifth conduit, a well outlet valve with an inlet, said outlet valve inlet being operatively connected to the top portion of said fifth conduit between said inlet valve and the lower outlet of said fifth conduit, said well outlet valve having an outlet operatively connected to the atmosphere; means controlling said second pump means and operatively connected thereto, flow sensing means located between said fracturing liquid container and said junction and operatively connected to said means controlling the second pumping means, and providing a predetermined ratio of rate of flow of liquid through said fourth and second conduits.

3,193,015
AUTOMATIC CONNECT AND DISCONNECT APPARATUS FOR HYDRAULIC TESTING TOOLS

Glenn L. Loomis, Pasadena, Tex.; Jean Doyle Loomis, independent executrix of said Glenn L. Loomis, deceased, assignor to Jean Doyle Loomis
Filed Aug. 20, 1962, Ser. No. 217,791
2 Claims. (Cl. 166—67)



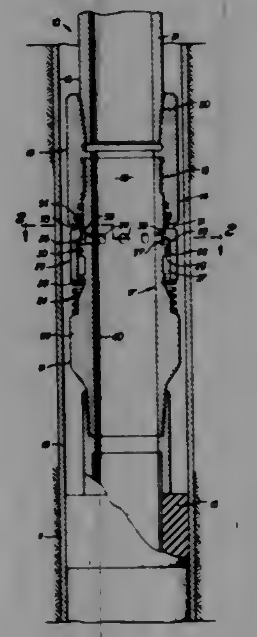
1. An automatic connect and disconnect apparatus for use in raising and lowering a tool within a stand of well tubing, wherein said tool includes a head portion which may be engaged by a grappling means and wherein means are provided for raising and lowering the grappling means within the said automatic connect and disconnect apparatus said apparatus comprising:

a body portion having a bore therethrough,
an annular sleeve extending downwardly from said body portion and adapted to fit over an end of the stand of tubing;
a rotatable bearing means carried by said body portion and said sleeve, said rotatable bearing means positioned within said body portion and said sleeve to engage the end of the stand of tubing whereby the stand can be rotated while the body portion and sleeve are stationary;
open-ended cylinder means connected to the upper end of said body portion, said cylinder means having a longitudinal bore therethrough in axial alignment with the bore of said body portion;

a tubular piston movable in said bore of said cylinder,
a grappling means including grappling hooks disposed within the bore of said body portion means for moving said grappling means longitudinally within the bores of said body portion and said cylinder,
spring means associated with said grappling means for normally urging said grappling hooks toward a contracted grappling position,
cam means carried by said tubular piston for engaging said spring means to positively expand said grappling hooks only when said tubular piston is moved downwardly within said cylinder and when said grappling means is positioned within said cylinder,
means normally urging said tubular piston to an upper retracted position within said cylinder, and
fluid pressure means connected to said cylinder for urging said tubular piston downwardly to cause said cam means to engage said spring means and to thereby release said grappling hooks from a grappling position.

3,193,016
REVERSE FLOW TUBING VALVE

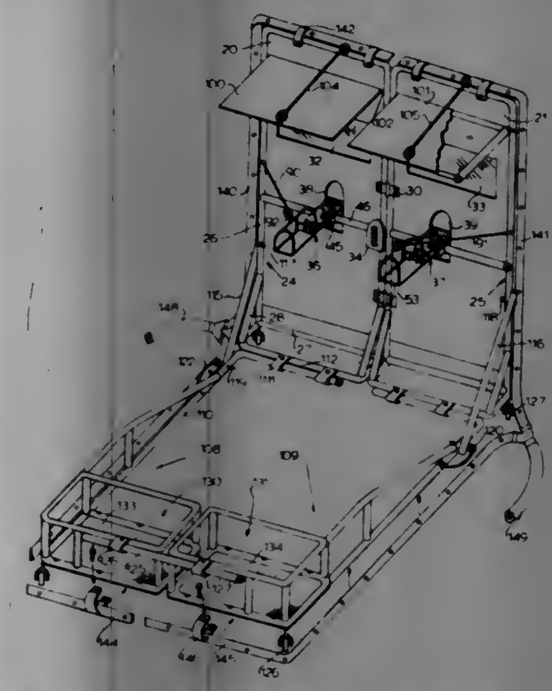
Granville S. Knox, Glendale, Calif., assignor to Hydril Company, Los Angeles, Calif., a corporation of Ohio
Filed Apr. 30, 1962, Ser. No. 190,891
8 Claims. (Cl. 166—184)



1. In combination, a tubing string extending longitudinally downwardly in well casing, first means packing off between the tubing and the casing in the well, and valve means connected into the spring in the well above the level of said first means for controlling reverse circulation of fluid from the exterior to the interior of said valve means, said valve means including a longitudinally extending tubular body having at least one flow port through the body side, a pressure responsive annular sleeve movable longitudinally of the body between unseated and seated positions to control reverse circulation of fluid through the port, and yieldable means acting to transmit force urging the sleeve to said seated position, said sleeve having a first shoulder located to remain continuously exposed to the sleeve and tubing exterior so as to remain sensitive to application of exterior fluid pressure thereon opposing said yieldable means force whereby sufficient exterior pressure moves the sleeve to unseated position to establish said reverse circulation, the sleeve also having a second shoulder located for exposure through said port to the pressure of fluid within said tubular body thereby aiding the force transmitting action of said yieldable means, the tubular body and sleeve having annular surfaces which are engaged in said sleeve seated position to prevent circulation through said port, the unseated sleeve and said body forming a sufficiently reduced flow passage in the path of said reverse circulation between said disengaged surfaces and said port and in all unseated positions of the sleeve so that the pressure of reversely circulating fluid is reduced upon flowing through said passage whereby only the reduced pressure of the reversely circulating fluid can reach said second shoulder, the body and sleeve having slidable annular sealing interengagement in spaced relation to said surfaces and port.

3,193,017
PORTABLE FIRE SHIELD

Charles F. Walker, 511 N. Spring St., Greensboro, N.C.
Filed Feb. 9, 1965, Ser. No. 431,376
5 Claims. (Cl. 169—1)



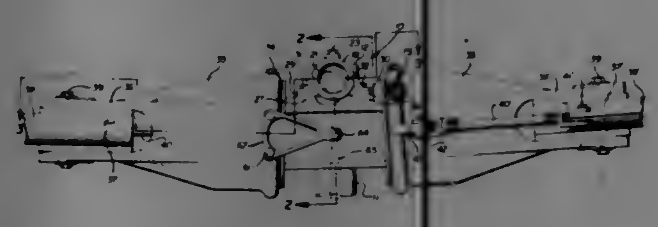
1. A fire fighting shield and fire hose support comprising a pair of vertically disposed rectangular frames of lightweight metal bar construction and hingedly connected at adjacent vertical edges; a pair of lightweight heat reflective metal panels secured to and covering the front of said frames and being foldable together with said frames; a transparent fire resistant viewing section mounted in first openings provided in each of said panels; hose nozzle support and clamp means pivotedly mounted in second openings provided in each of said panels below said first openings, said nozzle support and clamp means being adapted to rotate in said second openings around both vertical and horizontal axis and including spring means tending to hold said nozzle in one position while allowing limited axial movement both forwardly and rearwardly therefrom; a pair of outrigger frames of lightweight metal bar construction corresponding to said vertical frame construction, each said outrigger frame being pivotedly and separately connected to the back of one of said vertical frames at the base thereof and being foldable against the back thereof; and detachable means for interlocking said vertical and outrigger frames such that said panels may be aligned in a vertical plane and said outrigger frames may be horizontally disposed for fire fighting purposes.

3,193,018
ROTOR HUB ASSEMBLY

Wesley T. Gandy, Palo Alto, Calif., assignor, by mesne assignments, to Hiller Aircraft Company, Inc., Menlo Park, Calif., a corporation of Delaware
Filed Dec. 5, 1962, Ser. No. 242,509
4 Claims. (Cl. 170—160.27)

4. In combination with the upwardly extending rotor column of a rotary wing aircraft, a rotor hub assembly including a spindle connected with said column so as to be rotatably driven therethrough about a generally ver-

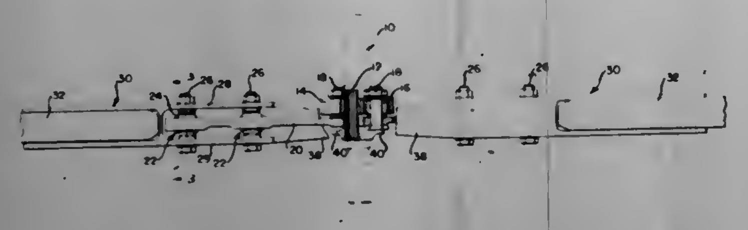
tical spin axis and being pivotally supported with respect to said column for teetering movements about a generally horizontal axis, said spindle being provided with a plurality of outwardly extending spindle shafts spaced angularly from each other and defining pitch-control axes having a generally horizontal disposition, each of said spindle shafts being equipped with a single journal bearing assembly and with a thrust bearing assembly spaced axially from the journal bearing assembly along the associated pitch-control axis, each of said spindle shafts having a section of enlarged diameter adjacent the inner end thereof and a section of reduced diameter adjacent its outer end and being equipped with an outwardly facing inner abutment shoulder adjacent the inner end portion of said section of enlarged diameter and being equipped also with an outwardly facing outer abutment shoulder adjacent the inner end portion of said section of reduced diameter, each of said thrust bearing assemblies including a plurality of bearing structures one of which has an inner segmented race and being mounted upon said section of enlarged diameter of the associated spindle shaft and being constrained against axial movement therealong in an inward direction by abutment with said inner shoulder thereof, stop structure selectively adjustable for each spindle shaft and being removably mounted upon the associated section of enlarged diameter thereof outwardly of the thrust bearing assembly and in substantial engagement therewith to constrain the same against axial movement in the opposite direction along the associated spindle shaft, a plurality of blade holders respectively associated with said spindle shafts in coaxial circumjacent relation therewith and being supported by the bearing assemblies thereof for pitch-determining displacements about the respectively associated pitch-control axes, each of said blade holders being provided with an inwardly facing inner shoulder in abutment with the associated thrust bearing assembly and being provided also with an inwardly facing outer shoulder in substantial abutment with the associated journal bearing assembly whereby inward movement of each such blade holder along the associated spindle shaft is limited by such abutments of the inwardly facing shoulders thereof, a plurality of releasable hollow nut fasteners respectively associated with said spindle shafts in circumjacent relation therewith and being disposed in abutment with the inner end of the thrust bearing assembly thereon and threadedly engaging the associated blade holder to constrain the same against outward axial displacement along the associated spindle shaft, and pitch-adjusting structure connected with said blade holders for effecting angular displacements thereof.



3,193,019
ROTOR SYSTEM

Jan Meijer Drees, Dallas, and Wesley L. Cresap, Fort Worth, Tex., assignors to Bell Aerospace Corporation, Wheatfield, N.Y.
Filed June 5, 1964, Ser. No. 372,938
1 Claim. (Cl. 170—160.27)

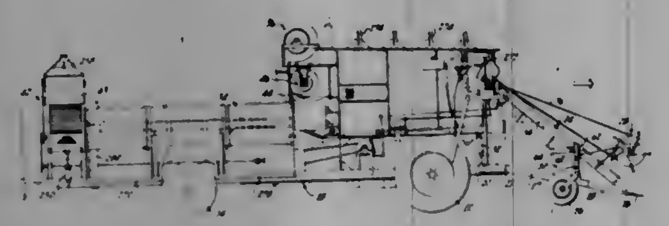
In a rotor system,
a drive shaft,
a hub having a central portion engaging said drive shaft for rotation therewith, and having a pair of diametrically opposed ears extending outwardly from said central portion,
an elongate yoke plate having a central opening clearing said drive shaft, said ears of the hub being oriented to extend generally transversely of said yoke plate,
a spherical bearing journalled in each ear, a through-bolt engaging each bearing and connecting same to said yoke plate whereby the yoke plate is pivotally connected to said hub for see-saw motion about an axis generally transverse of the yoke plate,



a plurality of spherical yoke bearings arranged in mutual alignment along each end of said yoke plate and in substantially aligned relation, a through-pin engaging each such yoke bearing,
a pair of blade grip members each of clevis form presenting upper and lower flanges between which a corresponding end of the yoke plate is received, said through-pins extending through the upper and lower flanges of a respective blade grip member to pivotally connect each blade grip member to the yoke plate.

3,193,020
TOMATO HARVESTER

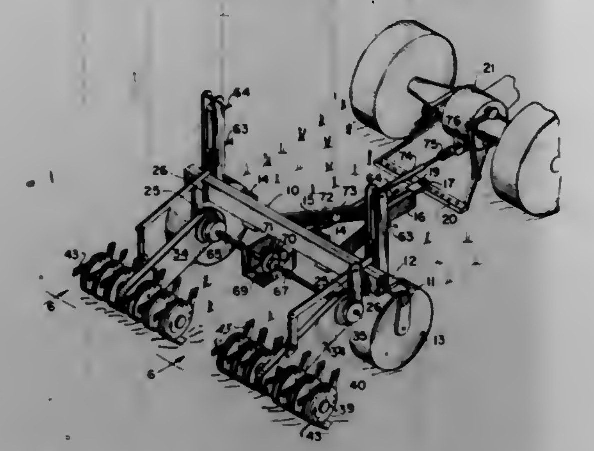
Robert Leslie Button, Rte. 1, Box 204, Winters, Calif.
Filed Dec. 18, 1961, Ser. No. 160,089
3 Claims. (Cl. 171—14)



1. In a harvester having means for severing plants from the soil, advancing said severed plants into a zone wherein comestibles thereon are freed from the plants, the improvements comprising:
(a) horizontal means having apertures therein of sufficient size to permit said comestibles to pass therethrough while retaining larger portions of said plants thereon;
(b) a first conveyor beneath said horizontal means for receiving and supporting said comestibles thereon;
(c) a second conveyor parallel to said first conveyor positioned at a level beneath said first conveyor and having its loading point positioned adjacent the discharge point of the said first conveyor;
(d) means for blowing air in a direction opposite to the direction of movement of said second conveyor, said means being positioned immediately adjacent the loading point of said second conveyor and immeditaely adjacent the discharge point of the said first conveyor; and
(e) guard means fixed transversely of said conveyors between the discharge point of said first conveyor and the loading point of said second conveyor to prevent said comestibles from being deflected by said air and to insure that said comestibles are loaded onto said second conveyor, said means permitting passage of air and small particles and pieces of plants.

3,193,021
STALK MULCHING AND DISINTEGRATING MACHINE

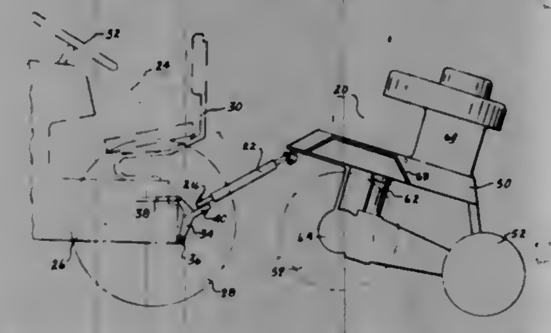
Roy M. Lane, 83 SE. 1st St., Belle Glade, Fla.
Filed Aug. 23, 1962, Ser. No. 219,077
1 Claim. (Cl. 172—60)



A stalk mulching and disintegrating machine comprising an elongated transversely extending frame supported by ground-engaging wheels, a tongue mounted on said frame and connectable to a propelling vehicle having a power takeoff, a transmission unit carried by said frame, first shaft means connecting said transmission unit to said power takeoff, second shaft means extending transversely from said transmission unit, clutch means for selectively driving said second shaft means from said transmission unit, a vertically extending support at each end of said frame for rotatably supporting said second shaft means, a sealed housing rotatably mounted at one end on said second shaft means on each side of said transmission unit, drive means within said housing drivingly connected to said second shaft means, third shaft means connected to said drive means and extending transversely from both sides of the other end of each of said housings, a series of mulching implements fixed to said third shaft means on each side of said housings, a link pivotally connected to each of said housings adjacent said other end, an operating arm pivotally mounted intermediate its ends on each of said supports, one end of said operating arm being pivotally connected to said link, a pair of generally vertical plates connected at one end to each end of said frame and extending upwardly therefrom, independently operable generally vertical fluid means pivotally connected at one end to the other end of said plates and extending downwardly between the same and connected to the opposite end of said operating arm for controlling the position of the mulching implements relative to the earth, whereby said mulching implements can be raised or lowered and driven simultaneously or independently.

3,193,022
TILLER

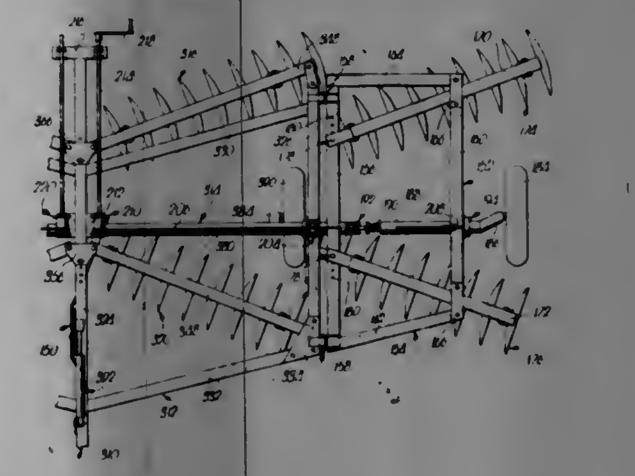
Warren F. Wesley and Cecil E. Pond, South Bend, Ind., assignors to Wheel-Horse Products, Inc., South Bend, Ind., a corporation of Indiana
Filed Sept. 20, 1961, Ser. No. 139,408
9 Claims. (Cl. 172—76)



6. The combination of a soil working implement pulled by a towing vehicle, and having a frame, an undercarriage positioned beneath said frame at the rear thereof, a set of rotary blades operatively connected to said frame, a power means on said frame for driving said blade set, a hitch on the forward end of said frame for pulling said soil working implement and lifting said blade set from the ground, having an elongated member pivoted at its forward end on a horizontal axis fixed relative to the towing vehicle and at its rearward end on a vertical axis fixed relative to said frame and pivoted on vertical and horizontal axes at the forward and rearward ends, respectively, between said first two mentioned axes and an operating lever connected to said hitch between said first mentioned horizontal axis and said last mentioned vertical to move the portion of the hitch therebetween angularly on a vertical plane.

3,193,023
DISC HARROW

Raymond A. Adee, 400 Normandy Road, Newton, Kans.
Filed Sept. 30, 1963, Ser. No. 314,834
3 Claims. (Cl. 172—311)



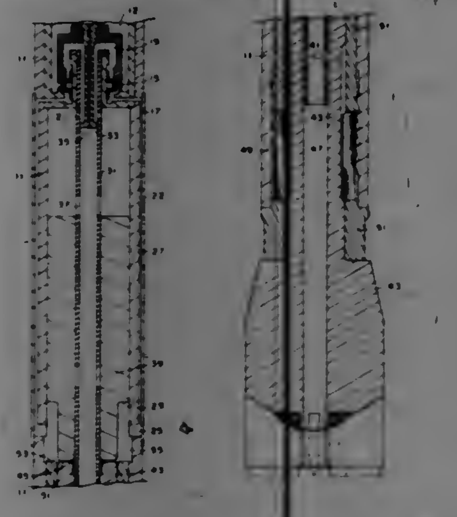
1. A disc harrow comprising:
a wheel and axle assembly;
a framework carried by said assembly, the framework including a central member and a pair of spaced side members;
a pair of disc gangs carried in tandem relationship by the framework on each side of said central member, the gangs of each pair thereof diverging as the outer ends of the gangs are approached;
a frame extension for each side of the harrow, each extension including a frame hingedly secured to a proximal side member for swinging movement through a substantially vertical arc outboard of the framework;
a pair of disc banks carried in tandem relationship by each frame respectively, the banks of each pair thereof diverging as the outer ends thereof are approached, the spacing between the outer ends of said banks being at least as small as the spacing between the outer ends of the corresponding gangs.

3,193,024
PERCUSSION DRILLS WITH EXHAUST PASSAGE IN HAMMER

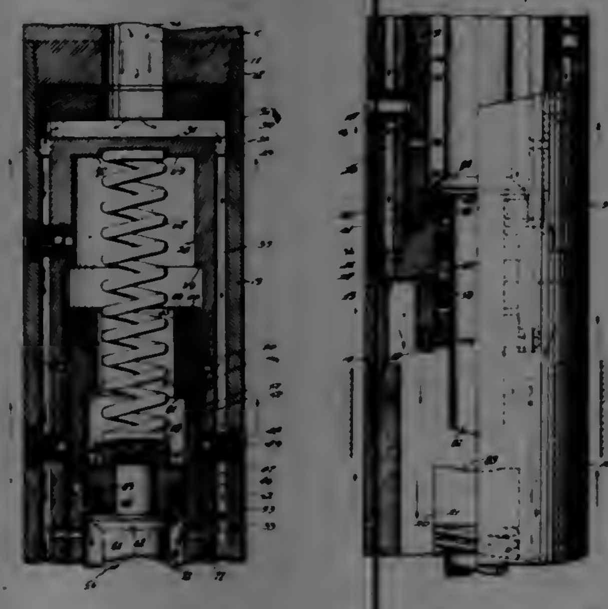
James M. Cleary, Dallas, Tex., assignor to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 18, 1962, Ser. No. 167,121
8 Claims. (Cl. 173—17)

4. A percussion unit for a percussion drill comprising an elongated tubular casing adapted for removable attachment to the lower end of a string of drill pipe, anvil and bit means slidably mounted in the lower end of said casing and adapted to rotate with said casing and having a central passage therethrough, piston-type hammer means having an upper end and a lower end and slidably

mounted in the central portion of said casing and adapted to strike said anvil during the power stroke of said hammer means, rigid power fluid exhaust tube means having an upper end and a lower end and passing through said hammer means and into said passage of said anvil and bit means forming a substantially fluid tight seal therebetween at least during the normal power and return strokes of said hammer means and adapted to provide communication between said drill pipe and said passage through said anvil and bit means, said exhaust tube means being adapted for limited vertical movement relative to said casing and to move vertically with said hammer means for a predetermined distance of travel of the power stroke of said hammer means, valve means adapted to alternately supply power fluid from said drill pipe to the ends of said hammer means during said power stroke and return stroke of said hammer means respectively, and port means in said exhaust tube means adapted to alternately discharge power fluid from said casing adjacent the ends of said hammer means through said exhaust tube means during at least a portion of said power stroke and said return stroke of said hammer means respectively.

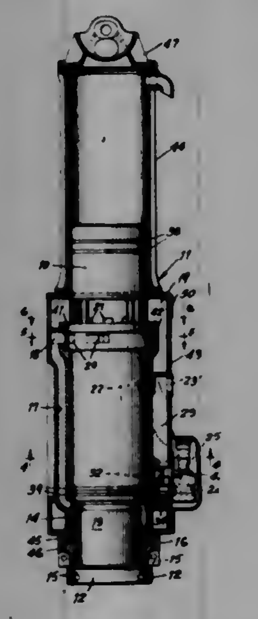


3,193,025
COMBINATION HAMMER AND ROTARY DRILL TOOL
Vernon E. Reitzel, 1735 [illegible]8th Ave. SW., Calgary, Alberta, Canada
Filed Sept. 25, 1963, Ser. No. 311,432
11 Claims. (Cl. 173—73)



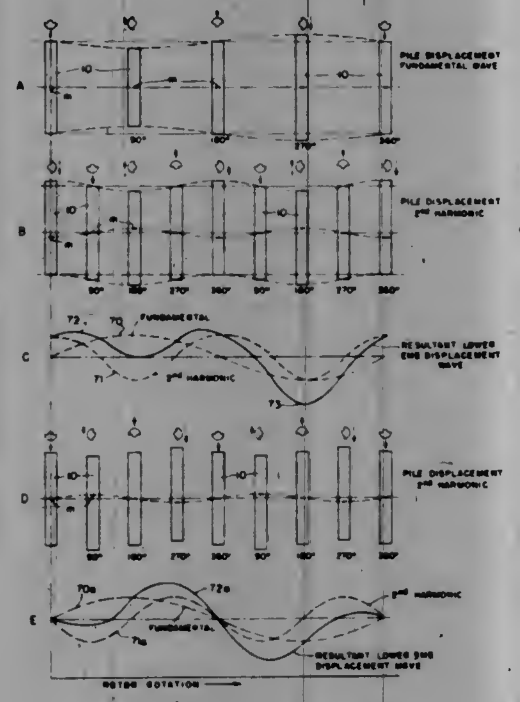
1. A combination hammer and rotary drill tool which includes a cylindrical adaptor joint for connecting said tool to the conventional drill string and a source of high pressure drilling mud connected to said adaptor, said tool comprising in combination an outer cylindrical casing screw threadably attached by the upper end thereof to said adaptor joint, a rotary drill assembly screw threadably attached to the lower end of said casing, a sliding valve cylinder sleeve secured within said casing, in annular spaced relationship therefrom thus forming a cylindrical annular drilling mud passage, a sliding valve cylinder mounted for limited reciprocal motion within said sleeve, a hammer shaft reciprocal within said sliding valve cylinder, piston means on said hammer shaft and engaging said cylinder, spring means reacting between said hammer shaft and the upper end of said sleeve normally maintaining said hammer shaft in the lowermost position, a ram centrally mounted within said rotary drilling assembly, a bit end on the lower end of said ram, the lower end of said hammer shaft striking the upper end of said ram when said hammer shaft is in the lowermost position, inlet port means through the wall of said sliding valve cylinder for selectively porting high pressure drilling mud to the underside of said piston means for raising said hammer, exhaust port means through the wall of said sliding valve cylinder for selectively porting said mud from the underside of said piston means to externally of said casing and means coacting between said hammer shaft and said valve cylinder for moving said valve cylinder from the lowermost, intake port connecting position to the uppermost exhaust port connecting position and further means coacting between said hammer shaft and said valve cylinder for moving said valve cylinder from the uppermost exhaust port connecting positon to the lowermost, intake port connecting position.

3,193,026
SINGLE ACTION PILE HAMMER
John J. Kupka, Gladstone, N.J., assignor, by mesne assignments, to Horn Pile & Foundation Corp., Merrick, N.Y., a corporation of New York
Filed Sept. 9, 1963, Ser. No. 307,517
5 Claims. (Cl. 173—135)



4. A power hammer comprising the combination of
a normally upright cylinder of substantially uniform diameter,
a ram of substantially uniform diameter reciprocating in said cylinder,
an anvil at the lower end of said cylinder in opposition to said ram,
packing means sealing said ram and anvil in place forming with the surrounding wall of the cylinder an expansion chamber at the lower end of the ram,
a motive fluid supply chest on the cylinder having an outlet port open to said ram,
a feed passage having an inlet port open to the ram and extending from said inlet port down to said expansion chamber,
said outlet and inlet ports being in separated relation one above the other,
said ram in its reciprocation travelling past said outlet and inlet ports and having a recess in the side of the same of sufficient longitudinal extent to connect said ports and located to register with and connect said ports when the ram is in its lower position whereby to connect said supply chest with said feed passage when the ram is substantially at the end of its downstroke,
said cylinder having an exhaust port positioned to be uncovered by the ram in the upward travel of the ram in the cylinder,
said cylinder having a back pressure relief port in the lower portion of the same below said exhaust port and
means for automatically closing off said back pressure relief port on upward travel of the ram in the cylinder and for opening up said back pressure relief port on down travel of the ram in the cylinder.

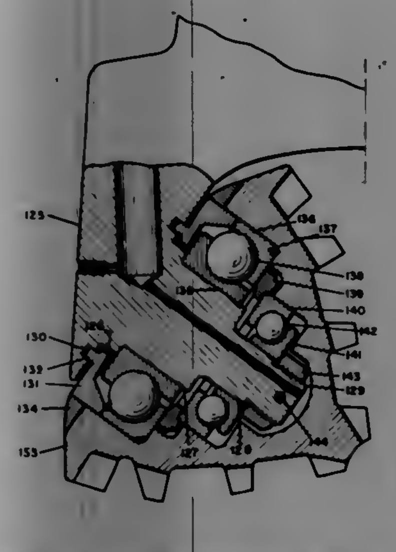
3,193,027
ACOUSTIC METHOD FOR DRIVING PILES
Albert G. Bodine, Los Angeles, Calif.
(7877 Woodley Ave., Van Nuys, Calif.)
Original application Jan. 24, 1958, Ser. No. 710,956, now Patent No. 3,054,463, dated Sept. 18, 1962. Divided and this application Mar. 29, 1962, Ser. No. 183,608
6 Claims. (Cl. 175—19)


A
B
C
D
E
PILE DISPLACEMENT FUNDAMENTAL WAVE
FUNDAMENTAL
RESULTANT LOWER END DISPLACEMENT WAVE
ROTOR ROTATION

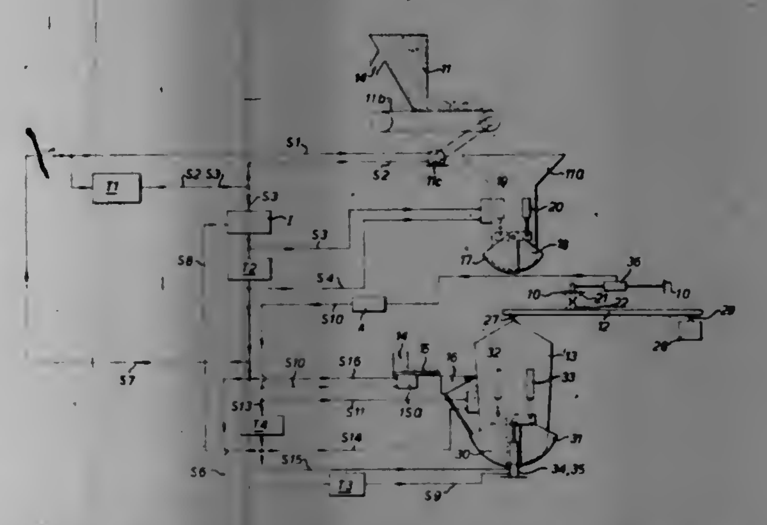
1. The method of driving a pile made of an elastic medium into the earth, that comprises: resting the lower end of the pile on the earth, and engendering in said pile a longitudinal standing wave having two different resonant frequency components.

3,193,028
ROTARY DRILL BIT
Eugene Ivan Radzimovsky, Urbana, Ill., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Sept. 26, 1962, Ser. No. 226,248
3 Claims. (Cl. 175—372)

1. In a rotary drill bit wherein a conical cutting element containing an internal recess is rotatably mounted on a cantilever pin extending into said recess, the improvement which comprises:
a rear ball bearing mounted in said recess to take axial and radial loads applied to said cutting element, said rear bearing including an angular inner race mounted on said pin in contact with a shoulder near the fixed end thereof, an angular outer race mounted in said recess in contact with an internal shoulder therein and a plurality of balls positioned between said inner and outer races,
a front ball bearing mounted in said recess to take axial and radial loads applied to said cutting element, said front bearing including an angular inner race mounted on said pin near the free end thereof, an angular outer race mounted in said recess in contact with said cutting element, and a plurality of balls positioned between said inner and outer races,
an annular spacer positioned about said pin between the outer race of said rear bearing and the outer race of said front bearing,
means connected to said pin for retaining said front bearing in place,
and an annular retainer connected to said cutting element adjacent the base of said pin in contact with the outer race of said rear bearing.



3,193,029
WEIGHING APPARATUS
Ronald Eric Harvison, Wirral, and Kenneth Mainey, Maghull, England, assignors to J. Bibby & Sons Limited, Lancashire, England, a British company
Filed Aug. 12, 1963, Ser. No. 301,573
Claims priority, application Great Britain, Aug. 21, 1962, 31,974/62
3 Claims. (Cl. 177—120)



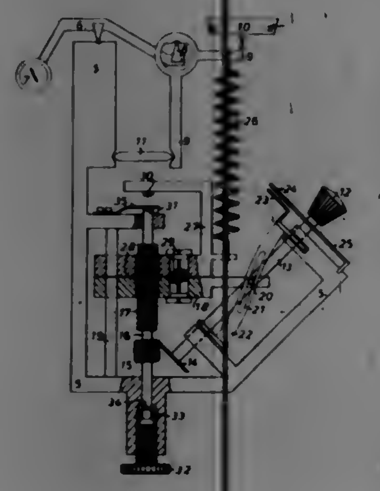
1. An apparatus for delivering measured quantities of material by weight comprising a frame, a hopper for material to be weighed supported on said frame, a weigh beam, means pivotally supporting the weigh beam on the frame, a weigh pan on said weigh beam, means for feeding material in bulk at a predetermined rate from said hopper to said weigh pan, control means including tim-

ing devices operative at predetermined times to start and stop said feeding of material in bulk from the hopper to the weigh pan so that an approximately predetermined bulk weight of material less than the correct weight is delivered periodically into the weigh pan, pressure fluid leg means, for said weigh pan, operative during feeding of material in bulk into the pan, to take the weight thereof of the weight beam, means operative when said bulk weight of material has been delivered into the pan to render said legs inoperative so that the bulk weight is applied to the weigh beam, means including a driving mechanism for dribbling weight make-up material into the weigh pan and control means for said driving mechanism, which control means includes a timing device for starting said driving mechanism at a predetermined time and a load-cell operatively connected to the weigh beam so that it is subjected to the load on the weigh beam whereby, when the correct weight of material has been delivered to the pan, the load-cell terminates operation of said driving mechanism for the dribble feed means.

3,193,030

BALANCE

Johann Meier, Stafa, Switzerland, assignor to Mepag, A.G., Zurich, Switzerland, a corporation of Switzerland
Filed Mar. 12, 1964, Ser. No. 351,393
Claims priority, application Switzerland, June 28, 1963, 8,008/63
7 Claims. (Cl. 177—164)

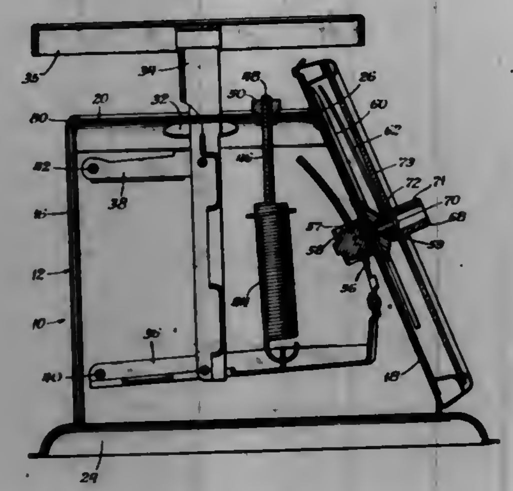


1. A balance having a taring device and a device for adjusting the zero position of the balance, the balance comprising a balance frame, a balance beam fulcrumed on said balance frame, and a pan carrier seated on a knife edge provided on one arm of said balance beam, said taring device including a leadscrew mounted in the balance frame both for rotation and for axial displacement, manually operable tare adjusting means for rotating said leadscrew, a travelling nut on said leadscrew and means for preventing a rotation of said nut, a tensioning member movably mounted on said balance frame in a manner that it is able to follow the movement of said travelling nut, a taring spring acting between said pan carrier and said tensioning member, a first abutment on said tensioning member by means of which it contacts said travelling nut when the taring device is adjusted to effect a taring, a second abutment on said tensioning member by means of which it contacts said leadscrew in an axial direction when said taring device is adjusted to its zero position in which said first abutment no longer contacts said travelling nut, and said device for adjusting the zero position of said balance beam and said pan carrier including manually operable means for adjusting the axial position of said leadscrew with respect to said balance frame.

3,193,031

WEIGHING SCALE

Harold O. Friedrich, Lake Geneva, Wis., assignor to American Family Scale Company, Inc., Chicago, Ill., a corporation of Illinois
Filed Feb. 20, 1963, Ser. No. 259,840
2 Claims. (Cl. 177—166)

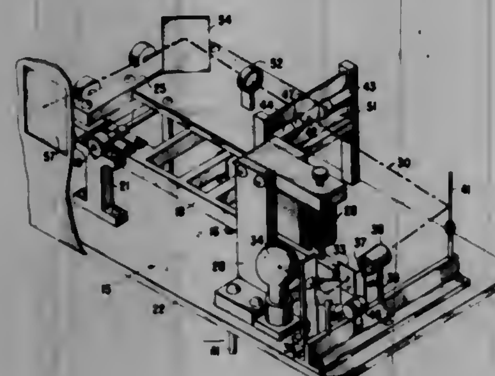


1. In a weighing scale, the combination comprising, a weighing pan, a weighing mechanism responsive to the weight of an object placed on the pan, a calibrated dial mounted exteriorly of said mechanism, a shaft connected to said mechanism and extending through said dial face, said shaft rotating responsively to weight placed on the weighing pan, a gross weight pointer attached to said shaft and rotatable therewith for traversing said dial face, a head connected to said shaft and being spaced from the pointer, a net weight pointer axially and angularly movable relative to said shaft mounted on the shaft between the gross weight pointer and the head, and a compression spring positioned between the gross weight pointer and the net weight pointer for holding the net weight pointer in frictional connection with the head to cause the net weight pointer to rotate with the shaft but being releasable from the shaft by moving the net weight pointer axially along the shaft toward the gross weight pointer to interrupt the frictional connection with the head.

3,193,032

LOAD INDICIA CENTERING MECHANISM

Orval J. Martin, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Oct. 2, 1963, Ser. No. 313,371
5 Claims. (Cl. 177—178)

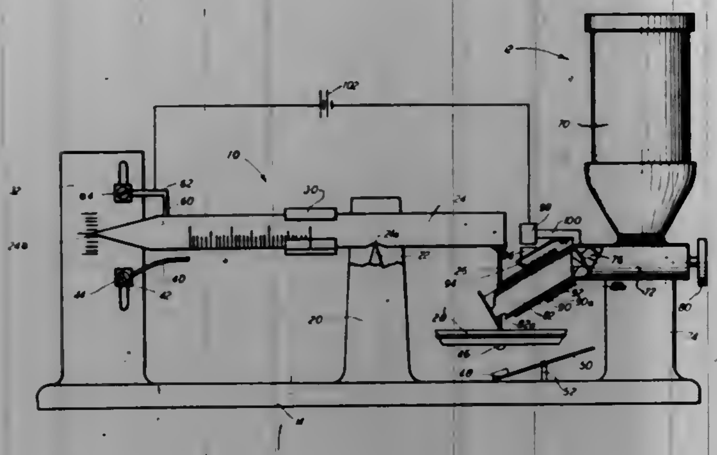


1. A control circuit comprising, in combination, a coincidence detector which produces an output signal when three input signals are present, means for supplying a predetermined input signal to the detector, means for supplying a condition responsive input signal to the detector, and means for supplying a detent input signal to the detector in the form of a train of pulses one of which coincides in time with a condition responsive input signal that is the same as the predetermined input signal.

3,193,033

MEASURING DISPENSER

Theron C. Gifford, 1804 E. San Antonio, San Jose, Calif.
Filed Dec. 26, 1962, Ser. No. 247,133
1 Claim. (Cl. 177—185)

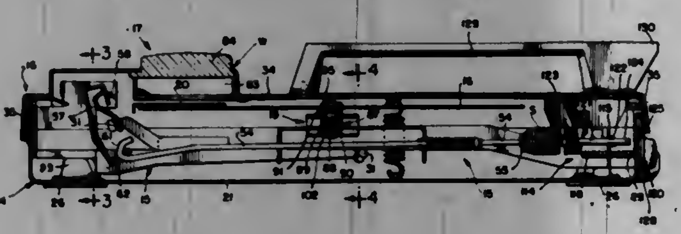


In combination with a scale including a pivoted balance arm and a pan suspended from one end of said arm, an arrangement for damping oscillations of said arm and pan which comprises a magnet member attached to the bottom of said pan at its center, and a magnet supported for movement into a position beneath the center of said pan.

3,193,034

WEIGHING SCALE

William Y. Hutchinson, Chicago, and Russell E. Vanderhoff, Oak Lawn, Ill., assignors to Continental Scale Corporation, Chicago, Ill., a corporation of Delaware
Filed Jan. 6, 1961, Ser. No. 81,063
20 Claims. (Cl. 177—234)



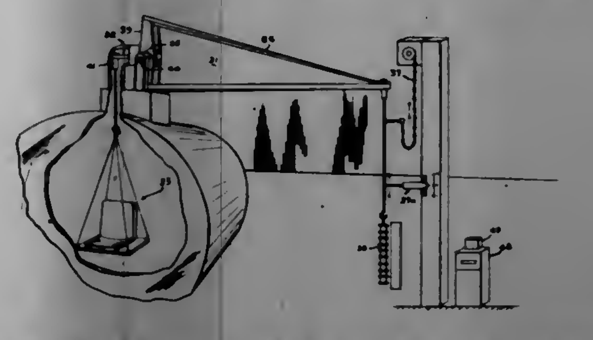
1. A weighing scale comprising a support frame having front and rear ends, a weight receiving lever extending between the said front and rear ends of the frame and having a fulcrumed end pivoted on the frame at the said rear end thereof, a resilient weighing spring anchored on the frame at said rear end thereof, a bell crank rockably supported on the frame, at the said front end thereof, and having short and long arms connected respectively with said lever, remote from the fulcrumed end thereof, and with said spring, and an indicator driven in response to movement of the lever under the influence of a weight applied thereto.

3,193,035

AUTOMATIC TARE WEIGHT LOADING DEVICE

Joseph A. Ferro, Park Ridge, Ill., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 26, 1964, Ser. No. 347,633
5 Claims. (Cl. 177—248)

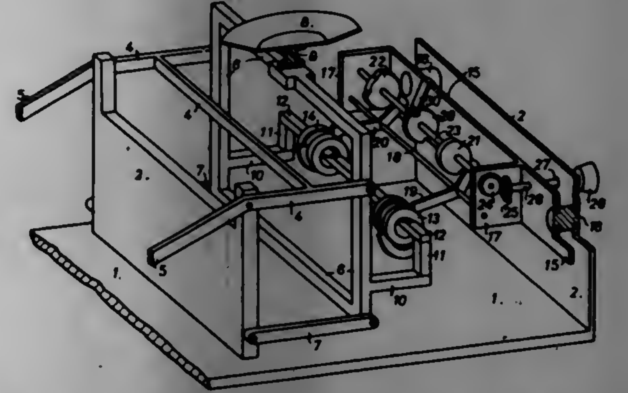
1. An automatic counterbalance weight loading system comprising: a weighing system having a beam balance; a load pan and a weight pan; means for providing a first voltage proportional to the weight of a test load on said pan; means, responsive to said first voltage, for providing a decimal digital voltage proportional to the weight of said load; means for converting said decimal digital voltage to a binary coded decimal voltage; means, responsive to said binary coded decimal voltage, for loading weights, proportional to said binary coded decimal, on said weight pan.



3,193,036

PRECISION BALANCE

Johann Meier, Stafa, Switzerland, assignor to Mepag, A.G., Zurich, Switzerland, a corporation of Switzerland
Filed Nov. 19, 1964, Ser. No. 412,545
Claims priority, application Switzerland, June 9, 1964, 7,511/64



1. A precision balance comprising a balance rack, a balance beam pivotally mounted on said balance rack, a pan carrier suspended from said balance beam, a steering lever acting between said balance rack and said pan carrier for guiding the same to have a parallelogrammatic motion, a receiving member for supporting one or more control weights, said receiving member being yieldingly attached to said pan carrier by means of shock-absorbing means, an intermediate support yieldingly attached to said balance rack by means of further shock-absorbing means, one or more actuating levers pivotally mounted on said intermediate support and adapted to lift off said control weights from said receiving member, and one or more camplates rotatably mounted on said intermediate support for raising and lowering said actuating levers.

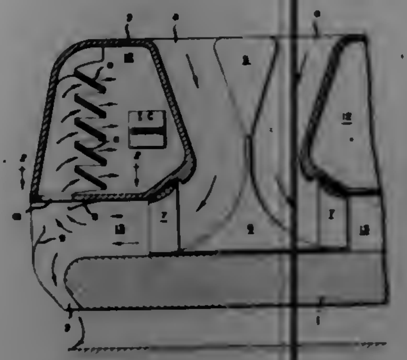
3,193,037

MEANS TO REMOVE IMPURITIES FROM ENGINE AIR ON GROUND EFFECT VEHICLES

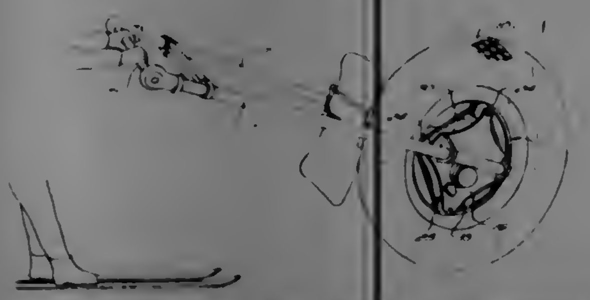
Richard Stanton Jones, Cowes, Isle of Wight, England, assignor to Westland Aircraft Limited, Yeovil, Somerset, England
Filed May 14, 1962, Ser. No. 194,637
Claims priority, application Great Britain, June 29, 1961, 23,499/61
10 Claims. (Cl. 180—7)

1. In a ground effect machine, a base platform structure, a substantially continuous series of downwardly directed jets around the periphery of said base platform, fan means for generating pressurized air for discharge through said jets, means defining passages leading from the discharge of said fan means to said jets, said passages being disposed substantially transversely of the direction of said jets so as to conduct said air through an abrupt change of direction before it is discharged from said jets, means defining at least one opening in at least one of said passages in the portion of said passage incorporating said

abrupt change of direction, said opening being oriented in said passage so as to face substantially oppositely from the direction of said jets, and means communicating with said openings for leading air passing therethrough to the power plant of said machine.

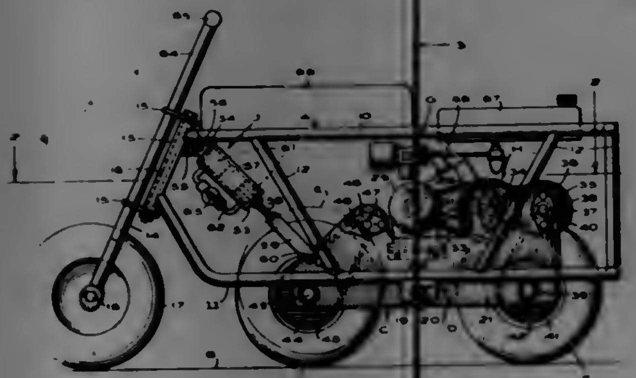


3,193,038
SKI TOW DEVICE
Grant L. Cronkright, Macomb County, Mich.
(35093 Hengesbach, Mount Clemens, Mich.)
Filed May 28, 1962, Ser. No. 198,276
5 Claims. (Cl. 180—10)



1. A mono-wheeled ski tow device comprising tire means, a rim secured to the inside of the tire means, means for mounting a gasoline engine inside of the rim, and a driving connection between said engine and the rim to rotatably drive the tire means comprising an endless belt power driving the rim, and a power wheel powered by said engine and power driving the belt against the rim.

3,193,039
SCOOTER WITH TANDEM TRACTION WHEEL DRIVE
Howard B. Sutton, 3621 Florence St.,
Redwood City, Calif.
Filed May 31, 1963, Ser. No. 284,665
3 Claims. (Cl. 180—25)



1. In a scooter with tandem traction wheel drive:

(a) a supporting frame provided with a terrain-engaging steering wheel;

(b) the supporting frame defining a pair of laterally-spaced side frame members;

(c) a wheel carriage assembly having a pair of laterally-spaced parallel and upright plates, each being disposed adjacent to one of the side frame members in substantially parallel relation therewith;

(d) a substantially horizontal transverse journal axle secured to the side frame members to extend through the side plates and about which the wheel carriage assembly may swing in either direction;

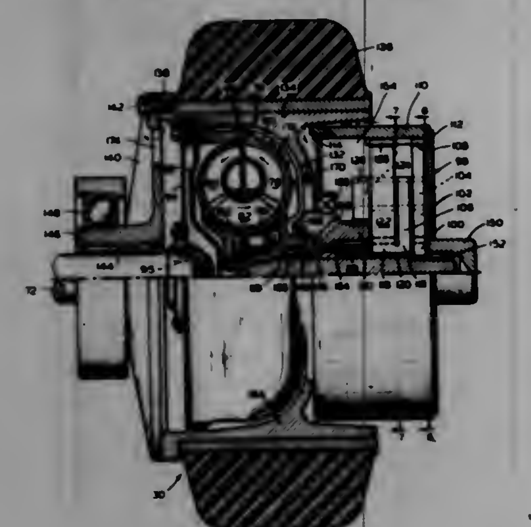
(e) the wheel carriage assembly having front and rear traction wheels mounted on shafts that are supported by the side plates and arranged therebetween for engaging with the terrain;

(f) an engine-supporting plate extending between the spaced side plates of the wheel carriage assembly and being secured thereto;

(g) an engine mounted on said supporting plate and a variable speed drive operable by the engine, said drive being disposed between the spaced side plates and supported on a shaft having its ends journalled in bearings fixed to the side plates, said drive being operatively connected by sprocket-chain assemblies to both traction wheels to drive the latter simultaneously, the sprockets being mounted on shafts, each of the latter being supported in bearings fixed to the side plates;

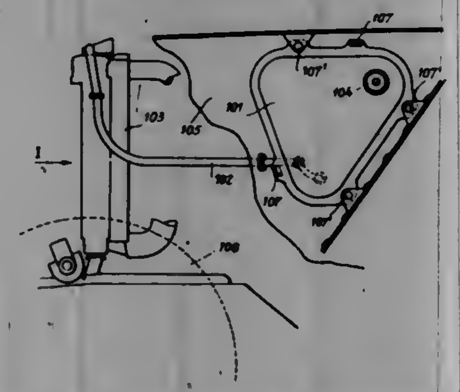
(h) the side plates, traction wheels, supporting plate, engine and variable speed drive all being withdrawable as a unit from the supporting frame, when the transverse journal axle is removed from the side frame members of the supporting frame, without dismantling said variable speed drive and sprocket-chain assemblies.

3,193,040
DRIVE-STEER WHEEL
Jack E. Loomis, Kalamazoo, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed July 31, 1961, Ser. No. 129,204
5 Claims. (Cl. 180—66)



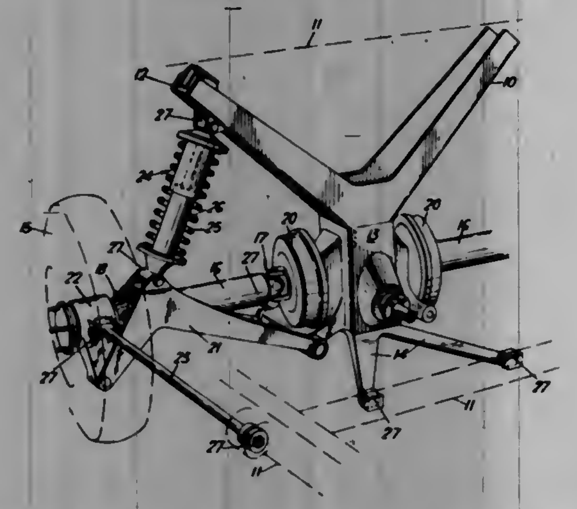
1. A driving wheel assembly for a vehicle having a power means comprising, in combination, a rotatably mounted wheel, said wheel including a tire rim and a pair of axially spaced radially extending disc elements, a shaft driven from the vehicle power means, hydraulic power transmission means connected to said shaft and being enclosed between said tire rim and said disc elements, speed reduction gearing means interconnecting said transmission means and said wheel, means including one of said disc elements defining a fluid containing enclosure for said gearing means, passage means including a portion extending through said one disc element defining a path for circulation of hydraulic fluid between said enclosure and said transmission means, air circulating vane means driven by said transmission means, and conduit means including said vane means and openings in said disc elements for circulating air adjacent said enclosure and said transmission means.

3,193,041
DEVICES FOR PRESERVING THE FLUID-TIGHTNESS OF HYDRAULIC COOLING CIRCUITS OF AUTOMOBILE ENGINES
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed June 25, 1962, Ser. No. 205,056
Claims priority, application France, Aug. 23, 1961, 871,420, Patent 80,507
3 Claims. (Cl. 180—68)



1. A device for preserving the fluid tightness of the hydraulic cooling circuit of a vehicle engine comprising wheel members, fender means disposed over at least one wheel member and including baffle means separating said engine from said one wheel member, expansion vessel means disposed between said fender means and baffle means, radiator means disposed adjacent said one wheel member, and hose means normally filled with liquid interconnecting said radiator means and expansion vessel means so that the point of connection in said expansion vessel means is lower than the point of connection in said radiator means.

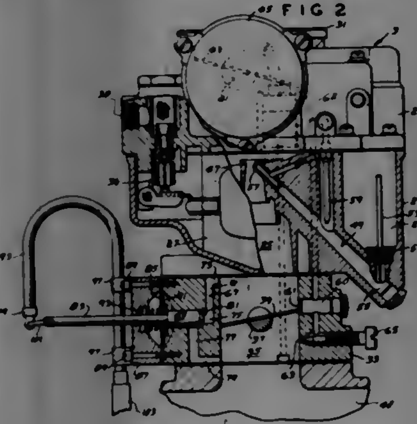
3,193,042
ROAD VEHICLE SUSPENSION
Edward George Brewer, Dunstable, England, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 1, 1963, Ser. No. 320,814
Claims priority, application Great Britain, Nov. 3, 1962, 41,658/62
5 Claims. (Cl. 180—73)



1. Wheel suspension for a vehicle having a suspended differential comprising, a pair of wheels each rotatably mounted in a hub casing, a pair of drive half axles operatively connecting each wheel with said differential, oppositely extending transverse guide links pivotally connected at their inner ends to said differential on an axis disposed below the axis of rotation of said half axles, the outer ends of said guide links being pivotally connected to the adjacent hub casing below the axis of rotation of said wheels, a spring unit engaging each link between the inner and outer ends thereof, and a pair of longitudinal links each pivotally connected at one end to one of said hub casings above said last mentioned pivotal connections and at the other end to said vehicle.

3,193,043
CARBURETOR
Alfred C. Korte, Jennings, Mo., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Feb. 21, 1962, Ser. No. 174,813
4 Claims. (Cl. 180—77)

FIG 2



1. An automotive vehicle having an internal combustion engine, a steering wheel for turning the front wheels of the vehicle, a power assist for said steering wheel operable by fluid under pressure, a pump powered by the engine for delivering fluid under pressure to said power assist, said pressure increasing and said pump imposing increasing load on the engine upon cramping the front wheels of the vehicle, a carburetor for said engine having a mixture conduit, a throttle in said mixture conduit for controlling the flow of fuel and air into said engine, a bypass passage formed in said carburetor having one end thereof in communication with the mixture conduit anteriorly of the throttle and the other end thereof in communication with the mixture conduit posteriorly of the throttle, a valve in said bypass passage being movable between open and closed positions for allowing the flow of air around said throttle, means responsive to a predetermined increase in said fluid pressure for causing opening of said valve for allowing the flow of air into said engine for increasing the idle speed of said engine.

3,193,044
CONTROL SYSTEM FOR PUBLIC CONVEYANCE VEHICLES HAVING DIESEL ENGINES
Oscar Butler, 2068 S. Goodall Ave., Duarte, Calif.
Filed Feb. 4, 1963, Ser. No. 255,913
6 Claims. (Cl. 180—82)

6. In vehicles for hire provided with fuel shutoff means wherein passengers are transported for a fee determined and registered by a meter which may be rendered operable or inoperable at the option of the driver, apparatus in combination with the meter and the fuel shutoff means for stopping the vehicle if the meter is not rendered operable when a passenger is present in the passenger section of the vehicle, said apparatus comprising:

a source of electrical power;

electrically responsive operating means coupled with said fuel shutoff means for actuating the latter to halt the vehicle;

first circuit means coupling said operating means with said source;

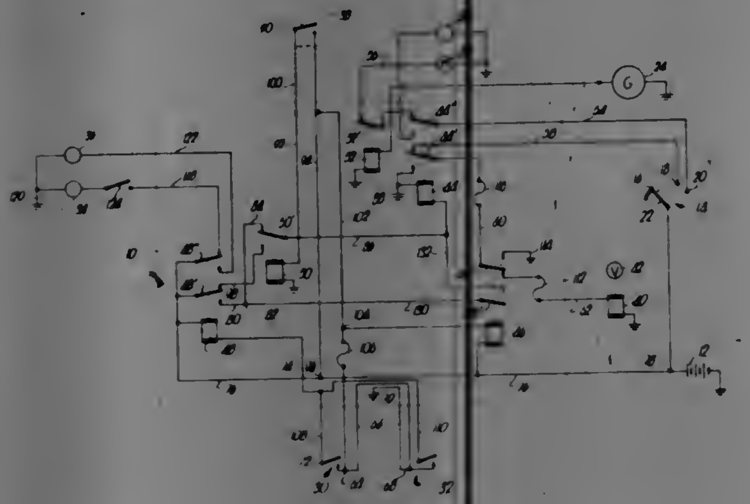
an electrically responsive switching device interposed in said first circuit means and having a first operational state permitting current flow in said circuit means and a second operational state preventing said flow;

second circuit means coupling said device with said source for supplying electrical energy to the device to cause the latter to change from one of said operational states to the other state;

switching structure interposed in said second circuit means and responsive to the presence of a passenger in the passenger section;

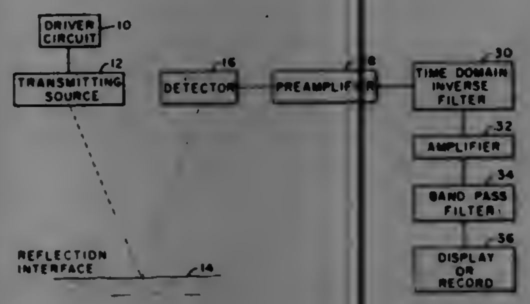
switching means interposed in said second circuit means and having a first operational state for permitting current flow in the second circuit means and a second operational state preventing said flow therein;

means operably intercoupling said meter and said switching means, the latter being operable to change from one of said states thereof to its other state in response to operation of the meter, whereby the operational state of said device, and hence the actuation of the fuel shutoff means, is controlled by the presence of a passenger in the passenger section in conjunction with operation of the meter by the driver; and



circuit interrupter means interposed in said first circuit means, coupled with said device, and conditioned, upon placing of said device in the operational state thereof corresponding to presence of a passenger in the passenger section and failure of the driver to operate the meter, to interrupt the electrical continuity of the first circuit means when a jumper lead is coupled between the power source and the operating means.

3,193,045
FATHOMER
Franklyn K. Levin, Tulsa, Okla., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Sept. 8, 1959, Ser. No. 838,551
8 Claims. (Cl. 181—.5)



8. A method for surveying an area having a body of water overlying a bed containing gas bubbles having a natural frequency of *f* which comprises:

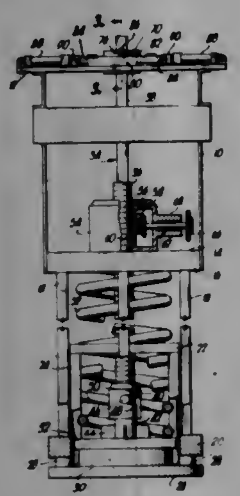
transmitting energy whose predominate frequencies are less than *f* downwardly;

detecting reflected energy from said transmitted energy which includes ringing modes formed by energy bouncing back and forth between the surface and the bottom of the body of water;

filtering out said ringing modes to obtain a filtered signal; and

recording the filtered signal.

3,193,046
RELEASE MECHANISM FOR IMPACT SEISMIC IMPULSE GENERATING APPARATUS
Charles C. Williams, Wichita, Kans., assignor to Imperial Industries, Inc., Dallas, Tex., a corporation of Kansas
Filed July 12, 1963, Ser. No. 294,542
9 Claims. (Cl. 181—.5)



1. In impact apparatus:

a shaft disposed for rotational movement about its longitudinal axis;

a hammer;

means on the hammer for releasably connecting the latter to said shaft, the shaft being rotatable with respect to said connecting means between a first position where the connecting means secures the hammer to the shaft and a second position where the hammer is uncoupled from the shaft;

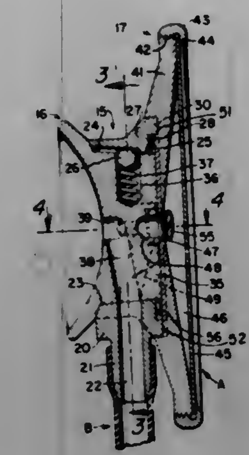
a reciprocable member;

power means coupled with said member for shifting the latter between a pair of locations; and

structure operably coupling said member with said shaft to rotate the latter between said positions thereof in response to shifting of the member from one location thereof to the other location of the same.

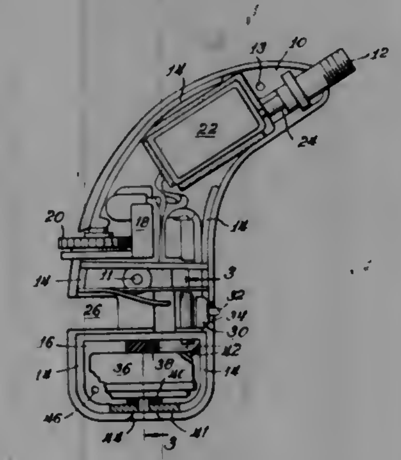
3,193,047
STETHOSCOPE WITH DUAL CONVERTIBLE RECEIVER
Derek R. Allen, Glendale, Calif., assignor to Allen Medical Instrument Corporation, Glendale, Calif., a corporation of California
Filed May 25, 1964, Ser. No. 369,710
16 Claims. (Cl. 181—24)

1. A stethoscope dual receiver mechanism comprising: an annular housing having a coaxial throat and a radial binaural connection passage communicating therewith; and a receiver assembly comprising a pair of axially spaced receivers embracing said housing between them and a valve rotor extending between and connecting said receivers in fixed relation to one another and in coaxial relation to said houing and rotor, said rotor being mounted in said throat for rotation on the common axis of said receivers, said rotor having a pair of sound-conduction passages communicating with respective receivers, diverging toward the periphery of the rotor, and terminating in circumferentially spaced openings in said periphery, said



openings being selectively registrable with said binaural connection passage.

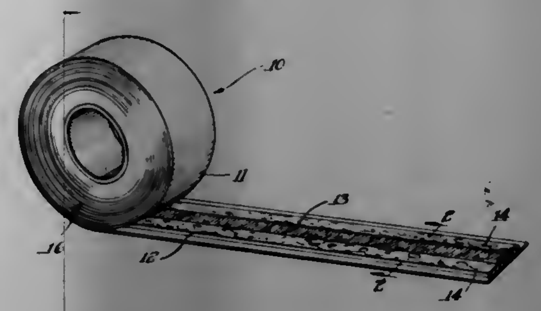
3,193,048
ACOUSTIC RESONANCE CHAMBER
Helmut Karl Kohler, Franz Josefskai 3–5, Vienna I, Austria
Filed Nov. 8, 1962, Ser. No. 236,212
2 Claims. (Cl. 181—31)



1. An acoustic resonance chamber for mounting a hearing aid microphone, said chamber including a casing and an interior wall, said casing and wall having a plurality of openings connecting the interior of said chamber to the atmosphere, at least one of said openings comprising a tubular member, said tubular member being mounted to have one end thereof affixed to said casing to open into the atmosphere and having its other end affixed to said interior wall to open into said chamber, and the portion of said tubular member between said ends being free whereby said chamber and tubular member provide a distinct frequency response which response may be conveniently varied by changing the length and the inside diameter of said tubular member.

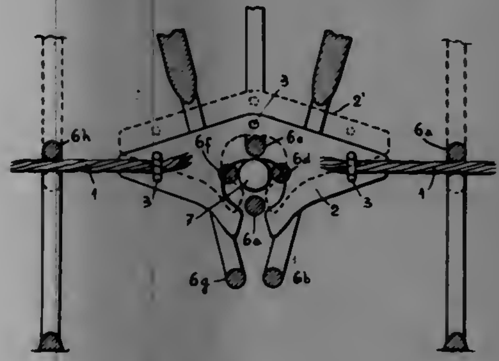
3,193,049
SOUND DAMPING TAPE
Raymond F. Wollek, Chicago, Ill., assignor to Daubert Chemical Company, Chicago, Ill., a corporation of Illinois
Filed May 27, 1963, Ser. No. 283,246
16 Claims. (Cl. 181—33)

7. A sound damping tape comprising a tape base to a surface of which is secured a longitudinally extending area of a heat resistant creped conversion material of lesser width than the width of the tape base, said sound damping tape being adapted to be attached to a vibratable



metal surface subject to high temperatures with the creped conversion material being in contact with the said surface.

3,193,050
DEVICE FOR PERMANENTLY HOLDING TO A SAFETY LINE WORKMAN OPERATING ON HIGH PLACES
Gastone Galante, via Piave 143A, Mestre, Venice, Italy
Filed Aug. 27, 1963, Ser. No. 304,924
Claims priority, application Italy, Sept. 18, 1962, 675,908
4 Claims. (Cl. 182—3)



1. A device for securely holding a workman who must operate in high places on a structure comprising an ovoid ring adapted to be attached to a safety belt for the workman, a safety line passing through said ring and secured at its ends to said structure, a plate secured to said line intermediate its ends and having a maximum transverse width less than the larger inside dimension of said ring, a bore through said plate, an opening from said bore to a side edge of said plate, said opening having a width less than the crosswise dimension of said bore, a support shaft secured to said structure and extending through said bore, said shaft having a crosswise dimension less than that of said bore but greater than the width of said opening, an abutment on said shaft larger than said bore to retain said plate on said shaft, said ring being movable past said plate and support shaft by passing a portion of said ring through said opening, around the portion of said shaft and said bore and back out through said opening.

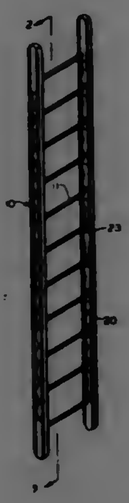
3,193,051
LADDER OF THE RAIL-RUNG TYPE
Cornelius D. Dosker, Louisville, Ky., assignor to Gamble Brothers, Inc., Louisville, Ky., a corporation of Kentucky
Filed Sept. 3, 1963, Ser. No. 306,014
2 Claims. (Cl. 182—46)

1. A ladder of the electrically-safe rail and rung type, comprising:

(A) a transversely-spaced pair of elongate rails of general I-beam shape in cross section, each rail being characterized by

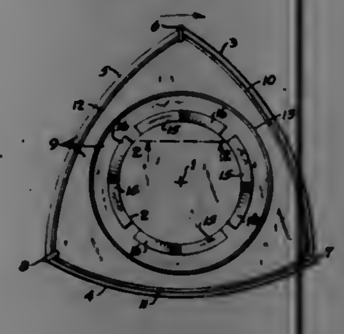
(1) elongate front and rear flanges composed of wood and spaced in the direction of the depth of the rail and

(2) a flange-interconnecting web of wood
  (a) which extends lengthwise in the direction of the length of the rail and widthwise from one flange to the other so as to present an outer side and an inner rung-receiving side, and
  (b) which undulates sinuously along its length so as to present a succession of crests and valleys on its rung-receiving side, and



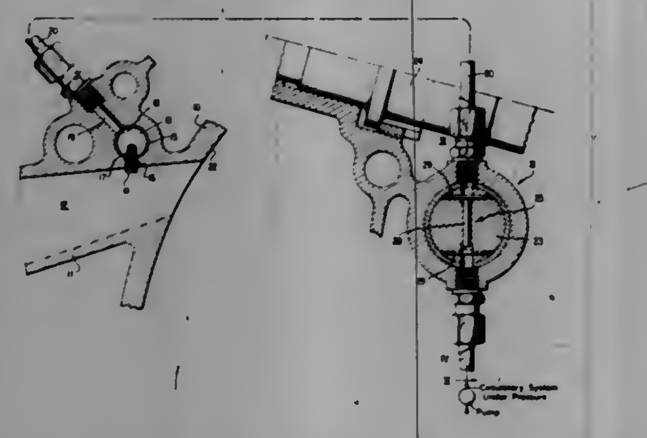
(3) a succession of rung-receiving blocks uniformly spaced along the length of the web,
  (a) each block being positioned in a web valley on the rung-receiving side of the web and fixedly secured to the rail;
(B) a succession of rail-interconnecting rungs uniformly spaced along the length of the rails and secured to both,
  (1) each rung extending from a block in one rail to a corresponding block in the other rail.

3,193,052
ROTOR FOR ROTARY PISTON MACHINES
Hermann Bäumler, Burscheid, near Cologne, and Harry Lörcher, Witzhelden, Germany, assignors to Goetzewerke Friedrich Goetze Aktiengesellschaft, Cologne, Germany, a corporation of Germany
Filed Aug. 13, 1962, Ser. No. 216,458
Claims priority, application Germany Aug. 16, 1961
3 Claims. (Cl. 184—1)



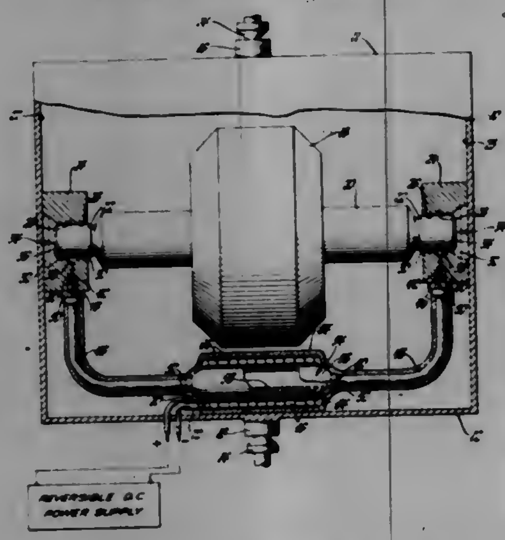
1. A rotor for rotation within a rotary piston machine; said rotor having axially-spaced end wall surfaces and a peripheral wall surface interconnecting said end wall surfaces and having a journal receiving bore therethrough, each of said rotor end wall surfaces having a plurality of circumferentially-spaced projections rigid with the rotor and projecting axially therefrom such that said rotor has its maximum axial width between the outer portions of the projections on one rotor end surface and the corresponding outer portions of the projections on the other rotor end surface, said rotor also having means for carrying seal ring means on each of its end surfaces coaxial with its journal receiving bore and radially outwardly of said projections.

3,193,053
LUBRICATING SYSTEM FOR ENGINES
Hans O. Scherenberg, Stuttgart-Heumaden, and Johannes Gassmann, Altbach (Neckar), Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Feb. 13, 1962, Ser. No. 173,033
Claims priority, application Germany, Feb. 25, 1961, D 35,498
12 Claims. (Cl. 184—6)



1. An installation for the lubrication of bearing surfaces of rotary piston engines, particularly those operating according to the diesel principle, provided with suction channel means and with oil circulatory means under pressure, comprising distributor means within said suction channel means for distributing the lubricating oil, and supply means consisting of a single metering pump operatively connected with said distributor means for effectively removing the lubricating oil from said oil circulatory means and for forcibly supply the lubricating oil to said distributor means in an accurately predetermined metered amount and substantially independently of the pressure in said circulatory means for a given rotational speed of the rotary piston engine, said distributor means including a slotted tubular member arranged within a wall portion of said suction channel means and extending at least over a portion of the channel width, wick means within the slot of said slotted tubular member, said wick means extending, on the one hand, into the inside of said tubular member and, on the other, through a slot provided within said channel wall portion into said suction channel itself.

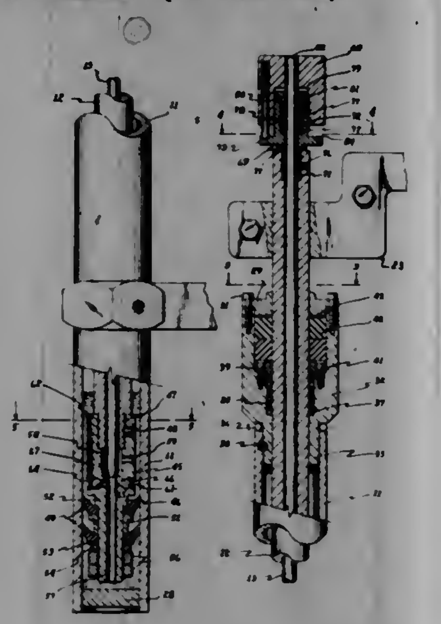
3,193,054
METHOD OF LUBRICATING GAS BEARINGS
James H. Flaherty, Hales Corners, Wis., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 10, 1963, Ser. No. 272,023
16 Claims. (Cl. 184—6)



15. A method of lubricating a gas bearing assembly during operation by a reversible cycle lubrication system

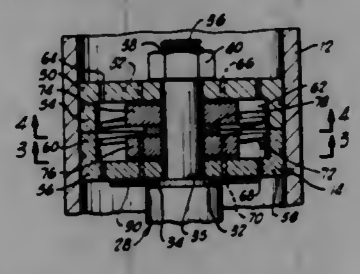
which comprises vaporizing a liquid lubricant by thermoelectric means, conveying the lubricant vapors to the bearing surfaces of said assembly to provide a vaporous lubricating film on said surfaces when said assembly has not attained a hydrodynamic state of operation, and subsequently condensing said vapors by said thermoelectric means when said assembly has attained a hydrodynamic state of operation.

3,193,055
SAFETY BRAKE COMBINATION FOR PNEUMATIC DRILLS
Lawrence J. Morin, P.O. Box 1284, Sierra Vista, Ariz.
Filed Jan. 16, 1962, Ser. No. 166,529
4 Claims. (Cl. 188—96)



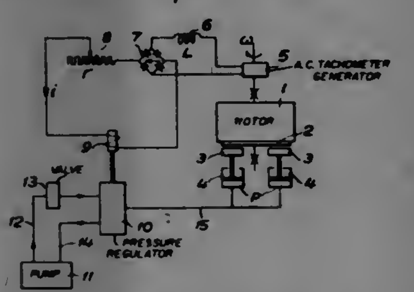
1. A jack leg stinger safety brake comprising, a cylinder and a piston rod, a piston head connected to said piston rod, means defining a longitudinal opening extending through said piston head and having an enlarged portion to form a valve seat, means defining a radial opening communicating with said longitudinal opening for providing a fluid flow path through said piston head, a valve stem extending through said longitudinal opening, said valve stem formed to mate with said seat, means defining an annular recess below said valve seat communicating with said longitudinal opening, means defining a hole parallel to said longitudinal opening communicating with said annular recess to provide a second fluid flow path through said piston head, and a ball valve positioned withing said annular recess to permit fluid flow in said second fluid flow path in only one direction.

3,193,056
SHOCK ABSORBER
Robert A. Clay, 3117 Overton Park E., Fort Worth, Tex.
Filed Sept. 27, 1963, Ser. No. 312,116
5 Claims. (Cl. 188—96)



4. Shock absorbing apparatus having a rod member movable in an elongated cylinder containing a fluid, the invention comprising:
  hollow piston means positioned on the rod member for movement therewith in the cylinder;
  rotor means rotatably located on the rod member within said hollow piston means, said rotor means including
    an upper rotor member having a disc-like central portion and a plurality of peripheral blade portions canted at an angle relative to said disc-like central portion, and
    a lower rotor member vertically spaced from said upper rotor member and having a disc-like central portion and a plurality of peripheral blade portions canted at an angle relative to said central portion and oppositely to the blade portions of said upper rotor member; and
  means forming at least one passageway through said piston means whereby fluid within the cylinder is caused to contact said rotor means upon movement of said piston means relative to the cylinder.

3,193,057
METHOD FOR BRAKING ROTATING MACHINES AND ARRANGEMENT FOR PERFORMING THE METHOD
Olle Rudqvist, Vasteras, and Henning Schiott, Skultuna, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed June 25, 1962, Ser. No. 204,945
Claims priority, application Sweden, June 30, 1961, 6,821/61
3 Claims. (Cl. 188—180)



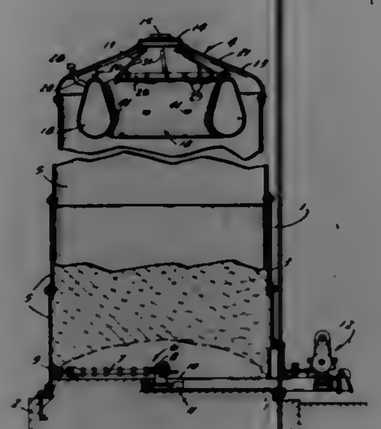
1. In braking apparatus for braking a rotating body, having a braking surface thereon, a brake block and means for pressing the brake block against the braking surface of the rotating body, a speed measuring means connected to the rotating body, and means connected to said speed measuring means and to the brake block for regulating the braking pressure on the brake block to keep the product of the speed and the braking pressure essentially constant for the greater part of the braking period, said brake block means constituting the sole means for braking said body.

3,193,058
BREATHER BAG CONSTRUCTION
James H. Ebbinghaus, Kankakee, Ill., assignor to A. O. Smith Harvestore Products, Inc., Kankakee, Ill., a corporation of Delaware
Filed Feb. 16, 1962, Ser. No. 173,637
7 Claims. (Cl. 189—3)

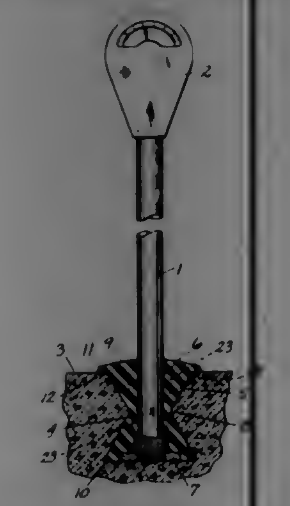
5. A storage structure, comprising
(a) a substantially air-tight vessel including a roof and side wall and having normally closed central filler opening means therein for filling the vessel with the material to be stored,
(b) elongated support means extending radially inside said roof from the central filler opening to the side wall of the vessel,
(c) suspending means slidably supporting a breather bag from the support means and said breather bag being exposed to the pressures in the interior of the vessel,
(d) a vent releasably connected to the bag and extending to the exterior of the vessel to expose the bag to atmospheric pressures,
(e) said suspending means engaging the support means and locking the bag to said support means and

adapted to be manually unlocked through the filler means, and

(f) a flexible member engaged with the breather bag and extending from beneath the bag and along the support means, whereby pulling on the flexible member when the locking means is locked will cause the bag to be lifted upwardly toward the roof, and when the locking means has been manually unlocked and the vent connection released pulling on the flexible member will slide the breather bag toward the filler opening means for removal of the bag from the structure.

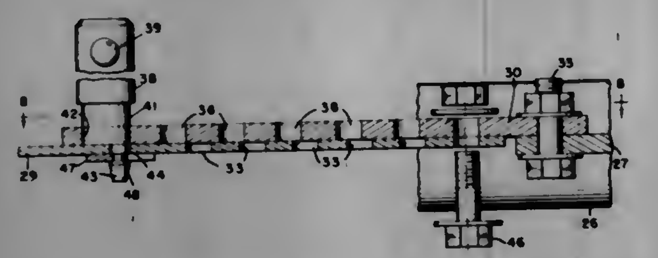


3,193,059
FLEXIBLY SUPPORTED POST
Leon Wallerstein, Jr., Erie, Pa., assignor to Lord Manufacturing Company, Erie, Pa., a corporation of Pennsylvania
Filed Nov. 16, 1960, Ser. No. 69,662
3 Claims. (Cl. 189—29)



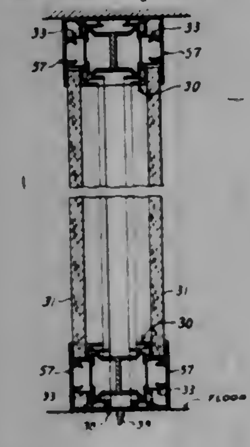
1. A post for parking meters and the like comprising in combination a conventional pipe post positioned curb side of the sidewalk with the lower end of the pipe depending below the surface of the sidewalk and with the upper end of the pipe extending above the surface of the sidewalk in position to support a parking meter or the like, an elastomeric anchoring body below the surface of the sidewalk having a vertical bore through which the lower terminal end portion of the pipe extends, said body extending downwardly at least to the terminal end of the pipe and completely surrounding said end portion laterally, said end portion having laterally extending anchoring means thereon and within the confines of said body, the wall of the bore completely surrounding and tightly gripping said end portion and said anchoring means for preventing upward withdrawal of the pipe from the body, a mass of poured concrete completely surrounding the body laterally and at its lower terminal surface, said concrete set against the body with the upper terminal end of the body exposed and the pipe extending thereabove from said bore,. the upper surface of said concrete and said upper terminal end being adjacent the surface of the sidewalk whereby forces of impact of automobile bumpers on the pipe are cushioned by the elastomer surrounding the pipe and interposed between the pipe and the concrete, said body having a laterally projecting portion with an upwardly directed surface interlocking with the concrete below the upper surface thereof to solidly anchor the body in the concrete against theft, and said body providing a subsurface yieldable support for the pipe preventing injury to the pipe and the surrounding sidewalk under the impact of automobile bumpers.

3,193,060
STRUCTURAL BRACING MEMBER
Wallace Sidney Park, Standiford Field, Louisville, Ky.
Filed May 29, 1962, Ser. No. 198,669
2 Claims. (Cl. 189—34)



1. The combination of two longitudinal structural bars adapted to be disposed with their inner ends in longitudinal overlapping relation, said inner ends having each a longitudinal row of bolt holes, the spacing of the holes in one bar being in vernier relation to the spacing of the holes in the other bar, each bar having an aperture in addition to the bolt holes, said apertures lying normally adjacent to each other, one aperture being relatively larger than the other, a rotatable camming tool having a shank adapted to be rotatably mounted in the larger aperture, said shank having an eccentric pin projecting longitudinally from the shank for engaging said smaller aperture, and means for manually applying a rotational force to the shank, the bolt holes of one bar being laterally offset relative to the bolt holes of the other bar in an amount to compensate for the lateral shifting of the bars relative to each other by said camming tool and to bring into registry a longitudinally matching pair of bolt holes between the two bars.

3,193,061
STRUCTURAL PARTITION SYSTEM
Leonard O. Downes, 4077 2nd St., Wayne, Mich.
Filed June 8, 1962, Ser. No. 201,019
13 Claims. (Cl. 189—34)



1. In a partition system,

(a) a longitudinal framing member having at least one flat side and a substantial medial longitudinal recess being formed in said flat side,

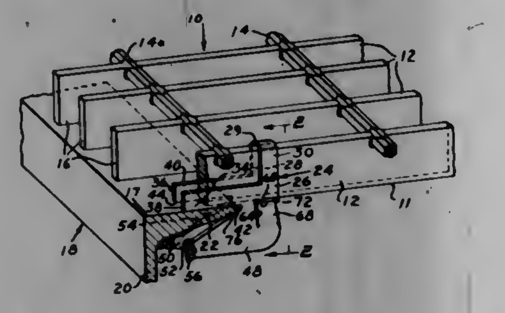
(b) inner and outer parallel flanges extending from opposite sides of said recess, said outer flanges forming said flat side and said inner flanges extending farther inwardly than said outer flanges,

(c) a panel member having an edge disposed adjacent the portion of said flat side, formed by one of said outer flanges,

(d) supporting means connecting said edge and said framing member and comprising a clip element having a portion insertable into said recess and being supported by said inner flanges and means resiliently extending intermediate said flanges whereby said clip element is securely locked to said framing member,

(e) said clip element further comprising a portion resiliently engaging a side portion of said panel member to clamp said panel member against said framing member flat side.

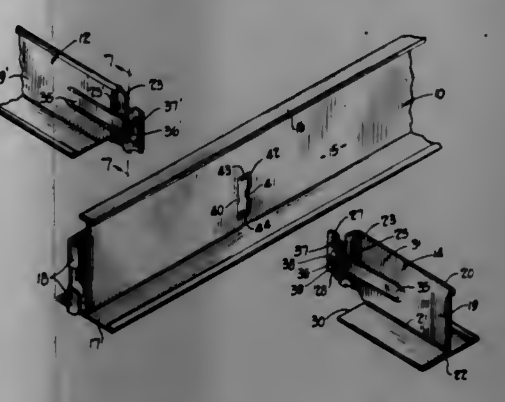
3,193,062
SELF LOCKING STRUCTURE FASTENER
Thomas R. Pendleton, Gary, Ind., assignor, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware
Filed Mar. 1, 1962, Ser. No. 176,710
18 Claims. (Cl. 189—35)



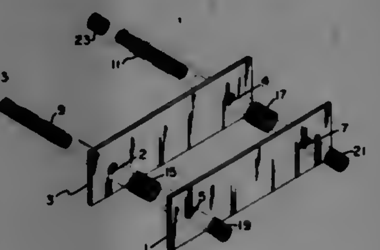
1. A generally U-shaped fastener for securing a rigid bar of a grating or like structure upon a relatively fixed support with an end of said bar overlying said support comprising a downwardly open channel adapted tc be fitted over said bar with the channel sides frictionally engaging opposite sides of the bar, spring tongues integrally connected with the opposite channel sides and extending upwardly away from the lower end of said channel, the upper ends of said tongues being disposed laterally inwardly of the channel sides so as to engage the underside of said bar, and a plurality of arms integral with the channel sides and projecting away from one end of the channel to define a jaw structure fitting forcibly over an adjacent edge of said support, said tongues having sharp locking corners located near the other end of said channel and adapted to engage said underside of the bar to prevent displacement of said fastener along said bar away from said support.

3,193,063
BEAM STRUCTURE
Donald A. Brown, Westlake, and Lucien R. Downing, Jr., Sheffield Lake, Ohio, assignors to Donn Products Incorporated, Westlake, Ohio, a corporation of Ohio
Filed May 18, 1962, Ser. No. 195,841
5 Claims. (Cl. 189—36)

1. In combination, a main structural beam member and a cross beam disposed in intersecting interlocking transverse relationship to each other in a predetermined geometric configuration, said main beam including a web, a slot of generally rectangular shape in said web, said slot including laterally inwardly projecting interlocking means on one pair of opposed marginal edges and tongue spacing means on the other of said opposed marginal edges, said cross beam including a web having a tongue formed at an extremity thereof disposed in said slot in interlocking relationship, said tongue having a first shoulder defining a notch on one marginal edge, said notch engaging the web of said main beam therein, said tongue having a compound shoulder on the opposite marginal edge including a land and a stop, said land engaging and resting upon said main beam web, said first shoulder and said stop being so disposed as to contact opposite sides of said main beam web when said tongue is disposed in said slot and said cross beam is in conformity with said geometric configuration, and means on one surface of said tongue coacting with said laterally inwardly projecting interlocking means on said slot to restrain disengagement of said cross beam from interlocking relationship with said main beam.



3,193,064
RETAINING AND SECURING DEVICES FOR HIGH TEMPERATURE APPLICATIONS
Wilfrid G. Matheson, Marblehead, and Theodore J. Pricenski, Ipswich, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed June 1, 1962, Ser. No. 199,496
6 Claims. (Cl. 189—36)

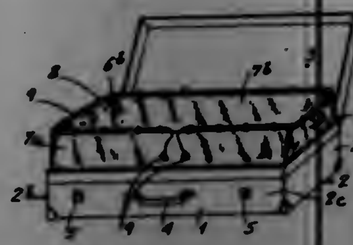


1. A retaining and securing device for high temperature applications comprising in combination: a first longitudinally extending, substantially irresilient series of helically wound convolutions of a refractory metal selected from the group consisting of tungsten, tantalum, columbium and molybdenum, said convolutions having a substantially circular and uniform cross-section, the external surfaces of said first series of helically wound convolutions forming a male thread, said first series having a pitch of about 100%; means positioned at one end of said first series of helically wound convolutions forming an abutment for elements disposed thereon; a second longitudinally extending, substantially irresilient series of helically wound convolutions of a refractory metal, said convolutions having a substantially circular and uniform cross section, the internal surfaces of said second series of helically wound convolutions forming a female thread, said second series having a pitch of about 100%, said thread of said second series of convolutions screwed upon the thread of said first series of convolutions.

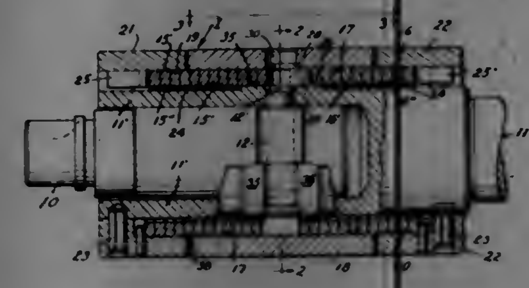
3,193,065
DEVICE EXTENDING THE SIDES OF VARIOUS PACKAGING ARTICLES
Eugène Jim Politzer, 65 Rue Jouffroy, Paris, France
Filed Dec. 27, 1961, Ser. No. 162,472
Claims priority, application France, Jan. 4, 1961, 848,803, Patent 1,284,638
5 Claims. (Cl. 190—41)

1. In combination, a packaging element comprising a box-shaped container, a lid hinged on said box-shaped

container, at least two separate flexible strips fastened inside said container and each strip forming two opposed flaps extending above the sides of said container to form an enclosure for the objects to be packaged within said container, said flaps being formed by said two separate strips arranged lengthwise and transversely to the bottom wall of the container at the flap ends, so that adjacent flaps are separate and closure elements fixed at the upper periphery of the enclosure.



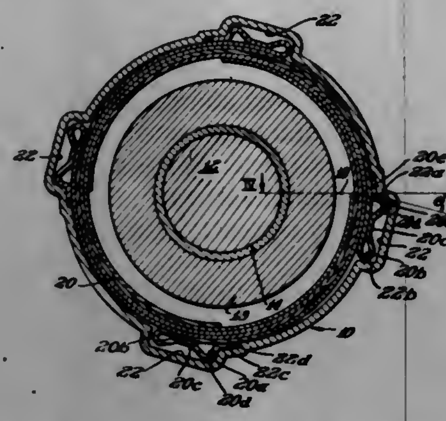
3,193,066
NO-BACK COUPLINGS
Donald R. Tomko, Euclid, Ohio, assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Apr. 18, 1963, Ser. No. 274,022
3 Claims. (Cl. 192—8)



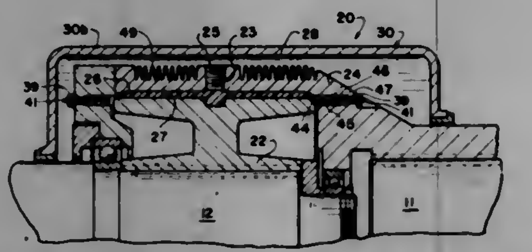
1. In a no-back coupling, a normally stationary drum, input and output torque transmitting members coaxial with the drum, a helical friction spring having a free end coil and coils remotely thereof normally in preloaded one way locking contact with the drum, means forming a limited lost motion positive torque transmitting connection between the input and output members including means rotatable with the input member for actuating said free end coil of the spring in consequence of angular relative movement between said members in one direction to deenergize the preloaded coils of the spring, and substantially rigid means peripherally adjacent said free end coil radially opposite the surface portion thereof which faces the drum, said rigid means operating to support said free end of the spring during actuation of said end coil and thereby promote rapid contraction of the preloaded coils.

3,193,067
ONE WAY BAND TYPE CLUTCH
John M. Dodwell, Piedmont, Quebec, Canada
(2619 N. 5th St., Niles, Mich.)
Filed Mar. 18, 1963, Ser. No. 265,862
10 Claims. (Cl. 192—41)

1. A friction device comprising a first member having an externally facing peripheral V-groove therein, a second member having a plurality of internally facing pockets positioned adjacent and over said groove, a plurality of torque-transmitting bands each being pre-curved to wrappingly engage the sidewalls of said V-groove, and means securing one end of each of said bands in a respective pocket, said means comprising a portion of the said one end of each said band bent reversely thereupon and corrugated to form a radially outwardly projecting portion between longitudinally spaced portions lying against the body of the band, and means integrally securing said spaced portions to the body of the band immediately thereunder, said projecting portion and its respective pocket having contacting torque-transmitting surfaces.



3,193,068
TEMPERATURE-RESPONSIVE COUPLING MEANS
Horst E. Greve, Painted Post, N.Y., and Hanns Hornschuch, Easton, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Apr. 24, 1962, Ser. No. 189,912
11 Claims. (Cl. 192—82)

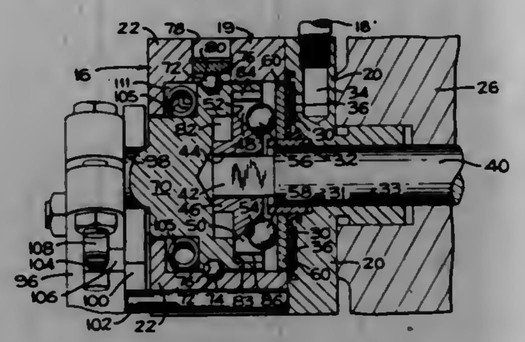


1. Coupling means for connecting a driving member to a driven member, comprising:
- (a) a pair of coupling members defining a substantially annular securing chamber therebetween;
- (b) one of the pair of coupling members being connected to the driving member and the other of the pair of coupling members being connected to the driven member;
- (c) low temperature melting means disposed in the securing chamber securing the pair of coupling members to each other to provide a driving connection therebetween;
- (d) stationary housing means disposed about the coupling members defining an annular heating chamber to retain a heating fluid for melting the securing means to release the pair of coupling means from each other and disconnect the driving and the driven members;
- (e) the ends of the housing means closing the ends of the heating chamber and supporting the driving and the driven members with the coupling members connected thereto; and
- (f) means associated with the housing means for introducing heat into the heating chamber to melt the securing means for releasing the pair of coupling members from each other and disconnect the driving member from the driven member.

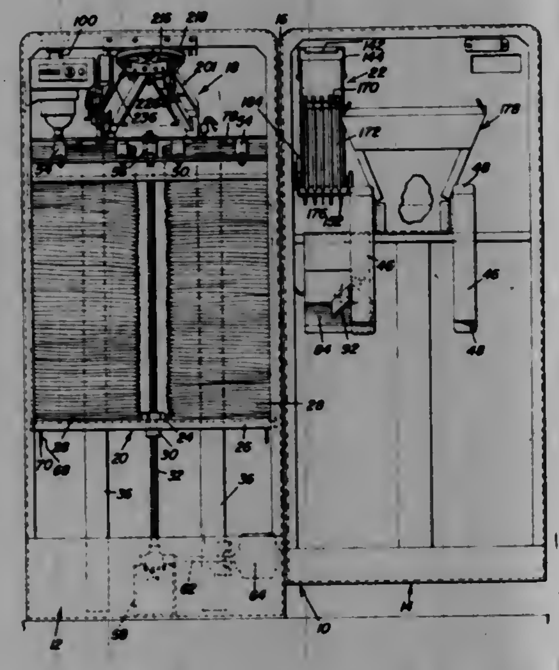
3,193,069
VALVE OPERATING COUPLING
George W. Bloomquist, Long Beach, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Apr. 2, 1962, Ser. No. 184,342
25 Claims. (Cl. 192—88)

1. A valve operating coupling comprising a driven coupling element fixed to a rotatable stem of a self closing

valve, a driving coupling element coaxial with said driven coupling element in rotative relation thereto, a handle fixed to said driving coupling element, one of said coupling elements having opposed inclined slots formed in its end face, the other of said coupling elements having opposed ball receiving recesses therein, a ball mounted within each of said slots for operably interconnecting said first and second coupling elements, a fluid pressure actuated operator mounted adjacent said driven coupling member for applying external force to said balls, to move said balls along the inclined slots into said recesses, and a lost motion interconnection between said coupling elements to effect movement of said driven coupling element by overtravel of said driving coupling element while the balls are removed from said recesses.

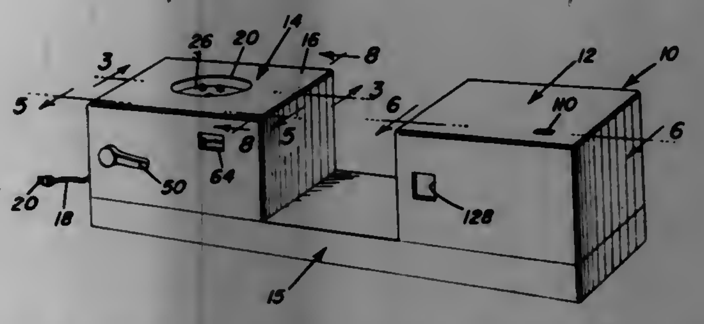


3,193,070
AUTOMATIC SHOP TOWEL DISPENSER
William H. Dudenhoffer, % Crystal Industrial Services, Inc., Box 427, Jonesboro, Ind.
Filed July 11, 1960, Ser. No. 41,909
8 Claims. (Cl. 194—4)



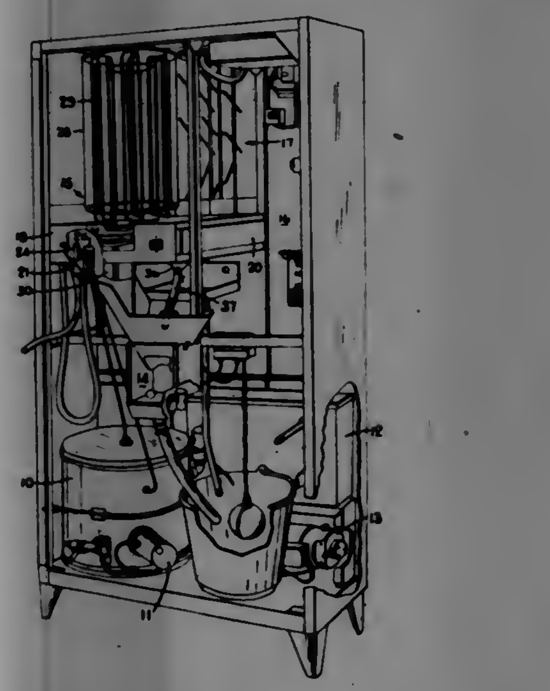
1. A shop towel dispenser comprising a hollow cabinet, an openable closure for said cabinet for providing access to the interior thereof, an elevatable platform disposed in the cabinet for carrying a stack of clean shop towels, said cabinet adapted to receive means adjacent the upper end thereof for picking up the top towel from a stack of towels and discharging it exteriorly of the cabinet, and means mounted adjacent the upper end of the cabinet and communicating with the exterior thereof for receiving soiled shop towels and counting the number of soiled shop towels inserted into the cabinet, and means operatively connected to the soiled towel receiving and counting means for energizing the discharge means once for each soiled towel counted for discharging a number of towels equal to the number of soiled towels inserted into the cabinet, and guide means on the cabinet and on the closure for engaging opposite edges of the stack of towels for guiding the towels and preventing them from buckling sideways.

3,193,071
COIN CONTROLLED SIGNAL AND CHANCE DEVICE
Vilas E. Stanton, 1325 S. Main St., Minot, N. Dak.
Filed Dec. 13, 1963, Ser. No. 331,644
4 Claims. (Cl. 194—12)



1. An actuatable chance device operable off a high voltage power circuit including a rotatably mounted turntable, a motor drivingly connected to the turntable, a transformer connected to the power circuit for establishing a source of low voltage, a signal means, manually operable switch means for simultaneously connecting said low voltage source to the signal means and the motor for energization thereof, position sensitive switch means activated to alternatively connect the motor only to the low voltage source, switch activating means for activating said position sensitive switch means, coin operated relay means connected to the low voltage source for connecting the switch activating means to the high voltage circuit for operation thereof.

3,193,072
COIN OPERATED VENDING MACHINES
Stewart A. Maxwell, Walsall, England, assignor to Fisher & Ludlow Limited, Birmingham, England, a British company
Filed July 2, 1962, Ser. No. 206,615
7 Claims. (Cl. 194—13)

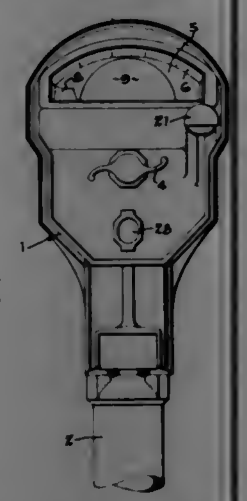


3. A hot-beverage dispensing machine which is operated upon the acceptance of a pair of coins by the machine and which includes:
- (a) means for delivering dry beverage ingredients to a mixing vessel,
- (b) means for delivering hot water to said mixing vessel,

(c) means for conveying the resultant beverage to a dispensing station,
(d) means for delivering cups to the dispensing station,
(e) a coin selection mechanism,
(f) a setting-up relay which, when energized, prepares the machine for a vending cycle of operations,
(g) a spring-loaded coin switch in the electrical circuit of the setting-up relay which is operated by each inserted coin after the coin has passed through the tests of the coin selection mechanism,
(h) a first normally open relay in the electrical circuit of the setting-up relay,
(i) means whereby said first normally open relay is closed upon movement of said coin switch as a result of the insertion of a first coin into the machine,
(j) a second normally open relay in the electrical circuit of the setting-up relay,
(k) means whereby said second normally open relay is closed upon return movement of said coin switch,
(l) means whereby said setting-up relay is energized upon the insertion of a second coin into the machine,
(m) means connecting said setting-up relay with said delivering and conveying means for transmitting electrical energy thereto, and
(n) means for resetting said setting-up relay and said pair of normally open relays upon a dispensing operation of the machine.

3,193,073
PARKING METER MECHANISM

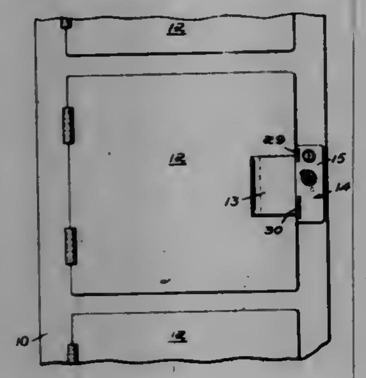
Frank L. Michaels, Sr., Erlanger, Ky., assignor, by mesne assignments, to Hancock Industries, Inc., Jackson, Mich., a corporation of Michigan
Filed July 24, 1963, Ser. No. 297,404
9 Claims. (Cl. 194—61)



2. In a manually operated parking meter having a rotatable shaft, an indicator rotatably mounted on said shaft, said shaft being spring biased in one direction, means attached to said shaft for moving the shaft manually in a second direction to move the indicator to a selected time, the improvement comprising an actuator secured to said shaft, said actuator having means to advance a coin toward a receptacle or the like when said moving means is actuated, a violation flag pivotally mounted on said meter, said flag being maintained in a raised position by said indicator when said indicator is at zero time, means rotatably mounted on said meter, said actuator having means to move said rotatably mounted means into contact with said violation flag when said actuator is rotated to start to advance the coin, resilient means maintaining said rotatably mounted means in contact with said violation flag to hold said violation flag in said raised position, and said actuator having means to engage the rotatably mounted means after said indicator has been moved to the selected time to remove said rotatably mounted means from engagement with said violation flag whereby said violation flag moves from said raised position to a lowered position.

3,193,074
COIN CONTROLLED LOCKS

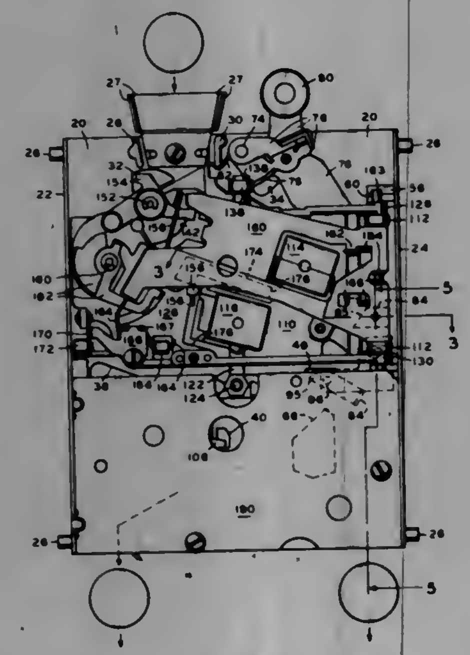
Wells F. Stackhouse, Andover, Mass., assignor to American Locker Company, Inc., Boston, Mass., a corporation of Delaware
Filed Oct. 12, 1961, Ser. No. 144,755
5 Claims. (Cl. 194—92)



1. A coin controlled lock mounted on a supporting frame and including a rotary barrel and a locking bolt connected thereto and movable therewith to locked and unlocked positions, a pawl pivoted to the frame and normally operative to retain the bolt in unlocked position, means providing a coin slot in the lock, means for retaining in predetermined position a coin deposited in the slot, other means including a coin feeler disposed to engage a coin supported in said position and render the pawl inoperative and permit locking movement of the bolt, means for releasing the coin when the bolt is in locked position, and means for intercepting and supporting the released coin at a lower level in the lock and for again releasing the coin when the bolt is moved to unlocked position.

3,193,075
MONEY-HANDLING DEVICES

Anton Okolischan, St. Louis, and Joseph M. Schaab, St. Louis County, Mo., assignors to National Rejectors, Inc., St. Louis, Mo., a corporation of Missouri
Filed Mar. 2, 1964, Ser. No. 348,366
13 Claims. (Cl. 194—100)

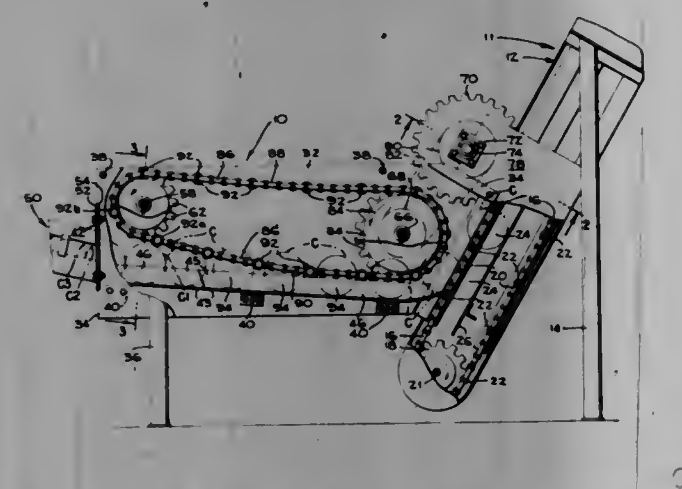


13. A coin separator that has:
(a) a runway along which coins and slugs can roll,
(b) a source of magnetic flux lines which is adjacent to said runway and which has an appreciable portion thereof disposed beyond the discharge end of said runway,

(c) a rebounding surface that is spaced in one direction from said discharge end of said runway and that can receive coins which successively roll along, and then pass beyond said discharge end of, said runway,
(d) an accepted coin chute, and
(e) a rejected coin chute,
(f) said runway guiding coins or slugs into said magnetic flux lines from said source of magnetic flux lines and permitting said coins or slugs to roll off of said discharge end thereof,
(g) said magnetic flux lines co-acting with the movement of said coins or slugs to generate eddy currents in said coins or slugs,
(h) said eddy currents in said coins or slugs generating magnetic fields which interact with said magnetic flux lines to tend to retard the movement of said coins or slugs, whereby coins and slugs of different resistivities will roll along, and pass beyond said discharge end of, said runway at different rates of speed,
(i) said rebounding surface being positioned relative to said discharge end of said runway so coins and slugs which have resistivities within a predetermined range and which have received a predetermined amount of retardation as they rolled through said magnetic flux lines will strike said rebounding surface and will rebound back toward said discharge end of said runway and pass through said appreciable portion of said magnetic flux lines,
(j) said appreciable portion of said magnetic flux lines coacting with the movement of said rebounding coins and slugs to generate further eddy currents in said coins and slugs,
(k) said further eddy currents in said coins and slugs generating further magnetic fields which interact with said appreciable portion of said flux lines to additionally retard the movement of said coins and slugs,
(l) the additional retardation of said coins and slugs coacting with the initial retardation of said coins to guide said coins and slugs toward the appropriate chute.

3,193,076
CONTAINER FEEDING MECHANISM

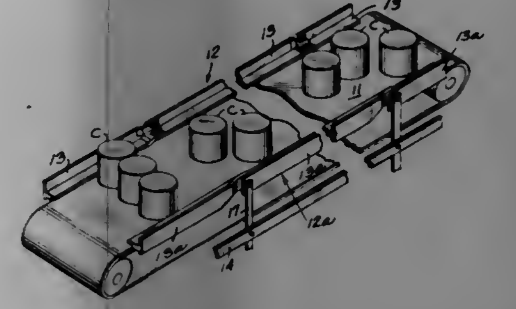
Sherman H. Creed, San Jose, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed June 19, 1963, Ser. No. 289,133
9 Claims. (Cl. 198—22)



1. A container feeding and timing mechanism comprising a container guide arranged to receive cylindrical containers in rolling position and guide the containers along a predetermined path, and endless conveying means mounted over said container guide and carrying a plurality of freely rotatable rollers extending across said conveyor path for contact with said containers, the spacing between adjacent roller surfaces being greater than the diameter of the containers, the lower flight of said rollers being mounted for movement in a path declining from a point above the upper surfaces of the incoming containers to a point intersecting the path of the containers at a subsequent downstream location.

3,193,077
CONVEYOR GUIDE RAIL

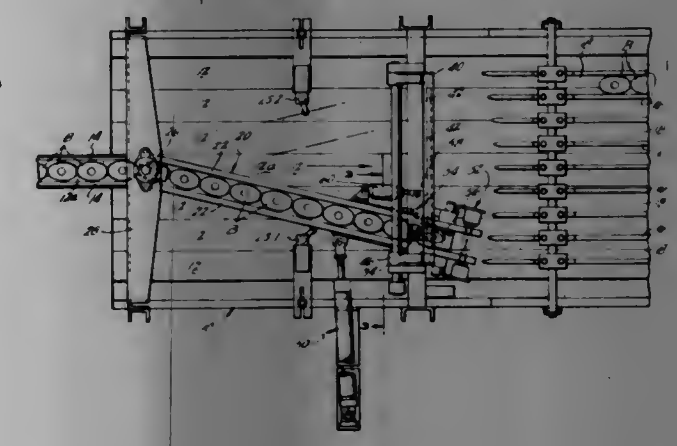
Nat D. Goldberg, 125 N. Racine Ave., Chicago, Ill.
Filed Aug. 13, 1962, Ser. No. 216,430
7 Claims. (Cl. 198—28)



1. The combination with a conveyor and frame structure therefore, of guide rails along either side of the flight of said conveyor and including a plurality of guide rail sections, each rail section including an elongated plastic body substantially T-shaped in cross-section, positioned on its side whereby the trunk portion lies in a generally horizontal plane and the cross-arm lies in a generally vertical plane, the edge of the trunk portion being positioned adjacent conveyor flight whereby conveyor borne articles guidingly pass thereagainst, each rail section at one end thereof having the upper portion of its cross-arm displaced to a generally vertical plane closer to said trunk portion edge, each rail section at said one end further having its trunk portion displaced vertically to a higher horizontal plane whereby adjacent ends of said rail sections are nestingly engaged, and means for connecting said rail sections to said frame structure and in sliding engagement with each other.

3,193,078
ARTICLE DIVIDER FOR CONVEYORS

Italo M. Amenta, Middletown, and Robert J. Schultz, Portland, Conn., assignors to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed Jan. 18, 1963, Ser. No. 252,517
8 Claims. (Cl. 198—31)



1. A mechanism for directing advancing articles from a single row into a plurality of rows and comprising a longitudinally extending conveyor for the articles, means supported over the conveyor to confine movement of the articles to a single row at an upstream position on the conveyor and to define a plurality of side-by-side lanes for movement of the articles at a downstream position on the conveyor, a guide chute extending between said upstream and downstream positions and pivotally supported at its upstream end to receive the advancing row

of articles, means supporting the downstream end of the chute for swinging movement thereof across the conveyor and adjacent said lanes, a stop bar movably supported generally transversely of and over said conveyor to engage and stop said chute in positions of registry with the respective lanes, means for pivoting said chute, and means for moving said stop bar at least momentarily out of engagement with said chute to permit movement thereof from one lane to another.

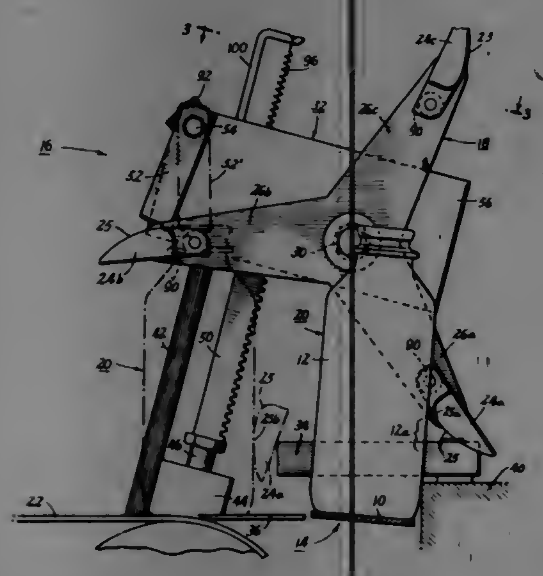
3,193,079

ROTARY MARSHALLING MACHINE

Alpheus Winter IV, Fairfield, Conn., Frederick R. Marindin, Oyster Bay, N.Y., and Joseph F. Pane, Danbury, Conn., assignors to Windor Incorporated, Danbury, Conn.

Filed Dec. 10, 1962, Ser. No. 243,518

1 Claim. (Cl. 198—31)



Rotary marshalling apparatus for transferring containers in groups from a single-line conveyor to a machine feeding conveyor running from, and at right angles to said single-line conveyor, said apparatus comprising in combination, a paddle wheel having three uniformly spaced radially extending supports; an axially extending paddle secured to each of said supports, each of said paddles having a smoothly contoured container-engaging surface that engages a relatively narrow vertical portion of the containers during movement of the paddle through the arc of its container-contacting movement; a frame mounting said paddle wheel above the single-line conveyor at the place where the machine feeding conveyor runs therefrom, said paddle wheel being mounted for rotation about an axis parallel to the feed direction of the single-line conveyor; a guide bar disposed adjacent the side of the single-line conveyor remote from the machine feeding conveyor along the length of the single-line conveyor, said single-line conveyor being canted along its length adjacent said guide bar so that containers slide down the canted conveyor against said guide bar; container sensing means producing a signal responsive to the pressure of containers beneath said paddle wheel; a selectively operated paddle wheel stop, arresting the rotation of said paddle wheel as one paddle transfers the containers onto the machine feeding conveyor and as the next paddle arrives adjacent the single-line conveyor behind the next succeeding group of containers; and a drive mechanism receiving said signal and coupled to rotate said paddle wheel when a selected number of containers are beneath the paddle wheel to carry one of said paddles across said single-line conveyor to transfer the containers in groups from the single-line conveyor to the machine feeding conveyor.

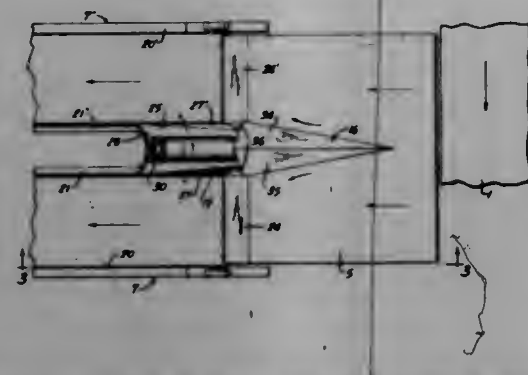
3,193,080

MULTIPLE STATION FEEDING MEANS

Richard L. Speaker, Elm Grove, Wis., assignor to Speaker Sortation Systems, Inc., Brookfield, Wis., a corporation of Wisconsin

Filed Apr. 8, 1963, Ser. No. 271,053

11 Claims. (Cl. 198—31)



1. Apparatus for feeding articles from a source to a plurality of laterally spaced side-by-side devices, comprising,

(a) a downwardly inclined chute spanning the infeed side of the devices and extending upwardly therefrom for receiving articles at the top of the chute and delivering them to the devices and having raised article diverter means forming a part of the chute between adjacent devices for separating the articles and laterally diverting articles to the adjacent devices, and

(b) a driven diverting roller means mounted adjacent the lower end of the diverter means to positively exert a laterally moving force and to prevent jamming of articles between the devices.

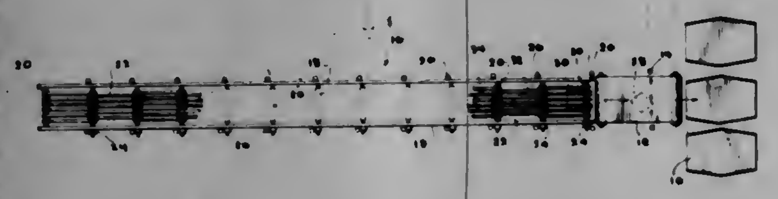
3,193,081

BLOCKING MEANS FOR ARTICLE ACCUMULATOR

Walter G. Harrison, Westchester, Leo A. Gary, Chicago, and Allan C. Audet, Arlington Heights, Ill., assignors to Prospect Manufacturing Co., Inc., Chicago, Ill., a corporation of Illinois

Filed Nov. 2, 1962, Ser. No. 235,103

7 Claims. (Cl. 198—37)



1. In an article accumulator construction which includes a plurality of sections each adapted to support an article thereon, motor means for independently driving the respective sections and detecting means associated with each section for detecting the presence of an article on a section and actuating means for individually stopping the motor means of each section whereby articles can be accumulated on the construction, said sections being arranged whereby articles resting on a particular section after stopping of the motor means therefor will be in position for transfer to a succeeding section upon restarting of the motor means for such succeeding section, the improvement in such construction comprising a gate assembly adjacent the discharge end of each of said sections, the gate assembly for each section being adapted to block the movement of an article from the discharge end of each said section to a succeeding section, said assembly including stop means, means movably mounting said stop means, drive means for moving said mounting means whereby said stop means can be positioned in the path of movement of articles on said sections and whereby said stop means can be moved out of said path when said articles are to be passed to a succeeding section of said accumulator, and means for operating the drive means for the gate assembly of a particular section responsive to the stopping of the motor means for an immediately succeeding section.

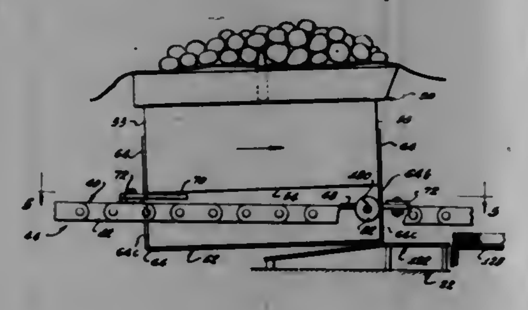
3,193,082

WEIGHING CONVEYOR

Walton B. Crane, South Pasadena, Calif., assignor to Allied Plastics Company, Los Angeles, Calif., a corporation of California

Filed Apr. 25, 1961, Ser. No. 105,322

7 Claims. (Cl. 198—39)



6. In an article conveyor, the combination comprising:
a frame;
a conveyor supported on said frame for movement along the frame;
a carrier for supporting an article to be conveyed;
means mounting said carrier on said conveyor for movement of said carrier by said conveyor and free vertical floating movement of said carrier relative to said conveyor during movement of the carrier with the conveyor;
a weighing scale on said frame including a weighing platform disposed beneath said conveyor;
said carrier including a supporting member disposed for vertical supporting engagement with said scale platform during movement of said carrier past said scale;
said supporting member being normally disposed at a given elevation relative to said frame when said carrier is vertically supported by said conveyor and approaching said scale, and the normal elevation of said scale platform being above said given elevation, whereby said scale platform supports said carrier in an elevated position out of vertical supporting engagement with said conveyor and said scale accurately responds to the combined weight of said carrier and an article supported thereby during movement of said carrier over said scale platform; and
means on said frame immediately preceding said scale for elevating said supporting member to the normal elevation of said scale platform as said carrier approaches said scale, thereby to effect movement of said supporting member onto said scale platform.

3,193,083

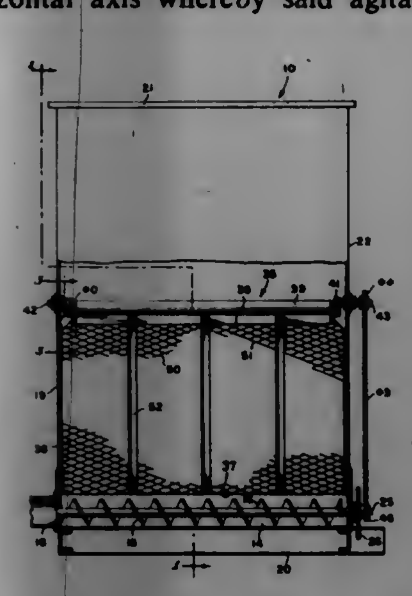
HOPPER-SCREW FEED

Jack W. Crane, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware

Filed May 17, 1963, Ser. No. 281,139

6 Claims. (Cl. 198—64)

1. In combination, a hopper for dry fluent material, said hopper having a discharge opening in the bottom thereof, an agitator within said hopper and movable relative thereto, said agitator extending in a vertical direction and having a support pivot at an upper end and a free swinging lower end, and means for moving said support pivot both vertically and laterally relative to a fixed horizontal axis whereby said agitator is moved laterally and oscillated up and down to prevent bridging of material in the hopper.



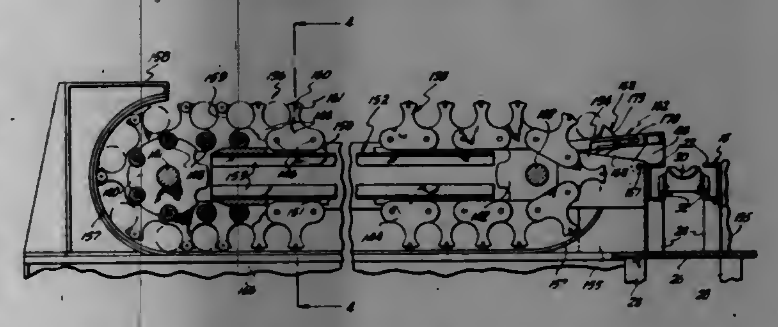
3,193,084

PIPE HANDLING APPARATUS

Robert F. Bauer, Whittier, and Russell B. Thornburg, Torrance, Calif., assignors to Shell Oil Company, a corporation of Delaware, Continental Oil Company, a corporation of Delaware, The Superior Oil Company, a corporation of California, and Union Oil Company of California, a corporation of California; all of Los Angeles, Calif.

Original application Mar. 28, 1957, Ser. No. 649,099, now Patent No. 3,083,842, dated Apr. 2, 1963. Divided and this application Sept. 24, 1962, Ser. No. 225,744

4 Claims. (Cl. 198—137)



1. Pipe handling and storage apparatus comprising a pair of rotatable shafts, a belt disposed around the shafts to form upper and lower sections of the belt, a plurality of spaced outwardly extending pipe retainers on the belt to form pipe storage spaces between adjacent retainers, an outside wearing strip disposed beneath the lower section of the belt, a roller at the outer end of each pipe retainer and adapted to ride on the wearing strip to transfer the pipe load from the lower portion of the belt to the wearing strip, and means for moving the belt.

3,193,085

APPARATUS FOR CONVEYING COMPONENTS

Richard R. Whipple, Haverhill, Mass., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Mar. 29, 1962, Ser. No. 183,567

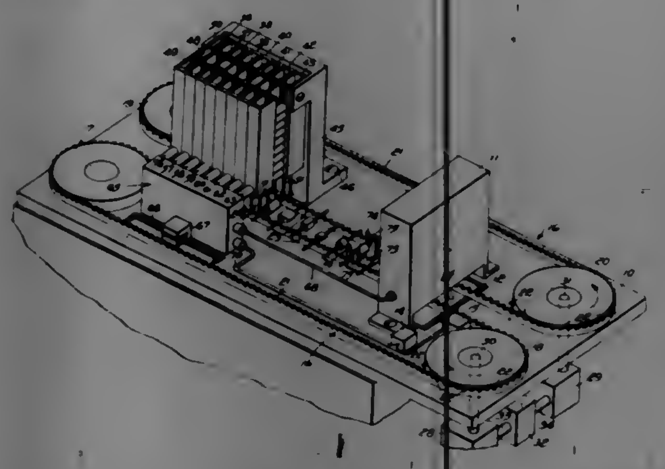
2 Claims. (Cl. 198—165)

1. Apparatus for conveying components having axial leads from a component source to a component insertion machine comprising:
a table,
a first pair of spaced wheels mounted on said table,
a second pair of wheels mounted on said table in spaced parallel relationship with and in the same plane as the first pair of wheels,

endless bands mounted on each of said pairs of wheels, the inner passes of said bands being a predetermined distance apart,

equally spaced notches in the upper edges of each of said bands shaped such for receiving the leads of components dropped from the component source to thereby support them between the bands,

driving means,



means connecting said driving means to one wheel of each pair for imparting identical intermittent motion thereto,

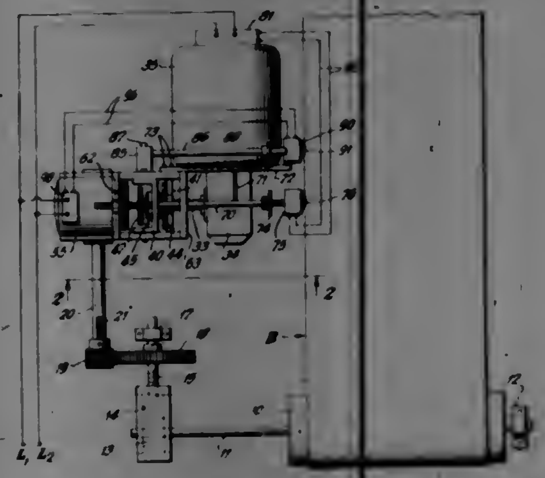
pin means mounted on the peripheral portions of the driven wheels and extending radially therefrom, said pin being located so as to be receivable in said notches to thereby form driving connections between the wheels and the bands and to coordinate the intermittent movement of the two bands, and

means mounted between the inner passes of the notched bands for centering the components thereon prior to their arrival at the component insertion machine.

3,193,086
BELT TRAINING IN CONVEYOR SYSTEMS

Kurt E. Wilhelm, Barrington, R.I., assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

Filed June 27, 1961, Ser. No. 119,966
4 Claims. (Cl. 198—202)

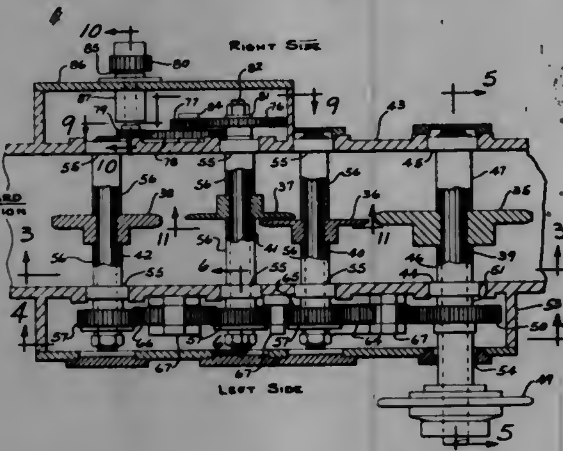


1. A device for maintaining a bend belt trained over the central portion of the bend pulley in a belt conveyor system having means at one end of the bend pulley shaft for swinging the shaft axis of the pulley in a plane generally parallel to the supporting surface of the belt, said device comprising first reversible drive means coupled to swing the bend pulley axis and thereby cause lateral shifting of the belt on the bend pulley, first sensing means operable between two actuated conditions by lateral shifting of the belt on the bend pulley, said sensing means being connected to operate said drive means in one direction when in one actuated condition and operate said drive means in the opposite direction when in the other actuated condition, movable mounting means carrying said sensing means to move said sensing means relative to the edge of the belt, said drive means being coupled to move said mounting means opposite to the direction of lateral shifting of the belt caused by said drive means swinging the bend pulley axis, second reversible drive means coupled to cooperate with said first drive means in moving said mounting means and second sensing means fixedly mounted to be operable between two actuated conditions by lateral shifting of the belt on the bend pulley, said second sensing means being connected to operate said second drive means in one direction when in one actuated condition and operate said second drive means in the opposite direction when in the other actuated condition.

3,193,087
CONVEYOR ASSEMBLY

Louis W. Hahn, Detroit, Mich., assignor to Champion Spark Plug Company, Toledo, Ohio, a corporation of Delaware

Filed Aug. 5, 1963, Ser. No. 299,970
7 Claims. (Cl. 198—203)



1. A uniform feed device for feeding the individual links of a chain conveyor past a work transfer station for the conveyor, said conveyor having links which secure spaced apart pins each of which have a roller thereon, a first pair of sprockets having teeth in mesh with rollers of said chain, said sprockets being positioned on opposite sides of said work transfer station, a second pair of sprockets having teeth in mesh with rollers of said chain, respective members of said second pair of sprockets being positioned on opposite sides of said first pair of sprockets, said sprockets of said first and second pairs having teeth of the same pitch spacing, and a gear train operatively connecting each of said sprockets through teeth which mesh without backlash producing clearance to cause said sprockets to have the same identical pitch velocity at all times, and whereby tension forces in said chain are isolated from the section of the chain which is moved past said work transfer station.

3,193,088
RECIPROCATING TYPE CONVEYOR

Harold A. White, 2306 Rambling Road, Kalamazoo, Mich.

Filed Nov. 23, 1962, Ser. No. 239,705
12 Claims. (Cl. 198—219)

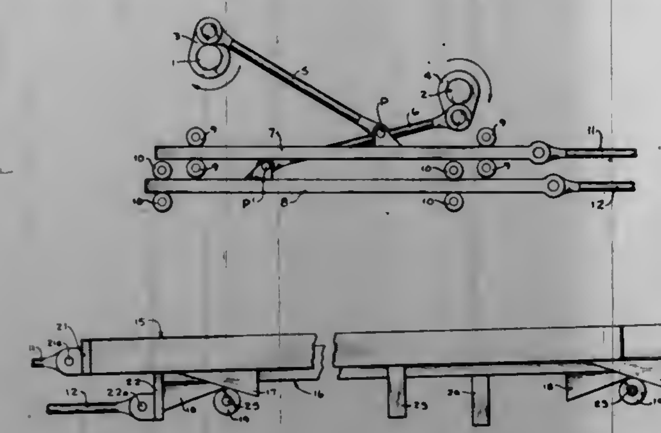
1. In a conveyor, the combination comprising:

a pair of load-supporting members interleaved with each other for alternate support of a load;

substantially continuously energizable driving means for substantially continuously, reciprocably driving each of said members;

similarly contoured, oppositely facing, ramps respectively arranged on each of said members;

means supporting said ramps whereby reciprocation of said members will cause same to move both vertically and horizontally, said driving means being arranged to effect said reciprocation of said members at a phase relationship with respect to each other



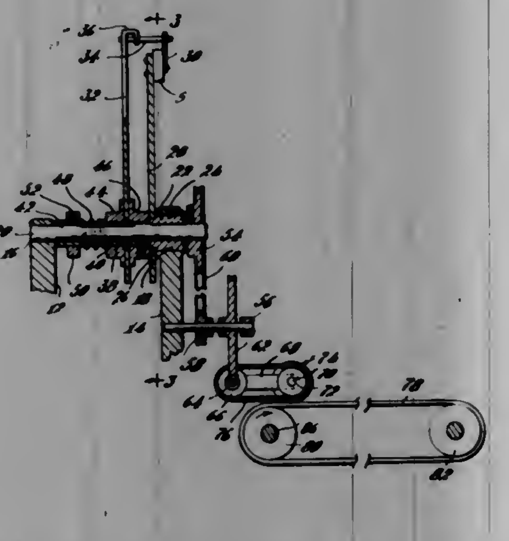
of less than 180 degrees and greater than zero degrees;

whereby said load will be transferred from one member to the other while said members are both travelling in the same direction.

3,193,089
CONVEYOR CONTROL

Arthur E. Williams, Natick, Mass., assignor to John E. Williams & Son, Inc., Newton Highlands, Mass., a corporation of Massachusetts

Filed June 26, 1963, Ser. No. 290,656
5 Claims. (Cl. 198—232)

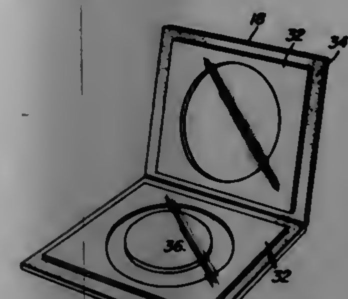


1. The combination with a conveyor including driving means for effecting movement thereof, a support, a starting switch fixed to the support, a switch actuator mounted on the support for movement relative to the starting switch to initiate operation of the driving means, the displacement of said switch actuator determining the distance of movement of the conveyor, a first shaft rotatably mounted on the support, a first sprocket fixed to said first shaft to effect its rotation, a countershaft mounted on the support, a second sprocket fixed to said countershaft, a chain entrained about said sprockets, a worm wheel on said countershaft, a second shaft supported adjacent the conveyor having a worm on it engaged with said worm wheel, a third sprocket on it, and an arm pivoted at one end thereto, a fourth sprocket and a wheel rotatably mounted at the distal end of the arm with the wheel engaged with one of the runs of the conveyor, and a chain entrained about the third and fourth sprockets whereby rotation of the wheel effects rotation of the second shaft, the second shaft effects rotation of the countershaft, and the countershaft effects rotation of the first shaft to return the switch actuator to its initial position.

3,193,090
COIN MOUNTING

Thomas E. Hudgeons, Sr., and Thomas Edgar Hudgeons, Jr., both of 7661 Ridgewood Drive, Parma, Ohio

Filed Apr. 6, 1961, Ser. No. 101,279
5 Claims. (Cl. 206—.83)

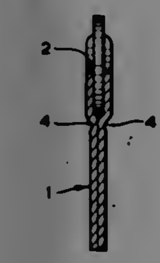


1. A receptacle for mounting and protecting articles comprising a panel of cardboard material foldable along a central fold line, said panel including a pair of openings therein, said openings being disposed on opposite sides of the fold line for orientation in aligned relation when the panel is folded along the fold line and the portions on opposite sides of the fold line brought into overlying engagement, an adhesive coating sensitive to pressure at room temperature on one surface of the panel, a normally planar transparent flexible sheet overlying each opening, said transparent sheets being held in place by the adhesive and being larger than the openings but smaller than the panel whereby a relatively thin article of less perimetrical dimension than the opening may be disposed between the sheets within the space defined by the periphery of each of the openings when the panel is folded whereby the sheets in contact with the articles will conform partially to the shape of the article and maintain the article in protected relation and the portion of the pressure sensitive coating on the panel exteriorly of the periphery of the sheets will be sealingly engaged with each other by exerting finger pressure peripherally of the folded panel thereby retaining the article for visual observation through the openings from either side thereof and peripherally thereof by virtue of the transparent sheet enclosing the article.

3,193,091
TOKEN HOLDER

Peter Storms, 10 Alcorn Ave., Toronto 7, Ontario, Canada

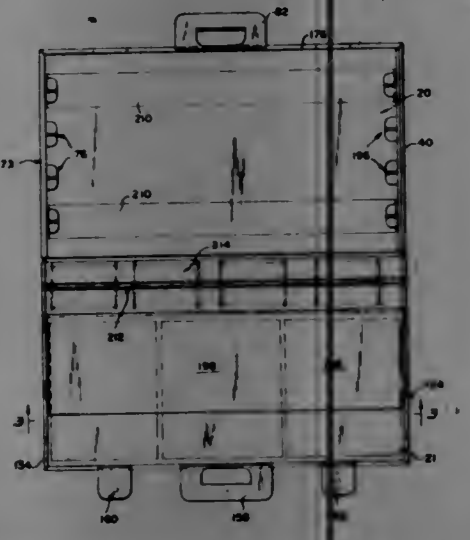
Filed Sept. 17, 1962, Ser. No. 223,977
Claims priority, application Canada, Mar. 10, 1962, 844,098
4 Claims. (Cl. 206—.83)



1. A token holder comprising a strip of cardboard or like foldable material that is folded inwardly upon itself about a longitudinal outwardly expressed fold line, the strip having a plurality of substantially equi-spaced openings along the longitudinal fold line of sufficient width to permit a portion only of a token to protrude, and at least one longitudinal inwardly expressed crease line below the openings defining a shoulder spaced from said openings, the tokens being held in position in said opening by

engagement with said holder along the longitudinal fold line and by engagement with said shoulder, the portions of said folded strips on opposite sides of said longitudinal fold line both extending past said shoulder and being secured together below said shoulder.

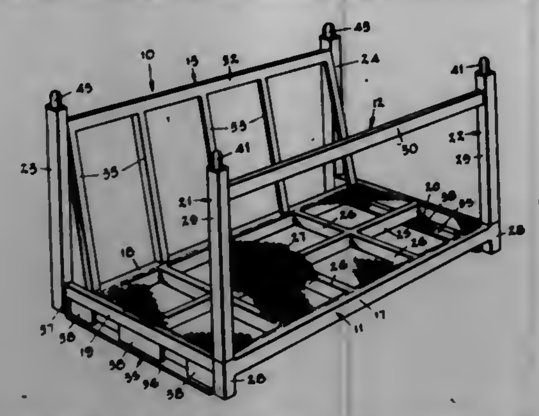
3,193,092
WRAPPING AND RIBBON DISPLAY AND STORAGE KIT
Ann C. Parsons, Pittsburgh, Pa.
(3902 Bosworth Drive SW., Roanoke, Va.)
Filed Dec. 3, 1963, Ser. No. 327,688
1 Claim. (Cl. 206—[illegible]7)



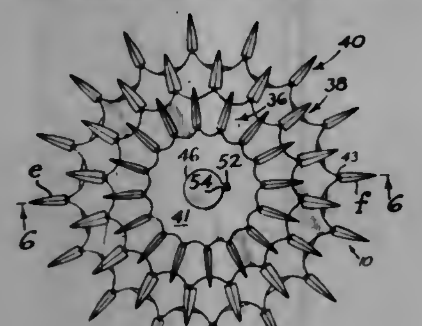
A paperboard container having a pair of sections defining separate compartments, each of which is provided with a pair of opposite side walls and opposite end walls, a pair of aligned paper roll supports disposed adjacent the respective opposite side walls of one compartment, the opposite side walls of the other compartment provided with aligned openings for receiving the ends of a rod for supporting a plurality of reels of ribbon, means for hingedly connecting adjacent end walls of said sections whereby one section may be superimposed upon the other section to form a closed container, one of the pair of roll supports being formed integrally with one of said opposite side walls and comprising a pair of intersecting tabs arranged at right angles with respect to each other and formed in hingedly connected panels which form on said side wall, each of said tabs being formed with complementary slots to form a cross-like support construction, the other of said pair of roll supports disposed adjacent the other of said opposite side walls and comprising an insert formed of a pair of hingedly connected panels, a first tab hingedly connected to one of said panels along an axis parallel with but spaced from said hinged connections and a second tab hingedly connected to the other of said panels along an axis perpendicular to said hinged connection, said first tab provided in the half-slot disposed perpendicularly to the hinged connection and the second tab provided with a half slot parallel to the hinged connection.

3,193,093
SHIPPING RACK FOR SHEET MATERIALS
Ralph C. Hansen, Toledo, Ohio, assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Mar. 4, 1963, Ser. No. 262,485
9 Claims. (Cl. 206—62)

1. A shipping rack for sheets or plates of glass, comprising a rectangular base including spaced front and rear longitudinal rails and end rails extending between and connecting said front and rear rails, said end rails extending beyond said rear longitudinal rail, vertical posts secured to said end rails beyond said rear longitudinal rail, and a vertically inclined rear wall extending between and carried by said posts at its upper end and connected to said rear longitudinal rail at its lower end.

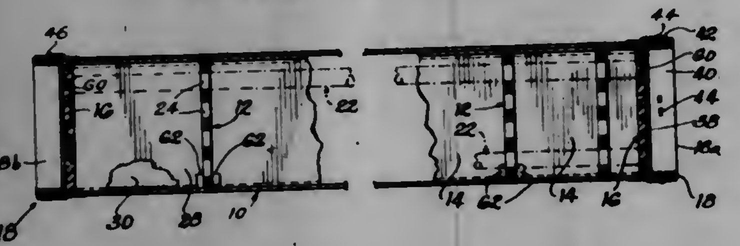


3,193,094
DENTAL WEDGES AND PACKAGE THEREOF
Robert J. Schulstad, 5570 SW. Arrowwood Lane, Portland, Oreg.
Filed Mar. 20, 1961, Ser. No. 96,908
5 Claims. (Cl. 206—63.5)



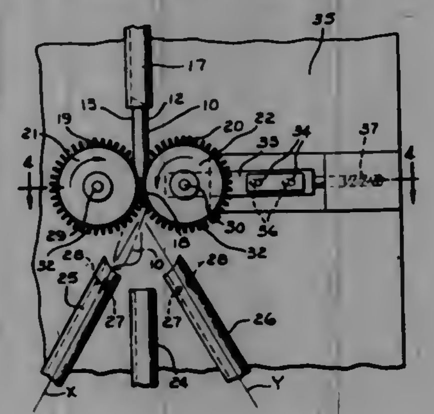
5. A dental wedge comprising an elongated body of plastic material that is flexible and resilient, said body having essentially three longitudinally extending sides and tapering from a butt end to a pointed end, and an elongated grove along one side of the body progressing from adjacent the pointed end to adjacent the butt end of the body, the other two sides of said body having concave faces and adjacent where they join with said one side being resiliently deformable into the space within the groove on pressure being applied thereagainst, the wedge adjacent the butt end of said body having a portion for gripping on to the wedge with an instrument, and means beyond said portion, progressing away from said pointed end of the body, means defining a grip shoulder whereby an instrument is inhibited from slipping off the wedge, to enable positive gripping of the wedge on its removal from between two teeth.

3,193,095
SHIPPING AND STORAGE CONTAINER
Louis J. Martino, Lombard, Wayne E. Moll, Villa Park, and Ralph E. Weimer, Lombard, Ill., assignors to McDonald's System, Inc., Chicago, Ill., a corporation of Illinois
Filed Apr. 5, 1963, Ser. No. 271,000
6 Claims. (Cl. 206—65)



1. A package containing elongated articles such as fluorescent tubes and the like for shipping and storing said elongated articles, said package comprising an elongated rectilinear box having end caps at the longitudinal ends of said box, said end caps being secured to said box and enclosing the ends thereof, each of said end caps having a main transverse element extending across an end of said box, said transverse elements being spaced apart to prevent lengthwise shifting of said elongated articles when said end caps are in a box-closing position, support means for supporting each of said elongated articles at at least three spaced points along their length, said support means extending across the full transverse dimensions of said box, said support means having aligned holes therein along a plurality of parallel axes for receiving the same number of said elongated articles in said elongated box, separate spacer means extending longitudinally of said box intermediate said support means for positioning said support means along the length of the box against relative movement within said box when said end caps are in a package-closing position, said spacer means defining a plurality of open areas across the transverse dimensions of said box and including segments lying intermediate said elongated articles, at least one of said end caps being hingedly secured to said box and being openable and closable for removal and insertion of elongated articles therethrough without displacement of said support means and said spacer means when elongated articles are inserted and removed from said box, said elongated articles being insertable and removable from said box only through said ends of said box, and elongated articles disposed within the aligned holes of said support means.

3,193,096
APPARATUS FOR SORTING ARTICLES HAVING AN ASYMMETRICAL END
George V. Martin, Berwyn, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Jan. 7, 1963, Ser. No. 249,899
1 Claim. (Cl. 209—74)



Apparatus for sorting articles having an asymmetrical end and a symmetrical end, relative to a longitudinal centerline of the article, which comprises:

a pair of rollers disposed for rotation about horizontal axes, and spaced apart to define a restrictive throat with the peripheral surfaces thereof in facing relationship and normally separated by a distance less than the width of an article;

a gravity feed tube mounted in vertical alignment above the restrictive throat for feeding articles one at a time lengthwise into the restrictive throat with a predetermined orientation;

first and second gears each coupled directly to an associated one of said rollers and arranged in meshing engagement with each other;

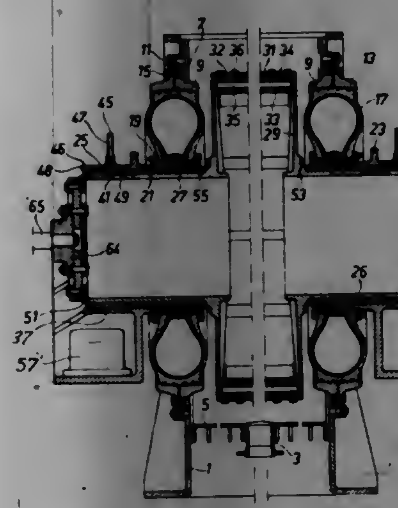
means for rotating one of said gears, which rotation is transmitted to the associated roller and through the other of said gears to its associated roller so that said rollers are rotated in synchronism and in opposite directions;

means for supporting one of said rollers and attached gear for limited translational movement away from the other roller and attached gear to the extent that said respective gears are not disengaged;

resilient means for biasing said one roller and attached gear toward said other roller and attached gear, said resilient means being compressed as an article is drawn between the rollers and exerting a force on said one roller such that articles dispensed from between said rollers with the asymmetrical end last are angularly deflected toward the roller which cleaves longest to the edges of the article because of such asymmetry, and such that articles dispensed with the symmetrical end last continue with an undeflected course because of such symmetry; and

a pair of repository chutes disposed at discrete angles to and in close proximity beneath said rollers, the angles at which said chutes are disposed being such that articles deflected angularly toward one or the other of said rollers are propelled into an associated one of said repository chutes, while articles dispensed with an undeflected course are propelled between said repository chutes.

3,193,097
APPARATUS FOR STRAINING SUSPENSIONS OF SOLID PARTICLES
Erich Betz, Worms (Rhine), Germany, assignor to Chr. Wandel K.G., Reutlingen, Wurttemberg, Germany
Filed Mar. 13, 1961, Ser. No. 95,373
Claims priority, application Germany, Mar. 19, 1960, W 27,486; Dec. 6, 1960, W 29,042; Jan. 31, 1961, W 29,364, W 29,365
5 Claims. (Cl. 209—287)



1. An apparatus for straining suspensions of solid particles, comprising a container having side walls and a bottom and an inlet for the unstrained suspension and a waste outlet for the unstrainable suspension, a rotary drum strainer rotatably mounted within said container, each of said side walls of said container having an opening, a pair of hollow shafts secured to the opposite sides of said strainer and projecting laterally therefrom and through said openings, the inside of said shafts communicating with the inside of said strainer, one of said shafts having an open outer end serving as an outlet for the strained suspension, annular pneumatic tube means disposed in each of said openings, each of said pneumatic means surrounding one of said shafts and resiliently supporting one of said shafts, means secured to each of said side walls adjacent said openings and secured to said pneumatic means for supporting said pneumatic means in said openings, each of said opening containing a bearing means intermediate its respective pneumatic means and shaft for rotatably supporting said shafts and strainer, means associated with one of said shafts for vibrating said strainer and means for rotating said drum strainer.

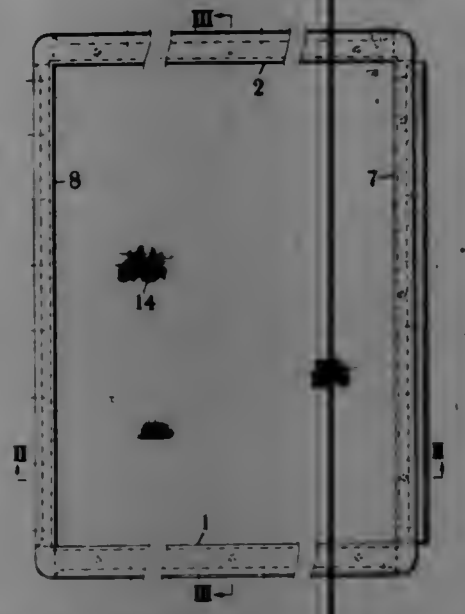
3,193,098
FITTED SIEVE FRAMES

John D. Bingham, Bramhall, England, assignor to Henry Simon Limited, Stockport, Cheshire, England, a British company

Filed May 18, 1962, Ser. No. 195,877

Claims priority, application Great Britain, June 12, 1961, 21,093/61

1 Claim. (Cl. 209—404)



An all-metal sieve frame comprising a pair of parallel side members and a pair of parallel end members interconnected thereto to provide a rigid comparatively shallow rectangular open framework, said parallel side and end members being of substantially channel shape in cross section and having parallel upper and lower flanges projecting outwards, the upper flange of one of the end members having a groove therein extending the full length thereof, a vertically slidable yoke element located between the upper and lower flanges of the other end member and between the upper and lower flanges of each of the side members, each yoke element extending the entire length of its associated member and having an outwardly directed face provided with a groove therein, retaining bars of substantially the same length as said side and end members positioned in said grooves for clamping the edges of a screen fabric disposed over the upper flanges of the side and end members, means for moving each yoke element vertically so that without any alteration of the screen fabric clamping condition, each yoke element can be moved for changing the tension applied to the screen fabric, the lower flange of one of said end members being extended outwardly beyond the corresponding upper flange and terminating in an upwardly turned hook element, and the lower flange of the other end member being spaced above the bottom of said end member and extended outwardly beyond the corresponding upper flange and terminating in a downwardly turned hook element complementary to the first named hook element whereby a plurality of sieve frames can be positioned in end-to-end series with adjacent hook elements in engagement thereby preventing any material which may pass through the frame junctions from mixing with material which has passed through the screen fabric.

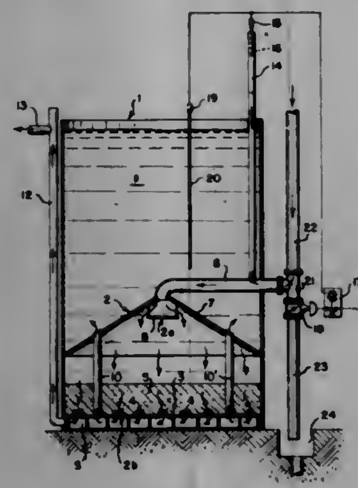
3,193,099
MONOVALVE FILTER

Alfonse Joseph Soriente, Gillette, and Joseph H. Duff, Elizabeth, N.J., assignors to Union Tank Car Company, Chicago, Ill.

Filed Aug. 30, 1961, Ser. No. 134,884

11 Claims. (Cl. 210—99)

8. A filtering apparatus comprising a filter chamber having an upper inlet side and a lower outlet side, a storage chamber above said filter chamber for storing effluent, means connecting said storage chamber with said outlet side of said filter chamber, said storage chamber receiving said effluent from said outlet side of said filter chamber to raise the level of stored effluent from a lower level to an upper level, pipe means communicating with said inlet side of said filter chamber, means connecting said pipe means to a source of liquid to be filtered, service outlet means for said effluent, said service outlet means communicating with said storage chamber, the height of said service outlet means controlling the upper level of said effluent in said storage chamber, said pipe means having



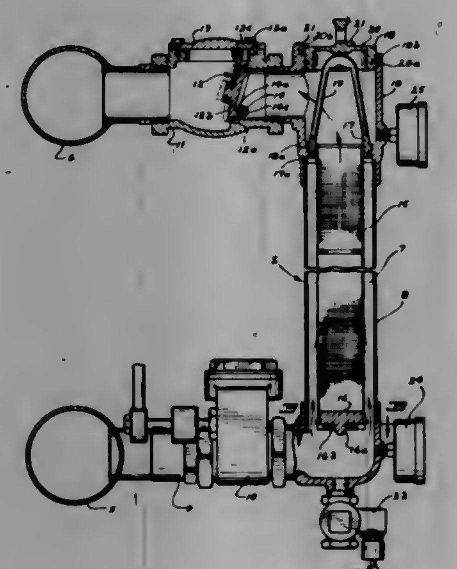
a height less than the height of said lower level of the stored effluent to provide for the flow of said stored effluent through said filter chamber by virtue of the force created by a head of the stored effluent above said pipe means, said pipe means being connected to a backwash liquid outlet pipe, valve means to open and close said backwash liquid outlet pipe and to terminate the flow of said effluent at said lower level, when said backwash liquid outlet pipe is closed said liquid to be filtered passing into said filter chamber and when said backwash liquid outlet pipe is open effluent passing through said filter chamber from said storage chamber.

3,193,100
LIQUID FILTER SYSTEM

Arthur E. Broughton, Glens Falls, N.Y., assignor to A. E. Broughton & Co., Inc., a corporation of New York

Filed Aug. 24, 1960, Ser. No. 51,662

1 Claim. (Cl. 210—117)



A liquid filtering system comprising a plurality of filtering chambers, each having a normal intake portion and a normal discharge portion, filtering means in each chamber, liquid supply conduit communicating with said chambers, a filtered liquid discharge conduit communicating with said chambers, valve means to selectively

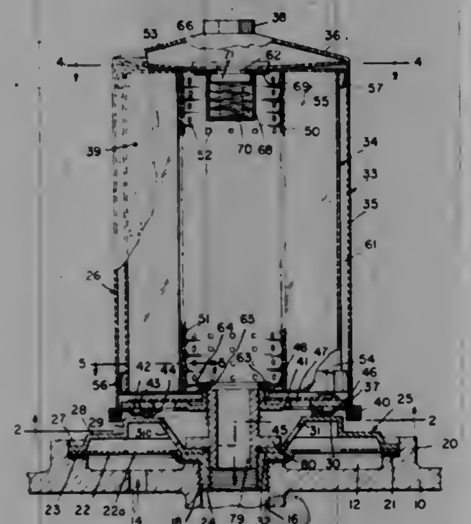
close off direct communication between the liquid supply conduit and each of said chambers, individual valve means to drain the liquid from the normal intake portion of each of said chambers, a check valve interposed between the normal discharge portion of the filtering chamber and the discharge conduit to normally prevent back flow of filtered liquid from said discharge conduit through said chamber, means for producing limited opening of said check valve to provide back flow of filtered liquid from said discharge conduit when said drain valve is opened to wash out solid accumulations on said filtering means, said check valve opening means comprising a cam shaft journaled in close association to the check valve and provided with a camming portion for engaging the check valve to open the same a predetermined limited amount when said shaft is rotated, and means for rotating said shaft to provide said limited opening of said check valve.

3,193,101
FLUID BY-PASS FILTER WITH ANTI-DRAINBACK VALVE

Kingsley E. Humbert, Jr., Gastonia, N.C., assignor to Wix Corporation, Gastonia, N.C., a corporation of North Carolina

Filed Nov. 15, 1956, Ser. No. 622,477

8 Claims. (Cl. 210—130)



8. A throw-away oil filter for internal combustion engines or the like, the filter comprising a casing having a hollow body with an inner wall, the body having one end integral therewith and the other end thereof reinforced, a hollow foraminous tube fixed centrally in the casing, a filter element in the casing comprising a filter medium of pleated paper about the tube, the pleated paper having circumferential outer edges and opposite end edges, an end cap fixed at each end edge of the filter paper, each of the end caps having a body portion, a central portion, and a rim portion, the rim portion comprising flanges substantially at right angles to the body and overlapping marginal end portions of the circumferential outer edges of the pleated filter medium, each flange of each cap having circumferentially spaced outwardly extending ribs and providing passageways therebetween, the ribs of the flanges engaging spaced portions of the said inner wall of the casing and thus spacing the circumferential outer edges of the pleated filter medium from the inner wall of the casing and providing a surrounding chamber for oil passing through the said passageways between the ribs on the end caps, one end cap adjacent the integral end of the casing having a centrally disposed opening therein, a spider supported by the body portion of the said one end cap adjacent its opening and extending into the hollow foraminous tube, a spring supported within the spider in the tube, a high-pressure relief valve within the spider engaged by the spring, the high pressure valve engaging the body portion of the said one end cap and normally closing the opening therein under force of the spring, a spring means having a central opening between said one end cap and the said integral end of the casing and thus resiliently urging the filter element toward the reinforced end of the casing, the said opening in the spring means being concentric with the opening in the said one end cap, the reinforced end of the casing comprising a partial end wall seamed to the body of the casing and a reinforcing plate of a thickness greater than the thickness of the said partial end wall and affixed to the said partial end wall, the reinforcing plate being of slightly less dimensions than the inner wall of the casing and positioned in the casing inwardly of the said seam, the partial end wall and the reinforcing plate comprising the closure for the reinforced end of the casing, the reinforcing plate having a plurality of oil inflow openings therein and a central inwardly extending internally threaded flange forming a wall for an outflow opening and providing means for attaching the filter to a mounting, the other of the end caps being adjacent to the closed end of the casing, the said other end cap having a central opening therein concentric with the said foraminous tube, a sealing ring adjacent and surrounding the opening in the said other end cap and sealingly engaging the reinforcing plate, an anti-drainback valve comprising a thin, flat disc having arcuate spring fingers integral therewith out of the plane of the disc, the disc positioned between the reinforcing plate and said other end cap and being of such dimensions as to extend over the oil inflow openings, said spring fingers engaging said other end cap and thus resiliently urging the valve disc over the oil inflow openings in the reinforcing plate but allowing the valve disc to flex away from the reinforcing plate on flow and pressure of the oil from the internal combustion engine thus opening the oil inflow opening to permit the oil to enter the casing and flow through the passageways between the ribs of the end caps into the chamber surrounding the pleated paper through the pleated paper so as to be filtered thereby into the central foraminous tube and then through the oil outflow opening, but upon a clogging of the pleated paper filtering medium the said high pressure relief valve adjacent the integral end opens thus allowing the oil to bypass the clogged pleated paper filter and flow directly into the foraminous central tube and through the oil outflow opening in the reinforcing plate.

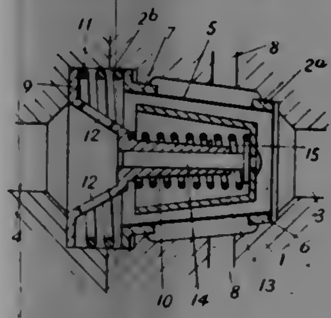
3,193,102
FILTERS

Harry Simister Bottoms, Solihull, and Thomas Campbell, Knowle, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England

Filed June 14, 1962, Ser. No. 202,472

Claims priority, application Great Britain, June 28, 1961, 23,362/61

2 Claims. (Cl. 210—137)

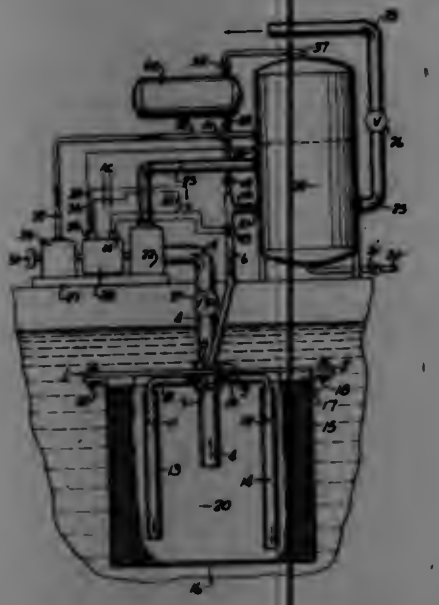


1. A wash filter comprising in combination a body part, a main passage defined within the body part, said main passage including liquid inlet and outlet means formed in the body part for causing liquid to flow through the main passage, a branch passage extending from said main passage, a tubular filter element located in the main passage between the branch passage and the inlet means, said filter element being tapered towards said inlet means, a part including means mounting said part in spaced re-

lationship within the filter element for causing liquid flowing through the main passage to flow against the inlet side surface of the filter element to wash therefrom any contaminant deposited thereon from liquid passing to the branch passage, said means mounting said part so as to permit limited axial movement thereof relative to the filter element, said mounting means including a spring for urging the part towards the inlet end of the filter element whereby as the rate of flow through the main passage increases the part will be moved against the action of the spring and the size of the space defined between the filter element and the part will increase due to the tapering form of the filter element.

3,193,103
POND FILTER

Clifford H. Snyder, Sunnyhill Farms, R.D. 1, Imperial, Pa.
Filed Apr. 6, 1962, Ser. No. 185,568
7 Claims. (Cl. 210—143)

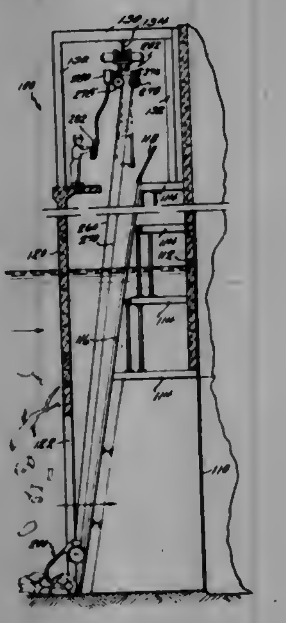


1. A farm pond pump filter comprising a pump, a strainer for submersion in a pond, a suction pipe having its open end in said strainer and connected to said pump, a fluid pressure pipe having its open end in said strainer for supplying fluid under pressure thereto, flexible hose means of elastomer material secured on the open end of said fluid pressure pipe to convey fluid under pressure therefrom and into said strainer, said hose means having sufficient flexibility and of sufficient length to cause it to whip due to the reaction forces of the fluid under pressure discharged therefrom and to direct a stream over the entire inner surface of said strainer to remove and keep algae and debris from covering and clogging and entering said strainer, a fluid pressure tank to receive the output of said pump, an air chamber at the top of said tank, valvular means connecting said fluid pressure pipe to said tank to supply fluid under pressure to said strainer; said valvular means supplying air and water from said fluid pressure tank to said fluid pressure pipe, and an air pump to supply air under pressure to said tank.

3,193,104
POWER OPERATED TRASH FORK FOR HYDRAULIC INTAKE STRUCTURES

Lester W. Leach, 2225 Glen Ellyn, Oklahoma City, Okla.
Filed Jan. 26, 1961, Ser. No. 85,139
4 Claims. (Cl. 210—162)

1. In a device for the transfer of accumulated debris, the improvement in a combination comprising:
a static screen disposed in a continuous flow path of a debris contaminated fluid;
a debris grappling system operably associated with the screen including debris grappling means reciprocably movable along an upstream face of the screen, and first and second power means for opening and closing said grappling means, and for reciprocably moving said grappling means with respect to said screen, said grappling means including
a horizontally oriented axle,
first and second wheels rotatably mounted on opposite ends of said axle, said wheels engaging the upstream face of said screen and maintaining said axle spaced parallel to said screen,
a plurality of fixed tines having free ends and having fixed ends, said fixed ends being fixedly secured to said axle between said wheels, said fixed tines extending radially from said axle, uniformly turning and extending substantially parallel to said screen adjacent the upstream face thereof,
a first horizontal plate interconnecting said free ends of said fixed tines,
at least one ring-like member,
mounting means rotatably supporting said at least one ring-like member on said axle,
a second plate fixed to said ring-like member and extending therefrom generally radially,
a plurality of movable tines having first ends fixed to said second plate spaced from said ring-like member and having second ends curving toward said free ends of said fixed tines,
means connected to said fork and to said first power means for opening said fork,
flexible means connected to said grappling means and to said second power means, whereby actuating said second power means closes said grappling means and continued actuating of said second power means raises said grappling means.

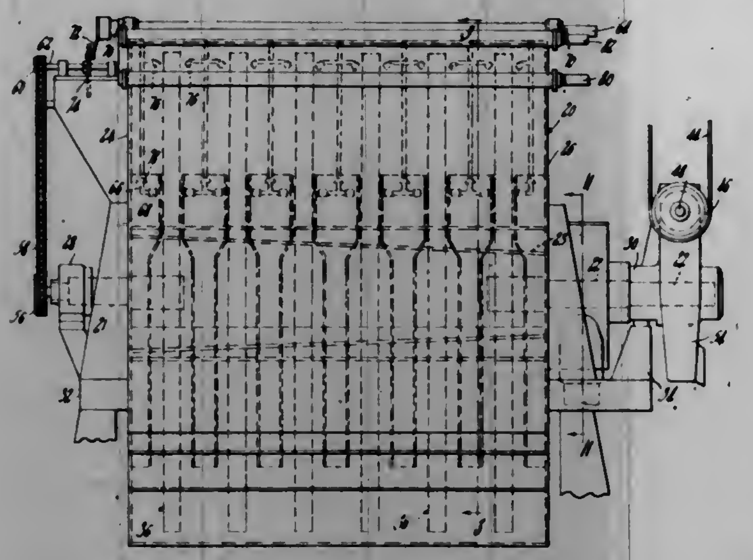


3,193,105
CONTINUOUS DISC FILTER

Neil F. Putnam, Nashua, N.H., assignor to Improved Machinery Inc., Nashua, N.H., a corporation of Delaware
Filed Feb. 6, 1961, Ser. No. 87,158
8 Claims. (Cl. 210—331)

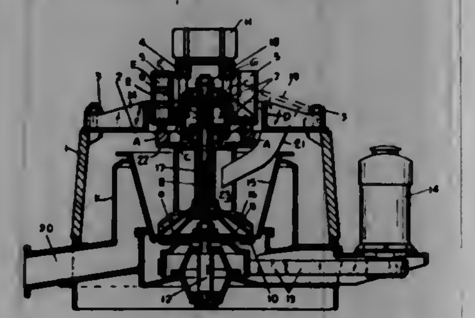
1. In a continuous disc filter having a slurry containing bath, the combination of a disc filter assembly mounted to rotate on a horizontal axis in said bath which comprises with a section disc filter, a core assembly supported to turn on a horizontal axis, an assembly of discharge conduits extending longitudinally of the shaft each comprising a series of forms each having a Z shaped cross section and arcuately formed so that a series of said members when fitted together form a series of parallel discharge conduits arcuately disposed about periphery of

said shaft, each said Z-shaped form being tapered inwardly toward the axis of the core assembly along the length thereof, said taper being expanded in the direction of discharge, and an annular strap means securing said discharge conduits in place.



3,193,106
CENTRIFUGAL MACHINE COMPRISING A DRUM WITH A SPREADER VIBRATING IN AXIAL DIRECTION

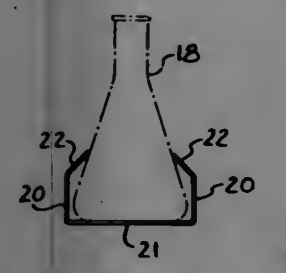
Rokus Buizert, 99 Generaal Spoorlaan, Rijswijk, Netherlands
Filed May 11, 1961, Ser. No. 109,338
3 Claims. (Cl. 210—370)



1. A centrifugal machine comprising a support housing open at one side, a closure for said side having an opening, fastener means accessible from the exterior of the housing removably securing said closure to the housing, a bearing in said housing opposite said closure, a pulley having a spindle seated for rotation in said bearing, means for rotating said pulley and spindle, a rod coaxial with said spindle passing through said closure opening and having an outwardly directed element and a radial flange secured to its inner end near said pulley, a flexible membrane secured to said radial flange and said pulley to impart rotation to the flange but allow axial movements of the flange and connected rod, a vibration generator mounted on said closure, a first sleeve disposed about said rod and fixed to the generator to vibrate axially therewith, a drum within said support housing having an axis coaxial with said rod and an inner flange seated on said radial flange, a hollow spreader within said drum having a base seated on said inner flange of the drum and an apex surrounding said rod, a second sleeve positioned about the rod and having ends which respectively engage said first sleeve and said apex of the spreader, and clamp means on the outer end of said rod and engaging the said first sleeve to clamp the rod, radial flange, drum, spreader and first and second sleeves together, whereby upon unfastening said fastener means and said clamp means, the closure, vibration generator and first sleeve may be removed from the support housing leaving said second sleeve spreader and drum surrounding the rod and seated on said radial flange for ready removal and replacement.

3,193,107
FLASK HOLDER

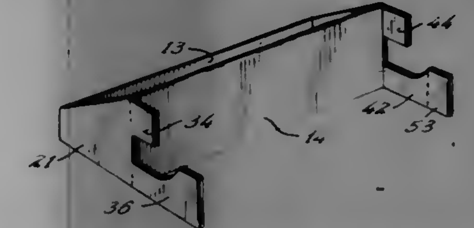
George J. Pilat, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
Filed May 23, 1963, Ser. No. 282,622
6 Claims. (Cl. 211—74)



1. A holder for the support of chemical laboratory flasks which comprises a base, a pair of substantially parallel resilient side walls and inwardly extending spaced terminal flange members extending from said walls forming a flask receiving endwise open space substantially equivalent in transverse dimension to a diameter of said flasks at a portion thereof having a downwardly increasing diameter.

3,193,108
SHELF EXTENDER

Ronald V. Johnson, Minneapolis, Minn., assignor to Waldorf Paper Products Company, Ramsey, Minn., a corporation of Minnesota
Filed Aug. 19, 1963, Ser. No. 302,862
9 Claims. (Cl. 211—153)



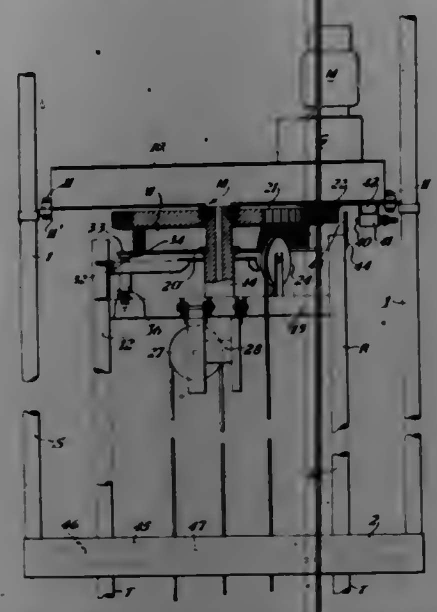
1. A shelf extender including a generally rectangular tray of paperboard, the tray including a bottom panel, front, rear and end walls extending upwardly therefrom, means connecting said front, rear and end walls together, bracket flaps integral with edges of said end walls and extending rearwardly beyond said end walls and adapted to engage over a shelf, the bracket flaps being short relative to the height of the end walls, bracket arms integral with said edges of said end walls and extending rearwardly from said end walls spaced below said bracket flaps and adapted to engage beneath a shelf over which said end flaps extend.

3,193,109
SLEWING AND ERECTING MOTOR FOR TOWER CRANES

Norman Edward Kerridge, Saltford, near Bristol, England, assignor to Stothert & Pitt, Limited, Bath, England, a company of the United Kingdom
Filed July 26, 1963, Ser. No. 297,796
Claims priority, application Great Britain, July 31, 1962, 29,466/62
6 Claims. (Cl. 212—68)

1. In a self-erecting tower crane, in combination with a tower which is built up in sections, a superstructure rotatably supported from the tower, a yoke member on the tower and adapted for connection to the superstructure, a jib carried by the superstructure, and means for imparting slewing motions to the jib, said means comprising a winch drum mounted to revolve about an axis concentric with the slewing axis of the superstructure, a motor and associated gearing for transmitting drive to

the drum and to the yoke and superstructure, a rope and pulley system connected to said winch drum for erecting the tower and thereafter raising the superstructure and jib, means for locking the yoke member to the tower when rotation of the drum is required for operation of said rope-pulley system, and means for locking the winch drum to the tower when rotary motion of the yoke is required to enable the superstructure to be slewed relative to the tower.

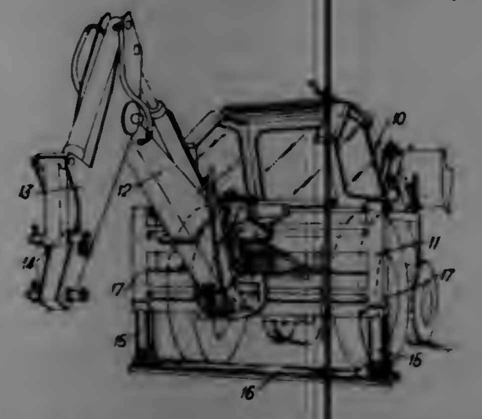


3,193,110
EARTH MOVING IMPLEMENTS

Joseph C. Bamford, Uttoxeter, England, assignor to J. C. Bamford (Excavators) Limited, Rocester, England, a British company

Filed Oct. 22, 1963, Ser. No. 318,045

5 Claims. (Cl. 212—145)



1. In or for a mechanical excavator of the type specified having a boom pivotally mounted upon a sub-frame having a pair of extensible legs disposed one at each side, a stabilising device comprising; an elongated beam, two pivotal connecting means spaced apart longitudinally of the beam on the upper side thereof, and adapted for connection one to each of the legs of the sub-frame, at least one of said pivotal connecting means having provision for lost-motion in its connection to the associated leg of the sub-frame, and downwardly extending projections on the underside of said beam.

3,193,111
DRAFT GEAR RIGGING FOR RAILROAD CARS

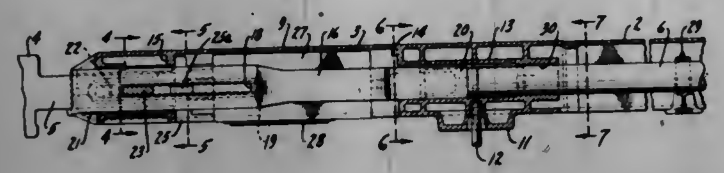
Vernon S. Danielson, Chicago, Ill., assignor to Standard Car Truck Co., Chicago, Ill., a corporation of Illinois

Filed July 9, 1962, Ser. No. 208,540

6 Claims. (Cl. 2[illegible]3—8)

5. A railroad car draft system comprising a coupler yoke having spaced parallel, vertical, longitudinally slotted straps, a draft gear between the straps, a draft gear follower plate between the straps abutting on the draft gear, support lugs therefor perpendicular to the axis of the yoke, extending horizontally from the follower plate, and penetrating said slots.

a slotted coupler shank between the straps abutting on the follower plate, a draft key extending through the slot in the coupler shank and through the slots in the yoke straps,



a unit casting enclosing the draft gear, the walls of the casting being slotted in register with the slots in the straps, the draft key and follower plate, support lugs extending through said slots,

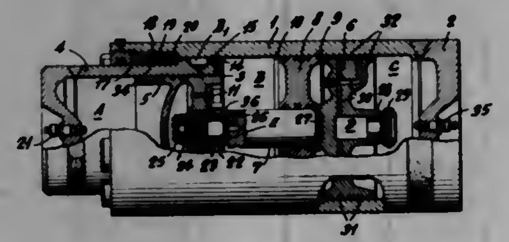
a draft lug in the path of the draft gear follower, a buffing lug in the path of the draft gear, the slots being longer than the movement permitted by the gear and follower between the lugs.

3,193,112
HYDROPNEUMATIC ABSORBING DEVICE

Zaven Oganezovich Karakashjan, Dobroljubov Str. 18, Apt. 46; Albert Isidorovich Timoshuk, Bolshaja Pirogovskaja Str. 53/55, Apt. 114; and Fjodor Stepanovich Markanov, Bolshoy Savinsky by-street 7, Apt. 4; all of Moscow, U.S.S.R.

Filed Jan. 23, 1963, Ser. No. 273,799

4 Claims. (Cl. 213—43)



1. A hydro-pneumatic absorbing device for absorbing kinetic energy of bodies being in relative motion and particularly for automatic couplers for railway rolling stock, comprising a casing having a closed end and an open end, a cylinder mounted for axial movement within the casing and having a closed end projecting beyond the open end of the casing, a washer secured within the casing, a piston rod extending through an opening in said washer, a piston mounted on said rod operably connected with the cylinder, a floating piston within said cylinder with the chamber provided between the floating piston and the closed end constituting a low pressure gas chamber, a second floating piston within said casing between the washer and the closed end coacting with said rod and the chamber provided between such piston and closed end constituting a high pressure gas chamber, the chamber between the piston mounted on said rod and the washer constituting a chamber for fluid, means providing an annular space between said cylinder and casing adjacent the open end of the cylinder and said last named piston having gauged openings therein for the flow of fluid from the fluid chamber into said cylinder and into said annular space.

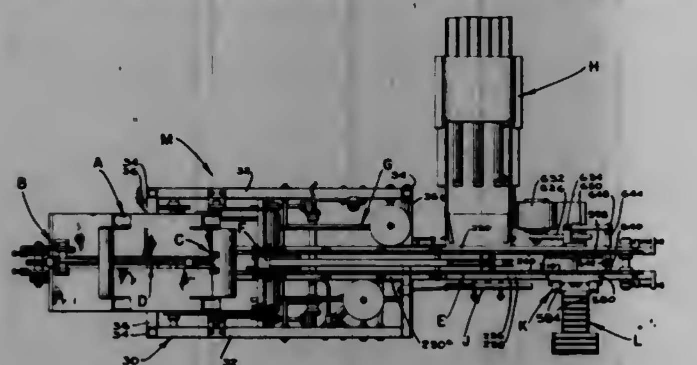
3,193,113
CARTON TIPPING MECHANISM

Charles E. Kerr, St. Petersburg, Fla., assignor to FMC Corporation, a corporation of Delaware

Original application July 23, 1958, Ser. No. 750,420, now Patent No. 3,016,807, dated Jan. 16, 1962. Divided and this application Mar. 31, 1961, Ser. No. 99,894

2 Claims. (Cl. 214—1)

2. A carton tipping mechanism comprising two slides mounted in spaced, parallel relation and with one slide higher than the other and projecting beyond the terminal end thereof a distance at least as great as the length of a carton to be tipped, means for advancing the carton along said slides, a shaft mounted parallel to and adjacent the lower one of said slides at the outboard side thereof, two arms projecting laterally from the shaft in planar alignment with each other and mounted for pivotal movement about the axis of the shaft, a plate mounted on the shaft for pivotal movement about said axis thereof between a lower position wherein it extends longitudinally from the terminal end of the lower of said slides as an extension thereof and wherein it slopes downward and laterally from the conveyor in a plane including said higher slide and an upper position wherein it slopes more steeply downward and laterally from the conveyor, an elevator reciprocably mounted with its upper end projecting between said higher slide and said plate in position to engage a carton supported on said higher slide and plate, means for simultaneously raising said elevator and turning said plate to said upper position thereof to tip the carton onto said arms, means responsive to arrival of a carton in registry with said plate for controlling operation of said elevator raising and plate turning means, horizontal receiving means mounted adjacent said shaft in alignment with said arms, and means for damping movement of said arms as they pivot downward toward the receiving means to deposit the tipped carton gently thereon.

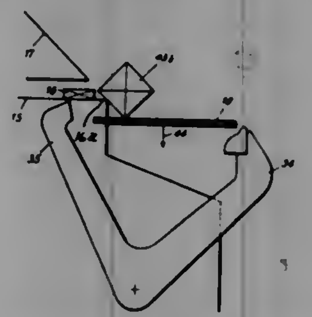


3,193,114
GRINDING MACHINE

Etienne L. J. G. Schaar, Marly-le-Roi, France, assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

Filed Oct. 2, 1962, Ser. No. 227,893

14 Claims. (Cl. 214—1)



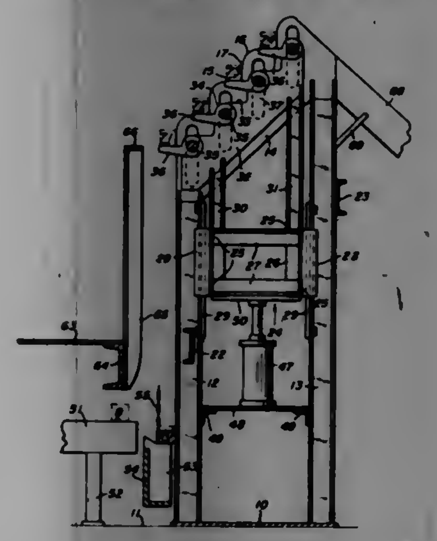
1. An indexing mechanism for turning workpieces having various cross section comprising a frame, a work supporting ledge on the frame formed of a flat generally horizontal surface intersecting a vertical surface, a work stop on said horizontal surface set back from the vertical surface, a movable flat work supporting table adjacent the ledge, said table having a work supporting surface disposed in a generally horizontal plane, means to produce vertical movement of said table along said vertical surface and being adapted to maintain the top surface of said table in any one of a number of positions including a position coincident with said horizontal surface of said ledge and in positions generally in a plane parallel to and below said horizontal surface, means to move the workpiece across the table towards the work stop and to hold the workpiece during machining against said work stop and alternatively against the vertical surface of said ledge when the table is below said horizontal surface, means for initiating an indexing movement of a workpiece situated on the table when the table is below said horizontal surface and for ejecting said workpiece from said table after the final machining operation.

3,193,115
STEPPED TABLE FOR SUPPORTING BILLETS DURING INSPECTION OR SCARFING

Walter R. Egger, Austintown Township, Mahoning County, Ohio, assignor to United States Steel Corporation, a corporation of New Jersey

Filed Oct. 31, 1962, Ser. No. 234,297

11 Claims. (Cl. 214—1)



1. Billet turning apparatus comprising a plurality of inclined, longitudinally spaced beams, a series of ascending steps formed on said beams, the rise of each step being at least equal to the width of a billet edge, each step having a generally ascending arcuate edge portion, a plurality of longitudinally spaced plates adjacent said beams respectively, a shaft extending longitudinally of said plates below each step and lift arms on each shaft projecting beyond the arcuate edge portion of the adjacent step, means mounting said plates for vertical, parallel movement relative to said beams to raise said lift arms and said billets disposed on said steps and means to rotate said shafts to raise said billets around said arcuate edge portions and to turn each said billet over onto the step thereabove.

3,193,116
SYSTEM FOR REMOVING FROM OR PLACING PIPE IN A WELL BORE

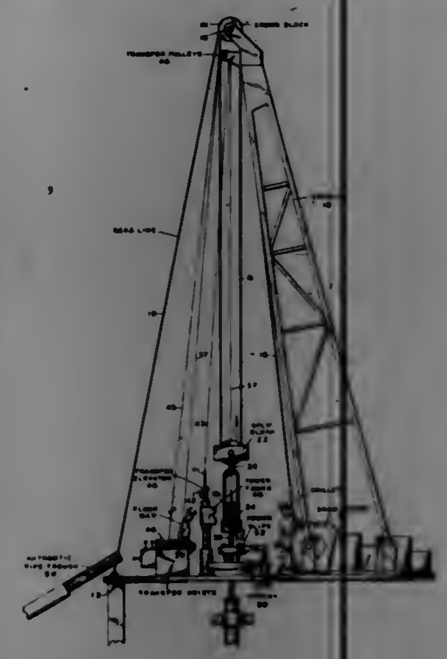
John W. Kenneday and William C. Lindsey, Corpus Christi, Tex., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware

Filed Nov. 23, 1962, Ser. No. 239,750

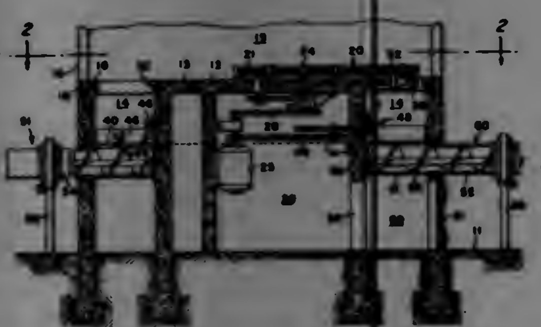
2 Claims. (Cl. 214—2.5)

1. A system for use on a well derrick for removing from and placing pipe in a well comprising: a main elevator provided with a bore large enough to provide sufficient inside diameter to pass the pipe collars; a pair of transfer elevators, each transfer elevator having an outside diameter sufficiently large to permit engagement with the main elevator and having a bore sufficiently small in diameter to engage beneath the pipe collars; a crown block; a double pulley mounted on the derrick adjacent the top thereof; a draw works on the floor of the derrick; transfer hoists on the floor of the derrick; a pipe trough located adjacent the floor of the derrick; means including a main elevator line connected to the draw works and depending from the crown block and controlled by the

draw works for raising and lowering the main elevator; a first transfer line connected to the transfer hoists and extending around the double pulley and connected to one of the transfer elevators and controlled by the transfer hoists for raising pipe from the well and lowering said pipe in the pipe trough; and a second transfer line connected to the transfer hoists and extending around the double pulley and connected to the other transfer elevator and controlled by the transfer hoists for raising pipe from the well and lowering said pipe in the pipe trough.

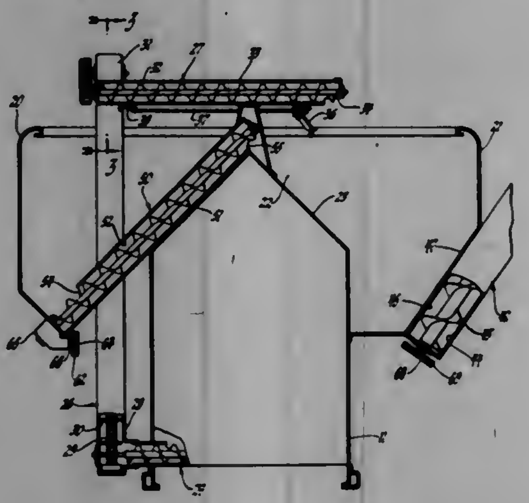


3,193,117
SILO UNLOADER
Albert M. Best, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa., a corporation of Delaware
Filed Oct. 23, 1963, Ser. No. 318,331
3 Claims. (Cl. 214—17)



1. Feed storage and distribution apparatus comprising. in combination, a vertically extending silo having a substantially continuous cylindrical wall of a given diameter and said wall having a bottom portion supported by the ground, a table of lesser diameter within said silo at the bottom thereof and defining with said wall a substantially enclosed annular trough which surrounds the table, said table having a generally horizontal top surface upon which material stored in said silo rests, a sweep arm directly over said table having an inner end adjacent the vertical axis of said silo and an outer end overhanging said trough, gathering means on said sweep arm operable to move material radially outwardly relative to said axis and to deposit the material in said trough, means driving said sweep arm to swing in a horizontal plane about said axis, a stock feeder extending outwardly of said silo bottom and having an end projecting into the silo and communicating with said trough, conveyor means in said trough operable to move deposited material along the trough and to deliver the material to said one end of said feeder, said feeder end being located beneath said conveyor means, and the feeder having means for withdrawing delivered material and for distributing said material along the length of the feeder in a direction away from the silo.

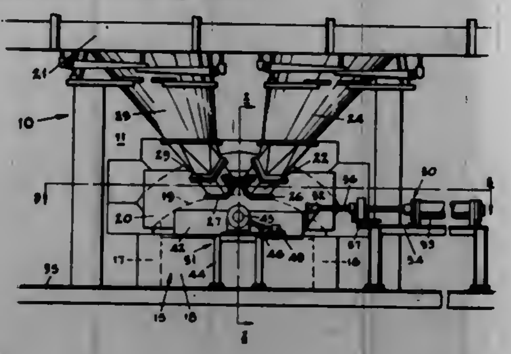
3,193,118
GRAIN TANK AND CONVEYOR MECHANISM FOR COMBINES
Ralph L. Tweedale, Southfield, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich., a corporation of Maryland
Filed June 3, 1964, Ser. No. 372,343
3 Claims. (Cl. 214—17)



1. An agricultural harvesting machine including a body portion enclosing grain cleaning and separating mechanisms with a pair of side tanks extending down along opposite sides of the machine body for temporarily storing harvesting grain received from the cleaning and separating mechanisms, characterized by, a central tank portion interconnecting the side tanks and defined by a gabled roof portion of the machine body, a transfer conveyor having a lower end disposed in one of said side tanks and extending upwardly therefrom adjacent said central tank portion, said lower end having an opening therein for receiving grain from said one side tank, said transfer conveyor including a sloping tubular member extending over the top of said gabled roof portion for discharging grain received from said one side tank down over said gabled roof portion and into said other side tank, a discharge conveyor coupled to said other side tank with an opening through which grain is received from the bottom of said other side tank for unloading and depositing grain from said tanks into a suitable receptacle, and separate driving means for said discharge conveyor and said transfer conveyor, respectively, said driving means being arranged so that said discharge conveyor is effective to remove all of the grain from said other side tank contemporaneously with the transferral of grain from one side tank by said transfer conveyor so that said pair of side tanks can be exhausted essentially simultaneously.

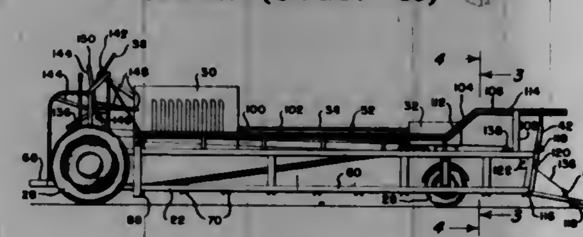
3,193,119
METHOD AND APPARATUS FOR FEEDING BATCH MATERIALS TO A GLASS-MELTING FURNACE
John C. Blaine, Ottawa, Ill., assignor to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Sept. 25, 1963, Ser. No. 311,575
8 Claims. (Cl. 214—23)

1. In a method of feeding batch materials into a glass-melting furnace having a melting chamber containing a molten bath of glass and a relatively small restricted charging area communicating with said chamber and adapted to receive glass batch materials to be melted, the steps of depositing a predetermined amount of batch materials in a pile on the molten bath within said charging area, distributing said batch materials laterally across said charging area to form a substantially level layer of the materials on said molten bath in said charging area, and thereafter moving the batch materials from said charging area into said melting area.



3. Apparatus for feeding batch materials into a glass-melting furnace including a melting chamber containing a bath of molten glass and a relatively small restricted charging area communicating with said chamber and containing a portion of said molten bath, comprising means for depositing a pile of batch materials on the molten bath in said charging area, means for distributing said materials laterally across said charging area to form a relatively level layer of said materials on said portion of said bath, and means for pushing the layer of batch materials out of said charging area and into said melting chamber.

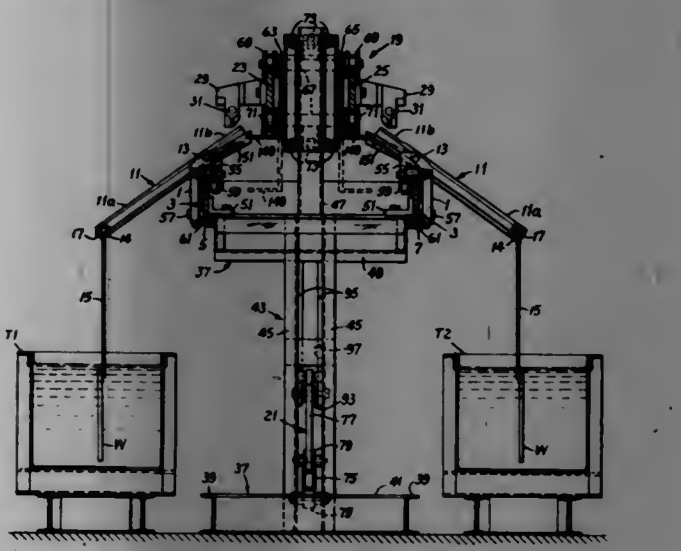
3,193,120
SHOPPING CART PICK-UP MACHINE
Lloyd A. Hudson, 325 54th St., San Diego 14, Calif.
Filed Dec. 10, 1962, Ser. No. 243,281
4 Claims. (Cl. 214—85)



1. A mobile machine for picking up and moving carts having wheels, such as those employed in markets, said machine comprising:

(A) a carriage, said carriage including:
  (1) an elongated forwardly and rearwardly extending frame, said frame including:
    (a) a plurality of parallel disposed platforms, each adapted to support a plurality of said carts, said platforms being coextensive with and horizontally spaced from one another,
    (b) a pair of rails extending parallelly of the platforms for engaging upper parts of said carts,
    (c) transversely and horizontally disposed pivot means at the front ends of the platforms,
    (d) an operator's support,
    (e) rear stops on each platform for the carts;
  (2) ground wheel means for the frame, certain of said wheel means being disposed forwardly of certain other of said wheel means;
  (3) means carried by the frame for journalling said front wheel means for oscillatory movement about a vertically extending axis whereby the machine can be guided, said front wheel means being disposed between a pair of said platforms;
  (4) a motor for driving the rear wheel means, said motor being disposed between the pair of rails;
  (5) ramp means pivotally carried by said pivot means, said ramp means being pivotally movable from a vertically extending position adjacent said rails to a position in which the free end thereof engages the ground,
  (6) means accessible to the operator when on the operator's support for raising said ramp means from the second mentioned position thereof, to the first mentioned position thereof;
  (7) and a shaft for oscillating the front wheel means.

3,193,121
CONVEYING APPARATUS
Leonard P. Kumpf, Affton, and Arthur G. Bignall, Kirkwood, Mo., assignors to Lasalco Incorporated, St. Louis, Mo., a corporation of Missouri
Filed Mar. 29, 1963, Ser. No. 269,111
24 Claims. (Cl. 214—89)

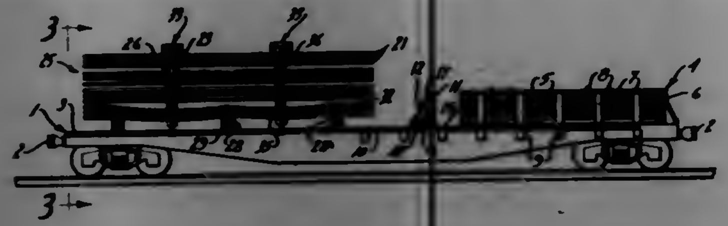


1. Conveying apparatus comprising a generally horizontal fixed track, a plurality of carriages spaced at intervals along the track and adapted for simultaneous movement in one direction along the track, a lifter carried by each carriage for lifting and lowering movement relative to the carriage, means carrying a plurality of couplers engageable with and disengageable from the lifters, means mounting said coupler-carrying means for movement in a generally rectangular path including a generally vertical downward stroke, a generally horizontal forward stroke, a generally vertical upward stroke and a generally horizontal return stroke, and means for moving said coupler-carrying means in said path, said couplers being engageable with the lifters and effecting lifting thereof on one of said vertical strokes, and effecting advance of the carriages on the forward stroke, and being disengageable from and effecting lowering of the lifters on the other vertical stroke, said coupler-carrying means moving through its return stroke with the couplers disengaged from the lifters without moving the carriages.

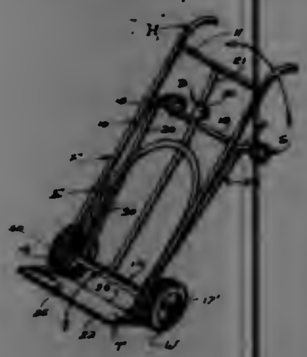
3,193,122
TRANSPORTATION SYSTEM FOR ELONGATED MEMBERS
Walter F. Sauthoff, Milwaukee, Wis., assignor to A. O. Smith Corporation, Milwaukee, Wis., a corporation of New York
Filed Apr. 9, 1963, Ser. No. 271,709
2 Claims. (Cl. 214—152)

1. A method of shipping a load of elongated channel members on a freight car having a flat bed, the steps comprising, disposing a plurality of raised beams transversely on said flat bed, loading a plurality of palletized bundles of elongated channel members lengthwise of the bed in tiers across said beams, said bundles each having a plurality of stress braces disposed transversely between

adjacent bottom tiers of channel members directly above said beams, said stress braces being adapted to transfer loads upwardly from said transverse beam to the next adjacent tier of channel members, positioning a plurality of cross braces between adjacent channel members and positioned between the raised beams to provide a predetermined spacing between adjacent bundles, and securing said palletized bundles into a unitary load by means of a plurality of tie-down assemblies laterally offset from said beams, said tie-down assemblies including tensioning means for bending at least the bottom tier of said channel members over said beams whereby excessive cargo shifting is effectively prevented.



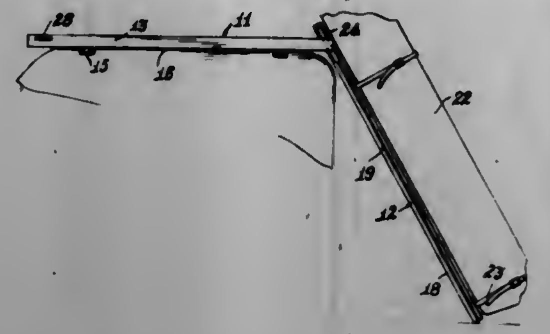
3,193,123
UTILITY TRUCK
Henry B. Wouden, 429 Pomelo Drive,
Monterey Park, Calif.
Filed Jan. 15, 1964, Ser. No. 337,928
7 Claims. (Cl. 21[illegible]—383)



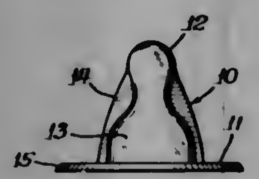
1. A truck of the character referred to including, an elongate, open, tubular frame with laterally spaced longitudinally extending side rails and longitudinally spaced laterally extending spreaders. said frame refining head and base ends and upper and lower planes, a pair of laterally spaced axle brackets fixed to and depending from the side rails at the base end portion of the frame, an axle fixed to and extending between the brackets and rotatably supporting a pair of support wheels, an elongate toe plate fixed to the base end of the rails and the brackets to extend transverse of the base end of the frame and to project upwardly therefrom, an elongate U-shaped extension having a pair of elongate parallel leg portions and a curved base portion, means pivotally mounting the free ends of the leg portions to the brackets below the rails and adjacent the toe plate, said extension being shiftable from a horizontal down position where it occurs between and below the side rails to a vertical up position where it occurs adjacent the toe plate and projects upwardly therefrom, and longitudinally outwardly and downwardly extending handles at the head end of the frame.

3,193,124
EXTENDABLE AUTO RACK FOR BOAT
Raymond J. Essling, 103 S. River St., Batavia, Ill.
Filed Mar. 4, 1963, Ser. No. 262,593
2 Claims. (Cl. 21[illegible]—450)

1. A load supporting apparatus comprising a first frame adapted to be secured to the roof of a vehicle, said first frame including parallel side rails having horizontal and vertical flanges, a bracket pivotally connected to each vertical flange adjacent to one end of the first frame, rollers on said brackets, a second frame, said second frame including spaced parallel side members each tubular in section to receive the rollers therein, said second frame being movable from an inclined position at one end of the first frame into a position lying flat upon the first frame, said second frame having the ends of its side members rested upon the horizontal flanges when in such flat position, and means on the second frame for securing a load thereto.



3,193,125
THERMOPLASTIC MOLDED NIPPLE AND PACKAGE
John L. Fischer, Arlington Heights, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Dec. 31, 1963, Ser. No. 334,696
17 Claims. (Cl. 215—11)

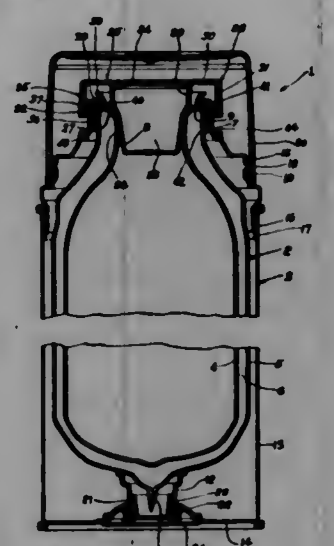


1. An elastically compressible soft resilient molded thermoplastic baby nipple comprising an outwardly extending heat-sealable base member and unitary therewith and centrally disposed thereon, a hollow upstanding teat including an enlarged portion next adjacent said base, a bulbous tip portion farthest removed from said base and an intermediate neck-like portion between said tip portion and said enlarged portion, said teat including two integral outwardly projecting longitudinally extending diametrically opposed rib-like members, said tip portion having a dynamic compression in the range of 100 to 1000 grams when compressed transversely in a ¼ inch band and rapidly regaining its original shape when said compression is released.

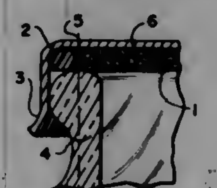
3,193,126
VACUUM BOTTLE HAVING FILLER WITH CLOSURE MOUNTING RING CEMENTED THERETO
Carl Bramming, Nashville, Tenn., assignor to Aladdin Industries, Incorporated, Nashville, Tenn., a corporation of Illinois
Filed Oct. 25, 1962, Ser. No. 233,061
5 Claims. (Cl. 215—13)

1. In a vacuum bottle,
the combination comprising a vacuum insulated receptacle having a neck portion with a mouth therein,
a protective jacket removably mounted around said receptacle,
a closure mounting ring mounted around the outside of said neck portion of said receptacle,
a layer of adhesives disposed between said closure mounting ring and said neck portion and forming a permanent bond therebetween,

joint means removably connecting the lower end portion of said closure mounting ring to the upper end portion of said jacket,
said closure mounting ring having screw threads thereon,
and a closure having a stopper portion disengageably received in said mouth of said receptacle,
said closure having screw threads thereon for disengageably mating with said screw threads on said closure mounting ring,
said receptacle and said closure mounting ring being removable from said jacket and replaceable as a unit,
said adhesive preventing separation of said closure mounting ring from said neck portion of said receptacle when said closure is tightened down,
said adhesive forming a leak-proof seal between said ring and said receptacle,
whereby said adhesive takes up the entire thrust exerted by said closure between said mounting ring and said neck portion of said vacuum insulated receptacle.



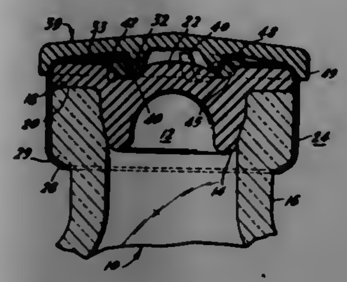
3,193,127
CROWN CLOSURE SEALING DISC
David G. Greenlie, Weston, Mass., assignor to W. R. Grace & Co., Cambridge, Mass., a corporation of Connecticut
Filed Apr. 14, 1961, Ser. No. 103,120
10 Claims. (Cl. 215—39)



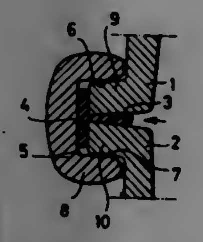
1. A sealing disc for a container closure comprising a circular supporting structure of a gas-impervious, fairly rigid, expanded, homogeneous, readily compressible polymer with a non-interconnecting cell structure capable of being compressed to less than one-fifth of its original volume and which will not exhibit plastic flow at a temperature below its softening point and an adherent circular, substantially unstressed, elastomeric sealing ring, said circular supporting structure serving to position said ring with respect to the sealing zone between said closure and the container.

3,193,128
CONTAINER CLOSURE
Jacob Ravn, Phoenixville, Pa., assignor to The West Company, Phoenixville, Pa., a corporation of Pennsylvania
Filed June 12, 1962, Ser. No. 201,846
16 Claims. (Cl. 215—42)

1. In a tamper-proof closure for pharmaceutical bottles or the like, a cap including a top having an annular portion and a skirt depending from the outer periphery of the annular portion, said annular portion terminating in an inner edge defining an opening in said top, a cover member overlying said opening, locking means depending from the cover member through said opening and engaging under the inner edge of said annular portion to secure said cover member over said opening, said locking means being fracturable upon actuation of said cover member with respect to the top to permit removal of the cover member from the cap and prevent replacement of said cover member.



3,193,129
MULTIPLE SECTION CONTAINER
Hans Pflüger, Friedrich Krause, and Karl-Heinz Anton, Celle, Germany, assignors to Berkefeld-Filter Gesellschaft und Celler. Filterwerke G.m.b.H., Celle, Germany
Filed Jan. 31, 1963, Ser. No. 255,366
1 Claim. (Cl. 220—5)



A multiple section container comprising, in combination:
- (a) a plurality of container sections, each section having an annular rim portion defining an opening;
- (b) an annular flange on each rim portion and projecting therefrom in a direction away from said opening,
  - (1) each flange having an inner annular face and an outer annular face opposite said inner face,
  - (2) the inner face of each flange being spacedly opposite the inner face of a coordinated flange of another container section and defining therewith an annular gap tapering in said direction at an acute angle,
  - (3) the outer faces of said coordinated flanges approaching each other in said direction;
- (c) an annular gasket member of yieldably resilient material and of substantially T-shaped cross section, said gasket member having
  - (1) a web portion in said gap in simultaneous abutting engagement with said inner faces, said web portion having an axial end face in said gap and, when in the relaxed condition, tapering from said end face in said direction at an angle greater than said acute angle, and
  - (2) a flange portion;
- (d) a releasable clamping ring of substantially U-shaped cross section having a central web portion and two spaced flange portions extending inward from said web portion,
  - (1) said flange portions of said clamping ring respectively engaging said outer faces on said container sections,
  - (2) the flange portion of said gasket member being interposed in simultaneous abutting engage-

ment between said coordinated flanges of said container sections and the central web portion of said clamping ring.

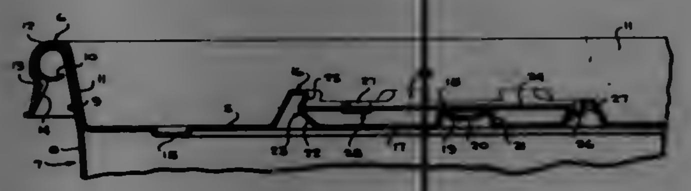
3,193,130

NON-SPILL VENTED CLOSURE FOR HOT CUPS

William L. Miller, Skokie, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed Apr. 10, 1961, Ser. No. 101,979

6 Claims. (Cl. 220—44)



1. A closure of the character described comprising a disk-like body having means at its periphery for effecting attachment to a cup or other container and including an upstanding annular bead defining therewithin a floor portion and a chamber, a disk supported on said bead and closing over said chamber, means providing for ingress of vapor through the floor into the chamber from within a container on which the closure may be mounted and egress of vapor from said chamber past said disk to the atmosphere, the disk and bead having cooperating snap together disk retaining portions, and said snapped together disk retaining portions including means for vapor escape clearance.

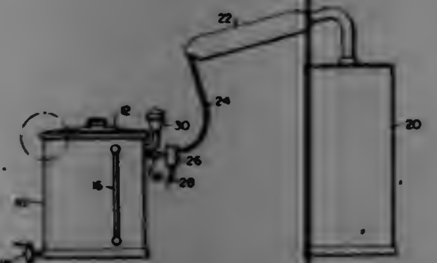
3,193,131

LIQUID STORAGE CONTAINER

Verity C. Smith, Dedham, Mass., assignor to Barnstead Still and Sterilizer Co., Boston, Mass., a corporation of Massachusetts

Filed May 14, 1962, Ser. No. 194,374

4 Claims. (Cl. 220—45)



1. A liquid storage container comprising, in combination: a vessel for containing a liquid, said vessel having an open upper end and being formed peripherally about said upper end with an upwardly-open trough, a cover for overlying and enclosing said upper end, said cover being formed with a peripheral flange arranged to extend about the periphery of said open end and downwardly into said trough, and a mass of dilatant silicone putty disposed in said trough for submersion of said peripheral flange of said cover therein, said mass of silicone putty being characterized by flowing under quiescent conditions into complete and wetting contact with said cover flange, and becoming of increased resistance to flow and stiffness when subjected to force, thereby providing a liquid seal about said cover which stiffens to withstand sudden fluctuations in the differential pressure within said container.

ERRATUM

For Class 220—[illegible]6 see:
Patent No. 3,19[illegible].690

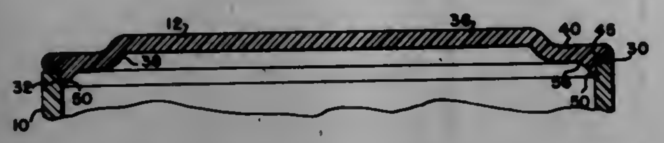
3,193,132

MOLDED PLASTIC BOX AND COVER

Robert E. Gray, Kirkville, N.Y., assignor to Crouse-Hinds Company, Syracuse, N.Y., a corporation of New York

Filed July 2, 1963, Ser. No. 292,319

1 Claim. (Cl. 220—60)



An electrical conduit fitting comprising a boxlike body member having an opening in one side and a cover member for said opening, said members being molded from plastic material, said opening being encircled by a flat marginal surface, the inner surface of said opening having contiguous to said marginal surface an undercut groove sloping downwardly and outwardly from the center of said opening, said cover member having on its under side a rib shaped complemental to said opening, said rib sloping downwardly and outwardly and engaged with said groove with an interference fit therebetween, said cover member having a flat marginal surface in engagement with the inner portion of the flat marginal surface encircling said opening, said cover having a second outer flat marginal surface offset upwardly from said first marginal cover surface and extending outwardly therefrom in upwardly spaced overlapping relation to the outer portion of said marginal surface on said body member for the reception of a sealing gasket between said cover member and body member.

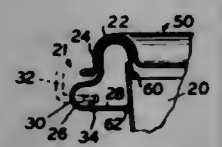
3,193,133

BAILED CONTAINERS

Cyril H. T. Woodward, 160 Howard Ave., Rochelle Park, N.J.

Filed May 6, 1963, Ser. No. 278,194

7 Claims. (Cl. 220—91)



1. A bailed-container and cover comprising in combination, an open-topped container having a bottom, a side wall attached thereto, a rim member attached to the side wall and having an upper-portion extending upwardly, outwardly thence downwardly from the side wall, a side-portion attached to and extending downwardly from said upper-portion, a pry-portion extending outwardly and downwardly from said side-portion, an underside portion extending inwardly to the container side wall, at least one pair of bail-openings formed in said pry-portion and providing a bail-end entering path, an attached bail member having the intermediate portion formed in an arch, end members formed on each end of the bail and extending inwardly toward each other and having a common axis, a tab-engaging shoulder formed in each end member, a deflectable, bail-end engaging means extending into the bail-end entering path engaging and retaining each bail-end in said bail-openings, a cover having a female-circular recess portion formed to snugly engage the upper-portion of said rim, an outer wall attached to the recess portion and adapted to snugly engage the side-portion of the rim and a pry-flange attached to and extending outwardly from the side-portion so that when the cover is fully installed and pry-flange will lie above said rim pry-portion a predetermined amount sufficient for the insertion therebetween of a wedge implement.

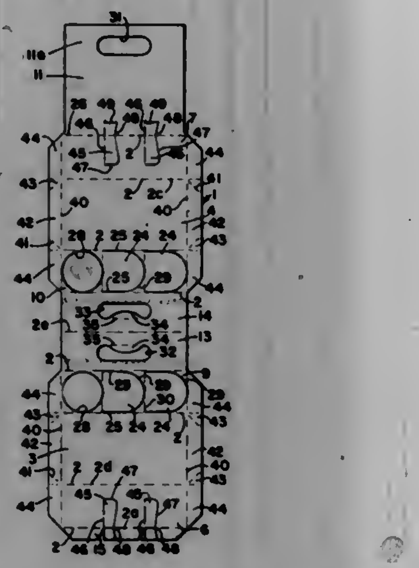
3,193,134

CARRIER

Raymond A. Cote, Metuchen, N.J., assignor to International Paper Company, New York, N.Y., a corporation of New York

Filed June 17, 1964, Ser. No. 375,914

1 Claim. (Cl. 220—114)



A carrier formed from a one-piece blank of foldable sheet material, said carrier having parts including side wall panels, a bottom, a top, a center partition, and a glue flap, said bottom including first and second bottom wall panels, said top including first and second top wall panels, said carrier having horizontal fold lines defining said side wall panels, said bottom, said top, said center partition, and said glue flap and hingedly connecting them to each other, said carrier having means defining a plurality of top transverse partitions in each of said first and second top wall panels and means defining a plurality of bottom transverse partitions in said first and second bottom wall panels and in said center partition and said glue flap, said means defining each of said bottom transverse partitions including means defining a vertical fold line and a curved cut, each of said bottom transverse partitions being concave at a center portion thereof and at least two of said bottom transverse partitions each having means defining an indentation in said center partition, said center partition being folded perpendicularly to said bottom, said bottom transverse partitions being folded perpendicularly to said bottom and transversely of said center partition with each said indentation in said center partition receiving a said concave portion of said bottom transverse partitions to lock said bottom transverse partitions in their operative positions.

3,193,135

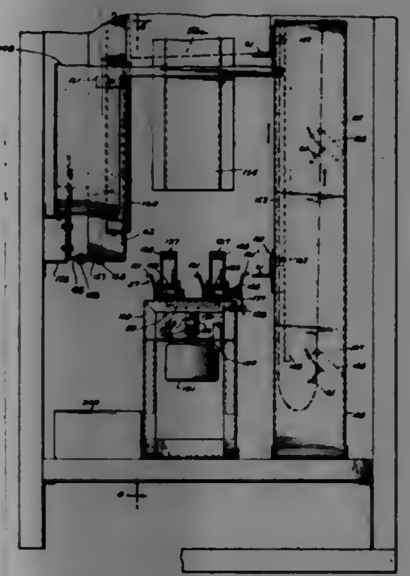
ARTICLE DISPENSING MACHINE

Louis Bentzman, Levittown, Pa., assignor to Rudd-Melikian, Inc., Hatboro, Pa., a corporation of Pennsylvania

Filed Sept. 28, 1962, Ser. No. 227,025

12 Claims. (Cl. 221—6)

11. An article dispensing machine comprising a cabinet, an article support in the cabinet establishing a normally occupied station for delivery of such articles from the machine, article storage means in the cabinet including an article supporting shelf one end of which is adjacent the delivery station and which shelf is extended away from the delivery station to provide for support of a series of articles organized for successive feed to the delivery station, feed mechanism for successively feeding articles from the series supported by the shelf to the delivery station, the article storage means further including a support carrying an additional series of articles above the first series, conveyor mechanism carrying said latter support and being downwardly movable to deposit said additional series of articles on said shelf when the last article of said first series has been fed to the delivery station, an electrical control system including, in combination with a voltage source, a first sensing device associated with the delivery station and with said voltage source and providing for delivery of said voltage to the feed mechanism in the absence of an article in the delivery station, and thereby initiate operation of the feed mechanism, and a second sensing device associated with the feed mechanism and with said voltage source through said first sensing device and providing for delivery of said voltage to the conveyor mechanism in the absence of an article on said shelf and thereby initiate operation of the conveyor mechanism, a sold out indicating device, and a third sensing device associated with the conveyor mechanism, with the feed mechanism, and with said voltage source through the second and first sensing devices and providing for delivery of said voltage to the sold out device in the absence of an article on the conveyor and on said shelf, and thereby initiate operation of the sold out device.



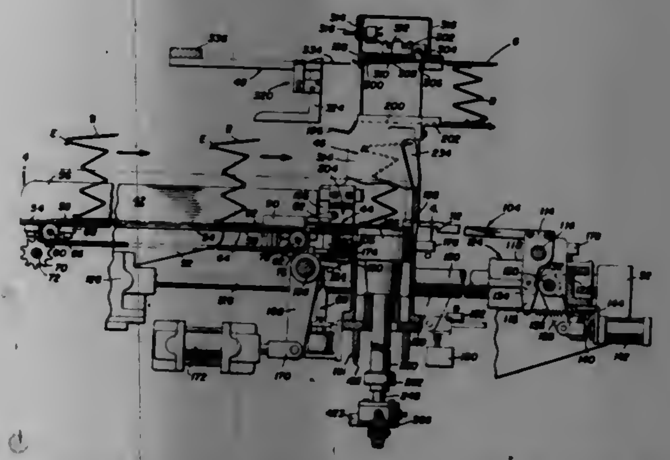
3,193,136

COIL FEEDING APPARATUS

Walter Stumpf and Helmut Sturm, Kenosha, Wis., assignors to Simmons Company, New York, N.Y., a corporation of Delaware

Filed Oct. 22, 1959, Ser. No. 847,932

18 Claims. (Cl. 221—40)



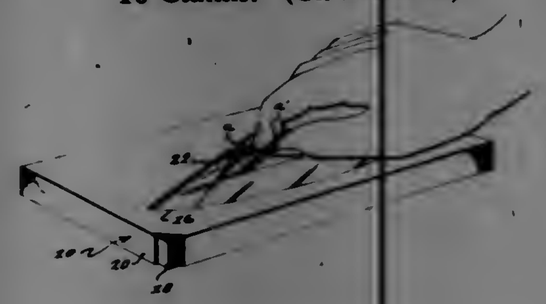
1. Apparatus for feeding knotted helical wire spring coils individually from a laterally-nested stack of such coils to a remote point with the knots of said coils in predetermined rotative orientation, comprising a magazine for receiving a laterally-nested stack of such coils with the knots thereof having a generally common rotative orientation in said stack, means for extracting the lead coil from the laterally-nested stack in a forward motion perpendicular to the axis of the coil, means associated with said magazine for orienting said coil during the ex-

traction so that the knot of the coil has a specific rotative orientation relative to the direction of motion of the coil, and a transfer mechanism for receiving said coil at the end of said extraction motion and delivering it to said remote point by further motion including movement perpendicular to said coil axis and with said knots displaced a quarter-turn from the center line of the path of said movement.

3,193,137
HOSIERY PACKAGE AND METHOD AND MEANS FOR FORMING SAME

Charles E. McCarthy, Tenafly, N.J., and Andrew W. Scannell, Western, Conn., assignors to Leath, McCarthy & Maynard, Inc., Burlington, N.C., a corporation of North Carolina

Filed July 3, 1962, Ser. No. 207,864
10 Claims. (Cl. 22[illegible]—48)

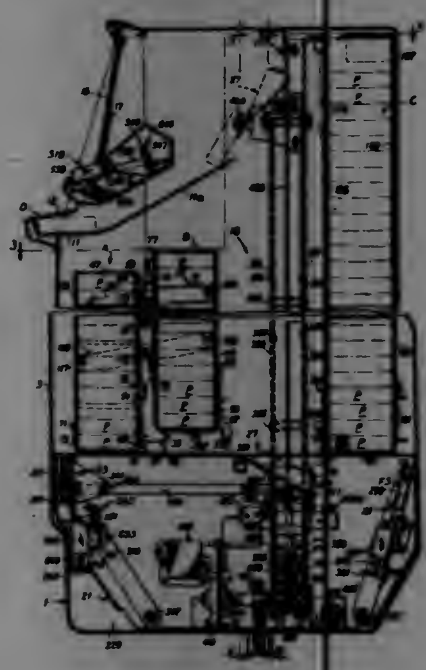


1. A hosiery package comprising a container proportioned for enclosing a group of folded hose, said container having a withdrawal aperture formed in one side wall thereof, and a group of folded hose disposed in said container with the welt portion of the hose of said group adjacent said withdrawal aperture positioned accessibly thereat, with a significant portion of the body of said adjacent hose interfolded beneath a top welt portion of the next adjacent hose of said group, and with every other hose of said group successively interfolded in the same manner.

3,193,138
DISPENSER WITH ARTICLE ELEVATOR

Robert N. Cox, Bridgeton, and Leonard A. Ficken, St. Louis County, Mo., assignors, by mesne assignments, to Universal Match Corporation, Ferguson, Mo., a corporation of Delaware

Filed Sept. 5, 1963, Ser. No. 306,924
32 Claims. (Cl. 22[illegible]—116)

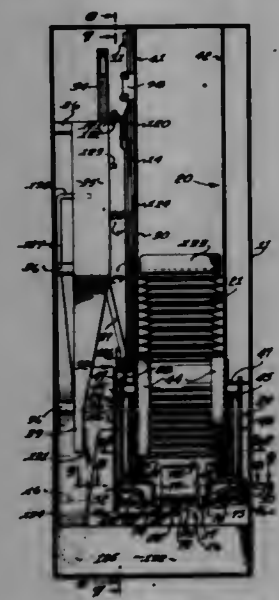


1. A vendor comprising a cabinet having a front and a rear, a bank of columns in the cabinet, said bank extending transversely in the cabinet and said columns being located side-by-side in the bank, each column being adapted to hold a stack of items to be vended and adapted for rearward ejection of the lowermost item of the stack therein, the cabinet having a delivery station at the front above the bottom of the bank of columns and at a level convenient for removal of an item from the delivery station by a purchaser, means for selectively ejecting the lowermost item rearward from any column comprising a plurality of ejectors, one for each column, and an elevator extending from side-by-side of said bank of columns at the rear thereof and mounted for movement in the cabinet between a lowered position for receiving an item ejected rearward from any column and a raised position at a level above the top of the bank of columns for delivery of the item over the top of the bank of columns to the delivery station.

3,193,139
DISPENSING APPARATUS

Edmund F. Iannone, 12115 Clearglen Ave., and Woodward W. Holder, 421 N. Hill, both of Whittier, Calif.

Filed Aug. 26,1963, Ser. No. 304,475
6 Claims. (Cl. 221—224)



1. Apparatus for dispensing individually a plurality of flat pockets having irregular edges, said apparatus comprising:

means to hold said packets in a stack with their respective flat faces abutting;

means for selectively moving the lowest packet slightly in a direction away from the next above packet, said means including a large number of thin, flexible fingers, which may be selectively inserted between said edges and packets;

and transfer means for moving said lowest packet substantially from its position to which it was moved relative to the next above packet.

3,193,140
AUTOMATIC LIFE JACKET INFLATOR ADAPTER

Robert J. Trauger, 444 W. Duarte Road, Arcadia, Calif.

Filed Dec. 11, 1963, Ser. No. 329,931
7 Claims. (Cl. 222—3)
(Granted under Title 35, U.S. Code (1952), sec. 266)

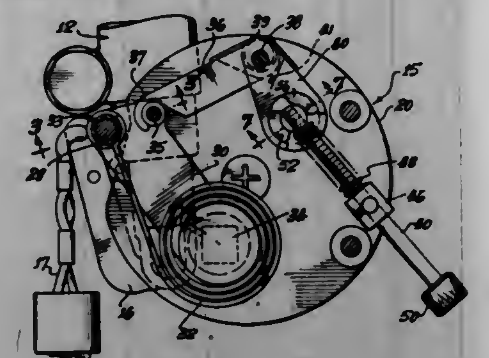
1. An automatically operable inflator for inflatable life saving equipment used in a water environment which life saving equipment is furnished with a manually operable gas inflation device, said automatically operable inflator comprising:

means for securing said operable inflator to said gas inflation device;

a pivoted driving lever adapted to engage the manually operable portion of said gas inflation device;

spring means attached to said pivoted lever for forcing said lever to engage and operate said manually operable portion;

releasable means for cocking the driving lever in an operating position; and

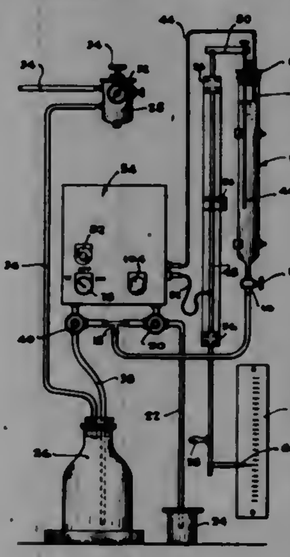


means for releasing the cocking means from the driving lever when said equipment is immersed in a water environment.

3,193,141
DEVICE FOR MEASURING AND DISPENSING VARIABLE AMOUNTS OF LIQUID

Durward B. Badgley, Chicago, Ill., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 23, 1963, Ser. No. 304,096
3 Claims. (Cl. 222—20)

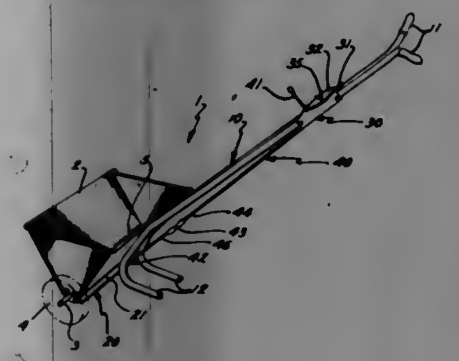


2. An improved device for dispensing by gravity measured quantities of liquid electrolyte material, said device comprising: a vertical measuring column for containing a body of liquid; a T connector at the bottom of said measuring column; a first solenoid valve connected between one side of said T connector and a discharge tube; a second solenoid valve connected to the opposite side of said T connector; a closed vessel connected to said second valve, said vessel normally containing a supply of liquid for said measuring column; gas pressure means connected to said vessel for constantly exerting a positive pressure and thereby forcing liquid therefrom to said valve and thence to said measuring column; a first short electrode fixed within the upper end of said measuring column, the end of said first electrode positioned at a zero reference point: a second long electrode reciprocable vertically within said measuring column and extending from the top thereof downwardly to an adjustable point below said zero reference point; positioning means located outside and below said measuring column and connected to said second electrode, said positioning means being operable to move said second electrode to a point defining a desired volume within said column and between said zero and adjustable point; and a liquid level controller electrically connected to said first and second electrodes and to liquid within said column, said controller also being connected to operate said first and second solenoid valves to hold open said first valve upon actuation of an operator and so long as liquid is in contact with said second electrode, to close said first valve and simultaneously open said second valve upon the level of liquid in said column falling below said adjustable point, and to close said second valve upon the liquid level in said column rising to said zero reference point.

3,193,142
LAWN SPREADER

Truman L. Atkinson, 609 Lake Shore Drive, Ludington, Mich.

Filed Aug. 26, 1963, Ser. No. 304,426
10 Claims. (Cl. 222—41)

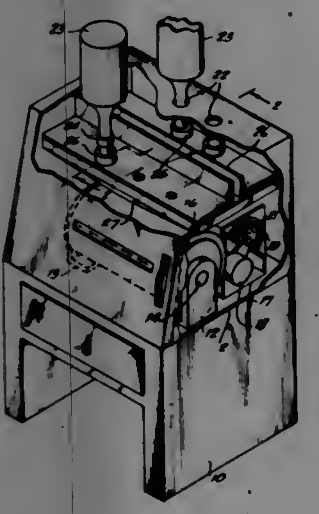


1. A lawn spreader, comprising: a hopper adapted to receive material to be spread; an axle journaled adjacent the bottom of said hopper and having wheel means for transporting said hopper; handle means fixed to said hopper for moving said hopper; apertures formed in the bottom of said hopper for discharging material; a gate including a shutter plate conforming to the bottom of said hopper and covering said apertures; members affixed to the ends of said gate, said members each having a slot therein receiving said axle adjacent its ends; bracket means holding said gate against said bottom of said hopper; control means associated with said gate for moving said gate and said shutter plate to progressively uncover said apertures and regulate discharge of material therefrom, said gate movable through said control means to a point where said shutter plate is released from said bracket means and said gate is removable from said bottom of said hopper as said axle moves in said slots.

3,193,143
AUTOMATIC LIQUID DISPENSING DEVICE

Vincent Maieli, 1116 Melissa Lane, North Bellmore, N.Y.

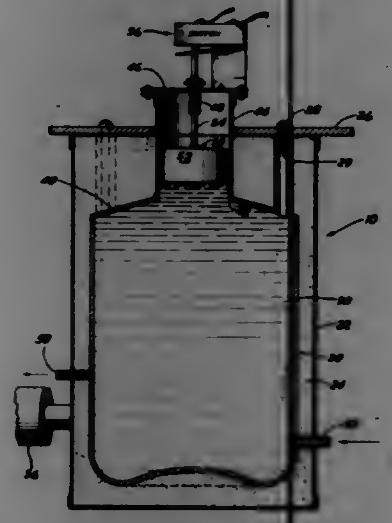
Filed Oct. 18, 1962, Ser. No. 231,443
12 Claims. (Cl. 222—42)



11. An automatic liquid mixture dispensing device comprising, a rotatable mounted means having indicia thereon for indicating a particular mixture, a plurality of containers each of which contains a different liquid, a valved outlet means connected to each of said containers, a venting means connected into each of said containers, a circuit means connected to said valved outlet means, a

selector circuit which is connected into said circuit means and a shorting bar on said rotatable mounted means connectable to said selector circuit.

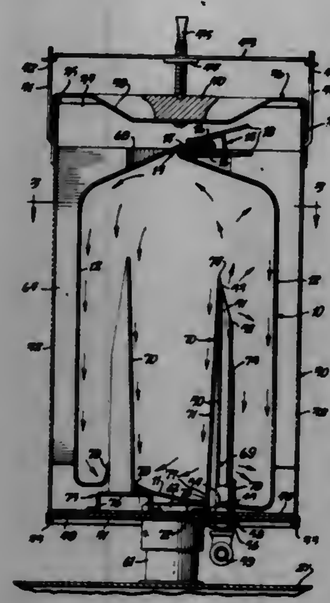
3,193,144
WATER HEATING TANK
Alan M. King, Lake Forest, Ill., assignor to Square Manufacturing Company, a corporation of Illinois
Filed Aug. 14, 1963, Ser. No. 302,199
4 Claims. (Cl. 222—67)



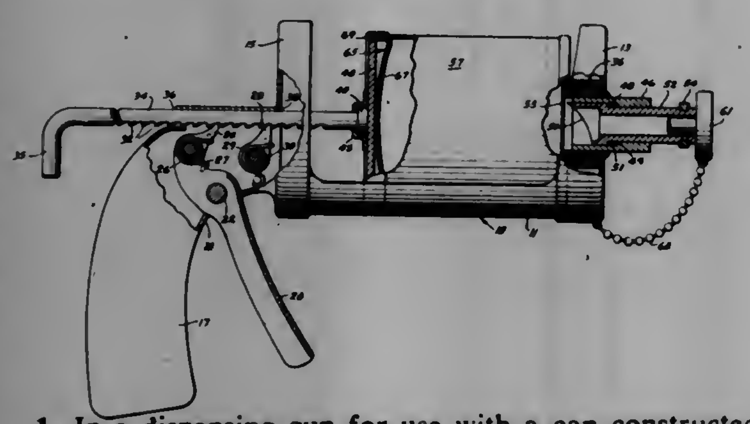
1. A water heating tank for a beverage dispenser machine having granules of beverage charge therein and related electromechanical components for preparing a preselected beverage, comprising: a tank body having means therein defining an inlet and outlet and means for heating the water contained therein; a frusto-conical top on said body having an opening therein and a neck projecting upwardly therefrom; an outlet tube having an opening immediately adjacent said top; a cover on said neck having a sleeve therethrough; float means in said neck adapted to rise and fall in response to the different water levels in the tank, said float means including a float element having a diameter substantially coextensive with that of said neck and a shaft positioned in said sleeve; switch means on said neck operatively associated with said float means shaft for admitting water to said tank when said water level and said float fall below a predetermined line of said neck the position of said outlet opening relative to said top permitting exposure of only a minimal amount of water surface area when water is drawn from said tank through said outlet, so that the exposed surface area of water subject to evaporation is maintained at a minimum and thereby fouling of said electromechanical components or coagulation of said granules due to the moisture in the dispenser is substantially eliminated.

3,193,145
DISPENSER FOR POWDERED MATERIALS
Arthur G. Vara, Sr., 53 Clark St., Hamburg, N.Y.
Filed Jan. 2, 1962, Ser. No. 163,547
1 Claim. (Cl. 222—82)

A device for slowly feeding powder into a liquid, comprising a closed thin walled package containing said powder and capable of being manually perforated, a container for said package having a bottom wall and a side wall forming a chamber with a top opening through which said package is inserted downwardly into said chamber, a liquid inlet pipe projecting from said bottom wall into said chamber and having an opening discharging liquid into said chamber, a probe projecting from said bottom wall alongside said liquid inlet pipe and being provided at its upper end with a sharp edge for piercing a hole in said package to permit entry of said liquid inlet pipe into said package when said package is so inserted downwardly into said chamber, means for draining said container, the liquid emerging from said liquid inlet pipe picking up and carrying small amounts of said powder along said piercing means through said hole in said package into said draining means, a bridge-shaped piece of metal having legs, said legs being secured to the said bottom wall of said container, and a second probe of channel form in cross section mounted on said bridge-shaped piece of metal.



3,193,146
DISPENSING GUN
Damon C. Isgriggs, St. Louis, Fritz M. Lothman, Warson Woods, and Donald H. Ellerbrock, Florissant, Mo., assignors to R.C. Can Company, Overland, Mo., a corporation of Missouri
Filed Oct. 8, 1962, Ser. No. 229,131
2 Claims. (Cl. 222—82)



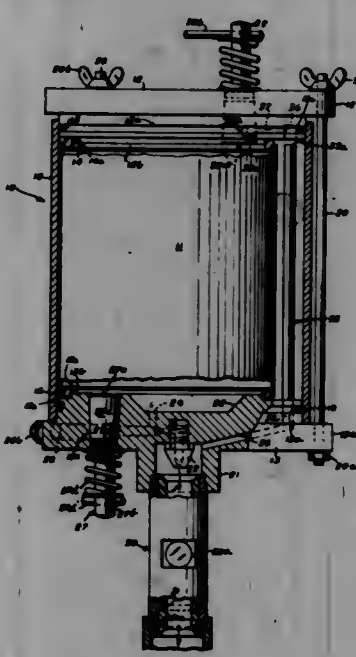
1. In a dispensing gun for use with a can constructed with at least one end movable through the can body to discharge the can contents, said gun having, (*a*) a body with an opening through which a can may be inserted and withdrawn, (*b*) a front plate on one end of said body at which one end of a can is positioned, and (*c*) an ejector means at the opposite end of said body adapted when actuated to engage the opposite can end and impose a force on the can in the direction of said front plate and to impose pressure on said movable can end to force the can end through the can and expel the can contents, the improvement comprising,

(1) a hollow tap on said front plate having a hollow piercing point at one end adapted to puncture a can end into communication with the contents in a can at a location in the path of movement of the movable can end and an outwardly projecting spout at its opposite end,

(2) a ring-like resilient seal surrounding the hollow piercing point at one end of said hollow tap, and

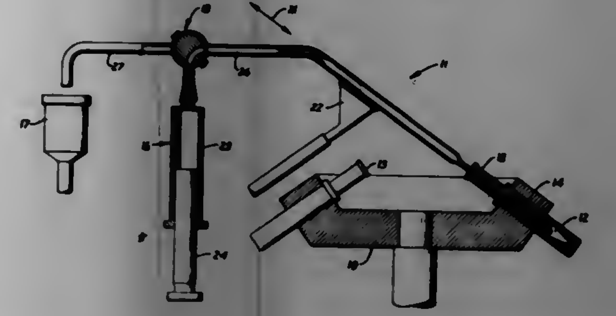
(3) a yieldable mounting for said hollow tap permitting movement of said tap to puncture a can end and said piercing point toward said can end by pressing said spout and, away from a can end after it has been pierced in response to pressure from the movable end.

3,193,147
LIQUID ODORANT FEEDER ASSEMBLY
Charles L. Popp, 1421 Belden Road, Jackson, Mich.
Filed Mar. 25, 1963, Ser. No. 267,424
4 Claims. (Cl. 222—83.5)



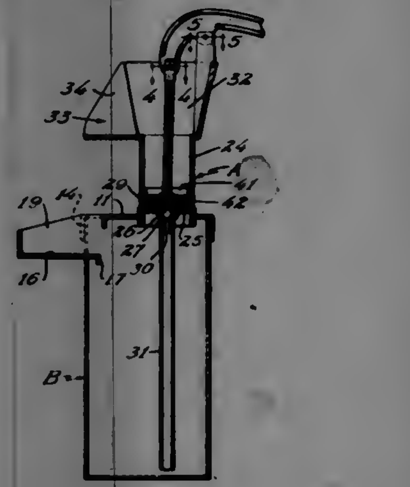
1. A device for dispensing odorant fluid from a sealed container into a gas line system comprising in combination for use with such a sealed container, bottom and top end members, sealing means on the bottom portion of the top end member and top portion of the bottom end member to lie adjacent the periphery of each end of said sealed container sealing said bottom and top members to the sealed container, an open ended protective housing extending between said top and bottom end members and lying outside of said means for encirling said sealed container, cooperative sealing means sealing said housing adjacent its ends to said members, detachable means for securing said end members on said sealed container and said housing on said end members, said bottom end member having a recess portion in its top portion to lie adjacent said sealed container and within said first mentioned sealing means on the bottom end member, a dispensing orifice extending through said bottom end member from said recess portion for communication with other pipe means into which said odorant from the sealed container is to be dispensed, perforator means mounted in said bottom and top end members for perforating the adjacent bottom and top ends of said sealed container, said bottom perforator being positioned so that the perforation formed thereby permits odorant to seep out of the container and into said recessed end portion of the bottom end member for dispensing through said orifice, said top end member having passage means therein leading at one end from the bottom portion and between said sealing means on the top end member to another end at another portion of the bottom of the top end member within said first mentioned sealing means on the top end member, pressure neutralizing conduit means extending from the lower portion of said bottom end member where it communicates with said pipe means into which said odorant is dispensed from said nozzle to communicate with said one end of the passage means in said top member, said pressure neutralizing conduit means adapted to be connected to said sealed container at the top by said perforation made by said top perforation made by said top perforator.

3,193,148
SAMPLE HANDLING APPARATUS
Erik W. Anthon, Kensington, Calif., assignor, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J.
Filed July 2, 1962, Ser. No. 207,119
6 Claims. (Cl. 222—108)



1. An apparatus for transferring a measured quantity of sample from one position to another, comprising a sample reservoir source container at a sample source site where a sample is provided, a probe for taking up sample, a sample receiver at a sample receiving site where sample is to be delivered from the probe, a drain for receiving excess sample, a first pump means for drawing up a measured quantity of sample into said probe when the probe is in position at the sample site, a second pump for taking up a measured quantity of excess sample into the probe, said excess sample being present in an amount sufficient to clean the probe so as to prevent contamination by prior samples, and valve means for connecting said first and second pump means to the probe when the pump means are taking up sample and for connecting said first pump means to the probe for delivery of sample at the sample receiving site while connecting said second pump means to the drain for expulsion of excess sample.

3,193,149
TOY LIQUID DISPENSER
Everett E. Beaubien, 388 E. 8th St., St. Paul, Minn.
Filed Sept. 3, 1963, Ser. No. 305,961
5 Claims. (Cl. 222—109)



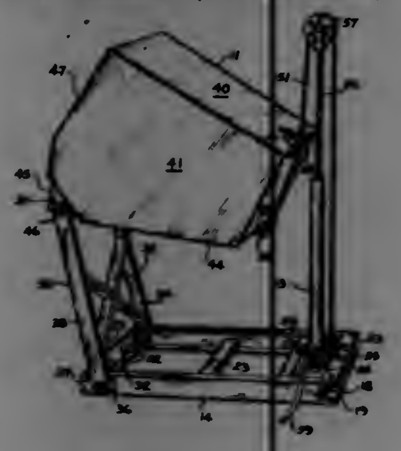
1. A toy pump for use in demonstrating the operation of a hand pump including a cyilndrical tube, an open topped chamber connected to the upper end of said tube, a pouring spout on said chamber through which liquid from said chamber may be discharged, a pair of spaced parallel arms secured to said chamber and having aligned apertures extending therethrough, a pump handle having a pair of opposed projections intermediate its ends detachably engaged in said apertures said arms being of a material sufficiently resilient to permit said projections to be engaged in and normally supported in said apertures, a piston slidable in said cylinder, a piston rod of resilient material having a bifurcated end adapted to accommodate an end of said pump handle, aligned sockets in said bifurcated end, opposed projections on said pump handle end detachably engaged in said sockets, said pis-

ton rod extending through said piston, shoulder means on said piston rod engageable with said piston, and a valve plate frictionally engaged on the lower end of said piston rod below said piston, said piston having an aperture therethrough closed by said valve plate when said valve plate is spaced from said piston, a fluid inlet at the bottom of said cylinder and a check valve in said inlet opened by upward movement of liquid into said cylinder.

3,193,150

PORTABLE DUMPING BIN

William E. Simas, Salinas, Calif., assignor to The Triangle Co., Salinas, Calif., a corporation of California
Filed Aug. 1, 1962, Ser. No. 213,911
10 Claims. (Cl. 222—166)



1. A portable dumping bin assembly for bulk materials, including, in combination,

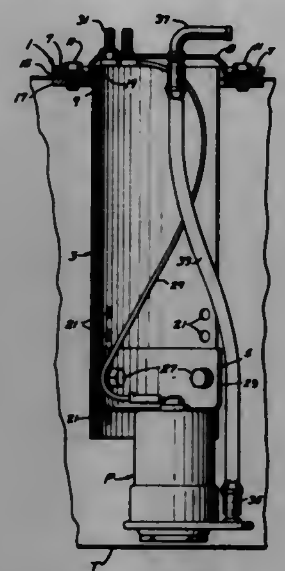
- a stationary horizontal base having a pouring end,
- a generally upright rigid frame with a lower end pivotally supported by said base about an axis closely adjacent said pouring end, said frame having an upper end,
- stop means on said base for limiting the angular pivotal movement of said frame between a vertical position and a tilted position in which the upper end lies beyond said pouring end of said base,
- a bin having a bottom end normally resting on said base where said bin is in a non-pouring storage position and an upper end pivotally supported in restraint by the upper end of the frame along a line parallel to said axis and vertically above it when said bin is in its storage position, said bin having discharge means lying closely adjacent said line, the center of gravity of said bin during its storage position lying on the opposite side of said line from said pouring end and lying on the same side of said line as said pouring end when said bin is in its pouring position, and
- bin tilting means secured to said base for lifting said bin while moving it pivotally relative to said frame so as to cause said frame to move out to its tilted position, so that further lifting moves said bin tc dump from its said discharge means.

3,193,151

MOUNTING FOR FUEL PUMP

Charles W. Jeep, Jr., Webster Groves, and Edgar W. Niemeyer, Normandy, Mo., assignors to ACF Industries Incorporated, New York, N.Y., a corporation of New Jersey
Filed Dec. 14, 1962, Ser. No. 244,736
6 Claims. (Cl. 222—180)

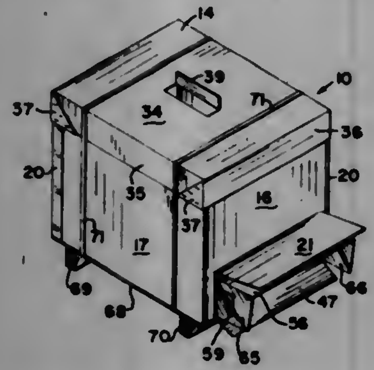
1. A hanger assembly for hanging a pump in a tank with the pump located near the bottom of the tank, said assembly comprising a cap plate for engagement with the top of a tank and securement thereto, a hanger secured at its upper end to the cap plate and extending downward therefrom, said hanger being adapted to extend down into a tank through a hole in the top of the tank and comprising an upper member and a lower member, said members being of channel shape in horizontal cross section and thereby having a relatively high stiffness to weight ratio, said upper member having at least two rows of vertically aligned holes therein at its lower end, said lower member having at least two rows of vertically aligned holes at its upper end, one hole in each of the two rows of holes in the lower member being in register with a respective hole in each of the two rows of holes in the upper member, fasteners extending through said registering holes to secure said members in nesting relation, and means secured to the lower member within the channel thereof adjacent its lower end carrying a pump.



3,193,152

BULK SHIPPING CONTAINER

Herbert V. White, Jr., Borger, Tex., assignor to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey
Filed Sept. 18, 1963, Ser. No. 309,654
7 Claims. (Cl. 222—182)

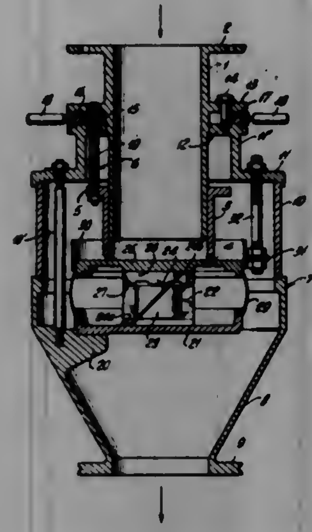


1. A bulk shipping container comprising a generally rectangular inner liner having a valve opening formed in the lower edge of one side thereof, a generally rectangular outer shell encompassing said inner liner, a flap hingedly secured to the lower edge of one side of said outer shell and arranged in generally aligned relation to said valve opening, a bottom tray having upstanding side and end walls, said side and end walls lying between said outer shell and said inner liner, a valve assembly mounted between said side and end walls and said inner liner, said valve assembly including a pair of oppositely disposed spaced apart side panels, a front panel, a valve panel hingedly secured to the lower edge of said front panel aligned with and closing said valve opening when in closed position, expansible means integrally securing the respective side edges of said valve panel to said side panels, said valve panel being moveable outwardly and upwardly to an open position permitting flow of contents from said inner liner out of said container, and a cover having depending side walls encompassing the upper end of said outer shell.

3,193,153

DEVICE FOR CONTROLLING THE CONTINUOUS TRANSFER OF POWDERED MATERIALS

Masuo Hosokawa, 6 Toyonaka-Hondori 2-chome, Toyonaka-shi, Osaka-fu, Japan
Filed Sept. 24, 1963, Ser. No. 311,248
4 Claims. (Cl. 222—199)

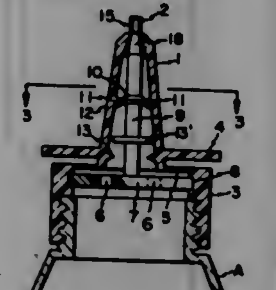


1. A device for controlling continuous transfer of powdered materials comprising a tubular body having means on one end for introducing the material to be transferred, a disc adjoining the other end of said body, a peripheral wall surrounding said disc and extending in the direction of said body, means for adjusting the height of said wall relative to said disc, and means for vibrating said disc to cause the powdered material to flow between said other end of the body and said disc and over the edge of said peripheral wall.

3,193,154

CLOSURE MEANS

Helmut Karl Bross, Altenberg uber Nurnberg, Germany, assignor of thirty-three and one-third percent to Frank T. Johmann, Berkeley Heights, N.J.
Filed Mar. 30, 1962, Ser. No. 183,849
Claims priority, application Germany, May 17, 1961, B 62,506; June 9, 1961, B 62,837
31 Claims. (Cl. 222—207)

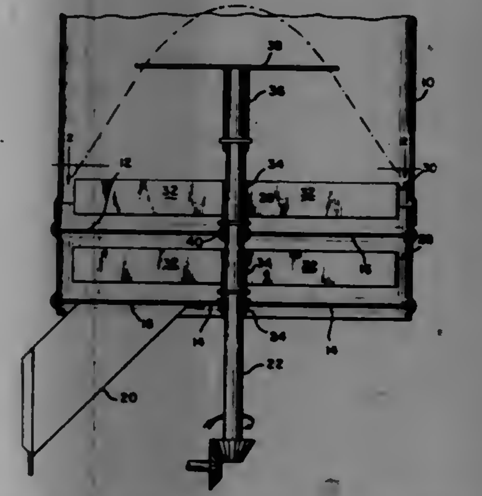


1. Closure means for containers comprising a fixed part, a discharge member defining a discharge opening, a valve member adapted for closing said discharge opening, both of said members being connected to said fixed part, at least one of said members being a movable member connected to said fixed part through a flexible wall having one end fixed to said fixed part and its other end fixed to said movable member, said movable member upon flexing of said flexible wall being longitudinally movable relative to said fixed part and said other member between: (1) a closed position wherein said valve member closes said discharge opening, and (2) an opened position wherein said valve member is positioned relative to said discharge member so as to expose said discharge opening, said flexible wall urging said movable member towards one of said positions, and releasable locking means to lock said members in at least one of said positions.

3,193,155

FEEDING OR DISPENSING APPARATUS FOR GROUND, GRANULAR OR PELLETIZED FEEDS OR THE LIKE

Gretzolon L. Hazen, Fort Atkinson, Wis., assignor to Dairy Equipment Company, Madison, Wis., a corporation of Wisconsin
Filed Feb. 28, 1963, Ser. No. 261,718
1 Claim. (Cl. 222—227)



Feeding or dispensing apparatus for ground, granular or pelletized feeds comprising:

- a substantially vertically extending chute;
- dispensing means mounted at the bottom of the chute for dispensing feed from the chute, said dispensing means including a pair of vertically spaced plates horizontally extending across the chute and fastened thereto and having misaligned holes therein, said dispensing means further including a vane mounted above each plate, said vanes rotatably mounted on a shaft with the peripheral extremities of said vanes being spaced from the chute a sufficient distance to prevent jamming of feed between said vanes and said chute, said shaft extending through said spaced plate and rotatably mounted therein;
- a horizontally disposed flat disc rotatably mounted on said shaft above said dispensing means to interrupt the normal bridging angle of feed in the chute, the diameter of said disc being sufficient to support a substantial portion of the weight of the column of material above said disc and yet spaced from the chute a sufficient distance to prevent bridging at the disc; and
- drive means operatively connected to said shaft for rotating said vanes and said disc.

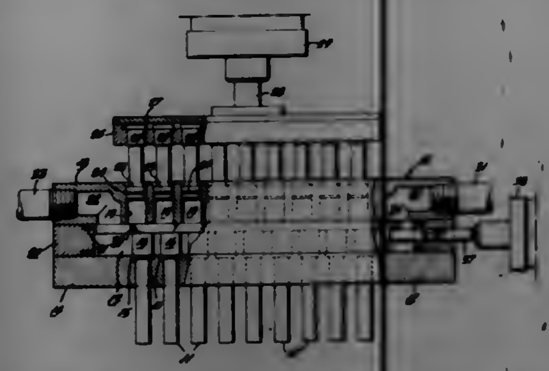
3,193,156

DISPENSING MECHANISM

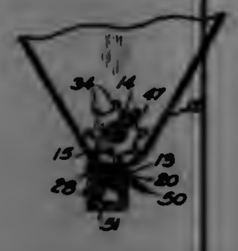
Walter W. Egee, Wallingford, Pa., and Alec B. Smith, Palmyra, N.J., assignors to Campbell Soup Company, Camden, N.J., a corporation of New Jersey
Filed Aug. 27, 1963, Ser. No. 304,785
9 Claims. (Cl. 222—255)

1. Dispensing mechanism comprising in combination, a dispensing head having a product reservoir chamber, a dispensing nozzle extending from one side of said reservoir chamber through said chamber and having a dispensing passage therethrough, a cylinder extending from said one side of said chamber in the opposite direction from said nozzle and having its axis offset laterally from the axis of said nozzle dispensing passage, a piston operating in said cylinder for drawing in material from said reservoir chamber and discharging it through said nozzle

passage, means for continuously forcing material into said reservoir chamber, and a shiftable valve in said reservoir chamber having a port hole therethrough arranged in one position to connect said reservoir chamber with the cylinder and in another position to connect the nozzle channel with the cylinder.



3,193,157
APPARATUS FOR SPREADING POWDERED AND GRANULAR MATERIALS
Clarence M. Einhorn, Atlanta, Ga., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware
Filed Aug. 20, 1962, Ser. No. 218,014
6 Claims. (Cl. 222—311)



1. An apparatus for spreading powdered and granular materials including in combination, a hopper having walls and means at the bottom for distributing said materials, an agitator means rotatable about its longitudinal axis and mounted in said hopper above said distributing means, and a chamber defined by the lower hopper walls and the agitator means when the latter is in a stationary position, said chamber being interposed between said hopper and said distributing means and serving to interrupt the flow of material when rotation of the agitator means ceases.

3,193,158
WINDSHIELD-WASHER DEVICE CONSTITUTED BY A RESERVOIR WITH PUMP
Benno Lopater, 3 Rue du General Roques, Paris, France
Filed July 10, 1961, Ser. No. 122,880
Claims priority, application France, July 11, 1960, 832,587, Patent 1,270,036
2 Claims. (Cl. 222—330)

1. Apparatus for supplying washing liquid to a windshield washer, comprising:

a reservoir of relatively large cross-sectional horizontal area and having upper and lower end walls at its opposite vertical ends;

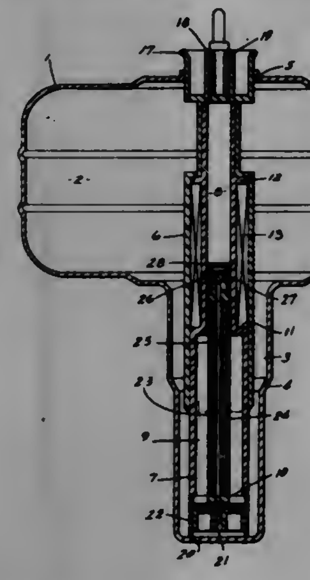
means providing an outlet opening through the said upper end wall of said reservoir;

a removable plug in said opening, said plug having first passageway means therethrough for conducting the hereinafter mentioned wires and second passageway means therethrough for conducting washing liquid out from said reservoir;

an elongated cylindrical well extending downwardly from the said lower end wall of said reservoir and communicating with said reservoir, said well being of relatively small cross-sectional area as compared with said reservoir and being coaxial with said outlet opening;

an elongated, upright, tubular pump body removably received within said reservoir, one end of said pump body being rigidly affixed to said plug and the other end thereof extending substantially to the bottom of said well, said pump body being of smaller size than said outlet opening and said well, said pump body having a central bore extending from one end to the other end thereof, the upper end of said bore communicating with said second passageway means and the bottom end of said bore being in communication with the bottom of said well;

an elongated, tubular piston slidably disposed in said bore for movement between a first position remote from said upper end of said bore and a second position adjacent to said upper end of said bore, said piston being of an appreciably smaller size than said bore with a substantial clearance existing therebetween so that said piston is freely movable along said bore;



an electro-magnetic coil mounted in said pump body around said bore for moving said piston substantially instantaneously from said first to said second position when said coil is energized, said piston returning quickly under its own weight to said first position when said coil is de-energized;

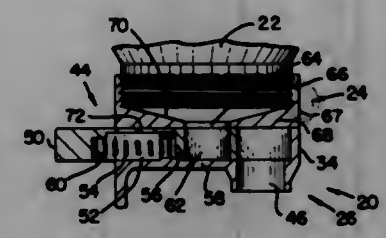
wires extending through said first pasageway means and disposed within the pump body and connected to said coil for supplying electrical energy to same;

a valve mounted on said piston at the upper end thereof for closing off the central opening in said piston when said piston is moving from said first to said second position whereby fluid in said bore between said piston and said second passageway means will be discharged through said second passageway means, said valve being open when said piston is moved from said second to said first position whereby liquid can travel from said well through said piston and into said bore between said piston and said upper end of said bore, said plug, said pump body and the parts therewithin being removable as a unit from said reservoir through said outlet opening.

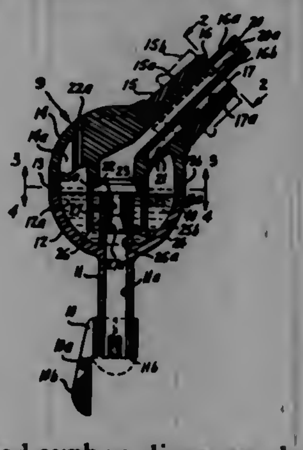
3,193,159
DISPENSER FOR COMMINUTED MATERIAL AND THE LIKE
Vernon E. Swindler, Preble County, Ohio (R.R. 1, Box 133, West Alexandria, Ohio)
Filed Feb. 24, 1964, Ser. No. 346,845
8 Claims. (Cl. 222—336)

1. In combination: a comminuted material supply container receiving unit having a supply container receiving wall connected to a comminuted material supply outlet in said unit and having a comminuted material dispensing spout for dispensing measured comminuted material to a receiving receptacle and the like, and an outwardly

biased plunger reciprocable between an outward position to an inward position and having a transfer measuring cavity aligned with said supply outlet when said plunger is in its outward position and being transferred into alignment with said spout when said plunger is pushed inward to its inward position, and in which said container receiving unit has an upper member having an upper cylindrical container receiving wall and a downwardly slanting floor connected at its upper edge to said container receiving wall and connected at its lower edge to said comminuted material supply outlet, said container receiving unit having a lower member detachably secured to said upper member, said lower member reciprocably receiving said plunger and having said dispensing spout, and in which said lower member is slidably dovetailed with said upper member.

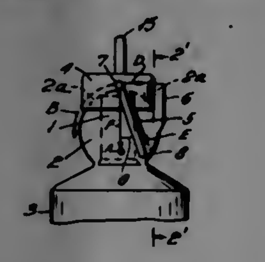


3,193,160
HIGH SPEED METERED POURING SPOUT DEVICE
Walter L. Veit, 713 E. Park St., Santa Maria, Calif.; Arthur J. Guest, 517 E. Grove St., Pomona, Calif.; and Merle T. Creamer, West Covina, Calif. (1559 E. Hawthorne St., Ontario, Calif.)
Filed Jan. 17, 1964, Ser. No. 338,405
4 Claims. (Cl. 222—440)



1. A high speed syphon dispenser device for dispensing liquid from a bottle and the like in predetermined amounts comprising a bulbous intermediate body means, a tubular and angular upstanding neck portion communicating with the interior of said body means and an aperture of a fluid container, and a lower tubular pouring spout means communicating with said body means and adapted to be received by a serving glass, said body means comprising therein air vent means, inverted cup means cooperating with said upstanding neck portion to receive liquid contents from a bottle container, a lower upstanding tubular means in said body means aligned with said pouring spout to periodically syphon a predetermined amount of liquid into a serving container, said body means comprising an upper body means, a lower body means and angular arcuate threadless snap sealing means for sealably uniting said body portions, said tubular neck portion comprising an elongated air tube means having therein apertured restriction means that will readily permit free flow of air to the interior of a bottle but will not permit free flow of liquid therethrough and a shorter tubular fluid conduit means communicating with fluid in a bottleneck and the interior of said body means to dispense fluid from a bottle, said tubular spout comprising a plurality of slots therein for return flow of drops of liquid therein, collar and biased hinged lid enclosure means adapted to fixedly close the lower end of said pour spout, and said lower upstanding tubular means in said body means comprising a shouldered insert means juxtaposed within said inverted cup means in said upper body portion to adjust each syphon pour of liquid from said device.

3,193,161
CLOSURE FOR SQUEEZE TUBES, BOTTLES AND OTHER CONTAINERS
Neander Waldstein, 18 Blvd. Voltaire, Paris 11e, France
Filed Oct. 26, 1961, Ser. No. 147,852
Claims priority, application Germany, Oct. 27, 1960, W 28,792
2 Claims. (Cl. 222—517)



1. A closure for a container, which comprises:

(a) a seating part formed with a discharge passage having an outlet opening, said seating part having a convex portion surrounding said outlet opening;

(b) a cap having a concave inside closing surface engageable with the convex portion of said seating part in at least a closed position of said cap;

(c) a stop means for preventing movement of the cap relative to the seating part when the cap is in its closed position, other than in a predetermined opening direction along a laterally directed arcuate path;

(d) means connecting the cap to the seating part for sliding movement of the cap over the convex portion of the seating part in said laterally directed arcuate path, said means comprising:

  (1) a bail-like tension spring engaging said seating part and said cap and exerting a tensile force on the seating part and on the cap when in said closed position;

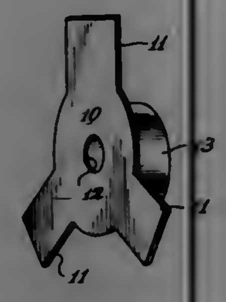
  (2) a first connecting means pivotally securing the tension spring to the cap, and

  (3) a second connecting means pivotally securing the tension spring to the seating part at a point laterally spaced from a first imaginary line extending from said first connecting means, when disposed in the position corresponding to the closed position of said cap, to the center of curvature of that portion of said arcuate path which corresponds to the beginning of the opening movement of the cap, and so positioned that a second imaginary line extending from said second connecting means to said first connecting means, when the latter is disposed in the position corresponding to the closed position of the cap, passes between said stop means and said center of curvature of the arcuate path.

3,193,162
APPARATUS FOR FORMING DECORATIVE BOWS
Jonas L. Montoya, Sauk Village, Ill., assignor to Chicago Matrix Corp., Chicago, Ill., a corporation of Illinois
Filed Aug. 21, 1963, Ser. No. 303,615
4 Claims. (Cl. 223—46)

1. A device for the manual forming of an ornamental and decorative bow, said device consisting essentially of a planar base member having radially extending therefrom at least three thin, resilient and flexible fingers equally spaced from each other for releasably holding the individual loops of ribbon making up the bow, the fingers

having root widths which determine ribbon paths extending between the leading edges of said fingers and the trailing edges of generally oppositely disposed fingers, whereby ribbon portions looped about said fingers and bearing on edge portions of the base member extending between said fingers and following said ribbon paths will overlay one another on the geometric center of said base member, said fingers being manually bendable substantially 90° out of the plane of said base member along lines of bend which extend across the root portions of said fingers.

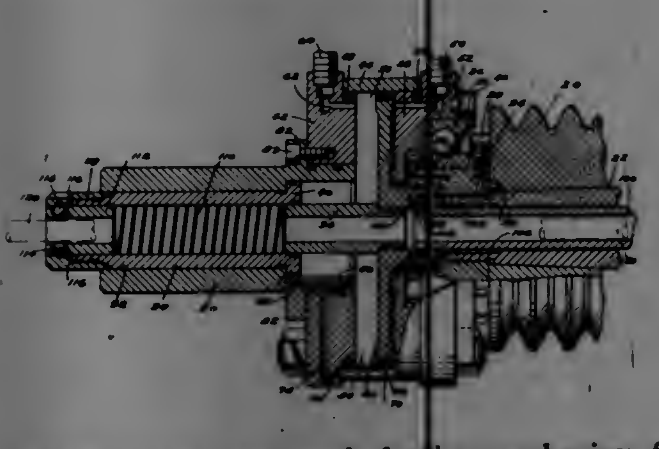


3,193,163

NON-ROTATING PNEUMATIC CHUCK ACTUATOR AND PART FEEDER

George L. Atherholt, Sr., Warren, Mich., assignor to A and C Engineering Co., Warren, Mich., a corporation of Michigan

Filed Oct. 29, 1962, Ser. No. 233,838
8 Claims. (Cl. 226—165)



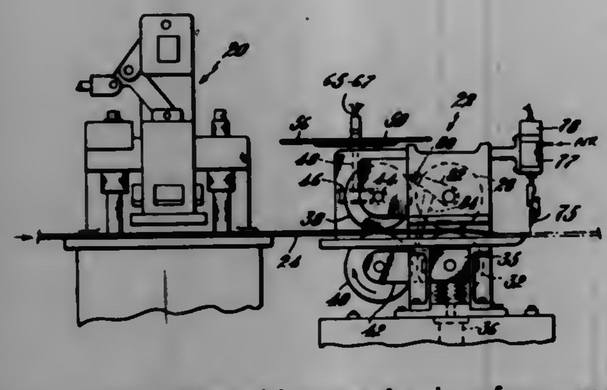
1. An operating and work feeding mechanism for a lathe chuck having an elongate actuating tube extending through the headstock spindle which comprises:
   (a) an annular support on said spindle,
   (b) a stationary double cylinder housing mounted on said support in rotatable relation thereto, said double cylinder comprising:
   (c) a first main cylinder and a second concentric cylinder open to and coaxial with said first main cylinder,
   (d) an actuating piston in said main cylinder connected to said actuating tube, and shiftable to a chuck locking position and a chuck release position,
   (e) a work transfer piston in said second cylinder open to said actuating position to shift work through said tube and shiftable to a retracted position and a work advancing position,
   (f) means to direct pressure selectively to said cylinders between the facing sides of said pistons simultaneously and through the stationary housing to the opposite sides of said pistons wherein when said actuating piston is in a chuck locking position said transfer piston is in a retracted position and when said actuating piston is in a chuck unlocking position, said transfer piston is in a work advancing position, and
   (g) means on said work transfer piston for engaging a workpiece to move it toward and through said actuating tube.

3,193,164

MATTRESS BORDER PROGRAMMER

Curtis L. Frasier, Rye, N.H., assignor to The Morley Company, Portsmouth, N.H., a corporation of Maine

Filed Jan. 29, 1964, Ser. No. 340,979
14 Claims. (Cl. 227—5)



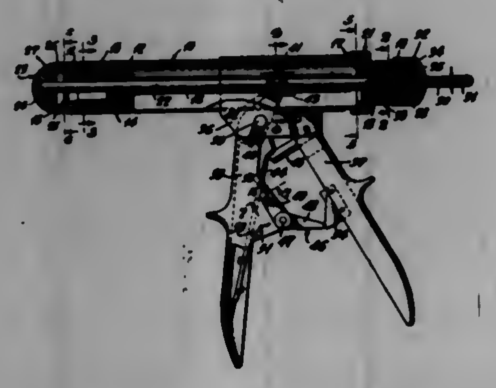
1. In combination with a mechanism for operating on strip material, apparatus comprising: means for feeding strip material along a predetermined path; a measuring wheel in engagement with the strip; and programming means, driven by said measureing wheel and operative at spaced intervals to stop said feed means and initiate operation of said mechanism and then to restart said feed means.

3,193,165

INSTRUMENT FOR SUTURING ESOPHAGUS TO INTESTINE OR STOMACH

Mikhail Gueorguievich Akhalaya, Sukhumi, ulitsa Lenina 22, Apt. 7; Viacheslav Sergeevich Kasoolin, Bolshaya Pochtovaya ulitsa 18/20, korpus 1, Apt. 47; Gueorgui Vasilievich Astafiev, the 2nd Novo-Ostankinskaya ul. 8a, Apt. 33; Svetoslav Ivanovich Babkin, the 1st Cheremushkinskaya ulitsa 11/9, korpus 1, Apt. 16; Alexander Nesterovich Burtsev, Donetsk oblastnoi, ulitsa Artjema 84, Apt. 16; Tatyana Vladimirovna Kalinina, Chasovaya ulitsa 27/12, Apt. 22; and Gueorgui Iosifovich Tatishvili, Tbilisi, Didubiiskaya ulitsa 4; all of Moscow, U.S.S.R.

Filed Aug. 27, 1962, Ser. No. 222,987
10 Claims. (Cl. 227—8)



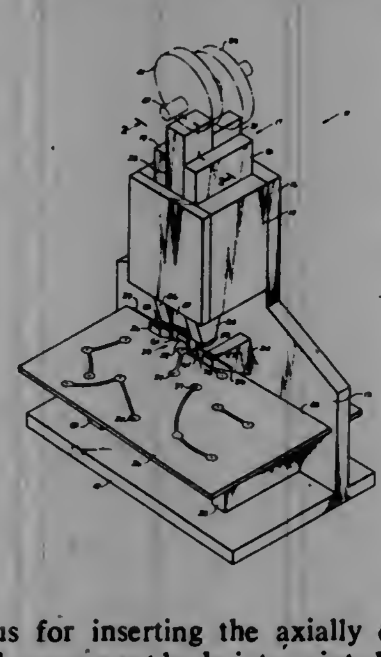
1. A surgical instrument for suturing the esophagus to the intestine or stomach, said instrument comprising an elongated tubular body, the forward end of said body having a circular series of pockets open at opposite ends for receiving a staple in each pocket, a member slidably received in said body, staple ejecter fingers on said member, said fingers entering said pockets from the rear, a knife mounted on said member and having a circular cutting edge at the forward end, a tubular push rod fixed to said member and extending rearwardly within said body, a washer engaging the rear end of said body and having a recess slidably receiving the rear end of said push rod, a shoulder in said recess to limit rearward movement of said push rod, interlocking means on said body and washer to prevent relative rotation therebetween, a clamping nut threadedly received on the rear end of said body and engaging said washer to removably retain said washer in place, an adjusting rod extending through said push rod, a pilot head fixed to the forward end of said adjusting rod, said head having a circular series of recesses in alignment with said pockets and providing anvils for clinching staples ejected from said pockets, said head having an angular recess opening rearwardly, a removable pad in said annular recess for engaging the cutting edge of said knife, a non-circular aperture in said washer, said adjusting rod extending through said aperture and having a complementary non-circular portion engaging the wall of said recess to permit sliding movement of said adjusting rod and orient said head, a cylindrical portion on said nut, an adjusting nut rotatably received on said cylindrical portion and threadedly engaging said adjusting rod to adjust the axial position of said head with respect to said body, a fixed handle extending laterally from said body, spaced abutments on said push rod, a movable handle pivotally mounted on said body and a forked end on said movable handle received between said abutments, whereby upon operation of said movable handle said push rod will move said fingers forwardly to eject staples from said pockets and clinch the same and will move said cutting edge into engagement with said pad.

3,193,166

COMPONENT INSERTION APPARATUS

Kent A. Bickel, Gahanna, Robert E. Hotze, Westerville, and James B. Krepp, Reynoldsburg, Ohio, assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 12, 1963, Ser. No. 301,547
17 Claims. (Cl. 227—85)



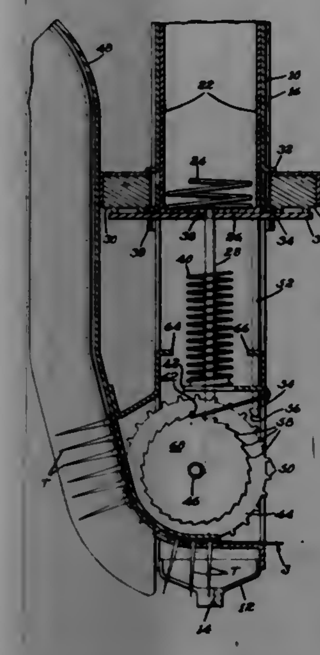
1. Apparatus for inserting the axially extended leads of an electrical component body into printed circuit boards, which comprises:
   means for gripping each of the axially extended leads adjacent the component body,
   means for forming about the gripping means the portion of the leads extending from the gripping means,
   means for moving the gripping and forming means with the component and formed leads toward the printed circuit board and for inserting the formed leads into apertures of the printed circuit board, and
   means for moving the gripping means into gripping engagement with the leads adjacent the component body and for retaining the gripping means in gripping engagement with the leads as the leads of the component are formed and inserted into the printed circuit board, whereby any stresses exerted upon the portion of the leads extending from the gripping means is prevented from appearing at the juncture of the leads and the component body.

3,193,167

HAND TOOLS FOR INSTALLING TACKS AND THE LIKE

Albert E. Newton, Beverly, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

Filed June 13, 1963, Ser. No. 287,541
2 Claims. (Cl. 227—132)



1. In a hand-held fastener inserting tool, a body having an end portion through which fasteners are to be driven, an outer and an inner member slidably mounted with respect to the body for movement toward and from its end portion, one of the members being adapted to be manually operated, a driver connected to the other member and arranged to be thrust into the end portion of the body in response to manual operation of the one member in a predetermined direction to eject a fastener for insertion, a spring compressible by said operation of the one member and releasable to exert an inserting force on the driver, a latch plate affixed to the driver, and a magnet secured circumferentially on the body for cooperative engagement with the latch plate, the magnet being initially operative during the operation of said one member to restrain the lach and an end of the spring to increase potential energy of the latter, continued operating movement of the one member causing the release of said energy to increase impact of the driver on the fastener.

3,193,168

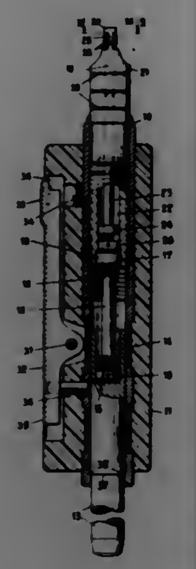
DEVICE FOR FIXING OBJECTS

Alexander Weber, Zollikofen, near Bern, Switzerland, assignor to Hans Beer, Bern, Bern, Switzerland, and Emma Weber-Horisberger, trading as AWEPA, Zollikofen, Switzerland

Filed Mar. 27, 1962, Ser. No. 182,826
Claims priority, application Switzerland, Oct. 27, 1961, 12,513/61
3 Claims. (Cl. 227—147)

1. A driving tool, especially for driving nails or the like through a slot of a hollow rail for fastening the latter to a support, comprising, in combination, elongated handle means formed with a first longitudinal bore therethrough; a head member carried by said handle means at one end thereof, said head member having a free end portion of a width considerably smaller than the remainder of said head member so as to be insertable into a slot of a rail, said head member being formed with a second bore therethrough axially aligned with said bore in said handle means and having a diameter greater than the width of said end portion so that said second bore intersects opposite side faces of said end portion and forms in said end portion a pair of opposite longitudinally extending slots; a pair of leaf springs carried by said

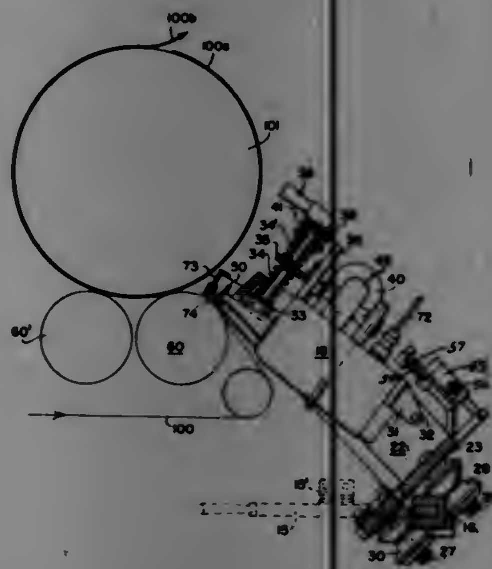
end portion engaging said side faces and covering said slots so that a nail or the like having a head of a diameter substantially equal to that of said second bore may be resiliently held between said leaf springs; and driving



means located in said axially aligned bores slidably guided therein and having a rear end projecting beyond the other end of said handle means and a front end adapted to engage a nail or the like resiliently held between said leaf springs.

3,193,169
ULTRASONIC METAL FOIL SPLICER

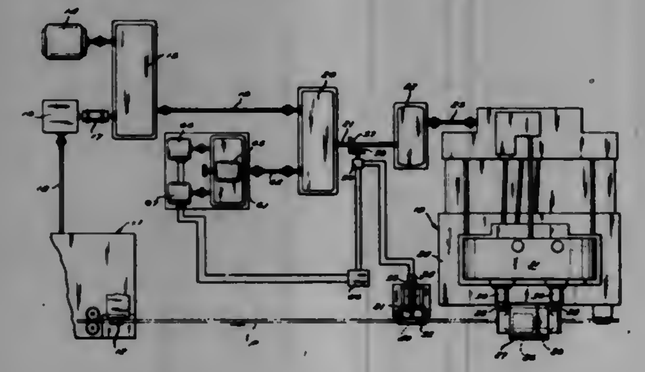
Peter Arnold, Elberon, N.J., assignor to The Meaker Company
Filed Aug. 18, 1961, Ser. No. 132,323
3 Claims. (Cl. 228—1)



1. In a device for ultrasonically welding the tail end of at least one strip of material to the beginning end of a second strip of the same material while at least one of said strips is held on a machine which comprises a roller for guiding or feeding the strip linearly to or from the machine, comprising
  frame means pivotally mounted adjacent to and with the pivotal axis thereof parallel to said roller,
  said frame means including a transverse clamping bar adapted to contact the upper surface of said roller,
  track means on said frame parallel to and spaced from said transverse clamping bar,
  carriage means comprising rollers adapted to interfit with and operate along said track means,
  ultrasonic welding means of the type having a disk-shaped sonotrode,
  means for pivotally mounting said welding means to said carriage at a point spaced from the sonotrode thereof so constructed and arranged that the sonotrode is adapted to rest on said roller adjacent said clamping bar,
  means on said carriage for moving the same transversely of said frame,
  means on said carriage for rotating said disk-shaped sonotrode in synchronism with the movement of said carriage.

3,193,170
FLYING HOT SAW

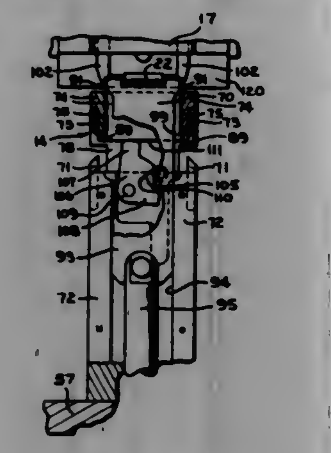
Dezsoe Albert Pozsgay, Ellwood City, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Apr. 27, 1961, Ser. No. 106,025
4 Claims. (Cl. 228—8)



1. In combination with a butt weld pipe mill for continuously producing welded pipe, a motor for driving the mill, a flying hot saw for severing the pipe into lengths as it leaves the mill, the saw comprising a rotory cutting tool, a pair of cranks for carrying the cutting tool in a circular orbit and means for guiding the pipe emerging from the mill into the path of the cutting tool in its orbit thereby to sever the pipe, the length of the pieces cut by the saw varying with the ratio between the speed of the pipe entering the saw and the number of revolutions per minute of the cutting tool in its orbit, means for driving the cutting tool in its orbit comprising a main drive shaft, a P.I.V. driven by the main drive shaft and a power train between the P.I.V. and the crank arms whereby for a given adjustment of the P.I.V., the number of revolutions per minute of the cutting tool in its orbit is determined by the speed of said main drive shaft; the improvement comprising means for driving said main drive shaft and for maintaining the ratio between the speed of the main drive shaft and the speed of the pipe entering the saw substantially constant comprising a differential having a main power input and an auxiliary input and an output connected to said main drive shaft, a mechanical connection between said motor and said main power input for driving said main power input at a speed substantially proportional to the speed at which said mill is driven and control means for driving said auxiliary input at a speed such that the output of said differential is maintained accurately at a predetermined ratio with respect to the speed of the pipe entering said saw, said control means comprising a roll engaging and driven by the pipe entering said saw, a synchro-generator driven by said roll, the output of the synchro-generator being connected to a synchro-control transformer driven by said main drive shaft whereby the output of said synchro-control transformer provides an error signal proportional to differences in speed between said main drive shaft and said pipe entering said saw, means for amplifying said error signal and an electric differential drive controlled by said error signal and connected to drive said auxiliary input to said differential.

3,193,171
APPARATUS FOR SHEARING, FORMING AND TRANSFERRING ARTICLES

Kenneth F. Johnson, Oak Lawn, Amos L. Quinlan, La Grange Park, and Ben L. Wright, Chicago, Ill., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Original application Jan. 9, 1961, Ser. No. 81,442, now Patent No. 3,081,396, dated Mar. 12, 1963. Divided and this application Nov. 13, 1962, Ser. No. 237,068
5 Claims. (Cl. 228—13)

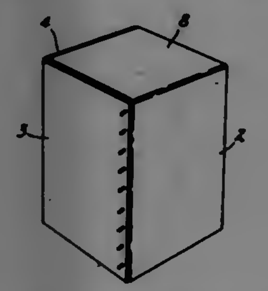


1. In an apparatus of the type described having a welding head for holding a formed article, the combination therewith of:
  support means;
  a pair of fixed shearing blades mounted on said support means in horizontally spaced relation to each other for supporting an article thereon below the welding head;
  a forming member mounted on said support means for vertical movement between said shearing blades from a normal position below the article on said shearing blades;
  a pair of vertically movable shearing blades mounted above and cooperable with said fixed shearing blades for shearing portions of the article;
  latching means for releasably supporting said movable shearing blades in an upper position in spaced relation to said fixed shearing blades;
  means for actuating said latching means to release said movable shearing blades;
  resilient means operable in response to the release of said movable shearing blades for actuating said movable shearing blades to effect the shearing of portions of the article;
  a pair of forming elements mounted on opposite sides of said forming member and above an article supported on the fixed shearing blades;
  means for actuating said forming member to carry the article upwardly between said forming elements into engagement with the welding head to effect the transverse bending of the end portions of the article and the transfer of the formed article to the welding head; and
  means responsive to the upward movement of said forming means for raising said movable shearing blades into engagement with said latching means for retention thereby.

3,193,172
HIGH STRENGTH PAPERBOARD CONTAINER

Charles D. Welshenbach, Sandusky, Ohio, assignor to West Virginia Pulp & Paper Company, New York, N.Y., a corporation of Delaware
Original application May 9, 1958, Ser. No. 734,230, now Patent No. 3,118,587, dated Jan. 21, 1964. Divided and this application Sept. 23, 1963, Ser. No. 318,138
1 Claim. (Cl. 229—23)

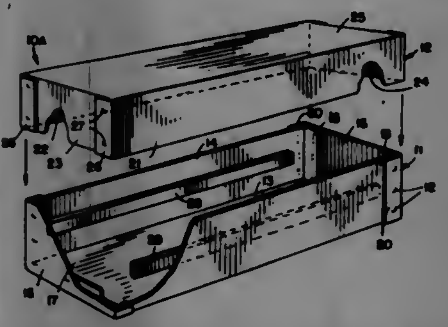
A collapsible and erectable container box comprising four adjacent integral rectilinear tube panels, the two laterally extreme panels of the four being seamed to each other to provide a collapsible and erectable tube comprising the four panels, two end-wall-forming panels, each of the two end-wall-forming panels being integrally hinged at a first edge at one end of said tube to its own one of an adjacent pair of said four tube panels, end flaps at the end of said tube opposite to said one end, each of said end flaps being integrally hinged to one of the tube panels, two liner panels for forming the inner plies of two side walls of the container unit, the outer plies of which two side walls are formed by the two tube panels not included in the previously specified pair of tube panels, each of the two end-wall-forming panels being hinged at a second edge opposite to said first edge to its own one of said two liner panels, the width of each of said end-wall-forming



panels between its first and second edges being sufficient to allow the hinged edge of its associated liner panel to snugly engage the inner side of the tube at said one end thereof when the tube is erected but such width being insufficient to allow such last-mentioned hinged edge to extend over the end of the tube, each of the liner panels being substantially the same length and width as the erected container unit, a separate supplemental liner for forming supplemental liner plies within side walls of the previously erected container unit, the number of plies of said supplemental liner at those side walls the outer side of which are formed by said pair of tube panels exceeding by one the number of plies of said supplemental liner at those side walls the outer side of which are formed by said two tube panels not included in said pair of tube panels.

3,193,173
REINFORCED BOX STRUCTURE

Edward M. Richardson, Indianapolis, Ind., assignor to Boxcraft Corporation, Chicago, Ill., a corporation of Illinois
Continuation of application Ser. No. 179,267, Feb. 23, 1962. This application Oct. 24, 1963, Ser. No. 318,535
2 Claims. (Cl. 229—23)

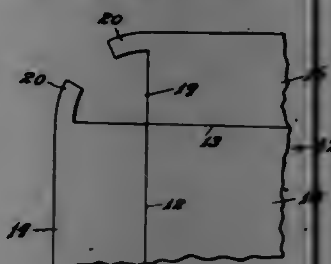


1. A heavy duty shipping box structure having a body of flexible paperboard material having a rigidity at least equal to corrugated paperboard and including interconnected bottom, side and end walls, the longitudinal dimension of said side and bottom walls being substantially greater than the transverse dimension of the box, and a single one piece elongated strip of wood having a width substantially less than the height of a side wall forming the sole reinforcing means for each side wall and being adhesively secured to each opposed side wall, the opposed longitudinally extending sides of said strip being positioned along opposite sides of and parallel to

the medial longitudinal line of the side wall to which it is attached, said end and bottom walls being free from reinforcing means, said strip having substantially greater rigidity than the material of said body, the ends of each strip being spaced substantially inwardly from the opposite non-longitudinal edges of the side wall, whereby said strips distribute the stresses over the side walls, thereby rigidifying and strengthening said box structure.

3,193,174
BOXES

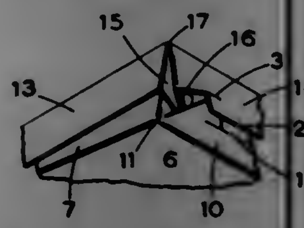
Albert Glasband, 1 Coolidge Road; Hyman S. Glasband, 80 Brainard Road; and Norman Glasband, 47 Stoneham Drive, all of West Hartford, Conn.
Filed Mar. 28, 1963, Ser. No. 268,735
5 Claims. (Cl. 229—30)



1. For a box having corners, a bottom, side walls extending upwardly from said bottom and connected at said corners, and points formed by said side walls and extending outwardly from said corners; a cover having corners, a top, side walls extending downwardly from said top and angled outwardly, said box having at each corner thereof an open notch between said side walls thereof, and a resilient tab extending from each of the opposite sides of said notch, the said tabs being overlapped and secured together and forming a resilient snap-locking bar normally radially curving around the corner of the cover across the lower portion of said notch and engageable with the respective one of said points of the box to secure the cover to the box.

3,193,175
CARTONS OR BOXES

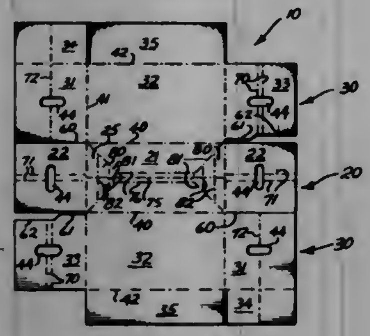
Douglas Arthur Moreton, Chellaston, England, assignor to Bemrose & Sons Limited, Derby, England
Filed May 13, 1963, Ser. No. 280,022
Claims priority, application Great Britain, May 21, 1962, 19,521/62; May 30, 1962, 20,912/62
3 Claims. (Cl. 229—31)



3. A closed box formed by folding a single flat blank having weakened lines thereon, said box including a lid panel, a tray panel, a back wall joining said lid and tray panels, side walls on each side of said tray panel, side walls on each side of said lid panel overlapping said first-mentioned side walls, three essentially triangular gussets on each side and interposed between said back wall and said side walls to provide pin-hole free corners at all four back corners of the box, a front wall on said tray panel, a front wall on said lid panel overlapping said tray front wall, two gussets on each side interposed between said lid front wall and the adjacent lid side wall, whereby pin-hole free corners are provided at the front corner of the lid, said tray front wall having side edges, said side edges being tapered to facilitate entry of the tray front wall between the lid front wall and the adjacent lid gussets, and said tray front wall being inserted between said lid front wall and said gussets associated with said lid front wall.

3,193,176
COLLAPSIBLE REUSABLE CARTON

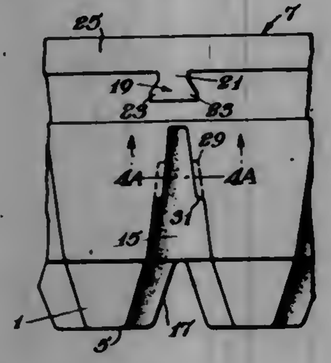
Robert A. Gullickson, Cloquet, Minn., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington
Filed Mar. 17, 1961, Ser. No. 96,581
1 Claim. (Cl. 229—41)



A carton comprising
a base having upright side walls, and end walls comprising
upright intermediate end wall members hingedly connected to said base,
outer end wall members hingedly connected to one edge of said respective side walls,
inner end wall members hingedly connected to the opposite edge of said respective side walls,
said outer, intermediate and inner end wall members being superposed and fixedly connected together to form an end wall,
vertical score lines located centrally of said end wall members,
longitudinal score lines formed in said base in alignment with said score lines in said end walls,
bellows folds in said base adjacent said end walls, said folds being isosceles triangles having bases contiguous with said end wall connections,
said inner end wall member having a notch in its lower edge extending across said vertical score line which is adopted to facilitate the collapse of said carton.

3,193,177
CONTAINER

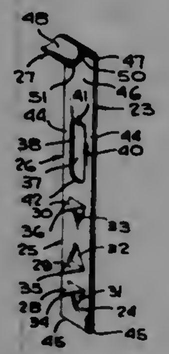
Kenneth L. Crabtree, Fairfield, Maine, assignor to Keyes Fibre Company, Portland, Maine, a corporation of Maine
Filed June 5, 1963, Ser. No. 285,754
6 Claims. (Cl. 229—44)



1. A container comprising side walls connected to a bottom member, an inwardly extending tab receiving indentation integrally contoured in at least one side wall of the container, The indentation being formed by a portion of the side wall being directed first inwardly and then outwardly to form a depression of sufficient depth to permit fingertip access therein, tab retaining means formed on opposite sides of the indentation at a level between the top and bottom thereof, and a cover member for the container including a tab arranged for alignment with the indentation, the tab comprising a reduced neck portion terminating in an enlarged portion having laterally extending ears on either side thereof, the tab being arranged to interlockingly engage with the retaining means with the enlarged portion bridging across the indentation to provide room for fingertip insertion in the indentation behind the enlarged portion.

3,193,178
COVER FASTENING FLEXIBLE LUG ASSEMBLY FOR DRUMS

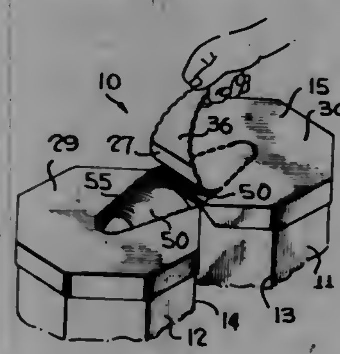
Charles A. Uncapher, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Oct. 8, 1962, Ser. No. 228,904
5 Claims. (Cl. 229—47)



1. A container, cover and fastening lug assembly wherein the cover is secured to the container upper end and includes a bead and a downwardly directed rim terminating in a reinforced peripheral edge, said fastening lug including an elongated body having a bottom container attached portion, an intermediate hinge portion and a top lug portion, said intermediate hinge portion including an elongated weakened area defining an elongated hinge zone disposed between the bottom container attached portion and the top lug portion and within the confines of which the lug may be selectively hinged, whereby the top lug portion is seated upon the cover bead irrespective of the downwardly directed rim length and the configuration of the peripheral edge, said elongated weakened area being an elongated slot of a length extending substantially from the bottom container attaching portion to the top lug portion.

3,193,179
CONTAINER FOR SPOOLS OF CORD

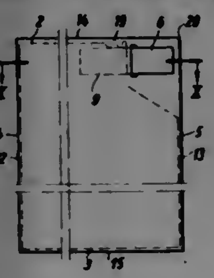
Alfred E. Bogren, Milford, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Jan. 6, 1964, Ser. No. 335,756
5 Claims. (Cl. 229—51)



3. In combination, a pair of containers and closure caps therefor, each said container comprising an upright tubular member having at least one flat wall surface, the flat wall surface of one container being disposed adjacent to the flat wall surface of the other container, at least one of said closure caps comprising a pair of cover sections for closing said tubular members, said cover sections being substantially symmetrical about and joined together along a transverse center line at a reduced width portion of the respective closure cap, said transverse center line being disposed above and extending substantially parallel to the said flat wall surface of each of said containers, said one of said closure caps having a removable section extending longitudinally thereof on opposite sides of said transverse center line and terminating adjacent the geometrical center of each cover section, said removable section extending across substantially the entire reduced width portion of the respective closure cap whereby said cover sections are readily separable after removal of said removable section.

3,193,180
CONTAINER OF FLEXIBLE MATERIAL AND IN THE SHAPE OF A SACK, POUCH, BLADDER OR BAG, PARTICULARLY VALVED SACK, AND METHOD OF CLOSING THE SAME

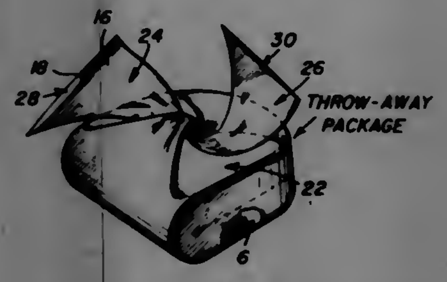
Hans Lissner, Dusseldorf-Benrath, Germany
Filed July 30, 1962, Ser. No. 213,170
Claims priority, application Germany, Aug. 3, 1961, L 39,703
14 Claims. (Cl. 229—62.5)



1. A sacklike container having a valve extension, walls of the sacklike container consisting of flexible material, said container having associated with it wall portions extending substantially parallel to the walls of the container, said wall portions having at least one slot close to the valve extension, said slot being adapted to have said valve extension passed thereto, said sacklike container having longitudinal edges, said slot extending parallel to said longitudinal edges at a distance therefrom which is at least as large as the length of the valve extension outside the container.

3,193,181
DISPOSABLE WRAPPER FOR SANITARY NAPKINS

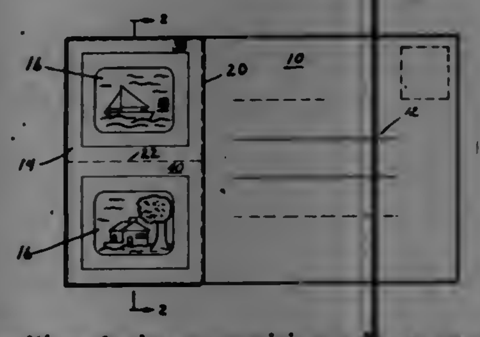
Peter Konjevich and Mavis Marie Konjevich, both of 220 N. Eastern Ave., Joliet, Ill.
Filed Nov. 1, 1963, Ser. No. 320,914
1 Claim. (Cl. 229—87)



For use when one is desirous of conveniently and expeditiously disposing of a soiled sanitary napkin, a wrapper into which said napkin, after having been folded in half, can be bodily lodged and thus retentively held, said wrapper being made of flexible liquidproof throwaway sheet material which conformingly clings to and thus snugly wraps around said soiled napkin, said wrapper being of a length, compared to the length of the enclosed folded napkin, that the respective end portions of said wrapper are free and can be crumpled and then hand-tied into a simple knot, said wrapper comprising an elongated plastic trapezoidal tube open at its respective ends, the plastic material being pliant and inconspicuously colored and non-transparent so that the wrapped and tied napkin is not noticeably visible.

3,193,182
MAILING DEVICES

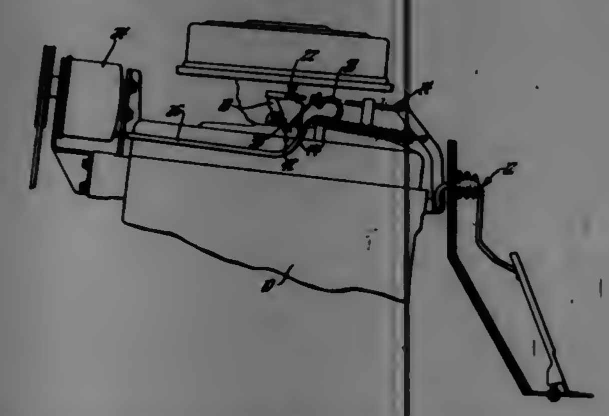
Milenko Yakovljevic, 153—36 73rd Ave., Flushing, N.Y.
Filed Mar. 20, 1963, Ser. No. 266,692
2 Claims. (Cl. 229—92.8)



1. A mailing device comprising a base member having a first portion and a second portion, first fracturable means defining said first and second portions and extending substantially from one border to a diametrically opposite border of said base member, said first portion of said base member including a plurality of apertures, an overlaying member having a corresponding plurality of apertures secured to said first portion with corresponding apertures in face to face alignment, a photographic transparency, including an emulsion side, extending across and beyond each aperture and positioned between said first portion and said overlaying member, and second fracturable means extending in a plane substantially perpendicular to said first fracturable means substantially across said first portion and said overlaying member, and between adjacent ones of said defined apertures.

3,193,183
THROTTLE VALVE CONTROL APPARATUS

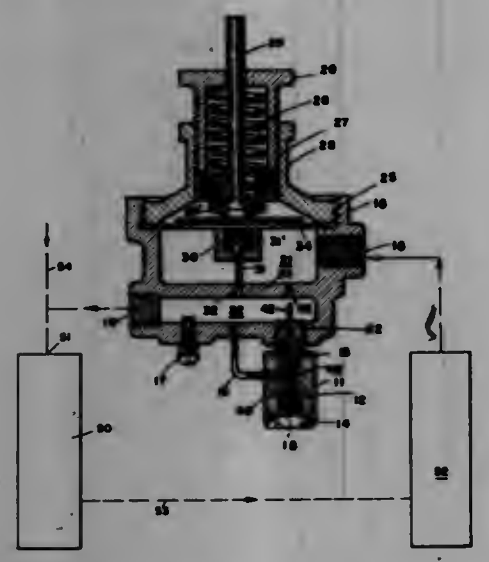
Joseph D. Ruhala, Royal Oak, and Robert A. Martin, Birmingham, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 17, 1962, Ser. No. 231,245
1 Claim. (Cl. 230—31)



In an automotive vehicle having an engine including a throttle valve rotatable between open and closed positions to vary the speed thereof and having an air conditioning unit including a referigerant compressor driven by said engine, means for regulating the idling speed of said engine sufficiently to compensate for the increased load placed thereon by the operation of said air conditioning unit comprising a line through which pressure may be transmitted connected at one end to said refrigerant compressor; a Bourdon tube fixed at one end relative to said engine and connected at said one end to the other end of said line whereby said tube is responsive to the pressure developed by said device; a right angle bracket having two legs fixed by one leg thereof to said tube adjacent the other end of said tube, the other leg of said bracket having a hole therethrough; a connecting arm secured at one end to said throttle valve and having a hole near the other end, said hole being approximately coaxial with said hole in said right angle bracket; and a tension wire slidingly inserted through both of said holes comprising a rigid wire of a diameter less than the diameter of either of said holes, adjusting means for changing the effective length of said tension wire mounted near one end of said rigid wire comprising a spherical stop of a diameter greater than the diameter of either of said holes slidingly mounted on said rigid wire and an adjusting screw threadedly inserted sufficiently far into said spherical stop to bear against said rigid wire, and a spherical stop fixed to the other end of said rigid wire on the side of the right angle bracket and the side of the arm opposite that side of the right angle bracket and that side of the arm on which the adjusting means is mounted.

3,193,184
GOVERNOR FOR COMPRESSORS

Arthur J. Hopper, 1408 W. Grandview Blvd., Erie, Pa.
Filed Jan. 29, 1962, Ser. No. 169,199
8 Claims. (Cl. 230—31)

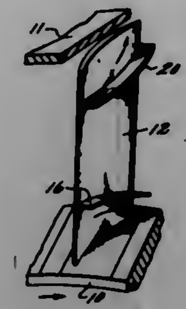


1. In combination, a governor connected with an air compressor and a receiver,
  said governor comprising a governor body having an inlet chamber connected to said receiver and an outlet chamber connected to the inlet of said air compressor,
  said inlet chamber and outlet chamber separated by a partition means having a first and a second spaced opening connecting said inlet chamber to said outlet chamber,
  valve means to close said first opening when the pressure in said inlet chamber falls below a predetermined value, and means on said governor body responsive to the inlet pressure of said compressor and actuated by the operation of said compressor to hold said second opening closed and to open said second opening when the operation of said compressor is discontinued.

3,193,185
COMPRESSOR BLADING

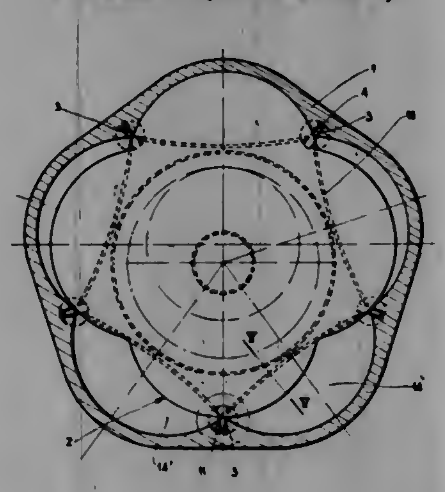
John R. Erwin and Leroy H. Smith, Jr., Cincinnati, Ohio, assignors to General Electric Company, a corporation of New York
Filed Oct. 29, 1962, Ser. No. 233,661
10 Claims. (Cl. 230—120)

1. A rotor having a hub forming an inner wall member,
a casing forming an outer wall member,
a row of cambered airfoil blade members having convex suction and concave pressure surfaces and being attached to one of said wall members and extending radially toward the other wall member to form an axially-extending air passage through said blades whereby a transverse secondary flow from said pressure surface of each blade to said suction surface of the adjacent upstream blade is set up across the air passage between said blades,
and flow directing vane-like means on at least one of said members extending into said air passage and oriented and cambered so that the flow passing near the concave pressure surface of said blade members is directed by said vane-like means toward the convex suction surface of the adjacent upstream blade member to augment the transverse secondary flow.



3,193,186
PACKINGS FOR ROTARY ENGINES

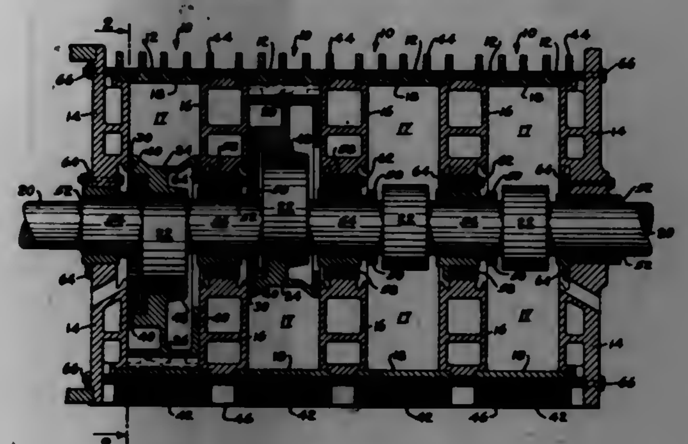
Lucien Péras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Aug. 24, 1961, Ser. No. 133,631
Claims priority, application France, Sept. 17, 1960, 838,869, Patent 1,274,666
8 Claims. (Cl. 230—145)



1. Sealing device for a rotary engine of the lobar type comprising a rotor having 2N lobes and a stator provided with a chamber having $2N+1$ lobes and lateral covers closing said chamber, wherein the rotor contour is an epicycloid and the stator chamber contour an envelope curve constituting a conjugate contour of the rotor epicycloid, the rotor being eccentrically mounted within said stator for rolling interengagement of said stator and rotor lobes to form expansible and contractible fluid working chambers therebetween, said sealing device comprising lateral and radial partitioning means carried only by the stator and by fixed elements rigid with said stator, said partitioning means consisting on the one hand of radial strips disposed between the working chambers and housed in grooves formed at the junctions between adjacent stator lobes, and on the other hand of strips inserted in polygon forming grooves formed in the lateral cover of the stator chamber, the contour of said polygon forming grooves being so designed that they are constantly inside the area covered by the rotor, and being located in the stator they remain stationary during the operation of the engine and are free of any inertia force or centrifugal effect.

3,193,187
MULTI-UNIT ROTARY MECHANISM

Charles Jones, Paramus, and George Bonner, Oakland, N.J., and Alexander H. Raye, Bellevue, Wash., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed Dec. 31, 1962, Ser. No. 248,705
19 Claims. (Cl. 230—145)



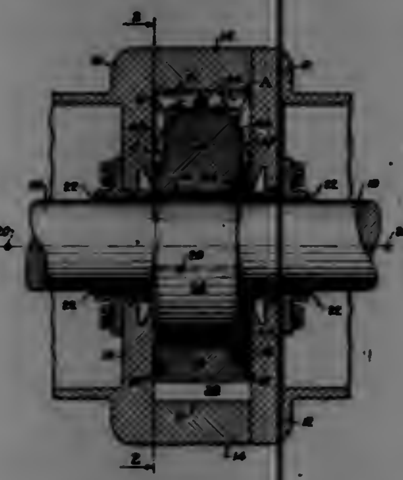
1. A multi-unit rotary mechanism comprising at least three axially aligned rotary units having a common rotatable one-piece shaft, each said rotary unit having a peripheral wall mounted coaxially with said one piece shaft and the inner surface of said peripheral wall having a multi-lobed profile, an intermediate housing interconnected with the peripheral walls of adjacent rotary units and an end housing interconnected with the peripheral walls of two of said rotary units and positioned at each axial end of said rotary mechanism thereby defining a multi-lobed cavity in each of said rotary units with said one piece shaft passing through each of said intermediate housings and said end housings, said one-piece shaft having a plurality of axially-spaced eccentric portions formed thereon there being one eccentric portion for each of said cavities, said intermediate housing having an opening therein with a relatively larger diameter than each said eccentric portion, a rotor rotatably supported on each of said eccentric portions and having a plurality of circumferentially-spaced apex portions for sealing engagement with the inner surface of said peripheral wall and each rotor carrying an internal gear thereon, a plurality of fixed gears disposed about said one-piece shaft, one for and in meshing engagement with each of said internal gears, said fixed gears having an inner diameter less than the outer diameter of said eccentric portions, and each fixed gear disposed between the end eccentric portions being split for assembly about said one-piece shaft, wedge means inserted between and in tight contacting engagement with the inner surface of each of said intermediate housings and the outer surface of each of said split fixed gears for supporting said split fixed gears on said intermediate housings and for maintaining said split fixed gears in fixed positions on their respective housings.

3,193,188
ROTOR AND SEAL CONSTRUCTION FOR ROTARY MECHANISMS

Max Bentele, Ridgewood, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Apr. 11, 1963, Ser. No. 272,381
9 Claims. (Cl. 230—145)

1. A combination rotor and sealing structure for use in a rotary mechanism having an outer body with axially spaced end walls and a peripheral wall interconnecting the end walls to form a cavity therebetween for receiving said rotor structure for rotation about an axis eccentric to the outer body axis; said rotor and sealing structure comprising a rotor having axially spaced end faces and a peripheral surface having a plurality of circumferentially-spaced apex portions for forming a plurality of working chambers be-

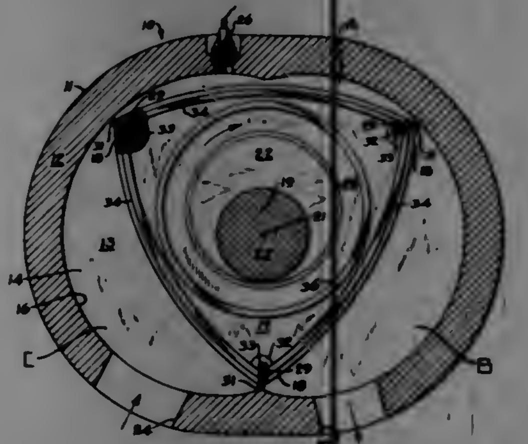
tween the rotor and outer body; said rotor also having a groove at each apex portion with each said groove comprising a central portion extending longitudinally across its apex portion from one end face to the other and having two leg portions, one at each rotor end face and extending part-way radially inwardly along its end face, said groove being U-shaped when viewed in longitudinal section, and a circular groove in each rotor end face extending across the inner ends of the leg portions of the U-shaped grooves; a multi-part U-shaped seal strip means received in each of the U-shaped grooves, each U-shaped seal strip means including a central portion received within the central portion of its associated U-shaped groove and movable radially outwardly therefrom and two leg portions received



within the leg portions of its associated U-shaped groove and movable axially outwardly from its rotor; and a one piece ring seal received within its circular groove in each rotor end face; said ring seal and said apex seal leg portions including means providing sealing cooperation between the inner ends of said leg portion and the ring seal; and a rubber-like spring means received within each said circular groove between the associated ring seal and an adjacent wall of the groove to provide a seal therebetween; each said rotor peripheral surface between adjacent apex portions having a substantial clearance from said outer body peripheral wall while at its top dead center position at least at the portions of said peripheral surface adjacent to said rotor end faces.

3,193,189
SEAL MEANS FOR ROTARY MECHANISMS

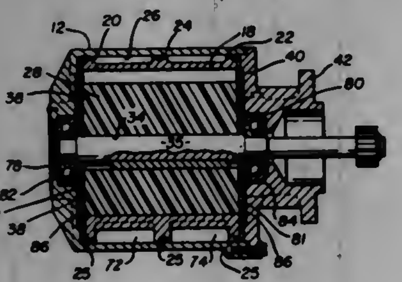
Sharat C. Rastogi, Passaic, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed July 17, 1963, Ser. No. 295,719
15 Claims. (Cl. 23—145)



1. In a rotary mechanism comprising an outer body having a peripheral wall forming a cavity having a longitudinal axis and end walls spaced apart along said axis and interconnected by said peripheral wall, an inner body disposed within said cavity and rotatable relative to said outer body about an axis displaced from but parallel to said outer body axis and planetating therearound, said inner body having axially-spaced end faces in sealing relation to said end walls, said inner body having a plurality of circumferentially-spaced apex portions for engagement with the inner surface of said peripheral wall, the radial dimension of said inner body being greater at each apex portion than between said apex portions whereby on such relative rotation working chambers of variable volume are formed between said inner and outer bodies, said inner body having at each of said apex portions a groove running between said end faces and extending inwardly substantially radially to said inner body; the combination with said rotary mechanism of a seal strip member having length, width, and thickness disposed in each of said grooves with its width disposed in the generally radial direction and its thickness disposed in the circumferential direction and having a sweeping edge protruding from said groove in sealing contact with the inner surface of said peripheral wall, each of said sweeping edges having a leading portion, a central portion, and a trailing portion, said trailing portion being convexly curved and having a radius of curvature between 75% and 125% of said thickness, said central portion being convexly curved tangent to said trailing portion and having a radius of curvature between 40% and 60% of said thickness, and said leading portion being tangent to said central portion and chamfered toward the radially inward direction.

3,193,190
VACUUM PUMP

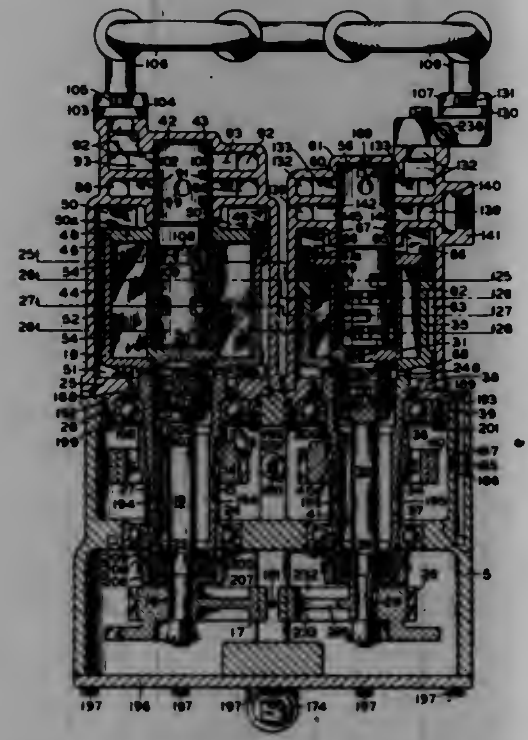
Paul G. Lindberg, Willoughby, Ohio, assignor to Randolph Mfg. Co., Cleveland, Ohio, a corporation of Ohio
Filed June 11, 1959, Ser. No. 819,703
4 Claims. (Cl. 230—152)



1. A vane-type dry rotary vacuum pump comprising a cup-shaped housing defining a pump cavity having an open end and a closed end, said housing having a high pressure port and low pressure port, a removable cartridge inserted into said cavity as a unit from the open end thereof, said cartridge including a shaft having one end supported in the closed end of the housing and projecting through and out the open end of the housing, a sleeve surrounding the shaft, a vane carrying rotor mounted on said shaft within the sleeve, end plates mounted on the opposite ends of said sleeve, a portion of the interior surface of said sleeve being cylindrically concentric about said rotor and another portion of the interior surface of the sleeve being elliptical, the extremities of said elliptical surface intersecting said cylindrical surface and being contoured to provide a smooth, gradual transition from the cylindrical to the elliptical portions, said sleeve having a plurality of outwardly extending circumferential flanges adapted to engage the inner wall surface of said housing and define annular passages surrounding the removable cartridge, a low pressure port in said sleeve adjacent one intersection between said cylindrical and elliptical surface to provide communication between the interior of said sleeve and one of said annular passages, a high pressure port in said sleeve adjacent the other intersection between said cylindrical and elliptical surfaces to provide a communication between the interior of said sleeve and the other of said annular passages, said low pressure port of the housing being in communication with said one annular passage and said high pressure port of the housing being in communication with said other annular passage, and means for removably securing the cartridge within the pump cavity.

3,193,191
ROTARY COMPRESSOR

Glenn T. McClure, McKeesport, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Oct. 27, 1961, Ser. No. 148,278
5 Claims. (Cl. 230—158)



1. A multi-stage air compressor of the rotary vane type comprising, in combination:

(a) a plurality of serially connected air compressing stages having respective tubular casings arranged in side-by-side parallel relationship,

(b) each of said stages comprising:

  (i) a hollow rotary cylinder coaxially mounted within the corresponding casing,

  (ii) a rotor coaxially mounted within the corresponding hollow rotary cylinder,

  (iii) at least one blade carried by said hollow rotary cylinder and at least one vane carried by said rotor cooperating to form therebetween at least two compressing chambers, said rotor having a longitudinal bore,

  (iv) a sationary cylindrical pintle fixed in said casing and extending into the longitudinal bore of said rotor and having an inlet passageway and a discharge passageway therein opening at the peripheral surface of said pintle,

  (v) said rotor having a passageway for each compressing chamber which alternately registers with said inlet passageway and said discharge passageway in said pintle to effect alternately the admission of air thereto and a discharge of compressed air from each of said compressing chambers,

  (vi) non-circular driven gear means via which said rotor is rotated, and

  (vii) non-circular driven gear means via which said hollow rotary cylinder is rotated,

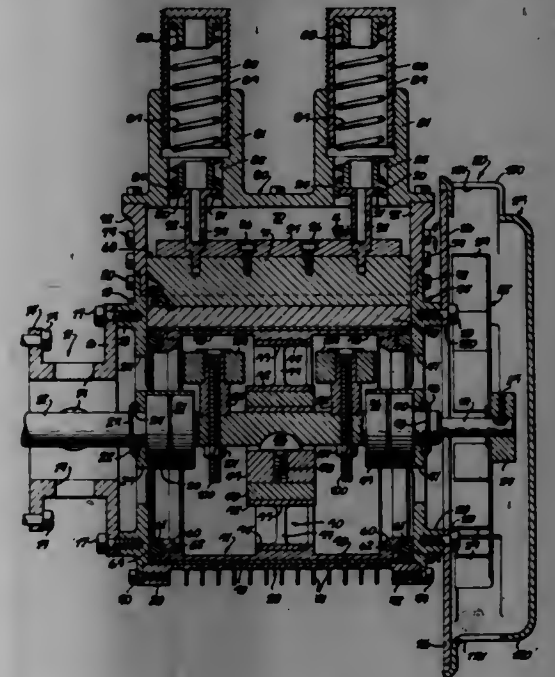
(c) a drive shaft having its axis in spaced parallel relationship to the axes of said hollow rotary cylinder and said rotor of each of said stages,

(d) non-circular drive gear means fixed on said shaft and cooperating with each of said non-circular driven gear means for effecting simultaneous rotation of the hollow rotary cylinder of each of said stages and the rotor each each of said stages in the same direction and at alternately increasing and decreasing speeds in angularly phased relationship to effect alternate increase and decrease in the volume of said at least two compressing chambers, and

(e) a conduit connecting the discharge passageway in the pintle of one stage with the inlet passageway in the pintle in a succeeding stage.

3,193,192
INTERNALLY COOLED GAS PUMP

William J. Carter, Jr., Williamsville, N.Y., assignor to The Firewel Company, Inc., Buffalo, N.Y., a corporation of Ohio
Filed Aug. 22, 1962, Ser. No. 218,631
3 Claims. (Cl. 230—210)



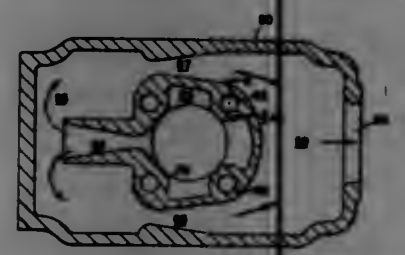
1. In a gas pump having a casing with a cylindrical bore, end heads for said casing defining with said bore a working chamber, a shaft journalled in said end heads generally concentric with said working chamber, an eccentric bearing on said shaft, a roller of smaller diameter than and arranged in said bore to have contact with said end heads and journalled on said eccentric bearing to have substantially line rolling contact with said bore as said shaft rotates, and a vane parallel with said roller engaging the pheriphery thereof and moving in a radial way in said casing to divide the space in said working chamber between said bore and roller into inlet and outlet chambers having gas inlets and outlets respectively; the combination therewith of means for cooling said eccentric bearing comprising means providing passages axially through said end heads and roller and around said eccentric bearing, and means moving a coolant through said passages.

3,193,193
COMPRESSOR MUFFLER CONSTRUCTION AND METHOD FOR MUFFLING COMPRESSOR DISCHARGE GASES

Karl M. Gerteis, Cazenovia, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Original application Mar. 13, 1958, Ser. No. 721,227, now Patent No. 3,109,584, dated Nov. 5, 1963. Divided and this application Jan. 16, 1963, Ser. No. 251,897
4 Claims. (Cl. 230—232)

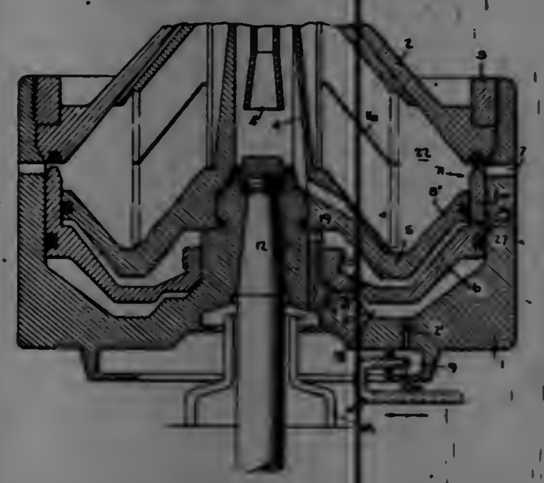
1. In a reciprocating compressor, the combination of a compressor block, a plurality of cylinders in said block, a plurality of cylinder heads associated with said cylinders forming spaces to receive compressed gas discharged from said cylinders, means defining a manifold in said block

placing the discharged gas spaces in communication with one another, means defining a discharge gas opening in communication with said manifold, a cast muffler open on an end attached to said block and connected to the means defining said discharge gas opening, said muffler having a partition therein, the walls of said muffler and said partition cooperating to define a first muffler space in communication with and in close proximity to said discharge gas opening and a second muffler space remote from said discharge gas opening and an orifice connecting said discharge gas opening and said first muffler space, said second space being connected to the first space by means including two venturis in parallel through which discharge gas is passed in a direction opposite to the gas passing through the orifice whereby the discharge gases introduced into the muffler are discharged through the orifice and expanded into the first space, discharged through said venturis and expanded again in the second space to substantially diminish the pulsating nature of the gas.



3,193,194
CENTRIFUGAL SEPARATOR BOWL WITH PERIODICALLY OPERATED SLUDGE DISCHARGE MEANS

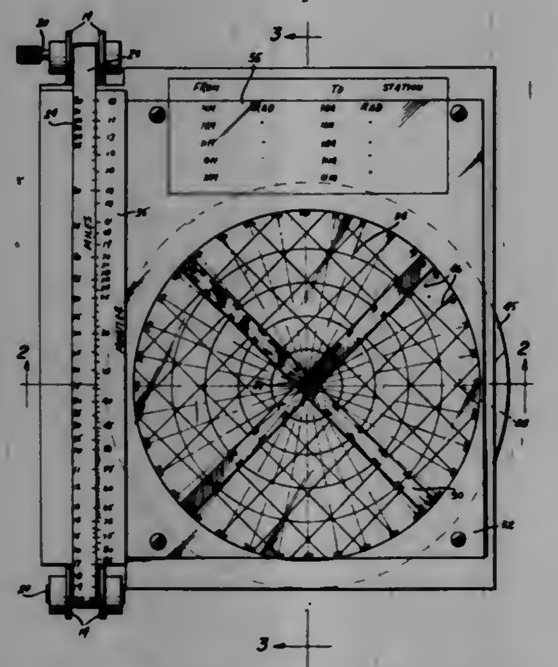
Peter Steinacker, Oelde, Westphalia, Germany, assignor to Westfalia Separator A.G., Oelde, Westphalia, Germany, a corporation of Germany
Filed June 25, 1962, Ser. No. 205,011
Claims priority, application Germany, June 26, 1961, W 30,245
1 Claim. (Cl. 233—20)



A separator bowl comprising in combination, an end wall, a bottom wall, a separating wall between the end and bottom walls, the separating wall forming a sludge space with the end wall and a pressure fluid cylinder with the bottom wall, peripheral sludge discharge port means in said bowl adjacent said sludge space, a sliding piston mounted in said pressure fluid cylinder for axial reciprocation in relation to the discharge port means for opening and closing said port means, said piston separating said cylinder into two pressure fluid chambers, separate pressure fluid supply means leading into each of said chambers for effecting said axial reciprocation, the force of the reciprocation depending on the level of the pressure fluid in the chambers, pressure fluid overflow means for one of said chambers for determining the fluid level therein, said overflow means comprising on overflow port, a housing adjacent the overflow port and defining an overflow chamber, and a pressure fluid removal element radially adjustably mounted in said overflow chamber to receive pressure fluid from said overflow means for adjusting the fluid level in said one pressure fluid chamber.

3,193,195
NAVIGATIONAL INSTRUMENT

Charles S. Jeffries, Jr., Corpus Christi, Tex.; Nona G. Jeffries, executrix of said Charles S. Jeffries, Jr., deceased
Filed Sept. 17, 1962, Ser. No. 223,877
5 Claims. (Cl. 235—61)



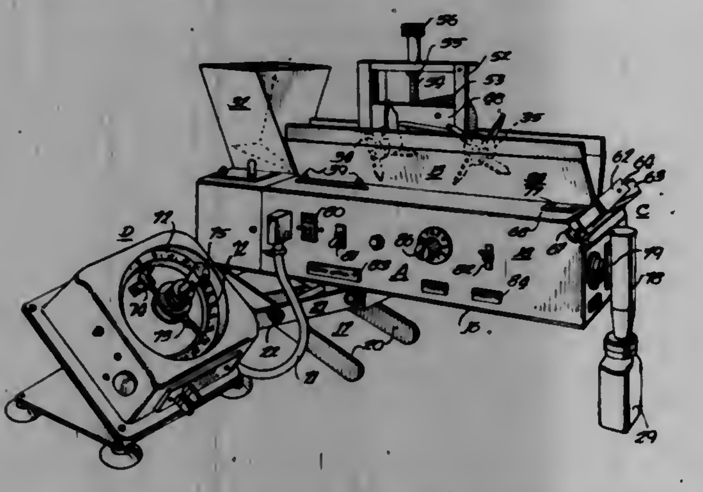
1. An invention of the character described, comprising, a base plate, a disk rotatably secured to the base plate, the disk having a plurality of different scales thereon, each scale extending radially from the center of the disk to the circumference, uniformly spaced circular lines, on the disk, said lines connecting said scales, a transparent cover plate over the major portion of the said base plate, the said cover plate being mounted to permit free rotation of the said disk, the transparent cover plate having equally spaced radial lines over the disk to form a compass rose, and a separate elongated member which has as many sides as there are scales on the disks, each side of the elongated member having a scale to match a corresponding scale on the disk.

3,193,196
PILL-COUNTING AND CONTAINER-DEPOSITING MACHINE

Leland H. Merrill, 3900 N. Lake Shore Drive, Chicago, Ill., and Charles F. Bross, Chicago, Ill.; said Bross assignor to said Merrill
Filed Oct. 29, 1963, Ser. No. 319,729
10 Claims. (Cl. 235—98)

9. A machine for counting and depositing in a container a predetermined number of pills comprising,

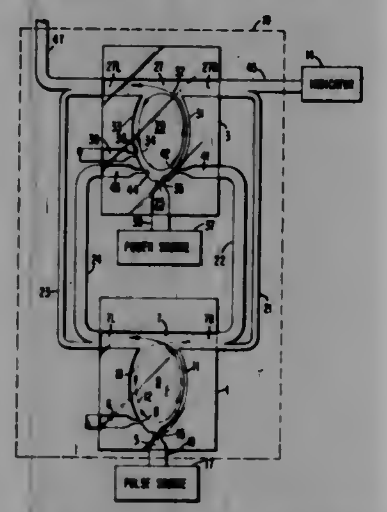
(a) supporting housing
(b) a vertically-adjustable pedestal for varying the height of the housing above a pill-receiving container,
(c) a pill magazine having a discharge opening therein positioned adjacent one end of the housing,
(d) a V-shaped trough disposed longitudinally along and on the housing to receive pills from the magazine for discharge at the opposite end of the housing into a selected container,
(e) a motor-driven vibrator connected to the trough to effect an action thereof for advancing the pills therealong to the discharge end,
(f) a digit-counting device manually settable for a predetermined number of successive reverse movements for arresting the operation of the vibrator upon deposit in the container of the last of the predetermined number of pills for which the digit-counting device was preset,
(g) a pair of photoelectric cell units,
(h) a pair of stud shafts mounted on the respective units and swivelled at respectively opposite edges of the supporting housing for disposing the cell units in opposed horizontally-spaced relationship adjacent the end of the trough for activation by pills discharged from the trough into a container,



(i) a pair of set screws fixed on the housing for engagement with the respective stud shafts to secure the cell units in vertically and horizontally-adjusted positions relative to the housing and to each other,
(j) a pair of members attached to the respective cell units and to each other and relatively adjustable to vary the opposed relationship of the cell units to accommodate the sensing of pills of varying sizes and shapes,
(k) circuitry operatively connecting the vibrator motor, the digit-counting device, and the photoelectric cell units, and energizable for the coordinated functioning of the vibrator motor, the paddle-wheel motor, the photoelectric cell units and the counting device, to cause the deposit in a container of the number of pills for which the counting device has been preset.

3,193,197
BINARY COUNTER STAGES HAVING TWO FLUID VORTEX AMPLIFIERS

Peter Bauer, Ambler, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 23, 1962, Ser. No. 189,524
30 Claims. (Cl. 235—201)

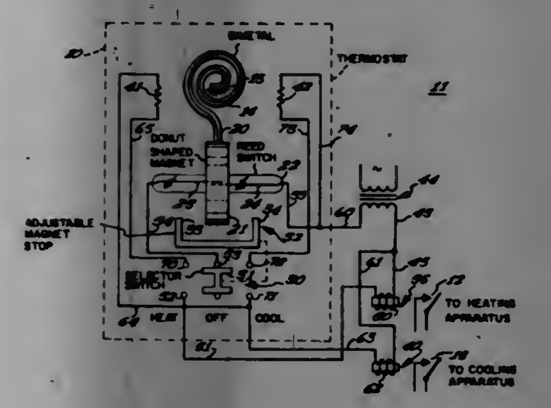


1. A bistable device comprising: first and second pure fluid amplifiers each having at least a power stream input channel, an output channel, and a vortex interaction chamber connecting said power stream input channel to said output channel in a region intermediate the ends of said output channel, said second fluid amplifier having first and second fluid control signal input channels for selectively deflecting a power stream entering the chamber of said second amplifier into the output channel in a first or a second direction, respectively; first means connecting the ends of the output channel of said first amplifier to said first and second fluid control signal input channels of said second amplifier; second means for connecting the ends of the output channel of said second amplifier to said first amplifier to control a power stream entering the chamber of said first amplifier to flow into said output channel of said first amplifier in a first or a second direction; and means connected to the output channel of said second amplifier for sensing the state of said second amplifier.

22. The method of switching a bistable fluid amplifier of the type wherein a power stream injected into a bounded fluid chamber is selectively directed from a first output channel toward a second output channel under the control of a fluid signal applied to said chamber through a control signal input channel, said amplifier being of the type wherein said power stream is maintained in a first or a second stable state of flow through said chamber by fluid forces created by said injected power stream, said method comprising the steps of applying to said chamber through said control signal input channel a fluid control signal of a magitude insufficient to change the state of power stream flow as long as said fluid forces are present, terminating said injected power stream, and subsequently initiating said power stream, said applied control stream being of sufficient magnitude to determine the state of flow of said power stream as said power stream is initiated.

3,193,198
CONTROL APPARATUS

Elmer A. Carlson, Richfield, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Nov. 12, 1963, Ser. No. 322,966
2 Claims. (Cl. 236—1)



2. In a thermostat for controlling heating and cooling apparatus,

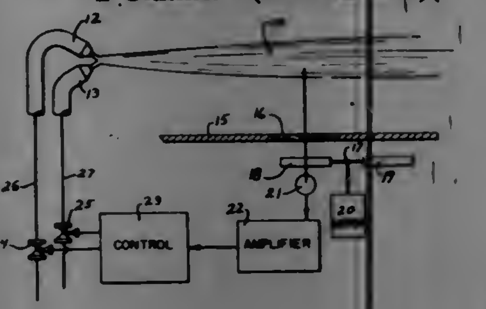
a bimetal, a reed switch having a pair of ferro magnetic members sealed in a glass tube to close a circuit when said members move together,
a circumscribing permanent magnet connected to a free end of said bimetal, said magnet being supported with said reed switch passing through a hole in said magnet whereby said switch is open when said magnet is in a first position with respect to said members and said switch is closed when said magnet moves to a second position under the influence of said bimetal,
a changeover switch, circuit means including said changeover switch adapted to connect said reed switch to control the heating or cooling apparatus,
and means associated with said changeover switch for limiting the movement of said magnet depending upon whether heating or cooling is selected.

3,193,199
APPARATUS AND METHOD OF COMBUSTION CONTROL

Allen E. Fuhs, Evanston, Ill., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Mar. 16, 1959, Ser. No. 799,734

2 Claims. (Cl. 236—15)



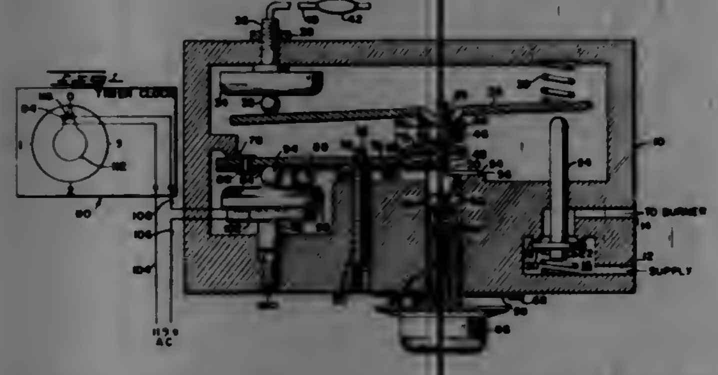
1. The method of combustion control comprising heating a furnace with a flame burning from a nozzle, regulating by separate intake valves at least two selected combustion constituents being fed to the nozzle, sighting separately from the flame by radiation the wave lengths of the two constituents selected for control, filtering separately the constituent wave lengths for purpose of emitting only the desired wave length, boosting separately with a photomultiplier tube the wave length of each constituent to be controlled, amplifying the signal of each controlled constituent to determine the ratio of radiation intensities passed by the filters, changing the electric signal from the amplifier to mechanical energy in the control unit and said control unit operating the valves to maintain the desired ratio of selected combustion constituents.

3,193,200
THERMOSTATIC CONTROL AND TIMER CLEARING SYSTEM

James R. Willson, Greensburg, Pa., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed May 7, 1963, Ser. No. 278,661

10 Claims. (Cl. 236—46)



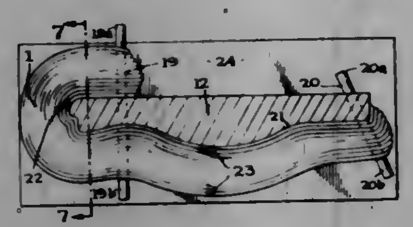
1. In a control device for cooking ovens and the like, combination comprising a casing having an inlet and an outlet adapted to be connected to an oven burner, valve means in said casing for controlling a fuel flow between said inlet and said outlet, lever means for moving said valve means between a plurality of controlling positions, thermally responsive means operatively connected to said lever means for moving the same in response to variations from selected temperatures, temperature setting means operatively connected to said lever means for positioning the same in a selected temperature position, time response heat motor means including a repositioning lever operatively connected to said lever means for repositioning the same in a second selected temperature position at the expiration of a preselected cooking time, and means operated by said temperature setting means when moved to an off position to effect movement of said lever means from the second selected temperature position.

3,193,201
RAIL ANCHOR AND METHOD OF MAKING SAME

Emory L. Groff, Bethesda, and Charles T. Walker, Rockville, Md., assignors to Poor & Company, Chicago, Ill., a corporation of Delaware

Filed Nov. 14, 1963, Ser. No. 323,677

6 Claims. (Cl. 238—330)



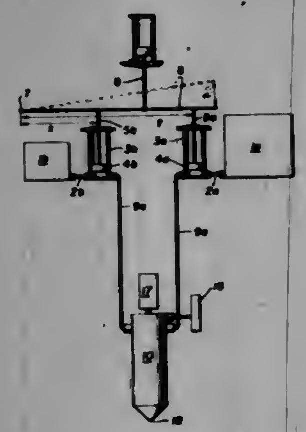
1. A rail anchor comprising, a molded body of reinforcing strands impregnated with a thermosetting plastic resin, said body including a substantially longitudinally extending base and a nose portion disposed in a plane vertically spaced above said base, a curvilinear jaw connecting said base and nose portion, and said strands in said body deposited in crossing relationship at the medial portion of said jaw.

3,193,202
PROPORTIONING APPARATUS AND METHOD FOR MIXING AND FEEDING LIQUID RESIN IMPREGNANT WITH SETTING AGENT THROUGH SINGLE ORIFICE DISCHARGE

Arnold Liggenstorfer, Stockenerstrasse 4, Winterthur-Seen, Switzerland, and Bruno Beeler, Bruhlbergstrasse 17, Winterthur, Switzerland

Filed Nov. 6, 1962, Ser. No. 236,476

2 Claims. (Cl. 239—142)



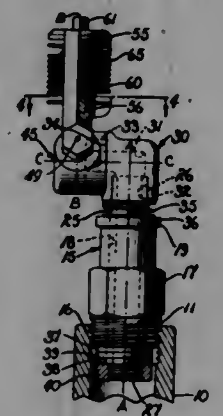
1. Apparatus for mixing and feeding a liquid impregnant mixture, consisting of a resin in liquid form and a setting agent in liquid form, to a common point of single orifice discharge; a metering mechanism for measuring the delivery of the liquid resin. a separate metering mechanism for measuring the delivery of the liquid setting agent, each of the first and second metering mechanisms consisting of a cylinder containing a piston, a piston rod and a storage vessel having an outlet; a mixer chamber connected by means of associated tubing to the outlet of each of said storage vessels; a common lever arm fulcrumed at one end thereof to which is attached the free end of the piston rod for the liquid resin storage vessel and the free end of the piston rod for liquid setting agent storage tank; a double-action driving piston fitted with a cylinder and a driving piston rod, said driving piston rod being connected to said lever arm at a point between the attachment of the liquid resin storage vessel piston rod and the liquid setting agent storage vessel piston rod, these last two points of attachment being adjustably located at preselected distances from the fulcrum thereby providing levers of different lengths to the respective piston rods at the storage vessels, the proportions of the differing lever lengths determining the ratio of liquid resin to liquid setting agent dispensed by the driving action of the double-acting piston; a mixing blade within said mixer chamber adapted to rotate and intimately mix the proportioned liquid components from the respective storage vessels; said mixer chamber lying within an upright cylinder, the mixer blade in said chamber having a transverse dimension which sweeps the entire cross-section of the cylinder, an open discharging nozzle located at the bottom of said mixer chamber for discharging the impregnant mixture; said open nozzle being formed as a conical section at the base, and the mixer blade having a bottom section which sweeps the cross-section of said conical base to force the resin mixture out of said nozzle by the rotating action of said blade.

3,193,203
FLUID SPRINKLER

Howard M. Crow, P.O. Box 880, Lindsay, Calif.

Filed Apr. 8, 1963, Ser. No. 271,299

3 Claims. (Cl. 239—230)



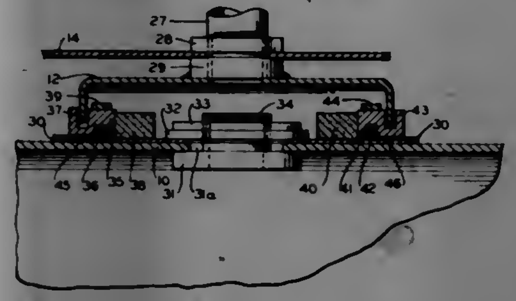
1. An impulse-type sprinkler adapted to be mounted on a fixed fluid inlet member comprising bearing means rigidly secured to the inlet member and defining a predetermined first axis of rotation; a fluid conducting member mounted for rotation about said axis and relative to the bearing; seal means interposed said bearing means and said fluid conducting member including force means to exert a load on said seal means thereby to impose a predetermined frictional drag resisting relative rotation of said fluid conducting member and said bearing means; a housing providing a fluid chamber and including an impulse arm rotatably mounted on the housing for oscillation about a second axis, an anvil member providing two substantially coplanar contact areas in diametrically opposed relationship relative to said second axis and adapted to be struck substantially simultaneously by said arm during oscillation thereof, a biasing spring mounted on the housing and urging the arm into contact with said areas of the anvil, and a fluid discharge nozzle in communication with said chamber and oriented relative to the arm to discharge fluid in a direction to strike the arm and cause rotational movement thereof away from the contact areas thereby to store energy in said biasing means; fluid conducting mounting means securing the housing to said fluid conducting member in fluid communication therewith and disposing said second axis in a plane substantially parallel to but eccentrically of said first axis while disposing said discharge nozzle to effect fluid discharge in a tangential direction relative to a circle having its center at said first axis; and adjustment means carried by said mounting means to permit adjustable movement of the housing about a third axis normal to said first axis so that selective elevation is permitted of said discharge nozzle and the jet of fluid discharged therefrom thereby determining the radius of fluid distribution of said discharge fluid.

3,193,204
ROTABLE GLAND COLLARS FOR SPRINKLER SYSTEMS

Sylvan Brooks Walton, 21050 Saratoga Hills Road, Saratoga, Calif., and Ralph B. Popkins, 750 Dana Ave., San Jose, Calif.

Original application June 17, 1963, Ser. No. 288,346. Divided and this application Dec. 22, 1964, Ser. No. 420,299

5 Claims. (Cl. 239—278)



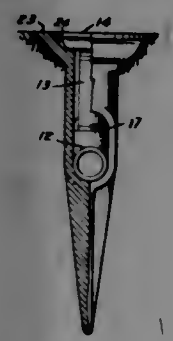
4. In a rotatable gland collar for use on a rotatable fluid supply pipe, the combination comprising a rotatable collar having a pair of substantially semi-circular parts with the ends thereof held in abutment after said collar is assembled on the fluid supply pipe, said collar having a cavity therein connected with the inside of said pipe through a hole formed in said pipe so that liquid is fed from said pipe to said cavity, means for attaching a sprinkler head to said collar for feeding liquid from said collar to said sprinkler, a fluid sealing means between said collar and said pipe which permits rotation of said collar on said pipe, and means attached to said collar for rotating said collar on said pipe for maintaining said sprinkler head in a substantially vertical position.

3,193,205
SPRINKLER SYSTEM SUPPORT MEANS

John G. Hanson, 3519 185th St., Torrance, Calif.

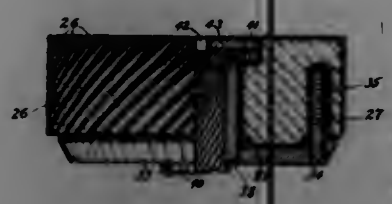
Filed July 8, 1963, Ser. No. 293,390

9 Claims. (Cl. 239—276)



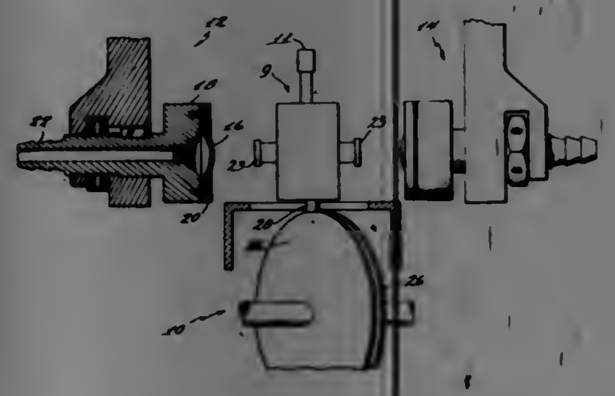
1. A sprinkling system comprising:
a fluid conduit;
a connector attached to said conduit having an opening in its upper side adapted for attaching a tubular riser member thereto;
a tubular riser member;
a sprinkler head attached to the upper end of said riser member; and
a support for said sprinkling system, said support having a hollow vertical upper portion and a lower portion, said upper portion having oppositely disposed vertically elongated openings to receive said connector, said lower portion forming a tapered spike adapted to be driven into the ground and vertical vanes formed on the sides of said support.

3,193,206
APPARATUS FOR TREATING PAPER STOCKS
Howard Bidwell, Granby, Mass., assignor of one-half to Rachel Bidwell, Granby, Mass.
Filed Feb. 15, 1961, Ser. No. 89,423
5 Claims. (Cl. 241—277)



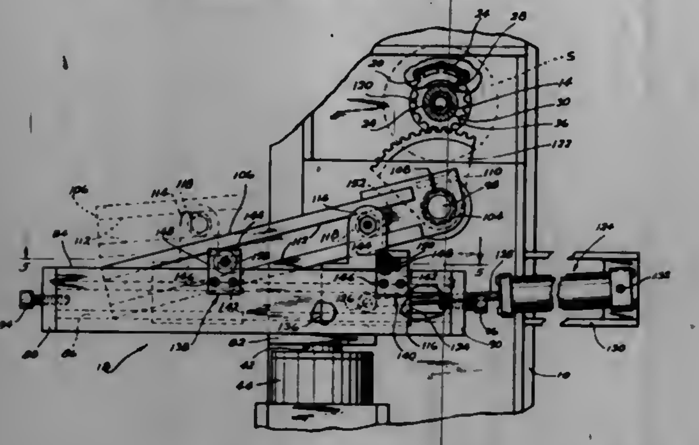
1. A rotor member for use in the processing of water borne paper stock which comprises a rotor body formed of granules of hard material permanently bonded together to provide the body with coarse granular stock processing surfaces, said body being formed on its underside with a plurality of spaced generally cylindrical recesses, and with a central cylindrical opening, a driving support, a plurality of metal rods extending from said driving support and positioned in said recesses, a shaft receiving bushing extending from said driving support and positioned in said central opening, and means bonding said rods and said bushing to the rotor body within said recesses and said central opening respectively.

3,193,207
TRAVERSE MECHANISM
Stuart Bernard Sear and Raymond Holden Speakman, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Sept. 11, 1963, Ser. No. 308,153
4 Claims. (Cl. 242—43)



1. In a traverse mechanism for yarn winding apparatus of the type including a rotatable cylindrical cam having a groove in the periphery thereof, a cam follower riding in the groove and movable back and forth along a path substantially parallel to the axis of the cam upon rotation thereof; and a yarn guide carried by said cam follower, the improvement which comprises: buffer means at each end of the path of said cam follower for absorbing, as potential energy, the kinetic energy of said cam follower when moving toward said means and for returning an appreciable proportion of said energy to said follower as kinetic energy after reversal of the movement of said cam follower, each of said buffer means including an elastic diaphragm of low extensibility and low air permeability disposed substantially in line with the path of movement of said cam follower so that said cam follower contacts one surface of said diaphragm at about the point at which movement of said cam follower reverses; and means subjecting the other surface of said diaphragm to compressed gas pressure.

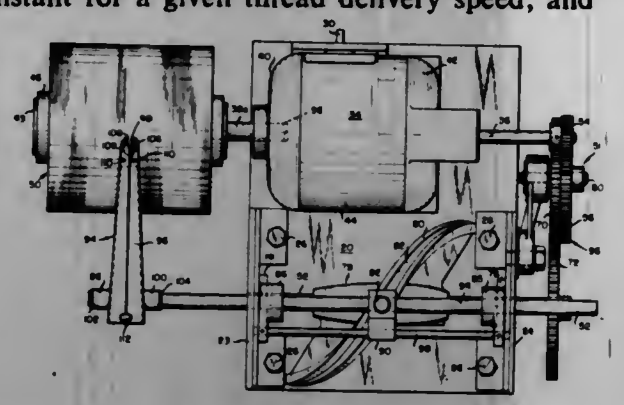
3,193,208
STATOR WINDING MACHINES
Glen R. Brueggemann, Kansasville, Wis. (312 Depot St., Antioch, Ill.)
Filed Apr. 26, 1962, Ser. No. 190,463
2 Claims. (Cl. 242—1.1)



1. In a stator winding machine having a wire carrying shuttle and having means for reciprocating and oscillating said shuttle to wind wire in preselected spaced pairs of receiving slots in a stator core, the improved adjustable oscillating means comprising: a rotatable sleeve surrounding said shuttle, said shuttle being movable axially within said sleeve and being keyed to rotate therewith; a rotatable oscillating shaft mounted below and in parallel relation to said shuttle and sleeve assembly; means on said oscillating shaft rotatably drivingly engaging said sleeve; a vertically-movable support pillar positioned with its upper end below said oscillating shaft; power means to reciprocate said pillar; a horizontal beam mounted on the top of said vertically-movable pillar and positioned transversely to the axis of said oscillating shaft; a movable, elongated rocker arm adjacent said beam, said arm having a free outer end and having an inner end secured in keyed relation to said oscillating shaft; a post member having an upper portion connected to and longitudinally shiftable along said rocker arm, and having a lower portion longitudinally shiftably mounted on said beam; a double acting ram connected to said post member and adapted to shift the same longitudinally on said beam; a pair of adjustable stops at the opposite ends of said beam limiting the longitudinal movement of said post thereon; and a plurality of index station stops positioned along said beam, said stops being independently operable to intercept said post at predetermined locations along said beam, the positioning of said post on the beam determining the force point on the rocker arm, and consequent distance said arm and the oscillating shaft revolve during vertical movement of the pillar, thereby permitting adjustment of the oscillating angle of the shuttle and sleeve assembly connected therewith to correspond to the requirement of the particular pair of stator core slots to be wound.

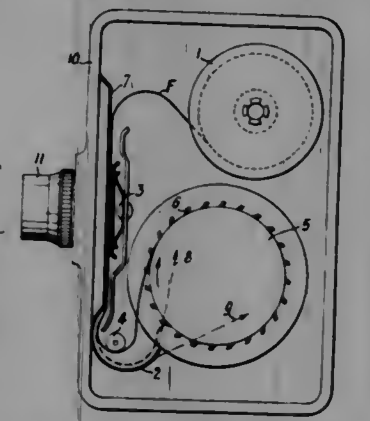
3,193,209
PRECISION WINDER
August J. Hambach, Richmond, Va., assignor, by mesne assignments, to Maremont Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 14, 1961, Ser. No. 138,166
10 Claims. (Cl. 242—18)

1. In a thread winding machine comprising:
(a) rotatable means for supporting a package adapted to have a thread wound thereon;
(b) reciprocable means for guiding a thread onto said package;
(c) operating means for reciprocating said thread guiding means relative to said package;
(d) a motor drive-connected to said package supporting means and to said operating means for simultaneously rotating said package supporting means and effecting reciprocation of said thread guiding means and for maintaining the winding tension substantially constant for a given thread delivery speed; and



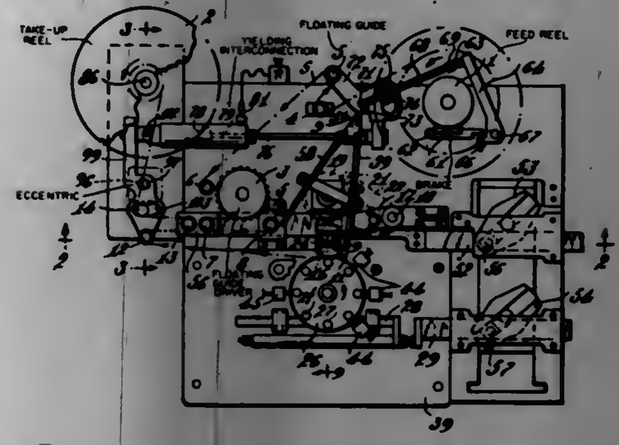
(e) ratio establishing means operably interposed between said motor and said operating means for selectively and accurately establishing the number of revolutions made by said package for each traverse of said package made by said thread guiding means; the improvements wherein:
(f) said motor is a torque motor;
(g) said torque motor has torque-speed characteristics determined solely by its internal construction; and
(h) said torque motor is the sole means for maintaining the winding tension constant.

3,193,210
MOTION PICTURE CAMERA
Jan Hampl, Prerov, Czechoslovakia, assignor to Meopta, národní podnik, Prerov, Czechoslovakia
Filed Sept. 14, 1962, Ser. No. 223,637
7 Claims. (Cl. 242—71.2)



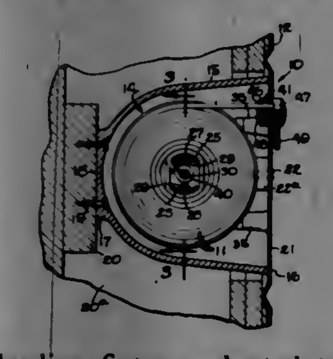
7. In a motion picture camera, in combination:
(a) a housing;
(b) a supply spool and a take-up spool rotatably mounted in said housing;
(c) a plurality of teeth radially projecting from a surface of said take-up spool extending about the axis of rotation thereof;
(d) a film gate member mounted on said housing; and
(e) guide means for guiding a leading free end portion of a film wound on said supply spool from said film gate member toward said take-up spool in a direction having a major tangential component and another radially inward component with respect to said surface of the take-up spool,
  (1) said guide means including a guide member mounted in said housing in a fixed position and having one end portion near said film gate member and another end portion spacedly adjacent said take-up spool, and a guide surface extending in a continuous concave arc from said one end portion to said other end portion, the guide surface on said other end portion extending in said direction to direct the leading end portion of the film into engagement with said teeth on said spool surface.

3,193,211
STRIP FEED TENSION EQUALIZER
Carl A. Flood, Framingham, Mass., assignor to Dennison Manufacturing Company, Framingham, Mass., a corporation of Nevada
Filed Dec. 20, 1962, Ser. No. 246,067
6 Claims. (Cl. 242—75.43)



1. In a strip machine having a feed reel and a take-up reel with an intermediate driver to drive the strip at a constant speed along a predetermined path with a feed portion of the strip extending from the feed reel to the driver and a take-up portion extending from the driver to the take-up reel, the combination of a floating strip guide bearing on each of said portions and having movement transversely of said path, and a yielding interconnection between said strip guides for maintaining the tension substantially equal in said portions.

3,193,212
HOLDER FOR HIDDEN CLOTHESLINE
Russell P. Lotta, 1434 Post Ave., Rockford, Ill.
Filed Jan. 18, 1963, Ser. No. 253,026
6 Claims. (Cl. 242—107)



1. In a clothesline fixture adapted to be mounted in a recess in a wall, the combination of, a reel housing adapted to be mounted in said recess with an open end at the plane of said wall; and a reel assembly mounted on said housing and comprising a cover plate disposed over said open ends and having a hole therethrough, a pair of spaced supports composed of plastic and each secured at one end to the inner side of said cover plate and projecting into said housing, a reel composed of plastic and disposed between the inner end portions of said supports, the latter being formed with alined cylindrical holes in said inner end portions defining an axis generally parallel to said plane, a shaft journaled in said holes and supporting said reel on said supports for rotation about said axis, a line wound on said reel with one end secured to the reel and with a free end projecting through said hole whereby the line may be unwound from the reel from the outside of the plate, a cup-shaped plastic spring housing formed integrally with one of said supports and including concentric inner and outer cylindrical flanges coaxial with said reel and having an open side opening toward and spaced from the adjacent side of the reel, said inner flange being longer than said outer flange to bear against said reel and space the latter from said outer flange, a flat spring spirally wrapped around

said inner flange in the plane of said outer flange and acting between the outer flange and the reel to rotate the latter in a direction to rewind said line, and means releasably securing said cover plate to said reel housing whereby said reel assembly is removable as a unit from said housing.

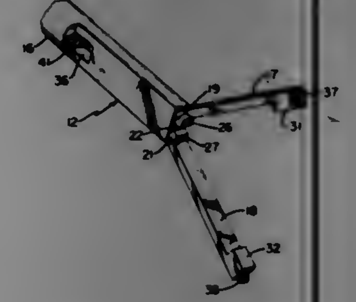
3,193,213

SPACE VEHICLE DOCKING COUPLERS

Donald A. Eberwine, Aurora, Colo., assignor to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland

Filed Aug. 5, 1963, Ser. No. 299,754

4 Claims. (Cl. 244—1)



1. A space vehicle coupler arrangement which comprises a coupler unit including an arm member, a pair of finger members pivotally mounted on the arm member, spring means cooperatively associated with the finger members for holding the same in a open position, and cam means on the finger members for urging the same into a closed position by application of pressure upon the cam means.

3,193,214

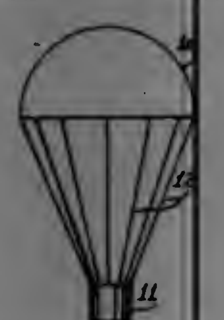
AIR-LAND-SEA-SPACE TRANSPORTATION CRAFT

R. Lee Hollingsworth, Massapequa, N.Y.

(514 Hempstead Ave., West Hempstead, N.Y.)

Filed Feb. 28, 1961, Ser. No. 110,283

13 Claims. (Cl. 244—12)



1. A space transportation craft having propulsion means, a multiplicity of steering means, a streamlined composite body and wing structure, said structure exteriorly formed in all directions from a vertical center pipe supporting means, said composite body and wing structure resembling the shape of two round shallow cones the outer perimeter of which forms a circle having a sharp edge around said perimeter, a gondola attached to the bottom of said structure for piloting facilities of said craft, jet motors mounted on said gondola, an area within said craft for transporting a load, stabilizing means projected above said craft running lengthwise parallel with the length of said gondola of said craft, a landing gear means foldable out of said gondola for landing and to form and comprise a lowered center of gravity means to vertically stabilize said craft when taking off and landing, a straight passage extending vertically through said pipe and supporting means of said craft, a tiltable jet turbine motor means mounted in said passage near the bottom of said passage to develop lifting and stabilizing thrust for vertical takeoffs and landings, said thrust exhausted below said craft in an area of free directional movement of said thrust.

3,193,215

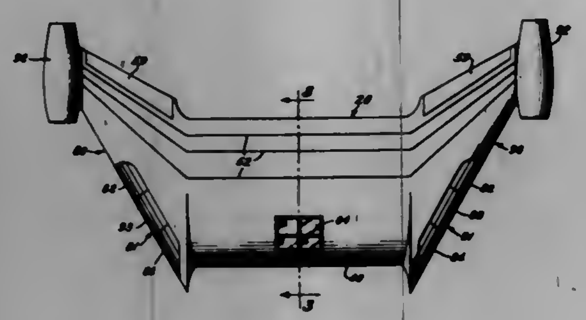
AERODYNAMICALLY DESIGNED AMPHIBIOUS VEHICLE

William H. Dunham, Bethesda, Md., assignor to John J. McMullen Associates, Inc., New York, N.Y., a corporation of New York

Filed Jan. 24, 1963, Ser. No. 253,772

27 Claims. (Cl. 244—12)

(Granted under Title 35, U.S. Code (1952), sec. 266)



24. In an amphibious vehicle having a hull, a leading edge, a base and a trailing edge, a pair of side plates, one side plate mounted on each side of said hull between said leading edge and said trailing edge, said side plates being directed outwardly from said hull at an angle of about 45° from the vertical and swept rearwardly at an angle of about 60° from the center of the hull, said side plates defining an air intake to ingest ambient air, compressing means in said air intake to compress said ingested air and duct means coupled to said compresisng means to conduct said compressed air.

3,193,216

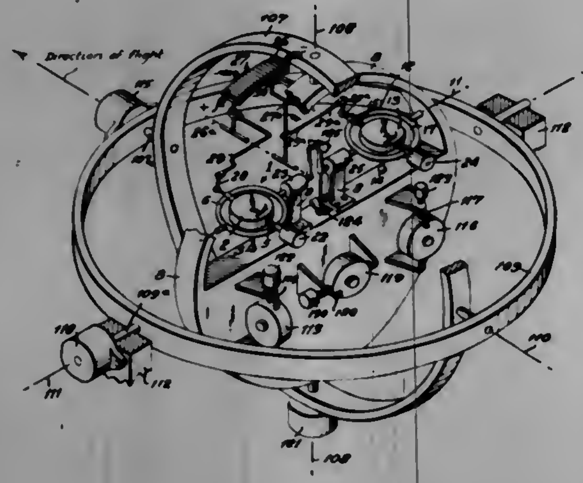
INERTIAL GUIDANCE SYSTEM WITH TWO OPPOSITELY SPINNING PENDULOUS GYROVERTICALS

Eduard M. Fischel, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army

Filed May 12, 1952, Ser. No. 287,409

16 Claims. (Cl. 244—14)

(Granted under Title 35, U.S. Code (1952), sec. 266)



7. A control mechanism for guided missiles comprising, a support, gimbal means mounting said support for universal pivotal movement about three mutually normal concurrent axes, one said axis being horizontal in the direction of flight of the missile and another said axis being normally vertical, first and second pendulous gyroverticals, gimbal means independently mounting said gyroverticals on said support with their outer gimbal axes aligned transversely of the missile and their inner gimbal axes normally horizontal in the flight path, and means responsive to the relative angle of precession of said gyroverticals about said inner axes to establish a signal proportional to acceleration along said flight path.

3,193,217

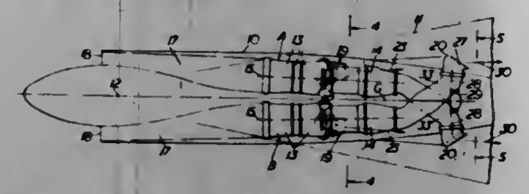
AIRCRAFT PROPULSION POWER PLANTS

Francis Charles Ivor Marchant, Frederick Ivens Clark, and Robert William Jaggard, all of Bristol, England, assignors to Bristol Siddeley Engines Limited, Bristol, England, a British company

Filed Dec. 26, 1963, Ser. No. 333,579

Claims priority, application Great Britain, Jan. 2, 1963, 275/63

15 Claims. (Cl. 244—23)



1. An aircraft power plant comprising two turbojet engines, each including a compressor section and a turbine section coaxially arranged, the engine being disposed close together, with their axes etxending substantially fore and aft, and with their lengths at least partly overlaping, a common housing closely surrounding the engines and having an outer surface which, during forward flight, will be swept by relative airflow substantially in the fore and aft direction, a front and a rear pair of jet propulsion nozzles, each pair penetrating the housing outer surface with the propulsion nozzles of each pair having each a respective discharge outlet adjacent to the housing outer surface on opposite sides of a plane through the housing which will be vertical and fore and aft during forward flight, first means connecting the nozzles on one side of the said plane to receive respectively motive fluid from the compressor section of one of the engines and exhaust gas from the turbine section of the other of the engines, and second means, adapted to be operative simultaneously with the first means connecting the nozzles on the other side of the said plane to receive respectively exhaust gas from the turbine section of the said one of the engines and motive fluid from the compressor section of the other of the engines.

15. A power plant according to claim 1, including means enabling adjustment of each nozzle to turn an efflux therethrough between rearward and downward directions with rotation of the equivalent thrust vector of the efflux about a rotation axis.

3,193,218

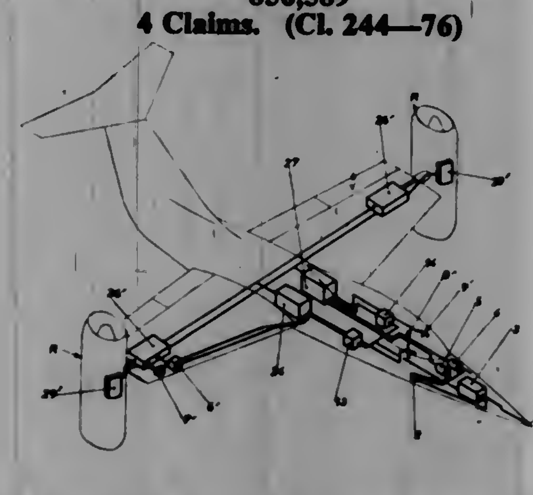
AUTOMATIC TRANSITION-CONTROL DEVICE FOR V.T.O.L. AIRCRAFT

Adolphe Otton Gontier Ernst, Bois-le-Roi, Seine, Jean Paul Joseph Jardinier, Vitry-sur-Seine, and Janos Rona, Dammarie-les-Lys, Seine and Marne, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France

Filed Mar. 19, 1962, Ser. No. 180,477

Claims priority, application France, Mar. 23, 1961, 856,589

4 Claims. (Cl. 244—76)



1. An automatic transition control device for flat-riser V.T.O.L. jet aircraft of the class employing forward propulsion means and including sustaining jet engines carried by said aircraft for creating sustaining jets angularly movable in vertical planes parallel to the forward propulsion of said aircraft, said jet engines including power control means for varying the magnitude of their thrust, said control means comprising an aircraft speed squaring unit adapted for producing a first signal proportional to the square of the forward aircraft speed, means to which said first signal is applied, generating a thrust-axis control signal which is related to said first signal in accordance with a predetermined law, further means to which said first signal is simultaneously applied generating a thrust-magnitude control signal which is related to said first signal in accordance with a predetermined law, a positioning servo-apparatus responsive to said thrust-axis control signal, and actuator means controlled by said apparatus for angularly moving the jets of said sustaining jet engines in response to changes in said forward aircraft speed, and a power servo apparatus responsive to said thrust magnitude control signal for controlling said power control means to vary the thrust magnitude of such sustaining jet engines in response to changes in said forward aircraft speed.

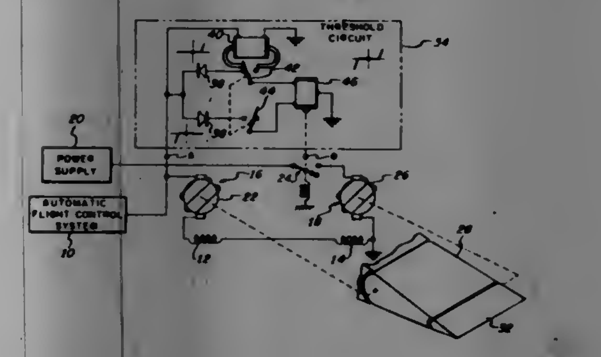
3,193,219

FLIGHT CONTROL SYSTEMS

Robert H. Parker, Phoenix, Ariz., and William A. Rorison, San Diego, Calif., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Nov. 1, 1961, Ser. No. 149,353

11 Claims. (Cl. 244—77)



1. Apparatus for automatically trimming an aircraft control surface having a movable trim member, said surface being operated in response to a control signal from a flight control system comprising an electric control surface motor having a field winding and an armature winding, an electric trim motor having a field winding and an armature winding and being adapted to drive said trim member, one of said control surface motor windings being serially connected with one of said trim motor windings, the series connection of windings being excited by said control signal, means exciting the other of said control surface motor windings, and means also receiving said control signal responsive when said control signal has a certain magnitude to excite the other of said trim motor windings.

3,193,220

GYRO ERECTION SYSTEM FOR AN AIRPLANE

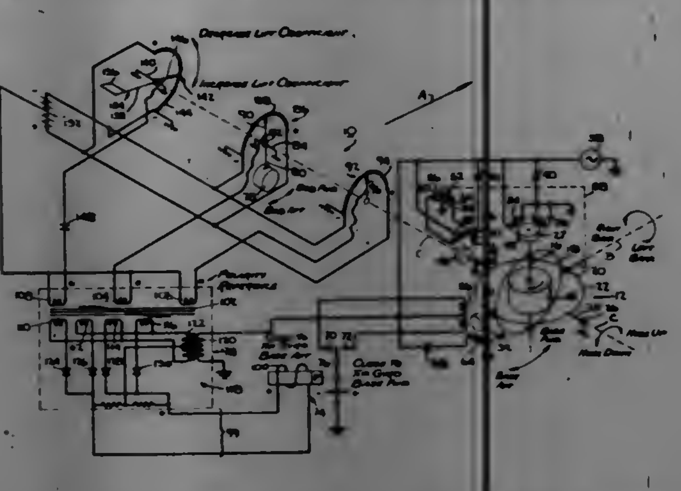
Leonard M. Greene, Chappaqua, N.Y., assignor to Safe Flight Instrument Corporation, White Plains, N.Y., a corporation of New York

Filed June 18, 1962, Ser. No. 203,318

15 Claims. (Cl. 244—79)

1. In a gyro erection system for an airplane mounted vertical gyro and which system includes a gyro pitch erecting means controlled by a pendulous means turning about a lateral axis and subject to error caused by forward acceleration: an error correcting arrangement comprising means responsive to the rate of change of lift of the airplane and means connecting said last named means to

the gyro pitch erecting means to additionally control the gyro pitch erecting means in a direction opposite to that



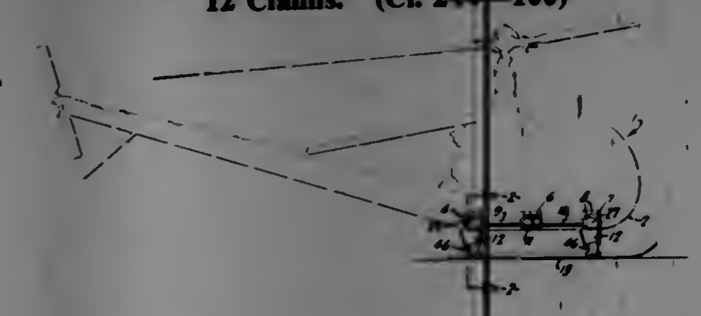
in which the gyro pitch erecting means is affected by forward acceleration of the airplane.

3,193,221
AIRCRAFT LANDING GEAR STRUT STRUCTURE

Henry C. Victorian, Menlo Park, and Howard B. Parshley, San Jose, Calif., assignors, by mesne assignments, to Hiller Aircraft Company, Inc., Menlo Park, Calif., a corporation of Delaware

Filed Nov. 13, 1962, Ser. No. 237,003

12 Claims. (Cl. 244—100)



1. An aircraft landing gear including strut structure operatively positioned between the chassis of an aircraft and means for engaging a landing surface, said strut structure comprising a lightweight contoured strut section; said strut section comprising an inner preformed body portion of honeycomb material which has a generally aerodynamic contour to minimize drag during flight, opposite elongated panels comprised of unidirectional reinforcing fibers underlying and overlying said body portion, the fibers of said panels being oriented to extend longitudinally of said section, and an isotropic skin surrounding said body portion and said panels and bonded therearound; and means for securing said strut structure to said aircraft chassis and to said landing surface engaging means.

3,193,222
PARACHUTE HAVING VARIABLE VENT AREA

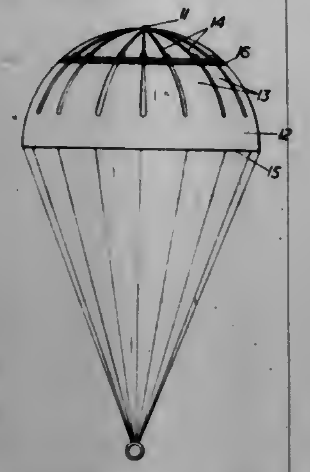
Ivor John Davies, Netley Abbey, England, assignor to Hawker Siddeley Aviation Limited, London, England

Filed Nov. 12, 1963, Ser. No. 322,588

Claims priority, application Great Britain, Nov. 13, 1962, 42,925/62

5 Claims. (Cl. 244—145)

1. A parachute comprising a dome the fabric of which is divided into a plurality of petal type panels by slits radiating from the central apex of the dome which slits each extend for the major portion of the dome radius but do not reach the periphery of the dome, a resilient extensible cord encircling the dome coaxially with the apex thereof at a radial distance from the apex that locates the cord at an intermediate position along the length of the radiating slits, said cord defining a variable vent opening determined in area by the air pressure within the dome, and inextensible means interconnecting said panels and limiting the extent to which said panels can



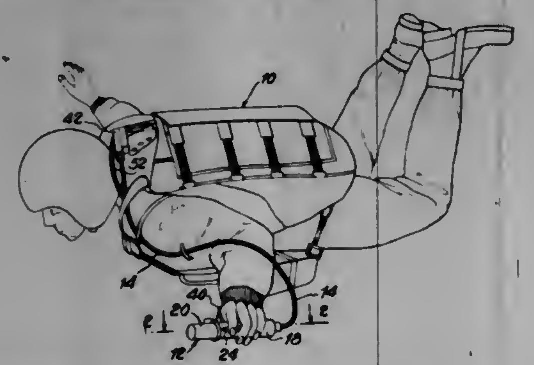
open out as said resilient cord yields thereby to define the area of the maximum vent opening.

3,193,223
PARACHUTE RELEASE CONTROL

Stuart Davis, 280 Clinton Place, Hackensack, N.J.

Filed July 31, 1963, Ser. No. 298,997

5 Claims. (Cl. 244—149)



1. A parachute release control adapted to be held in the hand during jumping and to actuate the parachute release mechanism on the pack comprising:

a hollow, tubular, body member;

a spring-loaded piston mounted within the hollow, tubular, body member adjacent one end thereof;

a latch adapted to hold the spring-loaded piston in a loaded position against the force of the spring;

means affixed to the hollow, tubular, body member for releasing the latch to permit the spring-loaded piston to assume its unloaded position;

a loading tube for moving the spring-loaded piston to its loaded position mounted in the hollow, tubular body member and movable into and out of the hollow, tubular body member such that the loading tube is largely within the hollow, tubular body member when the spring-loaded piston is in its loaded position and largely outside the hollow, tubular body member when the spring-loaded piston is in its unloaded position; and

a cable affixed at one end to the means for loading the spring-loaded piston and at the other end to the parachute release mechanism on the pack such that the parachute release mechanism on the pack is actuated when the spring-loaded piston is moved to its unloaded position.

3,193,224
KITE CONSTRUCTION

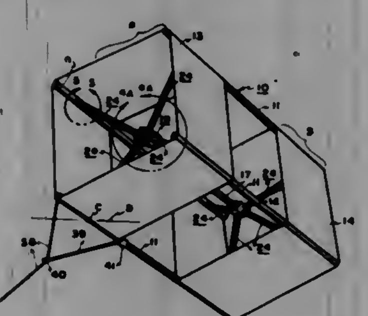
Roger L. Williamson, 2377 East 3595 South, Salt Lake City, Utah

Filed Mar. 8, 1963, Ser. No. 263,771

1 Claim. (Cl. 244—153)

A box kite construction including, in combination, a plurality of parallel, corner poles, sail means affixed to

said corner poles, a center pole disposed medially within said corner poles, a pair of sets of outwardly extending, lateral brace members having outer extremities hingedly affixed to said corner poles, respectively, and a pair of collar means hingedly receiving and securing, respectively, the remaining extremities of said sets of lateral brace members in respective umbrella-type connections, said corner poles, center pole, lateral brace members, and sail means being so constructed and arranged that the altering of relative disposition of said collars in one direction, as delimited by the size of said sail means, extends said lateral brace members and the said corner poles to which they are affixed outwardly so as to render in open condition said sail means, and that, subsequently, the altering of relative disposition of said collars in a reverse direction collapses said lateral members and, consequently, said corner poles and sail means, said center pole being provided with



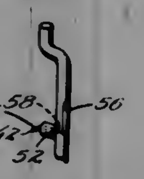
detent means for releasably retaining said sail means in open condition when desired, and wherein each of said collars has a central aperture receiving said center pole and a plurality of side slots receiving said remaining extremities of the respective sets of said lateral brace members, said remaining extremities being provided with respective notches on their outer sides, and with rounded corners on their remaining sides, the latter fitting into said slots, each of said collars being provided with exterior, transverse, mutually aligned recesses arranged in a transverse peripheral pattern with each other and aligned with said notches of said lateral brace members, and taut, elongate means respectively circumferentially disposed in said notches of said lateral brace member sets and said recesses in said collars, respectively, for hingedly retaining said remaining extremities of said lateral brace members to and within said slots of said collars.

3,193,225
LOCKING HOOK FOR APERTURED PANEL

Edward H. Terlinde, 222 W. 7th St., St. Paul 2, Minn.

Filed June 3, 1963, Ser. No. 285,056

10 Claims. (Cl. 248—223)



1. A perforated panel hook including a shank having an axially extending offset end for insertion through an aperture in a perforated panel and means to hold said shank in releasable overlying engagement to a perforated panel comprising:

(a) lock means spaced from said offset shank end,

(b) said lock means including a sleeve having an offset axial aperture therethrough secured to said shank in aligned relation to said offset end,

(c) a pin rotatably secured in said offset axial sleeve aperture having an end portion projecting beyond said sleeve, said end portion being at a substantially obtuse angle to said pin axis,

(d) lever means at said opposed pin end whereby said pin may be rotated,

(e) said lever means rotatable into and out of parallel alignment with said shank,

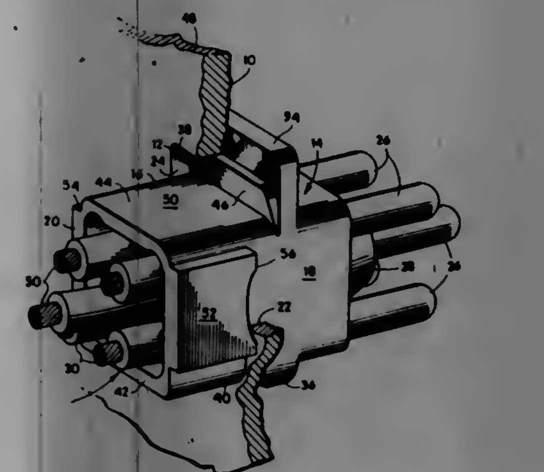
(f) whereby when said pin is rotated said angled end projects laterally beyond the periphery of said sleeve.

3,193,226
SNAP-IN FASTENER FOR MOUNTING OPENING

Alan B. Showalter, Albion, Ind., assignor to Lyall Electric, Inc., Albion, Ind.

Filed Sept. 20, 1961, Ser. No. 139,438

2 Claims. (Cl. 248—27)



1. A fastener comprising a rectangular cross-section body of rigid construction and including an integral first projection which is proportioned to fit through a companion rectangular opening in a mounting member at an inclined angle of said fastener and providing a surface which overlies one edge of said opening, the width of said rectangular opening being substantially the same as the width of said rectangular cross-section body, a second projection of said body which is proportioned for movement through said opening and also providing a surface which overlies opposite edge of said opening, means forming abutments which are located in overlying relation with the side edges of said opening, and engageable with the other side of the mounting member and means forming a lip on the first projection which is movable within said opening to effect an interference gripping fit.

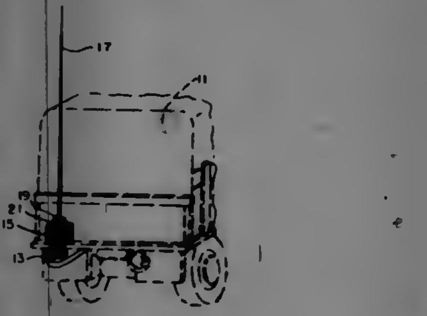
3,193,227
ANTENNA MOUNT

Watson P. Czerwinski, Shrewsbury, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 30, 1962, Ser. No. 220,964

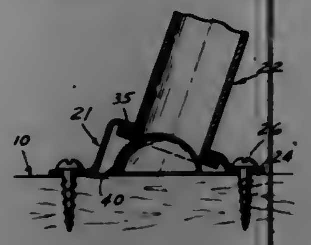
2 Claims. (Cl. 248—40)

(Granted under Title 35, U.S. Code (1952), sec. 266)



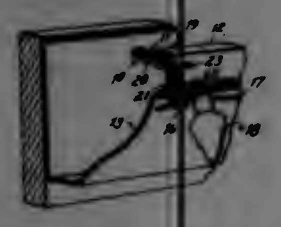
1. An antenna mount for a vehicular body or the like, comprising a base, a spring having a generally elliptical configuration on said base and means associated with said spring for supporting and confining an antenna within said spring.

3,193,228
RAILING ASSEMBLY
Christ Chion, Plainview, N.Y., assignor to Allan-Jervis Marine, Inc., Hicksville, N.Y.
Filed Mar. 24, 1964, Ser. No. 354,291
7 Claims. (Cl. 248—40)



1. A railing assembly for mounting upon a support structure having a generally flat surface, said assembly comprising a post, and mounting means, said mounting means including a base member having a flange and a hollow projection extending from the flange beyond the plane thereof, and a support member having a flange and a hollow projection protruding from the plane of said flange, said hollow projection of the support member having an opening for receiving one end of the post to support said post in a position defining an acute angle relative to the plane of the flange of the support member, and fastening means for securing both said flanges to each other and to said support structure, said hollow projections and to said support structure, said hollow projections complementing each other to define a cavity the walls of which support the post in said position.

3,193,229
HANGER FOR STRING OF LIGHTS
Marvin G. Stock, 1783 Churchwood Drive, Cincinnati, Ohio
Filed Apr. 11, 1963, Ser. No. 272,302
3 Claims. (Cl. 248—74)



2. A hanger of resilient plastic material for hanging a light string on a rain gutter having a generally vertical wall terminated by a horizontally inwardly projecting lip, said hanger comprising:

a first leg,

a second leg connected at one of its ends to one end of the first leg and at right angles to said first leg,

a third leg connected at one end to the other end of said first leg and forming a first hook with the first leg, the free end of said third leg being spaced from said first leg and the opening of said hook facing one side of said second leg,

a fourth leg connected to the other end of said second leg and extending along the opposite side of said second leg and forming a second hook with the second leg,

said first hook adapted to receive said rain gutter lip and said second leg adapted to bear against the vertical wall of said rain gutter.

3,193,230
PARKING METER SUPPORT
John H. Crankshaw, 439 Shawnee Drive, Erie, Pa.
Filed Aug. 26, 1963, Ser. No. 304,562
8 Claims. (Cl. 248—160)

1. In combination, a parking meter and a support therefor,

said support comprising a vertically extending tube support terminating at its upper end in a reduced size end,

an upper tube attached to said parking meter and receiving said reduced size end,

means fixedly connecting said tube support and said tube together,

the lower portion of said tube support being of a greater diameter than the parts of said tube thereabove,

downwardly extending teeth on the lower end of said tube support,

a base,

said base having a relatively flat lower surface adapted to rest on a cement surface,

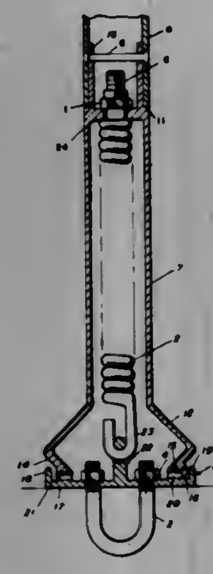
said base having upwardly extending teeth thereon,

said downwardly extending teeth intermeshing with said upwardly extending teeth,

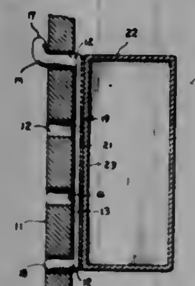
and a tension spring in said tube support,

the upper portion of said spring being fixed to said tube support,

the lower end of said spring being fixed to said base whereby said tube support and said tube are urged to vertical position when a lateral force is exerted on said tube support.

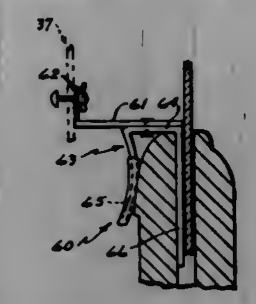


3,193,231
STORAGE DEVICE AND SUPPORT
John K. Curry, 429 E. Morgan St., Martinsville, Ind.
Filed Mar. 15, 1961, Ser. No. 95,905
1 Claim. (Cl. 248—223)



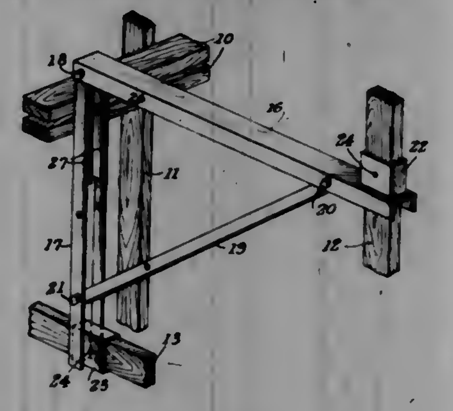
An article support for use in a perforated board and the like and comprising: a strip having a front face, a rear face, a plurality of L-shaped tabs integral with said strip and extending rearwardly from the rear face adjacent the upper margin of said rear face and having upstanding distal ends for reception through perforations in the board to hang said support thereon, a plurality of substantially straight tabs integral with said strip and extending rearwardly from the rear face adjacent the lower margin of said rear face and having at least one recess in the distal end of a tab to provide resilient portions in the distal end thereof for snug engagement in a perforation in the board, and an adhesive coating on the front face for adhering articles to be supported to said strip, whereby said strip is adapted to support articles on a perforated board.

3,193,232
RADIO BRACKET OR HOLDER
Carlos M. Hatcher, 17 Jumping Brook Drive, Neptune, N.J.
Filed Sept. 5, 1962, Ser. No. 221,593
4 Claims. (Cl. 248—226)



4. An attachment for supporting a transistor radio comprising an L-shaped holder, which includes a base, an upright back and holding element and in which said L-shaped holder is provided with elongated slots in the upright portion of said holder and in which a generally L-shaped bracket having two legs is provided for attachment by one leg to the upright portion of the L-shaped holder for the transistor radio and by the other leg to a U-shaped clamp to fit the lower edge of an automobile windowframe, said U-shaped clamp provided with two legs, one leg of the U-shaped clamp being adapted to be inserted between the window and the door while the other leg of the U-shaped clamp is adapted to bear against the surface of the door.

3,193,233
SCAFFOLD STRUCTURE
Fred H. Wichser, Los Angeles, Calif., assignor to Angela Evalina Lincoln, Los Angeles, Calif.
Filed Feb. 3, 1964, Ser. No. 341,925
2 Claims. (Cl. 248—240.3)



1. A scaffold bracket comprising:

(a) a first channel,

(b) a second channel narrower than the first channel and adapted to nest therein,

(c) a brace channel narrower than the second channel and adapted to nest therein, the second channel being further adapted to be attached to a structure,

(d) pivot bolts connecting the ends of the brace channel to the first and second channels to foldably connect the three channels,

(e) a removable bolt connecting the ends of the first and second channels to arrange the three channels in rigid, right-angle, triangular form with the brace channel forming the hypotenuse and the two other channels the two legs,

(f) the three channels, when said removable bolt is removed and when folded, being nested within the cross-sectional areal space of the first channel, and the last-mentioned bolt extending through the three nested channels to lock the same together in their nested condition,

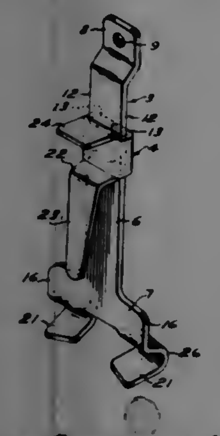
(g) the second channel, at the end of thereof adjacent to the point of connection by the removable bolt to the first channel, being provided with a toggle bolt for securing the bracket to a supporting structure with the second channel vertically disposed,

(h) flanges within the channel space of the second channel mounting said toggle bolt,

(i) said flanges residing within the channel space of the brace channel, when the three channels are in nested condition,

(j) and the second channel having an elongated slot through which the toggle bolt is adapted to swing to assume bracket-mounting engagement with the supporting structure.

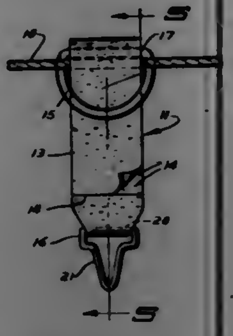
3,193,234
FLOWER POT HANGER
Austin Thurman, 22468 Happyland Ave., Hayward, Calif., and Demoody Blair, Oakland, Calif.; said Blair assignor to said Thurman
Filed Sept. 4, 1963, Ser. No. 306,535
3 Claims. (Cl. 248—313)



1. A hanger for a flower pot having an outwardly flanged rim comprising a generally flat strip of sheet metal or the like arranged for vertical positioning on a wall of the pot, said strip having an elongated body and an offset upper portion provided with a hole for receiving a fastening means and a lower portion formed with transverse extensions in the general plane of the body, said extensions being provided adjacent the bottom thereof with transversely spaced lateral projections designed to engage under said flanged rim when the hanger is applied to the pot, said projections being provided at their inner ends with offsets extending reversely in the same direction and substantially to the same extent as said upper portion of the strip, a slide member of sheet metal mounted on said strip for movement longitudinally thereon to and between said upper and lower portions of the strap and having a portion bent around and embracing said body and serving to guide the slide member in its movement thereon, said slide member having a tab extending angularly from the upper part thereof to serve as a handle for gripping the member, said slidable member also having an angular portion extending in the same general direction as said projections so as to engage the rim of the pot when the projections engage under the flange, and said slidable member having a resilient tongue extending downwardly from the outer end of said angular portion of said slidable member and having a side thereof facing and spaced from the opposing side of the strip to receive the flanged rim therebetween, said tongue being of a length such that when the slide member is in its lowest position on the strip the lower edge of the tongue will be appreciably below the projections of said strip, said tongue being disposed opposite the transverse space between said projections of said strip when the slide member is in its lowest position on the strip.

3,193,235
GARMENT HANGER SUPPORT FOR CLOTHESLINE

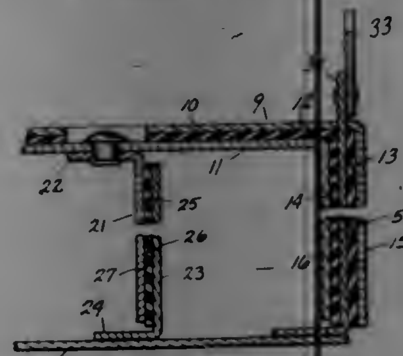
Pearl M. Jensen, 2311 26th Ave. S., Minneapolis, Minn.
Filed Jan. 16, 1964, Ser. No. 338,048
3 Claims. (Cl. 248—317)



1. A clothesline attachment for supporting garment hangers comprising a strip of flexible material having a non-slip surface on a first side thereof and an adhesive surface on a second side thereof, a support ring having a straight bar section of length greater than the width of the strip, a hanger support member, said strip being looped over said straight bar section of said ring and over a portion of said hanger support member, said ring and said hanger support member being spaced apart, the adhesive surfaces of said strip being doubled back upon each other to hold said ring and said hanger support member in spaced relationship.

3,193,236
DAMPED CHASSIS

Richard P. Thorn, Erie Pa., assignor to Lord Manufacturing Company, Erie, Pa., a corporation of Pennsylvania
Filed Feb. 12, 1962, Ser. No. 172,441
8 Claims. (Cl. 248—358)



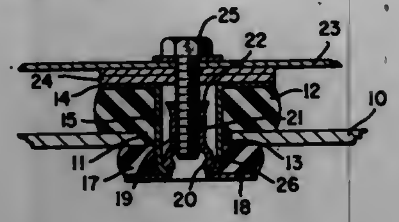
1. A chassis comprising a frame having spaced side rails, a top panel extending between the upper edges of the rails, and said panel comprising upper and lower sheets and a viscoelastic layer between and bonded to the sheets, the lower sheet having depending flanges overlapping the inner sides of the rails, the upper sheet having depending flanges overlapping the outer sides of the rails, viscoelastic layers between and bonded to the inner and outer sides of the rails and the adjacent flanges, said viscoelastic layers being characterized by high internal friction and low modulus of elasticity compared to the sheets and rails.

3,193,237
BODY MOUNTING FASTENER FOR AUTOMOBILES

James E. Adams, Toledo, Ohio, assignor, by mesne assignments, to The Bishop and Babcock Corporation, Toledo, Ohio, a corporation of Ohio
Filed Apr. 23, 1962, Ser. No. 189,418
1 Claim. (Cl. 248—358)

A body mount for connecting body components to an apertured vehicle frame comprising:

a pair of apertured resilient insulation blocks disposed on opposite sides of the vehicle frame part and with the latter in contact only with the inner faces of said insulator blocks;

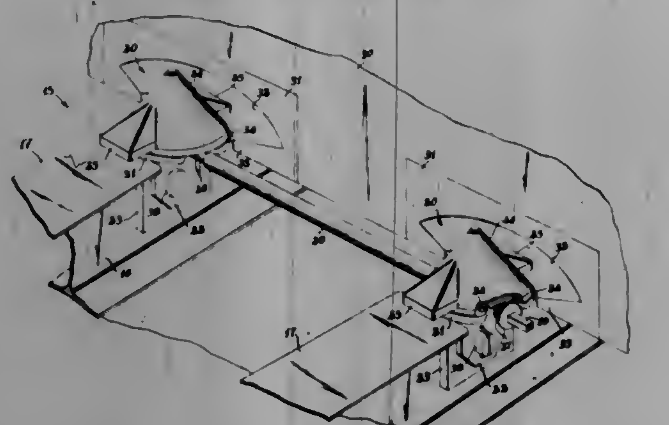


a sheet metal part having an end flange engaging the outer face of one of said insulator blocks, said sheet metal part having an integral sleeve extending at right angles to said end flange, said sleeve having an inwardly tapered cylindrical strut portion adjacent the free end thereof, said sleeve having a radially inwardly extending lip portion on the free end thereof, said sleeve projecting through and in contact with said one apertured insulator block, the vehicle frame part, and into and substantially through and in contact with the other of said insulator blocks whereby the inwardly extending lip portion of said sleeve is substantially in the same plane as the outer face of said other insulator block; and

a sheet metal securing part having an end flange engaging the outer face of said other insulator block, said sheet metal securing part having an integral sleeve extending from said end flange and having substantially its entire length projecting coaxially within the sleeve of said sheet metal part, said sleeve having a reduced internally screw threaded portion spaced from said last end flange, and spaced rigid shoulders comprised of metal struck from said sleeve in the portion thereof adjacent said last end flange, said spaced rigid shoulders projecting outwardly from said last integral sleeve and overlying the inwardly extending lip portion of said first sleeve, whereby in the assembled form of the body mount the free end of the integral sleeve of said first mentioned sheet metal part is in juxtaposed contact with the end flange of said second mentioned sheet metal securing part.

3,193,238
CONTAINER LOCKING DEVICES AND ASSEMBLIES

Robert M. Sherrie, Lansing, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Feb. 15, 1963, Ser. No. 258,760
11 Claims. (Cl. 248—361)

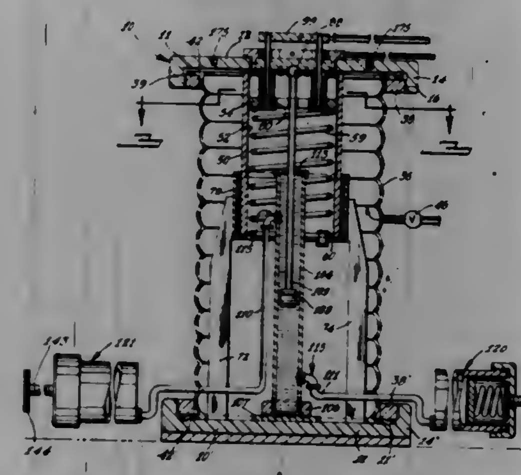


1. In a railway car wherein container type lading support means are arranged longitudinally of the deck portion of the car to receive lading in supported engagement with support surface portions thereof, the provision of lading attachment means associated with said support means and projecting above said surface portions thereof, said attachment means including horizontally arranged

shear plate means fixed to said support means and arranged for end abutment with lading to resist longitudinal movement of lading relative to said support means, lading lock means pivotally carried by said shear plate means, and operating means for said lock means.

3,193,239
SUSPENSION DEVICE

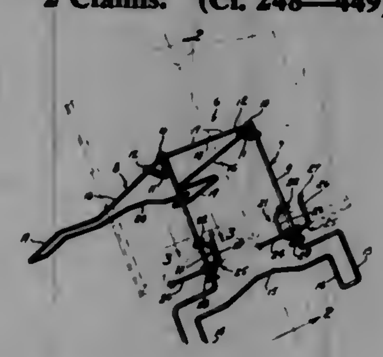
Edwin P. Monroe, 255 Barrett Road, Berea, Ohio
Filed May 21, 1962, Ser. No. 196,117
5 Claims. (Cl. 248—400)



1. A suspension device of the type described comprising a first plate member secured to an immovable frame member, a relatively movable member secured to a second plate member having a downwardly extending annular flange portion, a bellows adapted to be interposed between said first and second plate members, said bellows adapted to be seated within an annular relatively shallow recess provided in the underside of the second plate member, a first cylinder secured to the bottom of said second plate member and telescoped within said bellows, a piston and piston rod connected to said piston, which piston is disposed within said cylinder the opposite end of said rod being swivelably secured to the said second plate member, spring means telescoped over said piston rod, a centrally apertured circular plate, said spring secured at one end to said circular plate, a hydraulic cylinder secured to the first plate member extending longitudinally and vertically into the first said cylinder passing through the central aperture in said circular plate, the piston rod and second plate being biased normally in an opposite direction from the first plate by a predetermined air pressure within the bellows, and moved toward said first plate upon force being applied to said second plate in a direction opposite to the said bias direction, the hydraulic cylinder acting as a shock-absorbing means, said spring counterbalancing force exerted by air pressure within the said bellows.

3,193,240
BOOK HOLDERS

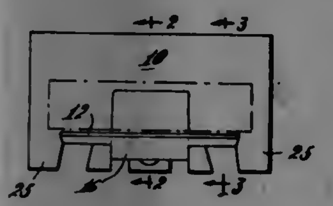
Frank Browett, Box 6, Valrico, Fla.
Filed Apr. 24, 1964, Ser. No. 362,414
2 Claims. (Cl. 248—449)



1. A book holder as described comprising a pair of almost identical members with broadly spaced feet, a back and a front hinged at the top with a means of limiting the distance of the feet or legs apart and will hold the front book-holding member in an inclined position and a means to prevent sidewise movement at the hinges, by a continuation of the single-bend hinge portion, to surround on three sides in a U shape the back up-right portion.

3,193,241
EASEL-TYPE MOUNT

Gordon E. Nichols, Middleboro, Mass., assignor to Winthrop-Atkins Co., Inc., Middleboro, Mass., a corporation of Massachusetts
Filed Dec. 19, 1961, Ser. No. 160,474
1 Claim. (Cl. 248—465)

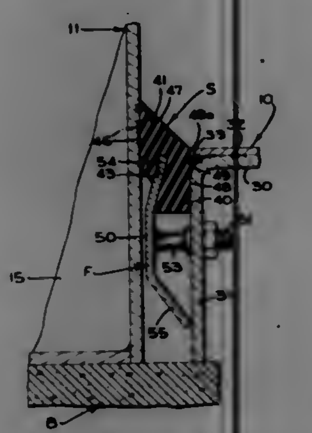


A mount comprising a rigid panel member having top, bottom and end edges, transversely spaced front legs at the bottom edge adjacent the end edges, and a one piece shelf member and integral brace member intermediate the legs; said front legs, shelf member and brace member being formed from the panel member by cuts extending inwardly from said bottom edge, in spaced relation to the end edges and to each other, a distance corresponding to the length of the legs and the width of the shelf, transversely spaced lines of weakness extending from the inner ends of the cuts toward each other and parallel to the bottom edge, said lines of weakness constituting hinges and defining the rear edge of the shelf, said hinges terminating in spaced relation to the median between the ends of the panel, transversely spaced cuts extending from the inner ends of the hinges and perpendicular thereto to at least the median between the top and bottom of the panel, and a cut parallel to the bottom edge joining the terminal ends of the last-named cuts, said shelf member and integral brace being rotatable about said hinges to dispose the shelf member at an angle projecting forwardly from the panel in a position elevated from the lower ends of the legs by an amount corresponding substantially to the length of the legs, and the brace projecting rearwardly from the panel, and a rear leg cut out of the back side of the panel for deflection rearwardly therefrom, said rear leg and said brace having a plurality of mutually interengageable recesses and tongues at their adjacent ends interengageable to hold the brace in its rearwardly inclined position and the leg in its rearwardly deflected position.

3,193,242
CONCRETE FORM STRUCTURE AND SEALING MEANS THEREFOR

Lawrence F. Tumey and Theodore R. Gilmet, Lakeland, Fla., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware
Filed Nov. 9, 1962, Ser. No. 236,539
1 Claim. (Cl. 249—188)

For use in a concrete mold having longitudinally extending first and second concrete form members, a combined sealing and corner chamfering sealing strip formed of rubberlike material, said sealing strip having a base portion having an inner sealing surface for engaging the first form member, a freely extending tapered body portion projecting from said base portion of the sealing strip, said body portion having a concrete corner forming surface and a substantially flat outer sealing surface for engaging the second form member, said outer sealing surface of said body portion being inclined from the plane of said base portion sealing surface, said body portion sealing surface being pivotally movable relative to said base portion into a plane parallel to that of said base portion sealing surface by the second form member to establish relisient sealing engagement between said body portion sealing surface and the second form member, said sealing strip having a recess separating the base portion and the body portion thereof, and a fastening member

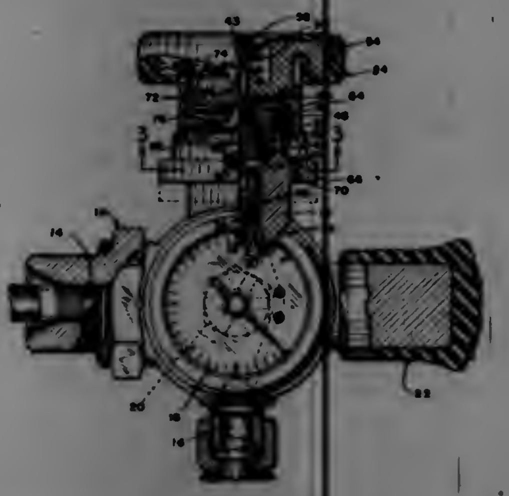


having means formed for attachment to the first form member, said fastening member having a longitudinally extending, upwardly facing, generally vertically disposed rigid flange disposed in said recess in the sealing strip to clamp said base portion against the first form member and to provide a structural member positioned to engage and reinforce said body portion and absorb vertical loads placed on said body portion in its concrete receiving position.

3,193,243
CONTROL VALVE SAFETY CLUTCH MECHANISM

Evans R. Billington, Lincolnwood, Ill., and Savin L. Sundstrom, Bloomer, Wis., assignors to The Bastian-Blessing Company, Chicago, Ill., a corporation of Illinois

Filed July 5, 1962, Ser. No. 207,747
14 Claims. (Cl. 251—96)

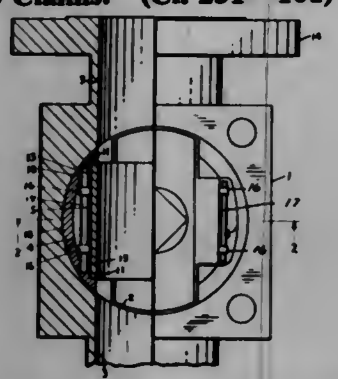


5. In combination with a fluid flow valve body having a rotatable valve stem mounted thereon, a safety clutch mechanism comprising:
- an operating handle slidably secured to the upper end of the valve stem providing a plurality of equally spaced buttress teeth on the under surface thereof,
- a cylindrical sleeve slidably retained on said valve body having a plurality of equally spaced buttress teeth on the upper edge thereof,
- means supported on said body to restrict said sleeve against rotation, and
- a compression spring disposed between said valve stem and said handle to effect engagement of the teeth on the sleeve with the teeth on the handle to prevent rotation of the handle in one direction.

3,193,244
PLUG VALVE WITH IMPROVED EXPANDABLE PLUG

Edward M. Smith, Lexington, Ohio, assignor to Trymac Corporation, Erie, Pa., a corporation of Pennsylvania

Filed Nov. 23, 1960, Ser. No. 71,262
3 Claims. (Cl. 251—161)

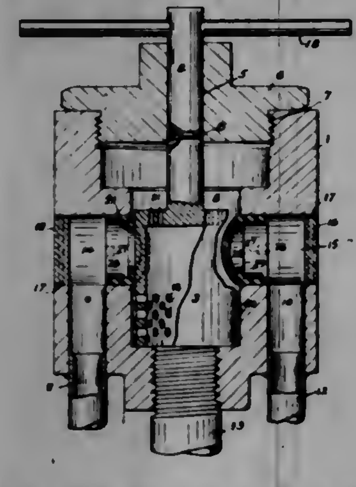


1. A plug valve comprising a body with a flow passage therethrough, a lateral bore in said body, two spaced cylindrical segments, one disposed over each said flow passage and in said lateral bore, said cylindrical segments being of slightly smaller radii than the radius of said lateral bore, a cylinder disposed between said cylindrical segments with its axis perpendicular to the axes of said cylindrical segments, means on said cylindrical segments on opposite sides thereof engaging diametrically opposite portions of said cylinder, and means to compress said cylinder laterally between said cylindrical segments whereby said cylindrical segments are urged outwardly into engagement with the outer walls of said lateral bore, means to rotate said cylinder to bring the inside thereof into alignment with said flow passages, said rotating means comprising a pressure shoe attached to each side of said cylinder, a packing nut threadably engaging said body and engaging one said pressure shoe, and a stem for rotating said cylinder attached to one said pressure shoe and extending through said packing nut.

3,193,245
FLUID PRESSURE SEALING MEANS FOR VALVE PORTS

Frank H. Parker, Cleveland, Ohio, assignor to Stephen C. Peplin, North Olmsted, Ohio, trustee

Filed Aug. 16, 1961, Ser. No. 131,926
2 Claims. (Cl. 251—172)



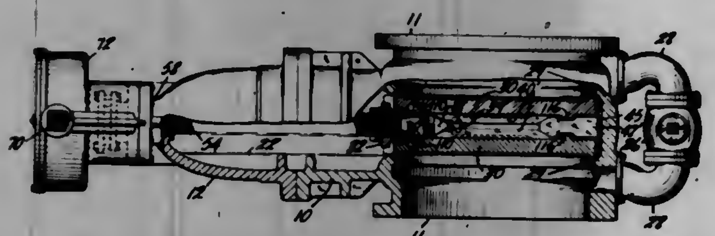
1. In a valve structure including a valve body having a valve chamber therein, a movable valve element in the chamber, said body having a fluid inlet port and a fluid outlet, a seal carried in said inlet port and comprising a cylindrical thin walled member having a forward face for contoured sealing contact with the movable valve element, said seal having an integral elongate skirt portion extending rearwardly of the face and in direct sealing contact throughout its length with the inlet port wall whereby to utilize the fluid pressure against said skirt to exert a sealing pressure throughout the said skirt and against the forward face to sealingly engage the same respectively with

the inlet port inner wall and with the movable valve member.

3,193,246
BIFACED GATE VALVE HAVING WEDGE EXPANDING MEANS

Emil J. Bartholet, Union, and Harry A. Gaffin, East Orange, N.J., assignors to A. P. Smith Manufacturing Company, East Orange, N.J., a corporation of New Jersey

Filed Jan. 26, 1962, Ser. No. 169,000
8 Claims. (Cl. 251—198)

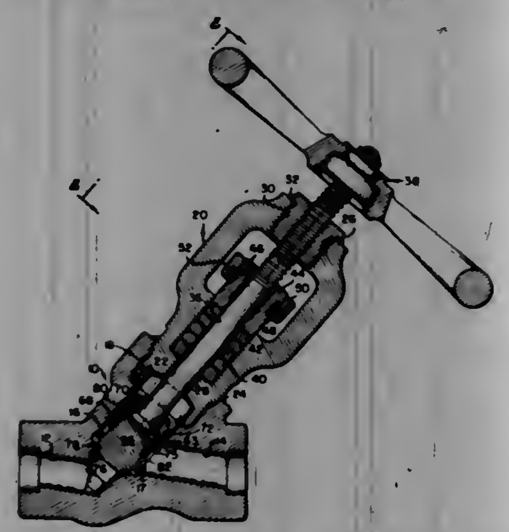


1. A gate valve comprising, a pair of generally parallel valve discs, a valve stem, a stem nut threaded on said valve stem and engaging each of said valve discs, means to rotate said valve stem to move said valve discs between open and closed conditions of the valve, a plurality of male wedging surfaces formed on said stem nut and extending between said valve discs, a like plurality of male wedging members carried between and movable with said discs, each of said male wedging members being longitudinally spaced from and facing a corresponding male wedging surface on said stem nut in aligned relationship therewith, and a pair of elongated counterwedge members for each set of aligned male wedging surfaces and male wedging members, the ends of said counterwedge members being bevelled to provide female wedging surfaces to mate with its respective male wedging surface and male wedging member, the outer surfaces of said counterwedge members bearing at least at the ends thereof opposite said female wedging surfaces against correspondingly spaced points on the respective inner surfaces of said discs, actuation of said stem to close said valve moving said male wedging surfaces on said stem nut towards said male wedging members to spread said counterwedge members and thereby urge said discs outwardly from one another at a plurality of spaced points thereon.

3,193,247
SEQUENTIALLY SEATED VALVE

Eldert B. Pool, Palos Park, William G. Lunt, Dolton, and Donald J. Easton, Chicago Heights, Ill., assignors, by mesne assignments, to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Feb. 28, 1962, Ser. No. 176,201
2 Claims. (Cl. 251—210)

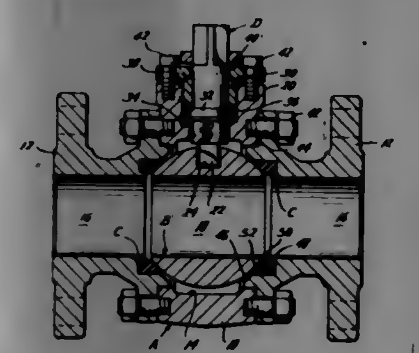


1. A valve comprising a body having inlet and outlet passages communicating at their inner ends with a cylindrical valve chamber, means providing a conical seating surface adjacent the intersection of said inlet passage and the lower end of said chamber, a valve disc positioned in said chamber for movement toward and away from said seating surface, a yoke carried by said body, a valve stem supported by said yoke, means connecting the lower end of said stem to said disc to prevent substantial relative movement of said stem and said disc axially of said stem while permitting said stem to rotate or to move radially a predetermined distance with respect to said disc, said disc having a bottom wall portion provided with a conical seating surface adapted to sealingly engage said seating surface in said valve chamber to close said valve and having an elongated body portion of a diameter substantially less than the diameter of said valve chamber, and relatively narrow upper and lower wear and guide ring portions positioned adjacent the opposite ends of said disc body portion and projecting outwardly therefrom into close clearance relation with the wall of said valve chamber to guide said disc in its movement toward and away from said valve chamber seating surface, the radial clearance between said upper and lower ring portions and said valve body chamber being less than the radial clearance between said stem and said disc and the lower wear ring portion being adjacent the bottom of said outlet opening when said valve is closed, and said lower wear ring portion cooperating with said valve chamber wall to prevent the passage of high pressure fluid from said inlet opening to the region of said disc body portion above said lower ring portion to thereby materially reduce the side thrust tending to urge said disc toward said outlet opening.

3,193,248
BALL VALVE SEAT CONSTRUCTION

William E. Lowrey, Houston, Tex., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey

Filed Nov. 20, 1961, Ser. No. 153,481
4 Claims. (Cl. 251—315)

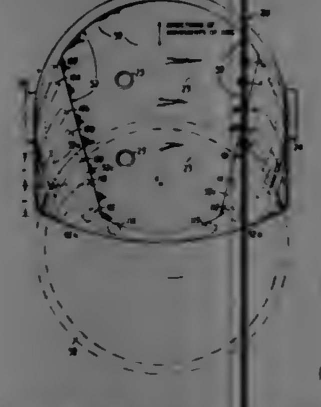


1. A rotatable spherical plug valve comprised of a valve body having a bore extending therethrough; a spherical valve member positioned in the bore, said spherical plug member having a port the axis of which is alignable with the axis of the bore in the open position of the valve; an aperture in the valve body; a stem having an inner end engaged with the valve member and an axial outer end which extends through said aperture in the body; means forming a seal between said aperture and said stem; end members extending into each end of the body bore, each end member having means which limits entry of the end member into the body to a predetermined amount, each end member having a passage with which the port in the valve member can be aligned to form the run of the valve and an axial inner end having a portion taperingly diverging axially inward from the passage, an annular groove in the taperingly diverging portion of the axial inner end, the inner circumferential wall of said groove spaced from the passage providing a wall between the passage and groove, an annular seat member positioned in each of said grooves, the depth of each of said seat members in its respective groove

being sufficient so that sufficient friction is developed between the seat members and their grooves to retain the seat members within their grooves for a predetermined velocity of flow when the valve is in a position other than closed, each seat member having a portion extending beyond the surface of said taperingly diverging portion terminating in a tapered surface to oppose the spherical surface of the valve member, each end member extending into the body bore an amount sufficient to force the seat member into intimate sealing contact with the spherical surface of the valve member, the inward movement of the end members arrested by the means limiting entry so that the interference between the valve member and seats is a predetermined fixed amount; means disengageably connecting said end members to said body; means forming a seal between said body and said end members.

3,193,249
VALVE STRUCTURE

Emil J. Bartholet, Union, N.J., assignor to A. P. Smith Manufacturing Company, East Orange, N.J., a corporation of New Jersey
Filed Jan. 26, 1962, Ser. No. 169,032
9 Claims. (Cl. 251—327)

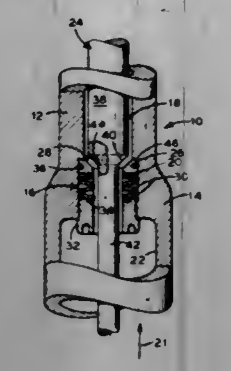


1. In a gate valve comprising a valve body having an annular seat encircling a conduit for the passage of fluid, the improvement which comprises a generally flat valve disc having a raised contact face for engagement with said annular seat, said contact face having an annular portion adapted to engage said entire seat in the closed position of the valve and additional portions respectively disposed within and outside of said annular portion, said annular and additional portions being dimensioned and disposed relative to each other such that the pressure between the seat and the contact face caused by the flowing fluid remains substantially constant at a preselected value not more than an allowable maximum value determined by the material of said valve seat and contact face, as said disc is moved between open and closed positions and is substantially uniform over the entire area of contact between said contact face and said seat.

3,193,250
RESILIENT VALVE SEAT DESIGN

James A. Good and Donald E. Thoren, Lynchburg, Va., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed July 16, 1962, Ser. No. 210,073
2 Claims. (Cl. 251—363)

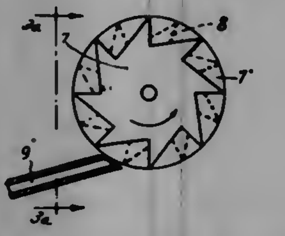
1. In a linear motion transmitting device comprising an operating member longitudinally movable within a tubular member, means for passing a fluid through said tubular member about said operating member, an annular valve seat slidably disposed within said tubular member about said operating member, said valve seat having a seat face and an opposite face and a substantially uniform outer diameter throughout its thickness, said operating member extending through said valve seat to transmit linear motion from a driving means on one side of said valve seat to a driven member on the opposite side of said valve seat, a valve face formed on said operating member constructed and arranged to mate with said valve seat face to stop said fluid flow through said tubular member,



and a plurality of annular spring washers disposed around said operating member and in contacting relationship with said opposite face of said valve seat to permit said seat to resiliently move in response to the force of said operating member in contact therewith.

3,193,251
HIGH-SPEED SILENT AIR TURBINE

André Lucien Laurent Brunel, 182 Rue de Rivoli, and Robert Maurice Mercier, 172 Blvd. du Montparnasse, both of Paris, France
Filed July 19, 1962, Ser. No. 211,046
Claims priority, application France, July 22, 1961, 868,879, Patent 1,303,056
1 Claim. (Cl. 253—56)



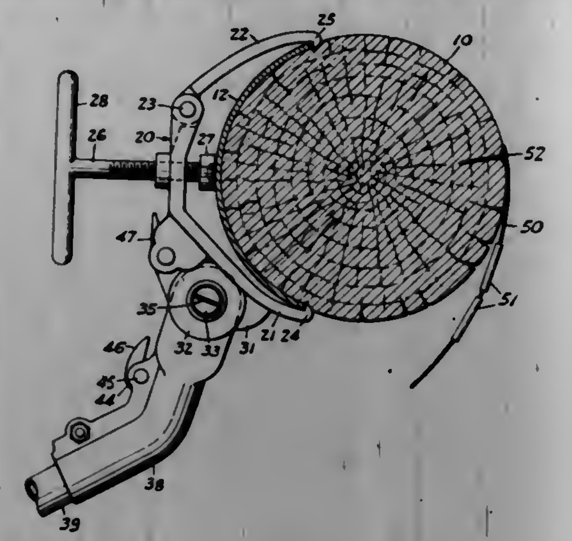
In a small hand held turbine powered by compressed air and chiefly intended for dental surgery purposes, the combination of at least one series of blades adapted to revolve at several hundred thousands r.p.m., two independent jet means operative to throw onto the blades jets of compressed air under identical conditions at predetermined points along the path of travel of the outer edges of the blades, said points being angularly displaced along said path by an odd number of half-blade pitches to thereby oppose the production of acoustic and supersonic vibrations, and a stator surrounding the rotor and having two exactly identical exhaust ports for the air passing off the blades, said ports being also angularly displaced around the rotor axis by an odd number of half-blade pitches.

3,193,252
TENSIONING DEVICE

George F. Barrett, Littleton, Colo., assignor, by direct and mesne assignments, to The Kamphausen Company, Englewood, Colo., a corporation of Colorado
Filed Apr. 22, 1963, Ser. No. 274,491
4 Claims. (Cl. 254—51)

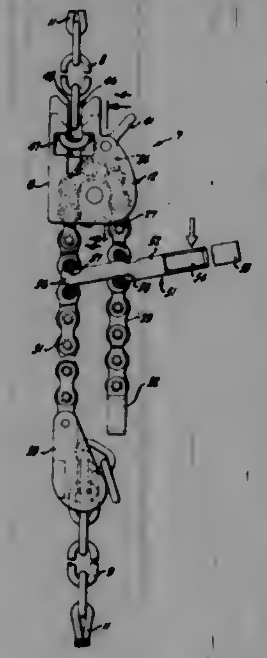
1. A tensioning device for banding a reinforcing stub to a pole or the like comprising a clamp having a pair of arm members pivoted at their inner ends, said arm members having outer ends adapted for clamping engagement with the opposite sides of the reinforcing stub, a screw threadedly engaging said clamp and extending between said arm members for bearing against said reinforcing stub, said screw being operable to draw said outer arm member ends tightly against said reinforcing stub thereby to clamp said device in place thereon, a band-engaging

spindle carried by said clamp, a pivoted actuating arm, one way clutch means interconnecting said arm and said spindle for step-by-step rotation of the latter by the former, and means releasably locking said spindle against rotation in the opposite direction.



3,193,253
LOAD SUSTAINING DEVICE

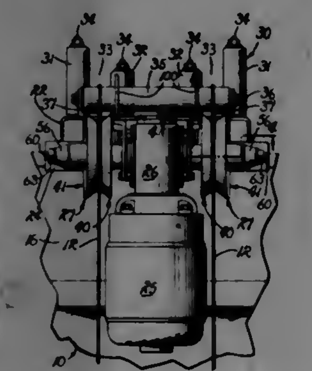
Ralph A. Ratcliff, 1300 Sunnyslope Ave., Belmont, and John W. Sears, Jr., 1440 Kavanaugh Drive, East Palo Alto, Calif.
Filed Sept. 27, 1963, Ser. No. 312,243
7 Claims. (Cl. 254—74)



1. A load binding device separable from the ends of adjacent lengths of coil chain holddown elements to be interconnected thereby, said device comprising a casing, a sheave rotatably mounted in said casing, a load sustaining chain elements separate from said holddown elements engaged with and passing over said sheave and projecting from said casing in generally parallel reaches, a holding pawl pivotally mounted on said casing adjacent the front thereof and normally spring urged into engagement with said sheave and with said load sustaining element for positively precluding rotation of said sheave and movement of said load sustaining element through said casing, said casing adjacent its top having a recess therein contoured to receive adjacent links of one of said holddown elements therein, said recess adapted said device to be directly connected with said one holddown element so that the need for a separate hook and swivel arrangement in conjunction with said casing is obviated, said recess being defined by first and second communicating channel portions, one of said channel portions extending generally upright in said casing and opening generally to the top of said casing, the other of said channel portions extending generally laterally of said casing and opening generally to a side of said casing in a direction generally away from said pawl, whereby said one holddown element may be engaged directly in said recess from said side of said casing without becoming fouled with or contacting said pawl, and means on one of said chain reaches engageable with the other of said holddown elements.

3,193,254
APPARATUS FOR GRIPPING AND PULLING

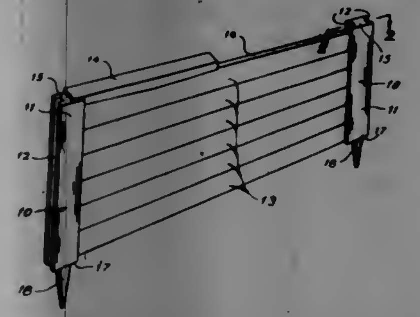
Charles E. Minnick, 1831 Thomas, Fresno, Calif.
Filed June 15, 1962, Ser. No. 202,883
3 Claims. (Cl. 254—150)



1. A line pulling apparatus comprising a pair of opposed rotary members; means mounting each of said members for rotation about a respective axis, said axes of rotation being endwardly adjacent and slightly angularly related, each of said members having a hub, a web radially extended from the hub and carrying a circumferential gripping surface generated about the respective axis of each member and being concentric therewith a plane substantially normal to the members' respective axes, said mounting means including means adapted selectively to maintain the gripping surfaces of the respective members in opposed axially spaced relationship to define an interval therebetween of the graduated axial dimension circumferentially thereabout, a circumferential portion of said interval being at a predetermined minimum dimension to receive therein a line of predetermined diameter which is frictionally engaged by said surfaces; drive means for rotating said members about their respective axes in the same direction of rotation to effect substantially equal peripheral speeds of said gripping surfaces; and guide means radially spaced from said gripping surfaces to facilitate entry of the line therebetween wherein release means is operatively associated with said mounting means and is selectively operabe to effect radial movement of the line from between the gripping surfaces.

3,193,255
FENCE STRUCTURE

Harold D. Burdett, 2015 El Camino, Tempe, Ariz.
Filed Feb. 4, 1963, Ser. No. 255,860
1 Claim. (Cl. 256—19)



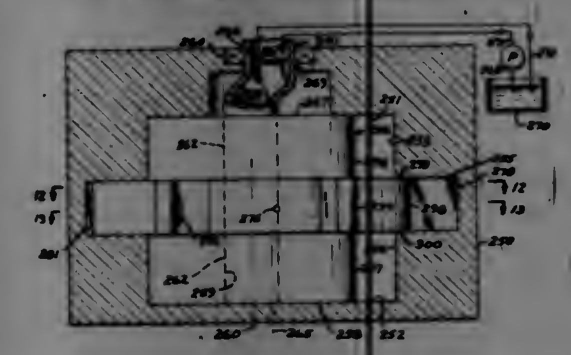
A demountable fence structure comprising in combination:

(A) a plurality of support posts,

(B) an upper portion on said posts,
(C) vertically disposed grooves in the upper portion of said posts,
(D) fence rails adapted to be demountably carried in said grooves,
(E) a cap member adapted to be placed between the top of said posts and along the top edge of the topmost of said rails,
(F) conically tapered positioning and supporting shanks formed integral with and depending convergingly downwardly from the bottom end of said support posts,
(G) a foundation member, one for each support post, having a conical bore extending convergingly downwardly adapted to rotatably demountably receive the shank of a support post to provide the sole means for positioning, aligning, and securing by gravity the fence structure in desired position.

3,193,256
VIBRATOR

George L. Malan, La Puente, Calif. (560 East Rowland, Covina, Calif.)
Filed June 12, 1963, Ser. No. 287,408
8 Claims. (Cl. 259—1)

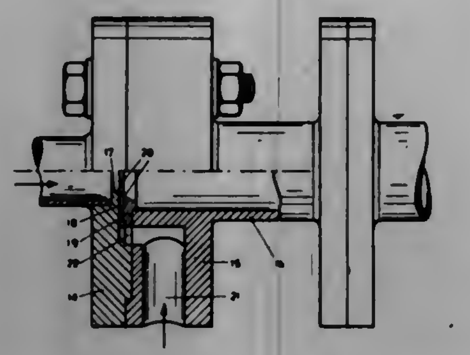


4. A free rotor vibrator comprising: a case with an axis and having an inner circular race; a rotor with an axis and having an exterior circular bearing surface of lesser diameter than the race and adapted to roll around the race in contact and eccentric-load transfer relationship therewith; fluid motor means comprising: a circular reaction surface in said case an coaxial with the case axis, and axially spaced from the race, a support surface on the rotor axially aligned with the reaction surface and being so proportioned and arranged as to be held out of contact with the said reaction surface by virtue of the contact between the bearing surface and the race, and extensible means carried by the rotor adapted to be extended from the support surface of the rotor to press against the reaction surface, thereby to provide propulsive force for propelling the rotor around the race; and fluid-valving means for applying fluid under pressure to extend said extensible means.

3,193,257
DEVICE FOR MIXING A LIQUID WITH ANOTHER LIQUID OR A GASEOUS FLUID

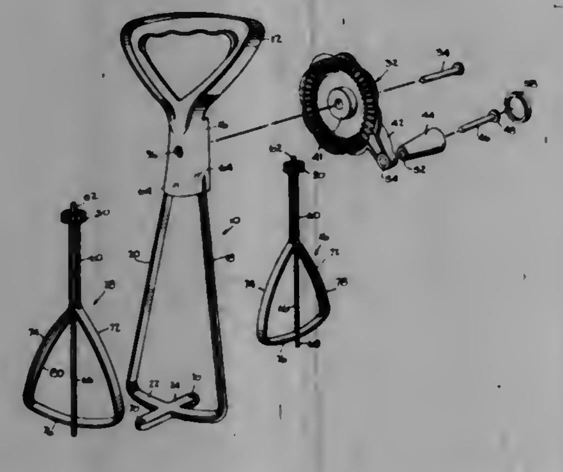
Wouter G. Kingma, Huizen, Netherlands, assignor to Werkspoor N.V., Amsterdam, Netherlands, a company of the Netherlands
Filed Oct. 4, 1962, Ser. No. 228,470
Claims priority, application Netherlands, Oct. 23, 1961, 270,509
3 Claims. (Cl. 259—4)

1. A device for mixing a liquid with another fluid, comprising a conduit for flow of a liquid, a thin collar coaxial with said conduit and having a thickness less than its diameter positioned at least partially within the conduit and projecting inwardly thereof to form an annular baffle sharply reducing the bore of the conduit, said collar having upstream and downstream end faces of which at least the upstream end face projects into the bore of the conduit to constrict the same, said end faces being substantially perpendicular to the axis of the conduit, a conical bore in said collar between said end faces which widens sharply toward the downstream end face, an annular slot in said collar, a duct for fluid to be mixed with liquid flowing through said conduit connected to said slot, and said annular slot opening into said conical bore to provide a passage for flow of fluid from said duct into the conical bore in a direction transverse to the flow of liquid in said conduit.



3,193,258
EGG-BEATER TYPE MIXER

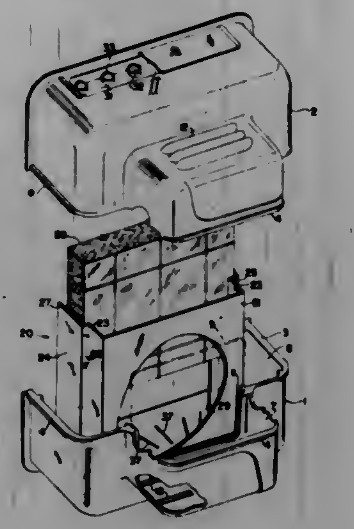
Charles O. Bliss, P.O. Box 47607, Los Angeles 47, Calif.
Filed July 2, 1963, Ser. No. 292,338
1 Claim. (Cl. 259—131)



A mixer of the egg-beater type, comprising: a rigid plastic frame molded in one integral piece with a handle portion, a body portion extending downwardly from said handle portion, laterally spaced apart elongated side portions extending downwardly from said body portion; a transverse portion connecting the lower ends of said side portions, and a cross portion extending laterally on each side of said transverse portion; two open-bottomed laterally spaced apart elongated recesses formed in the lower side of said body portion; two open-topped laterally spaced apart elongated recesses formed in the upper side of said cross portion, each coaxial with a respective open bottomed recess, one on each side of said transverse portion; two elongated flexible plastic mixer members, each having an upper portion disposed in an open bottomed recess and a lower portion disposed in the coaxial open topped recess, each said mixer member being resilient along its longitudinal axis whereby it may be snapped into and out of its companion sets of recesses, each said mixer member having a gear formed integrally therewith for rotation about said longitudinal axis; a driving plastic gear member mounted for rotation on said body portion; said driving gear member being meshed with one of said mixer member gears, which gear is meshed with the other of said mixer member gears, whereby rotation of said driving gear member causes the rotation of said mixing members.

3,193,259
CASING FOR A GAS-LIQUID CONTACT UNIT

John M. Liebmann, Madison, Wis., assignor to Research Products Corporation, Madison, Wis., a corporation of Wisconsin
Filed Dec. 27, 1960, Ser. No. 78,383
5 Claims. (Cl. 261—24)

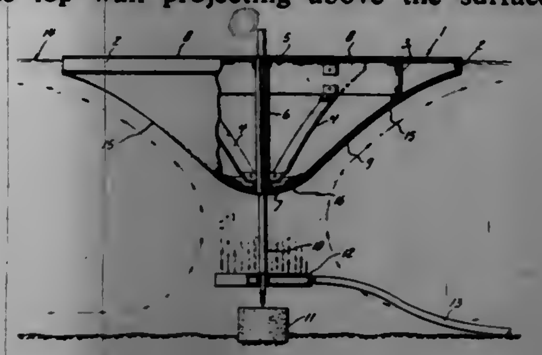


1. In a humidifying apparatus,
(a) top and bottom casing sections,
(b) means to separably join said sections at a generally horizontal parting line to form a humidifier casing having a top, a floor, side walls, and end walls,
(c) one of said end walls having an opening for passage of gas therethrough,
(d) a gas flow fan disposed within said casing inwardly of said end wall opening,
(e) means to rotate said fan,
(f) an integral member vertically disposed within said casing and comprising:
    (1) an inner vertical shroud wall extending between the casing side walls and with said shroud wall having a central opening within which said fan is disposed,
    (2) a side wall separate from the casing side walls and extending from each vertical edge of said shroud wall to adjacent but spaced slightly inwardly of said end wall opening,
    (3) each of said last-named side walls having an offset shoulder therein,
    (4) and a rib disposed adjacent the outer end of each of said last-named side walls and extending inwardly and generally parallel to said offset shoulders;
(g) a vertical gas-liquid contact unit supported by said floor and supportingly disposed between the said offset shoulders and the said ribs,
(h) a groove disposed in said floor and receiving the bottom edge of said integral member,
(i) a groove disposed in said top and receiving the top edge of said integral member when said top and bottom casing sections are joined,
(j) and means disposed above said integral member to supply liquid to the upper portion of said unit.

3,193,260
APPARATUS FOR AERATING AND ELIMINATING ICE ON WATER

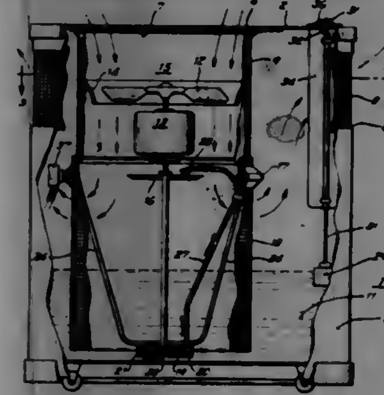
Charles M. Lamb, 511 Glenbrook Rd., Glenbrook, Conn.
Filed Mar. 13, 1961, Ser. No. 95,114
6 Claims. (Cl. 261—64)

1. A device of the class described, comprising a casing member formed of a framework having an outer peripheral member, ribs extending downwardly and inclined toward each other, a lower end member joining the lower ends of said ribs and top frame member joined to said outer peripheral member, a top wall mounted on said top frame members and a lower wall mounted on the outer sides of said ribs, lower end member and peripheral member and cooperating to form a water-tight casing member adapted to float on the surface of a body of water with the top wall projecting above the surface of the water, air discharge means for discharging air bubbles for upward flow about said lower wall for causing upward and outward movement of water about said casing member, means connecting said air discharge means to said casing member, and means for supplying air under pressure to said air discharge means.



3,193,261
HUMIDIFIER

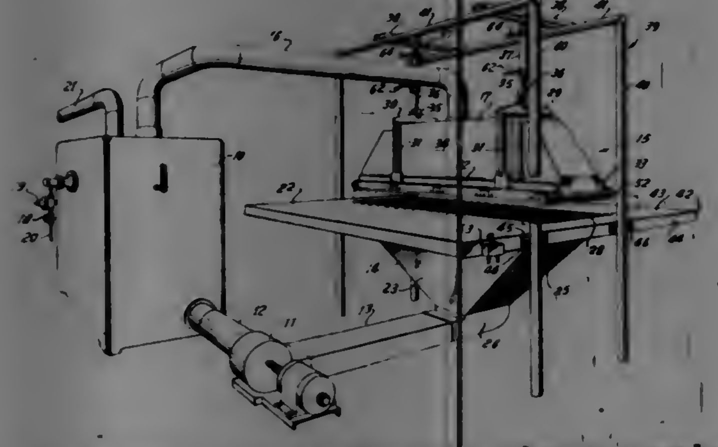
Clifford W. Nesbitt, deceased, late of Albion, Mich., by Lena L. M. Nesbitt, administratrix, Albion, Mich., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Dec. 1, 1960, Ser. No. 73,143
2 Claims. (Cl. 261—142)



1. A portable self-contained humidifier comprising, in combination, a housing including top and sidewall portions, a water filled reservoir within said housing, said top portion provided with an air inlet opening, a generally tubular baffle member surrounding said air inlet opening and extending from said top portion and terminating above the level of water in said reservoir to define an open-ended air passage, said sidewall portion having an air outlet opening disposed above said termination of said baffle member, a rotatable spreader member disposed at open end of said air passage, a centrifugal pump including a housed impeller disposed in said water and a tube extending from said housed impeller to said spreader member for delivering water from said reservoir to said spreader member, motor means in said air passage for rotatably driving said spreader member and said impeller, an electric heating element extending circumferentially around and supported in spaced substantially horizontal alignment with said spreader member, a single cylindrical screen disposed intermediate said spreader member and said electric heating element and extending into said water reservoir, whereby water is raised from said reservoir to said spreader member and is sprayed from said spreader member to form a water vapor cloud at the open end of said air passage, means within said air passage driven by said motor means for circulating air from said air inlet opening through said water vapor cloud to said air outlet opening, said circulated air undergoing a change of direc-

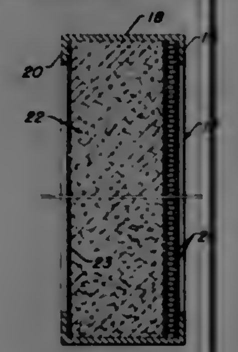
tion subsequent to passage through said water vapor cloud and prior to discharge from said air outlet opening, and means including a float in said water and sensitive to variations in the level of said water for indicating exteriorly of said housing the level of water in said reservoir.

3,193,262
APPARATUS FOR REPAIRING RADIATOR CORES
Thomas W. Huffman, Jr., and Thomas W. Huffman, Sr., both of 1821 N. Sam Houston, Odessa, Tex.
Filed July 19, 1962, Ser. No. 210,926
2 Claims. (Cl. 263—2)



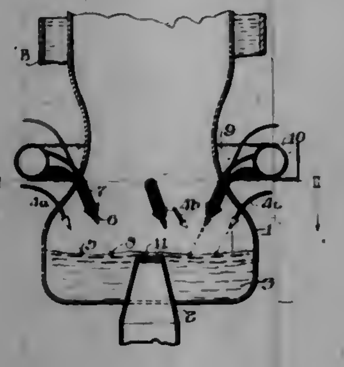
1. In apparatus for repairing heat exchanger cores having spaced parallel fins and water flow tubes bonded to and traversing said fins, in combination, a frame having a table rigidly supported therein for supporting a heat exchanger core, the said table having a central opening and a grid in said opening, an oven having upper and lower sections supported in said frame, the said lower section being rigidly attached to said table and surrounding the opening therein and suspended therebelow, the said upper section of said oven being arranged in the upper portion of said frame above said table, hydraulic means supporting said upper section and capable of operating said upper section vertically with respect to said table and engageable with a heat exchanger core thereon to rigidly secure the same thereto over said grid, means for circulating heated air through said upper and lower sections of said oven, and transversely through said core on said grid, to heat the said core to release the bond between the fins and tubes of said core whereby said tubes can be removed from said fins while said fins are rigidly secured by the upper section of said oven.

3,193,263
CATALYTIC RADIANT HEAT TREATING APPARATUS
Richard J. Ruff, Detroit, Mich., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Original application Mar. 9, 1959, Ser. No. 797,935. Divided and this application Sept. 19, 1961, Ser. No. 139,227
8 Claims. (Cl. 263—8)



1. A catalytic radiant heat treating apparatus comprising an elongated horizontal chamber, means in said chamber for supporting articles to be heat treated, a substantially horizontal flameless and catalytic radiant heating unit spaced above and disposed in heat radiating relation to said supporting means, said unit including a lower wall formed by an air pervious catalytic element providing a source of radiant heat and a layer of air diffusing material covering the upper surface of said catalytic element, a closed compartment above said unit and communicating with said catalytic element through said layer, a conduit communicating with said compartment, means for supplying air under pressure to said conduit, means for preheating the catalytic element to ignition temperature, and a fuel supply connected to said conduit, whereby articles on said supporting means will be heat treated by radiant heat emanating from said flameless catalytic element.

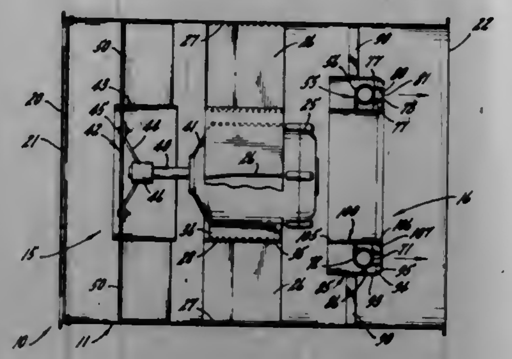
3,193,264
PROCESS AND DEVICE FOR PRODUCING BUILDING MATERIAL
Roman Rummel, Daberger Weg 29, Bruhl, near Cologne, Germany
Filed Nov. 20, 1962, Ser. No. 239,413
Claims priority, application Germany, June 25, 1959, R 25,808
15 Claims. (Cl. 263—11)



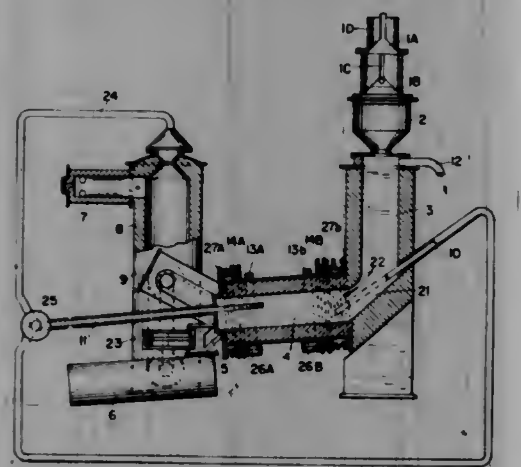
1. An apparatus for producing building materials comprising container means of substantially circular cross section for holding a liquid slag bath in a substantially circular cross sectional area with a substantially circular slag bath surface circumference, raw materials discharge means for discharging solid raw materials into the liquid slag bath tangentially to at least one first imaginary circle assumed at the slag bath surface and concentric to the slag bath surface circumference, fuels and combustion agents discharge means for discharging fuels and combustion agents into the slag bath tangentially to at least one second imaginary circle assumed at the slag bath surface, said second imaginary circle having a different radius from the first imaginary circle, and overflow means spaced at least 200 millimeters above the bottom of the container means for withdrawing the liquid slag bath.

3,193,265
BLOWER
James A. Cowan, Marengo, Ill., assignor to Chicago Eastern Corporation, Marengo, Ill., a corporation of Illinois
Filed Sept. 30, 1964, Ser. No. 400,424
9 Claims. (Cl. 263—19)

4. A relatively low pressure forced air heating system for supplying heated air to an enclosure, comprising: a housing defining a passage having inlet means and outlet means, a blower assembly in said passage for forcing air therethrough from said inlet means to said outlet means, burner means disposed in said passage and adapted to emit combustible gas through outlet means formed on a downstream face of said burner means, flame retainer walls extending downstream of said face in bracketing relationship with said outlet means to form a flame retainer well, and air shroud means bracketing said burner means, said air shroud means including inner deflector means arranged inside said burner means and outer deflector means arranged outside said burner means, said deflector means including converging downstream sections adjacent said mouth for directing a portion of the blower driven air transversely across said mouth immediately downstream thereof to prevent recirculation of unburned gases upstream and supply sufficient secondary air to assure substantially complete combustion.



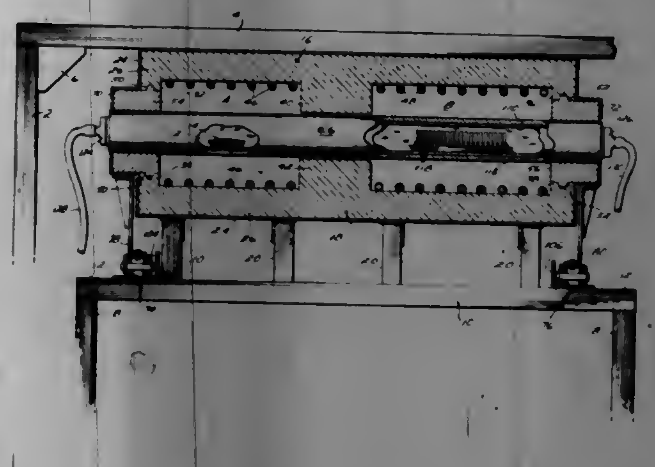
3,193,266
ROTARY FURNACE
Helmut Becker, Oberhausen-Osterfeld, Germany, assignor to Hüttenwerk Oberhausen A.G., Oberhausen, Germany, a company of Germany
Filed May 8, 1962, Ser. No. 193,164
Claims priority, application Germany, May 9, 1961, H 42,540
5 Claims. (Cl. 263—32)



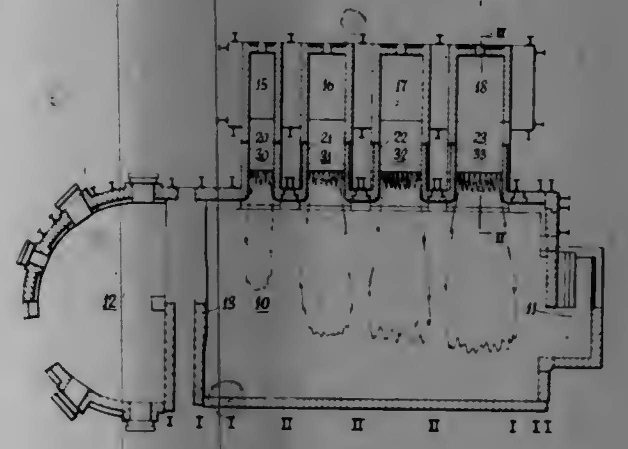
1. A seal for a pair of relatively rotatable tubular members forming ducts for the passage of a fluid therebetween, comprising a tubular bellows secured at one end to one of said members while surrounding an adjacent part of the other of said members, means on said other of said members forming a planar first surface substantially transverse to the axis of rotation, said bellows having a free extremity with a second substantially transverse planar surface resiliently urged toward said first surface, and a solid ring of rigid low-friction material interposed between said surfaces and secured to one of them for enabling relative rotation of said surfaces.

3,193,267
APPARATUS FOR CONTINUOUS GAS DIFFUSION
Jacob Howard Beck, Waban, Mass., assignor to BTU Engineering Corporation, Waltham, Mass., a corporation of Delaware
Filed July 31, 1961, Ser. No. 127,932
14 Claims. (Cl. 263—37)

7. A continuous gas diffusion furnace comprising means defining two parallel elongated furnace chambers and a passageway connecting said chambers for the full length thereof, means for heating said sections to different temperatures, a plurality of hollow heating tubes, means for supporting said plurality of heating tubes in transverse relation to said elongated chambers, means for transporting said tube supporting means along the full length of said chambers whereby a portion of each of the tubes supported thereby will advance through one of said chambers while another portion of said each tube will advance through the other chamber and an intermediate portion of said each tube will advance along said passageway, and means connected to said heating tubes for flowing a gas therethrough during transport thereof through said chambers.



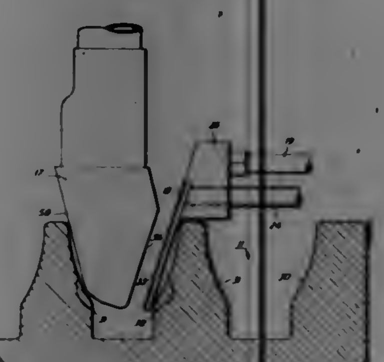
3,193,268
MULTI-PORT REGENERATIVE GLASS MELTING FURNACE
Leon F. Robertson and James G. Robertson, Brockway, Pa., assignors to Brockway Glass Company, Inc., Brockway, Pa.
Filed Oct. 13, 1960, Ser. No. 62,417
4 Claims. (Cl. 263—40)



1. In a continuous glass melting furnace of the cross-fired type having an oblong melting tank with a batch feeding end and a molten glass discharge end, a series of ports along a side of said tank for conducting combustion air thereto, said ports discharging generally horizontally into the interior of the melting tank above the level of the glass charge therein, the upper and lower walls of each port converging toward said tank and the lower wall terminating a substantial distance short of the tank proper in a generally vertical depending face extending continuously substantially entirely across said port, a ledge extending from the base of said depending face to said melting tank, a plurality of relatively small uniformly spaced openings extending across said face to discharge fuel gas in a horizontal direction substantially directly toward the melting tank along said ledge to form a horizontal curtain or stratum of fuel gas at the

base of each port with the combustion air flowing toward the melting tank over said stratum.

3,193,269
FLAME HARDENING MECHANISM
George L. Hammon, Oakland, Calif., assignor to Hammon Precision Equipment Company, Oakland, Calif., a corporation of California
Filed Nov. 9, 1962, Ser. No. 236,569
4 Claims. (Cl. 266—5)

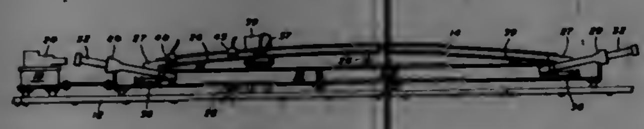


1. A machine for flame hardening the continuous periphery of a circular metallic object comprising, in combination with means for rotatably mounting said object,

(a) a torch,
(b) means for holding the torch in a fixed position,
(c) means for rotating said object relative to the torch to flame harden a continuous peripheral surface area of the object,
(d) a shield to prevent a torch flame from contacting said object, and
(e) means for detachably fixing said shield in a first and a second position on said object for rotation therewith,

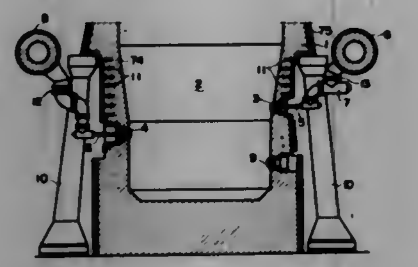
said shield being operable in the first fixed position to prevent said torch flame from contacting a first selected area of the object and being operable in the second fixed position to prevent said torch flame from contacting a previously flame treated area of the object.

3,193,270
APPARATUS FOR HEAT-TREATING RAILS
Fernand J. Dewez, Jr., Denver, Colo., and Joseph M. Wandrisco, Monroeville Borough, Pa., assignors to United States Steel Corporation, a corporation of New Jersey
Original application Oct. 12, 1962, Ser. No. 230,119, now Patent No. 3,124,492, dated Mar. 10, 1964. Divided and this application Sept. 5, 1963, Ser. No. 306,807
6 Claims. (Cl. 266—5)



1. Apparatus for heat-treating rails comprising an elongated carriage movable longitudinally, a jack pivoted to said carriage adjacent each end thereof, said jacks being adapted to force toward the carriage the ends of a rail disposed thereon in alinement therewith but spaced thereabove, thereby bending the rail, an electromagnetic inductor adapted to embrace the head of the rail progressively as the carriage moves and means adjacent the path of the carriage mounting said inductor for angular movement to conform to the angle of deflection of the rail from point to point therealong.

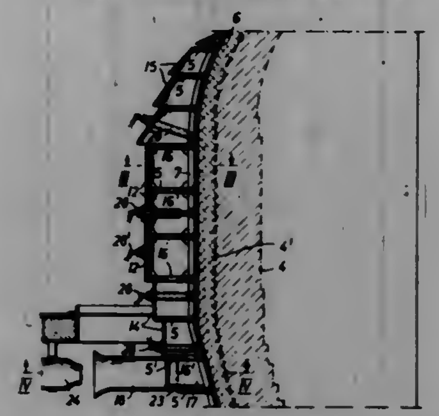
3,193,271
BLAST CONTROLLING DEVICE FOR BLAST FURNACES
Keiji Tsujihata, Yawata, Fukuoka Prefecture, and Yasuhiro Sawada, Kokura, Japan, assignors to Yawata Iron & Steel Co., Ltd., Tokyo, Japan, a corporation of Japan
Filed Jan. 15, 1962, Ser. No. 166,014
Claims priority, application Japan, Jan. 20, 1961, 36/1,916
5 Claims. (Cl. 266—30)



1. An apparatus for use with a blast furnace having ordinary tuyeres and auxiliary tuyeres, said apparatus being for automatically controlling the flow of gas through the ordinary tuyeres and the auxiliary tuyeres, said apparatus comprising

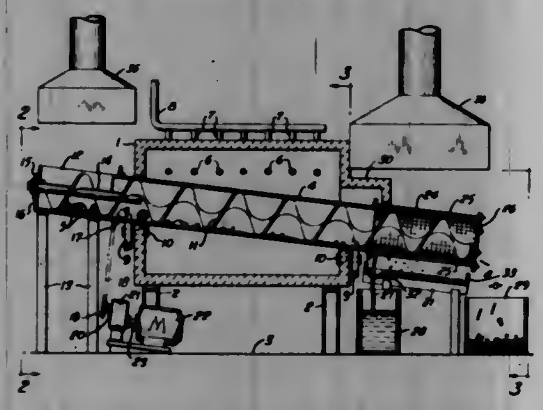
(1) a plurality of flow detecting means adapting to be coupled one to each ordinary tuyere for detecting the gas flow through each ordinary tuyere,
(2) average flow calculating means to which said plurality of flow detecting means are connected for calculating the average flow through the ordinary tuyeres,
(3) a plurality of variation detecting means adapted to be coupled one to each ordinary tuyere for detecting variations of the flow through each ordinary tuyere from the calculated average, said variation detecting means being coupled to said average flow calculating means,
(4) a plurality of pulsating valves adapted to be mounted one in each auxiliary tuyere, each valve having a driving means,
(5) a plurality of control means coupled one to each driving means,
(6) a plurality of timer means coupled one to each control means for operating said control means periodically,
(7) a plurality of pairing means for actuating pairs of said control means in sequence and for changing the pairs of control means actuated from a first group of pairs to a second group of pairs which is different from the first group of pairs, said pairing means being coupled to said control means,
(8) a plurality of limit detecting means adapted to be coupled one to each ordinary tuyere for detecting when the flow in each ordinary tuyere reaches a variation from said calculated average corresponding to present limits,
(9) by-passing control means for actuating said pairing means to bypass the actuation of pairs of said control means when the said limit detecting means detects a flow in an ordinary tuyere which is above the said preset limit from said calculated average, said by-passing control means being coupled between said plurality limit detecting means and said plurality of pairing means, and
(10) selective operating means for selectively operating at least one pair of auxiliary tuyeres lying on opposite sides of an ordinary tuyere when the flow in at least one ordinary tuyere is below the preset lower limit from said calculated average, said selective operating means being coupled between said plurality of limit detecting means and said plurality of pairing means.

3,193,272
CONVERTER FOR STEEL PLANTS
Helmut Kramer, Cologne, and Wolfgang Zeiss, Cologne-Braunsfeld, Germany, assignors to Pintsch Bamag Aktiengesellschaft, Cologne-Bayenthal, Germany, a corporation of Germany
Filed Jan. 14, 1963, Ser. No. 251,313
Claims priority, application Germany, July 2, 1962, P 29,733
18 Claims. (Cl. 266—36)



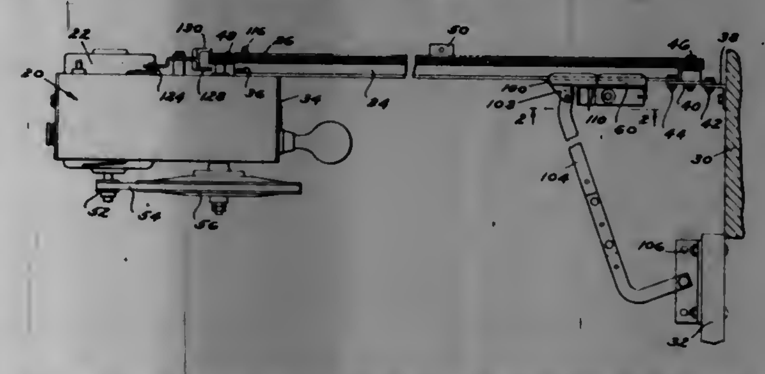
1. A converter for the production of steel comprising a converter vessel having a shell and having a refractory lining within said shell, said shell having a converter mouth end and a lower end and a center portion between said two ends, and means attached to said shell for cooling said shell to reduce stresses on said shell induced by temperature differentials while relieving tangential stresses on said shell from pressure from said lining, said means comprising a plurality of radial rings at least partly welded to said shell and fixedly secured in spaced relationship about at least the center portion of said shell, cap pieces secured to said vessel close to said mouth end and lower end thereof, said cap pieces having a plurality of lugs, and a plurality of straps lying against said shell and secured to said lugs, said rings having recesses at their inner edges, said straps extending longitudinally relative to said shell ends and through said recesses and being welded to said rings.

3,193,273
APPARATUS FOR SEPARATING METALS
Joseph G. Miller, Fox Point, and Marvin Evans, Bayside, Wis., assignors to College Research Company, Milwaukee, Wis., a partnership
Filed June 7, 1961, Ser. No. 115,475
8 Claims. (Cl. 266—37)



1. An apparatus for separating materials, comprising an inclined tube to convey a material composed of a higher melting point substance and a lower melting point substance with said material adapted to be introduced into the higher end of the tube and discharged from the lower end thereof, means for rotating the tube about the axis thereof, means disposed within the tube for providing a tumbling action for the material passing therethrough, heating means for heating the material disposed within the tube to heat the material to a temperature above the melting point of the lower melting point substance to melt the same and below the melting point of the higher melting point substance, and a foraminous member secured to and extending outwardly from the lower end of the tube with the molten lower melting point substance being discharged from the lower end of the tube and passing downwardly through said foraminous member to a collection reservoir and the unmelted higher melting point substance passing over said foraminous member and being collected in a second collection reservoir.

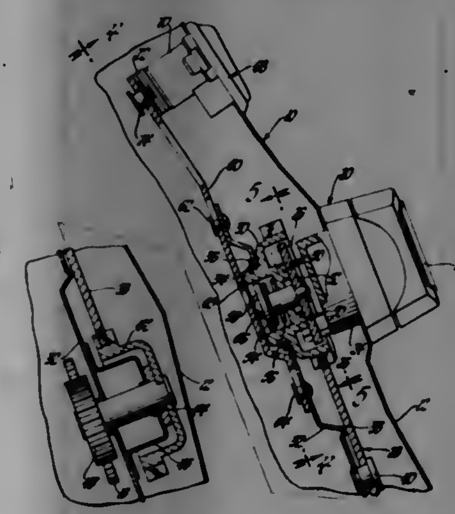
3,193,274
SAFETY DOOR ACTUATOR
Harold L. Miller, Detroit, Mich., assignor to Vemco Products, Inc., Detroit, Mich., a corporation of Michigan
Filed July 26, 1962, Ser. No. 212,587
7 Claims. (Cl. 268—59)



1. In a garage door operating mechanism wherein a lineal power shuttle operates an actuator arm connected to a vertical-lift door to raise and lower the door, a safety release combination comprising:

(a) a guide track,
(b) a power shuttle on said track,
(c) spring biased means on said shuttle forming a re-entry recess,
(d) a second shuttle on said track associated with an actuator arm of a garage door, and
(e) anchor means on said second shuttle releasably receivable in said re-entry recess of said power shuttle wherein said shuttles may be releasably engaged for normal operation of said door.

3,193,275
WINDOW REGULATOR MECHANISM OPERATING MEANS
Alfred E. Krueger, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 15, 1963, Ser. No. 295,118
5 Claims. (Cl. 268—126)



1. In a vehicle body including a window mounted thereon for movement between open and closed positions, the combination comprising, a window regulator mechanism

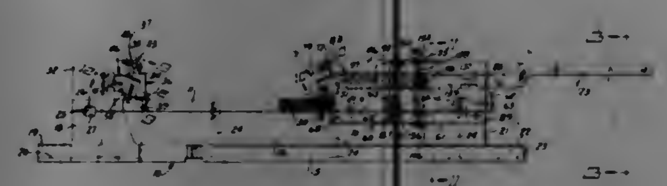
for moving said window between said positions thereof and including a rotatably mounted driven member, an operating handle, clutch means movable between clutched and declutched positions to respectively connect and disconnect said operating handle and said driven member, a clutch operating member movable generally axially of said driven member to move said clutch means between said positions thereof, and lock-controlled means located remote from said operating handle and being movable transversely of the axis of said driven member and engageable with said operating member to move said clutch means between said positions thereof.

3,193,276
PRECISION VISE

Philip Dugas, Mount Clemens, and David A. Dugas, St. Clair Shores, Mich., assignors, by direct and mesne assignments, of one-half to Atom Tool and Die Corporation, a corporation of Michigan, and one-half to Crew's Die Casting Corporation, a corporation of Michigan

Filed Oct. 18, 1963, Ser. No. 317,219

20 Claims. (Cl. 269—136)



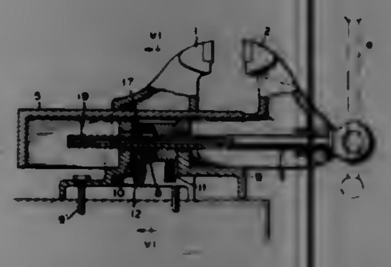
3. A precision vise for clamping a workpiece in a level position comprising: a stationary base; a front end block fixed on one end of said base; a first jaw on said front end block; a rear slide movably mounted on said base; spring biased pawl means carried on said rear slide for locking said rear slide to said base in selected adjusted positions on said base; a front slide movably mounted on said base between said first jaw and said rear slide; a second jaw on said front slide; means connecting said front slide to said rear slide and to allow the front slide to be moved relative to said rear slide when said rear slide is locked on said base for clamping a workpiece between said jaws in a level position; and, cam means pivotally mounted on said rear slide and movable to a first position to operate said spring biased pawl means to unlock the same to permit the slides to be moved on the base to another position, and movable to a second position to release said spring biased pawl means to permit it to lock the rear slide on the base, and movable to a third position with the rear slide locked on the base so as to cam the front slide away from the rear slide for clamping a workpiece between said jaws.

3,193,277
VISE

Kyuji Nagamori, 63 3-chome Honcho, Kawaguchi-shi, Saitama-ken, Japan

Filed May 14, 1963, Ser. No. 280,224

2 Claims. (Cl. 269—181)



1. In a vise having a slidable gripping jaw adapted to be moved forwardly and backwardly in relation to a stationary gripping jaw, a pair of half nuts mounted on the stationary jaw, a vise screw having a key groove, a cam between said pair of half nuts, said cam having convex crests at its outer ends, a free wheeling mechanism between the said vise screw and cam engaging said key groove, and a handle attached to the outer end of the vise screw.

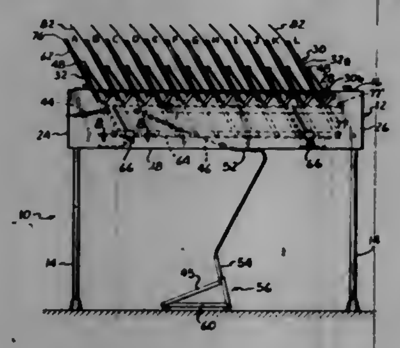
3,193,278
COLLATING APPARATUS AND METHOD

Karl Göte Ullberg, Sundbyberg, Sweden, assignor to Lindaco Aktiebolag, Stockholm, Sweden

Filed Mar. 27, 1964, Ser. No. 355,227

Claims priority, application Sweden May 24, 1960

11 Claims. (Cl. 270—58)



1. In a sheet collator, the combination comprising means including a plurality of spaced, substantially parallel inclined walls defining a succession of bins each bin being located between adjacent ones of said walls for supporting a stack of sheet material on each of said inclined walls, said walls having upper ends terminating in substantially a common plane and defining openings for each of said bins, anti-friction means mounted adjacent said bin openings spaced beyond the edges of stacks of sheet materials supported in the respective bins and defining a substantially horizontal sheet gathering trackway, said anti-friction means extending transversely of said trackway and said trackway being unobstructed to the projection of substantial upper portions of sheets from said bins above the upper surfaces of said anti-friction means extending along planes projected from said bins whereby any sheets projected from said bins beyond said trackway remain substantially stationary until manually removed from said bins, and ejector means in said bins for projecting a sheet from each of said bins so that a substantial upper portion of each sheet extends above its associated anti-friction means whereby to cause each sheet, as it is projected, to be positioned for movement out of its bin over said anti-friction means and into frictional engagement with the following sheet in succession.

3,193,279
MODULAR COLLATING MACHINE

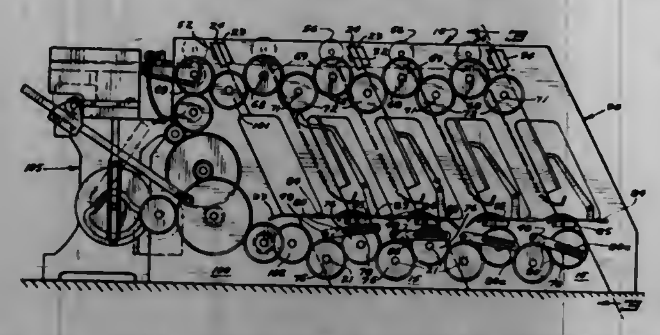
Vernon J. Campbell, New York, N.Y., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware

Continuation of abandoned application Ser. No. 200,454, June 6, 1962. This application July 16, 1964, Ser. No. 384,575

6 Claims. (Cl. 270—58)

1. A collating machine having in connection therewith a module unit comprising a flat wall member, a web extending outwardly of said wall having a supporting foot member coplanar with the bottom of said wall, an arm extending outwardly of said web, a plate member integral with said arm and parallel to said wall, tray means for storing a plurality of sheets of paper, means for removably securing said tray means to said wall and supporting the same between said wall and said plate, reciprocating paper feeding means journalled in said web in operative relationship with said tray means, a horizontally disposed

plate member operatively positioned adjacent one end of said tray means for receiving said sheets of paper from said tray means, transversely spaced vertically disposed pairs of rollers operatively positioned relative to said plate member for receiving said sheets of paper, and means for rotating said rollers to engage and move said sheets of paper.

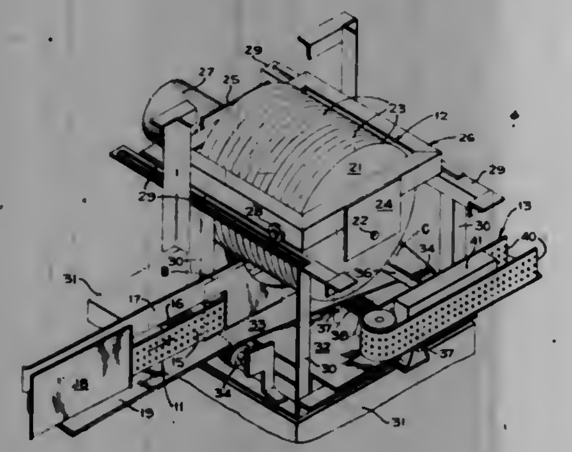


3,193,280
ARTICLE HANDLING APPARATUS

Thomas Gutierrez, Santa Clara, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Apr. 24, 1962, Ser. No. 189,737

6 Claims. (Cl. 271—2)



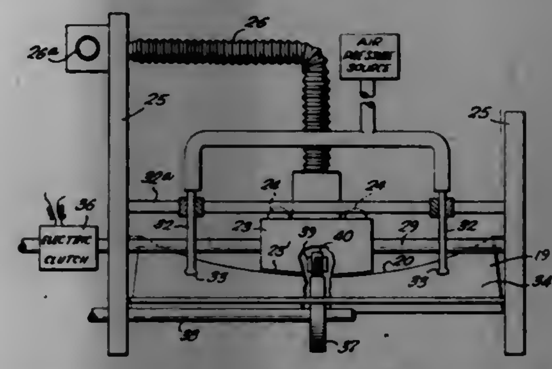
1. Apparatus for handling thin, flat articles such as letters, comprising a frame, an article stacking wheel having a generally horizontal axis, means for mounting said wheel on said frame for axial motion of the wheel relative to the frame between a forward and a reaward position, said wheel comprising a helix, the turns of said helix being substantially radial and closely spaced, means for turning said helix, substantially horizontal means for supporting articles on edge in said helix comprising an endless edger belt conveyor mounted beneath said helix and running transversely of the helix axis, means for driving said edger conveyor so that its upper reach moves in the direction of rotation of the lower portions of the turns of said helix, a generally horizontal, fixed article restraining and edger bar mounted on said frame above the upper reach of said edger conveyor and below the axis of said helix, said edger bar being disposed downstream of the helix axis for edging articles presented to the edger bar by said edger conveyor, said edger bar having a linear portion that is substantially parallel to the helix axis, the linear portion of said edger bar terminating in substantial alignment with the delivery end of said helix when the helix is in its forward position, a conveyor for removing the leading article of an edged stack of articles mounted on said frame, said conveyor comprising an endless vertically disposed belt, said belt having an article removal reach running transversely of the helix axis and being disposed closely adjacent the end of the linear portion of said edger bar, means for driving said article removal conveyor, and means for delivering articles endwise on edge to said edger conveyor.

3,193,281
DOCUMENT FEEDING APPARATUS

Howard W. Silsby III, Annandale, and James W. Taylor, Woodbridge, Va., assignors to Farrington Electronics Inc., Alexandria, Va., a corporation of Massachusetts

Filed July 9, 1962, Ser. No. 208,432

4 Claims. (Cl. 271—11)



1. Apparatus for withdrawing flat paper documents from a stack and advancing the same singly along a document advancement path to a selected reading station to be scanned by a scanning device of automatic character sensing equipment having a scanning member movable about a fixed pivot axis for scanning a line of characters, comprising means for supporting a plurality of documents in flat condition in a vertically aligned stack array, pickup head means movable from a first position overlying a trailing edge portion of the documents in said stack remote from said selected station to a second position spaced along the document advancement path, a document supporting member at said selected reading station having a concavely curved upper surface concentric with said pivot axis for receiving documents advanced thereto to import an upwardly facing concave curvature to such documents concentric with said pivot axis above the same, a transition throat at an entrance end of said supporting member having a guide surface joining said concavely curved upper surface to effect progressive transition of documents advanced therealong from a flat to a concavely curved condition, said pickup head means comprising a block member having a lower document holding surface facing said stack having a cylindrical convex curvature conforming to the curvature of the upper surface of said document support member, suction means coupled to said pickup head means for producing suction conditions at said document holding surface to attract the uppermost document of the stack to an elevated position against said document holding surface and retain the same thereagainst with the adjacent portions of said uppermost document disposed in a cylindrically curved configuration conforming to said document holding surface, and means for moving said pickup head means relative to said document supporting member along a rectilinear reciprocative path generally paralleling said pivot axis while maintaining document retaining suction pressure on said pickup head means to advance a leading edge of a document retained thereby onto said transition throat and to said reading station.

3,193,282
MECHANISM FOR FEEDING CARDBOARD OR LIKE BLANKS

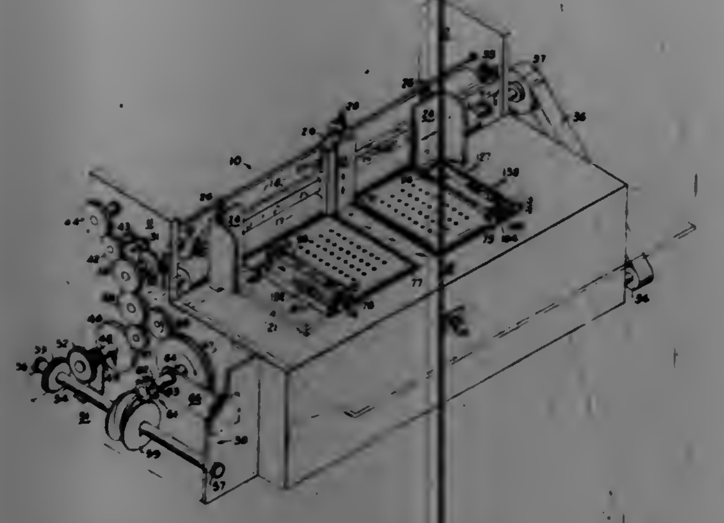
Warren A. Stewart, Monkton, Md., assignor to Koppers Company, Inc., a corporation of Delaware

Filed Mar. 13, 1963, Ser. No. 264,826

16 Claims. (Cl. 271—12)

1. A mechanism for feeding a sheet from a stack of sheets, comprising:
- (a) a stationary substantially horizontal bed adapted to support said stack of sheets;
- (b) an endless conveyor belt mounted adjacent the horizontal bed and having a perforated section;

(c) means for advancing the conveyor belt unidirectionally through a non-uniform velocity cycle having a finite period of zero velocity as indicated in FIG. 6 where the belt contacts one of the sheets;

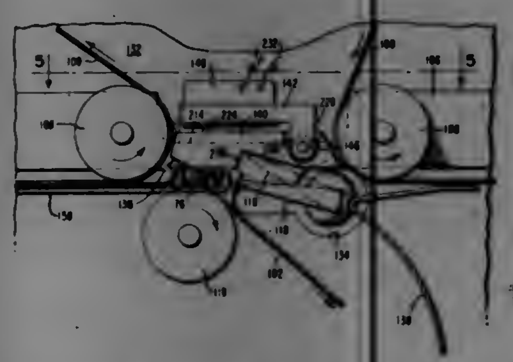


(d) suction means operating through the perforated section for vacuum coupling the one sheet to the conveyor belt whereby the sheet is movable with the belt; and

(e) an adjustable stop for restraining all of the sheets in the stack against lateral movement except the one sheet, whereby the one sheet is laterally moved by the conveyor belt during the motion of the belt.

3,193,283
DOCUMENT SORTING

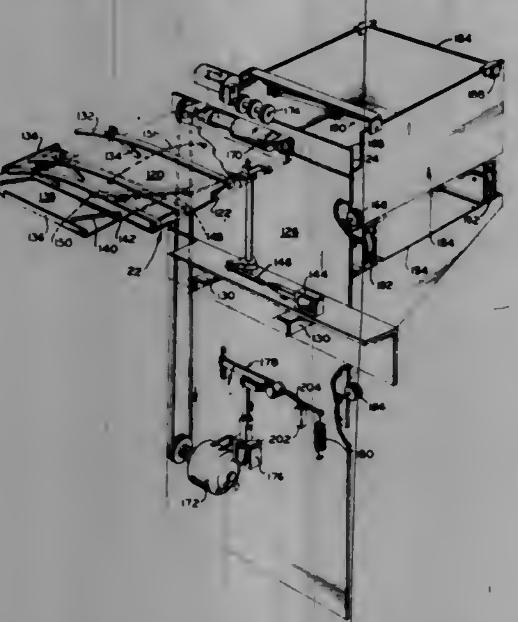
Stephen W. Smith, Dallas, Tex., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 28, 1962, Ser. No. 248,091
14 Claims. (Cl. 271—47)



1. A document sorting system comprising an input hopper for supporting documents to be sorted, means for successively removing documents from said input hopper, means for transporting the removed documents along a common document path, a plurality of document deflecting means, first guide means having a plurality of removed portions to receive said document deflecting means, a deflecting means per removed portion, said first guide means positioned along and forming one side of the common document path, selectively further guide means parallel to said first guide means forming the other side of the document path and selectively and movable in a path perpendicular to the direction of documents along said document path, continuously operating jam detecting means positioned along said document path for detecting the abnormal departure of a document from its positon in substantially a single plane, and means connecting said jam detecting means to said further guide means for displacing said further guide means upon the detection of a document jam by said jam detecting means.

3,193,284
COLLATING MACHINE WITH JOGGER AND EJECTOR

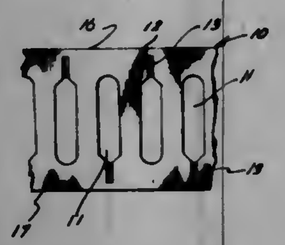
Charles H. Kretz, Jr., U.S. Navy, assignor to Kretz Collator Co., San Francisco, Calif., a corporation of California
Original application Dec. 5, 1956, Ser. No. 626,553, now Patent No. 3,041,065, dated June 26, 1962. Divided and this application Apr. 30, 1962, Ser. No. 207,833
3 Claims. (Cl. 271—89)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A device for conveying and jogging sheet material into alignment comprising a support for said sheet material including a base element adapted to engage the surface of said sheet material; a pair of guide elements extending generally perpendicular to the surface of sheet material in said support against which two non-parallel edges of said sheet material are adapted to abut to align said sheet material; means including a pusher member movably mounted relative to said base member for urging said sheet material into alignment; and roller means for engaging said sheet material to eject it from said support.

3,193,285
PISTON RING

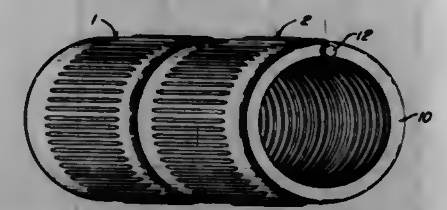
Douglas W. Hamm, Muskegon, Mich., assignor to Muskegon Piston Ring Company, Muskegon, Mich., a corporation of Michigan
Filed Apr. 20, 1964, Ser. No. 361,026
9 Claims. (Cl. 277—215)



1. A piston ring having a body characterized by a plurality of equally spaced apertures spaced from both edges of said ring body and at least one flange integral with said body, said flange having a plurality of segments each separated from each adjacent segment by a severance line extending radially from one of said apertures to the adjacent edge of said flange, said edge being arcuate and provided for scraping contact with a cylinder wall, said flange initially having indentations in at least one side of said flange and extending along said lines but terminating short of said edge, said flange being fractured along said severance lines through the flanges' entire remaining thickness and entirely to said edge.

3,193,286
AMUSEMENT DEVICE

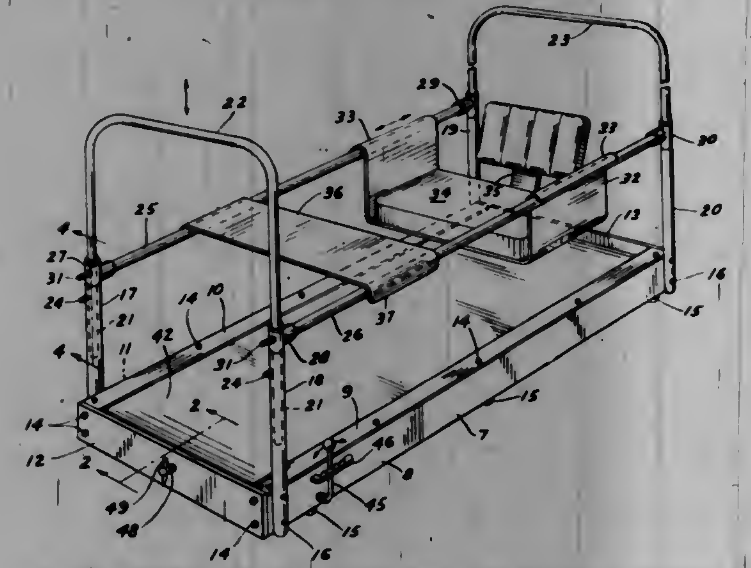
James C. Sitter, 1071 W. 5th Ave., Oshkosh, Wis.
Filed Oct. 2, 1961, Ser. No. 142,239
2 Claims. (Cl. 272—1)



1. In an amusement device,
a pair of similar double-wall drum members secured end-to-end with a common radial wall at the junction thereof, each of said drum members having radially spaced tubular walls joined by said common radial wall and by end walls to define weight controlling chambers,
said common radial wall having circumferentially spaced openings for communicating between said chambers, and
means for introducing a weight controlling material into said chambers.

3,193,287
TREADMILL EXERCISING DEVICE

Harold J. Robinson, 18929 Asbury Park, Detroit, Mich.
Filed Sept. 27, 1963, Ser. No. 312,158
2 Claims. (Cl. 272—58)

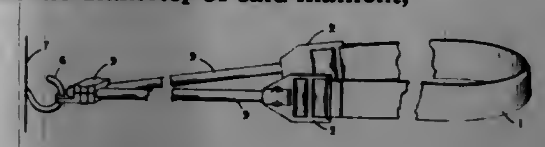


1. In device of the character described including a frame, rollers journaled in said frame and an endless belt passing over said rollers, the combination of a plurality of corner posts secured to said frame, grab bars telescoping the ends of said posts, T fittings slidable on said grab bars, and a pair of side bars secured to pairs of said T fittings, with means to lock said grab bars, said T fittings and said side bars in adjusted vertical positions, there being a seat and back rest adjustably mounted on said side bars.

3,193,288
PHYSICAL CONDITIONING DEVICE HAVING ELASTIC STRANDS

Le Vell De Spain, 3250 Virginia Ave., and Charles D. Evans, 11803 4th Ave., both of Lynwood, Calif.
Filed Sept. 11, 1962, Ser. No. 222,851
2 Claims. (Cl. 272—82)

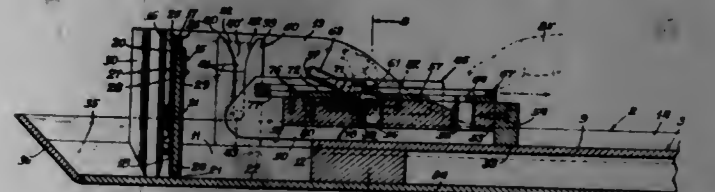
1. An exercising device comprising
a substantially flat flexible strap,
a cylindrical elastic filament,
a duality of fasteners for securing the opposite ends of said filament to the opposite ends of said strap,
each fastener including a plurality of slots therethrough,
said strap end being woven through said slots for securing said strap to said fastener,
each of said fasteners including a duality of interconnected cylindrical apertures therethrough,
said apertures defining a shoulder therebetween,
one of said apertures being smaller in diameter than the diameter of said filament,



the other of said apertures being substantially equal in diameter to the diameter of said filament,
said filament being stretched and received in said one aperture with the distal end of said filament being received in said other aperture,
and a fastener intermediate the ends of said filament for securing said filament to an adjacent object,
said last mentioned fastener including a duality of substantially parallel cylindrical apertures therethrough,
said filament being stretched and received in said last mentioned apertures,
and extending between two adjacent ends of said last mentioned apertures.

3,193,289
PIN SPOTTER AND PINS GAME DEVICE

Holger Pedersen, 4736 N. Winchester, Chicago 40, Ill.
Filed Apr. 3, 1961, Ser. No. 100,164
2 Claims. (Cl. 273—42)



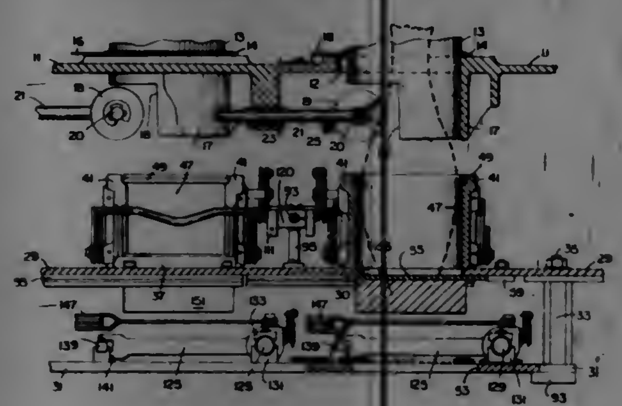
1. In combination, a pin spotter having front and rear ends comprising upper and lower generally horizontal relatively movable plate-like members, said lower member having a plurality of cylindrical openings arranged in a conventional bowling formation, said upper member having similarly arranged elongated apertures, each aperture having a wide rear portion and a narrow front portion in vertical alignment with the respective opening in the lower member, said lower member having an upper side with a ramp face behind each cylindrical opening and sloping downwardly into the upper end thereof, said upper member having a ramp surface within the rear end of each aperture sloping downwardly forwardly toward the associated cylindrical opening and having substantially vertical lateral edges with forward ends curving into a semicylindrical notch, said notch defining the narrow front portion of the apertures, and pins disposed in reclining position preparatory to spotting, each pin comprising a fusiform shaped body having a lower end base, a downwardly tapered lower end portion projecting into the upper end of the associated cylindrical opening, a cylindrical intermediate portion of a diameter closely approximating that of the cylindrical openings in the lower member confined in the reclining position between said lateral edges of the respective aperture and seated upon the respective ramp face, the body of each pin having an upper upwardly tapered portion abutting in the reclining position of the pin against the associated ramp surface, each ramp surface attendant to movement of

the upper member toward said forward end of the device moving the related pin forwardly and through engagement of the lower end of the body of the pin with the surface of the cylindrical opening tipping the pin from reclining to upright position coincidental with said lower tapered portion guiding the pin into the associated cylindrical opening in the lower member to enter the cylindrical portion of the pin therein, each pin having a cylindrical stem projecting upwardly from the body, said stem complementally fitting into the semicylindrical notch in the associated aperture, portions of said upper member at opposite sides of each notch overlapping the body of the pin therebelow upon the latter being vertically positioned to prevent its withdrawal and said cylindrical stem being of substantially uniform section throughout its length and having a nonbulbous upper end to permit withdrawal of the pin spotter upwardly from the pins while holding the pins in upright position.

3,193,290
AUTOMATIC BOWLING PINSETTING MACHINES

Howard M. Dowd and Royal L. Barrows, Middleton, Mass., assignors, by mesne assignments, to State Street Bank and Trust Company, Boston, Mass., a corporation of Massachusetts

Filed June 20, 1962, Ser. No. 208,174
24 Claims. (Cl. 273—43)



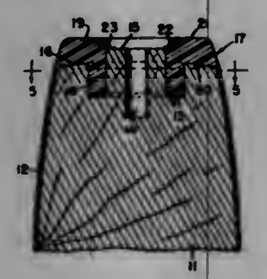
1. In a machine for setting bowling pins on the pin spots of a bowling alley, a vertically reciprocable pinsetting and resetting means, said pinsetting means having in combination vertically spaced parallel platforms, each said platform having ports registering with the pin spots on said alley and with the corresponding ports on the other said platform; means associated with the lower said platform for retrieving standing pins from said alley and releasably retaining said pins within the ports in said lower platform; means associated with the upper said platform for optionally closing the ports in said platform and for retaining pins thereon when closed; means including a pair of yokes associated with each said port, said yokes pivotally mounted on said upper said platform, said last recited means adapted to arrest said pins and to suspend each said pin by the neck thereof when said pins are released through the ports on said upper platform in such position that the base of each said pin extends through the associated port in said lower platform; means for feeding pins to the ports in said upper platform; and means for raising and lowering said pinsetting and resetting means.

3,193,291
REUSEABLE CAPS FOR CANDLEPINS

Silvio J. Cariani, 18 Heselton St., Skowhegan, Maine

Filed June 13, 1962, Ser. No. 202,144
1 Claim. (Cl. 273—82)

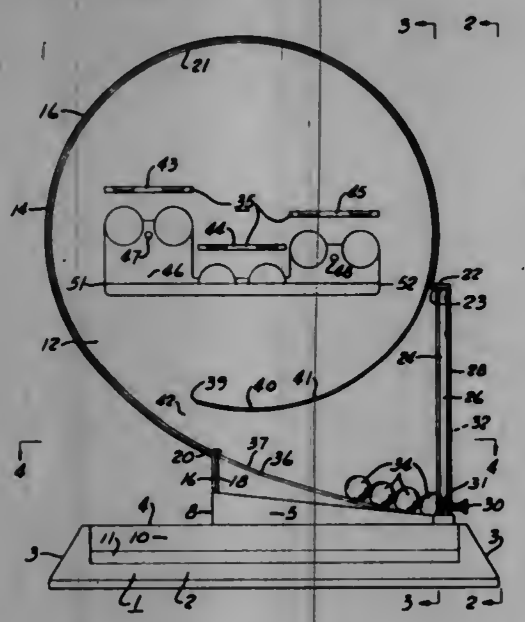
The combination with a bowling candlepin having at each end an annular recess and a marginal beveled portion between the annular recess and the outer edge of the candlepin of a reuseable protective cap on each of the said ends, said cap comprising a one-piece preformed mushroom-shaped member of a solid plastic material having a cylindrical stem section removably force-fitted into engagement with said annular recess, said cap also comprising a flange section extending radially outward from the outer end of the stem section and overlying the entire surface of said beveled portion, the force engagement of the stem section with the recess being the sole and exclusive means for holding the cap on the candlepin, the length of the stem, including the thickness of the flange, being substantially greater than the depth of the recess to cause the outer side of the flange to extend beyond the end of the candlepin a correspondingly substantial amount, said outer side of the flange having a surface of substantial area adapted to lie flat against a horizontal surface and thereby support the candlepin on the horizontal surface exclusively of any contact between the candlepin and horizontal surface.



3,193,292
UPRIGHT SPIRAL TRACK BALL GAME

John J. Mehelich, Pittsburgh, Pa., assignor to Wolverine Toy Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 18, 1963, Ser. No. 252,494
1 Claim. (Cl. 273—101)



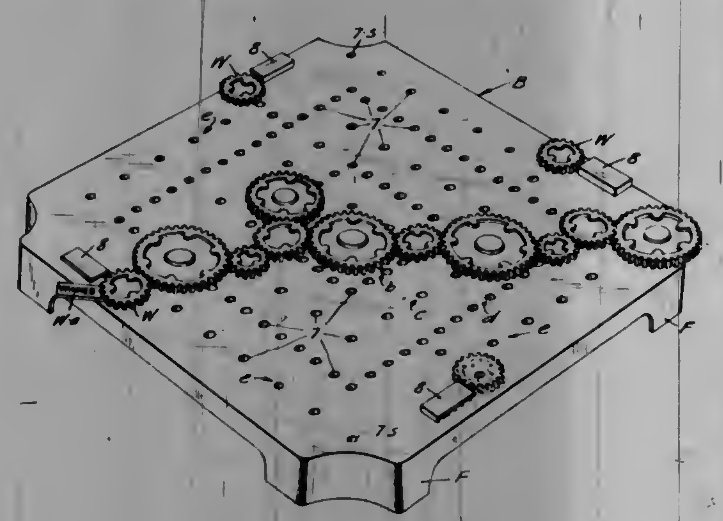
An upright spiral track ball game consisting of an integral spiral track having side edges and overlapping itself to form an open loop with an upturned inner track end and a substantially tangential outer track end, transparent parallel side walls attached to said opposite side edges of said track to enclose and support the same, a base supporting said side walls, upwardly open ball scoring pocket means supported by at least one of said side walls and projecting into the inner space of said track loop but spaced from said track, a plurality of balls freely movable on said track between said side walls to be received in said upwardly open ball scoring pocket means, a back wall attached to said side walls at said outer track end, said back wall having a small opening adjacent said outer track end for the partial protrusion of

a ball resting on said outer track end, said back wall having a large opening above a ball positioned at said small hole, said large opening being sufficient in size for inserting and removing balls to said outer track end, and a propelling device in the form of a flexible strip secured at one end to said back wall and covering said small and large openings to prevent the escape of balls therefrom, the release of said propelling device after being flexed to strike a ball partially protruding through said small opening catapulting the innermost ball along said spiral track and propelling it off the loop to alight in a scoring pocket means or return to said outer track end.

3,193,293
GAME SUCCESSIVELY UTILIZING SELECTIVELY POSITIONABLE GEAR PLAYING PIECES VARYING IN PITCH RADII

William Hubert Schaper, Minneapolis, Minn., assignor to Schaper Manufacturing Company, Inc., Minneapolis, Minn., a corporation of Minnesota

Filed Aug. 22, 1962, Ser. No. 218,616
2 Claims. (Cl. 273—135)

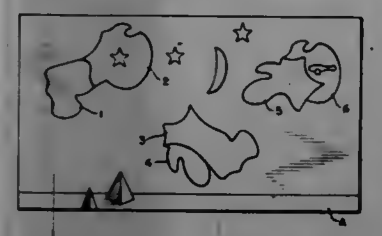


1. Game apparatus having in combination,
a substantially horizontal playing and support board, having a multiplicity of variously and predeterminately spaced gear-pivoting elements, said elements extending in rows, some of which are disposed in parallel relation transversely of said board and some rows of which extend parallel but diagonally of said board,
a set of removably positionable playing gears including a plurality of gears which have different pitch radii,
said pitch radii all corresponding to the spaced relationship of some pairs of said gear-pivoting elements in either said transverse or diagonal rows,
a "winner" gear rotatably mounted in a predetermined position on said playing board,
said board having a "starting" gear-pivoting element and a "starting gear" disposed in remote and opposed relation to said "winner gear,"
and the other and multiplicity of spaced gear-pivoting elements extending generally between said "winner" gear and said "starting" gear-pivoting element, said removably positionable playing gears being selectively positionable in mesh with one or more of gears previously positioned on said board, sometimes in transverse rows and sometimes in diagonal row relations,
said "winner" gear having an indicator arm projecting laterally therefrom,
and a cover plate affixed to said board for normally covering said indicator arm but for permitting the same to show when said "winner" gear is turned in a predetermined manner.

3,193,294
PUZZLES OF THE JIGSAW TYPE

William R. Irwin, P.O. Box 155, Bronx, N.Y.

Filed June 9, 1961, Ser. No. 116,106
3 Claims. (Cl. 273—157)

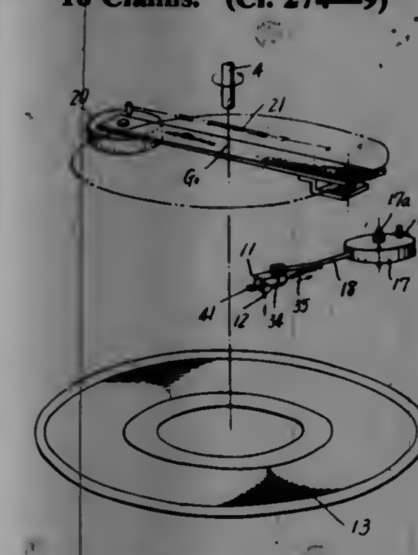


1. A game or puzzle comprising a plurality of pieces assembled within a definite confine, a group of pieces of said plurality transposable within said confine, each single member of said group or a member composed of subdivided members of said group combinable with another member or members of said group at only one locus within said definite confine, said members of said plurality having markings disposed thereon in such manner that when said pieces of said group are correlated in a first completed arrangement within said definite confine to form with the remainder of the plurality of pieces a continuous surface, said markings combine to form a first comprehensive picture, said pieces of said group being so shaped that when transposed in a correlated second completed arrangement within said definite confine to form with the remainder of the plurality of pieces a different continuous surface, said markings combine to form a second comprehensive picture, and with all upwardly disposed surfaces of said group correlated in said first arrangement remaining upwardly disposed in said second completed arrangement.

3,193,295
VISUAL AND AURAL TYPE SOUND RECORDING AND REPRODUCING DEVICE

Shinichi Isemura, Takaoka, Japan, assignor to Daiei Presscorder Company Limited, Tokyo, Japan, a corporation of Japan

Filed Feb. 1, 1963, Ser. No. 255,478
Claims priority, application Japan, Feb. 8, 1962, 37/5,411; Mar. 7, 1962, 37/8,925; May 25, 1962, 37/27,320; Dec. 4, 1962, 37/53,621
18 Claims. (Cl. 274—9)

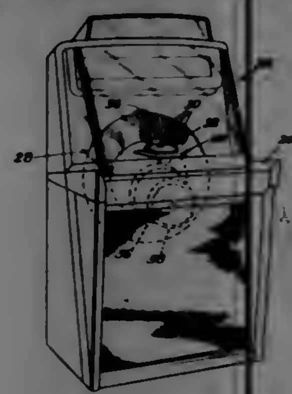


1. A visual and aural type sound recording and reproducing device which makes use of a stationary record body, which comprises a casing, a main shaft adapted to rotate in said casing with a contant speed, a rotatable base plate secured to said main shaft, a rotatable weight pivoted to one end of said base plate and adapted to rotate in parallel with the rotating surface of said base plate, a pickup arm projected from one side of said rotatable weight, an auxiliary weight secured to the opposite side of said rotatable weight and balancing the mass of said pickup arm with respect to the axis of said rotatable

weight, and a balancing weight secured to the other end of said rotatable base plate and balancing the mass of the side portion of said rotatable base plate including said rotatable weight and pickup arm with respect to the center axis of said main shaft, said rotating bodies being so constructed and arranged that they rotate in a completely balanced state at any inclined position.

3,193,296
VARIABLE SPEED PHONOGRAPH

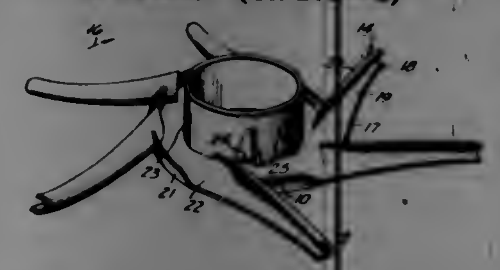
Donald C. Rockola, Chicago, Ill., assignor to Rock-Ola Manufacturing Corporation, Chicago, Ill., a corporation of Delaware
Filed Mar. 19, 1962, Ser. No. 180,726
20 Claims. (Cl. 274—10)



1. Apparatus of the character disclosed comprising a magazine adapted to support records having different sized center holes, a turntable, variable speed means for driving the turntable, means for transferring a record from the magazine to the turntable and in return to the magazine in a single cycle of operation, means for playing a record on the turntable, means for sensing a record according to the size of the center hole thereof in the operation of placing the record on the turntable, said sensing means being receivable in a large hole in a record placed on the turntable and operative as a centering means for such a record and actuatable by a record having a small hole placed on the turntable, said sensing means being operative for controlling said driving means for driving the turntable at a speed corresponding to the size of the center hole in a record placed on the turntable, said transferring means being operative for maintaining the sensing means in position for sensing a record at each cycle of its operation.

3,193,297
DEVICE FOR SPREADING GRANULAR OR POWDERY MATERIAL

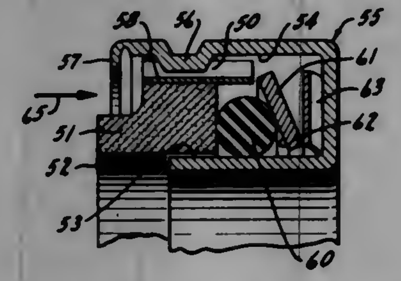
Cornelis van der Lely, Zug, Switzerland, and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely, N.V., Maasland, Netherlands, a Dutch limited-liability company
Filed Jan. 30, 1962, Ser. No. 169,803
8 Claims. (Cl. 275—8)



5. A rotatable ejector member for a device for spreading granular or powdery material, comprising a disc portion and a plurality of channel-shaped blades integrally formed therewith and extending substantially tangentially rearwardly from said disc portion relative to its direction of rotation, the open side of each channel-shaped blade facing the direction of rotation, said blades each curving outwardly from said disc whereby the outer end of each of said blades is substantially radial to the center of said disc portion, the outer ends of said blade each being inclined upwardly relative to said disc portion, the upper side of the lower longitudinal surface of each of said blades being contiguous with and merging smoothly into the upper side of the said disc portion.

3,193,298
CARTRIDGE TYPE FACE SEAL

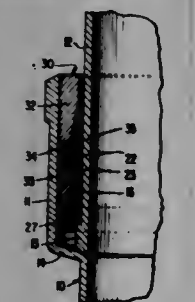
Robert M. Voltik, Evanston, and Kermit D. Yost, Skokie, Ill., assignors to Continental Illinois National Bank and Trust Company, as trustee under the Cartridge Type Seal Liquidation Trust
Filed Aug. 17, 1961, Ser. No. 132,035
2 Claims. (Cl. 277—40)



1. A rotary seal assembly comprising, in combination, an annular cartridge case defining a cylindrical wall, an annular stator loosely positioned adjacent said wall and within said case, said stator formed of a frangible material and having a sealing surface adapted to extend from said case, said wall having a lug, said stator having a notch receiving said lug so as to lock the stator and said case against relative rotation, and a metallic semicylindrical insert interposed between said lug and said notch to prevent chipping of said stator.

3,193,299
BELL AND SPIGOT JOINT WITH SELF-LOCKING WEDGE RINGS

Leland C. Gardner, Sr., 519 Rich St., and Lawson F. Waldrop, Jr., 529 S. York Ave., both of Rock Hill, S.C.
Filed Aug. 7, 1963, Ser. No. 300,527
8 Claims. (Cl. 277—190)



1. A joint and seal structure for soil pipes and the like having telescopically interfitting ends and an annular chamber therebetween, said structure comprising a compressible gasket within said chamber near the bottom thereof adapted when compressed to form a fluid-tight seal between said interfitting ends, an annular relatively hard adapter body within said chamber and above said gasket and bearing upon the gasket and of a radial thickness to substantially fill said chamber and shiftable downwardly to compress the gasket and having radially projecting circumferentially spaced locking parts and external grooves which taper axially from their outer ends and radially outwardly adjacent the locking parts and extending below and above the same, and a corresponding number of metallic wedges which are tapered complementary to the groove taper and having their thickest section substantially equal to the greatest radial thickness of said adapter body to be driven downwardly within said grooves and between the grooves and the bore of the outermost pipe end for frictionally and positively locking the adapter body in a downward position compressing said gasket, said wedges provided in their inner sides and intermediate their ends with locking recesses receiving said locking parts of the adapter body in interlocking relation, said recesses forming on said wedges adjacent thin walled sections interconnecting upper and lower portions of the wedges, said thin walled sections buckling during final driving of the wedges to allow the upper portions of the wedges to descend a final distance into said grooves, the lower portions of the wedges then remaining substantially stationary relative to the adapter body.

ERRATUM

For Class 277—215 see:
Patent No. 3,193,285

3,193,300
SKI POLE RINGS

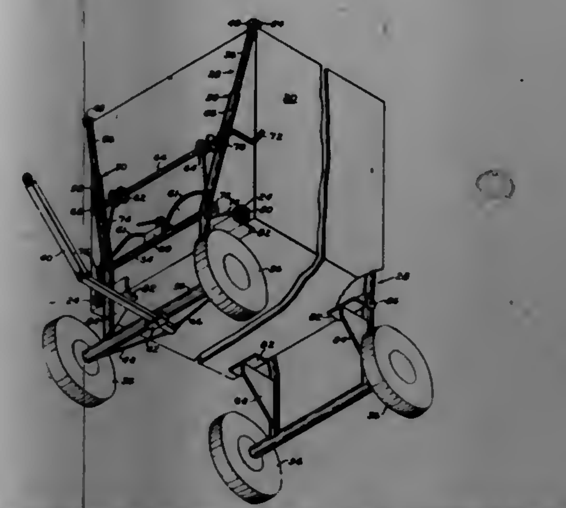
Robert J. McDonald, 3229 Ardley Ave., Oakland, Calif.
Filed Jan. 25, 1961, Ser. No. 84,831
9 Claims. (Cl. 280—11.37)

2. A snow penetration-limiting device for ski poles, comprising a flattened member of resilient material having an enlarged hub formed with a central opening adapted for mounting in gripping engagement on a ski pole of considerably larger diameter than said opening in spaced relation to the lower end of the pole, and an annulus of relatively rigid material secured to said flattened member in concentric relation to said hub, the portion of said resilient material between said hub and said annulus being under tension whereby said portion will remain taut when said hub is expanded radially by mounting on a ski pole.

3,193,301
UNIVERSAL TRANSPORTERS

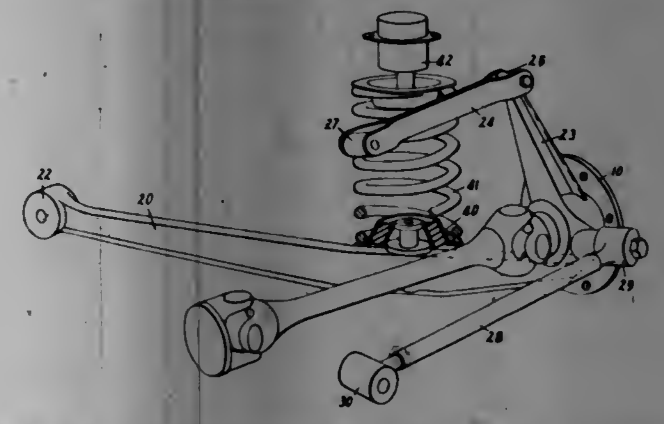
Elmer H. Talbert, P.O. Box 482, Georgetown, Del., and William L. Talbert, 7901 Kreeger Drive, Adelphi, Md.
Filed May 26, 1961, Ser. No. 112,905
4 Claims. (Cl. 280—43.23)

1. A transporter unit for elevating and transporting a load supporting body unit, comprising a pair of extendible struts each of which includes relatively movable upper and lower portions, said upper portions each being provided at their upper ends thereof with means for attaching them to the upper portion of said body unit at spaced-apart points, a wheel connected with each of said lower portions at the lower ends thereof, a cable associated with each strut, each cable being provided at the free end thereof with means for connecting it to said body unit at spaced-apart points adjacent the lower portion of the body unit to maintain said wheels spaced outwardly from said body unit, means for extending the relatively movable portions of each strut to elevate the body unit from its supporting surface, and cable tightening means mounted on said struts for thereafter shortening said cables to move the struts toward the body unit to a transporting position.



3,193,302
REAR SUSPENSION MECHANISM FOR MOTOR VEHICLES

Claude Hill, Kenilworth, Warwickshire, England, assignor to Harry Ferguson Research Limited, Stow-on-the-Wold, Gloucestershire, England, a British company
Filed Apr. 12, 1963, Ser. No. 272,614
Claims priority, application Great Britain, Apr. 18, 1962, 14,980/62
20 Claims. (Cl. 280—124)



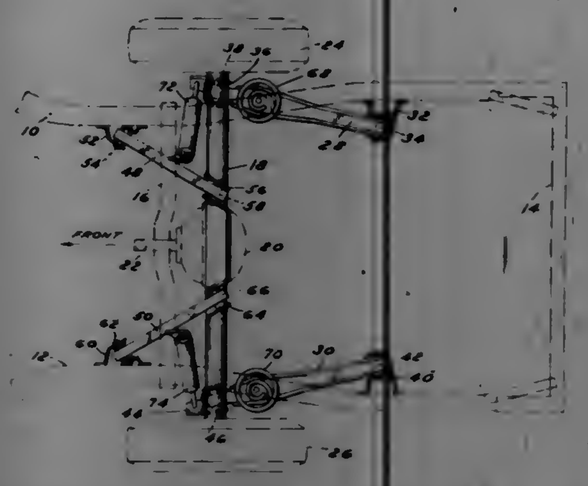
1. A rear wheel suspension mechanism in a vehicle, the mechanism including a straight arm inclined inwards and forwards from the vehicle wheel hub and rigidly connected thereto, a pivotal connection between said arm and a point on the chassis frame of the vehicle at substantially the same level as the "normal position" of the road wheel centre, the axis of said pivotal connection extending at substantially right angles to said arm and a stabilizing member pivotally connected between a point on the wheel hub and a point on the chassis frame rearwardly of the road wheel centre and of the point of connection to the wheel hub.

3,193,303
MOTOR VEHICLE SUSPENSION SYSTEM OF A LINKAGE TYPE

William D. Allison, Grosse Pointe Farms, and Robert D. Negstad, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 29, 1963, Ser. No. 326,938
4 Claims. (Cl. 280—124)

1. A vehicle suspension system having a chassis frame, a transverse axle, a road wheel rotatably mounted at each end of said axle, a pair of separate suspension arms connected to said axle by spaced apart resilient pivots, said

arms extending rearwardly and inwardly from said axle, the rear ends of said suspension arms being connected to said chassis frame by spaced apart resilient pivots, a second pair of separate suspension arms connected to said axle by spaced apart resilient pivots, said second arms extending forwardly and outwardly from said axle and



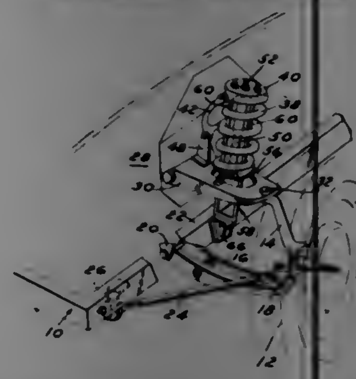
having their forward ends connected to said chassis by spaced apart resilient pivots, said suspension arms and pivots being adapted to permit lateral movement of said chassis with respect to said axle and said wheels when subjected to lateral forces thereby causing said axle and said wheels to move in a direction to provide an understeer effect.

3,193,304
VEHICLE SUSPENSION SYSTEM HAVING AN ARTICULATED SPRING SUPPORT

Herbert F. Behlke, Milford, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 23, 1963, Ser. No. 332,643

4 Claims. (Cl. 280—124)



1. A vehicle suspension system having a chassis, a wheel, a support member for said wheel, a lower suspension arm, an upper suspension arm, said suspension arms pivotally interconnecting said chassis and said wheel support member, a lower spring seat pivotally connected to said upper arm, an upper spring seat, a coil spring interposed between said upper and lower spring seats, a link system interconnecting said upper seat and said upper arm, a tension member positioned within said coil spring and having its upper end secured to said upper spring seat and its lower end pivotally connected to said chassis, a telescopic shock absorber interconnecting said spring seats.

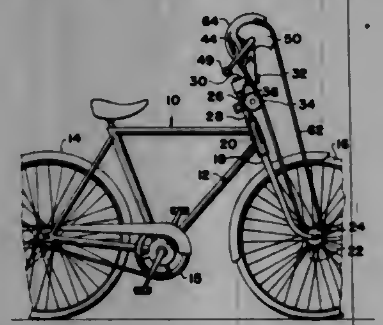
3,193,305
FRONT WHEEL DRIVE FOR BICYCLES

William E. Hendricks, 614 S. Minnesota, Wichita, Kans.

Filed Nov. 5, 1962, Ser. No. 235,390

7 Claims. (Cl. 280—225)

1. A binary drive bicycle comprising, a frame, a rear wheel, a foot-powered drive means for said rear wheel, a front wheel, a fork member for said front wheel rotatably mounted on said frame, said fork member provided with a hollow upwardly extending tubular shaft, a hand-driven front wheel drive means comprising, a coaster brake axle assembly operatively mounted on said front wheel, a sprocket for said coaster brake assembly, a stem means disposed on said tubular shaft of said fork member, said stem means comprising an elongated tubular portion having an upper end and a lower end, an expansion means on said lower end adapted to be disposed in said hollow tubular shaft of said fork means and secure same in assembled relation, an integral offsetting portion on said upper end and an annular clamp means on said offsetting portion, an idler means mounted on said stem means comprising, an idler sprocket, a shaft, a shaft support means for said last-mentioned shaft, and a clamping means on said shaft support means adapted to encircle said stem means, said idler sprocket mounted on said last-mentioned shaft, a crank means comprising, a shaft portion, two opposed leg portions each integrally joined at one end to an end of said shaft portion in generally transverse relationship therewith, said shaft portion and said leg portions forming a generally U-shaped configuration, and handle elements rotatably mounted on the free ends of the leg portions, a relatively large sprocket fixedly mounted on said crank means adjacent one of said leg portions, an adjustable mounting means for said crank means comprising, a horizontally extending bearing means to rotatably support said crank means, a generally upright elongated rod portion having upper and lower ends integrally joined at its upper end to said bearing means for said crank means, an enlarged portion on said lower end of said upright elongated rod portion, flat parallel surfaces on said enlarged portion spaced a distance greater than the width of said clamp means on said offset portion of the stem means, a flat downwardly extending plate rigidly secured to one of said surfaces, a relatively short shaft means attached to said plate, a second plate provided with an opening on a first end adapted to receive said relatively short shaft, bolt means adapted to secure said second plate to the other of said flat surfaces, a sprocket chain for connecting said sprocket on said coaster brake assembly and said relatively large sprocket on said crank in driving relationship, a means to lock said crank means in a fixed position comprising, an annular apertured flange ring rigidly mounted on said bearing means for said crank means and in close proximity to said relatively large sprocket, a plunger lock means mounted on said relatively large sprocket adapted to selectively engage the apertured flange ring, a camming lever pivotally mounted on a leg portion of said crank means and operatively connected to said plunger lock means, a snap lock lever mounted on the same leg portion of said crank means in close proximity to said handle means, a linking means connecting said snap-lock lever and said camming lever, a spring means for urging said camming lever, said front wheel drive means assembled with said relatively short shaft disposed in said clamp means of said stem means and adapted to be pivotally adjusted therein to selectively position the crank means to suit the physical size of a rider seated thereon, and longitudinally adjusted therein to align the crank means with the coaster brake sprocket, said idler means operative to engage said sprocket chain intermediate said relatively large sprocket and said sprocket for said coaster brake assembly and guide and support said sprocket chain to prevent interference with said frame to thus permit extended swiveling of said fork member, and said means to lock said crank means adapted to inactivate said front wheel drive means and rigidly and adjustably secure said crank means in a predetermined position for functioning as fixed handlebars.

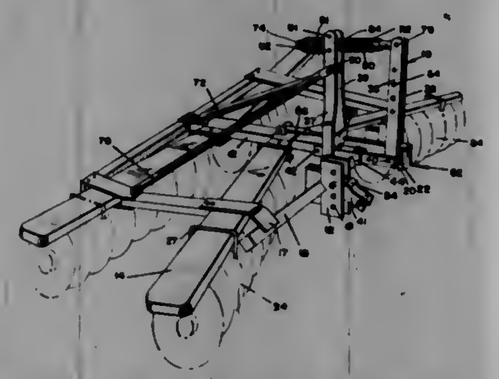


3,193,306
CULTIVATOR HITCH

William H. Pettit, Chattanooga, Tenn., assignor to The Harriman Manufacturing Company, Chattanooga, Tenn., a corporation of Tennessee

Filed July 2, 1963, Ser. No. 292,360

1 Claim. (Cl. 280—489)



A cultivator hitch of the type attachable to an agricultural implement frame comprising:

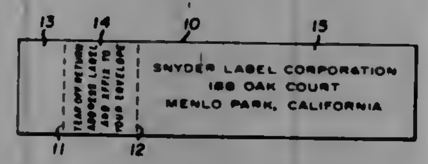
- (A) a rigid base secured to a forward portion of said frame;
- (B) a front vertical member pivoted at its lower end upon said base;
- (C) a rear vertical member parallel to said front member and attached at its lower end to said base so as to form an integral part thereof;
- (D) strut means interconnecting a median portion of said rear vertical member and a rigid, near portion of said frame; and
- (E) a top compressible member interconnecting the free ends of said front and rear vertical members, said compressible member further including:
  - (i) a top shaft pivoted at one end to said front vertical member top, contacting and extending rearwardly of said rear vertical member,
  - (ii) a spring of greater compressibility supported upon said shaft between said front and rear vertical members, and
  - (iii) a spring of lesser compressibility supported upon said shaft intermediate said rear vertical member and a shaft rear end retaining means.

3,193,307
LABEL

Kent L. Snyder, 168 Oak Court, Menlo Park, Calif.

Filed June 4, 1962, Ser. No. 199,808

6 Claims. (Cl. 281—43)



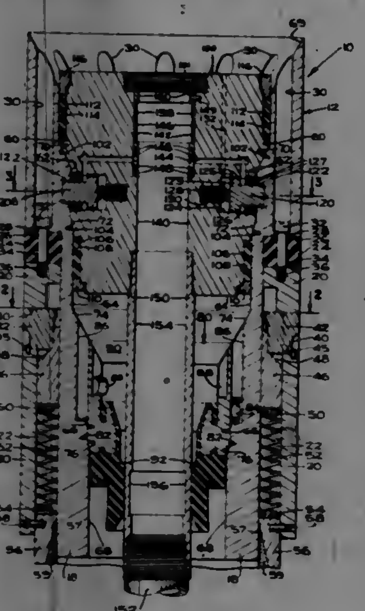
1. A label comprising: a padding portion, an instruction portion and an address portion in the order named; a first tear line between said padding portion and said instruction portion; a second tear line between said instruction portion and said address portion, said padding portion being usable in combination with the padding portion of like labels for forming a label pad from a plurality of labels; said first tear line having less resistance to tearing than said second tear line so that forcible removal of said address portion from the pad will cause separation along said first tear line; and adhesive means affixed to the underside of said instruction portion and said address portion.

3,193,308
TUBING HANGER ASSEMBLY

William L. Todd, Houston, Tex., assignor to Oil Center Tool Company, Houston, Tex., a corporation of Texas

Filed Aug. 19, 1959, Ser. No. 834,843

17 Claims. (Cl. 285—18)



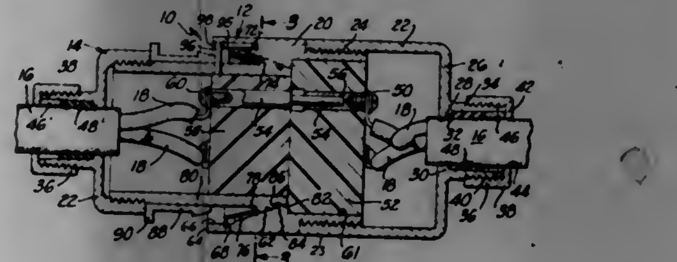
1. A tubing hanger assembly comprising a tubular tubing hanger support member having an annular groove in the wall of its bore, an upwardly facing support surface within said hanger support member, a tubular tubing hanger adapted to fit within the bore of said hanger support member, a support surface on said tubing hanger adapted to engage the upwardly facing support surface in said hanger support member, a plurality of cylinders in said tubing hanger with their axes extending radially thereof, a plurality of locking lugs adapted to be projected outwardly into said annular groove, each of said lugs having a piston head slidable within one of said cylinders, spring means normally urging said lugs outwardly, said tubing hanger having passageways connecting said cylinders with the bore through the tubing hanger for conducting fluid under pressure from the bore to the cylinders to retract said locking lugs, and a remotely operable valve in the bore of said tubing hanger for normally blocking off said passageways from the pressure of fluid in said bore.

3,193,309
TUBULAR CONNECTOR HAVING SPRING RETAINING MEANS

Arthur Morris, 2812 Waverly Drive, Los Angeles, Calif.

Filed Feb. 13, 1961, Ser. No. 88,856

3 Claims. (Cl. 285—27)



1. A connector which includes:

a socket part having an open end and a shoulder tapered inwardly from said end;

an adapter part adapted to fit within said open end or said socket part, said adapter part including a tapered extremity conforming to the configuration of said tapered shoulder and a flange extending around said adapter part;

spring means for holding said adapter part within said socket parts so as to hold said tapered extremity against said tapered shoulder by engaging said flange on said adapter part when said adapter part is located within said end of said socket part,

said spring means being secured to said socket part adjacent to said open end and extending toward the interior of said socket part and towards said tapered shoulder from said end of said socket part, said spring means being of a slit-ring character and including edges leading between the ends thereof, said edges being formed so that the extremity of said edges adjacent to said tapered shoulder are closer together than the other extremities of said edges adjacent to the other end of said spring means held by said socket part so that the diameter of said spring means adjacent said tapered shoulder is less than the diameter of said spring means held by said socket part;

means for preventing rotation of said spring means with respect to said socket part;

alignment means extending between said adapter part and said open end of said socket part to insure alignment of said parts;

release sleeve means including wedge means for engaging said edges of said spring means between the ends thereof so as to increase the diameter of said spring means and move said spring means out of engagement with said flange on said adapter part, said release sleeve means being movably mounted on said adapter part; and

guide means on said release sleeve means for guiding said release sleeve means so that said wedge means will engage said edges of said spring means when said release sleeve means is moved on said adapted part towards said socket part.

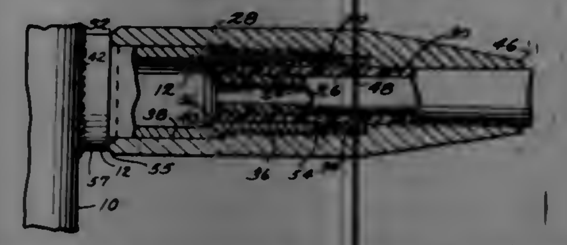
3,193,310

TUBE COUPLING FOR SHOCK ABSORBERS

David W. Hildner, Cleveland, Ohio, assignor, by mesne assignments, to Maremont Corporation, Chicago, Ill., a corporation of Illinois

Filed Nov. 8, 1963, Ser. No. 322,347

4 Claims. (Cl. 285—27)



1. A coupling comprising an elongated holder member having a bore therethrough including a first through bore and a counterbore in one end portion thereof defining an annular shoulder facing in the direction of said one end, said counterbore having a first smooth portion adjacent said annular shoulder, a threaded portion adjacent said smooth portion and an enlarged smooth portion between the threaded portion and said one end, a length of flexible plastic tubing of a size to slidably engage within said first through bore, said first through bore being of greater length than the diameter of said tubing, a smooth bore collar rigidly secured about said plastic tubing at a position spacer inwardly from one end thereof and being of a size to be received within said counterbore in engagement with said annular shoulder, a rigid nipple member having an interior periphery of a size to receive the one end of said plastic tubing therein through one end portion thereof, the one end portion of said nipple member having an exterior periphery of a size to engage within the enlarged smooth portion of said counterbore, annular resilient seal means radially deformable in response to longitudinal compression having an interior periphery of a size to engage the outer periphery of said plastic tubing in abutting relation outwardly of said collar and an exterior periphery of a size to engage within said first smooth counterbore portion, the outer periphery of said nipple member having threads thereon interengaging with said threaded portion of said counterbore, the enlarged smooth portion of said counterbore being of greater length than the threads on said nipple member to provide a mechanically strong construction, the interengagement of said threads being operable in response to a relative turning movement between said members to effect a longitudinal compression of said seal means between said collar and the end of said nipple member to thereby radially deform said seal means into pressure tight engagement with said counterbore and the exterior periphery of said tubing, and stop means on the exterior periphery of said nipple member spaced from said one end thereof engageable by the adjacent end of said holder member for limiting the amount of longitudinal compression of said seal means.

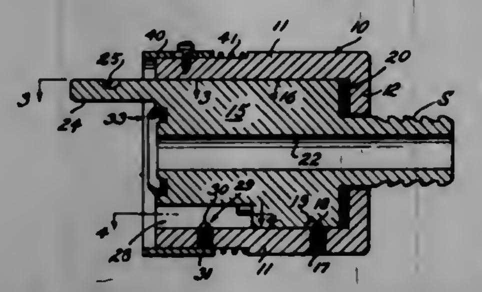
3,193,311

QUICK DISCONNECT, SELF-SEALING, HOSE COUPLINGS HAVING IDENTICAL MATING PARTS

Andrew L. Gordan, Cleveland, Ohio, assignor to Curtiss-Wright Corporation, a corporation of Delaware

Filed Jan. 23, 1963, Ser. No. 253,322

3 Claims. (Cl. 285—70)



1. As one member of a pair of identical coupling units for hose or the like, a body in the form of an open cup having an annular end wall portion and a side wall portion integral therewith, a tubular coupling head member approximately filling the interior of the body, said member having a portion extending through the said annular end wall for attachment to a hose or the like, and having an axially exposed face, an axial projection eccentrically of the head member rigid therewith, a cavity extending axially in the head member and eccentrically located diametrically of the projection and complemented by an interior surface of said side wall for receiving the cam projection of a cooperating coupling unit, a cam surface on the projection extending transversely thereof, a cam follower extending radially inwardly from the body side wall into said cavity for cooperation with such cam surface of the cooperating coupling unit, and an annular axially compressible seal around the axis of the said member and projecting from its axially exposed face.

3,193,312

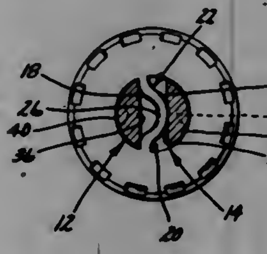
MEANS FOR ATTACHING A KNOB TO A SHAFT

William J. Ehner, Morrison, Ill., assignor to General Electric Company, a corporation of New York

Filed Aug. 23, 1962, Ser. No. 219,030

3 Claims. (Cl. 287—53)

3. A control assembly comprising a shaft formed with a bifurcated end formed by an axially extending slot transversely across said end to define a pair of separated shaft stems having opposed spaced apart and generally flat walls; and a knob removably attached to said bifurcated end of said shaft; said knob being molded in a single piece of resilient and compressible plastic material including an end wall and a bore open at said end wall; said bore having side walls defining a generally cylindrical surface projecting axially away from said end wall and terminating in a bottom wall within said knob axially spaced from said end wall; a cross wall disposed in said bore integrally molded to said bottom and side walls extending transversely across said bore accommodated in the axially extending slot of said bifurcated shaft for removably attaching said shaft and knob together in driving relation; said cross wall having an axial length approximating that of the bore and a central, transversely curved portion extending for a distance less than the full transverse dimension of the cross wall, formed with a convex surface generally projecting for its axial length;



said curved portion terminating adjacent the side walls in a pair of lateral end portions each integrally joined to an associated side wall of the bore, with the convex surface of said cross wall compressively engaging the flat wall of one of said shaft stems to hold the outer periphery of said one stem next to the cylindrical bore surface and with the respective surfaces of said two lateral end portions disposed away from said convex surface being in resilient engagement with the flat wall of the other shaft stem to hold the outer periphery of said other stem next to the associated cylindrical bore surface, whereby said cross wall is sandwiched into compressive engagement between said shaft stems to bias said stems in opposed directions toward diametrically opposite cydrical surfaces of the bore and a firm driving connection is established between the knob and shaft.

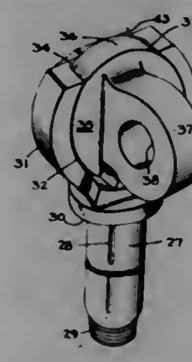
3,193,313

BOOM GOOSENECKS

Nicholas M. Stiglich, Cresskill, N.J., assignor to George G. Sharp, Inc., New York, N.Y., a corporation of Delaware

Filed Apr. 17, 1963, Ser. No. 273,625

2 Claims. (Cl. 287—93)



1. A gooseneck comprising a gooseneck body, a cylindrical spindle extending from said body, said body comprising a flat wall with an aperture therethrough, a semi-annular bearing forming flange extending from one side of said wall, a bearing pocket formed by said flange and said one side of said wall, said pocket opening away from said wall, a gudgeon member comprising a cylindrical portion mounted in said pocket and engaging said flange, a flat surface on the end of said cylindrical portion engaging said one side of said wall, a reduced cylindrical extension on said cylindrical portion extending through said aperture in said flat wall, means on said extension engaging the other side of said wall for holding said cylindrical portion in said pocket, an extension for said gudgeon member extending from said cylindrical portion and normally lying in line with the long axis of said spindle and transverse thereto and an eye in said extension, said semi-annular bearing flange having a cross-section that increases from each end thereof toward the bottom of said bearing pocket.

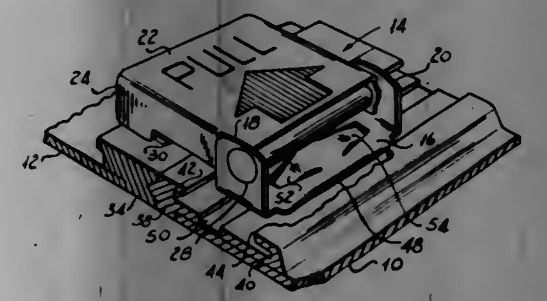
3,193,314

CONTAINER LATCH MOUNTING

Norman S. Johnson, New Milford, N.J., assignor to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York

Filed Aug. 1, 1962, Ser. No. 214,028

4 Claims. (Cl. 292—113)



1. In a latch assembly for securing two members, one of which is provided with a keeper, a container latch mounting comprising a support carried by the other member, said support formed with a channel having sides, lips running along said sides to form a mouth, one of said lips being closer to said keeper, and a latch supporting bracket having a base and having flanges running along said base, the distance from edge to edge of said flanges being less than the distance between said one closer lip and the opposite channel side and greater than the distance across said mouth to permit said bracket to be assembled on said support, said flanges being positioned respectively under said lips.

3,193,315

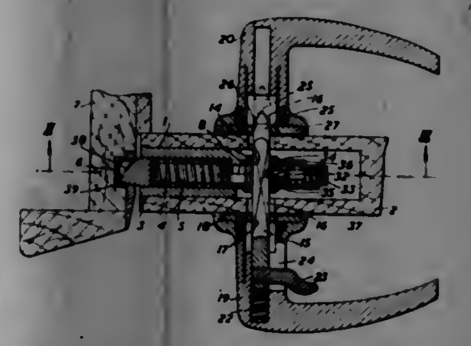
DOOR LATCHES

Michael Joseph James, Charlton Kings, Cheltenham, England, assignor to Micro and Precision Mouldings (Cheltenham) Limited, Cheltenham, England

Filed May 11, 1962, Ser. No. 194,112

Claims priority, application Great Britain, May 16, 1961, 17,713/61

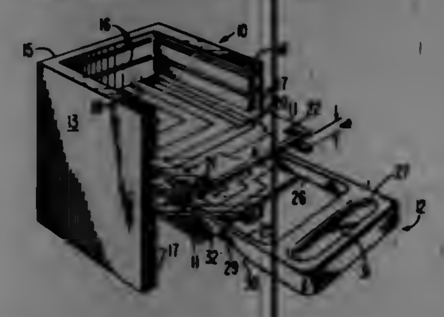
11 Claims. (Cl. 292—169)



1. A door latch comprising a housing, a latch bolt slidably mounted in said housing, a latch spring urging the bolt to the latching position in which it projects from the outer end of said housing, an operating shaft adapted to be rotationally coupled to door handles respectively mounted on opposite sides of the door, said bolt being apertured to allow passage of said shaft laterally therethrough and the shaft being axially displaceable from one side of the door from a position in which rotation of the handles withdraws the bolt from the latching position to release the latch to a locking position in which the shaft is inoperative on turning the handle on the other side of the door to release the latch, and detent means which are

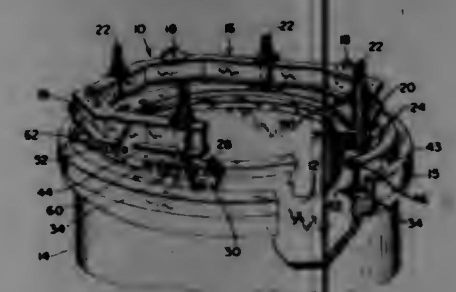
mounted in the bolt on the inner side of the shaft and automatically come into operation when the shaft is displaced to the locking position and act to retain the shaft in that position, the detent means being automatically disengaged from the shaft on inward movement with the latch bolt from the latching position.

3,193,316
INSERTION AND EXTRACTION TOOL
James Custer, Allen Park, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 26, 1963, Ser. No. 260,990
6 Claims. (Cl. 294—33)



1. A readily attachable and detachable tool for securely holding a printed circuit card having a laterally spaced pair of apertures adjacent opposite edges and near one end thereof during insertion and extraction of said card in a rack supporting a plurality of parallel, closely spaced printed circuit cards, said tool comprising a solid elongated palm-fitting handle portion having its length several times greater than its width and a pair of substantially parallel and resiliently deflectable fingers spaced longitudinally of and extending laterally from said handle portion, each of said fingers having a substantially flat surface near one end thereof bridging the gap formed by a corresponding one of said apertures and adapted to contact the flat surface on one side of said printed circuit card over an appreciable length of the fingers and a peg-like proturberance projecting normally from said flat surface of each of said fingers a distance at least equal to the thickness of the card and in a direction normal to the surface of the card, said protuberances being of lesser cross-sectional area than the apertures for reception in a respective one of the apertures in the card and being spaced apart a distance slightly greater than the corresponding distance between said apertures to provide a firm grip of the card by the protuberances against the walls of the apertures and said flat card contacting surfaces of said fingers upon inward deflection and subsequent release of the fingers for insertion of the protuberances in the apertures in the card.

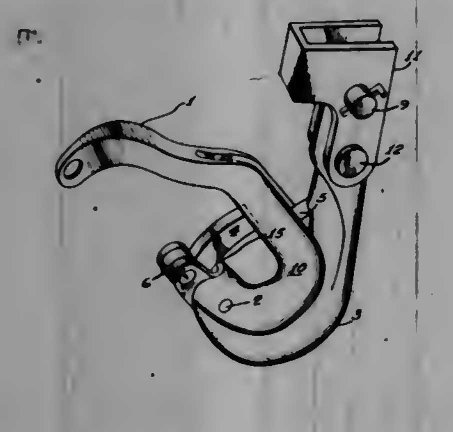
3,193,317
INSTALLATION ALIGNING BRIDGE
John L. Guyant, San Jose, Calif.
Filed Sept. 20, 1963, Ser. No. 319,084
5 Claims. (Cl. 294—67)
(Filed under Rule 47(b) and 35 U.S.C. 118)



1. A device for lifting and aligning a tubular object having a longitudinal axis in relation to a vertically positioned associated structure comprising:

(a) a frame having means for attachment to a lifting mechanism;
(b) a clamping ring adapted to engage one edge surface of the tubular object;
(c) a plurality of spaced lugs depending from said clamping ring and adapted to engage an oppositely facing clamping surface of the tubular object to secure said tubular object therebetween;
(d) a plurality of jack screws spaced around the longitudinal axis of the object and extending parallel thereto with respective ends secured to the frame and the clamping ring;
(e) said jack screws capable of permitting longitudinal and transverse movement of the clamping ring in relation to the frame;
(f) whereby the object may be lifted by the frame and aligned in position with respect to the associated structure.

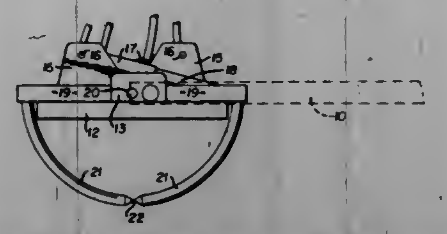
3,193,318
QUICK RELEASE LOCKING TYPE HOOK
William S. Guerrant, Jr., 1320 Wayne Drive, Annandale, Va.
Filed Mar. 12, 1963, Ser. No. 264,727
4 Claims. (Cl. 294—83)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A quick release locking sea vessel mooring hook for securing a mooring cable of a sea vessel to a mooring buoy comprising:

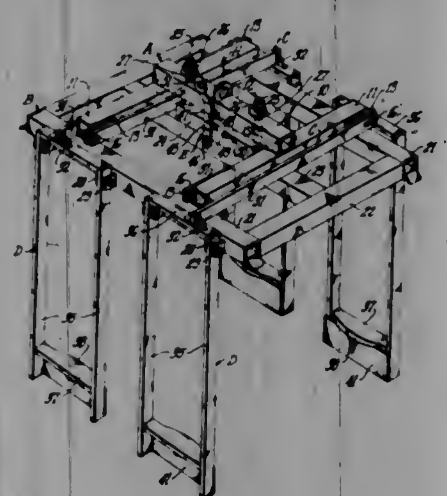
a substantially J-shaped base member having a substantially straight portion and a substantially curved portion,
connecting means at the distal end of the substantially straight portion of said base member,
said connecting means securing said distal end to the buoy and disposing said curved portion vertically with respect to said base member,
a substantially U-shaped release insert pivotally connected near one end to the distal end of the curved portion of said base member so as to turn in the same plane as the base member,
a lanyard release arm rigidly affixed to and extending inwardly of the hook from the other end of said insert,
a keeper pivotally mounted at the free end of said one end of said release insert distally of said pivotal connection between said release insert and said base member so as to turn in the same plane as said release insert,
said insert being held against said base member by force of gravity,
and a locking lug mounted on the inner side of the substantially straight portion of said base member and so positioned as to engage said keeper as the release insert approaches the substantially straight portion of said base member and to release said keeper as said insert is rotated away from the substantially straight portion of said base member.

3,193,319
MATERIAL HANDLING ATTACHMENT FOR FRONT END LOADERS ON TRACTORS
William F. Frock, R.D. 1, North Jackson, Ohio, and Paul E. Hauck, R.D. 1, Newton Falls, Ohio
Filed May 15, 1963, Ser. No. 280,626
3 Claims. (Cl. 294—88)



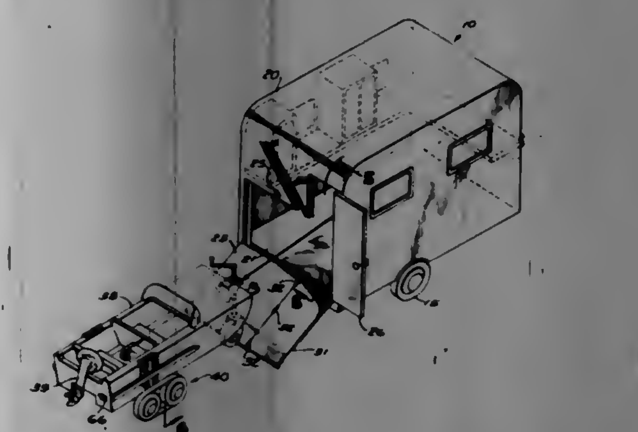
1. A material handling device for a front end loader attachment having horizontally spaced arms for raising and lowering such devices and comprising a horizontally disposed main frame having spaced end and side portions and a pair of oppositely disposed sub-frame members each of which is of U-shape and comprises an interconnecting member having perpendicular secondary arms at the ends thereof a plurality of spaced depending arcuate teeth on each of said interconnecting members, said arcuate teeth positioned on a common radius, said secondary arms of said sub-frame members being pivoted at their free ends to said main frame on the axis of said common radius and means on said main frame for imparting motion to said sub-frame members and secondary pivot means on said main frame for attaching the same to said arms of said loader attachment so as to be positioned therebetween.

3,193,320
METHOD AND APPARATUS FOR HANDLING BOXES OF FRUIT IN AN ORCHARD FOLLOWING PICKING
Edwin A. Gardner, Ventura, and Sabin P. Sturtevant, Van Nuys, Calif., assignors to Esengee Company, Santa Paula, Calif., a corporation of California
Filed Aug. 13, 1962, Ser. No. 216,679
6 Claims. (Cl. 294—110)



1. Apparatus for simultaneously handling a tier of boxes stacked one upon another, comprising: a suspension head having means for attachment thereof to a hoist; a fulcrum frame disposed beneath said suspension head; lazy-tong linkage between said fulcrum frame and said suspension head so as to be suspended therefrom; and a pair of grapple arms hinged at their upper ends to said fulcrum frame on parallel horizontal axes, extending downwardly therefrom, and having at their lower ends respective jaws for grappling engagement with respective ends of the lowermost box of said tier, unobstructed space being provided between said arms and beneath said fulcrum frame, to receive the remaining boxes of said tier, said arms being connected to said linkage at their upper ends so as to be swung toward one another by said linkage in response to vertical separation between said fulcrum frame and said suspension head resulting from application of hoisting movement to said suspension head, each of said jaws comprising a tooth of bar form secured to a respective grapple arm, extending transversely in a substantially horizontal plane and having an inwardly projecting portion receivable in a hand-hold recess in a respective end of a box, and an apron projecting downwardly from the respective tooth in a substantially vertical plane behind said inwardly projecting portion in a position for face-to-face engagement with a respective end of a box when said projecting portion is engaged in a respective hand-hold recess; and holding means for holding said jaws in spread positions without subjecting said linkage to a load while the fulcrum frame is suspended from said suspension head, whereby said apparatus may be maneuvered toward and away from position for engagement of said lowermost box without interference between said jaws and said tier, said holding means being releasable so as to permit said jaws to swing into box-engaging position.

3,193,321
MOBILE HOME AND BOAT COMBINATION
Floyd R. Rose, 220 Virginia (Oak Park), Battle Creek, Mich.
Filed Oct. 2, 1961, Ser. No. 142,382
3 Claims. (Cl. 296—23)



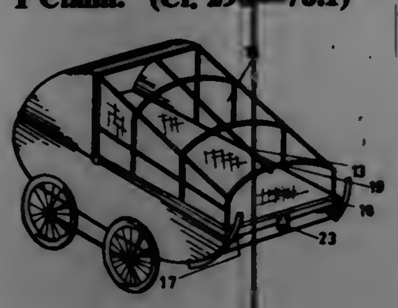
1. An outdoor sporting equipment assembly which includes a totally enclosed house trailer comprising an interconnected floor, spaced sides and end panels, and a roof, and elevated built-in furnishings disposed within the trailer and arranged to clear a wheeled boat adapted to be carried within said trailer, a rear boat exit door forming a substantial portion of one of said end panels, said exit door having at least one horizontally disposed hinge located adjacent the said floor for moving the door through a vertical plane and providing a ramp leading into the trailer in its open position, a personnel door located adjacent said boat exit door, said personnel door being substantially taller than said boat exit door and forming a portion of said last mentioned end panel, at least one vertically disposed hinge supporting said door for movement through a horizontal plane, a door frame jamb member of the same height as said boat exit door positioned intermediate to said boat exit door and said personnel door and forming a portion of said last mentioned end panel, a horizontally disposed hinge supporting said jamb member for movement through a vertical plane, a ramp extension, hinge means connecting said extension to a portion of said rear boat exit door adjacent said door jamb member and said personnel door, said extension being of a width generally that of said door jamb member and said personnel door to extend said rear boat exit door in front of said door in its ramp position, said rear boat door, said jamb member and said personnel door when in open position providing an unobstructed access opening into the interior of said trailer to permit a wheeled

boat to be freely moved up the ramp into and out of said trailer.

3,193,322

BABY CARRIAGE COVER

Ruth C. Hines, 20 Fenside Drive, Don Mills,
Ontario, Canada
Filed July 3, 1961, Ser. No. 121,694
1 Claim. (Cl. 296—78.1)

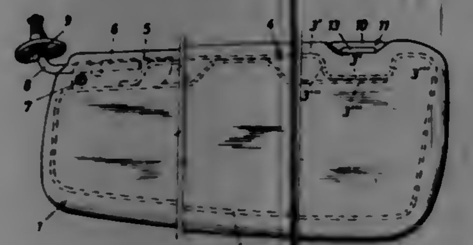


A cover for baby carriages having an upper open perimeter; and a hood covering part of said perimeter of said baby carriage, said cover extending over the full upper perimeter of said baby carriage; said cover being large enough to clear said hood, said cover comprising a frame of longitudinal members spaced apart by transverse members, said frame fastened pivotally to said baby carriage, at a point whereby said cover can be swung back and forth over said baby carriage, said cover to consist of a covering of translucent matter permanently fastened to said frame.

3,193,323

SUN VISOR FOR MOTOR VEHICLES

Gerhard Herr, Wuppertal-Vohwinkel, and Kurt Cziptschirsch, Wuppertal-Elberfeld, Germany, assignors to Gebr. Happich G.m.b.H., Wuppertal-Elberfeld, Germany, a company of Germany
Filed Feb. 5, 1963, Ser. No. 257,055
5 Claims. (Cl. 296—97)



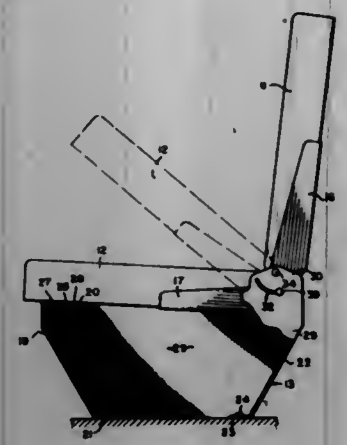
1. A sun visor for motor vehicles comprising an elongate generally flat padded body, a pivotal mounting at one end of said body for connection to a vehicle and mounting the body for swinging movement about a generally vertical axis between front and side vehicle windows and swinging movement about a generally horizontal axis along one body side, a wire frame within and extending internally about said body, said body being formed with an edge recess along said one body side remote from said pivotal mounting, a generally U-shaped pivot bearing having its bight region in said recess extending longitudinally of said horizontal axis and its legs extending into said body, holder means in said body fixed to said frame and in firm holding relation with said pivot-bearing legs, and a bearing bracket for mounting on the vehicle and having an insertion slot for snap reception of the bight region of said pivot bearing.

3,193,324

ADJUSTABLE SEAT

Marvin G. Stock, 1783 Churchwood Drive,
Cincinnati, Ohio
Filed Nov. 14, 1963, Ser. No. 323,748
6 Claims. (Cl. 297—64)

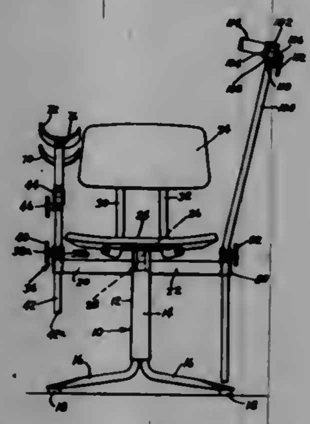
1. An adjustable seat comprising,
two side walls having arcuate slots extending upwardly and forwardly from the rear of said side walls,
a back panel pivoted to said side walls above said arcuate slots,
a seat panel, and
means pivoting said seat panel to said back panel with said pivoting means extending through the arcuate slots.



3,193,325

COMBINATION CHAIR AND SUPPORT FOR MUSICAL INSTRUMENTS

Harry J. Wenger, Owatonna, Minn.
Filed July 5, 1963, Ser. No. 293,053
2 Claims. (Cl. 297—186)

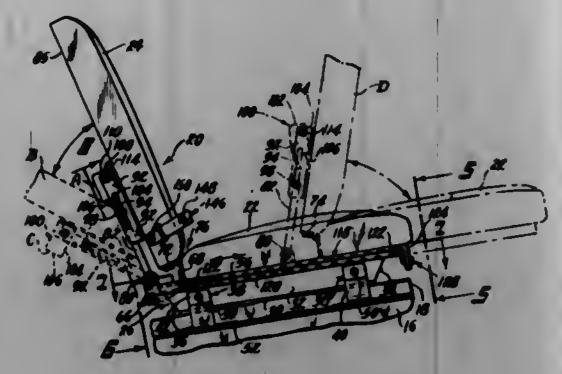


1. The combination of a chair and a support for a musical instrument such as a sousaphone comprising in combination, a supporting base, a seat portion mounted upon said base, a chair back rest supported upon said chair seat, first and second support members mounted upon said base, a first and second clamp member mounted at the rearward end of said first and second support members respectively, first and second upwardly and then forwardly extending elongated support elements releasably mounted within said first and second clamp members respectively for sliding movement upon a vertical axis, a yoke support bracket mounted upon the forwardly extending portion of each of said elements for sliding movement thereon upon an axis extending from the front to the rear of said chair, selectively operable fastener means for releasably securing said yoke support brackets to said support elements, one of said brackets being mounted relatively close to said chair seat and the other said bracket being mounted at a substantial distance above said chair seat; an arm pivotally secured intermediate its ends to said bracket mounted relatively close to said chair to pivot about a vertical axis, a yoke secured to each end of said arm, said yokes being aligned longitudinally of said arm and disposed at unlike angles relative to the horizontal, and a single yoke secured to said bracket mounted a substantial distance above said chair seat; said single yoke disposed generally at right angles to the yokes on said arm; said single yoke being pivotable about a vertical axis relative to its bracket.

3,193,326

AUTOMOBILE BABY SEAT

Richard Donald Smith, 3¼ Miles N. Bentsen Road,
McAllen, Tex.
Filed Sept. 11, 1963, Ser. No. 308,130
17 Claims. (Cl. 297—257)

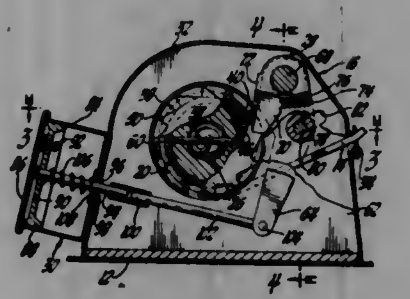


1. A baby seat structure, comprising: a seat; a back rest; means hingedly securing the lower end of said back rest directly to the rear end of said seat; a slide member fixed upon the lower side of said seat, said fixed slide member including a channel extending in a direction from the rear end toward the front end of said seat, and further including a portion projecting rearwardly beyond said seat; a rail including a portion received within said channel and supporting said slide member for movement along said rail lengthwise thereof; releasable locking means carried by said seat and engageable with said rail for positvely locking said seat in different predetermined, fixed positions along said rail, said seat being removable by sliding it off one end of said rail when said locking means is released; and means connected between said rearwardly projecting portion of said slide member and said back rest arranged to provide for free tilting movement of said back rest forwardly over said seat from any rearward position thereof, and for limited movement of said back rest in the opposite direction to a stationary reclining position.

3,193,327

RETRACTING DEVICE

Ronald W. Roe, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 5, 1963, Ser. No. 321,535
9 Claims. (Cl. 297—388)

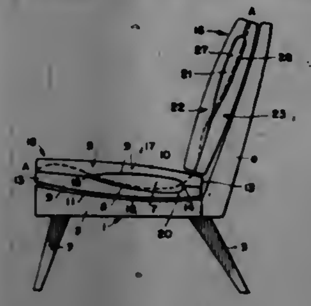


1. A retracting device comprising support means, reel means rotatably mounted in said support means, an elongated flexible element coupled at one end thereof to said reel means and adapted to be wound thereon and unwound therefrom, power means normally, yieldingly, urging said reel in a winding direction, locking means mounted in said support means and adapted to lockingly engage said reel means when said element is unwound from said reel means, time delay means operatively connected with said locking means for delaying engagement thereof with said reel means for a predetermined time.

3,193,328

FOAM CUSHIONS AND SEATING STRUCTURES

Walter P. Baermann, Waynesville, N.C., assignor to Prestige Furniture Corporation, Newton, N.C., a corporation of North Carolina
Filed June 10, 1963, Ser. No. 286,549
10 Claims. (Cl. 297—456)

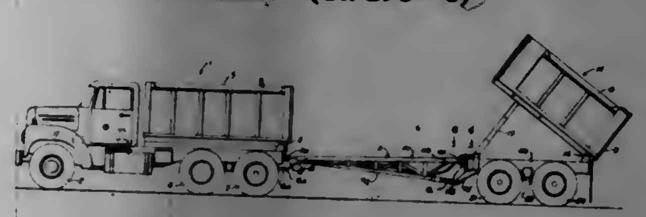


1. A seat comprising a seat supporting member with a foam elastomer cushion supported thereon, said cushion's upper, weight supporting surface being of a shape other than an anthropologically curved shape when the cushion is in the relaxed state, said cushion further having embodied in the foam elastomer body thereof a transversely extending cavity defined by at least one arched wall having its highest point of arch substantially opposite the lowest dip of the corresponding portion of the anthropological curve of a person seated in the normal seating position on said seat, said arched wall collapsing when said person is seated in said normal seating position.

3,193,329

TILTING DUMP TRUCK WITH TILTING DUMP TRAILER

Leo A. Hribar, Jr., Rte. 1, Box 70, Caledonia, Wis.
Filed Apr. 23, 1962, Ser. No. 189,542
4 Claims. (Cl. 298—8)



1. On-the-road hauling and dumping apparatus comprising in combination, a tractive truck having a dump body pivoted at its rear end to said truck for dumping rearwardly of said truck, a dump trailer including an elongated and laterally rigid main frame having a front end and a rear end, said main frame including a tongue frame which converges in both height and width toward said front end to terminate in a narrow front end, means forming a detachable and pivoted connection between the rear end of said truck and said front end of said frame, a dump body pivotally connected to said main frame adjacent the rear end thereof for dumping rearwardly of said trailer, the distance between said dump bodies being greater than the length of said trailer dump body, and non-steerable and resiliently mounted wheels centered in a front and rear direction under said trailer dump body and supporting said main frame.

3,193,330

DUMP TRAILER

Leo A. Hribar, Jr., Rte. 1, P.O. Box 70, Caledonia, Wis.
Original application Apr. 23, 1962, Ser. No. 189,542. Divided and this application Apr. 29, 1963, Ser. No. 276,294
15 Claims. (Cl. 298—8)

1. An on-the-road dump trailer comprising, an elongated and laterally rigid main frame having a front end and a rear end, said main frame including a tongue frame having laterally spaced apart struts, said tongue frame converging in both height and width towards said front end and terminating in a narrow front end, means on

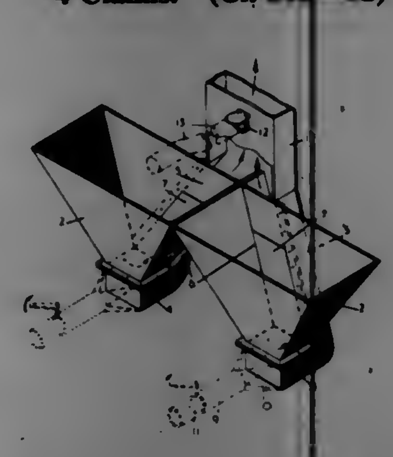
said front end for quick attachment to the rear end of a dump truck, a dump-body attached to said main frame, the length of said tongue frame being greater than one-

half the length of said main frame, and a pair of wheels located on each side of and directly supporting said main frame, said pair of wheels being positioned in tandem and adjacent one another.

3,193,331
PNEUMATIC ELEVATORS

Brian W. Craig, Withington, Manchester, England, assignor to Henry Simon Limited, Stockport, England, a British company

Filed Aug. 16, 1963, Ser. No. 302,563
Claims priority, application Great Britain, Aug. 20, 1962, 31,833/62
4 Claims. (Cl. 302—32)



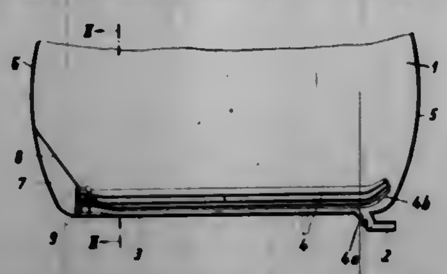
1. A suction-operated pneumatic elevator for transporting material from a collecting hopper comprising a substantially vertical elevating duct in communication at its lower end with the interior of the collecting hopper, means for applying suction to the outlet end of the elevating duct, a trough-like elevator boot member, whereof the interior communicates with the base of the hopper, and which is in sealing engagement with the lower extremities of the hopper walls, and a connecting duct leading to the elevating duct and in sealing engagement at its lower extremities with the boot member and into which boot member material is drawn downwardly from the hopper by a flow of air into the connecting duct, the connecting duct being formed on the outside of one wall of the hopper so that a part of the wall of the hopper forms a common party wall element between the hopper and the connecting duct, the common party wall element or part thereof being held in position by suction in the elevating duct so that it is automatically removed to release precipitated trapped material into the hopper on failure of suction.

3,193,332
DISCHARGING DEVICE FOR CONTAINERS FOR PULVERISED MATERIAL

Wilhelm Hermanns, 6–14 Frankfurter Strasse, Porz-Urbach, Germany

Filed June 3, 1963, Ser. No. 284,918
Claims priority, application Germany, June 8, 1962, H 46,009
5 Claims. (Cl. 302—52)

1. In combination a vessel having a discharge at one end of the vessel bottom, a partition at the other end of the bottom, a series of parallel flexible air-permeable tubes extending from said partition longitudinally over the bottom, and means located at the discharge end of said

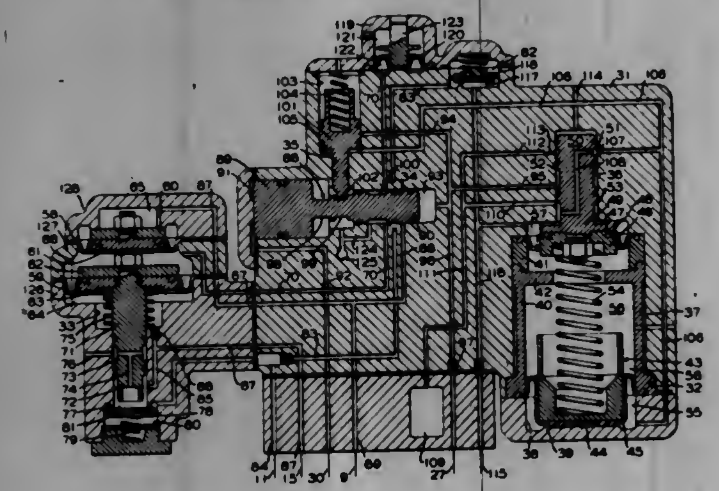


vessel for securing said tubes to the vessel, said tubes being oval in cross-section with their vertices in contact.

3,193,333
FLUID PRESSURE BRAKE CONTROL APPARATUS WITH EMPTY AND LOAD CHANGEOVER

Charles L. Weber, Jr., Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed Feb. 26, 1963, Ser. No. 261,025
12 Claims. (Cl. 303—23)



1. A load compensating brake system comprising:
(a) a brake pipe,
(b) a compensating type brake cylinder having a main chamber and a compensating chamber for effecting a braking application wherein pressurization of said main chamber provides one braking force and pressurization of both of said chambers provides a lesser braking force,
(c) brake controlling means responsive to a reduction in pressure in said brake pipe to supply fluid under pressure to a first conduit, and responsive to a subsequent increase in brake pipe pressure to release fluid under pressure from said first conduit,
(d) said main chamber connected to said first conduit,
(e) a change-over valve device having selector valve means operable between a first and second position,
(f) means for selectively positioning said selector valve means including a load measuring device,
(g) relay valve means cooperative with said selector valve in one of said positions only for connecting said compensating chamber of said brake cylinder to said first conduit upon actuation thereof, and
(h) said relay valve cooperative with said selector valve means in said one position for actuation subject to pressurization of said first conduit:

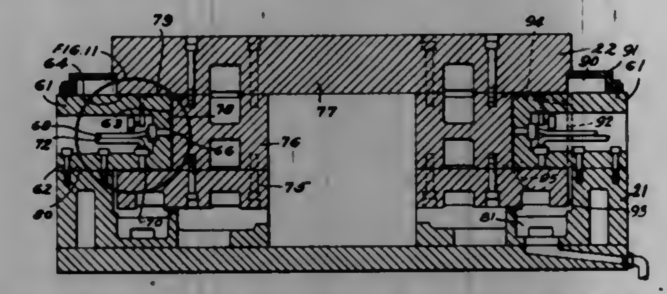
3,193,334
GIMBALING SYSTEM

Gordon H. Porath, 6101 Concord, Detroit, Mich.

Filed Dec. 10, 1962, Ser. No. 243,346
19 Claims. (Cl. 308—9)

7. In a gimbal table and the like for mounting an instrument or the like for movement about accurately determined horizontal and vertical axes, the combinatio prising

a base,
a table mounted on said base for rotation about a vertical axis,
said base having a vertical opening therein defining a cylindrical surface,
and axially spaced, oppositely facing radial surfaces projecting horizontally from said cylindrical surface,
each of said surfaces having a plurality of circumferentially spaced pressure pads therein,
an orifice associated with each pressure pad,

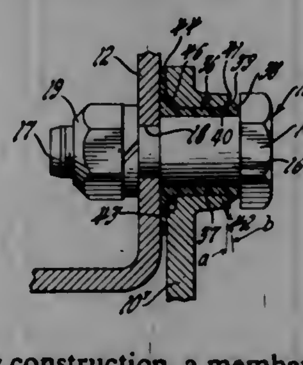


means for supplying liquid under pressure to each said orifice,
said table including complementary vertical and radial surfaces juxtapositioned relative to the surfaces of said base,
the relative dimensions of said surfaces of said base and said table being such that a pressurized film of liquid flows continuously between the surfaces through the pressure pads so that forces on the table are balanced by pressure in the pads providing a permanent separation of the surfaces and retaining the table in stable, accurate, frictionless relation to the base.

3,193,335
BEARING

Douglas J. Wing, St. Clair Shores, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 30, 1960, Ser. No. 59,639
2 Claims. (Cl. 308—22)

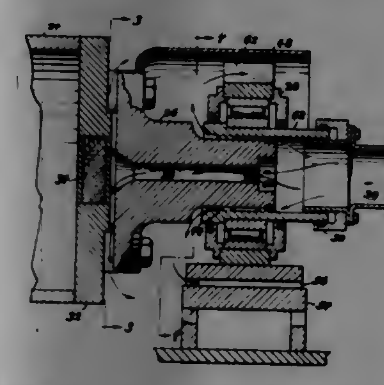


1. In a bearing construction, a member having a bearing bore therethrough from side to side for pivotally mounting said member on a shaft, said bearing bore having a cylindrical surface portion and at one end thereof a side of said member defining a sharply defined annular locking edge making an acute angle of slightly less than 90° with the cylindrical surface of the cylindrical surface portion of the bore and at the other end of the bore an extended pilot taper portion having a large diameter at the other end of the bore at the other side of the member and tapering inwardly to the diameter of the bore, a synthetic resin bushing located in said bore having a cylindrical portion fitting the cylindrical surface of said bore and at one end a pilot flange having a tapered portion with an initial diameter less than the large diameter of said bore, said pilot flange having an annular internal edge making a sharp corner with said cylindrical portion, said pilot flange having a maximum diameter sufficiently small so that compression of said bushing to a diameter equal to the diameter of said cylindrical surface portion of the bore does not stress said bushing beyond the yield point, and said bushing having at the other end a resilient head flange having a fillet between the head flange and said cylindrical portion fitting said pilot taper with sufficient clearance for deflection of said head flange to move said pilot flange beyond said locking edge so on return movement said pilot flange engages said locking edge.

3,193,336
COOLING ARRANGEMENT FOR ROTOR BEARING

Arthur Moscardini, Wellsville, N.Y., assignor, by mesne assignments, to The Air Preheater Company, Inc., a corporation of Delaware

Filed June 19, 1962, Ser. No. 203,561
2 Claims. (Cl. 308—77)

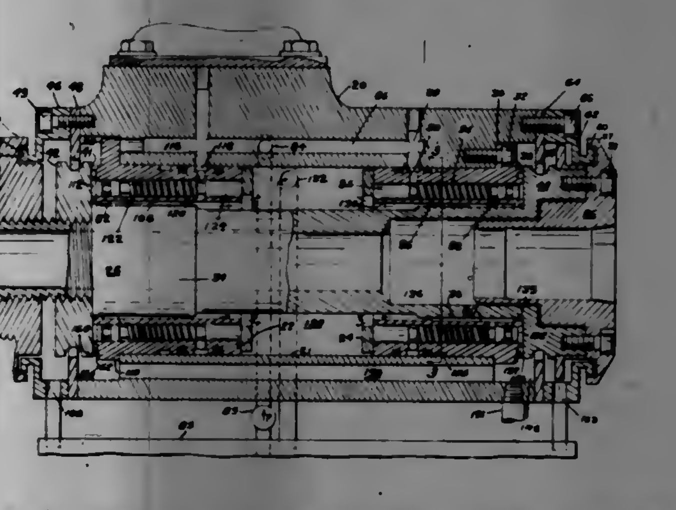


1. Support means for rotary apparatus having a cylindrical rotor carrier by a central rotor post, said support means including a support trunnion having an axially disposed supply duct extending therethrough, and a series of dependent radial cooling passageways in an end face thereof, means connecting the trunnion to an end of said rotor post to position the radial cooling passageways intermediate the rotor post and the rotor trunnion, a bearing supporting said trunnion for rotation about its axis, a grooved collar intermediate the trunnion and the bearing, and a source of cooling fluid connected in parallel to the supply duct and to the grooves of said collar whereby heat is simultaneously removed from the bearing and the trunnion by an independent cooling fluid.

3,193,337
HYDROSTATIC BEARING

George N. Levesque, Warwick, and Kenneth E. Ashworth, Woonsocket, R.I., assignors to Brown & Sharpe Manufacturing Company, Providence, R.I., a corporation of Rhode Island

Filed Jan. 31, 1963, Ser. No. 255,289
4 Claims. (Cl. 308—122)



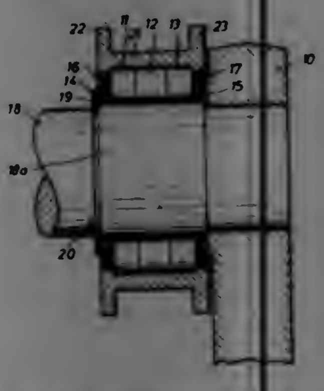
1. A hydrostatic bearing assembly which comprises with a rotating member having a smooth bearing surface, a housing, a bearing member mounted within the housing having an open ended cooperating bearing support surface spaced from said bearing surface to permit a restricted flow of a pressurized load bearing fluid therebetween, said bearing support surface having formed therein hydrostatic pressure pocket forming recesses, a

closed low pressure drainage system comprising drainage recesses surrounding said pocket forming recesses, non-recessed strip areas of said bearing support surface providing separating ridges between each said pocket forming recess and said surrounding low pressure drainage recesses, and a drainage outlet for said system sufficiently open to effect discharge of said fluid from said system at a low pressure in the order of less than ½ p.s.i., a second drainage system discharging at atmospheric pressure to the open end of said bearing member comprising a labyrinth-type baffle formed of direction-changing opposed annular baffle surfaces fixed with relation to said rotating member and housing respectively and opening to atmosphere, an annular drainage area interposed between said internal bearing support surfaces and said baffle, and a non-recessed strip area of said bearing support surface disposed between said low pressure drainage recesses of said low pressure drainage system and said annular drainage area, and means for supplying fluid under pressure to said pockets, causing said fluid under pressure to flow over said first mentioned ridge forming separating ridges into said first drainage system, whereby the bulk of said fluid drains at low pressure through said drainage outlet, causing a small seepage only of said low pressure drainage fluid over said latter mentioned separating ridges into said atmospheric pressure drainage system.

3,193,338

BEARING

Ernst Weidmann, Weinheim, Germany, assignor to Farymann Diesel Farny & Weidmann, Lampertheim, near Mannheim, Germany
Filed July 9, 1962, Ser. No. 208,643
Claims priority, application Germany, July 7, 1961, F 34,370
1 Claim. (Cl. 308—212)

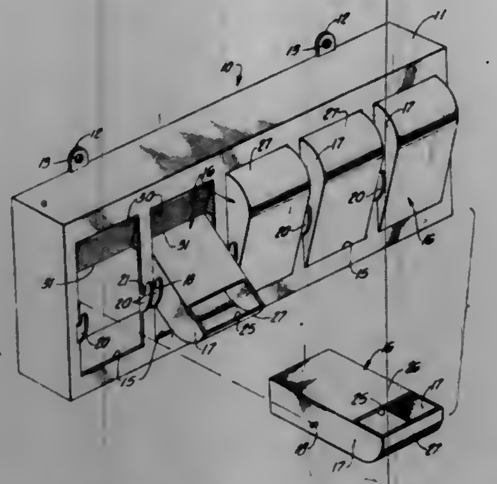


In a bearing, in combination, an elongated inner member having an exterior cylindrical surface forming an inner race surface; a pair of spacer rings surrounding said exterior surface and being longitudinally spaced from one another, each of said spacer rings having a given width; a plurality of circular rows of rolling bodies axially arranged one next to the other and all surrounding said exterior surface in rolling contact therewith intermediate said pair of spacer rings; means laterally adjacent respective outer surfaces of said spacer rings for preventing axial movement thereof and of said rows of rolling bodies disposed between said spacer rings; and an outer race having an inner cylindrical surface in rolling contact with said bodies, said outer race having at its ends, respectively, a pair of radial flanges of rectangular cross section integral with the remainder of said outer race and each extending inwardly beyond and outwardly beyond said outer race for reinforcing the latter to maintain the precise circular configuration of its inner surface, the inwardly extending portions of said flanges having a width substantially equal to said given width of said spacer rings and circumferentially surrounding the latter while laterally engaging the end circular rows of rolling bodies to maintain the axial position of said outer race with respect to said rolling bodies.

3,193,339

STORAGE FACILITY FOR SMALL ARTICLES

William A. Cooper, 15 E. Newman Ave., Arcadia, Calif.
Filed Oct. 28, 1963, Ser. No. 319,356
3 Claims. (Cl. 312—42)



1. A storage facility for storing and dispensing small articles comprising a one-piece housing open throughout the rear side thereof and adapted to be supported with said open side against a building wall, said housing having a forward face provided with a horizontal row of rectangular openings each having aligned seat means along their opposite vertical edges shaped to provide a seat for trunnion means, a separate elongated generally rectangular article receptacle mounted in said rectangular openings and each having trunnion means centrally of their opposite vertical sides seated in said aligned seat means along the vertical edges of said rectangular openings and cooperating therewith in pivotally supporting said article receptacles, said receptacles and the contents thereof being readily removable from said housing and each having a single access opening in its rear wall adjacent the upper end thereof which access opening overlaps and is normally seated against and closed by that portion of the front face of said housing adjacent the upper transverse edge of said openings in said housing, the upper outer forward end corners of said receptacles being rounded and effective to channel the contents of the receptacle toward the plane of said access opening when said receptacles are pivoted forwardly away from said housing face, and said trunnion means being so disposed relative to the upper edge of said rectangular openings in said housing that said upper edge engages the back sides of said receptacles and acts as a stop limiting opening movement thereof with the normally upper ends of the receptacles tilted downwardly and forwardly below a horizontal plane through said trunnion means and with their contents shifted to their downwardly tilted ends conveniently accessible for removable through said access openings.

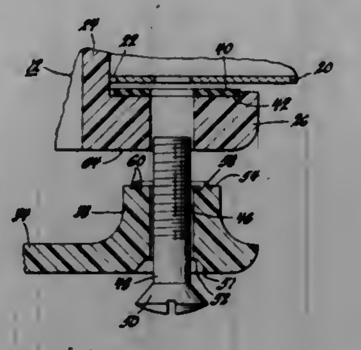
3,193,340

VENTING ARRANGEMENT FOR A DOMESTIC APPLIANCE

Ralph S. Braden, Bellbrook, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 18, 1964, Ser. No. 368,247
4 Claims. (Cl. 312—213)

3. In combination with a dishwasher door having inner and outer panels, a door vent comprising, duct means extending through the door between said panels for venting the dishwasher, said uct means having a ported deformable flange portion in juxtaposition to said inner panel for attachment thereto and defining an opening, deflector means at least partially coextensive with said opening for shielding said opening at said inner panel, and leg means between said deflector means and said flange portion for spacing said deflector means from said flange portion to form a passageway communicating with

said opening, and means for attaching said deflector means, said leg means and said duct means to said inner panel, said leg means having a port coaxial with the port in said flange portion, one of said flange portions or said leg means having integral and deformable rib means circumscribing said port along the plane of jointure of said leg means with said flange portion, said attachment

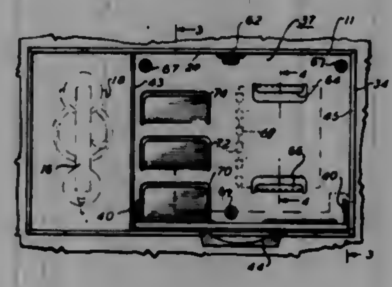


means extending through the port in said leg means and said flange portion for attaching said deflector means and said flange portion in assembled relationship to said inner panel and for deforming said rib means and the other one of said flange portion or said leg means during said attachment, whereby to seal around said fastening means to prevent moisture from gaining access to said door along said plane of jointure.

3,193,341

COMBINED PHONE CABINET AND WRITING DESK

Merrill W. Preston, Emmaus, Pa., assignor to Caloric Corporation
Filed May 21, 1964, Ser. No. 369,182
4 Claims. (Cl. 312—245)



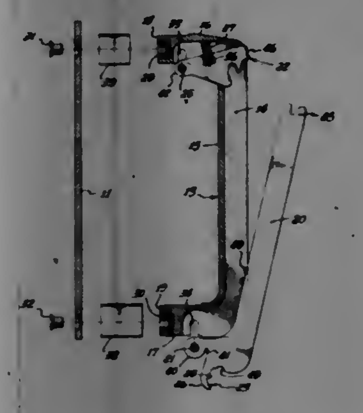
1. A combined storage cabinet and writing desk comprising:

a back attachable to a vertical support, a horizontal top, a horizontal bottom and spaced vertical sides,
said top, bottom and said sides coacting with said back to provide an enclosure having a front opening,
a door for closing said opening,
means hinging the door along its lower edge to said bottom whereby said door is movable to a vertical position to close said opening and to substantially horizontal position to provide a writing surface, and
means carried by said back for receiving and storing writing materials,
the lower, inner edge of said door being bent to provide a trough which faces upwardly when the door is closed.

3,193,342

LATCH HANDLE

Bobbie S. Sauter, Van Nuys, Calif., assignor to Deutsch Fastener Corp., Los Angeles, Calif., a corporation of California
Filed May 27, 1963, Ser. No. 283,329
7 Claims. (Cl. 312—320)



1. A latching handle comprising
a substantially U-shaped member adapted for attachment at its outer ends to an object,
  said member having a duality of notches therein,
a pin in each of said notches,
a lever pivotal about the axis of one of said pins, said lever having a portion projecting beyond said U-shaped member for engagement with an adjacent object
  for securing an object associated with said U-shaped member to said adjacent object,
detent means pivotal about the axis of the other of said pins
  for releasably holding said lever adjacent said U-shaped member,
and a sleeve extending over each of said notches for retaining the pin therein.

CHEMICAL

3,193,343

COMPOSITION HAVING THE FORMULA P_2NSCl_5 AND PROCESS FOR PREPARING SAME

Margot Becke, Heidelberg, Germany, assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
No Drawing. Filed July 11, 1962, Ser. No. 209,247
4 Claims. (Cl. 23—14)

1. A composition of matter having the formula P_2NSCl_5.

2. Method of preparing the compound of claim 1 which comprises reacting P_3NCl_{12} with a sulfurous material selected from the group consisting of hydrogen sulfide and a mixture of sulfur with sulfur monochloride and recovering the product from the reaction mixture.

3,193,344

PROCESS FOR BLEACHING CLAY

Joseph Iannicelli and Peter Aboytes, Borger, Tex., assignors to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey
Filed Mar. 26, 1962, Ser. No. 182,519
7 Claims. (Cl. 23—110)

1. Process for the treatment of clay to improve the color thereof which comprises contacting an aqueous suspension of the clay with a reducing compound capable of reducing the ferric iron impurities of the clay to ferrous iron and then adding a water soluble polyfunctional organic chelating agent capable of forming a complex with the ferrous iron, said complex being separable from the clay and said chelating agent containing as one ac-

tive radical, a mercapto group, and a second active radical selected from the group consisting of carboxy and hydroxy radicals, and finally separating the iron complex from the clay.

3,193,345

METHOD OF RECOVERING MONO-ACIDIC ALUMINUM SULFATE HYDRATE

Adam J. Marsh, Niagara Falls, N.Y., assignor, by mesne assignments, to The North American Coal Corporation, a corporation of Ohio
No Drawing. Filed Oct. 9, 196[illegible], Ser. No. 143,598
6 Claims. (Cl. 23—123)

2. Process for the sulfuric acid extraction of alumina-bearing materials containing iron, other sulfate-forming impurities, and silica for the production and recovery of mono-asidic aluminum sulfate, that comprises avoiding any appreciable solubilization of said iron and other sulfate-forming impurities by effecting said sulfuric acid extraction under conditions controlled to provide for the production of a leach liquor concentrated with respect to salts of aluminum sulfate and essentially free of said iron and other sulfate-forming impurities, separating said liquor from said iron and other impurities and said silica by direct filtration, adjusting the concentration of said liquor such that for a given concentration of aluminum sulfate contained therein, expressed as percent by weight at twenty-five degrees centigrade (25° C.), the concentration of sulfuric acid similarly expressed falls within the limits defined by the equations:

$$[H_2SO_4]_{\text{max.}}=58.85-0.844[Al_2(SO_4)_3]$$

and

$$[H_2SO_4]_{\text{min.}}=50-0.673[Al_2(SO_4)_3]$$

and crystallizing from the resulting solution a mono-acidic aluminum sulfate of the approximate composition: $Al_2(SO_4)_3 \cdot H_2SO_4 \cdot 12H_2O$.

3,193,346

PROCESS FOR PREPARING ZIRCONIUM OXIDES

Irvin C. Klimaszewski, Pensacola, Fla., assignor, by mesne assignments, to Pittsburgh Plate Glass Company
Filed Mar. 6, 1962, Ser. No. 177,890
3 Claims. (Cl. 23—140)

1. In the process of preparing zirconium oxide from a solution of zirconyl nitrate and nitric acid wherein the solution is concentrated in an evaporator to precipitate some solid zirconyl nitrate with subsequent filtration of the solid zirconyl nitrate and calcination of the solid zirconyl nitrate to zirconium oxide the improvement which comprises recovery finely-powdered zirconium oxide resulting from the calcining step and recycling said finely-powdered zirconium oxide so recovered to the filtration step.

3,193,347

PROCESS FOR THE PRODUCTION OF TUNGSTIC ACID

Frank A. Forward and Andrew I. Vizsolyi, Vancouver, British Columbia, Canada, assignors to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a company of Canada
Filed June 13, 1962, Ser. No. 202,296
10 Claims. (Cl. 23—140)

1. The process for the production of tungsten acid substantially free from impurities which comprises the steps of:

(a) leaching a tungstic acid containing material with a leach solution comprised of an alcohol selected from the group consisting of dihydric and polyhydric aliphatic alcohols which are completely miscible in water at atmospheric temperature and which have boiling points above 100° C. to extract and dissolve tungsten values in the leach solution;

(b) separating undissolved residue from the leach solution;

(c) hydrolyzing tungsten dissolved in the leach solution in a hydrolysis step in the presence of water provided in amount at least sufficient to combine with dissolved tungsten to form tungstic acid whereby tungstic acid substantially free from impurities is precipitated from the leach solution; and

(d) separating precipitated tungstic acid from the leach solution.

3,193,348

METHOD OF PRODUCING BOEHMITE HAVING CRYSTAL SIZE IN EXCESS OF 100 A.

John Mooi, Homewood, Ill., assignor to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 19, 1962, Ser. No. 174,304
5 Claims. (Cl. 23—143)

1. A method of producing crystalline boehmite having a crystal size in excess of about 100 A. which comprises adding to an aqueous aluminum chloride solution maintained at a temperature of about 150 to 215° F., an aqueous solution of ammonium carbonate until an excess of said ammonium carbonate solution over that required to precipitate all of the aluminum as $Al(OH)_3$ has been added and refluxing the resultant mixture to obtain crystalline boehmite having a crystal size in excess of about 100 A.

3,193,349

METHOD OF PRODUCING BOEHMITE OF 50 TO 80 A. CRYSTAL SIZE

John Mooi, Homewood, Ill., assignor to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 13, 1962, Ser. No. 187,189
6 Claims. (Cl. 23—143)

1. A method of producing crystalline boehmite having a crystal size of 50 to 85 A. which comprises simultaneously adding to water maintained at a temperature of about 150 to 215° F. aqueous aluminum chloride solution having a molar concentration of about 0.2 to 6 and an aqueous basic solution selected from the group consisting of ammonia, ammonium carbonate and mixtures thereof, said basic solution having a concentration of about 0.2 to 15 normal, maintaining said temperature during the addition and refluxing the resultant mixture to obtain crystalline boehmite having an average crystal size of 50 to 85 A.

5. A method of producing crystalline boehmite having a crystal size of 50 to 85 A. which comprises simultaneously adding to water maintained at a temperature of about 150 to 215° F., an aqueous aluminum chloride solution having a molar concentration of about 0.2 to 6 and an aqueous basic solution selected from the group consisting of ammonia, ammonium carbonate and mixtures thereof, said basic solution having a concentration of about 0.2 to 15 normal, maintaining said temperature during said addition and maintaining the pH of the resulting slurry during addition at above 7.5 to 9 to obtain boehmite crystals having an average crystal size of 50 to 85 A.

3,193,350

METHOD OF PRODUCING HIGHER POLYPHOSPHORIC ACIDS

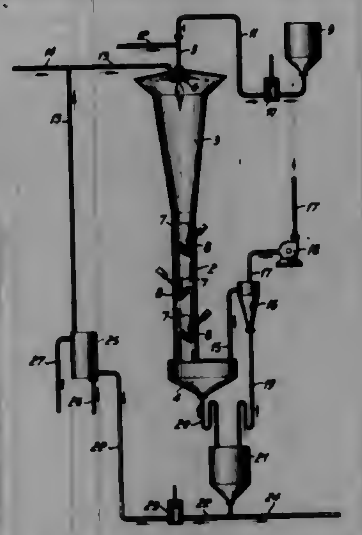
Klaus Beltz and Franz Rodis, Knapsack, near Cologne, and Herbert Panter, Bruhl, near Cologne, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany
Filed Mar. 3, 1961, Ser. No. 93,135
Claims priority, application Germany, Mar. 5, 1960, K 40,089
4 Claims. (Cl. 23—165)

1. A process for the preparation of polyphosphoric

acids containing from above 72.4 percent by weight to 87 percent by weight P_2O_5 which comprises:

(A) burning in a stationary reaction chamber elementary phosphorus with gases containing oxygen to form a hot gas stream containing P_2O_5,

(B) passing the resulting hot gas stream which accumulates in a burning zone within the stationary reaction chamber downwardly at a temperature between 200 and 2,500° C. to an absorption zone within the same stationary reaction chamber,



(C) flowing a lower polyphosphoric acid whose P_2O_5 content is below the P_2O_5 content of the acid to be produced down along the inner walls of the stationary reaction chamber into said absorption zone, said lower polyphosphoric acid initially having a temperature between 70 and 130° C.,

(D) collecting a portion of said lower polyphosphoric acid flowing down the walls and atomizing and discharging it in a direction countercurrent to the direction of the hot gas stream containing P_2O_5, the ratio of the velocity of the particles of atomized lower polyphosphoric acid to the velocity of the gas stream containing P_2O_5 being greater than 2:1.

3,193,351

REMOVAL OF FLUORINE FROM WET PROCESS PROSPHORIC ACID

Franklyn D. Miller and Earl D. Biggers, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed July 5, 1961, Ser. No. 121,834
7 Claims. (Cl. 23—165)

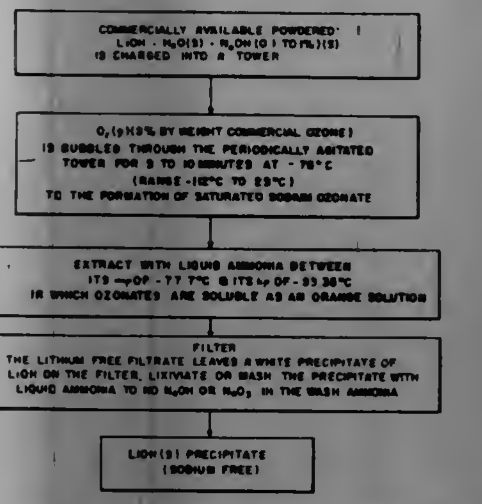
1. A method for increasing the P/F weight ratio and concentration of crude, wet phosphoric acid having a P_2O_5 concentration of about 27 to 33 percent by weight and a P/F weight ratio of about 3.5 to 13, which comprises heating at a temperature between about 110° and 125° C. said crude phosphoric acid in the presence of added silica material in the amount of 0.1 to 2% by weight selected from the group consisting of silicic acid, calcium metasilicate and magnesium metasilicate, but in the absence of added water for maintaining the initial P_2O_5 concentration of said crude phosphoric acid, to obtain a phosphoric acid product having a P_2O_5 concentration of greater than about 50 percent by weight and P/F weight ratio of at least 80.

3,193,352

PROCESS FOR THE PURIFICATION OF LITHIUM HYDROXIDE

John M. McDonough, Oak Lawn, and Morton J. Klein, Chicago, Ill., assignors to the United States of America as represented by the Secretary of the Air Force
Filed Aug. 29, 1961, Ser. No. 136,397
4 Claims. (Cl. 23—184)

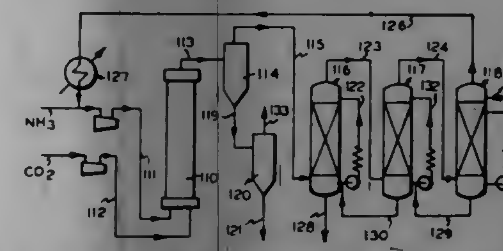
1. The extraction process of purifying lithium hydroxide that is contaminated by the presence of sodium hydroxide by reacting the sodium hydroxide with a mixture of oxygen and ozone containing about 3% ozone by weight to form sodium ozonate; dissolving the sodium ozonate in liquid ammonia; and successively washing the lithium hydroxide with liquid ammonia until the lithium hydroxide is free from sodium ozonate.


COMMERCIALLY AVAILABLE POWDERED
IS CHARGED INTO A TOWER
IS BUBBLED THROUGH THE PERIODICALLY AGITATED
TO THE FORMATION OF SATURATED SODIUM OZONATE
EXTRACT WITH LIQUID AMMONIA BETWEEN
IN WHICH OZONATES ARE SOLUBLE AS AN ORANGE SOLUTION
FILTER
THE LITHIUM FREE FILTRATE LEAVES A WHITE PRECIPITATE OF
LiOH ON THE FILTER. LIXIVIATE OR WASH THE PRECIPITATE WITH
IN THE WASH AMMONIA
PRECIPITATE
(SODIUM FREE)

3,193,353

METHOD OF REMOVING CARBON DIOXIDE FROM AMMONIA

Pascal Matile, Geneva, and Ernst Peterhans and Werner Zollinger, Visp, Valais, Switzerland, assignors to Lonza Ltd., Basel, Switzerland, a corporation of Switzerland
Continuation of application Ser. No. 709,331, Jan. 16, 1958. This application Apr. 10, 1962, Ser. No. 186,492
11 Claims. (Cl. 23—196)



1. In a process for recovering substantially carbon dioxide-free ammonia from an aqueous urea solution obtained by reacting ammonia and carbon dioxide in a urea synthesis autoclave at urea forming temperatures and pressures in the presence of an excess of ammonia over stoichiometrical requirements the steps comprising:

(a) passing said aqueous urea solution including unreacted and absorbed ammonia and carbon dioxide and intermediate reaction products through a decompression zone;

(b) heating said solution in said decompression zone to a temperature sufficient to evolve an off-gas mixture comprised of a major portion of ammonia and a minor portion of carbon dioxide and water vapor, a part of the ammonia and carbon dioxide being formed by decomposing at least a portion of said intermediate reaction products;

(c) passing said off-gas mixture upwardly through at least two successive absorption zones in countercurrent contact with an absorbing medium comprised of an aqueous solution of ammonium carbonate and ammonia whereby substantially all of the carbon dioxide is absorbed in said medium and substantially all of the water vapor in said off-gas is condensed, said contacts being carried out at a pressure of from amout 5.5 to 15 kg./cm.^{2} and maintaining the temperature at each stage between approximately the boiling point of said absorbing medium and the crystallization temperature of ammonium carbonates and carbamate within said absorbing medium; and

(d) removing substantially carbon dioxide-free ammonia as an overhead gas from the final absorption zone.

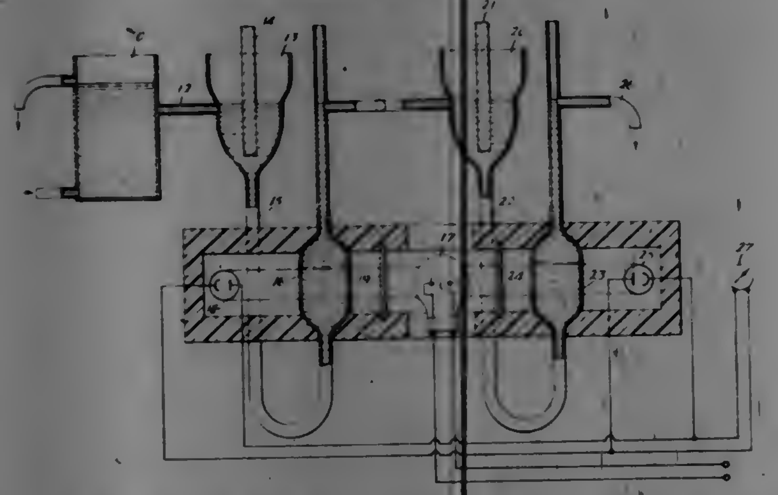
3,193,354
MANUFACTURE OF METALLIC SILICIDES AND IN PARTICULAR OF CALCIUM SILICIDE

Maurice Henri Florentin Briault and Serge Crétté, Le Villard, France, assignors to Nobel-Bozel, Paris, France, a joint-stock company of France
No Drawing. Filed Feb. 23, 1962, Ser. No. 175,338
Claims priority, application France, Mar. 1, 1961, 854,291
10 Claims. (Cl. 23—204)

1. In a method of manufacture of calcium silicide which comprises reacting a basic mixture consisting of calcium carbide, silica and carbon in an electric furnace, the improvment comprising incorporating in said basic mixture calcium carbonate in order to absorb the excess heat, whereby the temperature is lowered at the surface of the furnace together with the temperature of the fumes and gases which are evolved and the losses in volatile products are reduced to a minimum.

3,193,355
METHOD FOR ANALYTICAL TESTING OF LIQUIDS

Hans Fuhrmann, Hamburg, Germany, assignor to S.L.F. Engineering Company, Philadelphia, Pa., a partnership
Filed Apr. 25, 1961, Ser. No. 105,500
10 Claims. (Cl. 23—230)



1. A method for determining the amount of an ion present in a liquid which comprises adding in said liquid an indicator solution which provides the liquid with a unique distinctive first color for each ion concentration within a limited range of concentration of said ion and different terminal colors to the liquid at opposite ends of the range, which colors persist regardless of ion concentrations outside the limited range at their respective ends of the range to be quantitatively determined, determining the first color of said liquid, changing the concentration of said ion in said liquid to the extent that said indicator provides a single distinctive color terminal to said range, determining the modified second color of the liquid and determining the difference in the first and second colors of said liquid due to said change in ion content whereby the color differential is representative of a distinctive known concentration of said ion.

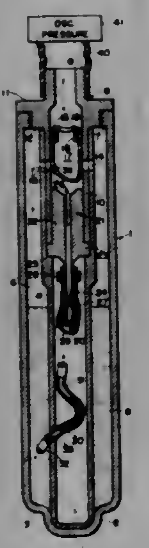
3,193,356
METHOD FOR DETERMINING THE PRESENCE OF STRONG ACIDS IN OILS

Melvin I. Smith, Rockville Centre, N.Y., Thomas J. McKeon, Cresskill, N.J., and Louis H. Sudholz, Flushing, N.Y., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Mar. 28, 1962, Ser. No. 183,058
4 Claims. (Cl. 23—230)

1. A method for determining the presence of dangerous amounts of strong acids in used oil from marine engines and the like which comprises mixing an amount of used oil with an indicator which will change color in the presence of strong acids, said indicator containing a sufficient amount of basic material so that when mixed with acid oil no color change occurs unless the oil contains a strong acid number of at least about 0.05, the oil being free of dangerous amounts of strong acids if the color remains unchanged and said oil containing dangerous amounts of strong acids requiring its replacement or treatment if the color is changed.

3,193,357
MINIATURIZED REACTION VESSEL WITH REACTION INJECTION MEANS, AND METHOD OF MIXING SMALL QUANTITIES OF LIQUIDS

Theodor H. Benzinger, Chevy Chase, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 21, 1963, Ser. No. 253,007
9 Claims. (Cl. 23—230)
(Granted under Title 35, U.S. Code (1952), sec. 266)



6. In a method for mixing a first fluid with a second fluid with a minimum amount of thermal disturbance, the steps of

placing said first fluid in an enclosed compartment which forms said first fluid into an annular column with an air space thereabove;

placing said second fluid in a pressure operated storage element which is positioned in the center of said column and which communicates with said column;

pumping air from said air space into the storage element to inject said second fluid into said column;

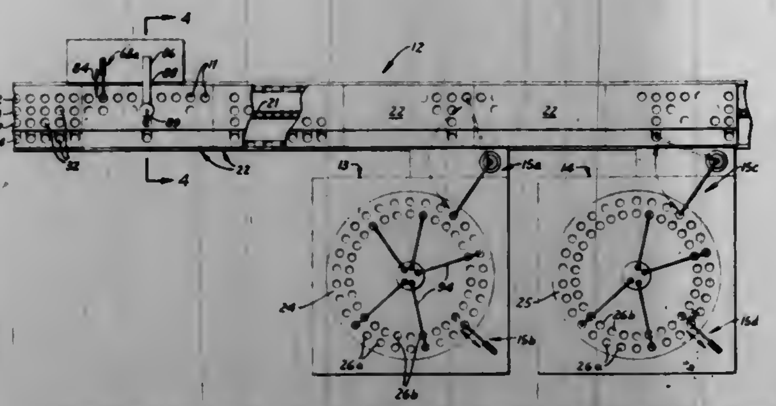
and inverting said vessel so that the air above said column first becomes trapped below said column, then rises up therethrough as an air bubble to mix said first and second fluids.

3,193,358
AUTOMATED ANALYTICAL APPARATUS

Hans Baruch, Berkeley, Calif., assignor, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J.
Filed July 2, 1962, Ser. No. 207,124
14 Claims. (Cl. 23—253)

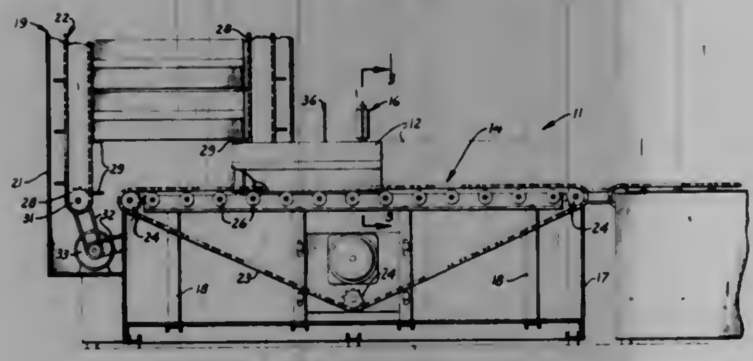
1. An apparatus for automatically conducting analytical procedural steps, comprising a row of evenly spaced discrete samples, conditioning means including means for adding a conditioning agent for effecting a change in a physical characteristic of each sample in accordance with a constituent thereof, detecting means for determining said change in a physical characteristic of each sample, timed drive means for effecting relative movement of said rows of samples with respect to said conditioning and detecting means in equal increments of distance and

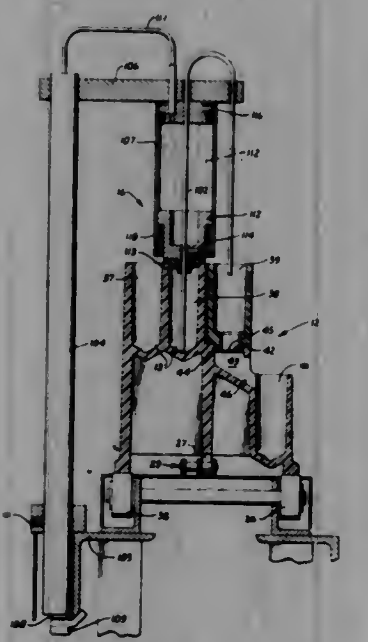
time, and means for mounting said means for adding a conditioning agent and detecting means in adjustable spaced relation to each other for selectively varying the length of time each sample is subjected to conditioning.



3,193,359
APPARATUS FOR CONDUCTING ANALYTICAL PROCEDURAL STEPS

Hans Baruch, Berkeley, and Dalny Travaglio, Kensington, Calif., assignors, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J.
Filed July 2, 1962, Ser. No. 207,123
15 Claims. (Cl. 23—259)

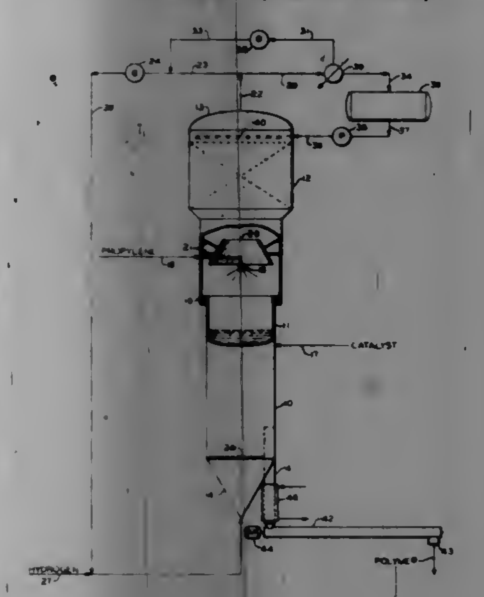




1. An apparatus for automatically conducting analytical procedural steps, comprising a plurality of sample holders, a conveyor for moving said sample holders through a linear path, said sample holders being removably mounted on the conveyor, timed drive means for driving the conveyor and advancing the sample holders through a plurality of sample stations with equal time increments for each advance from the arrival of the holders at one station to the arrival of the holders at the next station, sample conditioning means including means for adding a conditioning agent at one of said sample stations, sample treating means carried on the apparatus, sample transfer means at another of said sample stations for transferring conditioned sample to the sample treating means, and means for adjustably mounting said sample conditioning means and said sample transfer means at any of a selected number of sample stations apart to fix the time duration between these operations.

3,193,360
APPARATUS FOR PROPYLENE POLYMERIZATION

Jack S. Scoggin, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed May 31, 1961, Ser. No. 113,681
1 Claim. (Cl. 23—283)



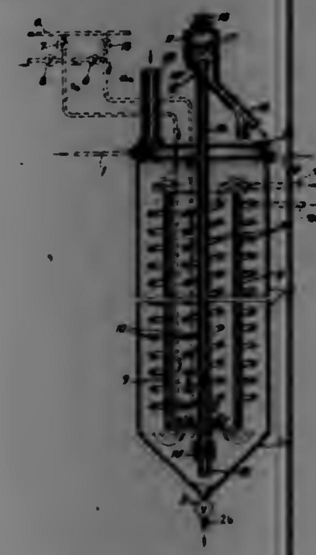
A reactor suitable for propylene polymerization comprising, in combination, an upright cylindrical shell having a lower reaction section with a length to diameter ratio in the range of about 3:1 to 10:1, an intermediate separation section with a length to diameter ratio in the range of about 1:1 to 5:1, and an upper reflux section, top and bottom closure members confining the volume within said shell, a circular trough disposed in said separation section adjacent said shell so that liquid overflowing from said trough is distributed against the inner wall of said shell in said separation section, vapor-liquid contact packing material positioned in said reflux section, means for circulating vapor from the top of said reflux section to an inlet in the bottom of said reaction section, a dispersion plate positioned transversely in the bottom of said reaction section above the vapor inlet, means for condensing vapor withdrawn from the top of said reflux section and distributing the resulting condensate over said packing, baffle means positioned below said packing and above said trough to direct a portion of liquid flowing from said packing into said trough, a spray for liquid feed disposed in said separation section, a catalyst settling leg vertically disposed adjacent said shell and at the bottom of said reaction section, said settling leg having a length to diameter ratio in the range of about 3:1 to 10:1, and a compression auger connected at its inlet end to the lower end of said settling leg.

3,193,361
METHOD OF AND DEVICE FOR CONTINUOUSLY CRYSTALLIZING IRON SULFATE HEPTA-HYDRATE FROM SULFATES OF MORDANTING SOLUTIONS

Peter Niedner, Bendorf-Sayn, Germany, assignor to Dr. Otto Saurebau u. Keramikwerke, Bendorf (Rhine), Germany
Filed Apr. 7, 1961, Ser. No. 101,478
Claims priority, application Germany, Apr. 13, 1960, O 7,351
5 Claims. (Cl. 23—305)

1. In a method of continuously crystallizing iron sulfate-heptahydrate from sulfates of mordanting solutions, the steps of: introducing the liquid to be processed into

at least two vertically arranged substantially coaxial intercommunicating chambers and continuously circulating the same therethrough in a closed path so that said liquid moves upwardly in one of said chambers and downwardly in the other chamber said circulation of the liquid upwardly being at a velocity less than the settling rate of at least the larger crystals to be formed in the solution, cooling said liquid while it is being circulated through at least one of said chambers to cause crystal formation therein, introducing compressed precooled air into the lower portion of said one chamber to cause upward movement of the liquid therein and to cool said liquid and effecting said introduction in the upward direction in an annular region concentric with said one chamber and spaced upwardly from the bottoms of the chambers so as to leave a quiescent zone in the liquid adjacent the bottoms of the chambers, conveying crystals deposited in the region of the bottom of said chambers together with entrained liquid in an upward direction and along a second path independent of the liquid path, and withdrawing the upwardly conveyed crystals and entrained liquid at a region above said chambers.



3,193,362
MAGNETIC MATERIALS

Wilbur G. Hespenheide, Malvern, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

No Drawing. Original application Sept. 25, 1958, Ser. No. 763,169, now Patent No. 3,047,475, dated July 31, 1962. Divided and this application Nov. 22, 1961, Ser. No. 154,329

6 Claims. (Cl. 29—191.6)

1. A magnetic circuit device comprising a magnetic material deposited on a cold-stretched, nonmagnetic, electrical conductor, said magnetic material possessing a magnetic hysteresis loop exhibiting a coercive force requirement of less than three oersteds, said magnetic material so deposited having a metallographic structure in which the fiber axes of said magnetic material are normal to the surface of said electrical conductor.

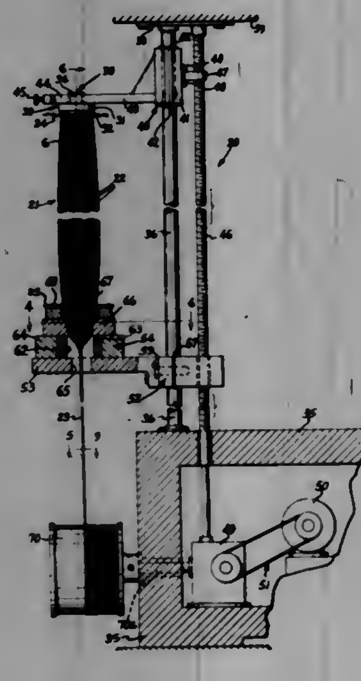
3,193,363
LIGHT-CONDUCTING DEVICES AND APPARATUS FOR MAKING THE SAME

John W. Hicks, Jr., Fiskdale, Mass., and Henry B. Cole, East Woodstock, Conn., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed Jan. 15, 1960, Ser. No. 2,770

11 Claims. (Cl. 65—4)

5. An apparatus for making a fused energy-conducting device having a multiplicity of individual energy-conducting channels extending from end-to-end therethrough comprising means for supporting an assembly of a plurality of relatively rigid but resilient and individually bendable glass rods in spaced side-by-side prearranged geometrical relation with one another, heating means having a heating zone adapted to heat said rods sufficiently for fusion of one to the other, means adjacent said heating means for bending said rods in a relatively short zone along mutually intersecting inclined engaging paths into intimate side-by-side relationship in said heating zone to fuse said rods so related into a unitary structure and means for pressing said rods endwise progressively through said bending and heating means to effect such bending and fusion of the rods progressively along at least the major portion of the length of said assembly.



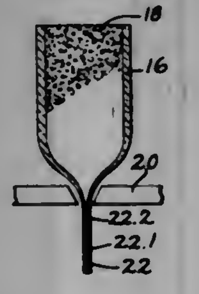
7. The method of making a fused energy-conducting device having a multiplicity of individually insulated energy-conducting channels extending from end-to-end therethrough comprising the steps of assembling a plurality of fusible relatively rigid but resilient and individually bendable clad rods of energy-conducting material supported initially in spaced side-by-side prearranged geometrical relation with one another, maintaining said relation at a first zone along the length of said rods, pressing said rods endwise along mutually intersecting inclined engaging paths into intimate side-by-side relationship in a heating zone adjacent said first zone and fusing said rods so related into a unitary assembly in said heating zone.

3,193,364
METHOD OF MAKING ELECTRONIC DEVICES

George A. Granitsas, Marlboro, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts

Filed May 20, 1960, Ser. No. 30,549

3 Claims. (Cl. 65—4)



1. The method of making an electronic device of the character described which comprises the steps of providing a tube of glass material which is adapted to be drawn when heated to a drawing temperature and which has a given coefficient of thermal expansion, providing a substantially eutectic alloy of germanium and gold which is adapted to be drawn when heated to said drawing temperature and which has a negative coefficient of thermal expansion compared to the glass in the drawing temperature range and a coefficient of thermal expansion corresponding to that of said glass material in the normal useable temperature range, disposing the alloy within the glass tube, heating the tube and alloy to said drawing temperature, and drawing the tube and alloy simultaneously in the same direction for forming a glass-coated metallic fiber.

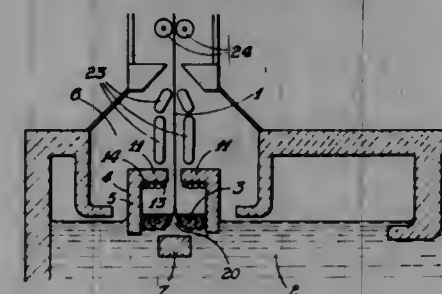
3,193,365
PROCESS AND APPARATUS FOR DRAWING GLASS IN SHEET FORM

Emile Plumat, Gilly, Belgium, assignor to Union des Verreries Mecaniques Belges, Societe Anonyme, Charleroi, Belgium, a company of Belgium

Filed Aug. 30, 1960, Ser. No. 52,821

Claims priority, application Belgium, Sept. 9, 1959, 461,844, Patent 582,512

11 Claims. (Cl. 65—23)



1. A process for drawing sheet glass from a molten glass bath so as to protect the sheet being formed from the cold ambient gas currents in the drawing chamber that are capable of disturbing the required thermal homogeneity of the glass in such sheet, comprising drawing the glass in sheet form from the glass bath upwardly through a mass of material non-adherent to glass and capable of protecting the glass while it is being drawn therethrough against said ambient gas currents, the material in said mass being inert to molten glass and having a density less than that of the molten glass, and said mass of material floating as a liquid layer on the glass bath so as to cover the area thereof from which the glass sheet is drawn at the drawing station and being of sufficient depth to cover substantially the gather from which the sheet is formed, the molten glass drawn upwardly through said mass of material being in direct contact with such material during its passage through such mass, and said liquid layer of material shielding the molten glass being drawn therethrough against said cold air currents and increasing the rate of surface congealment of the glass sheet so as to reduce the effects of such cold air currents thereon.

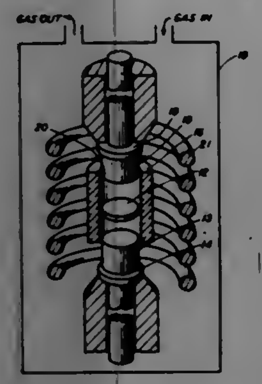
8. Apparatus for drawing sheet glass from a molten glass bath and through a drawing chamber, comprising a mass of material floating as a liquid layer on the glass bath at a given portion thereof so as to cover the area thereof from which the glass sheet is drawn, means for maintaining said material floating on said glass bath at said given portion as a liquid layer of substantial height and of a length greater than the width of said glass sheet, and means for drawing glass in sheet form from the area of the glass bath covered by said mass of material and upwardly through said mass of material and into the drawing chamber, the material of said mass being inert and non-adherent to molten glass and being in direct contact with the glass sheet drawn therethrough, and capable of shielding the glass with which it is in contact against cold air currents in the drawing chamber and of increasing the rate of surface congealment of such glass sheet so as to reduce the effects of such cold air currents thereon.

3,193,366
SEMICONDUCTOR ENCAPSULATION

James E. Clark, Coopersburg, Pa., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 12, 1961, Ser. No. 123,463

2 Claims. (Cl. 65—54)



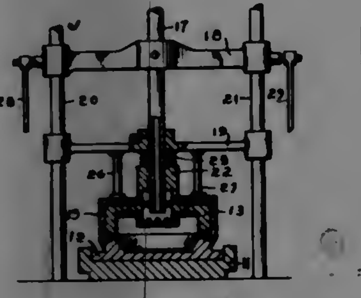
1. A method for encapsulating a semiconductor element, said method comprising the steps of positioning at atmospheric pressure and room temperature a semiconductor element on the extreme end of the shank portion of a shouldered stud, placing a tight-fitting glass sleeve over the shank portion of said stud, said glass sleeve having a length slightly greater than twice that of said shank portion, inserting the shank portion of a second shouldered stud into the opposite end of said glass sleeve, heating to about 500 degrees centigrade for approximately one minute, applying an initial force of about 25 grams directed inwardly on said shouldered studs, increasing the ambient gas pressure to about 75 pounds per square inch, and heating for a time for a time at a temperature in the range from about 650 degrees to 750 degrees centigrade for less than one minute to produce a seal along the entire shank of both studs and the edge of the semiconductor element, said temperature being substantially less than the working point temperature of said glass sleeve.

3,193,367
GLASS FORMING AND SHEARING

James W. Giffen, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Sept. 25, 1961, Ser. No. 140,531

3 Claims. (Cl. 65—70)

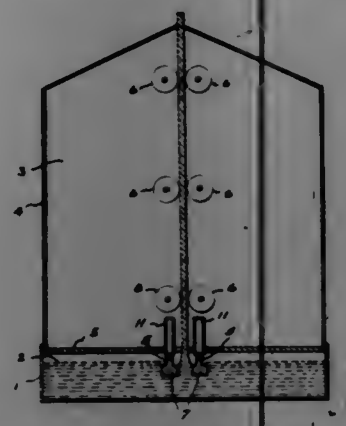


1. An improved method of shearing a sheet of molten glass which retards the formation of edge fissures by minimizing the heat extracted from the sheet adjacent the shear line prior to shearing comprising, supporting a sheet of molten glass to be shear-trimmed upon the upper edge of a die, suspending a border portion of such sheet in the ambient atmosphere adjacent a trimming edge of such die to inhibit heat extraction therefrom by the die, and shear-trimming the sheet along the trimming edge while permitting the residual heat from the border portion to re-fuse any minor fissures which may have resulted from the trimming operation.

3,193,368

APPARATUS FOR VERTICALLY DRAWING GLASS

Max Meth, 212 Atlantic Ave., Atlantic City, N.J.
Filed Sept. 25, 1961, Ser. No. 140,400
2 Claims. (Cl. 65—206)

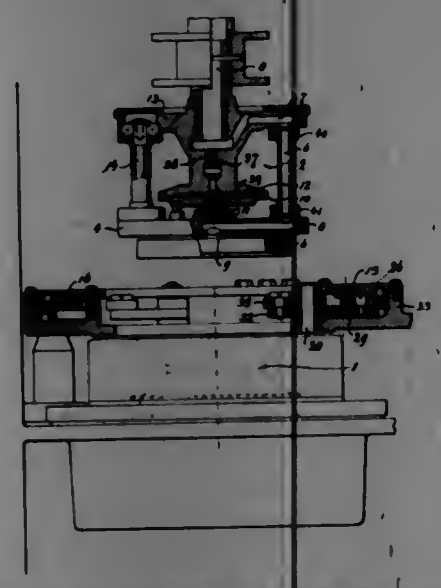


1. In an apparatus for the vertical drawing of glass from a molten mass into a continuous sheet, a vat containing a mass of molten glass, a compartment above said vat comprising a zone of sheet formation, spaced parallel drawbars having a main working portion of substantially square cross-section submerged substantially below the surface of said molten mass and supported by opposite sides of said vat, spaced pairs of driven rollers within said compartment drawing glass between said drawbars and vertically upward into said compartment, each of said drawbars having an extension of rectangular shape which extends vertically through and outwardly above the surface of said molten mass, said extensions each being set back from the outer faces of said drawbars so that the molten glass flows on top of said main working portions and set back from the working faces of said drawbars so that they do not contact the glass being drawn upwardly between said bars, said extensions functioning as skimmers to prevent the passage of debris into said zone of formation.

3,193,369

ROTARY GLASS BODY CORONARY BURNER ALIGNMENT APPARATUS

Emil Jan Johan Benard and Gerrit de Leeuw, Leerdam, Netherlands, assignors to N.V. Vereenigde Glasfabrieken (United) Glassworks, Schiedam, Netherlands, a limited-liability company of the Netherlands
Filed July 31, 1961, Ser. No. 128,087
Claims priority, application Netherlands, July 30, 1960, 254,376
2 Claims. (Cl. 65—272)

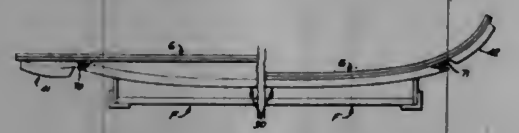


1. In a device for treating glass bodies of revolution; the combination of an annular burner for heating a circumferentially extending region of a glass body of revolution during rotation of the latter with said circumferential region of the body located axially at a plane within said burner, a holder rotatable coaxially relative to said burner, said holder and burner being axially displaceable relative to each other, a table for supporting a glass body to be treated, means mounting said table on said holder so as to be fixed axially with respect to the latter with the plane of said table being parallel to said plane within the burner and with said table being adjustable laterally relative to said holder, means for securing a glass body of revolution to said table, centering means for the burner located in a plane spaced axially from, and parallel to said plane within said burner and engageable with a glass body secured to said table when the holder is axially disposed to axially located said circumferential region of the glass body at the plane of said centering means said centering means being operative to center said engaged circumferential region with respect to said burner and holder and to correspondingly laterally adjust said table with respect to said holder, and means operative to secure said table in its laterally adjusted position with respect to said holder, whereupon said holder can be axially displaced relative to the burner to locate the centered circumferential region of the glass body at said plane within said burner.

3,193,370

APPARATUS FOR BENDING GLASS SHEET

Rudolph L. Malobicky, Tarentum, and Stephen J. D. Jursa, Springdale, Pa., assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 1, 1961, Ser. No. 106,926
6 Claims. (Cl. 65—290)



1. In a sectionalized. skeletonized mold for bending glass sheets having an outline shaping surface of concave elevation comprising a center mold section including a pair of laterally spaced shaping rails having upper shaping surfaces of concave elevation extending along the central portion of the laterally opposite, longitudinally extending, side edges of said outline shaping surface and further including wing members having upper shaping surfaces of concave elevation and having inner and outer longitudinal extremities, means on said mold for pivotally attaching each wing member relative thereto for pivotal movement between a spread mold position and a closed mold position, wherein said outer longitudinal extremities of said wing members occupy a common plane when the wing members are pivoted into said spread position and the upper shaping surface of said shaping rails and the upper shaping surfaces of said wing members form different portions of said outline shaping surface of concave elevation when said wing members are pivoted into the closed mold position, the improvement comprising a shaping rail segment, having a relatively short length compared to the length of said shaping rails and of said wing members, located beyond each longitudinal extremity of said upper edge of each of said pair of shaping rails comprising said center mold section and inwardly of an inner longitudinal extremity of each of said wing members, means pivotally attaching each said shaping rail segments to said mold, each shaping rail segment having an upper edge surface and being free from pivotal attachment at its ends, said pivot means being disposed below the upper edge surface and between the longitudinal ends of one of said shaping rail segments so that the upper edge surface of its associated shaping rail segment is pivotable into a position in said common plane occupied by said outer longitudinal extremities of said wing members in said spread mold position to provide one of four supports for said rigid flat glass sheet intermediate its longitudinal ends, and its said upper edge surface extends along said outline shaping surface substantially the entire distance from one longitudinal extremity of said upper shaping surface of one of said laterally spaced shaping rails to an inner longitudinal extremity of the upper shaping surface of one of said wing members when the wing members are pivoted into the closed mold position.

3,193,371

TRIS(CYANOETHOXYMETHYL)BENZENES

Raymond L. Mayhew, Summit, N.J., and Earl P. Williams, Pen Argyl, Pa., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Oct. 5, 1961, Ser. No. 143,039
17 Claims. (Cl. 71—2.3)

1. A compound selected from the group consisting of 1,2,4 - tris(cyanoethoxymethyl)benzene, 1,3,5 - tris(cyanoethoxymethyl)benzene, and mixtures thereof.

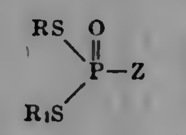
5. A method for controlling nematode infestations which comprises contacting nematodes with an active substance selected from the group consisting of 1,2,4-tris(cyanoethoxymethyl)benzene, 1,3,5 - tris(cyanoethoxymethyl)benzene, and mixtures thereof.

3,193,372

METHOD OF DEFOLIATING PLANTS

Erik K. Regel, Mission, Kans., assignor to Chemagro Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Jan. 26, 1962, Ser. No. 169,090
8 Claims. (Cl. 71—2.3)

1. The method of defoliating plants which comprises contacting the plant, in an amount sufficient to cause defoliation with a compound corresponding to the formula



wherein R and R_1 are lower alkyl and Z is selected from the group consisting of lower alkyl, phenyl, chlorophenyl, lower alkylphenyl, benzyl, lower alkylthioalkyl and cycloalkenyl wherein the cycloalkenyl contains 5 to 6 carbon atoms.

3,193,373

METHOD AND COMPOSITION FOR INHIBITING TOBACCO SUCKERS

Edwin V. Parups, Ottawa, Ontario, Canada, assignor to Canadian Patents and Development Limited, Ottawa, Ontario, Canada, a company
No Drawing. Filed May 28, 1962, Ser. No. 197,881
11 Claims. (Cl. 71—2.3)

1. An agricultural chemical composition for counteracting the adverse effects which the maleic acid hydrazide tobacco sucker growth inhibitor treatment has on tobacco comprising a first compound selected from the group consisting of benzoquinone, ring-substituted chloro derivatives of benzoquinone, naphthoquinone, and ring-substituted chloro and chloro-amino derivatives of naphthoquinone, and a second compound selected from the group consisting of maleic acid hydrazide and tobacco desuckering derivatives of maleic acid hydrazide, said quinone being present in an amount sufficient to alleviate to an acceptable extent the adverse effects of said hydrazide on the tobacco when said composition is applied to a tobacco plant with said second compound being present in an amount effective to inhibit tobacco sucker growth on the plant.

3,193,374

COMPLEX FERTILIZERS

Philippe Jean-Baptiste Gautier, Naterre, Seine, and Marguerite Provoost, Paris, France, assignors to Compagnie de Saint-Gobain, Neuilly-sur-Seine, France
No Drawing. Filed Apr. 25, 1961, Ser. No. 105,300
Claims priority, application France, Apr. 27, 1960, 825,469
6 Claims. (Cl. 71—41)

1. The method of producing complex fertilizer having a base of potassium tripolyphosphate and containing substantial amounts of K, P, and N which comprises adding to a mass comprising potassium tripolyphosphate having substantial proportions of water soluble P_2O_5 and water soluble K_2O, a quantity of aqueous wet process phosphoric acid containing about 30% P_2O_5 in quantity sufficient to moisten said mass, and granulating the moistened mass in an atmosphere of ammonia until the formation of diammonium phosphate begins.

3,193,375

MAGNESIUM-MANGANESE ALLOY FOR USE IN A PYROTECHNICAL COMPOSITION

Walter Otto August Marx, deceased, late of Hallein, Austria, by Annemarie Gertrude Marx, nee Wiemer, Hallein, Austria, Gerda Liselotte Kemme, nee Marx, Henstedt-Rhen, near Kaltenkirchen, Germany, Ursula Maria Marx, Hallein, Austria, Hans Dieter Marx, Hallein, Austria, and Dorothea Friederike Marx, Hallein, Austria, heirs, and Stefan Gustav Marx, minor child, by Erich Angelberger, Hallein, Austria, trustee, and René Chavée, Genk, Belgium, assignors to Knapsack - Griesheim Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany
No Drawing. Filed Sept. 5, 1962, Ser. No. 221,627
Claims priority, application Germany, Sept. 14, 1961, K 44,715
5 Claims. (Cl. 75—.5)

1. A method of producing a pyrotechnic effect comrpising mixing with a pyrotechnical composition a binary alloy in the form of finely divided particles consisting essentially of magnesium and 0.1 to 3 percent by weight of manganese, said finely divided particles having a grain size smaller than 900 microns.

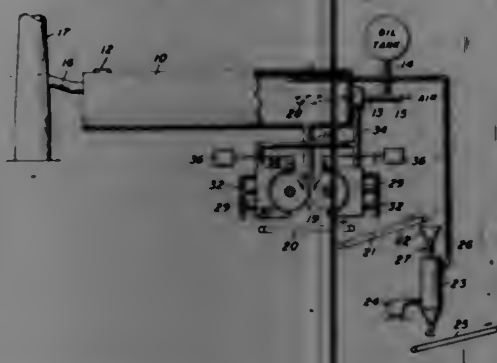
3,193,376

BENEFICIATION OF ILMENITE

Ching-lung Lo, Plainview, N.Y., and Thomas S. Mackey, Texas City, Tex., assignors to Wah Chang Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 4, 1961, Ser. No. 156,931
7 Claims. (Cl. 75—2)

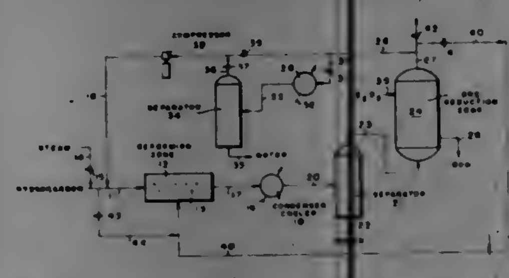
1. In the beneficiation of ilmenitic ore, a two step process for effecting the selective and preferential dissolution of undesired acid-soluble non-titaniferous values therein comprising the step of first subjecting said ore to the leaching action of a mixed acid solution formed of second stage leach liquor and sufficient additional fresh hydrochloric acid of at least 20° Bé. strength to provide about 60% of the stoichiometric amount required for dissolution of said undesired acid-soluble non-titaniferous values therein to effect preferential dissolution of said acid-soluble non-titaniferous values and to minimize the dissolution of titaniferous values therein, then subjecting the leached residue of said first stage leaching operation to a second stage leaching action of fresh hydrochloric acid of at least 20° Bé. strength in an amount constituted to provide about a 50% excess over the stoichiometric amount thereof required for dissolution of the remaining undesired acid-soluble non-titaniferous values in said first stage leached residue and maintaining the temperature of the leach liquid at least 105° C. during the major portion of said first and second stage leaching operations.

3,193,377
METHOD AND APPARATUS FOR CONTROLLING THE TEMPERATURE OF BRIQUETTING ROLLS
James R. Guseman, Irwin, and Donald E. Rohaus, Monroeville, Pa., assignors to United States Steel Corporation, a corporation of New Jersey
Filed Apr. 12, 1962, Ser. No. 186,902
8 Claims. (Cl. 75—3)



1. In a briquetting process in which fines are heated to an elevated temperature in a heating chamber and the heated fines are formed into briquettes in a roll-type press, the combination therewith of a method of controlling the temperature of the briquetting rolls comprising impinging air streams against the roll surfaces opposite the region where the rolls contact the hot fines, thus cooling the roll surfaces and heating the air, and utilizing the heated air in the heating chamber as preheated combustion air.

3,193,378
PROCESS FOR REDUCTION OF IRON ORE
Nick P. Peet, Houston, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Continuation of application Ser. No. 803,749, Apr. 2, 1959. This application Mar. 16, 1964, Ser. No. 352,727
14 Claims. (Cl. 75—35)

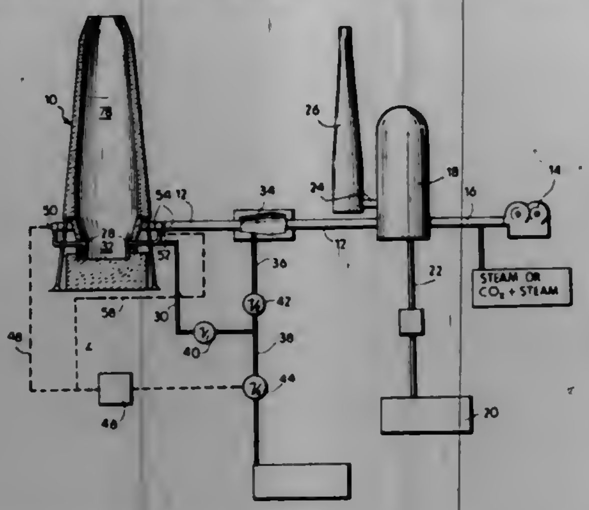


1. In the endothermic reduction of iron ore in a reduction zone at a temperature from 900° F. to 2500° F., wherein is utilized a reducing gas comprising hydrogen and carbon monoxide, and wherein is produced a combustible effluent gaseous stream, which has contacted all of the iron ore in said reducing zone, the improvement which comprises passing a first portion of said effluent gaseous stream in contact with externally supplied steam and a hydrocarbon in a reforming zone whereby said reducing gas is produced substantially free of unreacted hydrocarbon, removing from said reducing gas an amount of water equivalent to said externally supplied steam, and passing the dewatered reducing gas through said reducing zone in contact with said iron ore, whereby reduced iron and said effluent gaseous stream are produced, and whereby the only net reactants in said reducing system are said hydrocarbon and said iron ore.

3,193,379
METHOD OF OPERATING A BLAST FURNACE
Kenneth W. Stookey, Markle, Pa.
Filed Feb. 11, 1963, Ser. No. 257,580
10 Claims. (Cl. 75—41)

1. A process for producing hot air blast suitable for use in metallurgical furnaces having a direct-reduction zone and an indirect-reduction zone, comprising the steps of:

(a) passing a flow of air through one of a plurality of in-parallel stoves which effect heating of the air flow above a straight line reference temperature,



(b) combining with the flow of heated air a flow of reductant material which abstracts heat by endothermic reaction at the direct-reduction portion of the furnace, and

(c) proportioning the flow of reductants in accordance with temperature of the air flow to provide an equivalent to straight-line temperature value for the hot air blast and thereby provide an equilibrium of operation between the direct and indirect zones respectively of the furnace.

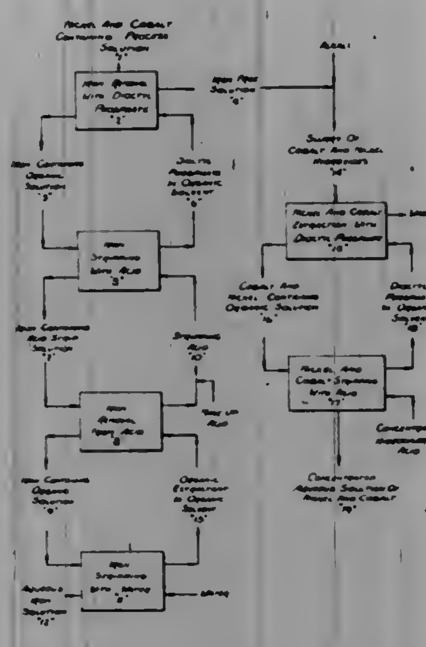
3,193,380
URANIUM GALLIUM ALLOYS AND METHOD OF PREPARATION
Walter D. Wilkinson, Maywood, and Le Roy R. Kelman, Chicago, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission
No Drawing. Filed Aug. 12, 1949, Ser. No. 110,034
7 Claims. (Cl. 75—84.1)

1. A method of preparing a relatively stable suspension of a uranium-containing material in gallium comprising heating uranium and gallium in a proportion of from 23.9 to 26.4% by weight of uranium and the remainder being gallium to at least 350° C. whereby uranium-gallium compound crystals form and are suspended in gallium.

4. A heterogeneous composition of matter comprising crystals of a gallium-uranium compound selected from the group consisting of UGa_2, UGa_3 and a mixture of UGa_2 and UGa_3 suspended in gallium, the all-over proportion of uranium and gallium in said suspension ranging from 23.9 to 26.4% by weight of uranium and from 76.1 to 73.6% by weight of gallium.

3,193,381
PROCESS FOR THE CONCENTRATION OF NICKEL AND COBALT IN AQUEOUS SOLUTIONS
James H. B. George, Cambridge, and Ellery W. Stone, Brookline, Mass., assignors, by mesne assignments, to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 19, 1962, Ser. No. 180,444
16 Claims. (Cl. 75—108)

1. A process for concentrating nickel and cobalt values from a dilute aqueous acidic solution of nickel and cobalt which comprises adding a strong alkali from the group consisting of sodium hydroxide and potassium hydroxide to the dilute aqueous acidic solution in an amount sufficient to precipitate substantially all the nickel and cobalt in said dilute aqueous solution as hydroxides but not more than about 1.15 equivalents of alkali in excess of that required to neutralize free acid in solution for each equivalent of nickel and cobalt in solution; treating the hydroxide slurry so formed with a solution of between about .5 M and about 2 M di-2-ethylhexyl phosphoric acid in water-immiscible organic solvent to form a nickel- and cobalt-containing organic phase and an aqueous phase substantially free from nickel and cobalt; separating said organic and aqueous phases; and treating said organic phase with concentrated acid to remove the nickel and cobalt from said organic phase, and to form a highly concentrated aqueous solution of nickel and cobalt and to reform an organic solution of said di-2-ethylhexyl phosphoric acid for re-use in treating further hydroxide slurry.



3,193,382
PROCESS FOR THE RECOVERY OF ZINC FROM ZINC PLANT RESIDUES
Herbert O. K. Veltman, Edmonton, Alberta, Canada, and Edward Whayman and Curzon John Haigh, Moonah, and Ralph Watt Pickering, Sandy Bay, Tasmania, assignors to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a company of Canada
No Drawing. Filed Jan. 9, 1963, Ser. No. 250,215
3 Claims. (Cl. 75—115)

1. In a process for the extraction of zinc from zinc plant residue containing zinc ferrite in which the residue is subjected to a first stage pressure leaching treatment in a substantially oxygen free atmosphere in a closed vessel at a temperature between 150° C. and 220° C. in the presence of sulphuric acid in excess of that stoichiometrically equivalent to the zinc in the residue, and then said residue is subjected to a second stage pressure leaching treatment under oxidizing conditions in a closed vessel in the presence of sulphuric acid at a temperature between 150° C. and 200° C., the improvement which comprises conducting the first stage leaching treatment in the presence of a reducing agent selected from the group consisting of zinc sulphide, metallic zinc powder, sulphur dioxide and hydrazine sulphate in amount sufficient to produce reducing conditions in said first stage.

3,193,383
IRON BASE ALLOY
James R. Butler, Scotch Plains, N.J., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Nov. 14, 1962, Ser. No. 237,749
2 Claims. (Cl. 75—123)

1. An iron base alloy consisting essentially of about 1.7 to 3.8 percent carbon, about 1.8 to 2.6 percent silicon, about 5 to 6 percent phosphorus, about .2 to 2.0 percent boron, and the balance iron and incidental impurities.

3,193,384
IRON ALUMINIUM ALLOYS
William Henry Richardson, Datchet, England, assignor to Langley Alloys Limited, Langley, England, a body corporate of Great Britain
No Drawing. Filed Dec. 21, 1962, Ser. No. 246,318
Claims priority, application Great Britain, July 2, 1957, 20,908/57; May 14, 1959, 16,599/59; Apr. 5, 1962, 13,162/62
17 Claims. (Cl. 75—124)

1. A substantially austenitic, low density, ductile, high strength, high temperature and oxidation resistant alloy consisting essentially of by weight 18 to 40 percent manganese, 4 to 14 percent aluminium, 0.15 to 2 percent carbon, 0.5 to 12 percent tungsten and the balance essentially iron.

3,193,385
HIGH TEMPERATURE COLUMBIUM BASE ALLOYS
Robert I. Jaffee and Dean N. Williams, Columbus, and Edwin S. Bartlett, Worthington, Ohio, and Elihu F. Bradley, West Hartford, Conn., assignors, by direct and mesne assignments, to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
No Drawing. Filed May 18, 1962, Ser. No. 204,024
8 Claims. (Cl. 75—174)

1. A columbium base alloy consisting essentially of, by weight: from 1 to 40 percent of at least one element selected from the group consisting of tantalum, tungsten, and molybdenum; up to 10 percent of at least one element selected from the group consisting of hafnium, zirconium, and vanadium; up to 4 percent chromium; between about 0.05 and 0.03 percent beryllium; and balance essentially columbium.

4. A columbium base alloy consisting essentially of, by weight: 5 to 35 percent tungsten, between about 0.05 and 0.3 percent beryllium, and balance essentially columbium.

3,193,386
SILVER HALIDE EMULSIONS AND ELEMENTS CONTAINING ANTIFOGGANTS
Clayton F. A. White, Metuchen, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Nov. 29, 1961, Ser. No. 155,852
7 Claims. (Cl. 96—109)

1. A colloid-silver halide emulsion predominating in silver chloride and containing a mixture of about 0.15 to about 2.50 grams of unsubstituted 8-hydroxyquinoline and about 0.40 to about 2.40 grams of 8-hydroxyquinoline-5-sulfonic acid per mole of silver halide.

3,193,387
STABILIZATION OF MALT BEVERAGES WITH BILE AND COMPOUNDS THEREOF
Edward Segel and Paul Robson Glenister, Chicago, Ill., assignors to J. E. Siebel Sons' Company, Inc., Chicago, Ill., a corporation of Illinois
No Drawing. Filed July 23, 1962, Ser. No. 211,839
4 Claims. (Cl. 99—48)

1. A method for inhibiting gushing in fermented malt beverages which comprises incorporating therewith a small but effective amount of a composition selected from the class consisting of bile, bile extract, bile acids and water soluble salts of the latter selected from the group consisting of their sodium and potassium salts.

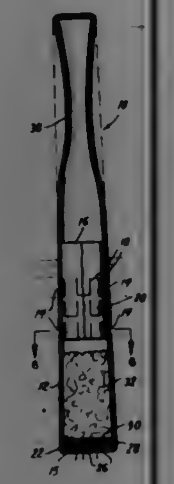
3,193,388
BREWING DEVICE FOR POTABLE LIQUIDS
Thurman Max Conrey, 232 S. Elm St., Centralia, Ill.
Filed July 5, 1963, Ser. No. 292,990
9 Claims. (Cl. 99—77.1)

7. A device for immersion into a container of water to brew a potable liquid comprising

(a) a casing having a hollow interior,

(b) a plurality of particles of brewing ingredients within the hollow interior of the casing,

(c) a plurality of openings through the casing opening to the hollow interior to permit water to pass into and out of the casing,



(d) all of the openings being positioned on the casing to they will be beneath the surface of water in the container when the casing is dipped into the water,

(e) and flexible means comprising an extension of the casing for alternately pumping water into and out of the casing upon alternately squeezing and releasing the flexible means, the flexible means being imperforate,

(f) and a one-way valve covering each opening for admitting water through the second group of openings upon releasing the flexible means and blocking the flow of water therethrough upon squeezing the flexible means.

3,193,389

PRESERVING BAKED GOODS BY THE ADDITION OF AMYLOPECTIN TO FLOUR DOUGH PRIOR TO BAKING

Rudolf Dehne, Dr. Heinrich-Jasperstrasse 31, Bad Harzburg-Bundheim, Germany

No Drawing. Filed Nov. 5, 1962, Ser. No. 235,522

22 Claims. (Cl. 99—90)

1. In the process for baking bread in which the flour dough ingredients are mixed and then baked, the improvement for the increased preservation of the freshness thereof which comprises adding amylopectin to the flour dough ingredients to be baked, prior to baking, in an amount between about 5 and 30% by weight of the flour content of the dough.

3,193,390

PRODUCTION OF YEASTS

Alfred Champagnat and Jean Fil[illegible]a, Paris, France, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation

No Drawing. Filed Aug. 15, 1961, Ser. No. 131,470

Claims priority, application Great Britain, Aug. 22, 1960, 28,961/60

18 Claims. (Cl. 99—96)

1. A process for the production of food yeast which comprises maintaining a straight chain paraffinic hydrocarbon-consuming yeast in a nutrient medium in the presence of feedstock of petroleum origin selected from the group consisting of wax fractions derived by dewaxing of lubricating oil fractions, slack wax and paraffinic feedstocks obtained from petroleum fractions by molecular sieve separation and a free oxygen-containing gas under conditions favoring growth of the yeast, said feedstock having an average molecular weight corresponding to at least 10 carbon atoms per molecule, and separating the yeast from the aqueous medium.

3,193,391

USE OF BACTERIA IN CURED MEATS

Clarence E. Jansen, Palos Heights, and John H. Silliker, Park Forest, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Oct. 6, 1961, Ser. No. 143,316

10 Claims. (Cl. 99—157)

1. A method for the rapid imparting of cured flavor to cuts of meat which comprises: inoculating cuts of meat with a concentration of flavor-producing bacteria of at least 1 million viable cells per gram of meat, said bacteria selected from the group consisting of the genera Diplococcus, Streptococcus, Leuconostoc and Lactobacillus of the family Lactobacteriaceae and the genera Pediococcus, Micrococcus and Gaffkya of the family Micrococcaceae and mixture thereof, and thereafter subjecting said meat to incubation temperatures from about 50° to about 110° F. for about 8–10 hours, whereby the concentration of said bacteria is sufficient to impart the desired cured flavor thereto:

3,193,392

PACKAGING FROZEN MEAT

Burton R. Lundquist, Highland Park, and Claude J. Wattenbarger, Dolton, Ill., assignors to Swift & Company, Chicago, Ill., a corporation of Illinois

No Drawing. Filed Nov. 20, 1961, Ser. No. 153,698

5 Claims. (Cl. 99—174)

1. The method of preserving and packaging flaccid food products comprising: wrapping said flaccid food product in a flexible, heat-sealable, oxygen-permeable synthetic plastic film having a low moisture vapor transmission rate of less than ½ gram of water/100 sq. in./24 hours, adhering the film to all surfaces of the food product, freezing said food product to impart a rigid structure to said product, enveloping said frozen, wrapped product in a heavy gauge second film of about 1.5–5 mil thickness and heat-shrinking said second film around said wrapped, frozen product.

3,193,393

PROTECTING PACKAGED HEAT-PROCESSED AQUEOUS FOOD FROM OXYGEN DETERIORATION

Don Scott, Chicago, Ill., assignor to Fermco Laboratories, Inc.

No Drawing. Filed Oct. 31, 1961, Ser. No. 148,828

5 Claims. (Cl. 99—182)

1. The method of protecting packaged, heat-processed, aqueous food from deterioration due to oxygen comprising, incorporating in said food prior to closing said package and before completion of said processing, an enzyme preparation containing glucose oxidase enzyme dried under conditions avoiding enzyme inactivation by heat, said preparation being insulated against the enzyme inactivating effect of the elevated temperatures encountered in processing by a coating of film forming material which is slowly penetrated by moisture, at least one of said aqueous food and said preparation supplying glucose, the thickness of said coating and the rate of penetration by moisture of said material providing a predetermined interval of time between contact of the coated enzyme with aqueous medium and moisturizing of the enzyme to a water content activating said enzyme, and completing said elevated temperature processing during said interval of time whereby said enzyme is protected against inactivation by said elevated temperature treatment and is released to provide its oxygen-removing function after processing is completed.

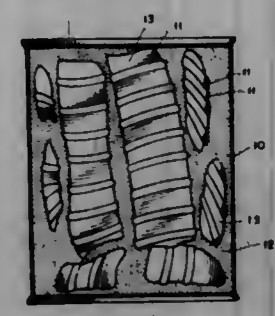
3,193,394

CANNING BARBECUED RIBS

Vladimir J. Kubala, Oak Lawn, and Arthur A. Riddlesworth, Lombard, Ill., assignors to Armour and Company, Chicago, Ill., a corporation of Delaware

Filed Apr. 3, 1963, Ser. No. 270,369

2 Claims. (Cl. 99—187)



1. In the process for canning barbecued meat-carrying ribs in barbecue sauce stabilized against separation and flow, the steps of curing the ribs in pickle solution, applying smoke electrostatically to the cured ribs without reducing the natural juices therein, introducing the ribs in pieces into a can together with a sauce consisting principally of tomato paste containing substantially no free water, the sauce being reduced to a moisture content of about 60–64 percent and to a stiff consistency, sealing the can under vacuum, and cooking the ribs and sauce together to an internal temperature of about 188°–193° F. to render about 8–15 percent of the juices of the meat to saturate the same and to bring the moisture content of the sauce to about 68–76 percent while bringing the sauce to a soft, spreadable and non-flowing consistency.

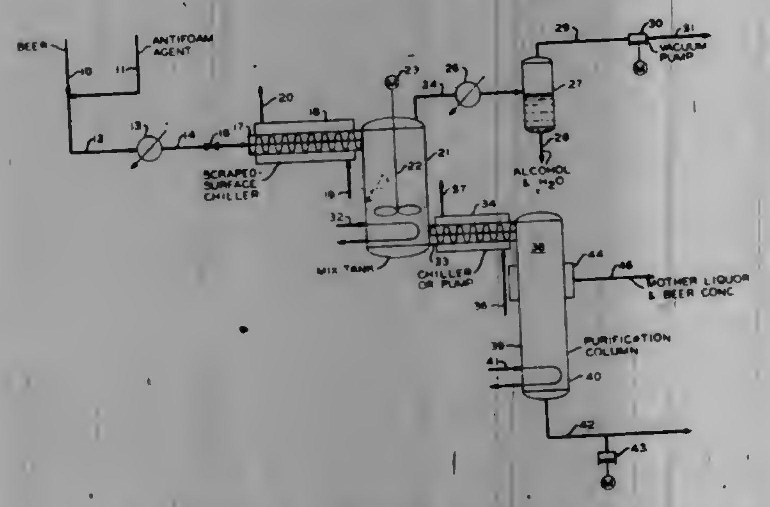
3,193,395

CONCENTRATION OF BEER BY CRYSTALLIZATION

Donald C. Tabler and Merritt V. De Lano, Jr., Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed May 4, 1962, Ser. No. 192,507

5 Claims. (Cl. 99—199)



1. A process for concentrating beer as it comes from the fermenters which comprises injecting into said beer from 10 to 200 parts per million of a liquid polydimethylsiloxane antifoam agent, cooling the beer containing the antifoam agent to form a crystal slurry of ice in a mother liquor beer concentrate, the solids content of said slurry being in the range of 20 to 75 weight percent, subjecting said slurry with agitation to sub-atmospheric pressure in the range of about 1 to 10 p.s.i.a. thereby inducing removal of substantially all of the carbon dioxide from said slurry, passing said slurry having a solids content in the range of about 20 to 50 weight percent into a confined zone wherein said ice crystals are passed in a compact mass into a body of crystal melt formed by melting said ice crystals in a downstream portion of said zone while melt is displaced into said crystal mass and mother liquor is withdrawn as a concentrated solution from an upstream portion of said zone.

3,193,396

MANUFACTURE OF ALKALINE CURING SALT COMPOSITION

Louis Sair, Evergreen Park, Ill., assignor to The Griffith Laboratories, Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed Feb. 12, 1964, Ser. No. 342,838

10 Claims. (Cl. 99—222)

1. The method of producing an alkaline curing salt composition, which composition comprises bonded aggregates of physically homogeneous particles of curing salt selected from the group consisting of alkali-metal nitrite, alkali-metal nitrate and mixtures thereof, and chemically homogeneous particles of edible-ion alkaline material in kind and quantity to elevate the pH of meat for which said composition is used, which method comprises bonding to caked forms a granular mixture of finely divided particles of the constituents of said composition which mixture is substantially uniform throughout in composition, by compacting said granular mixture with an effective mechanical pressure sufficient to lock the particles to each other so that when the said caked forms are reduced in size the size-fractions have a substantially uniform composition, and then reducing the size of said caked forms which are substantially dry to provide a mass of such particle-size distribution that all the size-fractions thereof have a substantially uniform composition.

3,193,397

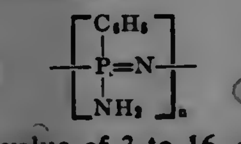
PHOSPHONITRILIC FLAMEPROOFING MATERIALS

Robin W. Stephens, Baltimore, and Bernard Grushkin, Silver Spring, Md., assignors to W. R. Grace & Co., a corporation of Connecticut

No Drawing. Filed Jan. 22, 1962, Ser. No. 167,893

8 Claims. (Cl. 106—15)

1. A method for rendering textile fibers flame resistant which comprises applying a phenylaminophosphonitrilic polymer having the formula:



$$\left[-\underset{\substack{|\\ NH_2}}{\overset{\substack{C_6H_5\\ |}}{P}}=N-\right]_n$$

wherein, *n* has the value of 3 to 16, dissolved in an inert solvent to a textile fiber, and evaporating said solvent to deposit said polymer upon said fiber.

3,193,398

MASTIC COMPOSITIONS

Joseph Iannicelli, Macon, Ga., assignor to J. M. Huber Corporation, Locust, N.J., a corporation of New Jersey

No Drawing. Filed July 9, 1963, Ser. No. 293,850

17 Claims. (Cl. 106—33)

1. An organic mastic composition selected from the group consisting of polyolefin, vegetable oil, mineral oil and chlorinated naphthalene consisting essentially of said organic and kaolin clay, said kaolin clay modified with from 0.1% to 10%, based on the weight of the clay, of an organo-metallic complex of a chromium salt and a carboxylic acid containing up to 24 carbon atoms.

3,193,399

SILICONOXYNITRIDE BONDED SILICON CARBIDE ARTICLE AND METHOD

Malcolm E. Washburn, Northboro, Mass., assignor to Norton Company, Worcester, Mass., a corporation of Massachusetts

No Drawing. Filed July 28, 1960, Ser. No. 45,800

13 Claims. (Cl. 106—44)

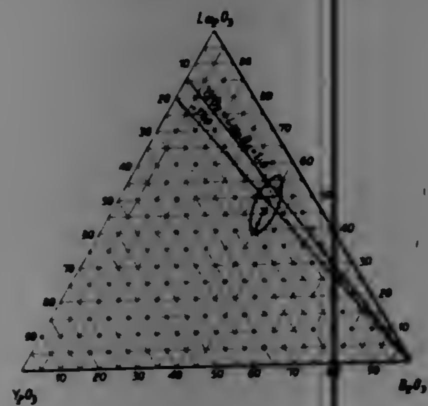
1. A solid rigid granular silicon carbide article wherein the granules are bonded with silicon oxynitride, said bond

of the article having an X-ray diffraction pattern having peaks at d. 4.44 A. and 4.67 A.

6. A process for the manufacture of a rigid refractory body from granular silicon carbide wherein the granules are bonded with a silicon nitride compound comprising mixing granular silicon carbide, finely divided silicon and a finely divided cyanamide compound, forming the mixture into a shape, and firing the shaped mixture at a temperature as low as about 1200° C. in an oxidizing atmosphere containing nitrogen and oxygen, the source of said nitrogen and oxygen in said atmosphere being selected from the group consisting of air and combustion gases and mixtures thereof, said firing producing reactions to form said silicon nitride compound which bonds the silicon carbide granules of the body, the said silicon nitride bonding compound constituting the principal bond for the silicon carbide granules of said body.

3,193,400
OPTICAL GLASS

Walter Geffcken, Mainz, Germany, assignor to Jenaer Glaswerk Schott & Gen., Mainz, Germany, a German corporation
Filed Mar. 19, 1962, Ser. No. 180,607
Claims priority, application Germany, Mar. 21, 1961, J 19,632
3 Claims. (Cl. 106—47)



1. An optical glass having a high refractive index of n_d 1.715–1.76 and a high Abbe value ν, essentially consisting of B_2O_3, La_2O_3 and Y_2O_3 in amounts falling within the encircled area of the three-component graph of the accompanying drawing, the remainder, if any, consisting of one or more oxides of the group of silica, alumina, high refracting oxides ZrO_2, Ta_2O_5, Nb_2O_5, CdO, the sum of these oxides not exceeding 5% by weight.

3,193,401
HIGH INDEX GLASS COMPOSITION

Ezra M. Alexander, Jackson, Miss., and Dominick Labino, Grand Rapids, Ohio, assignors to Cataphote Corporation, Toledo, Ohio, a corporation of Ohio
No Drawing. Continuation of application Ser. No. 168,528, Jan. 24, 1962. This application Apr. 23, 1963, Ser. No. 274,941
6 Claims. (Cl. 106—54)

1. A glass composition consisting essentially of from about 32% to about 37% by weight of TiO_2 from about 30% to about 48% by weight of at least one oxide selected from the group consisting of BaO and ZnO not less than about 30% being BaO, from about 3.5% to about 4.5% of at least one oxide selected from the group consisting of CaO and MgO, from 0 to about 2.5% of at least one oxide selected from the group consisting of Na_2O, K_2O and Li_2O, and from about 12% to about 21.0% by weight of at least one oxide selected from the group consisting of SiO_2, Al_2O_3 and B_2O_3 not less than about 8% being SiO_2.

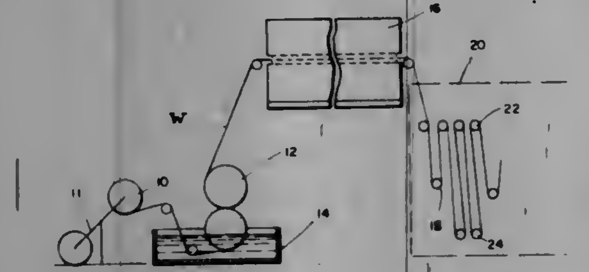
3,193,402
REFRACTORY COMPOSITION FOR REPAIRING FURNACES

Samuel Rusoff and Vaughn V. Hughey, Tiffin, Ohio, assignors to Basic Incorporated, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 21, 1961, Ser. No. 161,253
11 Claims. (Cl. 106—58)

1. A gunning mix consisting essentially of substantially dead-burned basic refractory particles, an alkali silicate bonding agent effective chemically to react with said basic refractory particles and bond one to another, and particles of pitch having a softening point sufficiently high to avoid softening prior to application of the mix, said pitch particle being susceptible to pyrolytic decomposition to form a carbon bond at temperatures generally higher than that at which said chemical bonding agent reacts with the refractory particles.

3,193,403
METHOD OF DRYING PAPER TO PRODUCE A COCKLE FINISH

George Robert Donelson, Adams, Mass., assignor, by mesne assignments, to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 28, 1961, Ser. No. 155,302
2 Claims. (Cl. 117—7)



1. The method of producing an improved cockle finish on a paper web with a wet sizing composition which becomes sticky during drying, the web being of the type which does not shrink uniformly when continuously subjected during drying to tensions exceeding a predetermined magnitude;

(a) wetting the web by application of a wet-sizing casein composition and increasing the moisture content of the web to an initial value greater than 36% by weight at which sticking defects are prevented by the presence of excess moisture;

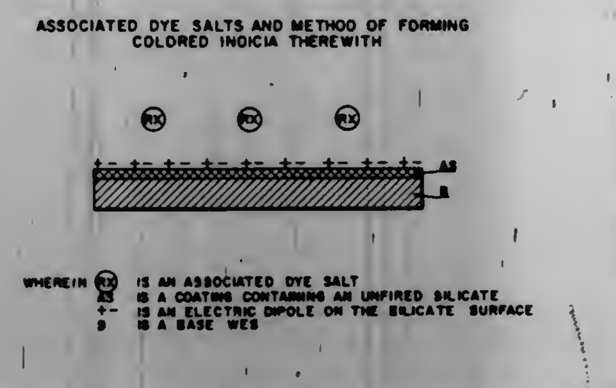
(b) predrying the wet web in a first dryer with the web supported by a plurality of jets of heated air and maintained under a first tension greater than said predetermined magnitude and sufficient to advance the web through the dryer free of mechanical contact within the dryer and simultaneously reducing the moisture content of the web from said initial value to an intermediate value between 17% and 11% by weight at which sticking defects are prevented by the lack of sufficient moisture;

(c) and thereafter completing drying of the web in a second dryer with the web mechanically supported and maintained under a second tension less than the predetermined magnitude whereby uniform cockling is produced without surface defects due to sticking.

3,193,404
ASSOCIATED DYE SALTS AND METHOD OF FORMING COLORED INDICIA THEREWITH

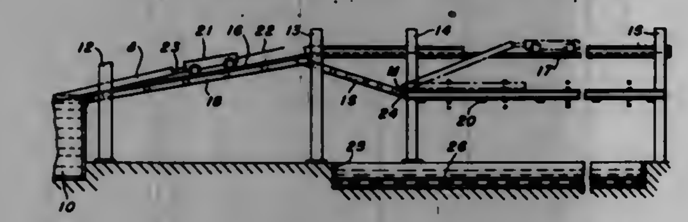
Chester Davis, 415 E. 5th St., Newport, Ky.
Filed June 5, 1962, Ser. No. 200,052
16 Claims. (Cl. 117—38)

1. The method of printing which comprises applying to an unfired silicate surface characterized by high ionizing power a substantially colorless associated salt of an arylmethane dye base characterized by a logarithmic dissociation constant below 7 and an organic sulfinic acid whereby physical contact of the associated compound and the silicate dissociates the compound to the intensely colored cation of the dye and produces color on the silicate surface.


ASSOCIATED DYE SALTS AND METHOD OF FORMING COLORED INDICIA THEREWITH
RX
AS
B
WHEREIN RX IS AN ASSOCIATED DYE SALT
AS IS A COATING CONTAINING AN UNFIRED SILICATE
+- IS AN ELECTRIC DIPOLE ON THE SILICATE SURFACE
B IS A BASE WEB

3,193,405
METHOD AND APPARATUS FOR REMOVING EXCESS COATING MATERIAL FROM ELONGATED MEMBERS

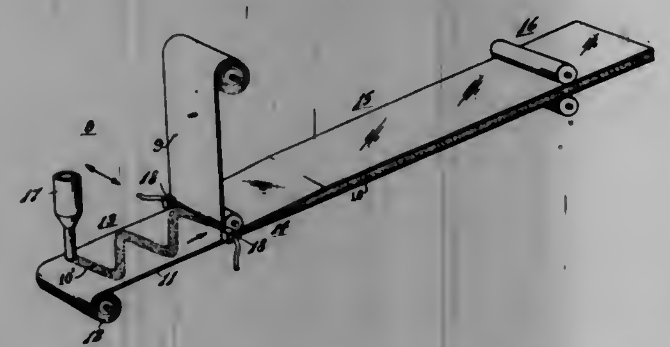
Blair Jankowski, 3618 Whitney St., Pittsburgh, Pa.
Filed May 11, 1962, Ser. No. 194,001
3 Claims. (Cl. 117—102)



1. A method of handling an elongated article as it is removed from a metal coating bath comprising applying a magnetic pulling force to one end of the article to move the article lengthwise with the end to which the force is applied moving first in an upwardly sloping direction and then in a horizontal direction, bumping the other end of the article down a series of steps while the end to which the force is applied moves horizontally to place the other end at a lower height and shake loose excess coating metal, and applying a stronger magnetic force to the other end of the article to free the first-named end and thus drop the article suddenly to knock loose more excess coating metal.

3,193,406
EDGE REGULATOR

Oscar R. Mittelman, Long Beach, N.Y., assignor, by mesne assignments, to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Dec. 7, 1961, Ser. No. 157,800
3 Claims. (Cl. 117—120)

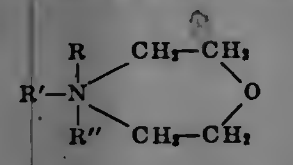


1. A method for controlling the width of a coating of polyurethane forming chemicals deposited on a sheet material and advancing therewith along a path in which said coating is transformed from a deposit state into a cured plastic foam intimately bonded to said sheet material to form a composite of plastic foam and sheet material, which method includes the directing of a gas stream having a preselected velocity and direction towards an edge of the advancing coating, which gas stream effectively restrains the sidewise flow of said coating to maintain a predetermined width thereof with respect to the width of said sheet material.

3,193,407
FINISHED POLYOLEFIN FIBERS AND METHOD OF PREPARATION

Ann S. Keller, Norristown, and Harry H. Hall, Springfield, Pa., assignors, by mesne assignments, to FMC Corporation, San Jose, Calif., a corporation of Delaware
No Drawing. Filed Apr. 19, 1962, Ser. No. 188,865
10 Claims. (Cl. 117—138.8)

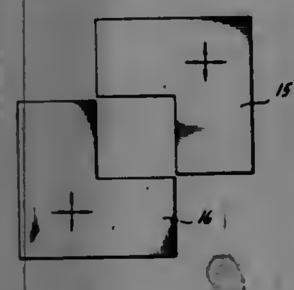
1. Polyolefin fibers having incorporated thereon a finish consisting of 3 to 5% by weight of a morpholine derivative of the following general formula:



wherein R is an alkyl sulfate having 1–2 carbon atoms, R′ is an aliphatic hydrocarbon radical having from 12–30 carbon atoms and R″ is an alkyl radical having 1–2 carbon atoms and from 97 to 95% by weight of a lubricant selected from the group consisting of fatty acid monoesters of polyethylene glycol wherein the fatty acid has from 12–18 carbon atoms and the polyethylene glycol has an average molecular weight of from about 200 to about 600 and glycerol trioleate.

3,193,408
METHOD FOR PRODUCING INTEGRATED CIRCUITRY COMPONENTS

David P. Triller, Indianapolis, Ind., assignor to the United States of America as represented by the Secretary of the Navy
Filed Aug. 22, 1961, Ser. No. 133,276
1 Claim. (Cl. 117—212)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A method of producing integrated circuitry on a substrate comprising:

first stationarily mounting a substrate,
then positioning at least two relatively movable masks over said substrate, the edges of said at least two relatively movable masks forming a fixed aperture above said substrate,
then randomly moving said fixed aperture formed by said movable masks while maintaining said fixed aperture above said substrate, said fixed aperture moving in a predetermined pattern relatively to said stationarily mounted substrate, and
simultaneously depositing a quantity of evaporated material through said fixed aperture during movement of said aperture relative to said substrate whereby a continuous pattern of evaporated material can be deposited onto said substrate.

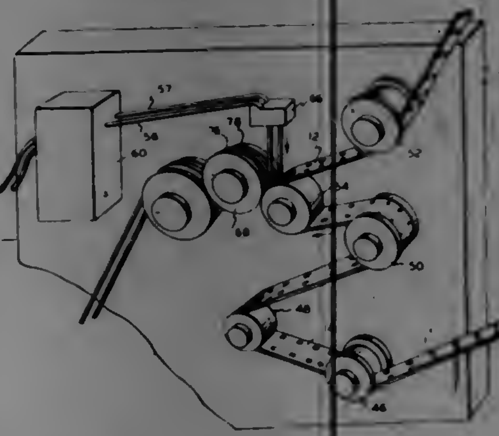
3,193,409
ALKALI-STABLE THIN-BOILING STARCHES AND METHOD OF MAKING SAME

Wilbur C. Schaefer and Charles R. Russell, Peoria, Ill., assignors to the United States of America as represented by the Secretary of Agriculture
No Drawing. Filed Jan. 16, 1963, Ser. No. 251,984
4 Claims. (Cl. 127—33)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Method of preparing granular starch derivatives that disperse readily in hot water to yield thin-boiling starches having improved resistance to degradation by alkaline additives comprising slurrying 1 part by weight of unmodified starch in about 1.1 parts by weight of a 1 to 5 weight percent anhydrous methanol solution of a member selected from the group consisting of anhydrous chlorine and anhydrous hydrogen chloride for between 0.5 and 2 hours at a temperature of 25° to 45° C., removing the reaction liquids to obtain the granules of reacted starch, substantially neutralizing the granules by slurrying in a weakly alkaline solution, washing the granules in several changes of water, and drying them in a stream of air at room temperature to provide a free flowing product in granule form.

3,193,410
METHOD AND APPARATUS FOR REMOVING A STRIP OF COATING FROM A PRE-COATED WEB

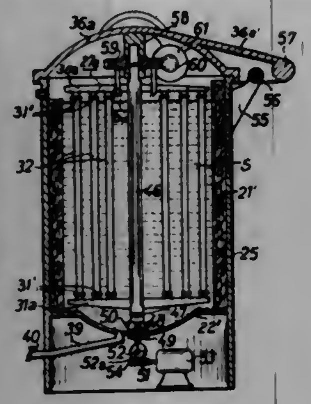
John L. Forrest, Windsor, and Arthur L. Tribou, Port Dickenson, N.Y., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 7, 1962, Ser. No. 171,708
5 Claims. (Cl. 134—9)



1. The method of removing a narrow strip of coating from a marginal portion of a web of photographic film which comprises:
- (a) carefully guiding the coated film web through a longitudinal path while firmly supporting said web,
- (b) feeding a long narrow string of width corresponding to the strip to be removed from a supply source past a dampening station and into frictional contact with the marginal portion of the web,
- (c) dampening the string at said dampening station with a solvent for said coating,
- (d) driving the string so as to cause relative motion between the web and the string so as to frictionally remove the coating from said marginal portion.

3,193,411
PROCESS AND APPARATUS FOR THE SEPARATION OF SOLID PARTICLES

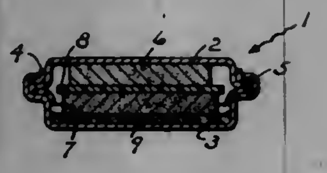
Helmut Käufer, Munich, Grunwald, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany
Original application Aug. 19, 1959, Ser. No. 834,762, now Patent No. 3,099,623, dated July 30, 1963. Divided and this application Oct. 31, 1961, Ser. No. 149,047
Claims priority, application Germany, Sept. 22, 1958, A 30,360
10 Claims. (Cl. 134—33)



1. A process for at least partially removing solid particles from solutions contained in developing tanks for exposed films and the like and for simultaneously shaking off solid particles adhering to the films immersed in the tanks, said process comprising the steps of subjecting the immersed films to a pulsating force; simultaneously circulating at least a portion of the contents of the developing tank at a speed of between 0.5–5 cm. per second; and subjecting the circulating contents to substantially pressureless action of filters with a mesh of between 0.2–5 mm.

3,193,412
ELECTRIC BATTERY

Alvin J. Salkind, Princeton, and Ernest Weiss, Trenton, N.J., assignors to The Electric Storage Battery Company, a corporation of New Jersey
Filed Feb. 20, 1962, Ser. No. 174,417
7 Claims. (Cl. 136—6)



1. A battery comprising a container, at least one positive electrode in said container, at least one negative electrode in said container, said positive and negative electrodes being separated by a porous, insulating separator member, and a resilient, gas permeable, electrically conductive, foam rubber spacing member in contact with one of said electrodes, said foam rubber spacing member having a plurality of interconnected pores and a finely divided conductive material dispersed in a substantially continuous phase therethrough, and said spacing member being compressed so as to provide a compressive force upon said electrodes and separator.

3,193,413
METHOD FOR ACTIVATING AND ISOLATING A GALVANIC BATTERY AND GALVANIC BATTERY PRODUCED ACCORDING TO SAID METHOD

Pentti J. Tamminen, Otakallio, Otaniemi, Finland
Filed July 12, 1961, Ser. No. 123,460
8 Claims. (Cl. 136—90)

1. A method for activating and isolating galvanic batteries which comprises, providing a frame forming a plurality of oblong compartments having electrodes of opposite polarities therein, with said compartments having at least one of their ends open, dipping said frame in an activating medium to cause simultaneous penetration of said compartments by said medium and, thereafter, dipping said frame simultaneously in a flowable isolating medium inert with respect to the activating medium and causing said isolating medium to penetrate said cells to sufficient extent to isolate each of them from each other.

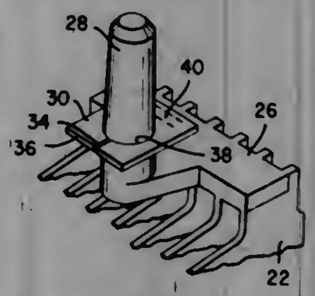
3,193,414
PROCESS FOR MANUFACTURING A GAS-PERMEABLE AND LIQUID-PROOF POROUS ELECTRODE

Raymond Emeriat, Paris, France, assignor to Societe des Accumulateurs Fixes et de Traction (Societe Anonyme), Romainville, France, a company of France
Filed Nov. 14, 1960, Ser. No. 69,137
Claims priority, application France, Nov. 17, 1959, 810,421
1 Claim. (Cl. 136—122)

A process for manufacturing a porous electrode comprising providing a finely divided mixture of carbon and metal particles, adding a solution of polystyrene in trichloroethylene to this mixture to obtain a paste in which the polystyrene is present in the amount of from approximately 7% to approximately 15% of the weight of the particles, straining this paste, molding the strained paste into a body of desired shape, then drying the shaped body at a temperature of from 95°–100° C. for about 20 hours to evaporate the trichloroethylene therefrom and provide a uniformly deposited, thin coating layer on said particles binding the latter together so as to provide uniform pore size in the dried shaped body and in which the particles are coated with a thin, porous, gas-permeable layer of polystyrene.

3,193,415
BATTERY MARKING DEVICE

William C. Ray, Toledo, and Joseph L. Rooney, Sylvania, Ohio, assignors to Eltra Corporation, a corporation of Ohio
Filed Nov. 6, 1961, Ser. No. 150,494
2 Claims. (Cl. 136—181)



1. In a device of the class described, a storage battery with an enclosed chamber housing the battery elements and corrosive electrolyte, a coding member formed of corrosion-resistant material, removably positioned on one of the battery elements, and means on the member to attach the member to the battery element within the enclosed chamber of the battery during normal use of the battery.

3,193,416
PROCESS OF DYEING ANODIZED ALUMINUM

Christian E. Michelson, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation
No Drawing. Filed Sept. 10, 1962, Ser. No. 222,654
5 Claims. (Cl. 148—6.1)

1. In the process of coloring anodized aluminum with a dye followed by sealing the dye in the aluminum oxide coating, the improvement which comprises, applying to the anodized aluminum a dye solution containing a vat dye in the leuco ester form and a dimethyl sulfoxide solvent, and oxidizing the leuco ester to the insoluble form.

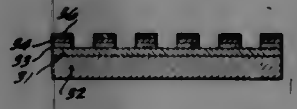
3,193,417
ENAMELING STEEL

Michael C. Kopchak, Chicago, Ill., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Dec. 5, 1962, Ser. No. 242,352
12 Claims. (Cl. 148—31)

4. An aluminum killed, rephosphorized, decarburized enameling steel containing about .005 wt. percent max. carbon, from about .30 wt. percent to about .40 wt. percent manganese, from about .035 to about .08 wt. percent phosphorus, about .030 wt. percent max. sulfur, and from about .02 to about .08 wt. percent aluminum, the balance being essentially iron.

3,193,418
SEMICONDUCTOR DEVICE FABRICATION

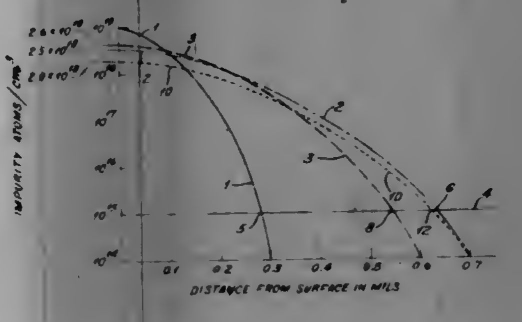
Theodore W. Cooper, Santa Ana, and Preston V. Cheney, Costa Mesa, Calif., assignors by mesne assignments, to Fairchild Camera and Instrument Corporation, Syosset, N.Y., a corporation of Delaware
Filed Oct. 27, 1960, Ser. No. 71,858
1 Claim. (Cl. 148—189)



In the process of fabricating a semiconductor device by the diffusion of a conductivity-type-determining impurity into selected portions of a semiconductor body through openings in a silicon oxide coating on said semiconductor body, the improvement comprising:
- (1) forming a silicon oxide coating on a surface of said silicon semiconductor body by thermal oxidation;
- (2) depositing from a vapor on said oxide coating an adherent film of metal selected from the class comprising germanium, chromium, cadimum, nickel and alloys thereof, said film having a thermal coefficient matched to said body;
- (3) forming a film of photo-sensitive polymerizable material on said metal film;
- (4) exposing, developing, and selectively removing undeveloped portions of said photo-sensitive polymerizable material to expose selected areas of said metal film to expose selected areas of said oxide film;
- (5) removing said exposed areas of said metal film to expose selected areas of said oxide film;
- (6) removing the entire thickness of the oxide film underlying said exposed areas of said oxide film to expose a selected surface portion of said semiconductor body;
- (7) and thereafter subjecting said exposed surface portion of said semiconductor body to an atmosphere containing said conductivity-type-determining impurity to thereby diffuse said impurity into selected portions only of said semiconductor body.

3,193,419
OUTDIFFUSION METHOD

Charles L. White, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 30, 1960, Ser. No. 79,690
9 Claims. (Cl. 148—191)



1. A method for reducing the impurity surface concentration of a semiconductor comprising the steps of placing the semiconductor in a chamber, evacuating said chamber with a vacuum system, sealing said evacuated

chamber from said vacuum system, heating said semiconductor in said chamber to a temperature sufficient to outdiffuse impurities contained therein, evacuating said chamber a second time, sealing said evacuation chamber from said vacuum system a second time, and thereafter lowering the temperature of said semiconductor sufficient to stop further outdiffusion.

3,193,420
CATALYZED METAL FUEL CONTAINING A PEROXIDE

Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio

No Drawing. Original application Aug. 25, 1961, Ser. No. 133,796. Divided and this application June 3, 1963, Ser. No. 284,854

9 Claims. (Cl. 149—8)

1. A fuel comprising in combination, a mixture of powdered coal, aluminum powder coated with a metal stearate, and peroxide, said peroxide being 0.5 to 2% by weight of the fuel solids.

3,193,421
GAS-GENERATING COMPOSITIONS CONTAINING HYDROXYL AMMONIUM OXALATE COOLANTS AND METHODS FOR THEIR USE

Ernest S. Sutton, Jr., Newark, Del., assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

No Drawing. Filed Mar. 20, 1963, Ser. No. 266,497

24 Claims. (Cl. 149—19)

1. A curable homogenous gas-generating composition composed essentially of from about 10–60% by weight of hydroxyl ammonium oxalate coolant combined with:

(1) from about 20–80% by weight of perchlorate oxidizer selected from the group consisting of ammonium perchlorate, the alkali metal perchlorates and the alkaline earth metal perchlorates,

(2) from about 15–35% by weight of combustible fuel binder,

(3) from about 0–10% by weight of a propellant adjuvant.

18. The method of preparing a cured gas-generating composition which comprises mixing:

(1) from about 20–80% by weight of perchlorate oxidizer selected from the group consisting of ammonium perchlorate, the alkali metal perchlorate, and the alkaline earth metal perchlorates,

(2) from about 15–35% by weight of a combustible fuel binder including curing agents,

(3) from about 20–60% by weight of hydroxyl ammonium oxalate coolant, and

(4) from about 0–10% by weight of a propellant adjuvant, and casting the resultant mixture into a desired configuration and curing said mixture into a cured gas-generating composition.

3,193,422
SMOKE AGENTS

Johannes Buck, deceased, late of Bad Uberkingen, Germany, by Hedwig Buck, sole heiress, 21 Geislinger Strasse, Bad Uberkingen, Germany, and Ludwig Scheichl, 95 Romerstrasse, Duisdorf, near Bonn, Germany

No Drawing. Filed Feb. 19, 1962, Ser. No. 174,306

2 Claims. (Cl. 149—29)

1. A smoke generating composition comprising:

(a) red phosphorus;

(b) an oxidizing agent in an amount at least sufficient to oxidize said phosphorus;

(c) an ammonium salt vaporizable by the heat of oxidation of said phosphorus by said oxidizing agent; and

(d) between 4 and 12 percent by weight of a hydrocarbon having a boiling point substantially between 200° C. and 380° C.

3,193,423
ETCHING PRINTING PLATES

Daniel Louis Goffredo, 104 Main St., Riverton, N.J.

No Drawing. Filed Sept. 25, 1962, Ser. No. 226,154

6 Claims. (Cl. 156—14)

1. The method of making etched plates comprising an etch resistant image on a metal selected from the group consisting of magnesium, magnesium base alloys, zinc and zinc base alloys and thereby impinging an etching solution against the printing plate with controlled velocity at a predetermined angle wherein the etching solution consists of an aqueous solution of a water soluble persulfate compound, whereby a deposit forms from the solution and adheres to the edges of the etched surfaces and protects them from undercutting while etching down into the metal.

3,193,424
PROCESS FOR ADHESIVE BONDING

John A. Scott, North Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Oct. 31, 1961, Ser. No. 148,829

4 Claims. (Cl. 156—73)

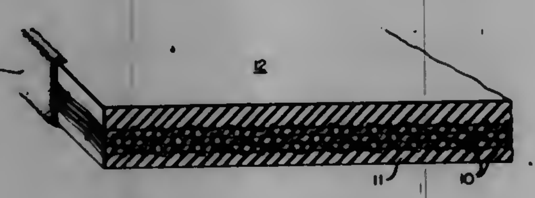
1. The method of forming an adhesive bond between two substantially plane aluminum surfaces which comprises: providing a liquid adhesive containing a finely divided solid abrasive substance; placing said substantially plane aluminum surfaces in confronting relationship with a layer of said liquid adhesive containing said abrasive disposed therebetween; developing a relative movement between the faying surfaces to impart a movement to said particles relative to said surfaces and to abrade said surfaces; and hardening said adhesive to bond said confronting surfaces together.

3,193,425
EDGE BONDING OF CONVEYOR BELTS

Dennis W. Holdsworth, Lincoln, Mass., assignor to American Biltrite Rubber Co., Inc., Chelsea, Mass., a corporation of Delaware

Filed Apr. 10, 1963, Ser. No. 272,119

8 Claims. (Cl. 156—137)



1. The process of producing round-edge belting having elastomeric covering material. which comprises the following steps, viz.,

(1) leading to an edge of the belting a fabric backing tape carrying a ribbon of uncured elastomeric material adhesively attached thereto,

(2) folding the ribbon with its backing tape about the edge of the belting,

(3) securing the backing tape directly to the flat faces of the belting while the elastomeric ribbon is confined within the backing tape,

(4) heating and molding the elastomeric material of the belting and the ribbon while confined by the backing tape, and

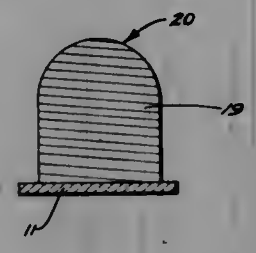
(5) stripping the used tape from the belting, leaving the molded elastomeric ribbon as a rounded integral edge portion of the belting.

3,193,426
ENCAPSULATING ARTICLES WITH RESINOUS MATERIALS AND TAPES USEFUL THEREFOR

Kenneth A. Schafer, Cedarburg, Wis., assignor to Freeman Chemical Corporation, Port Washington, Wis., a corporation of Delaware

Filed Aug. 16, 1961, Ser. No. 131,842

5 Claims. (Cl. 156—185)



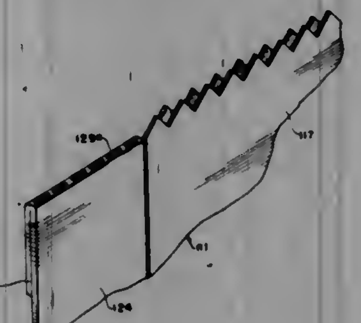
1. An encapsulating tape comprising a strip of sheet foamed polyurethane having open, connected cells and being impregnated with an unpolymerized, polymerizable thermosetting resinous composition in liquid form.

3,193,427
METHOD OF MAKING DISPENSING CARTON WITH CUTTING EDGE

Francis W. Rogers, Newark, N.Y., assignor to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 14, 1962, Ser. No. 223,705

8 Claims. (Cl. 156—211)



4. The method of making a paperboard panel having an impregnated and reinforced edge which comprises,

(a) providing a paperboard section of a size and shape larger than said panel,

(b) forming a line cut in said section to define a predetermined edge to be reinforced and to provide an opposed edge,

(c) maintaining said predetermined edge and said opposed edge in abutting relation to provide a capillary passage having a predetermined degree of absorbability, and

(d) applying a reinforcing impregnating composition to one surface only of said paperboard along a predetermined area inclusive of said line cut while said edges are maintained in abutting relation, whereby said passage limits the flow of said composition thereby limiting its application substantially to said one surface and said edges.

8. The method of claim 4, in which

(a) the portion of said paperboard section including said opposed edge is maintained in attached relation to the remainder of said section, and

(b) said portion is folded over upon and secured to the remainder of said section.

3,193,428
LAMINATION OF POLYMERIC 3,3-BIS(CHLOROMETHYL) OXETANE TO BUTADIENE-ACRYLONITRILE RUBBER

David A. Palmer, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 15, 1961, Ser. No. 152,619

7 Claims. (Cl. 156—244)

3. A process for preparing a laminate comprising a layer consisting essentially of plasticized, vulcanizable butadiene-acrylonitrile rubber containing a major portion of butadiene adhesively secured to a layer of a homopolymer of 3,3-bis(chloromethyl)oxetane having a molecular weight in excess of 10,000, which comprises melt extruding a sheet of said homopolymer of 3,3-bis(chloromethyl)oxetane having a molecular weight in excess of 10,000 onto a moving web of unvulcanized butadiene-acrylonitrile rubber, and cooling the resultant laminate.

3,193,429
METHOD OF MAKING A LAMINATE OF SILANE TREATED GLASS FIBERS

Luther L. Yaeger, Madison, Wis., assignor to Bjorksten Research Laboratories, Inc., Fitchburg, Wis., a corporation of Illinois

No Drawing. Continuation of abandoned application Ser. No. 273,770, Feb. 27, 1952. This application Apr. 9, 1956, Ser. No. 576,816

1 Claim. (Cl. 156—329)

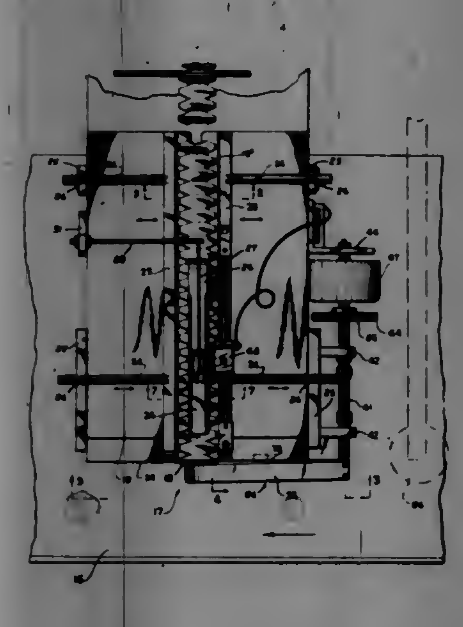
In the process of preparing a laminate comprising plastic laminated to glass fibers, the preparatory steps of applying vinyl trichlorosilane to the surface of a glass fiber, and washing the resultant product with water to provide enhanced bonding through oxygen atoms of molecules of said silane to the glass surface of said fiber and to one another and to remove halogen atoms which may remain attached to the silicon atoms of said silane molecules by forming halogen acid and substituting —OH radicals for said halogen atoms and to dissolve and then remove halogen acid formed by said reactions, and then drying the resultant product to remove water which remains on said product.

3,193,430
AUTOMATIC LABELING APPARATUS

Edwin E. Messmer, Roslyn Heights, and Normand A. Blain, Uniondale, N.Y., assignors to Amsco Packaging Machinery, Inc., Long Island City, N.Y., a corporation of New York

Filed Apr. 11, 1960, Ser. No. 21,438

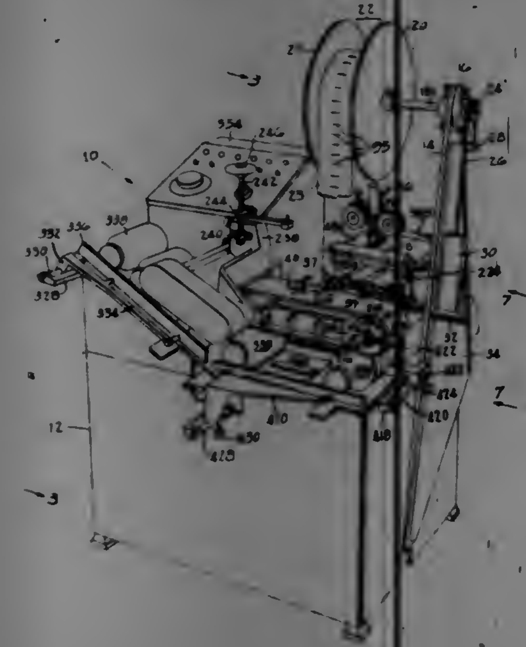
10 Claims. (Cl. 156—355)



1. In an apparatus for applying labels to containers, a conveyor for advancing successive containers to and

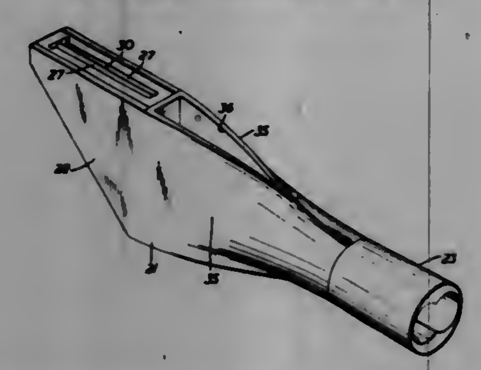
past a labeling station, a label supply in the form of a continuous ribbon comprising labels separably arranged end to end, means for intermittently advancing said ribbon to bring the endmost label to the labeling station, an applicator mounted in a normal rest position and movable to engage said endmost label and apply it to a container moving through the labeling station, said applicator comprising a pair of superposed fingers spaced apart when said applicator is in its normal rest position whereby the endmost label may be advanced between them and said fingers coming together upon being moved into engagement with said label so as to grasp the latter between them, activatable means for moving said applicator, and control means responsive to the movement of containers past it for activating said activatable means only when a container is in a label-receptive position.

3,193,431
LABELING MACHINE
Maurice Seifert, Wyndmoor, Pa.
Filed June 7, 1961, Ser. No. 115,352
7 Claims. (Cl. 156—384)



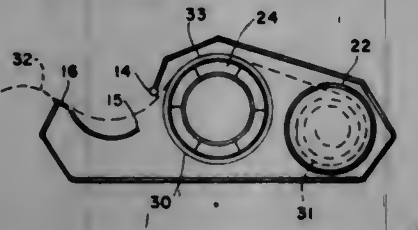
1. A labeling machine comprising a framework, a supply reel on said framework for holding a rolled up strip of labels, feed means on said framework for feeding said strip from said reel in a longitudinal path, indexing means operatively connected to said feed means to intermittently halt the operation of said feed means, actuating means operatively connected to said feed means to intermittently actuate said feed means, an imprinting means on said framework to intermittently apply indicia to said strip as it moves from said reel, said imprinting means being operatively connected to said feed means and indexing means to apply said indicia at predetermined intervals along said strip as determined by said feed means and indexing means, a severing means operatively connected to said feed means and indexing means to sever a label from said strip at predetermined intervals determined by said feed means and indexing means, a label-applying means on said framework, conveying means for conveying a severed label to said label-applying means, and delivery means on said framework for delivering articles to be labeled to said label-applying means, said label-applying means being constructed and arranged to rotate said articles in surface contact with said labels whereby, when the adjacent surface of a label is adhesive, it will adhere to the surface of a corresponding article.

3,193,432
APPARATUS FOR FORMING TUBING FROM FLEXIBLE RESILIENT STRIP MATERIAL
John Kenneth Wadsworth Baines, Gidea Park, England, assignor of two-thirds to Alex Sabin Baines, Romford, England, and Thomas Bryan Creasy Davis, Gidea Park, England, jointly
Filed Mar. 27, 1963, Ser. No. 268,271
Claims priority, application Great Britain, Mar. 30, 1962, 12,381/62
6 Claims. (Cl. 156—467)



1. Tube forming apparatus of the kind specified for forming a tube from two lengths of flexible resilient strip material by causing each edge of one strip to engage with the adjacent edge of the other strip, one of each adjacent pair of engaging edges being provided with recesses and the other edge of the pair being provided with tab formations to engage in said recesses, characterised in that the feeder conduit forms two separate continuous passages respectively adapted to receive the two strips, the passages extending separately and continuously in side-by-side relationship from the upper end of the upper portion of the conduit to the tube former at the rear end of the lower portion of the conduit, and each passage being of flattened form throughout the upper portion of the conduit but becoming progressively increasingly transversely curled towards the other passage between the leading and rear ends of the generally horizontal lower portion of the conduit.

3,193,433
DISPENSING APPARATUS
Henry B. Tillotson, 226 Valley View Place, Minneapolis 19, Minn.
Filed Apr. 9, 1962, Ser. No. 186,051
5 Claims. (Cl. 156—527)



1. A portable, hand-operated device for laminating and dispensing a strip of double-coated non-backed pressure sensitive tape and a strip of material having a width at least equal to the width of said tape, comprising:

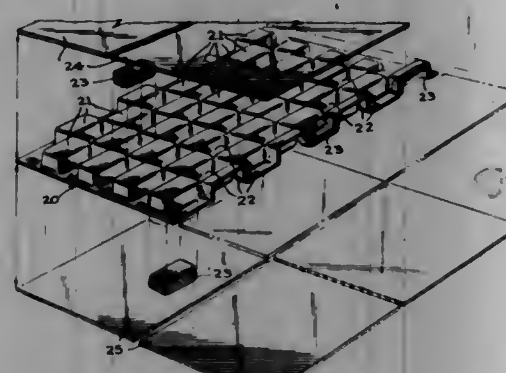
an elongate housing including a back wall, depending sides securely attached at the perimeter of said wall, and a cover which cooperates with the exposed edge of said sides to form a hollow enclosure, said sides having an exit opening formed therein;

a cylindrical sleeve member attached intermediate said back wall and cover for housing a roll of said material, said member having a second exit opening along the length thereof;

a cylindrical hub having shoulders at each end thereof attached intermediate said back wall and cover, rotatably supporting a roll of said tape between said shoulders, and positioned such that a line extended between said exit openings intersects at least a portion of said roll of tape; and

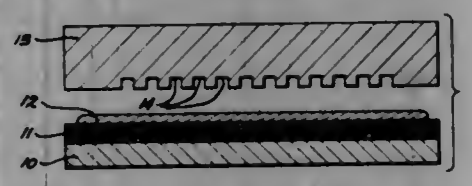
a tear-off edge fastened to said housing in close proximity to said first exit opening to permit cutting random lengths of the material-tape laminate.

3,193,434
DECORATIVE ARCHITECTURAL PANELS AND METHOD OF PRODUCING SAME
Alexander C. H. Weiss, P.O. Box 755, Boca Raton, Fla.
Filed July 12, 1961, Ser. No. 123,484
5 Claims. (Cl. 161—6)



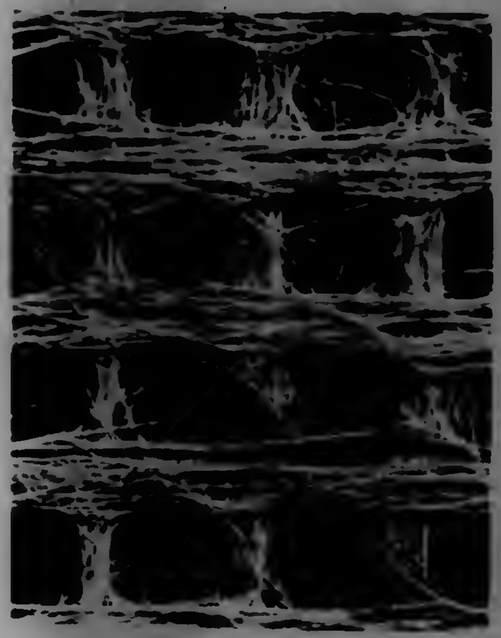
1. A decorative architectural structural panel comprising at least one preformed thermoplastic translucent core element of substantial overall thickness, said core element having a multiplicity of spaced individual pockets in each opposite face thereof and a like number of flat surface portions on each opposite face thereof, said surface portions on each opposite face of the core element being in the same plane and collectively forming on each opposite face a substantial flat surface area for bonding, a plurality of individually preformed variously colored thin sheet material inserts engageable bodily and interchangeably within selected pockets of said core element to form a variable three dimensional color pattern in said panel, said inserts substantially entirely covering the walls of the pockets into which they are placed and thereby creating the illusion of a solid material color filler in each pocket, and at least one flat translucent cover sheet bonded to one face of the core element and covering the open sides of the pockets having said inserts therein and thereby retaining the inserts in said pockets.

3,193,435
LAMINATED ARTICLES HAVING DEEPLY EMBOSSED SURFACES AND METHOD OF MAKING SAME
Kenneth A. Schafer, Cedarburg, Wis., assignor to Freeman Chemical Corporation, Port Washington, Wis., a corporation of Delaware
Filed Aug. 16, 1961, Ser. No. 131,845
13 Claims. (Cl. 161—40)



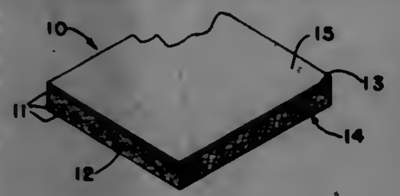
1. A laminated article comprising a structural backing member and at least one layer of flexible foamed polyurethane having open connected cells, said polyurethane sheet being impregnated with a non-foaming thermoset resinous material which has been cured to a hardened thermoset condition while the said foamed polyurethane sheet was maintained at least in part under compression between the said backing member and an embossed molding element whereby the resulting laminated article has an embossed surface corresponding to that of the said molding element, said surface having the said foamed polyurethane in abutment therewith over its entire area, and the said foamed polyurethane is substantially flattened from its initial uncompressed thickness, the amount of such flattening corresponding with the embossments of the said embossed surface.

3,193,436
NONWOVEN FABRIC
Frank Kalwaites, Somerville, N.J., assignor, by mesne assignments, to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey
Filed July 22, 1960, Ser. No. 44,816
9 Claims. (Cl. 161—59)



1. A fabric comprising a plurality of layers each consisting essentially of parallel, untwisted yarn-like strands of parallel longitudinally aligned compacted textile fibers of about ¼ inch to about 2 inches in length in cohesive contact with one another along their lengths and in mechanical equilibrium, the strands of adjacent layers lying at an angle to one another and being bonded with one another where the strands cross.

3,193,437
LAMINATED ARTICLES CONTAINING SHEETS OF FLEXIBLE FOAMED PLASTICS AND METHOD FOR MAKING THE SAME
Kenneth A. Schafer, Cedarburg, Wis., assignor, by mesne assignments, to Freeman Chemical Corporation, Port Washington, Wis., a corporation of Delaware
Filed July 19, 1961, Ser. No. 125,272
13 Claims. (Cl. 161—89)



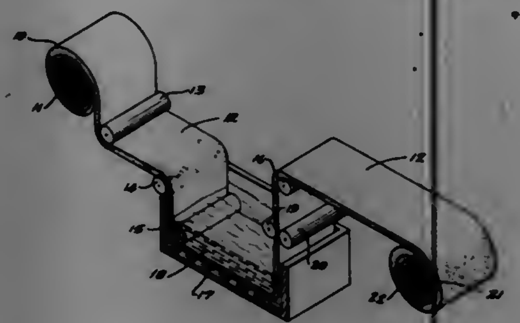
1. A reinforced laminated article having a glass-fiber mat, a resilient sheet of flexible foamed polyurethane having connected open cells and an unsaturated polyester resin filler disposed throughout the interstices of said mat and said sheet, the said sheet being disposed over one exposed surface of the said article, said unsaturated polyester resin being cured to a thermoset condition while the said article is maintained under compression whereby the said connected open cells of the said foamed polyurethane sheet are compressed and entirely filled with the said unsaturated polyester resin and the said sheet is substantially flattened from its initial uncompressed thickness.

3,193,438
IMPREGNATED FOAMED RESIN AND USE THEREOF

Kenneth A. Schafer, Cedarburg, Wis., assignor to Freeman Chemical Corporation, Port Washington, Wis., a corporation of Delaware

Filed Aug. 16, 1961, Ser. No. 131,839

16 Claims. (Cl. 161—89)



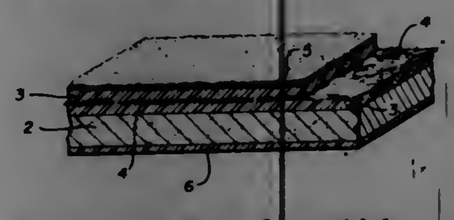
1. A flexible, resilient, foamed polyurethane sheet having open, connected cells for use in laminating or molding thermoset resinous articles, said sheet being impregnated with an ethylenically unsaturated monomeric liquid which is copolymerizable with a thermosetting resin, the said foamed polyurethane sheet having increased dimensions and greater drapability as a result of the impregnation.

3,193,439
FIRE RESISTANT ASPHALT ROOFING AND METHOD OF MANUFACTURE

Forest W. Price, Berkeley, and Henry F. Koopmann, Kensington, Calif., assignors to Fibreboard Paper Products Corporation, San Francisco, Calif., a corporation of Delaware

Filed June 15, 1961, Ser. No. 117,375

10 Claims. (Cl. 161—93)



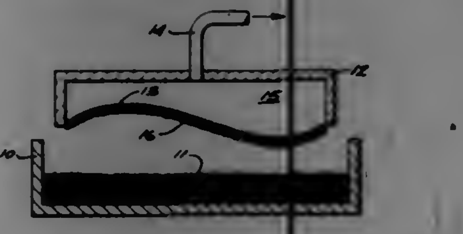
1. A fire resistant asphalt roofing which comprises a felt base of organic fibers saturated with a first asphalt, a coating layer above the felt base of a second asphalt having a softening point above that of the first asphalt and which forms a scum when subjected to fire, and an open-textured substantially continuous layer of glass fibers united to the asphalt coating, said layer of glass fibers having substantial apertures therein which extend through said layer of glass fibers and which are filled with asphalt from said asphalt coating layer.

3,193,440
LAMINATED ARTICLES AND LAMINATING PREFORMS THEREFOR

Kenneth A. Schafer, Cedarburg, Wis., assignor to Freeman Chemical Corporation, Port Washington, Wis., a corporation of Delaware

Filed Aug. 16, 1961, Ser. No. 131,836

10 Claims. (Cl. 161—159)



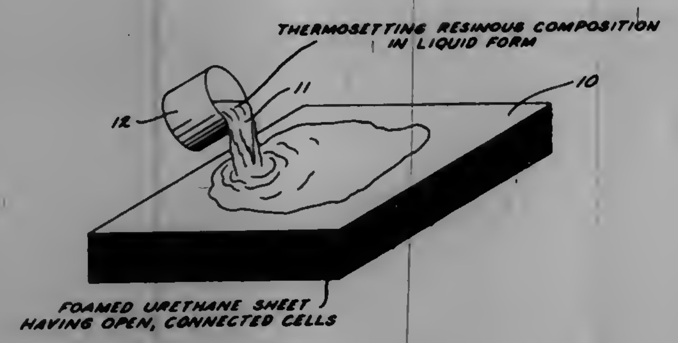
1. A laminated article having a grained surface configuration comprising a formed unitary structure fabricated from resilient fragments of flexible foamed polyurethane having open, connected cells, the said unitary structure being impregnated with a thermosetting resinous composition which has been cured to an essentially foam-free hardened thermost condition while the said unitary structure was maintained under compression against a molding surface which is substantially coextensive with the said unitary structure and which is in compressive abutment with the said unitary structure whereby the said fragments are substantially flattened from their initial uncompressed thickness.

3,193,441
LAMINATED ARTICLES AND METHOD OF MAKING SAME

Kenneth A. Schafer, Cedarburg, Wis., assignor to Freeman Chemical Corporation, Port Washington, Wis., a corporation of Delaware

Filed Aug. 28, 1961, Ser. No. 134,253

11 Claims. (Cl. 161—159)



THERMOSETTING RESINOUS COMPOSITION IN LIQUID FORM
11
10
12
FOAMED URETHANE SHEET HAVING OPEN, CONNECTED CELLS

1. A substantially non-porous laminated article comprising a resilient sheet of flexible foamed polyurethane having open, connected cells, said laminated article having its open cells substantially entirely filled with a thermosetting resinous composition in a hardened, thermoset condition, the said thermosetting resinous composition having been cured while the said foamed polyurethane was maintained under compression whereby the said foamed polyurethane is substantially flattened from its initial uncompressed thickness and is substantially uniformly disposed throughout the said article.

5. The laminated article of claim 1 wherein a plurality of layers of foamed polyurethane are utilized in a sandwich assembly.

3,193,442
NON-WOVEN PRODUCTS COMPOSED OF NON-UNIFORMLY DRAWN STAPLE FIBERS

Francis Schulz and William Glen, Harrogate, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Dec. 26, 1961, Ser. No. 162,238

5 Claims. (Cl. 161—169)

1. A fibrous product of synthetic organic polymer fibres having a staple length of one to six inches, predominantly lying in a parallelised condition and a minor proportion lying in a non-parallel position the non-parallel fibres thereby interlacing a proportion of the parallelised fibres to form a self-supporting consolidiatable structure, a major proportion of the fibres having non-uniformly drawn portions along the length of each fibre, the birefringence of said fibre varying by at least 25×10^{-3}.

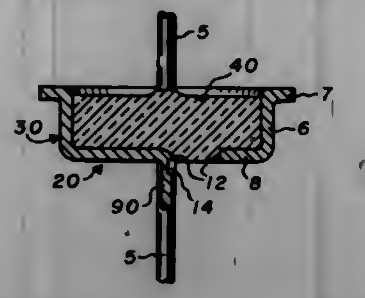
5. A fibrous product according to claim 1 in which at least a substantial proportion of the fibres consist of stereo-specific polypropylene fibres having a birefringence between 0.0015 and 0.03 and containing portions in which the difference in birefringence is about 25×10^{-3} between the stated values.

3,193,443
SEMI-CONDUCTOR HEADER

James H. Clark and Rafael Landron, Jr., Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Nov. 4, 1960, Ser. No. 67,416

3 Claims. (Cl. 161—196)



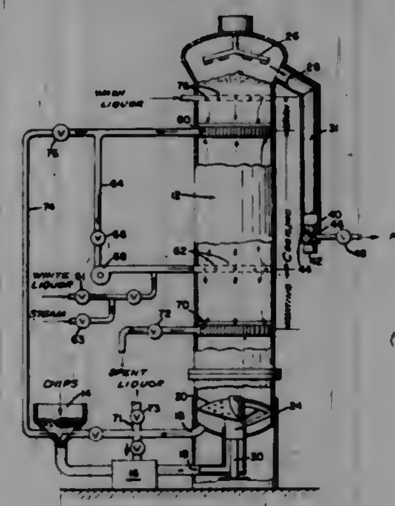
1. A semiconductor header comprising a metallic shell and an insulating material therein, one portion of said shell being a bottom plate with an aperture therein, and a bent-out tab extending downwardly from said bottom plate adjacent said aperture, said bent-out tab having a groove therein adjacent said aperture to prevent said insulating material from flowing through said aperture onto said tab.

3,193,444
CONTINUOUS SULPHATE PULPING METHOD WITH COUNTERCURRENT HEATING AND CONCURRENT COOKING ZONES AND APPARATUS THEREFOR

Dale E. Benjamin, Lewiston, Idaho, assignor to Potlatch Forest, Inc., Lewiston, Idaho, a corporation of Delaware

Filed Oct. 29, 1962, Ser. No. 233,534

5 Claims. (Cl. 162—19)



1. A method for the continuous cooking of wood chips comprising

continuously maintaining a vertical column of wood chips in a fluid medium while advancing wood chips throughout the length of said column from the input to the output end thereof
introducing wood chips to the input end of said column and
discharging cooked chips from the output end of said column
meanwhile treating said wood chips in two successive zones in said column,
a heating zone adjacent the input end of said column and
a cooking zone spaced from the input end of said column by said heating zone,
removing liquid from the end of said cooking zone remote from said heating and cooking zones and
introducing a heated chemical agent comprising a solution of sodium hydroxide, sodium carbonate, and sodium sulfide and reintroducing at least a portion of said removed liquid at a location within the column between said heating and cooking zones and
removing liquid from the input end of said column thereby causing liquid flow throughout said heating zone in a direction toward the input end of said column and throughout said cooking zone in a direction away from the input end of said column.

4. Apparatus for the continuous cooking of wood chips comprising:

wood chip lifting means mounted adjacent the entrance end of said vessel to exactly lifting force directly only on wood chips located at the entrance end of said vessel progressively to compact said wood chips and to advance the mass of said wood chips progressing upwardly throughout said zones while permitting free movement of liquid through said mass,
wood chip discharge means adjacent the upper end of said vessel effective to maintain a predetermined level of the top of said mass of wood chips below the top of said vessel,
lower strainer means adjacent the bottom of said vessel
upper strainer means adjacent the top of said vessel for removal of liquid from said vessel
inlet means for introducing a heated chemical treating agent into said vessel, at a location spaced between said upper and lower strainer means,
means for recirculating liquid from said upper strainer means into said vessel at said location within said vessel spaced between said upper and lower strainer means
said inlet means and strainer means causing liquid flow in a downward direction from the injection point of said liquid to said lower strainer means and
in an upward direction from the injection point of said liquid to said upper strainer means.

3,193,445
METHOD OF BLEACHING CELLULOSIC MATERIALS WITH HYDROGEN PEROXIDE

Walter F. Parker, Pittsburgh, Pa., and Garry L. Burroway, Barberton, Ohio, assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed July 16, 1962, Ser. No. 210,193

8 Claims. (Cl. 162—76)

1. A method of bleaching cellulosic material which comprises contacting said material with aqueous hydrogen peroxide solution to provide bleached material in contact with residual hydrogen peroxide and thereafter treating such bleached material still in contact with residual hydrogen peroxide with anhydride of 2 to 8 carbon carboxylic acid.

3,193,446
LATEX BONDED ASBESTOS FIBER SHEET MATERIAL

Bernard J. Eisenberg, Naugatuck, Conn., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 26, 1962, Ser. No. 240,148

6 Claims. (Cl. 162—145)

2. In a process of producing a water-laid, latex bonded, fibrous sheet material from a water slurry of asbestos fibers which release metallic ions in water, the improvement which comprises controlling the deposition of the latex by employing a latex system comprising 97–70% by weight of a rubbery polymeric material selected from the group consisting of a butadiene-styrene copolymer and a butadiene-acrylonitrile copolymer and from 3–30% of a rubbery polymeric material selected from the group consisting of a butadiene-styrene-itaconic acid terpolymer, a butadiene-styrene-methacrylic acid terpolymer and a styrene-butadiene-methacrylamide terpolymer.

6. A latex bonded fiber sheet material comprising asbestos fibers that release metallic ions in water and organic cellulosic fibers, in equal parts by weight, bonded with a

latex, said latex comprising a mixture of about 97–70% of a rubbery polymeric material selected from the group consisting of butadiene-styrene copolymer and a butadiene-acrylonitrile copolymer and from 3–30% of a rubbery polymeric material selected from the group consisting of a butadiene-styrene itaconic acid terpolymer, a butadiene-styrene-methacrylic acid terpolymer and a styrene-butadiene-methacrylamide terpolymer.

3,193,447

MANUFACTURE OF PAPER-LIKE MATERIALS COMPRISING SYNTHETIC FIBRES

Bruno Stefan Vladimir Marek and Josef Gneisz, Emmenbrucke, near Lucerne, Switzerland, assignors to Societe de la Viscose Suisse, Emmenbrucke, near Lucerne, Switzerland, a Swiss body corporate

No Drawing. Filed Mar. 8, 1962, Ser. No. 178,263
Claims priority, application Switzerland, Mar. 15, 1961, 3,133/61
3 Claims. (Cl. 162—157)

1. In a process for the production of a paper-like material comprising synthetic fibers, in which process a uniform suspension of said fibers in water is formed into a sheet, the improvement which comprises a step of coating said fibers with a solution consisting of water and N-ethoxylated polyamide, which N-ethoxylated polyamide has a degree of ethoxylation corresponding to 8 to 12 mols of ethylene oxide per gram atom of nitrogen, prior to the formation of said sheet.

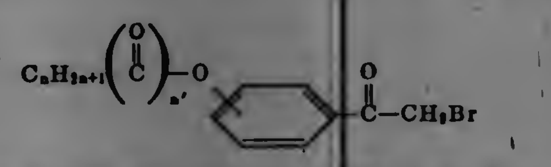
3,193,448

CONTROL OF SLIME IN AQUEOUS LIQUIDS WITH A MONOSUBSTITUTED 2-BROMOACETOPHENONE

Stanley J. Buckman, John D. Pera, and Fred W. Raths, Memphis, Tenn., assignors to Buckman Laboratories, Inc., Memphis, Tenn., a corporation of Tennessee

No Drawing. Filed July 1, 1963, Ser. No. 292,094
9 Claims. (Cl. 162—161)

1. A method of inhibiting microbiological deterioration of an organic substance that is susceptible to deterioration by the action of microorganisms and inhibiting the formation of slime in aqueous fluids that are in contact with such substance which comprises adding to said aqueous fluids a monosubstituted 2-bromoacetophenone having the formula:



wherein *n* and *n'* are integers varying from 0 to 1 and when *n* is 0, *n'* is 0, characterized in that when *n* is 1 and *n'* is 0, the point of attachment is at any one of the positions designated as ortho, meta, and para and when *n* and *n'* are each 0 and when *n* and *n'* are each 1, the point of attachment is at any one of the positions designated as meta and para in an amount varying from 0.1 to 500 parts per million parts of said aqueous fluids.

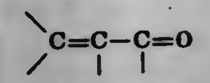
3,193,449

EMULSION SIZE CONSISTING OF A TERPENE RESIN AND A REACTION PRODUCT OF A TERPINE RESIN AND USE FOR SIZING PAPER

Paul H. Aldrich, Greenville, Wilmington, Del., and Herman I. Enos, Jr., Fairville Hills, Pa., assignors to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 23, 1962, Ser. No. 182,093
11 Claims. (Cl. 162—180)

1. A paper sizing composition comprising an aqueous emulsion of an at least partially saponified mixture consisting essentially of a terpene resin consisting of the polymerization products of terpene hydrocarbons and from about 2% to about 100% by weight, based on the weight of terpene resin, of the reaction product of an acidic material containing the



group with a terpene resin consisting of the polymerization products of terpene hydrocarbons.

8. The method of sizing paper which comprises forming an aqueous suspension of paper pulp, adding to the pulp an aqueous at least partially saponified dispersion consisting essentially of a terpene resin consisting of the polymerization products of terpene hydrocarbons and from about 2% to about 100% by weight, based on the weight of terpene resin, of the reaction product of a material selected from the group consisting of acrylonitrile, α,β-unsaturated carboxylic acids, and anhydrides of α,β-unsaturated carboxylic acids with a terpene resin consisting of the polymerization products of terpene hydrocarbons, admixing with the pulp from about 1% to about 5% of aluminum sulfate, and then forming the pulp into sheets.

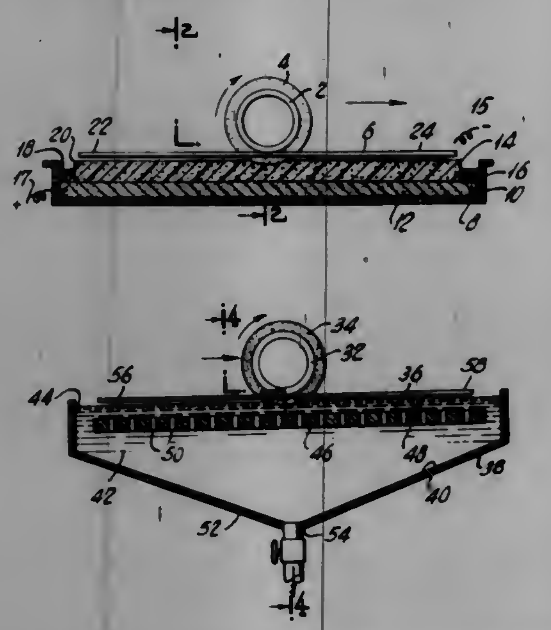
11. Paper sized with from about ¼% to about 10% by weight, based on the weight of paper, of a sizing agent consisting essentially of a terpene resin consisting of the polymerization products of terpene hydrocarbons, up to about 25% by weight, based on the weight of terpene resin, of rosin, and from about 2% to about 100% by weight, based on the weight of terpene resin, of the reaction product of a material selected from the group consisting of acrylonitrile, α,β-unsaturated carboxylic acids, and anhydrides of α,β-unsaturated carboxylic acids with a terpene resin consisting of the polymerization products of terpene hydrocarbons.

3,193,450

METHOD AND APPARATUS FOR LOOSENING WET PIPE FROM A MANDREL

Herman Herbert, Plainfield, and Joseph S. Angyal, Somerset, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed Apr. 5, 1962, Ser. No. 185,402
9 Claims. (Cl. 162—192)



1. A method of loosening a wet asbestos-cement pipe from an electrically conductive mandrel to which it is bonded comprising:

(a) arranging an electrically conductive mandrel having a wet asbestos-cement pipe bonded thereto for rotational movement,
(b) establishing intimate contact between a portion of the area of the outer surface of said pipe and an electrically conductive readily conformable material, which contact extends throughout the longitudinal extent of said pipe and is substantial and continuous throughout said portion,
(c) forming an electric circuit including said material, said pipe, and said mandrel as series associated elements,
(d) effecting relative rotational movement betwen said pipe and said material for at least one complete revolution of said pipe so as to effect said intimate contact between said material and successive portions of the outer surface of said pipe, and
(e) loosening said pipe from said mandrel by passing a direct electric current through said circuit.

5. Apparatus for loosening a wet asbestos-cement pipe from an electrically conductive mandrel to which it is bonded comprising:

(a) an electrically conductive mandrel having a wet asbestos-cement pipe bonded thereto,
(b) means for arranging said mandrel and said pipe for rotational movement,
(c) an electrically conductive readily conformable material,
(d) means for establishing intimate contact between a portion of the area of the outer surface of said pipe and said material, which contact extends throughout the longitudinal extent of said pipe and is substantial and continuous throughout said portion,
(e) means for forming an electric circuit including said material, said pipe, and said mandrel as series associated elements,
(f) means for effecting relative rotational movement between said pipe and said material for at least one complete revolution of said pipe so as to effect said intimate contact between said mandrel and successive portions of the outer surface of said pipe,
(g) a direct current electric source, and
(h) means for loosening said pipe from said mandrel by electrically connecting said electric circuit with said direct current electric source during said relative movement of said pipe and said material.

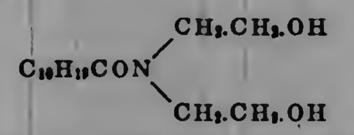
3,193,451

FUNGICIDAL COMPOSITION OF UNDECYLENIC ACID DERIVATIVES

Wolfgang Benjamin Reinisch, London, England, assignor to Rewo Chemische Fabrik G.m.b.H., Steinau, Kreis Schluchtern, Germany

No Drawing. Filed Feb. 6, 1961, Ser. No. 87,123
Claims priority, application Germany, Mar. 14, 1960, R 27,279
2 Claims. (Cl. 167—22)

2. A process for combatting micro-organisms, which comprises applying thereto a biocidally effective amount of a compound:



$$C_{10}H_{19}CON\begin{cases}CH_2.CH_2.OH\\CH_2.CH_2.OH\end{cases}$$

admixed with excess diethanolamine such that there is present an excess of diethanolamine about equal to the amount combined in the undecylenic acid diethanolamide.

3,193,452

SYNERGISTIC PESTICIDAL COMPOSITIONS CONTAINING CARBAMATES AND PROSPHATES

Albert Jäger, Berlin-Hermsdorf, and Horst Peissker, Berlin-Charlottenburg, Germany, assignors to Schering A.G., Berlin, Germany

No Drawing. Filed Nov. 9, 1961, Ser. No. 151,167
Claims priority, application Germany, Nov. 18, 1960, Sch 28,796; Feb. 15, 1961, Sch 29,235, Sch 29,236
1 Claim. (Cl. 167—22)

A pesticidal composition containing as active agent a mixture of (a) a carbamate selected from the group consisting of:

N-methyl-(3-methyl-5-isopropylphenyl)-carbamate
N-methyl (3-methyl-6-isopropylphenyl)-carbamate
N-methyl-phenyl-carbamate
N-methyl-α-naphthyl-carbamate
N-dimethyl-(3-methyl-5-isopropylpyrazolyl)-carbamate
3-methyl-5-isopropylphenyl-carbamate
N-methyl-(3-methyl-4-isopropylphenyl)-carbamate;

and (b) a phosphoric acid ester selected from the group consisting of:

O,O′-diethyl-N-ethylamidothionophosphate
O,O′-diethyl-N-camphylamidothionophosphate
O,O′-diethyl-N-cyclo-octylamidothionophosphate
O,O′-diethyl-N-diethylamidothionophosphate
O,O′-diethyl-N-cyclohexylamidothionophosphate
N-(O,O′-diethyl-thionophosphoryl)-morpholine
N-(O,O′-diethyl-thionophosphoryl)-piperidine
O,O′-diethyl-N-cyclohexylamidophosphate
O,O′-diethyl-N-4-methylphenylamidophosphate
O,O′-diethyl-N-ethylamidophosphate
N-(O,O′-diethylphosphoryl)-morpholine
N-(O,O′-diethylphosphoryl)-piperidine
O,O′-diethyl-O″-(3-methyl-5-isopropylphenyl)-thionophosphate
O,O′-diethyl-O″-(3-methyl-5-isopropyl-4-chlorophenyl-thionophosphate
O,O′-dimethyl-O″-(3-methyl-5-isopropylphenyl)-thionophosphate
O,O′-dimethyl-O″-(3-methyl-5-isopropyl-4-chlorophenyl)-thionophosphate
O,O′-diethyl-O″-(3-methyl-6-tert.butylphenyl)-thionophosphate
O,O′-dimethyl-O″-(3-methyl-6-tert.butylphenyl)-thionophosphate
O,O′-dimethyl-O″-(2-methyl-4-tert.butylphenyl)-thionophosphate
O,O′-diethyl-O″-4-tert.butylphenyl-thionophosphate
O,O′-dimethyl-O″-4-tert.butylphenyl-thionophosphate
O,O′-dimethyl-O″-4-tert.butylphenyl-thionophosphate
O,O′-diethyl-O″-(3-methyl-5-isopropylphenyl)-phosphate
O,O′-diethyl-S-phenyl-thiolophosphate
O,O′-diethyl-S-phenyl-dithiophosphate;

and a carrier therefor; the total concentration of said mixture being between about 0.025% and about 10% by weight of said composition; the ratio of the phosphoric acid ester to the carbamate being between about 2:1 and about 10:1 parts by weight.

3,193,453

ANTIBACTERIAL COMPOSITIONS

Herbert Quinn, Sycamore Township, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 1, 1962, Ser. No. 227,584
1 Claim. (Cl. 167—30)

An antibacterial composition comprising a combination of (A) bis(2-hydroxy-3,5,6-trichlorophenyl) methane and (B) 1-dodecyl-2-iminoimidazolidine hydrochloride, the proportions by weight of (A) and (B) being about 1:1, said combination displaying a synergistic antibacterial action when used with water from a medium in which the concentration of the said combination ranges from about 0.1% to about 0.5% by weight.

3,193,454

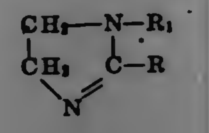
INSECTICIDAL OIL-SOLUBLE CHLORINATED SUBSTITUTED IMIDAZOLINES

Jack F. Bussert, Calumet City, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

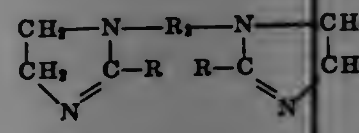
No Drawing. Filed Apr. 27, 1959, Ser. No. 808,883
13 Claims. (Cl. 167—33)

11. A method of killing insects which comprises contacting the insects with an insecticidely active ingredient

prepared by chlorinating at the carbon-to-carbon unsaturation at a temperature in the range of from about 100° to about 400° F., a substituted imidazoline compound having a formula selected from the class consisting of:



and



wherein R is acyclic hydrocarbon containing 1–2 carbon-to-carbon unsaturation bonds and having from about 10 to about 18 carbon atoms, R_1 is selected from the group consisting of hydrogen, acyclic saturated amino-hydrocarbon having fewer than 7 carbon atoms, and acyclic saturated hydroxy-hydrocarbon having fewer than about 7 carbon atoms, and R_2 has the formula $(CH_2)_aN_b(CH_2)_a$ where *a* is an integer of 1 to 2 inclusive and *b* is 0 to 1, said chlorinating resulting in introduction of chlorine in said unsaturated hydrocarbon radical at the unsaturated carbon-to-carbon bond, the amount of said active ingredient being sufficient to effect the desired pesticide action.

3,193,455
BIRD CONTROL AND BIRD MANAGEMENT COMPOSITIONS

Andrew J. Reinert, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 22, 1962, Ser. No. 232,244
15 Claims. (Cl. 167—46)

1. A bird control composition and bait effective for controlling starlings comprising milled grain impregnated with from 0.01–10 weight percent of a bird management chemical dispersed in peanut butter, the weight ratio of peanut butter to grain being in the range 1:1 to 1:6.

3,193,456
3,5-DIMETHOXY-4-ALLYLOXY-BENZAMIDE COMPOSITIONS AND METHOD OF USE

Roland-Yves Mauvernay, Riom, France, assignor to Centre Europeen de Recherches Mauvernay, Chateau de Bardon, Riom, Puy-de-Dome, France
No Drawing. Filed Sept. 27, 1962, Ser. No. 227,654
Claims priority, application France, Apr. 16, 1962, 894,584, Patent 2,017; June 15, 1962, 900,947; July 18, 1962, 904,394
2 Claims. (Cl. 167—52)

1. The method of achieving a sedative action, which comprises administering to a patient requiring a sedative between 0.25 to 0.50 g. of 3,5-dimethoxy-4-allyloxybenzamide.

3,193,457
ORAL ADMINISTRATION OF 6,16α-DIMETHYLPROGESTERONES

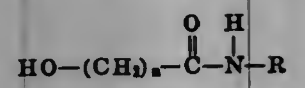
Fred A. Kincl, Mexico City, Mexico, assignor, by mesne assignments, to Syntex Corporation, a corporation of Panama
No Drawing. Filed Jan. 3, 1962, Ser. No. 164,183
Claims priority, application Mexico, June 7, 1961, 63,021
3 Claims. (Cl. 167—55)

1. The method of treating hormonal disorders involving estrogen increase in the human female which comprises orally administering to such subject a pharmaceutical composition containing a compound selected from the group consisting of 6β,16α-dimethylprogesterone and 6α,16α-dimethylprogesterone.

3,193,458
METHOD OF LOWERING BLOOD CHOLESTEROL LEVEL

Seymour L. Shapiro, Hastings on Hudson, and Louis Freedman, Bronxville, N.Y., assignors to U.S. Vitamin & Pharmaceutical Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed July 12, 1961, Ser. No. 123,435
6 Claims. (Cl. 167—65)

1. A method for lowering cholesterol levels which comprises administering to an animal a composition containing as an essential active ingredient a compound consisting of hydroxyamides having the following formula



$$HO-(CH_2)_n-\overset{\overset{O}{\|}}{C}-\overset{\overset{H}{|}}{N}-R$$

wherein *n* is an integer from 1–4, and R is selected from the group consisting of C_4–C_5 alkyl and β-phenethyl, said administration being in amounts sufficient to substantially reduce the cholesterol level of the blood of the hypercholesteremic animal.

3,193,459
STEROID HEMISUCCINATE COMPOSITIONS AND METHOD FOR EXTEMPORANEOUS ADMINISTRATION

Jerome Korman, Portage Township, Kalamazoo County, and John A. Hogg, Kalamazoo Township, Kalamazoo County, Mich., assignors to The Upjohn Company, Kalamazoo, Mich., a corporation of Michigan
No Drawing. Filed July 1, 1955, Ser. No. 519,633
4 Claims. (Cl. 167—77)

1. A sterile, water-soluble powder adapted for extemporaneous preparation of a stable aqueous solution for intravenous administration comprising a pharmacologically acceptable, water-soluble salt of a member selected from the group consisting of prednisone hemisuccinate and prednisolone hemisuccinate coprecipiated with a neutral buffer by lyophilization of a sterile neutral aqueous solution thereof, said neutral buffer being a pharmacologically acceptable salt of an acid having a pKa of about 6.5 to 8.0, the cation of which is the same as that of the pharmacologically acceptable water-soluble salt of said member.

3,193,460
METHOD AND APPARATUS FOR CULTURING MICRO-ORGANISMS

Carl F. Krabbe, Council Bluffs, Iowa, and Frederick D. Taylor, Ralston, Nebr., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
Filed Dec. 21, 1961, Ser. No. 161,208
10 Claims. (Cl. 167—78)

1. The method of producing a culture of a surface-growth microorganism, which comprises
- (a) placing in a cylindrical container a quantity of normally solid culture medium which liquefies under heat,
- (b) sterilizing the container and culture medium at a temperature which leaves the medium in liquid state,
- (c) rotating the container on its axis in a horizontal position to flow the liquid medium over the cylindrical wall of the container,
- (d) meanwhile cooling said wall to solidify the culture medium on said wall to form a surface-growth layer on the inner surface thereof,
- (e) introducing a quantity of liquid inoculum and rotating the container to distribute the inoculum over the surface-growth layer to inoculate the same,
- (f) subjecting the inoculated layer to incubation conditions to produce culture growth thereon,
- (g) introducing a quantity of harvest liquid and rotating the container on its axis to wash the harvest liquid over the growth-containing surface to form a suspension of culture organisms in the harvest liquid,
- (h) and recovering said suspension.

3,193,461
CORRECTING BLOOD CHANGES WITH NIACIN, VITAMIN A, AND RIBOFLAVIN

Milton E. Eisen, Riverdale, N.Y., assignor to Sophie R. Gordon, New York, N.Y.
No Drawing. Filed June 14, 1957, Ser. No. 665,654
2 Claims. (Cl. 167—81)

1. In a method of correcting changes in blood composition, including reducing hematocrits, increasing sedimentation values, lengthening blood clotting time and assisting the healing of lesions of blood vessels in human beings susceptible to increased hematocrits, lowered sedimentation values, shortened blood clotting time and lesions of blood vessels, the improvement which consists essentially of the step of administering daily at least about 50 mgs. of niacin, at least about 50,000 U.S.P. units of vitamin A and at least about 5 mgs. of riboflavin.

3,193,462
FROZEN SECTION CLARIFIER

Philip Schain, 126 Silver Lake Road, Staten Island 1, N.Y.
No Drawing. Filed Oct. 31, 1961, Ser. No. 148,853
3 Claims. (Cl. 167—84.5)

1. A frozen section clarifier composition comprising an aqueous saline solution containing by weight:

	Percent
Nonionic surface active agent	0.1 to 0.5
Anionic surface active agent	3.25 to 9.0
Ethoxytriglycol	5.75 to 7.5
Trimethyl nonanol	0.4 to 0.55
Methanol	0 to 0.03
Acetone	0.12 to 0.45
Sodium chloride	0.75 to 0.9
Glycerin	0 to 0.4
Coloring agent	0 to trace
Water (deionized)—to 100%	80 to 90

surface active agents in the proportion of 1 part nonionic to 20–30 parts anionic by weight and ethoxytriglycol accounting for about 8 to 17% of the total weight of said solution, and the ethoxytriglycol being present in the proportion of .7 to 2 times the weight of anionic surface active agent.

3,193,463
POWDER FORM WAVING COMPOSITIONS COMPRISING A METAL COMPLEX OF THIOGLYCOLLIC ACID AND A CHELATING AGENT

Henry C. Schweizer, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Feb. 6, 1963, Ser. No. 256,527
18 Claims. (Cl. 167—87.1)

1. A composition in powder form suitable for use, when in aqueous solution, in the cold permanent waving of hair comprising:
- (A) at least one member selected from the group consisting of a water-soluble thioglycolic acid complex of a metal ion and water-soluble alkali metal, ammonium and lower alkanolamino salts thereof wherein the metal ion is selected from the group consisting of zinc, calcium, strontium, barium, cadmium, aluminum, and nickel, and
- (B) a chelating agent selected from the group consisting of water-soluble polyaminopolycarboxylic acids and alkali metal, ammonium and lower alkanolamino salts thereof,

said chelating agent having a metal chelate formation constant with the metal ion of component (A) at least equal to the stability constant of the corresponding metal ion complex of (A), and being present in at least an amount such that on solution of the powder a substantial proportion of the metal ion is removed from the metal ion complex of (A) through the formation of a more stable chelate with said chelating agent, said composition having a pH within the range from about 8.5 to about 10 when in aqueous solution.

3,193,464
HYDROGEN PEROXIDE HAIR BLEACHING COMPOSITION AND METHOD

Walter W. Edman, Port Washington, and Anne T. Sullivan, Hollis, N.Y., assignors to Sales Affilites, Inc., New York, N.Y., a corporation of New York
No Drawing. Filed May 31, 1961, Ser. No. 113,605
5 Claims. (Cl. 167—88)

1. A hair bleaching composition comprising the comprising the combination of a bleach base, a bleaching agent, a bleach booster and a coolant; said bleach base being a carrier, containing ammonium hydroxide in an amount to provide ½ to 1½% free ammonia; said bleaching agent being hydrogen peroxide; said bleach booster consisting essentially of at least one water soluble persulfate in combination with sodium metasilicate; and, said coolant being urea in an amount to produce a coolant effect on the head in the use of said bleaching composition.

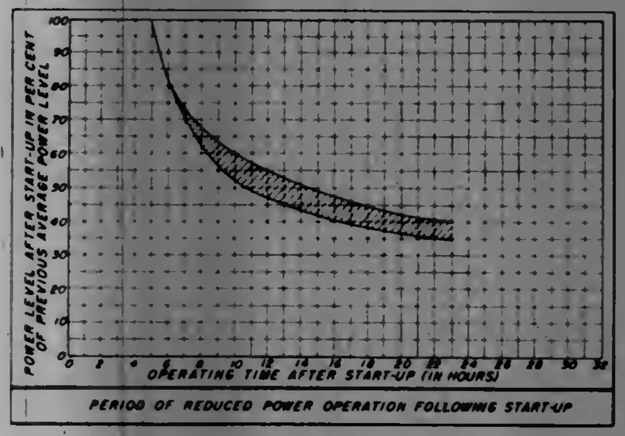
3,193,465
HAIR DYEING METHOD USING GELATIN AS A DYE RESIST

Henry Louis Frowde, Osterley, Isleworth, Middlesex, England, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Apr. 13, 1962, Ser. No. 187,228
Claims priority, application Great Britain, Apr. 21, 1961, 14,469/61
5 Claims. (Cl. 167—88)

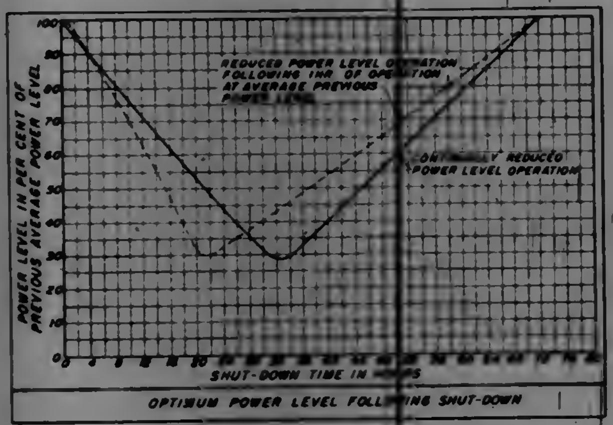
1. A method for dyeing hair which comprises applying gelatin on a first part of a hair filament but not on a second and remaining part of a hair filament; and applying independently a dye to the entire hair filament; said second part of the hair filament being dyed without dyeing said first part of the hair filament thereby.

3,193,466
NEUTRONIC REACTOR OPERATION

Ulysses M. Staebler, Silver Spring, Md., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed May 15, 1953, Ser. No. 355,279
1 Claim. (Cl. 176—20)

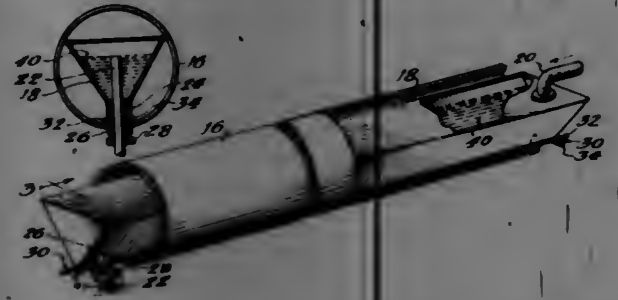


The method of resuming operation of a neutronic reactor that has been shut down after a period of operation at an average power level comprising reestablishing a neutronic chain reaction within the reactor within a period of approximately 72 hours, operating said reactor at a power level equal to the average previous power level for a period of time of approximately one hour, thereafter reducing the power of the reactor and operating said reactor at a power level set forth by the dotted line in Figure 5 for a period of time as given by the curve in Figure 6 and increasing the power level of the reactor up to the previous average power level.



3,193,467
REACTOR CONTROL

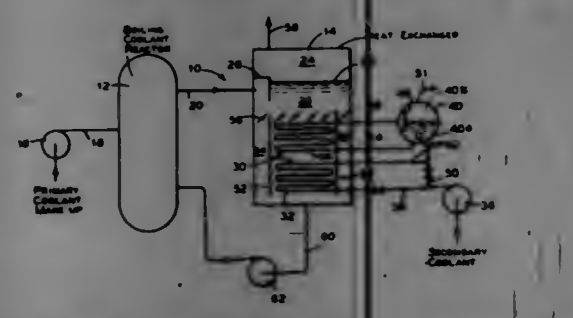
Liley A. Evans, Schenectady, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 19, 1950, Ser. No. 156,856
7 Claims. (Cl. 176—22)



1. In a neutronic reactor comprising fissionable material in an amount and concentration sufficient to sustain a neutronic reaction, and a variable amount of a neutron absorbing material in the reactive region adapted to control the reaction, the improvement wherein there is at least one tube horizontally disposed in said active region, said neutron absorbing material comprising a solution contained in the tube, means for supplying the solution into the tube, and means for adjusting the depth of the solution in the tube, whereby the level of the solution may be adjusted in accordance with the requirements of the reactor.

3,193,468
BOILING COOLANT NUCLEAR REACTOR SYSTEM

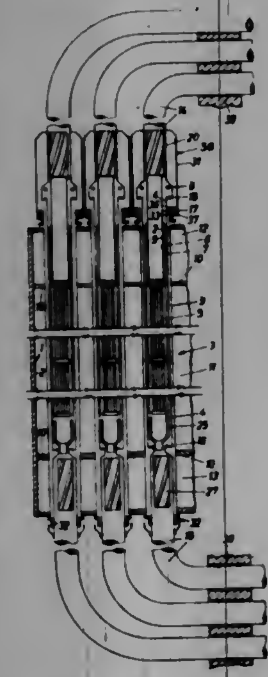
Theodore S. Sprague, Hudson, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed July 12, 1960, Ser. No. 42,250
3 Claims. (Cl. 176—55)



1. A boiling coolant nuclear reactor system, in which a heated vaporizable primary coolant is used to heat a secondary coolant, comprising a boiling coolant reactor having a core arranged to release heat in a controlled fission chain reaction to boil the primary coolant, walls forming a heat exchanger divided by a normal liquid level into an upper vapor space and a lower liquid space, a first conduit arranged to flow said boiling primary coolant from said reactor to said heat exchanger, a mechanical vapor-liquid separator located within said heat exchanger to receive and to separate the boiling primary coolant from said reactor into its vapor portion and liquid portion and to discharge the vapor portion to said vapor space and the liquid portion to said liquid space, heat transfer surfaces located within said heat exchanger below the liquid level therein, means for flowing secondary coolant through said heat transfer surfaces, baffle means positioned within the liquid space in said heat exchanger to provide a by-pass channel around said heat transfer surfaces, adjustable means for directing said primary coolant liquid portion to said heat transfer surfaces and to said by-pass channel, and a second conduit connected at its inlet end to the lower end of said liquid space of said heat exchanger to recirculate the cooled liquid portion of said primary coolant to said reactor.

3,193,469
CORE STRUCTURE FOR A VAPOR COOLED, WATER MODERATED NUCLEAR REACTOR

Norman Bradley, Culcheth, near Warrington, and Donald Wilfred Lawson, Altrincham, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Oct. 26, 1959, Ser. No. 848,722
Claims priority, application Great Britain, Oct. 14, 1959, 34,765/59
5 Claims. (Cl. 176—58)



1. In a nuclear reactor, the combination comprising; a tank structure; pressure resisting tubes arranged in a lattice in the tank structure and having means for housing nuclear fuel elements therein; at least one pipe extending to each of said tubes for passing a pressurized coolant therethrough, each pipe having a general run inclined to the axis of the respective tube; joint means interconnecting each said pipe with its respective tube; and support means associated with each pipe and disposed in a region proximate to the respective joint means to join the respective pipe to the tank structure, said support means including a pair of interlocking twist preventing members having means preventing relative twisting while permitting longitudinal expansion and contraction of the respective tube and preventing displacement of the pipe laterally of the tube, and the support means comprising means to relieve the tube and joint from stresses otherwise produced by movements arising from the thermal movements of the pipes.

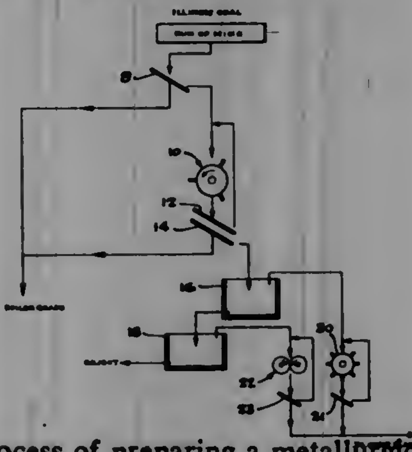
3,193,470
MALTING PROCESSES INVOLVING TREATMENT WITH A GIBBERELLIC ACID PRODUCT

Alan Macey and Keith C. Stowell, Newark-on-Trent, England, assignors to Associated British Maltsters Limited, Newark-on-Trent, England, a British company
No Drawing. Filed Aug. 12, 1963, Ser. No. 301,621
Claims priority, application Great Britain, May 16, 1960, 17,238/60
13 Claims. (Cl. 195—71)

1. A process for the malting of cereal grain which comprises treating the grain in the period covering the pre-germination and germination stages with gibberellic acid product and with a bromate in the proportion per million parts by weight of grain of 0.05 to 5 parts of said acid product and 100 to 2000 parts of said bromate, said bromate being selected as being water-soluble to provide the bromate anion reducing respiration rate and exhibiting rootlet inhibiting properties reducing the malting loss whilst providing a cation which at the specified concentration is not detrimental to the brewing process, and to modify the effect of the treatment with said gibberellic acid product by counteracting the otherwise increased values of the cold water extract and the permanently soluble nitrogen.

3,193,471
COKING PROCESS

Michael O. Holowaty, Gary, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
Filed Oct. 24, 1961, Ser. No. 147,342
7 Claims. (Cl. 202—25)



1. In a process of preparing a metallurgical coke blend from a marginal coking coal the improvement which comprises; crushing a marginal coking coal containing in excess of 12% by weight volatile matter and having a plurality of distinct petrographic layers with at least one layer comprised of a coking coal component selected from the group consisting of vitrain and clarain, and at least one other layer comprised of a non-coking coal component selected from the group consisting of durain, fusain, slate, and shale to separate the said layers and produce a major proportion of fragments having a particle size between about 2 inches and about ⅜ inch with a minimum amount of finely divided vitrain and clarain coal components, subjecting the fragmented coal containing said coking and said non-coking coal components in substantially their original proportion to a first liquid density separation treatment wherein the liquid has a specific gravity between about 1.20 and 1.30 to separate the said fragmented coal into a portion which floats and a portion which sinks therein, crushing the portion of said fragmented coal which floats in said first density separation treatment to a particle size which passes through the 6 mesh screen but larger than 20 mesh, subjecting the portion of said fragmented coal which sinks in said liquid density separation treatment to a second liquid density separation treatment wherein the liquid has a specific gravity of about 1.35 to 1.45, crushing the material which floats in said second liquid density separation treatment until all said material passes through a 20 mesh screen, and combining said crushed portions of said fragmented coal which float in the said first and second density separation treatments in a coking blend suitable for use in the production of metallurgical coke.

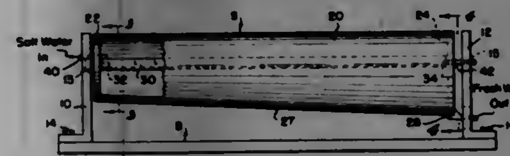
3,193,472
PROCESS FOR THE PURIFICATION OF HEXAMETHYLENEDIAMINE

Albert J. Isacks, Jr., Pensacola, Fla., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Jan. 7, 1963, Ser. No. 249,582
8 Claims. (Cl. 202—57)

1. A process for the purification of hexamethylenediamine which comprises in combination contacting liquid hexamethylenediamine containing dissolved ammonia and polarographically reducible impurities with carbon dioxide and a gas chemically inert to the said hexamethylenediamine.

3,193,473
SOLAR STILL

Kim D. Beard, 1040 S. Magnolia, Los Angeles, Calif.
Filed Nov. 6, 1962, Ser. No. 235,724
3 Claims. (Cl. 202—234)



1. A portable solar still assembly comprising:
(a) two spaced upright support members,
(b) an elongated lightweight hollow still chamber disposed between said support members which has a rigid end plate member at each end immediately adjacent its corresponding support member,
(c) an elongated rigid evaporating tray within said still chamber and integrally connected at each end to said end plate members,
(d) a continuous plastic sheet material forming the outer wall of said still chamber and having its ends wrapped around said end plate members and spaced from said evaporating tray,
(e) a rigid salt water inlet pipe extending through and integrally connected to a first end plate to suppply salt water to said evaporating tray,
(f) a rigid salt water outlet pipe extending through and integrally connected to the other of said end plates for receiving salt water from said evaporating tray,
(g) each of said pipes having a portion thereof which is supported on its corresponding adjacent upright support member,
(h) one of said end plate members having an elongated lower section on which the lower portion of the outer wall is supported so that said wall slopes downwardly toward said one end plate member, and
(i) a condensate outlet pipe at the bottom of said one end plate member through which condensed liquid is withdrawn from said still chamber.

3,193,474
PLATING ON ALUMINUM

Peter G. Kenedi, Detroit, Mich., and Robert T. Gore, Middletown, N.J., assignors, by mesne assignments, to M&T Chemicals Inc., New York, N.Y., a corporation of Delaware
No Drawing. Original application July 13, 1959, Ser. No. 826,497, now Patent No. 3,108,006, dated Oct. 22, 1963. Divided and this application Aug. 27, 1962, Ser. No. 219,747
16 Claims. (Cl. 204—38)

6. A process for electrodepositing a metal on aluminum comprising immersing a piece of cleaned aluminum, for between about 5 seconds and 40 seconds, in an aqueous

solution containing about 23 g./l. to 59 g./l. of Sn^{+4}, 15 g./l. to 38 g./l. of free alkali metal cyanide, 3 g./l. to 12 g./l. of alkali metal hydroxide, at least 20% of said alkali metal in the solution being potassium and the remainder sodium, and sufficient Cu^{+} selected from the range of 1.5 g./l. to 11.5 g./l. to form an adherent immersion tin deposit; and then electrodepositing a metal on the initial immersion deposit.

3,193,475
COUPLING CYCLIC OLEFINS BY ELECTROLYSIS
Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Aug. 13, 1962, Ser. No. 216,304
10 Claims. (Cl. 204—73)

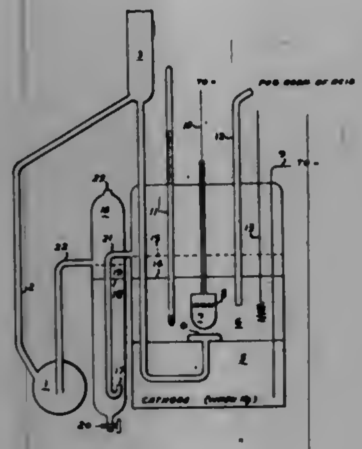
1. The method of producing reduced, coupled compounds which comprises subjecting a solution of olefinic compound selected from the group consisting of cycloalk-1-enecarboxylates, -carboxamides and cyanides in which the cycloalkene has 4 to 8 carbon atoms in the ring, to electrolysis, in a cell in which both anode and cathode are in actual physical contact with electrolysis medium, the solution being in contact with a cathode having a hydrogen overvoltage greater than that of copper and containing water, at least about 10% by weight of olefinic compound and at least 5% by weight of salt to make the solution conductive and separating the reduced, coupled product from the solution.

3,193,476
ELECTROLYTIC HYDRODIMERIZATION OF TWO DIFFERENT α,β-OLEFINIC COMPOUNDS
Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Dec. 29, 1961, Ser. No. 163,028
15 Claims. (Cl. 204—73)

1. The method of producing a reduced coupled product of two different olefinic compounds which comprises subjecting a solution of two different compounds selected from the group consisting of alpha,beta-olefinic nitriles, esters and carboxamides to electrolysis in contact with a cathode, the said two olefinic compounds differing in reduction potential vs. the saturated calomel electrode by at least 0.3 volt, the electrolysis being conducted in a divided cell in which both cathode and anode are in actual physical contact with electrolyte and at an amperage such that the cathode potential is close to that required for reduction of the more easily reducible olefinic compound, the solution comprising at least 10% by weight of the olefinic compounds, a salt selected from the group consisting of amine and quaternary ammonium sulfonates and alkylsulfates, and water, the solution being non-acidic and having a pH below the value at which substantial hydrolysis of the ester group occurs when one of the olefinic compounds is an olefinic ester, and below the value at which substantial addition of water to the double bond occurs when one of the olefinic compounds is an olefinic nitrile and recovering the reduced, coupled product.

3,193,477
ELECTROLYTIC HYDRODIMERIZATION PROCESS AND EXTRACTION PROCEDURE
Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
Filed Apr. 20, 1962, Ser. No. 189,072
16 Claims. (Cl. 204—73)

1. In the electrolytic reductive coupling of olefinic compounds selected from the group consisting of alpha, beta-olefinic nitriles, esters and carboxamides and mixtures of the same by electrolysis in an aqueous salt electrolyte solution in contact with the cathode of an electrolysis cell and recovery of the reduced coupled product, the concentration of salt in aqueous solution being such that the solution is capable of dissolving at least 10% by weight of olefinic compound but is not completely miscible with the olefinic compound, the improvement which comprises contacting the aforesaid aqueous salt electrolyte solution with liquid olefinic compound in excess of its solubility in the aqueous salt electrolyte solution thereby extracting reduced coupled product into the thus obtained liquid olefinic compound phase, the olefinic compound being one which is being reductively coupled in the process, and separating the liquid olefinic compound phase containing reduced coupled product dissolved therein from the aqueous salt electrolyte solution, and separating the reduced coupled product from the liquid olefin compound phase.



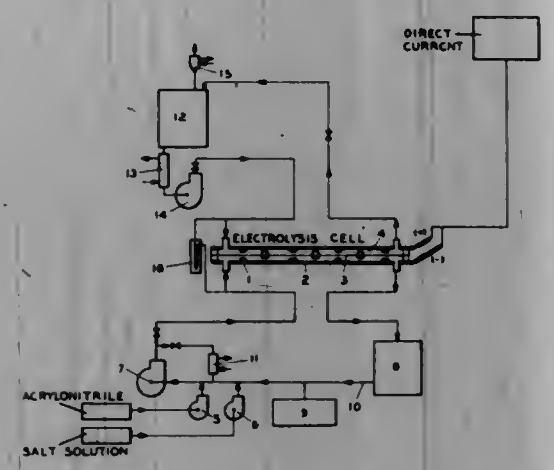
3,193,478
ELECTROLYTIC COUPLING OF OLEFINIC COMPOUNDS
Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Aug. 13, 1962, Ser. No. 216,305
7 Claims. (Cl. 204—73)

1. The method of producing a reduced, coupled product which comprises subjecting a solution of olefinic compound selected from the group consisting of beta-hydrocarbyloxy acrylic acid esters, beta-hydrocarbyloxyacrylamides and beta-hydrocarbyloxyacrylonitriles to electrolysis in a cell in which both anode and cathode are in actual physical contact with electrolysis medium, the solution being in contact with a cathode having a hydrogen overvoltage greater than that of copper and containing water, at least about 10% by weight of olefinic compound and at least 5% by weight of salt to make the solution conductive and separating the reduced, coupled product from the solution.

3,193,479
ELECTROLYTIC COUPLING OF AN OLEFINIC COMPOUND WITH A KETONE
Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Aug. 13, 1962, Ser. No. 216,306
14 Claims. (Cl. 204—73)

1. The method of producing a reduced, coupled product which comprises subjecting a solution of alpha,beta-olefinic ketone and olefinic compound selected from the group consisting of alpha,beta-olefinic nitriles, esters and carboxamides to electrolysis in a cell in which both anode and cathode are in actual physical contact with electrolysis medium, the solution being in contact with a cathode having a hydrogen overvoltage greater than that of copper and containing water, at least about 10% by weight of olefinic compound and at least 5% by weight of salt to make the solution conductive and separating the reduced coupled product from the electrolyte.

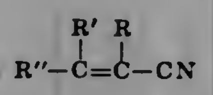
3,193,480
ADIPONITRILE PROCESS
Manuel M. Baizer, St. Louis, Mo., Charles R. Campbell, Pensacola, Fla., Robert H. Fariss, St. Louis, Mo., and Robert Johnson, Pensacola, Fla., assignors to Monsanto Company, a corporation of Delaware
Filed Feb. 1, 1963, Ser. No. 255,586
10 Claims. (Cl. 204—73)



1. The method of electrolyzing acrylonitrile to obtain and recover adiponitrile which comprises passing electric current through a catholyte in contact with a cathode, the catholyte consisting essentially of water, acrylonitrile and an electrolyte salt which has a discharge potential more negative than that of acrylonitrile and being separated by a diaphragm from the anolyte which is an aqueous acid solution having an acid concentration of 0.05 to 20% by weight, and of strength matched to the current density to provide sufficient hydrogen ion to neutralize hydroxyl ions generated at the cathode, and recovering adiponitrile from the catholyte.

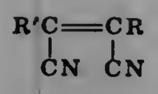
3,193,481
ELECTROLYTIC HYDRODIMERIZATION α,β-OLEFINIC NITRILES
Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Dec. 26, 1963, Ser. No. 333,647
23 Claims. (Cl. 204—73)

1. A method of producing hydrodimers of aliphatic alpha,beta-olefinic nitriles in substantial yield which comprises subjecting a solution of aliphatic alpha,beta-olefinic nitrile selected from the group consisting of nitriles of the formulae



$$R''-\overset{\overset{R'}{|}}{C}=\overset{\overset{R}{|}}{C}-CN$$

and



$$\underset{\underset{CN}{|}}{R'C}=\underset{\underset{CN}{|}}{CR}$$

in which R, R' and R" are selected from the group consisting of hydrogen and alkyl radicals of 1 to 5 carbon atoms to electrolysis by passing an electric current through said solution in contact with a cathode, causing development of the cathode potential required for hydrodimerization of the nitrile, the solution consisting essentially of water, more than about 5% by weight of the nitrile, and at least 5% by weight of supporting electrolyte salt to make the solution conductive, and recovering in substantial yield hydrodimer in which coupling has occurred between corresponding carbon atoms of two molecules of the starting nitrile, the said carbon atoms being in the beta-position of the olefinic bond with respect to a nitrile group of the starting nitrile, the said hydrodimer having twice the carbon atoms of the starting nitrile, the said electrolysis being conducted in a cell in which both cathode and anode are in actual physical contact with electrolyte.

3,193,482
ELECTROLYSIS OF α,β MONO-OLEFINIC CARBOXYLATES
Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Jan. 14, 1964, Ser. No. 337,540
26 Claims. (Cl. 204—73)

1. A method of producing hydrodimers of aliphatic alpha,beta-mono-olefinic carboxylates in substantial yield which comprises subjecting a solution of an olefinic compound selected from the group consisting of the alkyl and aryl esters of aliphatic alpha,beta-mono-olefinic acids to electrolysis by passing an electric current through said solution in contact with a cathode, causing development of the cathode potential required for hydrodimerization of the olefin compound, the solution consisting essentially of water, more than about 5% by weight of the olefin compound, and at least 5% by weight of supporting electrolyte salt to make the solution conductive, and recovering in substantial yield hydrodimer in which coupling has occurred between corresponding carbon atoms of two molecules of the starting ester, the said carbon atoms being in the beta-position of the olefinic bond with respect to an ester group of the starting ester, the said hydrodimer having twice the carbon atoms of the starting ester, the said electrolysis being conducted in a cell in which both cathode and anode are in actual physical contact with electrolyte.

3,193,483
ELECTROLYSIS OF ACRYLAMIDES
Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Jan. 14, 1964, Ser. No. 337,546
26 Claims. (Cl. 204—73)

1. A method of producing hydrodimers of alpha,beta-olefinic carboxamides which comprises subjecting a solution of the carboxamides to electrolysis by passing an electric current through said solution in a divided cell in contact with a cathode under substantially non-polymerizing conditions, causing development of the cathode potential required for hydrodimerization of the carboxamide, the solution comprising water, more than about 5% by weight of the carboxamide and to make the solution by weight of the carboxamide and to make the solution conductive at least 5% by weight of a supporting electrolyte salt which provides a cation discharging at cathode potentials more negative than that at which hydrodimerization of the carboxamide occurs and more negative than that at which sodium discharges, and recovering in substantial yield hydrodimer having twice the carbon atoms of the starting carboxamide, the said electrolysis being conducted in a cell in which both cathode and anode are in actual physical contact with electrolyte.

3,193,484
ELECTROLYTIC CONVERSION OF ACIDIC COMPOUNDS
William K. T. Gleim, Island Lake, and Elmars Bremanis, Park Ridge, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Sept. 15, 1961, Ser. No. 138,282
9 Claims. (Cl. 204—79)

1. A process for the electrolytic oxidation of a sulfur compound which comprises passing a direct current through an alkaline electrolyte bath containing a com-

pound selected from the group consisting of mercaptans, mercaptides, hydrogen sulfide and salts thereof in contact with an anode and a cathode, said electrolyte bath also containing a phthalocyanine compound.

3,193,485

ELECTROLYTIC TREATMENT OF ALUMINIUM FOR INCREASING THE EFFECTIVE SURFACE

Russell Swale Vincent, Aldbourne, England, assignor to The Plessey Company Limited, Ilford, Essex, England, a British company

Filed May 28, 1964, Ser. No. 373,128

5 Claims. (Cl. 204—141)

1. The method of electrolytically increasing the surface area of aluminium foil which comprises advancing said foil continuously through an electrolytic cell having a cathode and an aqueous etching electrolyte, and passing a current between said foil and said cathode at an average current density of between 1.2 A. and 4.0 A. per square inch, applying an asymmetrical alternating voltage at a frequency in the hectocycle range of said foil such that during at least two-thirds of each cycle the voltage is positive-going with respect to the foil forming the anode, successive positive-going voltage pulses of an amplitude of about seventy volts being separated by short negative-going pulses of an amplitude of at least 0.1 volt and less than one-tenth of the amplitude of the positive-going pulses, such that the surface of the foil becomes etched thereby providing a foil having an enlarged surface area.

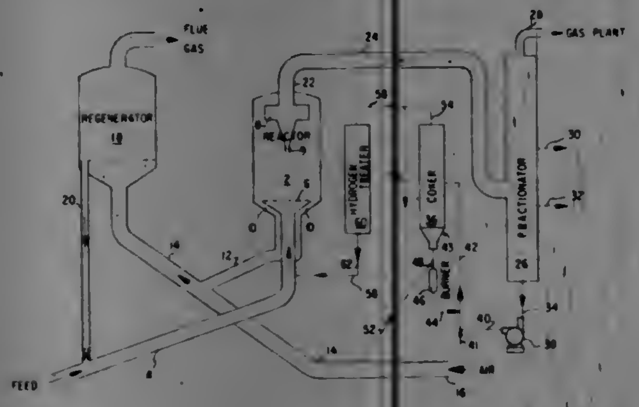
3,193,486

PROCESS FOR RECOVERING CATALYST PARTICLES IN RESIDUAL OILS OBTAINED IN THE CONVERSION OF HYDROCARBON OILS

Richard B. Payne, Park Forest, Ill., assignor to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware

Filed Oct. 23, 1962, Ser. No. 232,375

5 Claims. (Cl. 2[illegible]—50)



1. A process for treating a hydrocarbon oil boiling above the gasoline range comprising contacting said hydrocarbon oil in a cracking zone with a cracking catalyst having a particle size of about 20 to 150 microns under fluidized cracking conditions, removing the cracking effluent containing a small amount of said cracking catalyst, fractionating the cracking effluent containing said effluent catalyst particles to recover gasoline and materials in the gas oil range, removing from the fractionator residual material higher boiling than said gas oil and containing said effluent cracking catalyst, conveying said residual and effluent catalyst to a coking zone where said material is subjected in a fluidized state to temperatures of about 800 to 1200° F. to coke said residual on said effluent catalyst particles, recovering an overhead product, removing coke from said coke-bearing catalyst by burning and passing resulting decoked catalyst particles to said cracking zone; said overhead product from the coking zone being passed to said cracking zone.

3,193,487

CATALYTIC HYDROGENATION OF VISCOSITY BROKEN HYDROCARBON OILS

Harold Beuther, Gibsonia, Richard A. Flinn, Penn Hills Township, Allegheny County, and Bruce K. Schmid, McCandless Township, Allegheny County, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Feb. 16, 1961, Ser. No. 89,666

4 Claims. (Cl. 208—68)

1. The process which comprises subjecting a member of the group consisting of crudes, reduced crudes and topped crudes having an API gravity to below about 20° to moderate visbreaking to form between about 1 and 15 percent gasoline and subjecting at least the gasoline-free portion of the visbroken material to treatment with hydrogen in the presence of a catalyst selected from the group consisting of oxides and sulfides of a metal of Group VI left-hand column and the iron group at a pressure between about 1000 and 2000 p.s.i., at a temperature between about 650° and 820° F., at a space velocity between about 0.2 and 10 volumes of charge per volume of catalyst per hour, and at a hydrogen recycle rate of between about 1000 and 20,000 standard cubic feet per barrel of visbroken hydrocarbon charge stock.

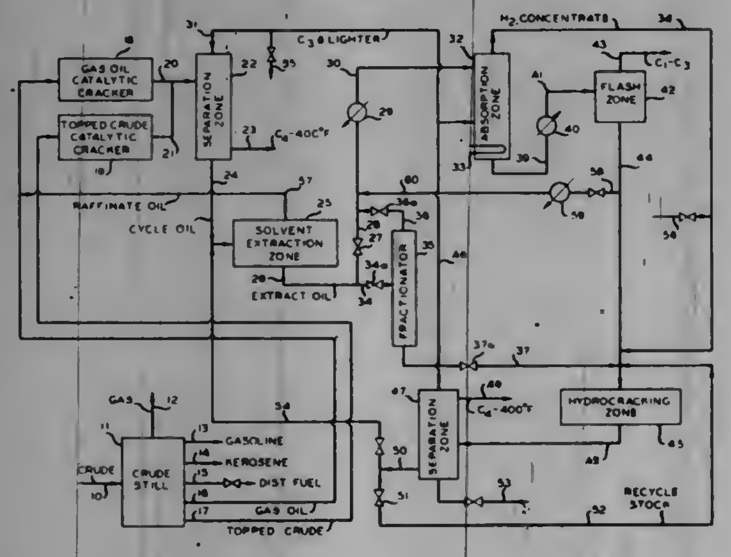
3,193,488

COMBINED CATALYTIC CRACKING AND CATALYTIC HYDROCRACKING

Donald E. Carr, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed July 27, 1962, Ser. No. 212,815

10 Claims. (Cl. 208—68)



6. A process for producing gasoline from crude oil which comprises

(a) fractionating said crude oil to produce at least a gas oil and a topped crude,
(b) catalytically cracking said topped crude,
(c) catalytically cracking in a separate cracking zone from that of step "b" said gas oil,
(d) combining the cracked effluents of steps "b" and "c",
(e) fractionating the thus-combined effluents to produce a C_3 and lighter stream, a gasoline product stream, and a cycle oil stream,
(f) solvent extracting said cycle oil stream to produce a raffinate comprising paraffins and an extract comprising aromatics,
(g) recycling said raffinate to the feed of the catalytic cracking of step "c",
(h) fractionating said extract to produce a light extract oil having an end point in the range of about 500° F. to about 600° F. and a heavy extract oil comprising the remainder of said extract.
(i) contacting said light extract oil with said C_3 and lighter stream of step "e" to produce a hydrogen-rich gas stream and a light-hydrocarbon-enriched light extract oil,
(j) flashing said light-hydrocarbon-enriched light extract oil to produce a light hydrocarbon product stream and a denuded extract oil,
(k) combining said heavy extract oil with said denuded extract oil,
(l) catalytically hydrocracking the combined stream of step "k" in the presence of hydrogen-rich gas from step "i", and
(m) separating from the hydrocracked stream of step "l" additional gasoline product.

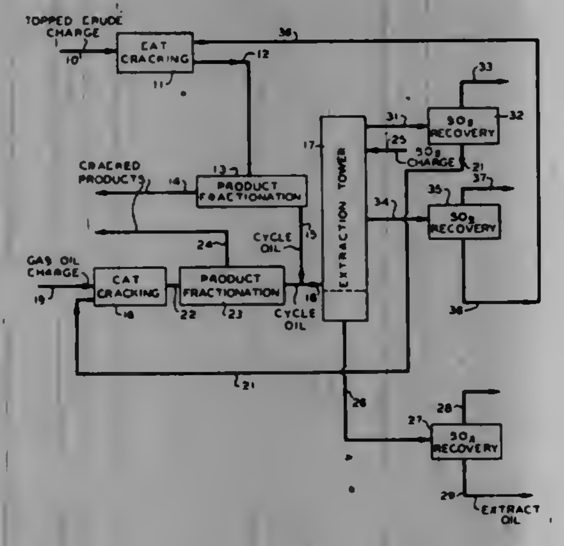
3,193,489

SOLVENT EXTRACTION PROCESS

John W. Gemmell, Idaho Falls, Idaho, assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Sept. 13, 1962, Ser. No. 223,357

6 Claims. (Cl. 208—80)



1. In a process for treating hydrocarbon fluids wherein a hydrocarbon stream having a high metal contaminant content is catalytically cracked in a first cracking zone operating under mild cracking conditions and a hydrocarbon stream having a low metal contaminant content is catalytically cracked in a second cracking zone operating under severe cracking conditions, the improvement comprising recovering cracked products from said cracking zones; passing the cycle oils produced in said cracking zones to a solvent extraction step for separation of paraffinic from aromatic materials; removing a raffinate stream, substantially denuded of aromatics, from said solvent extraction step and passing same to said second cracking zone; recovering an aromatic hydrocarbon extract stream from said solvent extraction step as a product of the process; and removing a stream containing a substantial quantity of intermediate aromatic hydrocarbons from said solvent extraction step and passing same to said first cracking zone.

3,193,490

COMBINED JET FUEL-GASOLINE PRODUCTION

Donald B. Broughton, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 9, 1960, Ser. No. 74,753

7 Claims. (Cl. 208—91)

1. A combination process for producing a fraction having optimum properties for jet fuel use and another fraction having optimum properties for use as a gasoline motor fuel which comprises contacting a hydrocarbon fraction predominating in saturated hydrocarbons of from 4 to 12 carbon atoms and having an end boiling point of from about 500° to about 600° F. with a molecular sieve selective for normal paraffinic hydrocarbons, separating a raffinate stream consisting essentially of branched chain and cyclic hydrocarbons, recovering the normal paraffinic hydrocarbons from the molecular sieve and removing the same, without any further conversion thereof, from the process as said product having optimum properties for jet fuel use, reforming said raffinate stream in the presence of hydrogen and a reforming catalyst at low-severity reforming conditions and recovering a gasoline boiling range fraction from the reforming reaction product as said fraction having optimum properties for gasoline motor fuel use.

3,193,491

PREPARATION OF A HYDROCRACKING CATALYST AND HYDROCRACKING THEREWITH

Robert H. Cramer and Sylvander C. Eastwood, Woodbury, and Abbott F. Houser, Cherry Hill, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed July 2, 1964, Ser. No. 380,042

The portion of the term of the patent subsequent to July 7, 1981, has been disclaimed

21 Claims. (Cl. 208—111)

1. A method of preparing a solid porous hydrocracking catalyst which comprises mixing an aqueous solution of an alkali metal silicate with an aqueous solution of a zirconium salt and an aluminum salt to yield a hydrosol having a pH of from 7 to 10 capable of setting to a hydrogel containing from 5 to 15 percent ZrO_2, from 5 to 10 percent Al_2O_3, and from 75 to 90 percent SiO_2 based on cogelled oxide content, permitting said hydrosol to set to a hydrogel, activating said hydrogel by treatment for from 1 to 24 hours at a temperature of from 125 to 200° F. with an aqueous solution of a compound selected from the group consisting of a mineral acid, an aluminum salt, and mixtures thereof, said solution having a pH of from 0 to 7, washing said hydrogel free of water-soluble material, drying, calcining, and combining the resulting silica-zirconia-alumina gel with a hydrogenation component selected from the group consisting of oxides of metals, sulfides of metals and metals of Groups VI and VIII of the Periodic Table.

17. A process for hydrocracking a hydrocarbon charge by contacting the same in the presence of hydrogen under hydrocracking conditions with a catalyst consisting essentially of a hydrogenation component selected from the group consisting of oxides of metals, sulfides of metals and metals of Groups VI and VIII of the Periodic Table in intimate combination with a silica-zirconia-alumina gel, said catalyst being prepared according to the method of claim 1.

3,193,492

SILICA-ZIRCONIA CATALYST AND METHOD FOR PREPARING THE SAME

Charles J. Plank, Woodbury, Edward J. Rosinski, Almonesson, and Robert B. Smith, Pitman, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

Filed Oct. 25, 1962, Ser. No. 233,161

13 Claims. (Cl. 208—119)

7. A process for the conversion of hydrocarbons which comprises contacting the same at conversion conditions with a catalyst consisting essentially of silica and zirconia prepared by the process which comprises reacting a water-soluble zirconium compound and an alkali metal silicate to effect formation of a gelable sol consisting essentially of silica and zirconia characterized by a pH in excess of 7.5 and a zirconia content, on a dry solids basis, of between about 2 and about 20 percent by weight, permitting the said sol to set forming a silica-zirconia hydrogel, activating said hydrogel by contact with a moist atmosphere under essentially non-drying conditions at a temperature within the approximate range of 170 to 220° F.

and at substantially atmospheric pressure for a period of between about ½ hour and 8 hours, thereafter washing the hydrogel free of soluble matter, drying and calcining.

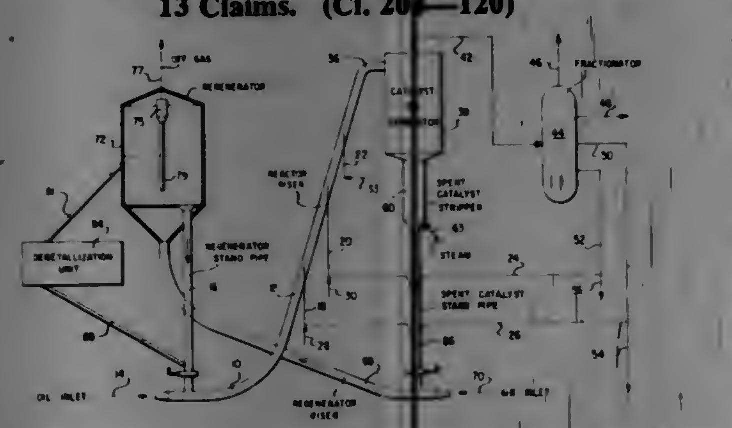
3,193,493
CATALYTIC CRACKING PROCESS WITH A CATALYST COMPOSITION COMPRISING AN ALUMINOSILICATE CONTAINING BERYLLIUM

Jean M. Bourguet and Francis D. Hart, Woodbury, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Oct. 17, 1960, Ser. No. 62,870
4 Claims. (Cl. 208—120)

3. A process for cracking a hydrocarbon charge which comprises contacting said charge under catalytic cracking conditions with a catalyst consisting essentially of beryllium aluminosilicate resulting from base-exchange of a crystalline alkali metal aluminosilicate having uniform pore openings between 6 and 15 Angstrom units with beryllium ions to replace at least about 75 percent of the original alkali metal content of said aluminosilicate with beryllium ions and to effectively reduce the alkali metal content of the resulting composite to below 4 percent, washing the base-exchanged material free of soluble anions, drying and thereafter thermally activating the product by heating at a temperature in the approximate range of 500 to 1200° F. for a period of between about 1 and about 48 hours.

3,193,494
PROGRESSIVE FLOW CRACKING OF CONTAMINATED HYDROCARBON FEEDSTOCKS

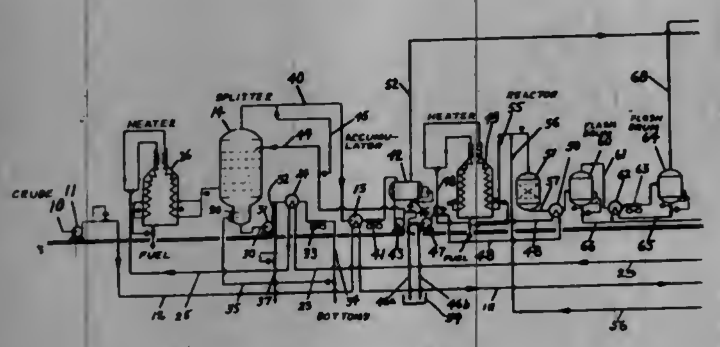
Robert A. Sanford, Homewood, and Earl C. Gossett, South Holland, Ill., assignors to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware
Filed July 24, 1962, Ser. No. 212,054
13 Claims. (Cl. 208—120)



6. A method for producing gasoline in an elongated upflow catalytic cracking reaction path which comprises feeding to the reaction path, held at a temperature of about 750 to 1200° F. and at a pressure of about atmospheric to 100 p.s.i.g., a mixture of finely divided catalyst consisting essentially of about 10 to 65% total alumina and being prepared by the addition of about 3 to 100 parts by weight of a synthetic alumina hydrate gel to 100 parts of a silica-alumina substrate, mixed with petroleum hydrocarbons boiling in the gas oil range containing less than about 1 p.p.m. metal contaminants and comprising about 50 to 99% of the total feed, at a later point in the reaction path introducing a heavier gas oil containing more than about one p.p.m. nickel and two p.p.m. vanadium, separating catalyst from the hydrocarbon effluent of the reaction path and recovering hydrocarbon products, the conversion of the feedstock into products boiling in the gasoline range being about 40 to 60%, passing catalyst to a regeneration zone where carbon is burned from the catalyst to a catalyst carbon content of less than about 1.2%, bleeding a portion of catalyst containing NiO and V_2O_5 from the cracking-regeneration system, removing vanadium from the catalyst and returning demetallized catalyst to the cracking-regeneration system.

3,193,495
DESULFURIZATION OF WIDE BOILING RANGE CRUDES

James V. Ellor, Wilton, and George W. Ostberg, Cos Cob, Conn., and John L. Disney, Valhalla, N.Y., assignors, by mesne assignments, to Esso Standard Eastern, Inc.
Filed May 5, 1961, Ser. No. 108,167
6 Claims. (Cl. 208—211)



1. A process for hydrodesulfurizing a wide boiling crude petroleum oil feed containing naphtha, kerosene and diesel oil fractions which comprises the steps of heating a continuous stream of the crude oil feed to a temperature sufficient to flash off the diesel oil and lighter fractions stream; flashing the heated feed at a pressure between atmospheric and 30 p.s.i.g.; condensing all of the resulting vapors of the diesel oil and lighter fractions and cooling to a temperature below 200° F., thereby to form a continuous wide cut liquid fraction stream containing the diesel oil fraction and all lighter fractions of the crude oil; removing uncondensed gases therefrom; passing the wide cut fraction as a continuous stream through a preheat zone at a higher pressure between 100 and 1000 p.s.i.g. and heating it sufficiently to vaporize said wide cut fraction under the said higher pressure; passing said vaporized wide cut fraction stream together with independently produced gaseous hydrogen directly as a continuous stream to a hydrodesulfurizing zone; hydrodesulfarizing the total vapors of said continous wide cut fraction stream under hydrodesulfurizing conditions at a temperature between 600° F. and 700° F. and at a pressure between 400 p.s.i.g. and 500 p.s.i.g. and thereby removing sulfur from said wide cut fraction; thereafter fractionating the cut fraction stream at substantially lower pressure to produce separate products of narrower boiling ranges.

3,193,496
PROCESS FOR REMOVING NITROGEN

Guenther K. Hartung, Pittsburgh, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Dec. 6, 1961, Ser. No. 157,545
16 Claims. (Cl. 208—212)

1. A process for reducing the nitrogen content of a nitrogen-containing petroleum fraction which comprises contacting said nitrogen-containing petroleum fraction with a mixture of at least one iron halide and at least one zinc halide.

3,193,497
PROCESS FOR MAKING A HYDROCARBON EXTENDING OIL FOR RUBBER

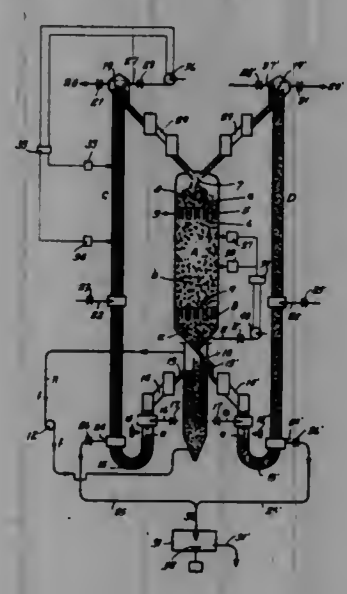
Herman R. Bentley, Hammond, Ind., assignor to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed Jan. 30, 1962, Ser. No. 169,960
2 Claims. (Cl. 208—271)

1. The process of preparing a hydrocarbon oil useful in the processing of rubber including the steps of subjecting a lubricating oil raffinate having a pour point below about 25° F., obtained by the solvent extraction of a

lubricating oil stock derived from a crude oil of substantial naphthenic constituency with a solvent selective for aromatics, to a treatment with acetone in an amount of about 50 to 700 volume percent of the lubricating oil feedstock at a temperature within the range of about 40° to 150° F. and a pressure within the range of about 0 to 50 p.s.i.g., separating a raffinate and an extract, and treating the separated raffinate with concentrated sulfuric acid in an amount of about 5 to 30 pounds per barrel of oil.

3,193,498
METHOD OF AND APPARATUS FOR TREATMENT OF WATER

Roger Platzer, Chatillon-sous-Bagneux, Claude Blain, Paris, Georges Cohen de Lara and Michel Delachanal, Grenoble, France, assignors to Commissariat à l'Energie Atomique (C.E.A.), Paris, France, and Societe Grenobloise d'Etudes et d'Applications Hydrauliques (SOGREAH), Grenoble (Isere), France, a French commission and a French corporation, respectively
Filed Feb. 5, 1962, Ser. No. 170,944
Claims priority, application France, Feb. 8, 1961, 4,333
14 Claims. (Cl. 210—33)



1. The method of treating liquids with anion and cation exchange material which comprises moving the anion and cation exchange material in two endless closed circuits each composed of a vertical regeneration column from the upper end of which the regenerated ion exchange material is fed to a supply pile at the upper end of a vertical column common to both circuits and including a mixed bed of anion and cation exchange material that is situated below said supply pile and is continuously renewed from said supply pile, the saturated anion and cation exchange material passing from the bottom of said mixed bed being separated and fed into the bottom ends of the regeneration columns in their associated endless closed circuits, introducing rinsing liquid into the upper end of the regeneration column in each circuit to enable such liquid to flow downwardly in counterflow relation to the upwardly moving ion exchange material therein, introducing regeneration liquid into the regeneration column in each circuit at a point below the upper end thereof to enable such liquid to flow downwardly in counterflow relation to the upwardly moving ion exchange material therein, introducing the liquid to be treated into the bottom end of said common column below said mixed bed and forcing such liquid up through the latter in counterflow relation to the downwardly moving ion exchange material in said bed, and withdrawing the treated liquid rising through such mixed bed at the top of the latter and below said supply pile of regenerated exchange material.

3,193,499
SOLVENT AND METHOD FOR REMOVING WAXY DEPOSITS

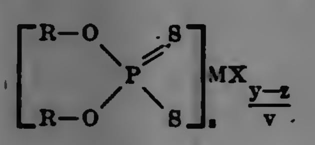
Donald E. Carr, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 3, 1961, Ser. No. 142,490
6 Claims. (Cl. 252—8.55)

1. A composition, suitable for removing waxy deposits, consisting essentially of an isoparaffinic hydrocarbon liquid containing substantially only isoparaffins, said liquid boiling in the range of 335–475° F., and a small amount of calcium petroleum sulfonate.

3,193,500
EXTREME PRESSURE LUBRICANT

Robert J. Hartle, Gibsonia, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Original application Feb. 12, 1959, Ser. No. 792,883, now Patent No. 3,068,259, dated Dec. 11, 1962. Divided and this application June 13, 1962, Ser. No. 202,656
8 Claims. (Cl. 252—32.7)

1. A lubricating composition comprising a major proportion of a lubricating oil and a minor amount sufficient to confer improved extreme pressure characteristics to the composition of a compound having the formula:

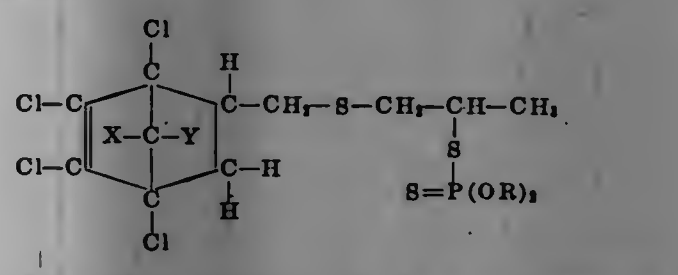


wherein R is selected from the group consisting of phenyl, caproylphenyl, alkyl, cycloalkyl, alkyphenyl, alkylphenoxyalkyl and alkoxyphenyl radicals wherein said alkyl radical contains 4 to 30 carbon atoms, said cycloalkyl radical contains 5 to 6 carbon atoms, the alkyl portion of said alkylphenyl radical contains 1 to 8 carbon atoms, the alkyl portions of said alkylphenoxyalkyl radical contain 2 to 5 carbon atoms and the alkyl portion of said alkoxyphenyl radical contains 2 to 4 carbon atoms; M is a metal selected from the group consisting of molybdenum and tungsten; X is an element selected from the group consisting of chlorine and sulfur; *y* is the valency of the metal M; *z* is an integer of at least one but less than the valency of the metal M; and *v* is the valency of X.

3,193,501
EXTREME PRESSURE LUBRICANT COMPOSITIONS

Howard J. Matson, Harvey, Ill., assignor to Sinclair Research, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 2, 1962, Ser. No. 184,544
3 Claims. (Cl. 252—46.7)

1. An oleaginous lubricant composition consisting essentially of a base oil of lubricating viscosity and an amount sufficient to give improved extreme pressure properties to the composition of a compound having the structural formula:



wherein X and Y are selected from the group consisting of chlorine and hydrogen atoms and R is a saturated hydrocarbon radical containing from 1 to 3 carbon atoms.

3,193,502
RARE EARTH FERRITES
Michael Schieber, Tel Aviv, Israel, assignor to The Weizmann Institute of Science, Rehovoth, Israel
No Drawing. Filed Sept. 11, 1961, Ser. No. 137,026
Claims priority, application Israel, Sept. 16, 1960, 14,392
17 Claims. (Cl. 252—62.5)

1. A ferrimagnetic composition of matter of garnet crystal structure, ternary respective the metal ions contained therein, consisting of a member selected from a first group consisting of La, Pr and Nd; a member selected from a second group consisting of Y, rare earths other than La, Pr and Nd; and iron, and oxygen, where the garnet crystal composition contains at least one atom of a member from the first group for each fifty atoms of iron and at least nine atoms of a member from the second group for each fifty atoms of iron.

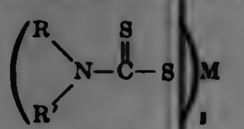
3,193,503
MAGNETIC CERAMIC FERRITES AND METHOD FOR MAKING SAME
William E. Smith, Sylvania, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
No Drawing. Filed Dec. 31, 1962, Ser. No. 248,221
20 Claims. (Cl. 252—62.5)

1. A method of manufacturing magnetic ceramic ferrites comprising the steps of forming a homogeneous melt in an oxidizing atmosphere, said melt containing 85–100 weight percent of a composition consisting of 16 to 50 percent MgO, 37 to 60 percent iron oxide expressed as Fe_3O_4, and 20 to 45 percent SiO_2, cooling the composition and subjecting the cooled homogeneous melt to a temperature sufficient to initiate and foster devitrification of the cooled melt to form a semicrystalline magnetic ceramic body, the remaining 15–0 weight percent of said melt being other compatible members selected from the group consisting of inorganic oxides and fluorides and mixtures thereof.

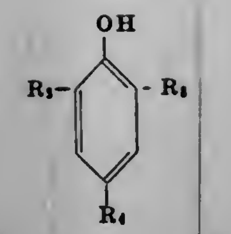
8. A solid magnetic ceramic ferrite body consisting essentially of a devitrified mass of the formulation, by weight, of 85–100 percent of a composition consisting of 16 to 50 percent MgO, 37 to 60 percent iron oxide expressed as Fe_3O_4 and 20 to 45 percent SiO_2, the remaining 15 to 0 percent of said composition being other compatible members selected from the group consisting of inorganic oxides and fluorides and mixtures thereof, the crystalline material formed by said devitrification constituting at least 50 volume percent of said mass and being dispersed in a residual glassy matrix.

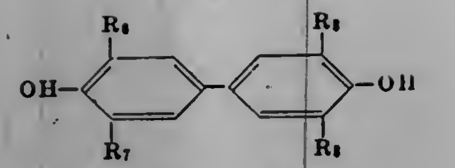
3,193,504
HYDRAULIC TRANSMISSION FLUID AND ANTI-OXIDANT ADDITIVE THEREFOR
Wendell F. Ford, Jr., Daniel O. Popovac, and Roy C. Sias, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Oklahoma
No Drawing. Filed May 5, 1960, Ser. No. 26,940
10 Claims. (Cl. 252—75)

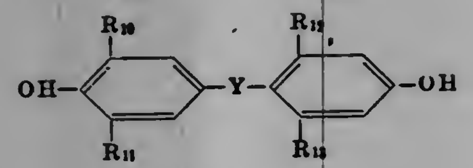
1. An antioxidant additive for hydraulic transmission fluids comprising a mineral lubricating oil, a rubber swell control agent, a dispersing agent, an antifoam agent, said antioxidant additive consisting essentially of a metal dialkyl dithiocarbamate and a phenolic compound wherein the metal dialkyl dithiocarbamate has the formula



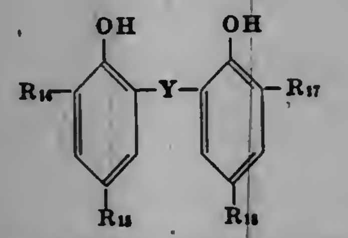
in which R and R' are aliphatic hydrocarbon radicals of 2–14 carbon atoms, M is a metal selected from the group consisting of zinc, cadmium, manganese, and dialkyl tin groups in which the alkyl radicals contain from 1 to 14 carbons and wherein the phenolic compound has a formula selected from the group consisting of:







and



in which the R's are alkyl groups of one to six carbons, Y is a member selected from the group consisting of a methylene radical and a sulfur atom and wherein said metal dialkyl dithiocarbamate and said phenolic compound are present in relative amounts with respect to each other to provide for one to be present in the range of 25 and 75 percent and the other to be present in the range of 75 to 25 percent by weight of the total anti-oxidant system.

3. A hydraulic transmission fluid adapted for use with automatic transmissions of the heavy duty type, characterized by a SUS viscosity at 210° F. of 45 to 58, and a maximum viscosity of 48,000 at 0° F., consisting essentially of in parts by weight:

(a) 99.5 to 94.5 parts of a mineral lubricating oil,
(b) 0.2 to 2.5 parts of an oil-soluble alkaline earth metal sulfurized phenate,
(c) 0.1 to 1.25 parts of an oil-soluble alkaline earth metal alkyl aryl sulfonate, the alkyl groups of which contain from about 15 to about 28 carbon atoms,
(d) 0.1 to 1.0 part of an antioxidant additive consisting of 25 to 75 percent of a phenolic compound and 75 to 25 percent of a metal dialkyl dithiocarbamate wherein said phenolic compound and said metal dialkyl dithiocarbamate of said antioxidant additive conform to the formulas for same defined in claim 1,
(e) 0 to 1.0 part of a pour point depressant, prepared by condensing a monochloroparaffin with naphthalene, and
(f) 0 to 100 p.p.m. of a dimethyl silicone polymer, having a kinematic viscosity at 25° C. of about 500 centistokes.

3,193,505
ANTIMICROBIAL LAUNDRY SOUR COMPOSITION
Rodney A. Blomfield, Southgate, and John J. Cramer, Wyandotte, Mich., assignors to Wyandotte Chemicals Corporation, Wyandotte, Mich., a corporation of Michigan
No Drawing. Filed Sept. 20, 1961, Ser. No. 139,350
4 Claims. (Cl. 252—136)

1. An antimicrobial laundry sour composition consisting essentially of a laundry sour selected from the group consisting of acetic acid, glycolic acid, oxalic acid, ammonium acid fluoride, ammonium silicofluoride, sodium acid fluoride, sodium silicofluoride and zinc silicofluoride and a germicide, said germicide consisting of a synergistic mixture of 58 to 93 weight percent, based on the weight of said synergistic mixture, of sodium pentachlorophenate

and 42 to 7 weight percent, based on the weight of said synergistic mixture, of 3,4,4'-trichlorocarbanilide; furthermore, said germicide being present in the amount of from 10 to 60 weight percent of said antimicrobial laundry sour composition.

3,193,506
DETERGENT COMPOSITION, NON-CORROSIVE TO METAL SURFACES
Louis A. Joo, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Nov. 29, 1961, Ser. No. 155,835
3 Claims. (Cl. 252—138)

1. A detergent composition, non-corrosive to metal surfaces in contact therewith in the presence of air consisting essentially of a major portion of an aqueous solution of mixed alkylaryl sulfonates, sodium tripolyphosphate, and sodium sulfate and as the sole corrosion-inhibiting component about 0.01 g. per 100 ml. of said aqueous solution of a halo, polynuclear carboxylic acid prepared by reacting solvent extracts, obtained in the solvent refining of mineral lubricating oils with a solvent selective for aromatic compounds, with an alkali metal to form the alkali metal adduct, carbonating said adduct to form the alkali metal salt of said acid, acidizing the resulting salt to form the free carboxylic acid characterized by complex polynuclear aryl, alkaryl nuclei having an average molecular weight of above about 300 with about 1.7 to 3.5 aromatic rings per mean aromatic molecule and said acid contains 1 to 5 halogen atoms and 1 to 5 carboxyl groups per molecule and halogenating said free acid.

3,193,507
METHOD OF CLEANING GLASS
Henry R. Jacobs, 2769 Sheridan Road, Evanston, Ill.
No Drawing. Filed Aug. 30, 1961, Ser. No. 134,845
1 Claim. (Cl. 252—170)

The method of cleaning the sprface of glass and silica surfaced ceramic articles for removing actual soil without leaving apparent soil thereon consisting of the steps of moistening a resilient and absorbent solid applicator with a liquid surface cleaning agent, said cleaning agent being a solution consisting of 0.006% by weight to 0.1% by weight of the compound hexylresorcinol in at least one solvent selected from the group consisting of water, methyl alcohol, ethyl alcohol and propyl alcohol, and stroking said surface with said moistened applicator until said surface is visibly clean.

3,193,508
SILICON-CONTAINING BARIUM-ALUMINUM GETTER MATERIAL
Paul V. Malloy and Jose P. R. Cels, Lakewood, Ohio, assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed July 13, 1962, Ser. No. 209,779
5 Claims. (Cl. 252—181.7)

3. A substantially homogeneous getter material relatively resistant to reaction with water, said getter material consisting of by weight about 40 percent to about 60 percent barium, about 30 percent to about 60 percent aluminum, and from about 0.5 to less than 10 percent silicon.

3,193,509
OPTICAL FILTER AND METHOD OF MAKING SAME
Donald O. Hoffman, Sturbridge, and Richard J. Hovey, Worcester, Mass., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Mar. 20, 1961, Ser. No. 96,864
6 Claims. (Cl. 252—300)

1. A transparent plastic material having dispersed therein oxidatively polymerized compounds of an organic substance selected from the group consisting of aniline, 2,5-diethoxyaniline, 2,5-dimethoxyaniline, o-toluidine, m-toluidine, and N-phenyl-p-phenylenediamine, a selected proportion of said compounds comprising intermediately oxidized, infra-red-absorbing forms of said selected organic substance and a selected proportion of the others of said compounds comprising highly oxidized forms of said selected substance, said proportion of said highly oxidized forms of said substance being such that said plastic material is adapted to increase its ability to absorb infra-red light of at least selected wavelengths after a relatively short period of aging.

6. A method for forming a plastic filter material comprising the steps of providing a transparent plastic material; preparing a first solution comprising an organic substance selected from the group consisting of aniline, 2,5-diethoxyaniline, 2,5-dimethoxyaniline, o-toluidine, m-toluidine and N-phenyl-p-phenylenediamine in a solvent adapted to permeate said plastic material; preparing an additional solution comprising Naphthol Green B dye in a solvent adapted to permeate said plastic material; imbibing said first solution into said plastic material for establishing said selected organic substance in dispersed relation therein; oxidatively polymerizing said selected organic substance in situ within the plastic material for forming compounds of said selected substance and for elevating a substantial proportion of said compounds to an intermediately oxidized infra-red absorbing state and a substantial proportion of the others of said compounds to a highly oxidized state, said proportion of said compounds which are elevated to said high oxidized state being such that the plastic material is adapted for relatively high transmission of visible light and relatively high absorption of infra-red light and is adapted to increase its infra-red absorbing ability after a relatively short period of aging; and imbibing said adidtional solution within the plastic material for establishing said Naphthol Green B dye in dispersed relation therein.

3,193,510
ALKYLSULFATE SOLUTIONS
Manuel M. Baizer, St. Louis, Mo., assignor to Monsanto Company, a corporation of Delaware
No Drawing. Filed Oct. 23, 1961, Ser. No. 147,070
7 Claims. (Cl. 252—363.5)

1. A solution consisting essentially of water, quaternary ammonium alkylsulfate in which four hydrocarbon radicals of up to 6 carbon atoms each are attached to the ammonium nitrogen and the alkylsulfate ion contains up to 8 carbon atoms in an amount at least 30% by weight of the water and said quaternary ammonium alkylsulfate acrylonitrile dissolved therein is an amount more than 10% by weight of the solution.

3,193,511
HIGH STABILITY SILICA-ALUMINA CATALYST AND METHOD OF PREPARATION THEREOF
Robert H. Cramer, Woodbury, and Abbott F. Houser, Merchantville, N.J., Albert B. Schwartz, Philadelphia, Pa., and Robert C. Wilson, Jr., Woodbury, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
Filed July 20, 1960, Ser. No. 44,061
The portion of the term of the patent subsequent to Sept. 6, 1977, has been disclaimed
7 Claims. (Cl. 252—453)

1. A method for preparing an attrition resistant catalyst consisting essentially of silica and alumina, highly stable to deactivation by steam, characterized by a high diffusivity and an apparent density of at least 0.85 g./cc., which comprises dispersing in a silica-alumina sol containing, on a dry basis, a major proportion of silica and having an

alumina content in excess of 15 but below 40 percent by weight, prepared by intimately contacting an aqueous solution of an alkali metal aluminate and an aqueous alkali metal silicate solution, an amount corresponding to between about 15 and about 55 percent by weight of the resulting dry composite of finely divided alpha alumina which has undergone previous calcination at a temperature in excess of 2000° F. and which has a weight mean particle diameter of between about 2 and about 7 microns, the concentrations and proportions of reactants being such that the resulting silica-alumina sol having the finely divided calcined alpha alumina dispersed therein has a pH between 11 and 14 and a product concentration within the approximate range of 5 to 11, permitting the resulting sol to set to a hydrogel, aging the hydrogel so obtained in an aqueous solution characterized by a controlled pH within the range of 4 to 10 for 1 to 24 hours, base exchanging zeolitic alkali metal from the aged hydrogel, washing the hydrogel free of water-soluble matter, drying and calcining.

3,193,512
SUPPORTED SILVER OXIDE CATALYST AND METHOD OF MAKING SAME

John E. Ciocchetti, Armenia, Caldas, Colombia, assignor to Acidos Grasos Limitada, Armenia, Caldas, Colombia, South America

No Drawing. Original application Feb. 9, 1960, Ser. No. 7,699. Divided and this application June 1, 1961, Ser. No. 114,013

14 Claims. (Cl. 252—451)

1. A process for preparing a catalyst for the partial oxidation of acetylene to ketene with air, comprising mixing an aqueous silver nitrate solution with an inorganic carrier, selected from the group consisting of silica gel containing about 8–10% of zinc oxide and about 10–15% of calicum oxide and calcium feldspar containing about 8–10% of zinc oxide, precipitating about 6–10% of silver oxide on the carrier from said solution by the addition of a base to said solution, allowing the liquid to drain and drying and calcining the remaining solids.

5. A catalyst for the partial oxidation of acetylene to ketene with air, consisting of about 6–10% of silver oxide distributed on an inorganic carrier selected from the group consisting of silica gel containing about 8–10% of zinc oxide and about 10–15% of calcium oxide, and calcium feldspar of about 10–15% calcium oxide content containing about 8–10% of zinc oxide.

3,193,513
POLYMERS OF BIS(HALOMETHYL)AROMATIC COMPOUNDS AND PROCESS FOR PRODUCING SAME

Jack E. Cook, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 2, 1960, Ser. No. 73,198

5 Claims. (Cl. 260—2)

1. A process for the preparation of a polymer which comprises reacting a bis(halomethyl)aromatic compound capable of forming a quinonoid structure on removal of the halo atoms selected from the group consisting of bis(halomethyl)benzenes, bis(halomethyl)naphthalenes, bis(halomethyl)pyridines and bis(halomethyl)quinolines with anthracene in the presence of finely divided metal reactant selected from teh group consisting of cobalt, tellurim, cadmium, iron, gallium, chromium, zinc, manganese, aluminum, beryllium and magnesium in an alcohol diluent at a temperature ranging from about 50 to about 300° F.

4. A polymer moldable above about 400° F. prepared by polymerizing 1,4-bis(chloromethyl)benzene in the presence of methanol diluent, anthracene and zinc dust at a temperature ranging from about 50 to about 300° F., said polymer being soluble in boiling tetralin.

3,193,514
POLYMERIC MATERIALS FROM THE REACTION OF ALKALI METAL ALUMINATE WITH AN AROMATIC SILICON HALIDE

William Randall Bamford, West Kilbride, Ayrshire, Scotland, assignor to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

No Drawing. Filed May 29, 1961, Ser. No. 113,074

Claims priority, application Great Britain, June 15, 1960, 20,998/60

2 Claims. (Cl. 260—2)

1. A process for the production of polymeric materials comprising reacting together at a temperature of up to about 40° C. an alkali metal aluminate in aqueous solution and at least one compound of the formula,

$$R_aR'_bR''_cSiX_{4-(a+b+c)}$$

where R is a monocyclic aryl and R' and R'' are selected from the group consisting of lower alkyl and monocyclic aryl, X is a halogen, *a* is an integer from 1 to 3, *b* is an integer from 0 to 2, *c* is an integer from 0 to 1, and *a*+*b*+*c* is not greater than 3, in an inert solvent, the reactants being used in amounts such that the ratio of silicon-bonded halogen atoms to aluminum atoms is 3:1 and the ratio of silicon atoms to aluminum atoms is not less than 1:1 or greater than 2:1.

3,193,515
METHOD OF PRODUCING POLYURETHANES

Rocco L. Mascioli, Media, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Original application Apr. 4, 1960, Ser. No. 19,524, now Patent No. 3,127,404, dated Mar. 31, 1964. Divided and this application Dec. 28, 1962, Ser. No. 247,811

3 Claims. (Cl. 260—2.5)

1. In the method of producing cellular polyurethane by reacting a precursor composition comprising tolylene diisocyanate and a hydroxly-containing compound selected from the group consisting of a polyether and a polyester, the hydroxy-containing compound being present in a quantity by weight larger than the quantity by weight of tolylene diisocyanate, said precursor compositon containing a blowing agent and also containing 1,4-diaza(2.2.2)bicyclooctane in a concentration of about 0.5% of said hydroxyl-containing compound, the improvement which consists essentially of delaying the action of a portion of the 1,4-diaza(2.2.2)bicyclooctane catalyst by including such portion of the 1,4-diaza(2.2.2)bicyclooctane as a composition prepared by reacting a lower polyol having alcoholic hydroxyl groups on adjacent carbon atoms with an amount of boric acid corresponding to at least one-half mol of boric acid per mol of polyol to prepare a glycolborate acid, and reacting the glycolborate acid with at least one-half mol of 1,4-diaza(2.2.2)bicyclooctane per mol of acid to prepare a glycolborate salt-like addition product of 1,4-diaza(2.2.2)bicyclooctane.

3,193,516
MELT SPINNING PROCESS

William Nicol Broatch and Thomas William Liddle, Harrogate, England, and Kenneth John Brimley, Troon, Scotland, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

Filed Jan. 30, 1962, Ser. No. 169,730

Claims priority, application Great Britain, Jan. 30, 1961, 3,439/61

5 Claims. (Cl. 260—29.1)

1. A process for the manufacture of melt spun yarn of improved quality from filaments of a polyester of an aromatic carboxylic acid and an alcohol wherein the polyester is melted and extruded through a spinneret characterised in that the molten polymer before the extrusion contains from about 0.05% to 0.5% of a stable organopolysiloxane fluid.

3,193,517
LATEX BASES FOR INTERIOR PAINTS

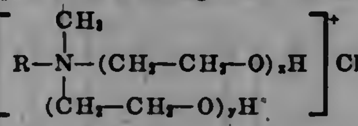
Ezekiel Melvin Gindler, Valencia, and William N. Maclay, Monroeville, Pa., assignors to Koppers Company, Inc., a corporation of Delaware

No Drawing. Filed Dec. 3, 1962, Ser. No. 241,552

4 Claims. (Cl. 260—29.7)

1. A method of making a viscosity stable latex comprising emulsion polymerizing 50–75 parts by weight of styrene with correspondingly 50–25 parts of butadiene and 0.25–2.0 parts of itaconic acid in about 100–150 parts of water containing 0.15–1.0 part of a water soluble persulfate catalyst and 2.8–11.4 parts of an emulsifier combination consisting of

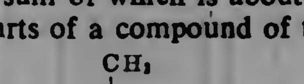
(a) 1.2–4.8 parts of a compound of the formula



$$\left[R-\underset{(CH_2-CH_2-O)_yH}{\overset{CH_3}{N}}-(CH_2-CH_2-O)_xH \right]^+ Cl^-$$

wherein R is derived from a mixture of myristic, lauric, palmitic, and stearic acids and *x* and *y* are integers the sum of which is about 15,

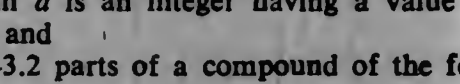
(b) 0.4–1.8 parts of a compound of the formula



$$R-NH-\overset{CH_3}{CH}-CH_2-COOH$$

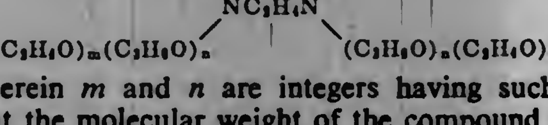
wherein R is as defined above,

(c) 0.4–1.6 parts of a compound of the formula:



wherein *a* is an integer having a value of from 9 to 10, and

(d) 0.8–3.2 parts of a compound of the formula:



wherein *m* and *n* are integers having such values that the molecular weight of the compound is about 7,500–30,000.

3,193,518
HIGH IMPACT POLYSTYRENE

Hans E. Lunk, Oakland, Calif., assignor to Shell Oil Company, New York, N.Y., a corporation of Delaware

No Drawing. Filed Jan. 23, 1961, Ser. No. 83,932

4 Claims. (Cl. 260—31.2)

1. A method for preparing a moldable composition which comprises admixing 85–98 parts by weight of styrene, 2–15 parts by weight of a styrene-butadiene rubber, 1.5–4.5 parts by weight of a polystyrene having an average molecular weight of 1500–40,000, and 0.5–2.5 parts by weight of butyl stearate, and mass polymerizing said styrene to an average molecular weight above about 100,000.

3,193,519
NOVEL AGGREGATE BINDERS

Albert M. Gessler, Cranford, and William J. Sparks, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Oct. 27, 1960, Ser. No. 65,269

10 Claims. (Cl. 260—33.6)

1. A composition comprising mineral aggregate the major portion of whose particles are retained by a 100 mesh screen bonded with a petroleum resin binder admixture prepared by mixing an inert inorganic filler whose particles are of an average size ranging from 0.1 to 50 microns and a hydrocarbon oil, admixing with said mixture a thermoplastic synthetic petroleum resin resulting from the polymerization of steam cracked olefins and diolefins having a softening point measured by the Ring-and-Ball Method of between about 125° F. and about 230° F., an average molecular weight of about 1,500, a specific gravity (25/25° C.) of between about 0.96 and about 0.98, and a carbon to hydrogen ratio of about 6.0 to about 7.0, the amount of petroleum resin admixture employed as the aggregate binder being sufficient to have between about 1 and about 10 weight percent of petroleum resin in the final bonded composition.

3,193,520
POLYMERIC COMPOSITIONS STABILIZED AGAINST HEAT, AGING AND LIGHT WITH SACCHARINE DERIVATIVES

Cornelio Caldo, Terni, Italy, assignor to Montecatini Società Generale per l'Industria Mineraria e Chimica, a corporation of Italy

No Drawing. Filed July 31, 1961, Ser. No. 127,850

Claims priority, application Italy, Aug. 2, 1960, 13,836/60

5 Claims. (Cl. 260—45.8)

1. A polymeric composition stabilized against heat, aging and light, comprising a crystalline polypropylene consisting prevailingly of isotactic macromolecules and a stabilizing amount of an organic stabilizer selected from the group consisting of α,β-benzoisothiazolone-1-dioxide, N-alkyl-α,β-benzoisothiazolone-1-dioxide, N-aryl-α,β-benzoisothiazolone-1-dioxide, N-alkaryl-α,β-benzoisothiazolone-1-dioxide, and N-ketonyl-α,β-benzoisothiazolone-1-dioxide.

3,193,521
OLEFIN POLYMER STABILIZED WITH BORON COMPOUNDS

Wolfgang Jasching, Bickenbach an der Bergstrasse, Germany, assignor to Carlisle Chemical Works, Inc., Reading, Ohio, a corporation of Ohio

No Drawing. Filed Nov. 22, 1961, Ser. No. 154,343

Claims priority, application Germany, Dec. 23, 1960, D 35,018

7 Claims. (Cl. 260—45.8)

7. Solid polypropylene stabilized with a small but effective amount of the pyridine complex of triphenylborane.

3,193,522
STABILIZATION OF POLYESTERS WITH POLYCARBODIIMIDE

Wolfram Neumann, Leverkusen, Hans Holtschmidt, Cologne-Stammheim, Julius Peter, Odenthal, Buchmuhle, and Peter Fischer, Cologne-Stammheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Nov. 29, 1961, Ser. No. 155,791

Claims priority, application Germany, Dec. 2, 1960, F 32,679

9 Claims. (Cl. 260—45.9)

1. A method for stabilizing organic ester containing compositions which comprises adding to the said composition a stabilizing amount of a polycarbodiimide having a molecular weight of at least about 500 and having more than 3 carbodiimide groups, with the proviso that at least one carbodiimide group is present for each molecular weight unit of 1,500.

3,193,523
STABILIZATION OF POLYESTERS WITH SUBSTITUTED CARBODIIMIDES

Wolfram Neumann, Leverkusen, Hans Holtschmidt and Wilhelm Kallert, Cologne-Stammheim, and Artur Reischl, Leverkusen, all of Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Dec. 27, 1961, Ser. No. 162,589

Claims priority, application Germany, Dec. 31, 1960, F 32,877

13 Claims. (Cl. 260—45.9)

1. A polyester stabilized against hydrolysis and ageing said polyester having repeating ester linkages in the

chain by incorporation therein of a stabilizing amount of a monocarbodiimide substituted at least in the 2 and 2′ position selected from the group consisting of phenyl monocarbodiimides and cyclohexyl monocarbodiimides, said substituent being selected from the radicals consisting of alkyl having from 1 to 18 carbon atoms. aralkyl, aryl, alkoxy having 1 to 18 carbon atoms, halogen, nitro, carbomethoxy, carbethoxy and cyano.

3,193,524
POLYESTER PLASTICS STABILIZED WITH CARBODIIMIDES

Hans Holtschmidt, Cologne-Stammheim, Günther Loew, Cologne, Günther Nischk, Leverkusen, and Fritz Moosmüller, Dormagen, Germany, assignors, by direct and mesne assignments, of one-half to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany, and of one-half to Mobay Chemical Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 618,458, Oct. 26, 1956. This application Oct. 29, 1962, Ser. No. 233,869

Claims priority, application Germany, Oct. 26, 1955, F 18,732

3 Claims. (Cl. 260—45.9)

1. A polyester stabilized against hydrolytic degradation by a stabilizing amount of a carbodiimide having substituents selected from the group consisting of alkyl, aromatic and cycloalkyl in admixture therewith, said polyester being prepared by reacting a polyhydric alcohol with a polycarboxylic acid.

3,193,525
POLYURETHANE POLYMERS

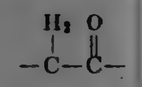
Wilhelm Kallert, Cologne-Stammheim, Wolfram Neumann, Leverkusen, Konrad Ellegast, Leichlingen, and Albert Awater, Cologne-Mulheim, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Feb. 5, 1963, Ser. No. 256,224

Claims priority, application Germany, Feb. 19, 1962, F 36,063

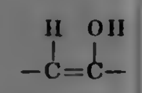
16 Claims. (Cl. 260—45.9)

1. A process for the preparation of polyurethane polymers which comprises reacting an organic polyisocyanate with a hydroxyl polyester prepared by the process which comprises reacting a polycarboxylic acid with a polyhydric alcohol, said reaction being conducted in the presence of a carbodiimide and an organic compound containing the groupings selected from the class consisting of



$$-\overset{H_2}{\underset{|}{C}}-\overset{O}{\underset{\|}{C}}-$$

and



$$-\overset{H}{\underset{|}{C}}=\overset{OH}{\underset{|}{C}}-$$

in an equilibrium with 20%–95% of the keto form, said organic compound being free of carboxylic acid groups.

3,193,526
SYNTHETIC POLYMERIC HYDROCARBON COMPOSITIONS STABILIZED WITH AN ARYLMETHYLENE ETHER OF DIALKYLPHENOL COMPOUND

Harold A. Green, Havertown, Pa., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 19, 1962, Ser. No. 180,859

7 Claims. (Cl. 260—45.95)

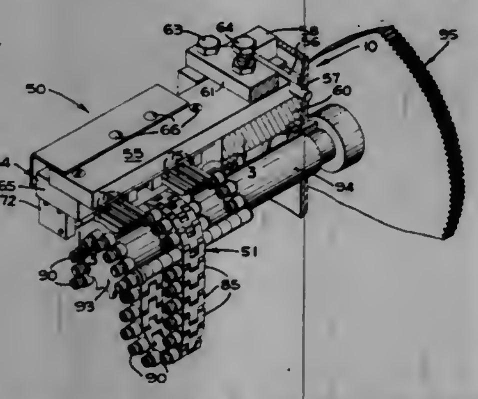
1. The method of stabilizing synthetic polymeric hydocarbon materials to improve their resistance to actinic and thermal degradation which comprises the incorporation therein of from 0.1% to about 2% by weight of a stabilizer which is an arylmethylene ether of dialkylphenol in which each alkyl gorup contains from 4 to 18 carbon atoms.

3,193,527
PROGRAM-CHAIN SWITCH OPERATOR FOR ARTICLE HANDLING APPARATUS

Ernest A. Verrinder and Francis Curtis, Riverside, Calif., assignors to FMC Corporation, San Jose, Calif., a corporation of Delaware

Filed Dec. 26, 1962, Ser. No. 247,143

10 Claims. (Cl. 200—46)



1. In a program device, a plurality of connector links disposed end to end, each link having a portion overlapping a portion of the two adjacent links, the overlapping portions of adjacent links having aligned apertures, a control rod disposed in each set of aligned apertures, a plurality of switch actuators slidably disposed on each control rod, and a removable retainer engaging each control rod and abutting the actuator farthest from the associated connector link to lock said actuators on said rod, each switch actuator being disposed the same distance from said link as an actuator on each adjacent control rod, whereby endless columns of switch actuators are formed.

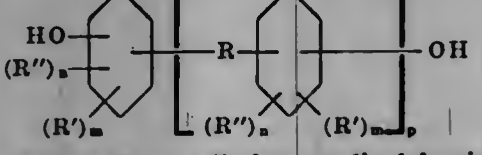
3,193,528
PROCESS OF PREPARING MONOCHLOROFORMATES AND PROCESS OF PREPARING POLYCARBONATES THEREFROM

Robert W. Miller, Bay City, and John A. Schmitt, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Oct. 12, 1959, Ser. No. 845,606

3 Claims. (Cl. 260—47)

1. A process for the preparation of monochloroformates of aromatic dihydroxy compounds which consists essentially of reacting phosgene with an aromatic dihydroxy compound in a reaction medium consisting essentially of dilute aqueous caustic at a temperature of from 0 to 100° C.; said phosgene being employed in an amount of from between about 1 to 1.5 moles of phosgene per mole of dihydroxy compound; said caustic is employed in at least an equimolecular proportion with the dihydroxy compound; said dihydroxy aromatic compound having the general formula



wherein R represents an alkylene radical having from 1 to 4 carbon atoms, inclusive; R′ represents a member selected from the group consisting of hydrogen, alkyl, aryl and 5 to 6 membered cycloaliphatic radicals; R″ represents a halogen substituent having an atomic number from 9 to 35, inclusive; *n* represents an integer from 0 to 4, inclusive; and, *m* and *p* each represent an integer from 0 to 1, inclusive, and separating the monochloroformate which forms as a water-insoluble solid.

3,193,529
PROCESS FOR PREPARATION OF POLYCARBONATES EMPLOYING PHOSPHONIUM CATALYSTS

Bryce C. Oxenrider, Florham Park, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 22, 1960, Ser. No. 57,610

9 Claims. (Cl. 260—47)

1. A process for the preparation of a polycarbonate resin which comprises reacting together phosgene and a di-monohydroxyaryl-alkane in an aqueous alkaline medium in the presence of an inert organic solvent which is immiscible in the aqueous phase, and in the presence of a catalytic amount of a quaternary phosphonium compound soluble in the reaction medium as a catalyst for the reaction.

3,193,530
PROCESS FOR PREPARATION OF POLYCARBONATES EMPLOYING ARSONIUM CATALYSTS

Bryce C. Oxenrider, Florham Park, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Sept. 22, 1960, Ser. No. 57,646

8 Claims. (Cl. 260—47)

1. A process for the preparation of a polycarbonate resin which comprises reacting together phosgene and a di-monohydroxyaryl-alkane in an aqueous alkaline medium in the presence of an inert organic solvent which is immiscible in the aqueous phase, and in the presence of a catalytic amount of a tetra-aryl arsonium compound soluble in the reaction medium as a catalyst for the reaction.

3,193,531
PROCESS FOR THE PRODUCTION OF HIGH MOLECULAR WEIGHT POLYOXYMETHYLENE ESTERS AND ETHERS WITH A DEFINITE DEGREE OF POLYMERISATION

Karl-Heinz Heller, Krefeld, Germany, assignor to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Apr. 13, 1960, Ser. No. 21,855

Claims priority, application Germany, Apr. 25, 1959, F 28,321

6 Claims. (Cl. 260—67)

1. A process for depolymerizing a polyoxymethylene whose terminal valances are each satisfied by a radical of the group consisting of alkoxy and alkoxycarbonyl to obtain a resulting polyoxymethylene whose terminal valences are each satisfied by a radical of the group consisting of alkoxy and alkoxycarbonyl, having a lower intrinsic viscosity than the original polyoxymethylene derivative comprising contacting in an inert solvent at room temperature

(i) a polyoxymethylene whose terminal valences are each satisfied by a radical of the group consisting of alkoxy and alkoxycarbonyl radicals having an intrinsic viscosity of more than about 1.3, with

(ii) an etherifying agent of the group consisting of dimethyl sulfite, tetrabutyl titanate, tetraethyl silicate, orthocarbonic acid ethyl ester, orthocarbonic acid methyl ester, orthoformic acid ethyl ester, orthoformic acid methyl ester, orthoacetic acid methyl ester, orthoacetic acid ethyl ester, orthopropionic acid ethyl ester and orthopropionic acid methyl ester and

(iii) a catalyst of the group consisting of hydrochloric acid, hydrofluoric acid, sulfuric acid, 4-toluenesulfonic acid, phosphoric acid, formic acid, acetic acid, trichloroacetic acid, zine chloride, aluminum chloride, ferric chloride, boron trichloride, tin tetrachloride, boron trifluoride, and addition compounds of boron trifluoride with a member selected from the group consisting of diethyl ether and tetrahydrofuran,

in amounts such that the etherifying agent (ii) is between 10 and about 1000 percent, and the catalyst (iii) in an amount between 0.001 and about 1 percent, each percentage being by weight of the polyoxymethylene.

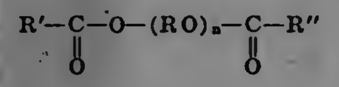
3,193,532
PRODUCTION OF HIGH MOLECULAR WEIGHT POLYMERS OF FORMALDEHYDE

Henri Sidi, Paramus, N.J., assignor, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed July 25, 1962, Ser. No. 212,483

11 Claims. (Cl. 260—67)

1. In a process for the production of a high molecular weight polymer of formaldehyde, in which substantially anhydrous monomeric formaldehyde is polymerized in a reaction medium comprising an alkylene dicarboxylate having a structure represented by the formula



$$R'-\underset{\underset{O}{\|}}{C}-O-(RO)_n-\underset{\underset{O}{\|}}{C}-R''$$

in which R represents a divalent radical selected from the group consisting of $—CH_2—$ and $—CH(CH_3)—$, R′ and R″ each represent a radical selected from the group consisting of alkyl groups containing from 1 to 18 carbon atoms, cycloalkyl groups, and aryl groups, and *n* is an integer in the range from 1 to 3, the improvement which comprises dissolving in the alkylene dicarboxylate a catalytic amount of a formaldehyde polymerization initiator comprising a polyvalent metal salt of an alkanoic acid containing from 4 to 18 carbon atoms, and thereafter passing the monomeric formaldehyde through the reaction medium at a temperature in the range from about 10° C. to about 80° C., thereby forming a suspension of a high molecular weight polymer of formaldehyde in the reaction medium.

3,193,533
POLYMERIZATION OF FORMALDEHYDE

Carl Harding Manwiller and John Brockway Thompson, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Aug. 28, 1962, Ser. No. 219,858

10 Claims. (Cl. 260—67)

1. A process for controlling the concentration of formaldehyde during the polymerization of formaldehyde to high molecular weight polyoxymethylene which comprises introducing a solution of formaldehyde in an alcohol solvent into a reaction zone in the presence of a basic formaldehyde polymerization initiator, vaporizing a portion of said solution, measuring the vaporization temperature and pressure, and withdrawing a portion of said solvent through a distillation apparatus to maintain the boiling point and pressure of said solution at a point corresponding to the desired concentration of formaldehyde in the solution, said distillation being conducted in the presence of a distillation catalyst being a compound selected from the class consisting of inorganic and organic bases having a pK_b at 25° C. of greater than 5.15 and metal salts of acids having a pK_a at 25° C. of greater than 3.

3,193,534

PRODUCTION OF NITROGENOUS POLYVINYL ALCOHOL DERIVATIVES

Kanji Matsubayashi and Masakazu Matsumoto, Kurashiki, Japan, assignors to Kurashiki Rayon Co., Ltd., Kurashiki-shi, Japan, a corporation of Japan

No Drawing. Filed Jan. 26, 1962, Ser. No. 169,082

Claims priority, application Japan, Feb. 2, 1961, 36/3,080

4 Claims. (Cl. 260—77.5)

1. A method of producing a nitrogenous polyvinyl alcohol derivative containing N-substituted vinyl urethane units and where said derivative is insoluble in boiling water which comprises,

preparing a mixture consisting of urea, an amine, and a vinyl alcohol polymer,

said urea and said amine being present in said mixture in sufficient quantities to form an N-substituted derivative of urea,

said vinyl alcohol polymer containing at least 50% vinyl alcohol units,

said amine being a monoamine selected from the group consisting of aniline, naphthylamine, methylamine, dimethylamine, ethylamine, butylamine, cyclohexylamine, benzylamine, octylamine, and ethanolamine;

and reacting said urea and said amine and said vinyl alcohol polymer in said mixture at a temperature within the range of 120° C. to 250° C. to produce a nitrogenous polyvinyl alcohol derivative containing N-substituted vinyl urethane units and where said derivative is insoluble in boiling water.

3,193,535

POLYMERIZATION OF AQUEOUS SOLUTIONS OF POLYAMIDE-FORMING REACTANTS WITH A CONTINUOUSLY DECREASING PRESSURE

John Anthony Carter, Newport, England, assignor to British Nylon Spinners Limited, Pontypool, Monmouthshire, England

No Drawing. Filed Feb. 1, 1962, Ser. No. 170,503

Claims priority, application Great Britain, Feb. 28, 1961, 7,279/61

6 Claims. (Cl. 260—78)

1. A continuous process for the manufacture of high molecular weight linear polyamides by the condensation polymerization of a monomer which is selected from the group consisting of omega-amino aliphatic carboxylic acids containing from 6 to 12 carbon atoms and polymethylene diammonium salts of aliphatic alpha,omega-dicarboxylic acids containing from 8 to 24 carbon atoms, which process comprises pumping an aqueous solution of said monomer into the entry end of an elongated tubular zone having an internal diameter not exceeding 2.5 cm. and heated to a temperature at least 10° C. above the melting point of the polyamide which causes the polyamide forming reactant to polymerize as it passes therethrough, regulating the pressure in said zone so that it is at least 14 atmospheres at the entry end of said zone, continuously decreases along the zone and falls to a value not substantially above atmospheric pressure at the exit end of said zone while always permitting the evolution of steam, and at any point in the zone has a value constituting a continuous monotonic single-value function of the distance of said point along the zone and passing the polyamide forming reactant through the zone for a period of time sufficient to cause at least 90% of the total theoretical water of chemical condensation to be evolved during said passage, and continuously removing steam and polyamide from the exit end of said zone.

3,193,536

PROCESS FOR THE PRODUCTION OF FLUORESCENT POLYMERS

Annemarie Wagner, Otto Bayer, Carlhans Süling, and Heinz Gröne, all of Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Sept. 20, 1960, Ser. No. 57,148

Claims priority, application Germany, Sept. 30, 1959, F 29,497

15 Claims. (Cl. 260—79.3)

1. A process for the production of a fluorescent polymer which comprises polymerizing an olefinically unsaturated monomer selected from the group consisting of coumarin, stilbene, pyrazoline, benzthiazole, oxdiazole and triazole, said monomer containing one $CH_2=C<$ group, in the presence of a copolymerizable compound selected from the group consisting of acrylonitrile, an acrylic acid ester and methacrylaminobenzene benzene disulfonimide and mixtures thereof, said polymerizing being carried out in an aqueous medium in the presence of a free radical catalyst.

5. A synthetic polymer selected from the group consisting of a binary copolymer of acrylonitrile and a fluorescent monomer and a terpolymer of acrylonitrile, a fluorescent monomer, and another monoethylenically unsaturated comonomer, said fluorescent monomer being selected from the group consisting of coumarin, stilbene, diphenyl pyrazoline, naphthalic acid imide, oxdiazole and triazole, said fluorescent monomer having one $CH_2=C<$ group and being present in said polymer in copolymerized form in an amount from about 0.1% to about 10% by weight.

3,193,537

PROCESS FOR THE PRODUCTION OF ACRYLONITRILE POLYMERS IN THE PRESENCE OF A DICARBOXYLIC ACID AND A METALLIC ION

Karl Dinges, Cologne-Stammheim, and Herbert Marzolph, Dormagen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Nov. 29, 1961, Ser. No. 155,799

Claims priority, application Germany, Dec. 15, 1960, F 32,761

10 Claims. (Cl. 260—79.3)

1. In the process for the production of acrylonitrile polymers by polymerizing in an aqueous medium a monomeric starting material selected from the group consisting of acrylonitrile and acrylonitrile and a monoethylenically unsaturated polymerizable monomer in proportions yielding copolymers containing at least 60% by weight of bound acrylonitrile, said aqueous medium containing a redox catalyst system at a pH-value between about 2 and 6, the improvement which comprises conducting said polymerization in the presence of (a) 0.1–10 mmol, per mol of the total amount of monomeric starting material, of a lower dicarboxylic acid selected from the group consisting of oxalic acid, malonic acid and mixtures thereof, and (b) at least one metal ion member of the group consisting of 0.05 to 20 p.p.m. of copper-II-ion, 0.1 to 40 p.p.m. of tin-II-ion, and 0.2 to 80 p.p.m. of mercury-II-ion, said amounts being based on the total amount of monomeric starting material and the selected metal ion being introduced as a water-soluble salt of said ion, conducting said polymerization at a temperature range of between 5° to 70° C. and recovering the formed acrylonitrile polymer from the aqueous medium.

3,193,538

COPOLYMERS OF BIS(HALOMETHYL) AROMATIC COMPOUNDS AND A VINYLIDENE MONOMER

Peter J. Canterino and Jack E. Cook, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Nov. 6, 1959, Ser. No. 851,239

10 Claims. (Cl. 260—86.3)

1. A polymer prepared by reacting a bis(halomethyl) aromatic compound capable of forming a quinonoid structure on removal of the halo atoms selected from the group consisting of bis(halomethyl) benzenes, bis(halomethyl) naphthalenes, bis(halomethyl) pyridines, and bis(halomethyl) quinalines by dissolving said compound and a vinylidene monomer selected from the group consisting of styrene, butadiene, vinyl pyridine, acrylonitrile, methyl acrylate, ethyl acrylate, methyl methacrylate, vinyl naphthalene, and vinyl quinoline in an alcohol selected from the group consisting of methanol, ethanol, propanol, isopropanol, n-butyl alcohol, 1-methylpropanol, tert-butyl alcohol, cyclohexanol, 2,4-dimethylhexan-1-ol, and n-decanol, and contacting the resulting solution with a metal capable of acting as a catalyst selected from the group consisting of the alkali metals, the alkaline earth metals, magnesium, aluminum, manganese, zinc, chromium, iron and cadmium.

3,193,539

PROCESS FOR POLYMERIZING VINYLIDENE FLUORIDE

Murray Hauptschein, Glenside, Pa., assignor to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed May 31, 1960, Ser. No. 32,591

8 Claims. (Cl. 260—87.7)

6. A method for producing vinylidene fluoride polymers which comprises subjecting a monomer consisting of at least 95 mole percent of vinylidene fluoride and not more than 5 mole percent of another ethylenically unsaturated comonomer to polymerization in the presence of ditertiary butyl peroxide as a polymerization catalyst at pressures ranging from about 200 to 2,000 lbs. per sq. in. and at temperatures of from 100° to 150° C.

3,193,540

PROCESS OF POLYMERIZING METHYL METHACRYLATE

Abraham Kutner, Brookside Park, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 30, 1957, Ser. No. 686,849

2 Claims. (Cl. 260—89.5)

1. The process of preparing crystalline poly(methyl methacrylate) which consists in contacting methyl methacrylate, as the sole polymerizable material, at a temperature of from about —50° C. to about 150° C. and in the presence of an inert liquid organic diluent, with from about 0.1 to about 10% by weight based on the methyl methacrylate of a trialkyl bismuth as the sole polymerization catalyst.

3,193,541

POLYMERIZATION OF VINYL ISOBUTYL ETHER

Arthur D. Ketley, Derwood, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Nov. 15, 1961, Ser. No. 152,647

9 Claims. (Cl. 260—91.1)

1. The method of producing crystalline polyvinyl isobutyl ether which comprises preforming a catalyst by freezing solid a boron trifluoride ether complex, diluting vinyl isobutyl ether monomer in an inert solvent which is liquid at a temperature below the freezing point of the said boron trifluoride ether complex, and contacting the said frozen solid boron trifluoride ether complex with the solution of monomer at a temperature below the freezing point of the boron trifluoride ether complex.

3,193,542

PRODUCTION OF POLYVINYL ALCOHOL HAVING IMPROVED CHARACTERISTICS

Kiyokazu Imai, Kurashiki, Japan, assignor to Kurashiki Rayon Co., Ltd., Kurashiki-shi, Japan, a corporation of Japan

No Drawing. Filed May 22, 1961, Ser. No. 111,436

Claims priority, application Japan, May 25, 1960, 35/25,285

4 Claims. (Cl. 260—91.3)

1. A process of producing polyvinyl alcohol of improved characteristics which comprises homopolymerizing vinyl acetate in a polymerization system containing a free radical polymerization catalyst and from 35% to 60% by weight of vinyl acetate and from 5% to 15% by weight of boric acid, and saponifying the resultant polymer to produce polyvinyl alcohol.

3,193,543

PROCESS FOR THE POLYMERIZATION OF FLUORINATED MONOMERS

Mario Ragazzini, Donato Carcano, Carmine Garbuglio, and Andrea Doria, Milan, Italy, assignors, by mesne assignments, to Edison, Milan, Italy, a corporation of Italy

No Drawing. Filed Mar. 18, 1963, Ser. No. 266,071

15 Claims. (Cl. 260—92.1)

1. A process for the polymerization of tetrafluoroethylene which comprises homopolymerizing tetrafluoroethylene monomer in an aqueous buffering medium which maintains the pH within the range of about 7 to 11 in the presence of a catalyst comprising silver nitrate and an inorganic peroxide selected from the group consisting of ammonium persulfate, alkali metal persulfate and alkali metal peroxides.

3,193,544

OPTICALLY ACTIVE POLYMERIC ALPHA OLEFINS AND PROCESSES FOR MAKING SAME

Giulio Natta, Milan, and Piero Pino and Gian Paolo Lorenzi, Pisa, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, a corporation of Italy

No Drawing. Filed Jan. 15, 1960, Ser. No. 2,607

Claims priority, application Italy, Jan. 15, 1959, 731/59

12 Claims. (Cl. 260—93.7)

1. Normally solid homopolymers of alpha-olefins having the general formula

$$CH_2=CHR$$

where R is selected from the group consisting of branched alkyl radicals containing from 4 to 8 carbon atoms at least one of which is an asymmetric carbon atom, and alkylaryl radicals in which the alkyl portion contains from 2 to 8 carbon atoms at least one of which is an asymmetric carbon atom, said homopolymer being characterized in consisting prevailingly of isotactic macromolecules and in exhibiting optical activity in solution.

3,193,545

CATALYST AND PROCESS FOR POLYMERIZING ALPHA-OLEFINS UTILIZING TITANIUM HALIDE DERIVATIVES

Perry A. Argabright, Piscataway, and Edwin A. Schmall, Springfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Original application Dec. 3, 1958, Ser. No. 777,828, now Patent No. 3,069,446, dated Dec. 18, 1962. Divided and this application May 2, 1962, Ser. No. 191,709

18 Claims. (Cl. 260—93.7)

8. A process for polymerizing an alpha olefin which comprises polymerizing the alpha olefin in the presence

of a catalyst comprising the reaction product of a titanium halide having a minimum of 2 halogen atoms and an organic electron donor selected from the group consisting of triphenyl chloromethane, tetraethyl ammonium bromide, diphenyl chloromethane, benzyl sulfide, and phenyl urethane, wherein said reaction product has been formed by stirring a mixture of said titanium halide and said electron donor in an inert hydrocarbon diluent in the absence of a reducing compound, under an inert atmosphere for one to several hours at a temperature between about 25° C. and the boiling point of said diluent, recovering, washing and drying said complex, the molecular ratio of titanium halide to organic electron donor being in the range of 1:1 to 4:1, and activated with a trialkyl compound of a metal selected from the group consisting of aluminum, gallium and indium, the molecular ratio of trialkyl compound to titanium halide reaction product being in the range of 1:1 to 10:1.

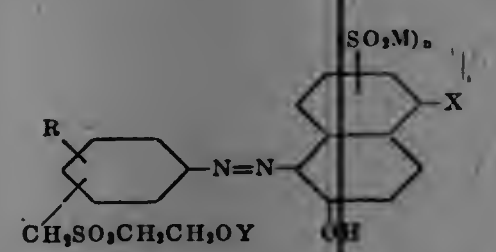
3,193,546
AZO DYESTUFFS

Harlan B. Freyermuth, Easton, Pa., David I. Randall, New Vernon, N.J., and Saul R. Buc, deceased, late of Easton, Pa., by Dolores M. Buc, administratrix, Easton, Pa., assignors to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 28, 1961, Ser. No. 164,210

4 Claims. (Cl. 260—200)

1. An azo dyestuff of the formula



wherein Y is selected from the group consisting of H and SO_3M, R is selected from the group consisting of H, lower alkyl and lower alkoxy, X is selected from the group consisting of H, chlorine and SO_3M, M is selected from the group consisting of H and alkali metal, *n* is zero when X is SO_3M and one when X is selected from the group consisting of H and chlorine, and the

$$CH_2SO_2CH_2CH_2OY$$

group is in one of the meta and para positions relative to the azo bridge.

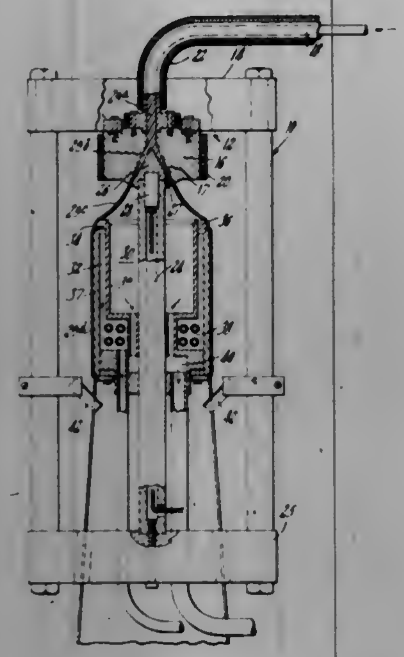
3,193,547
METHOD AND APPARATUS FOR EXTRUDING PLASTIC

Charles M. Schott, Jr., Gloucester, Mass., assignor to Gloucester Engineering Co., Inc., Gloucester, Mass., a corporation of Massachusetts

Filed Sept. 7, 1961, Ser. No. 136,495

11 Claims. (Cl. 264—209)

1. The method of producing clear, molecular oriented plastic film by extruding plastic tube in the heated state through an annular die and cooling it and stretching it widthwise, the improvement comprising contacting the inside surface of the heated plastic after it emerges from said die, in close proximity thereto and before it reaches its final, enlarged width with an axially disposed circular mass of cooling liquid, and immediately thereafter applying outward stretching forces by means of a rigid surfaced mandrel member located within said plastic tube, the liquid serving to lubricate the plastic film as it stretches and moves over said mandrel member.



3,193,548
FLUORESCENT TRIAZINYLSTILBENES

Nathan N. Crounse, Cincinnati, Ohio, and John W. Delaney, South Fort Mitchell, Ky., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

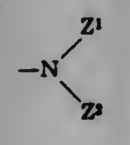
No Drawing. Filed Feb. 16, 1962, Ser. No. 173,840

12 Claims. (Cl. 260—240)

1. 4-[4-(—NH—X—O—CH_2CH_2—(O—CH_2CH_2)$_n$—OH)-6-(Y^2)-s-triazin-2-ylamino]-4′-[4-(Y^3)-6-(Y^4)-s-triazin-2-ylamino]-2,2′-disulfostilbene wherein X is lower alkylene interposing at least two carbon atoms between the nitrogen and oxygen atoms linked thereby, *n* is an integer from 0 to 3 inclusive and Y^2, Y^3, and Y^4 are members of the group consisting of: chloro; bromo; hydroxy; lower alkoxy; phenoxy; methylphenoxy; methoxyphenoxy;

$$—NH—X—O—CH_2CH_2—(O—CH_2CH_2—)_n—OH$$

wherein X is lower alkylene interposing at least two carbon atoms between the nitrogen and oxygen atoms linked thereby, *n* is an integer from 0 to 3 inclusive; morpholino; piperidino; pyrrolidino; amino radicals having the structural formula



wherein Z^1 and Z^2 are members of the group consisting of hydrogen, lower alkyl, hydroxy-lower alkyl, lower alkenyl, lower aralkyl, phenyl, lower alkylphenyl, halophenyl, and lower alkoxyphenyl.

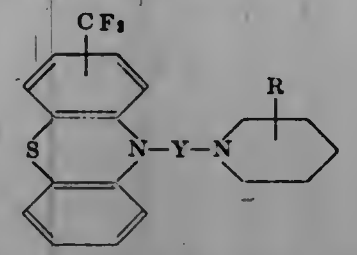
3,193,549
10-[(1-PIPERIDYL)LOWER-ALKYL]-TRIFLUOROMETHYLPHENOTHIAZINES

Bernard L. Zenitz, Colonie, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 7, 1958, Ser. No. 746,615

9 Claims. (Cl. 260—243)

1. A pharmacologically acceptable acid-addition salt of a compound having the formula



wherein Y represents lower-alkylene containing at least two carbon atoms separating the nitrogen atoms and R represents hydroxy in other than the 2-position.

3,193,550
3,4-DIHYDRO DERIVATIVES OF CEPHALOSPORIN C AND PROCESS

Stanton A. Harris, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Nov. 16, 1961, Ser. No. 152,907

4 Claims. (Cl. 260—243)

1. The 3,4-dihydro derivative of dimethyl-N-benzoyl cephalosporin C.

2. A method of forming 3,4-dihydrocephalosporin C derivatives which comprises catalytically reducing a member selected from the group consisting of dimethyl, diethyl and dipropyl esters of N-acryl cephalosporin C compounds, wherein the N-acyl substituent is selected from the group consisting of benzoyl, carbobenzoxy and phenyl acetyl in a solvent with hydrogen over a noble metal catalyst selected from the group consisting of platinum, palladium, rhodium and ruthenium at temperatures from 25° C. to 100° C. and at a pressure of from 1,000 to 30,000 lbs.

3,193,551
PREPARATION OF 1-ALPHA-THIENYL-PHENYL-CARBINOLS

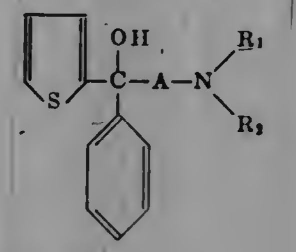
André Henri Passedouet, 4 Parc de Gaillon, Viroflay, France, and Jacqueline Roberte Pigeot, 50 Ave. Egle, Maison-Laffitte, France

No Drawing. Filed Jan. 3, 1964, Ser. No. 335,688

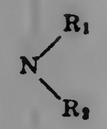
Claims priority, application France Aug. 30, 1963

7 Claims. (Cl. 260—247.1)

1. A process for the preparation of a 1-alpha-thienyl-1-phenyl-carbinol of the formula



wherein A is ethylene and



is selected from the group consisting of di-lower-alkylamino, morpholino and piperidino, which comprises liberating an amino-ethylene-alpha-thienone from an acid addition salt thereof by treatment with calcium hydroxide in the presence of an aromatic solvent having a boiling point between 100° and 200° C., reacting the thus obtained aromatic solution of amino-ethylene-alpha thienone with a phenyl magnesium halide in tetrahydrofuran, removing the tetrahydrofuran from the reaction mixture, and liberating the 1-alpha-thienyl-1-phenyl-carbinol as a free base from its magnesium complex in the reaction mixture by cooling and acidification to a pH of about 5–6.

3,193,552
3-ARYL-4-HALOPYRIDAZONES-(6) AND SYNTHESIS THEREOF

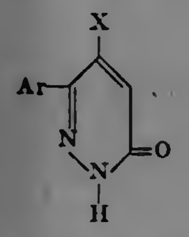
Karl Dury and Franz Reicheneder, Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed Mar. 25, 1963, Ser. No. 267,796

Claims priority, application Germany, Mar. 29, 1962, B 66,579

16 Claims. (Cl. 260—250)

1. A compound of the formula:



where Ar is a member selected from the group consisting of phenyl, naphthyl, monoalkyl phenyl, dialkyl phenyl, monoalkyl naphthyl, dialkyl naphthyl, wherein said alkyl substituents have 1–4 carbon atoms, monoalkoxy phenyl, dialkoxy phenyl, monoalkoxy naphthyl, dialkoxy naphthyl, wherein said alkoxy substituents have 1–4 carbon atoms, monohydroxy phenyl, dihydroxy phenyl, monohydroxy naphthyl, dihydroxy naphthyl, mononitrophenyl, monoalkanoylaminophenyl, dialkanoylaminophenyl, monoalkanoylaminonaphthyl, dialkanoylaminonaphthyl, monoalkanoyloxyphenyl, dialkanoyloxyphenyl, monoalkanoyloxynaphthyl, and dialkanoyloxynaphthyl, wherein said alkanoyl groups respectively have 2–8 carbons, monohalo phenyl, dihalo phenyl, monohalo naphthyl, and dihalo naphthyl, wherein the halo group is selected from the group consisting of chlorine and bromine; and X is a member selected from the group consisting of chlorine and bromine.

3,193,553
HYDRAZINO AND HYDRAZONO CHLOROPYRIDAZONES

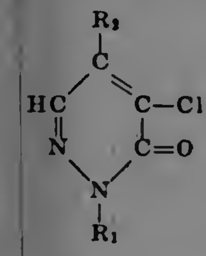
Franz Reicheneder and Karl Dury, Ludwigshafen (Rhine), Adolf Fischer, Mutterstadt, Pfalz, and Herbert Stummeyer, Limburgerhof, Pfalz, Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany

No Drawing. Filed July 13, 1964, Ser. No. 382,411

Claims priority, application Germany, Nov. 17, 1961, B 64,828

6 Claims. (Cl. 260—250)

1. A compound selected from the group consisting of a compound having the formula

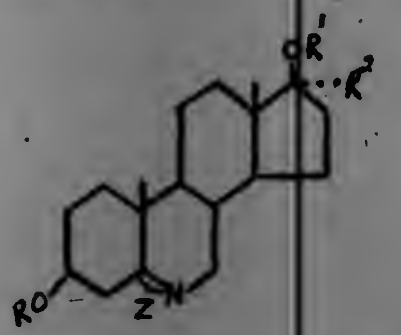


wherein, in said formula, R_1 represents a member selected from the group consisting of lower alkyl, phenyl and cyclohexyl, and R_2 represents a member selected from the group consisting of —N=NH, acetone hydrazone and methyl ethyl ketone hydrazone, and the hydrochloride and hydrobromide salts thereof.

3,193,554
CYCLOPENTANOPHENANTHRENE COMPOUNDS AND PROCESS

Alexander D. Cross, Fred A. Kincl, and Albert Bowers, Mexico City, Mexico, assignors, by mesne assignments, to Syntex Corporation, a corporation of Panama
No Drawing. Filed Feb. 21, 1962, Ser. No. 174,682
Claims priority, application Mexico, Jan. 3, 1962, 65,582
19 Claims. (Cl. 260—287)

1. A compound of the following formula:

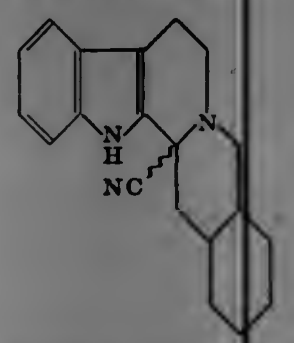


wherein R and R^1 are each selected from the group consisting of hydrogen and hydrocarbon carboxylic acyl of less than 12 carbon atoms; R^2 is selected from the group consisting of hydrogen and lower alkyl and Z is selected from the group of a double bond and a saturated linkage between C–5 and N–6.

3,193,555
3-CYANO-SUBSTITUTED YOHIMBANE ALKALOIDS

John Shavel, Jr., Mendham, and Harold Zinnes, Rockaway, N.J., assignors to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed Oct. 20, 1964, Ser. No. 405,245
2 Claims. (Cl. 260—287)

1. A compound of the formula:

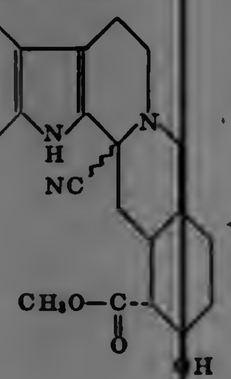


characterized by having an optical rotation of

$$[\alpha]_D = -129$$

(pyridine, c.=0.61), $[\alpha]_D = -92$ (chloroform, c.=0.52) and melting with decomposition at 145° to 160° C. and produced by contacting 3-dehydroyohimbane with an alkali metal cyanide.

2. A compound of the formula:

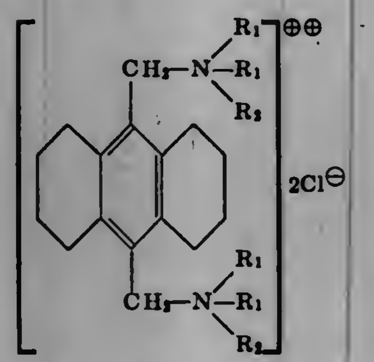


characterized by having an optical rotation of $[\alpha]_D = +47°$ (pyridine, c.=0.60), $[\alpha]_D = -27$ (chloroform, c.=0.51) and melting with decomposition at 175° to 185° C. and produced by contacting 3-dehydroyohimbine with an alkali metal cyanide.

3,193,556
BIS(QUATERNARY AMMONIUM) SALTS OF S-OCTAHYDROANTHRACENE

Marjan Kolobielski, Pittsburgh, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
No Drawing. Filed Dec. 28, 1961, Ser. No. 162,958
7 Claims. (Cl. 260—296)

1. A bis(quaternary ammonium chloride) compound of the formula



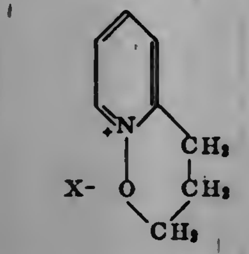
wherein R_1 is methyl, R_2 is chosen from the group consisting of methyl, decyl, dodecyl, tetradecyl and a mixture of alkyl radicals derived from coconut-oil fatty acids when taken separately and when taken together, the R_1, R_1 and R_2 radicals when taken together with nitrogen are pyridine.

3. The compound s - octahydroanthracene-9,10-bis-(methyl pyridinium)dichloride.

3,193,557
PROCESS FOR PREPARING 2-β-METHOXYETHYLPYRIDINE

William Glynne Moss Jones and Marcus Andrew Stevens, Macclesfield, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed June 11, 1962, Ser. No. 201,313
Claims priority, application Great Britain, June 26, 1961, 22,994/61
15 Claims. (Cl. 260—297)

1. Process for the manufacture of 2-β-methoxy-ethylpyridine which comprises heating a quaternary salt of the formula:



wherein X stands for an anion, with methanol in the presence of a base selected from the group consisting af alkali metal and alkaline earth metal bases.

3,193,558
PROCESS FOR THE PRODUCTION OF 2-CYANOMETHYLENE-4-THIAZOLIDINONES

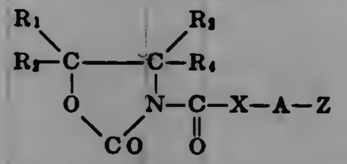
Gerhard Satzinger, Memmingen, Allgau, Germany, assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware
No Drawing. Filed May 31, 1963, Ser. No. 284,355
2 Claims. (Cl. 260—306.7)

1. Process for the production of 2-cyanomethylene-4-thiazolidinone which comprises reacting cyanothioacetamide and chloroacetic acid under reflux in dimethylformamide.

3,193,559
NEW DERIVATIVES OF 2-OXAZOLIDINONES

Gilbert L. Regnier, Sceaux, Roger J. Canevari, L'Hay-les-Roses, and Jean-Claude R. Le Douarec, Versailles, France, assignors to Société en nom collectif dite: "Science Union et Compagnie—Societe Francaise de Recherche Medicale," Suresnes, Seine, France, a corporation of France
No Drawing. Filed Apr. 4, 1962, Ser. No. 184,926
Claims priority, application France, Apr. 4, 1961, 857,672, Patent 1,301,267; July 4, 1961, 866,961, Patent M 1,421
15 Claims. (Cl. 260—307)

15. A compound selected from the group consisting of 2-oxazolidinone amines and acid addition salts thereof, said 2-oxazolidinone amines having the formula:



wherein each of R_1, R_2, R_3, and R_4 is independently selected from the group consisting of hydrogen, lower-alkyl, phenyl-lower-alkyl having up to a maximum of nine carbon atoms, cycloalkyl having up to a maximum of eleven carbon atoms and having three up to a maximum of seven carbon atoms in the ring, phenyl, fluorophenyl, chlorophenyl, bromophenyl, trifluoromethylphenyl, hydroxyphenyl, nitrophenyl, aminophenyl, lower - alkoxyphenyl, methylenedioxyphenyl, thienyl, fluorothienyl, chlorothienyl, and bromothienyl,

wherein X is selected from the group consisting of an oxygen atom and the —NH— group,

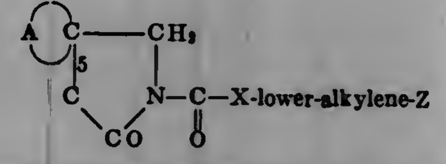
wherein A is alkylene having two up to a maximum of five carbon atoms, and

wherein Z is selected from the group consisting of dilower-alkylamino, piperidino, morpholino, pyrrolidino, N-methylpiperazino, and N-piperonylpiperazino.

3,193,560
NEW DERIVATIVES OF 2-OXAZOLIDINONE

Gilbert Régnier, Sceaux, Roger Canevari, La Hay les Roses, and Jean-Claude Le Douarec, Versailles, France, assignors to Société en nom collectif dite: Science Union et Cie, Société Francaise de Recherche Medicale, Suresnes, Seine, France, a French society
No Drawing. Filed Mar. 26, 1964, Ser. No. 355,069
Claims priority, application Great Britain, Mar. 28, 1963, 12,381/63; France, Apr. 4, 1961, 857,672, Patent 1,301,267; July 4, 1961, 866,961, Patent M 1,421
14 Claims. (Cl. 260—307)

1. A compound selected from the group consisting of
(a) 2-oxazolidinones having the following general formula:



wherein the carbon atom in the 5 position of the 2-oxazolidinone ring also forms part of a polymethylene chain,

wherein A represents the remainder of the polymethylene chain which, together with the 5 carbon atoms, constitutes a polymethylene ring selected from the group consisting of unsubstituted polymethylene rings having four up to a maximum of ten carbon atoms in the ring, an unsubstituted hydronaphthalene ring, and a polymethylene ring having six carbon atoms in the ring selected from the group consisting of lower-alkyl polymethylene rings, hydroxypolymethylene rings, halopolymethylene rings, lower-alkoxy polymethylene rings, and dilower-alkyl polymethylene rings, and α and β forms thereof

X represents a bivalent linkage selected from the group consisting of an oxygen atom and an —NH— group, and

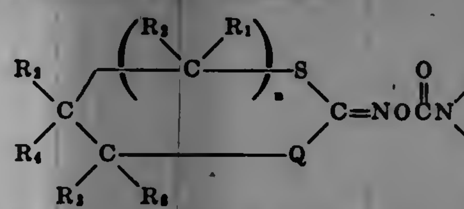
Z represents an amine radical selected from the group consisting of dilower-alkylamino, pyrrolidino, piperidino, morpholino, piperazino, N-lower-alkyl piperazino, N-piperonylpiperazino, and C-lower-alkyl derivatives thereof, and

(b) pharmaceutically acceptable acid addition salts thereof.

3,193,561
NOVEL CARBAMATES OF 5- AND 6-MEMBERED HETERO-SULFUR COMPOUNDS AND PROCESS FOR PREPARING SAME

Roger Williams Addor, Pennington, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Sept. 20, 1962, Ser. No. 225,135
8 Claims. (Cl. 260—327)

1. A carbamate of the formula:

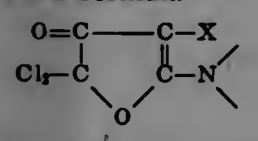


wherein R_1, R_2, R_3, R_4, R_5, and R_6 are each selected from the group consisting of hydrogen, lower alkyl and phenyl, Q represents an atom selected from the group consisting of oxygen and sulfur, *n* is an integer from 0 to 1, and R_7 and R_8 are each a radical selected from the group consisting of hydrogen and lower alkyl.

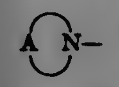
3,193,562
SYNTHESIS OF HALOPYRUVIC ACIDS AND INTERMEDIATES THEREFOR

Angelo John Speziale, Kirkwood, and Lowell R. Smith, St. Louis, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Oct. 11, 1962, Ser. No. 229,993
9 Claims. (Cl. 260—347.7)

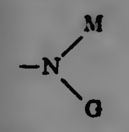
1. A compound of the formula



wherein X is a halogen of atomic number less than 36 and wherein —N< is a secondary amine residue selected from the group consisting of a
(1) saturated single ring heterocyclic amine residue of the formula

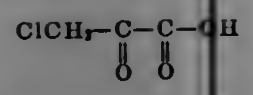


wherein A is selected from the group consisting of $—CH_2CH_2OCH_2CH_2—$, $—CH_2CH_2SCH_2CH_2—$, and alkylene of from 4 to 10 carbon atoms and having from 4 to 6 carbon atoms in a continuous chain between the valence bonds, and a
(2) secondary amine residue of the formula



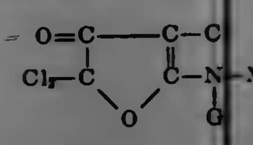
wherein M and G are selected from the group consisting of hydrocarbyl having from 1 to 10 carbon atoms selected from the group consisting of alkyl, phenyl substituted alkyl, phenyl, alkyl substituted phenyl, and naphthyl, and said hydrocarbyl being substituted with substituents selected from the group consisting of one lower alkoxy, one to three chlorine atoms, and one to three bromine atoms.

9. The method of making chloropyruvic acid of the formula



$ClCH_2-C(=O)-C(=O)-OH$

which comprises hydrolyzing a 2,2,4-trichloro-3(2H)-furanone of the formula



wherein M and G respectively are alkyl having 1 to 10 carbon atoms in the presence of a mineral acid.

3,193,563

PROCESS FOR THE PREPARATION OF STEROIDAL ETHERS AND THIOETHERS

Alexander D. Cross, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama

No Drawing. Filed May 24, 1963, Ser. No. 282,848
18 Claims. (Cl. 260—397)

1. A process for production of a compound selected from the group consisting of steroidal ethers and thioethers which comprises treating the corresponding compound selected from the group consisting of ketals, monothioketals and dithioketals of ketones selected from the group consisting of the androstane, estrane, pregnane and 19-nor pregnane series and acetals, monothioacetals and dithioacetals of aldehydes selected from the group consisting of the androstane, estrane, pregnane and 19-norpregnane series with a reagent selected from the group consisting of a hydride of an element of subgroup III–A of the Periodic Chart, a hydride of an element of subgroup III–A of the Periodic Chart in the presence of a Lewis acid, an alkali metal hydride and an alkaline earth metal hydride each in the presence of a Lewis acid comprising an element of subgroup III–A of the Periodic Chart, a double metal hydride comprising at least one element of subgroup III–A of the Periodic Chart in the presence of a Lewis acid, a double metal hydride comprising at least one element of subgroup III–A of the Periodic Chart in the presence of a hydrogen halide and a hydride of an element of subgroup III–A of the Periodic Chart in the presence of a hydrogen halide.

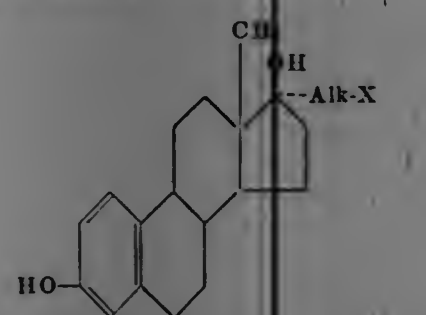
3,193,564

17α-(ARALKYL)ESTRA - 1,3,5(10) - TRIENE-3,17β-DIOLS, INTERMEDIATES THERETO, AND ESTERS CORRESPONDING

Raymond E. Counsell, Skokie, and Paul D. Klimstra, Northbrook, Ill., assignors to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed Jan. 27, 1964, Ser. No. 340,488
15 Claims. (Cl. 260—397.5)

1. A member selected from the class consisting of compounds of the formula



and the 3-17-bis-(lower alkanoates) and 3-mono-(lower alkanoates) thereof, wherein Alk is lower alkylene, and X is selected from the group of radicals consisting of phenyl and p-fluorophenyl.

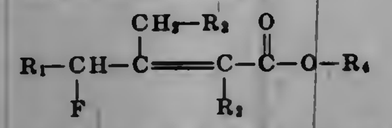
3,193,565

γ-FLUORO-α,β-UNSATURATED CARBOXYLIC ACIDS AND THEIR ESTERS

Rudolf Tschesche, Bonn-Rottgen, Hans Machleidt, Bonn, and Valentin Hartmann, Urfeld, Bonn, Germany, assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 31, 1963, Ser. No. 284,382
9 Claims. (Cl. 260—408)

1. A compound of the formula



$R_1-CH(F)-C(CH_2-R_2)=C(R_3)-C(=O)-O-R_4$

wherein R_1 and R_3 each is a member of the group consisting of hydrogen, alkyl and alkenyl, R_2 is a member of the group consisting of hydrogen, alkyl, alkenyl and carbalkoxy, and R_4 is a member of the group consiting of hydrogen, lower alkyl and phenyl.

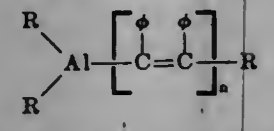
3,193,566

ORGANOALUMINUM COMPOUND PREPARATION

John E. Wicklatz, Minneapolis, Minn., and Boris Franzus, Linden, N.J., assignors to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Apr. 26, 1961, Ser. No. 105,566
2 Claims. (Cl. 260—448)

2. A process for preparing a compound of the formula



$R_2Al-[C(\phi)=C(\phi)]_n-R$

when n is an integer from 2 to 6, inclusive, said process comprising the steps of contacting in a hydrocarbon diluent a compound of the formula R_3Al where R is a hydrocarbon radical selected from the group consisting of alkyl, cycloalkyl, aryl and combinations of these radicals, with diphenylacetylene in the presence of titanium trichloride, the number of mols of said diphenylacetylene per mol of R_3Al being in the range of 2 to 6, inclusive, and the amount of said titanium trichloride being in the range of 0.1 to 1.0 mol per mol of said R_3Al, said contacting occurring at a temperature in the range of 0 to 150° C.; recovering a reaction product comprising a liquid phase containing the desired organometal compound and a solid phase; and separating said liquid phase from said solid phase.

3,193,567

ORGANOSILICON COMPOUNDS AND PROCESS FOR THEIR PREPARATION

Gerd Rossmy, Altendorf (Ruhr), Germany, assignor to Th. Goldschmidt A.G., Chemische Fabriken, Essen, Germany, a German corporation

No Drawing. Filed Aug. 22, 1961, Ser. No. 133,040
Claims priority, application Germany, Aug. 30, 1960, G 30,398; Feb. 27, 1961, G 31,708
30 Claims. (Cl. 260—448.8)

1. Organosilicon compounds of the unit formula

$$(OR')_{m-1}R_nSi(MO)$$

wherein R and R′ stand for hydrocarbon groups; M is selected from the group consisting of alkylene and 1,3-C_3H_5Cl; and n and m are numbers defined by

$n=0–1$
$m=2–3,$
$m+n=3.$

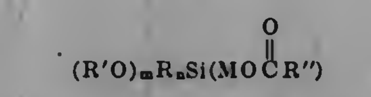
12. A process for the preparation of organosilicon compounds of the unit formula

$$(OR')_{m-1}R_nSi(MO)$$

wherein R and R′ are each selected from the group consisting of alkyl, aryl, alkaryl, o-C_6H_4Cl, 1,3-C_3H_6CN, 1,4-C_4H_8Cl and aralkyl; M is selected from the group consisting of alkylene and 1,3-C_3H_5Cl; and n and m are numbers defined by

$n=0–2,$
$m=1–3,$ and
$n+m=3$

which comprises admixing organosilicon compounds of the formula



$(R'O)_mR_nSi(MOC(=O)R'')$

wherein R″ is selected from the group consisting of alkyl, aryl, alkaryl and aralkyl and the other symbols have the above defined meaning, with an alcohol of the formula R′OH and a reesterification catalyst, and separating the resulting ester R″COOR′ and the excess amounts of the alcohol R′OH by distillation.

3,193,568

POLYFUNCTIONAL ISOCYANATES CONTAINING INORGANIC ATOMS

Harold Crosbie Fielding and John Maclelland Pollock, Northwich, England, assignors to Imperial Chemical Industries Limited, Millbank, London, England, a corporation of Great Britain

No Drawing. Filed Aug. 9, 1962, Ser. No. 215,792
Claims priority, application Great Britain, Aug. 11, 1961, 29,057/61
6 Claims. (Cl. 260—448.8)

1. A process for making an isocyanate having the general formula

$$M(OCH_2NCO)_x$$

where M is chosen from the group consisting of silicon, phosphorus and the phosphoryl radical and x is respectively 4, 3 and 3 comprising in a first stage heating a halide MQ_x, where Q represents a hologen chosen from the group consisting of chlorine, bromine and iodine. with formaldehyde to give a halomethyl derivative having the general formula $M(OCH_2Q)_x$ and after separation reacting said halomethyl derivative with a metal cyanate selected from the group consisting of silver cyanate and sodium cyanate in an inert anhydrous solvent medium whereby halogen is replaced by the isocyanate radical.

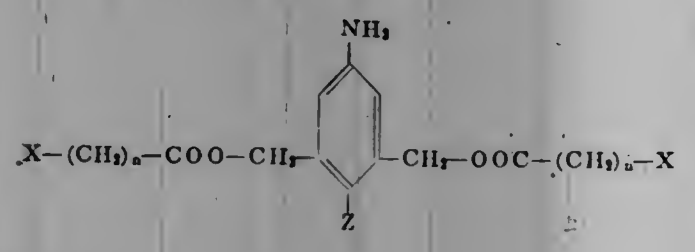
3,193,569

HYDROXY, HALO AND SULFATO C_{2-4} CARBOXYLIC ACID DIESTERS OF 3,5 DI-(HYDROXYMETHYL) 4-LOWERALKYL ANILINE

Wilhelm Schmidt-Nickels, Little York, N.J., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 31, 1962, Ser. No. 248,251
6 Claims. (Cl. 260—458)

1. A compound of the formula



wherein

Z is lower alkyl,
n is an integer of 1 to 3, and
X is selected from the group consisting of OH, halogen and sulfato.

3,193,570

DIALKYL TRIHALOMETHYLPHOSPHONATE-OLEFIN ADDUCTS

Ellis K. Fields, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Aug. 3, 1962, Ser. No. 214,485
20 Claims. (Cl. 260—461)

1. The adduct of (A) a dialkyl trihalomethylphosphonate having the formula $X_3C—P(O)(OR)_2$ wherein X is a member of the group consisting of chlorine and bromine, and R is C_{1-20} alkyl; and (B) an olefin containing from 2 to about 30 carbon atoms of the group consisting of alkene, cycloalkene and aralkene hydrocarbons, said adduct obtained by reacting said phosphonate and said olefin in a molar ratio of from 1:30 to 10:1 in the presence of a free radical initiator.

3,193,571

REACTION PRODUCTS OF POLYMERIC PHOSPHONITRILE CHLORIDES WITH AMMONIA AND METHANOL

Xavier François Bilger, Soisy-sous-Montmorency, France, assignor to Etablissements Kuhlmann, Paris, France

No Drawing. Filed Mar. 26, 1963, Ser. No. 267,914
Claims priority, application France, Mar. 30, 1962, 892,879
11 Claims. (Cl. 260—461)

1. Process for the preparation of phosphorous compounds which comprises reacting products of the empirical formula $P_nN_{(n-1)}Cl_{(2n+3)}$ wherein n is at least equal to 2, in the presence of inert solvent and at a temperature between −10° C. and +50° C., with ammonia and then with methanol.

11. Phosphorus compounds prepared by the process as claimed in claim 1.

3,193,572

PHOSPHORIC ESTERS OF EPHEDRINE

Angelo Larizza and Giovanni Brancaccio, Naples, Italy, assignors to Farmochimica Cutolo-Calosi, a corporation of Italy

No Drawing. Filed Oct. 22, 1962, Ser. No. 232,266
Claims priority, application Italy, Oct. 26, 1961, 19,638/61; Aug. 1, 1962, 15,879/62
8 Claims. (Cl. 260—461)

1. Phosphoric ester of ephedrine.

5. As an intermediate in the preparation of the ester of claim 1, 2-chloro-3,4-dimethyl-5-phenyl-2-oxide,1,3,2-oxazophospholidine.

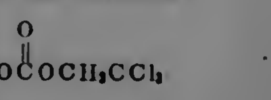
3,193,573

2,2,2-TRICHLOROETHYLCARBONATE

Henry C. Caldwell, Elkins Park, Pa., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Apr. 25, 1962, Ser. No. 189,989
1 Claim. (Cl. 260—463)

A chemical compound of the formula:



$CCl_3CH_2OC(=O)OCH_2CCl_3$

3,193,574

PROCESS FOR THE PREPARATION OF ADIPONITRILE BY DIMERIZATION OF ACRYLONITRILE

Aharon Katchalsky, 18 Dubnov Str., Tel Aviv, Israel; David Vofsi, Neve Weizmann, Rehovoth, Israel; and Jacob Israel Padova, 46 S. Stanworth Drive, Princeton, N.J.

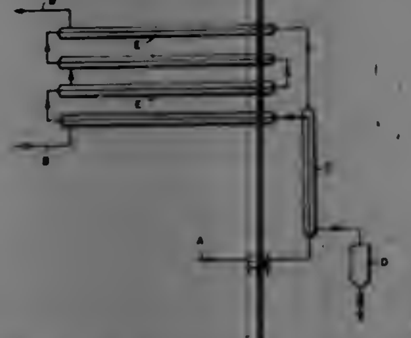
Filed May 2, 1961, Ser. No. 107,232
Claims priority, application Israel, May 8, 1960, 13,842, 13,844
11 Claims. (Cl. 260—465.8)

1. A process for the production of adiponitrile, comprising dimerizing acrylonitrile in an aqueous reaction mix-

ture maintained at temperatures of from 0° to 40° C., said reaction mixture containing a mineral acid, an alkali metal amalgam containing from 0.001 to 0.1% alkali metal and an organic additive selected from the group consisting of benzoquinone, anthraquinone, isatin, hydroquinone, pyrogallol, alpha-naphthylamine, beta-naphthylamine, alpha-amino anthraquinone, beta-amino anthraquinone, and mixtures thereof.

3,193,575
PRODUCTION OF CONDENSATION PRODUCTS OF NAPHTHALENESULFONIC ACIDS AND ALDEHYDES

Hans-Joachim Nebel, Hans Stanger, Otto Hertel, and Albert Palm, all of Ludwigshafen (Rhine), Germany, assignors to Badische Anilin- & Soda-Fabrik Aktiengesellschaft, Ludwigshafen (Rhine), Germany
Filed Mar. 9, 1962, Ser. No. 178,600
Claims priority, application Germany, Mar. 10, 1961,
B 61,609, B 61,610
3 Claims. (Cl. 260—505)

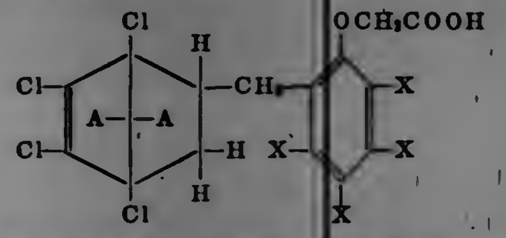


1. In a process for the production of condensation products from naphthalenesulfonic acids having up to two sulfonic acid groups in the molecule and aliphatic aldehydes selected from the group consisting of formaldehyde, acetaldehyde, propionaldehyde and butyraldehyde by heating in an acid medium, the improvement which comprises reacting 1 mol of said naphthalenesulfonic acid with from 0.6 to 0.9 mol of said aldehyde at a temperature of between 120° and 170° C. at a hydrostatic pressure of between 3 and 15 atmospheres.

3,193,576
O-(POLYHALO - BICYCLO[2.2.1] - HEPT-5-EN-2-YL METHYLENE)-PHENOXY ACETIC ACIDS, SALTS, AMIDES AND ESTERS THEREOF

Sidney B. Richter, Chicago, Ill., assignor to Velsicol Chemical Corporation, Chicago, Ill., a corporation of Illinois
No Drawing. Filed Apr. 24, 1961, Ser. No. 104,828
7 Claims. (Cl. 260—520)

1. A compound selected from the group consisting of a compound of the formula:



wherein each A is independently selected from the group consisting of chlorine and hydrogen atoms and unsubstituted lower alkoxy radicals and each X is independently selected from the group consisting of chlorine and hydrogen atoms and unsubstituted lower alkyl radicals; and their esters in which the esterifying alcohol is selected from the group consisting of unsubstituted alkyl alcohols of 1 to 10 carbon atoms and lower hydroxyalkyl alcohols; their alkali metal salts; their lower alkylamine salts; their lower alkanolamine salts; their morpholine salts; and their amides in which the amine group is selected from the group consisting of alkylamine groups having up to 10 carbon atoms and unsubstituted anilides.

2. o - (1,4,5,6,7,7 - hexachlorobicyclo[2.2.1] - hept - 5-en-2-yl methylene)-phenoxyacetic acid.

3,193,577
CATALYZED SO_2 OXIDATION OF AROMATIC SIDE CHAINS

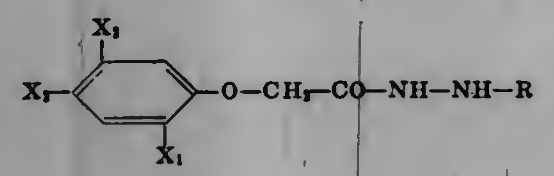
Alan John Shipman, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed Oct. 19, 1962, Ser. No. 231,851
Claims priority, application Great Britain, Nov. 1, 1961,
39,088/61
9 Claims. (Cl. 260—524)

1. A process for preparing an aromatic carboxylic acid which comprises reacting a mixture of sulphur dioxide and an aromatic hydrocarbon selected from the group consisting of a lower alkyl substituted benzene and a lower alkyl substituted naphthalene at a temperature within the range of 200° to 400° C. and a pressure within the range of 100 to 400 atmospheres, the reaction being carried out in the presence of a catalyst selected from the group consisting of bromine, iodine, hydrogen bromide, hydrogen iodide, sodium bromide, potassium bromide, ammonium bromide, manganese bromide, cobalt bromide, potassium iodide, sodium iodide and alkyl bromides and iodides containing not more than 3 carbon atoms.

3,193,578
N_2-SUBSTITUTED HYDRAZIDES AS MONOAMINE OXIDASE INHIBITORS

Paul Coirre, 5 Blvd. du Montparnasse, Paris, France
No Drawing. Filed July 5, 1961, Ser. No. 121,843
Claims priority, application France, July 15, 1960,
833,027
5 Claims. (Cl. 260—559)

1. An N_2-substituted hydrazide of the formula.

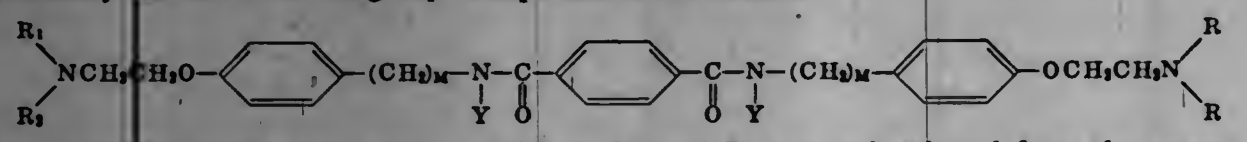


wherein X_1 is selected from the group consisting of H, Cl and CH_3, X_2 is Cl, X_3 is selected from the group consisting of H and Cl, and R is isopropyl.

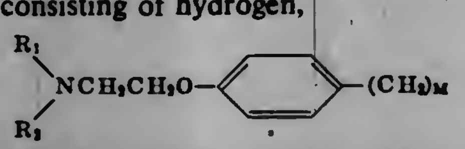
3,193,579
TERELPHTHALAMIDES AND INTERMEDIATES USEFUL IN PREPARING SAME

Moses Wolf Goldberg, Upper Montclair, N.J., and Sidney Teitel, New York, N.Y., assignors to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed July 1, 1963, Ser. No. 292,164
6 Claims. (Cl. 260—559)

1. A compound selected from the group consisting of compounds of the formula



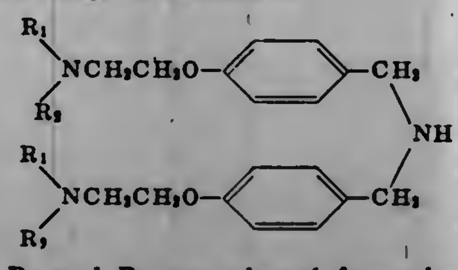
wherein R_1 and R_2 are each selected from the group consisting of lower alkyl; Y is selected from the group consisting of hydrogen,



and lower alkyl and M is an integer of 0 to 1,

and acid addition salts thereof with pharmaceutically acceptable acids.

5. A compound selected from the group consisting of compounds having the formula of



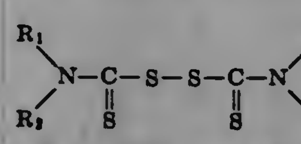
wherein R_1 and R_2 are selected from the group consisting of lower alkyl,

and acid addition salts thereof with pharmaceutically acceptable acids.

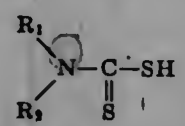
3,193,580
METHOD OF PRODUCING THIURAM DISULFIDES

Horst Werres, Berlin-Charlottenburg, and Herbert Honigmann, Wolfenbuttel, Germany, assignors to Schering, A.G., Berlin, Germany
No Drawing. Filed Dec. 20, 1960, Ser. No. 104,766
Claims priority, application Germany, Dec. 22, 1959,
Sch 27,167
9 Claims. (Cl. 260—567)

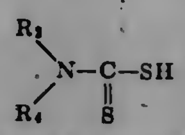
1. The method of producing a thiuram disulfide of the formula



wherein R_1, R_2, R_3 and R_4 are each selected from the group consisting of hydrogen and lower alkyl, which comprises reacting a molecule of a salt of a dithiocarbamic acid of the formula



wherein R_1 and R_2 have the same definitions as above, with a molecule of a salt of a dithiocarbamic acid of the formula



wherein R_3 and R_4 have the same definitions as above, and with a liquid condensation agent selected from the group consisting of liquid thionyl halides and liquid sulfuryl halides under cooling.

3,193,581
PROCESS OF PREPARING 1-PHENYL-2-AMINOPROPANE

Kamenosuke Shinohara and Hikaru Tamura, Tokyo, and Tomiko Hosoda, Urawa, Saitama Prefecture, Japan, assignors to Yamanouchi Pharmaceutical Co., Ltd., Tokyo, Japan, a Japanese company
No Drawing. Filed Feb. 26, 1962, Ser. No. 175,837
Claims priority, application Japan, Mar. 1, 1961,
36/6,766; Mar. 10, 1961, 36/8,026
3 Claims. (Cl. 260—570.8)

1. A process for preparing d-amphetamine which comprises halogenating with at least a stoichiometric amount of hydroiodic acid, at the boiling point of the reaction mixture, a starting compound selected from the group consisting of L-threo- and D-erythro-1-phenyl-2-aminopropanediol-1,3 and their dioxanes, to produce, as an optically active intermediate product, d-1-phenyl-2-amino-3-iodopropane, and then treating said intermediate product with a reductive dehalogenating agent selected from the group consisting of lithium aluminum hydride and Raney nickel with hydrogen.

3,193,582
LIQUID DIFFUSION SEPARATION PROCESS

Clark Edward Adams and William Floyd Arey, Jr., Baton Rouge, La., assignors to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed July 29, 1960, Ser. No. 46,092
11 Claims. (Cl. 260—593)

1. An improved process for separating two closely boiling components of a liquid organic binary mixture by diffusion through a siliceous barrier of etched, highly porous glass having a surface area of about 3×10^6 cm.^{2} per cc. of volume, each of said components being selected from the group consisting of paraffins, aromatics, alcohols and ketones; which process comprises adding from 5 to 100% of a third liquid component to said binary mixture, said third component being miscible with and readily separable from said two components in said binary mixture and selected from the group consisting of paraffins, aromatics, alcohols and ketones; subsequently passing the resulting three-component mixture through said siliceous barrier; and recovering a product mixture having an increased concentration of one of the components in said binary mixture.

3,193,583
2-(3′-MERCAPTOPROPYL)PHENOL

Elbert C. Ladd, Passaic, N.J., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed May 31, 1962, Ser. No. 198,720
1 Claim. (Cl. 260—609)

2-(3′-mercaptopropyl)phenol.

3,193,584
HYDROGENATION OF HYDROXY AROMATICS AND ALKOXY AROMATICS WITH RUTHENIUM CATALYST

Paul N. Rylander, Newark, and John Francis Kreidl, Summit, N.J., assignors to Engelhard Industries, Inc., Newark, N.J., a corporation of Delaware
No Drawing. Filed Apr. 14, 1961, Ser. No. 102,941
6 Claims. (Cl. 260—611)

1. A process for the hydrogenation of a compound of the group consisting of hydroxy-substituted aromatic hydrocarbons, alkoxy-substituted aromatic hydrocarbons, polyhydroxy-substituted aromatic hydrocarbons and polyalkoxy-substituted aromatic hydrocarbons, which comprises admixing the compound and an aqueous alkaline solution diluent having an alkali concentration of at least about .0001 M, and treating the resulting admixture with hydrogen at a reaction temperature and pressure in the presence of a ruthenium-containing catalyst whereby the hydrogenation is effected without detectable hydrogenolysis occurring.

3,193,585
PROCESS FOR OBTAINING PURE META-CRESOL FREE OF NITROGEN COMPOUNDS FROM MIXTURES CONTAINING META-CRESOL

Ludwig Rappen and Hans Wille, Duisburg-Meiderich, Germany, assignors, by mesne assignments, to Koppers Company, Inc., a corporation of Delaware
No Drawing. Filed Apr. 3, 1961, Ser. No. 100,022
4 Claims. (Cl. 260—621)

1. In a process for obtaining meta-cresol from a crude cresol liquid containing meta-cresol wherein phenol is mixed with said crudel iquid to form a phenol-meta-cresol addition product, the mixture is cooled to crystallize out said addition product as a solid, and said solid is sepaarted from said liquid, the improvement comprising washing said solid with a wash liquor selected from the class consisting of phenol saturated with water and mixtures of phenol and meta-cresol saturated with water, said wash liquor being at a temperature of 2–3° C. above its crystallization point, and decomposing said solid to form meta-cresol and phenol.

3,193,586
PROCESS FOR THE PRODUCTION OF UNSATURATED FATTY ALCOHOLS

Wilhelm Rittmeister, Erkrath-Unterbach, Germany, assignor to Dehydag, Deutsche Hydrierwerke G.m.b.H., Dusseldorf, Germany, a corporation of Germany

No Drawing. Filed Apr. 7, 1959, Ser. No. 804,595

Claims priority, application Germany, Aug. 22, 1955, D 21,132

9 Claims. (Cl. 260—638)

1. In a process of producing unsaturated fatty alcohols by catalytic reduction of unsaturated fatty materials selected from the group consisting of unsubstituted unsaturated fatty higher acids, and their esters formed with lower alkyl alcohols containing from 1 to 4 carbon atoms, the steps of passing a reaction mixture consisting essentially of at least one of said unsaturated fatty materials, a lower alkyl alcohol containing from 1 to 4 carbon atoms in an amount corresponding to from 1 to 5 times the volume of unsaturated fatty materials and hydrogen in an amount corresponding to at least 50 to 500 times the stoichiometrically required molar quantity, in the vapor phase, through a reaction space containing a contact catalyst of low activity in lump form, said catalyst being selected from the group consisting of zinc-chromium, zinc-barium-chromium, zinc-cadmium-chromium, zinc-magnesium-chromium, zinc-vanadium, cadmium-vanadium, zinc-cadmium-vanadium, and zinc-cadmium-barium-vanadium catalysts, the volume of said catalyst being from 6 to 12 times the hourly volume of feed material, at a temperature from 250 to 350° C. and at a pressure of at least 100 to 500 atmospheres gauge, and separating the unsaturated fatty alcohols formed thereby from the lower alkyl alcohol.

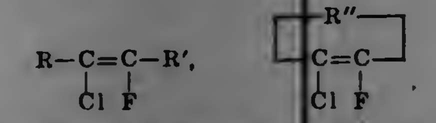
3,193,587
PROCESS FOR CHLORINATING A NON-TERMINAL CARBON ATOM OF UNSATURATED PERHALOCARBONS

Charles F. Baranauckas, Niagara Falls, and Russell L. K. Carr, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed May 4, 1960, Ser. No. 26,734

4 Claims. (Cl. 260—648)

1. The process for the replacement of chlorine of a fluorine atom attached to the carbon atom of a non-terminal carbon to carbon double bond in a starting material having from four to twelve carbon atoms selected from the group consisting of



$$R-\underset{Cl}{\underset{|}{C}}=\underset{F}{\underset{|}{C}}-R', \qquad \overbrace{\underset{Cl}{\underset{|}{C}}=\underset{F}{\underset{|}{C}}}^{R''}$$

and mixtures thereof, where R and R′ are selected from the group consisting of perfluoroalkyl and perfluorocycloalkyl, and R″ is a perfluoroalkylene group, which comprises: introducing the starting material and hydrogen chloride into a reaction zone containing a carbon catalyst and maintained at a temperature between about 250 degrees centigrade and about 450 degrees centigrade, and withdrawing the product from said zone.

3,193,588
CYCLODODECYL-CHLORO-OLEFINS

Louis Schmerling, Riverside, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Dec. 18, 1961, Ser. No. 160,340

11 Claims. (Cl. 260—648)

1. A chlorocyclododecylcycloolefin in which a carbon atom is singly bonded to an otherwise unsubstituted cyclododecyl radical and doubly bonded to a carbon atom having at least one chlorine atom attached thereto.

5. A cholorocyclododecyldiolefin in which a carbon atom is singly bonded to an otherwise unsubstituted cyclododecyl radical and doubly bonded to a carbon atom having at least one chlorine atom attached thereto.

3,193,589
PROCESS FOR FLUORINATING A NON-TERMINAL CARBON ATOM IN SATURATED PERHALOCARBONS

Charles F. Baranauckas, Niagara Falls, and Russell L. K. Carr, Grand Island, N.Y., assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed May 4, 1960, Ser. No. 26,730

5 Claims. (Cl. 260—653.7)

1. The process for the fluorination of saturated perchlorofluorocarbon starting materials wherein a single fluorine atom is substituted for a chlorine atom on a non-terminal carbon atom having a single chlorine atom attached thereto, which comprises: introducing hydrogen fluoride and the starting material into a reaction zone containing a nickel packing of high surface area and maintained at a temperature between about two hundred and fifty and five hundred degrees centigrade and withdrawing the product from the said zone.

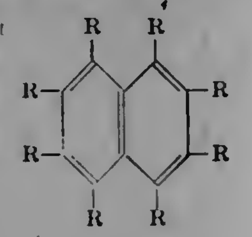
3,193,590
METHOD OF PREPARING ORGANOLITHIUM POLYMERIZATION INITIATORS

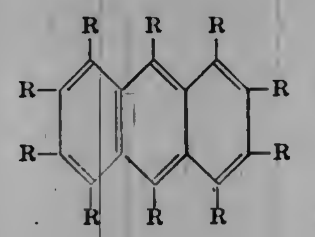
Henry L. Hsieh, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Aug. 10, 1961, Ser. No. 130,462

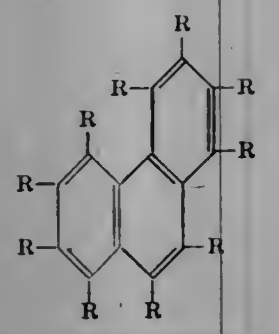
6 Claims. (Cl. 260—665)

1. A method of making a polymerization initiator which comprises reacting lithium with a halogenated condensed ring aromatic compound having a formula selected from the group consisting of





and



initially at a temperature below 60° F. with the temperature being above 0° F. for at least a portion of the reaction and for a time until the apparent number of lithium atoms per molecule of initiator as measured by the ratio of alkalinity to molarity (N/M) of the initiator is at least 1 greater than the number of halogen atoms per molecule of the original halogenated condensed ring aromatic compound.

3,193,591
PROCESS FOR REMOVING BORON COMPOUND DEPOSITS

Donald H. Belden, Prospect Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed July 13, 1961, Ser. No. 123,627

3 Claims. (Cl. 260—671)

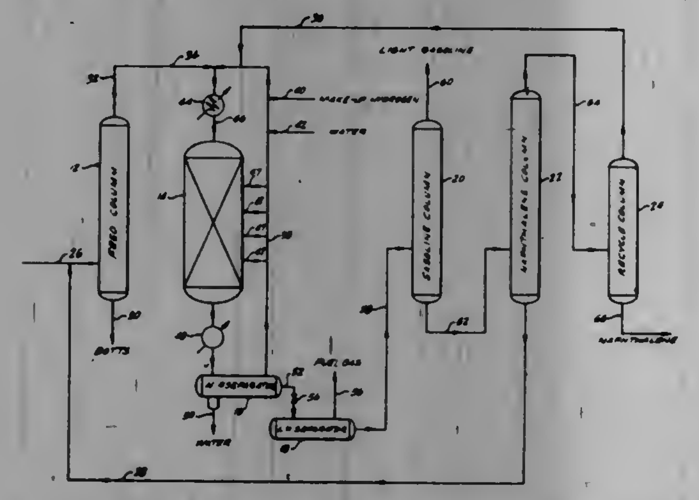
1. In a process wherein a boron compound deposit having a fluorine/boron mol ratio of less than 3 is formed in apparatus in which a catalytic reaction is effected in the presence of boron trifluoride as a catalyst component, the method of removing said deposit which comprises introducing to the apparatus, in addition to said BF_3 catalyst component, a sufficient amount of a substantially anhydrous gaseous fluorine-containing reagent selected from the group consisting of hydrogen fluoride, boron trifluoride and an equimolecular mixture of hydrogen fluoride and boron trifluoride to react with and substantially vaporize said deposit as a volatile boron compound, and removing the resultant vapor from the apparatus.

3,193,592
MANUFACTURE OF PETROLEUM NAPHTHALENE

Oscar C. Eubank, Long Beach, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Aug. 11, 1961, Ser. No. 130,826

13 Claims. (Cl. 260—672)



1. In a process wherein an alkylnaphthalene-containing feedstock is passed through a dealkylation zone maintained under dealkylating conditions of temperature and pressure to obtain a dealkylation zone effluent comprising naphthalene formed in said zone by dealkylation of said alkyl-naphthalenes and non-naphthalenic hydrocarbons which form low-boiling azeotropes with said naphthalene, the improvement which comprises fractionating said effluent to obtain a first fraction containing at least about 95 weight percent of naphthalene, a second fraction having a boiling range below that of said first fraction and comprising azeotroped naphthalene, and a third fraction having a boiling range above that of said first fraction and comprising alkylnaphthalenes; and returning said second fraction and an alkylnaphthalene-containing portion of said third fraction to said dealkylation zone.

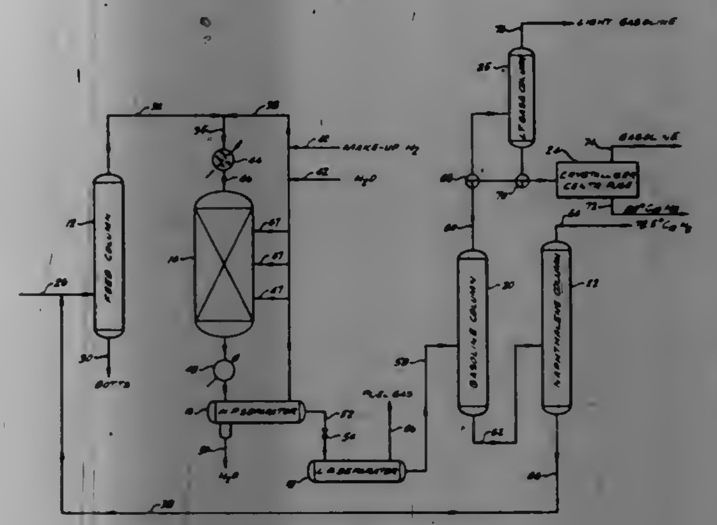
3,193,593
PETROLEUM NAPHTHALENE MANUFACTURE

Oscar C. Eubank, Long Beach, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

Filed Aug. 11, 1961, Ser. No. 130,827

12 Claims. (Cl. 260—672)

1. In a process wherein an alkylnaphthalene-containing petroleum hydrocarbon feedstock boiling above about 430° F. and selected from the class consisting of catalytic reformates, catalytically cracked cycle oils and thermally cracked cycle oils is passed, together with added hydrogen, through a dealkylation zone maintained at an elevated temperature and an elevated pressure sufficient to effect dealkylation of a substantial amount of said alkylnaphthalene, whereby there is obtained a dealkylation zone effluent comprising naphthalene and non-naphthalenic hydrocarbons which form low-boiling azeotropes with naphthalene, the improvement which comprises fractionating said effluent to obtain a first fraction containing at least about 95 weight percent of naphthalene, a second fraction having a boiling range below that of said first fraction and comprising azeotroped naphthalene, and a third fraction having a boiling range above that of said first fraction and comprising alkylnaphthalenes; returning an alkylnapthalene-containing portion of said third fraction to said dealkylation zone; cooling a naphthalene-containing portion of said second fraction in a crystallization zone to effect the formation of crystalline naphthalene; and separating said crystalline naphthalene from the mother liquor.

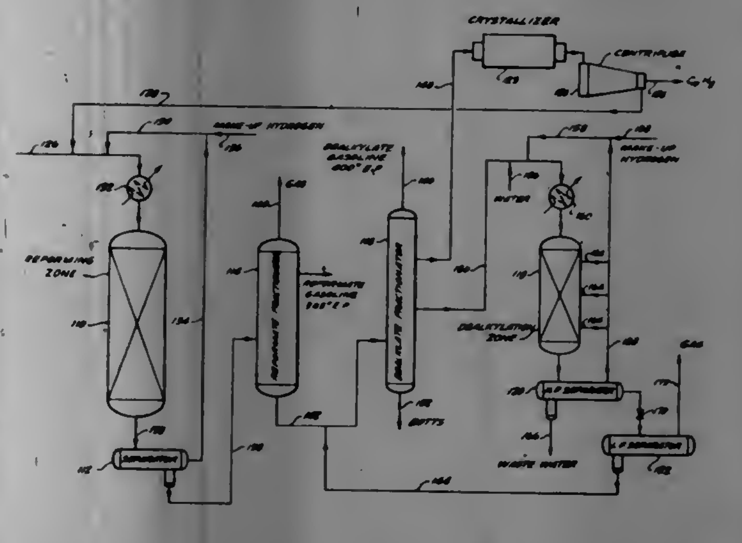


3,193,594
MANUFACTURE OF NAPHTHALENE

Hibbard R. Emmerson, Santa Ana, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

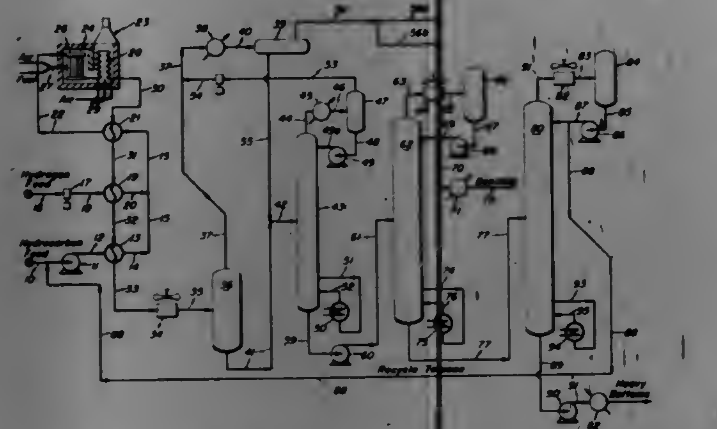
Filed Sept. 29, 1961, Ser. No. 141,826

20 Claims. (Cl. 260—672)



2. In a process wherein an alkylnaphthalene-containing feedstock is subjected to dealkylating conditions in the presence of added free hydrogen to obtain a naphthalene-containing product, said product is fractionated to obtain a naphthalene concentrate fraction boiling within the range of about 380° F. to about 500° F., and said fraction is treated to separate naphthalene therefrom, the method of forming further amounts of naphthalenic hydrocarbons which comprises subjecting the remainder of said fraction to reforming conditions in the presence of added free hydrogen.

3,193,595
HYDROCARBON CONVERSION
Joseph R. Kenton, Tulsa, Okla., and Richard E. Pierson, Country Club Hills, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
Filed Jan. 31, 1962, Ser. No. 170,169
12 Claims. (Cl. 260—672)



1. In a process for the thermal hydrodemethylation of methyl substituted aromatics in the substantial absence of demethylation catalyst by subjecting to elevated temperatures in a demethylation zone a charge stock comprising hydrogen-containing gas and methyl aromatics feedstock at hydrogen pressures in the range of 450 to 1000 p.s.i.g., the improvements for the thermal hydrodemethylation characterized by the steps comprising: heating the charge stock by indirect heat exchange with effluent from said demethylation zone in the sequence wherein demethylation zone effluent first heats said charge stock to a temperature within 300 to 400° F. of the demethylation temperature and the partially cooled demethylation effluent then heats separately the hydrogen-containing gas and said methyl-aromatics feedstock which are then combined to form the charge stock; introducing the partially preheated charge stock at a volume hourly space velocity of feedstock of at least 0.5 to a combination of a separate heating zone and a separate demethylation zone wherein the charge stock is heated to a temperature in the range of 1100 to 1340° F. in the radiant zone of said heating zone and is maintained at a temperature in the range of 1100 to 1340° F. in said demethylation zone; and withdrawing demethylation zone effluent for said preheating sequence.

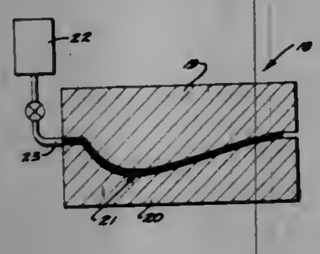
3,193,596
CONVERSION OF HYDROCARBONS
Delos E. Bown, Henry G. Schutze, and Albert T. Watson, Baytown, Tex., assignors, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware
Original application May 27, 1957, Ser. No. 661,830. Divided and this application Mar. 7, 1963, Ser. No. 265,304
3 Claims. (Cl. 260—683.2)

1. A method for isomerization of olefins which consists of contacting a butylene in the vapor phase with reduced titanium tetrachloride catalyst consisting of purified titanium trichloride at a temperature in the range of 350° to 1000° F. at a space velocity in the range from about 0.25 to about 500 v./v./hr. to form a product containing an isomer of said butylene, and recovering said product.

3,193,597
ISOMERIZATION OF PARAFFIN HYDROCARBONS
William Schoen, Houston, Tex., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Dec. 29, 1961, Ser. No. 163,024
8 Claims. (Cl. 260—683.75)

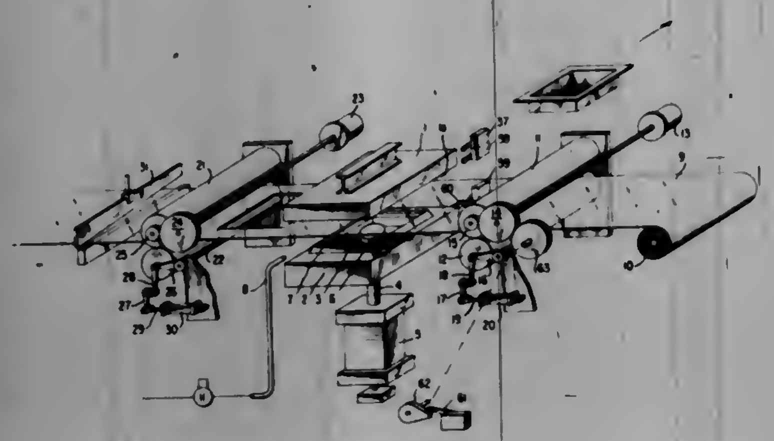
1. A process for the isomerization of lesser branched paraffin hydrocarbons to more highly branched paraffin hydrocarbons, which process comprises contacting the lesser branched paraffin hydrocarbons in the liquid phase under isomerization conditions with charcoal as a selective activator in the presence of a catalyst of aluminum chloride and a solid salt of a phosphorus acid which salt is substantially inactive with respect to aluminum halide.

3,193,598
PROCESS OF MOLDING LAMINATING PREFORMS OF FOAMED POLYURETHANE HAVING OPEN, CONNECTED CELLS
Kenneth A. Schafer, Cedarburg, Wis., assignor to Freeman Chemical Corporation, Port Washington, Wis., a corporation of Delaware
Filed Aug. 16, 1961, Ser. No. 131,846
2 Claims. (Cl. 264—54)



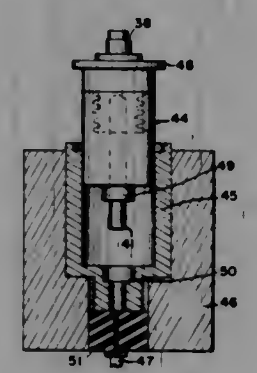
1. The method of preparing a polymerizable resin-impregnated laminating preform which comprises foaming in a shaped molding apparatus a foamable polyurethane composition to fill the cavity of the said molding apparatus, removing from the said molding apparatus a foamed polyurethane resinous mass having the desired shape for a laminating preform, treating the said resinous mass to open the cellular structure and to create open, connected cells in the said shaped form, impregnating the resulting foamed resinous mass with a thermosetting resinous composition in liquid form, and recovering the resulting impregnated resinous mass as a laminating preform.

3,193,599
METHOD AND APPARATUS FOR MOLDING THERMOPLASTIC SHEET MATERIAL
Ira B. Crilly, Simsbury, Conn., assignor to Emhart Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed Sept. 1, 1961, Ser. No. 135,493
3 Claims. (Cl. 264—90)



1. An hydraulic apparatus for molding thermoplastic sheet material, said apparatus comprising: a stationary, heating platen, a cavity containing die supported on a piston rod for reciprocable movemnet toward and away from said platen, said piston rod extending from an hydraulic fluid actuated, cylinder housed, piston; means for initiating movement of said die toward said platen at relatively low velocity with relatively high hydraulic force being applied to said piston; means for accelerating the initial movement of said die to a relatively high velocity with relatively low hydraulic force being applied to said piston; means for decelerating said movable die before it engages and clamps a portion of said plastic sheet material against said platen; means for adjusting the hydraulic force applied to said piston such that said die clamps said plastic sheet material portion against said heating platen to effect its thermal softening without penetrating said sheet; means for increasing the hydraulic force applied to said piston; and means for forming said sheet portion into conformance with said die cavity by the application of pressurized fluid thereto while said sheet portion is clamped by said die and platen and said piston is subjected to said increased hydraulic force.

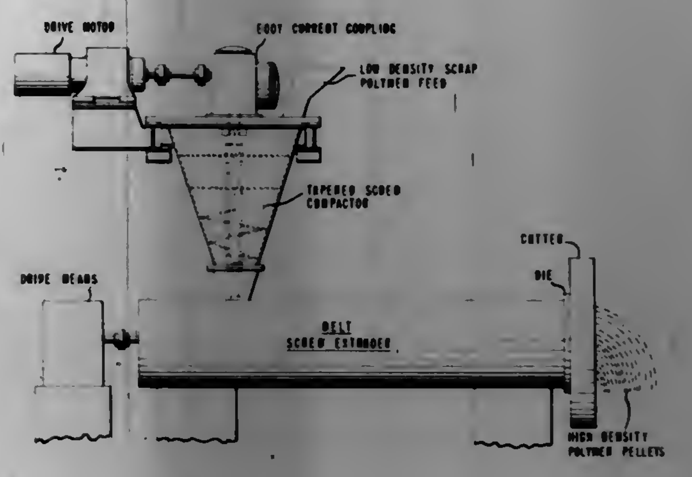
3,193,600
PREPARATION OF PARAFFIN WAX FOR UTILIZING ITS THERMAL EXPANSION PROPERTIES
Anthony R. Ronzio, Littleton, and John F. Sherwood, Golden, Colo.; said Ronzio assignor to Thermal Hydraulics, Inc., Denver, Colo., a corporation of Colorado
Filed Nov. 25, 1960, Ser. No. 71,564
7 Claims. (Cl. 264—102)



1. The method of preparing wax for improving its expansion and contraction properties and capacity to impart motion to mechanism by expansion of the wax when encased in a high pressure casing which is subsequently subjected to temperature exceeding the melting point of the wax for the purpose of expanding the encased wax, which comprises pre-heating the wax before encasement to temperature exceeding the melting point of the wax and exceeding the minimum temperature required to evolve hydrocarbon gases and oxygen from the wax and thereby freeing dissolved hydrocarbon gases and oxygen from the wax, maintaining the degassed molten wax under vacuum and preventing absorption of oxygen, and molding the molten degassed wax under vacuum into solidified units, thereby preventing giving off of gases after encasement when the encased wax is heated and contracts by cooling.

3,193,601
RECOVERY OF RESIN SCRAP
John George Selby Billingsley, Newark, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 1, 1962, Ser. No. 213,996
3 Claims. (Cl. 264—142)

1. A process which comprises, in combination, the steps of continuously compacting a continuous stream of particulate thermoplastic resin of non-uniform bulk density in a taper screw compactor driven through a controlled torque controlled to place said particulate resin issuing form said compactor under a constant pressure within the range of from 75 pounds per square inch to just below the pressure at which said compacted resin would be converted to melt form; continuously melting the compacted resin in a melt extruder, and continuously extruding molten resin from said extruder.



3,193,602
PROCESS FOR THE PRODUCTION OF FLAME RETARDED ACRYLIC FIBERS
Richard L. Leonard, John D. Veitch, and Thomas M. Veazey, Decatur, Ala., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Aug. 13, 1962, Ser. No. 216,287
7 Claims. (Cl. 264—182)

1. A method for the production for a flame retarded acrylic fiber comprising at least 85 percent acrylonitrile and up to 15 percent of another mono-olefinic monomer copolymerizable therewith to which has been added a flame retarding agent selecting from the group consisting of halogenated long chain fatty acid esters, aliphatic phosphates, halogenated aliphatic phosphates, polyvinyl halides and vinylidene halides, said fibers being between 10 and 40 denier per filament, comprising spinning a solution of said fiber into a spin bath being comprised of at least 60 percent of a dimethylacetamide solvent with water comprising the remainder at a temperature of below 36° C. with a jet stretch of below 0.6.

3,193,603
PRODUCTION OF ACRYLIC FIBERS BY SPINNING INTO A HIGH SOLVENT, LOW TEMPERATURE SPIN BATH
Alvah L. Rowe, Jr., and Thomas B. Truscott, Decatur, Ala., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Aug. 13, 1962, Ser. No. 216,290
6 Claims. (Cl. 264—182)

1. A method for the production of an acrylic fiber composed of 94 percent acrylonitrile and 6 percent vinyl acetate of a denier from 0.5 to 8 denier per filament comprising spinning a solution of said polymer into a spin bath composed of 65 percent of an organic solvent, said solvent being chemically identical to the solvent of said solution, and 35 percent water with the spin bath held at a temperature of 32° C. with a jet stretch of 0.5 and a cascade stretch of 7.0.

ERRATUM

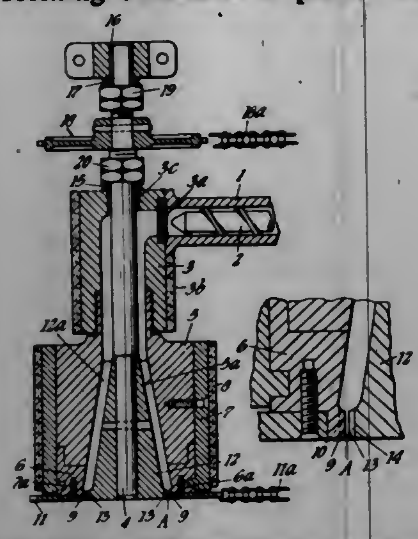
For Class 264—209 see:
Patent No. 3,193,547

3,193,604

PROCESS AND APPARATUS FOR PRODUCING RIBBED SHEETING

Frank Brian Mercer, Blackburn, England, assignor to Plastic Textile Accessories Limited, Blackburn, England
Continuation of applications Ser. No. 805,003, Apr. 8, 1959, and Ser. No. 837,854, Sept. 3, 1959. This application Oct. 26, 1960, Ser. No. 65,089
Claims priority, application Great Britain, Nov. 9, 1955, 32,001; Sept. 18, 1958, 29,946; Mar. 19, 1959, 9,011
20 Claims. (Cl. 264—209)

1. A method of manufacturing a plastic sheeting containing integral reinforcing ribs on both sides of the sheeting which comprises extruding the plastic in the form of thin sheeting containing integral, rib-forming outward extensions of plastic on each side of said sheeting and moving, transverse to the direction of extrusion, the integral rib-forming extension of plastic on at least one



side of said sheeting while continuing extrusion to thereby extrude the said sheeting as a unitary entity.

ELECTRICAL

3,193,605

MEANS FOR SYMMETRIZING THE LOAD IN ELECTRIC THREE-PHASE ARC FURNACES

Ludvig Dreyfus, Vasteras, Sweden, assignor to Allmänna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Jan. 15, 1962, Ser. No. 166,350
Claims priority, application Sweden, Jan. 30, 1961, 898/61
2 Claims. (Cl. 13—12)

1. Means for symmetrizing the load in electric three-phase arc furnaces having a middle electrode carrying the current I_2, and two outer electrodes carrying the currents I_1 and I_3, respectively fed from transformer means in delta-connection comprising a middle phase carrying the current

$$\frac{I_3-I_1}{3}$$

and two outer phases carrying the currents

$$\frac{I_1-I_2}{3}$$

and

$$\frac{I_2-I_3}{3}$$

respectively, feeding means from said transformer means to said electrodes comprising interleaved bars, bundles of cables, and non-interleaved bars, said feeding means further comprising a reactance element having two windings which produce fluxes of the same direction, each of which being series-connected with one outer phase of the transformer so that the resulting number of ampere turns of the reactance element is proportional to

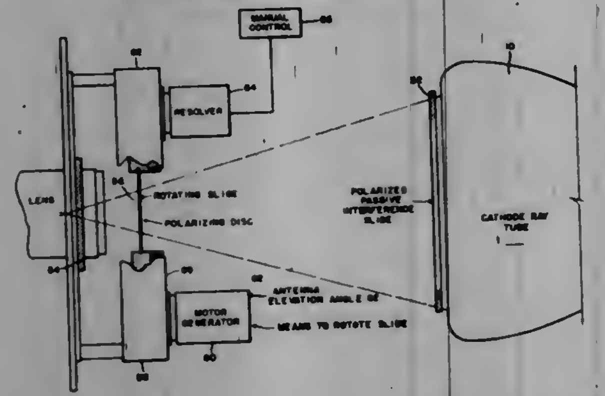
$$-\frac{I_1-I_2}{3}+\frac{I_2-I_3}{3}=I_2$$

the reactance element being inserted in the feeding means in the region of the interleaved bars.

3,193,606

SIMULATION OF RADAR INTERFERENCE

Warren A. Anderson, Nutley, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 25, 1963, Ser. No. 260,931
4 Claims. (Cl. 35—10.4)



1. A simulating device in a passive interference generator comprising,

means for simulating window drop and passive interterference, a cathode ray tube scanning means providing a plan position indicator scan,

polarized first screen means optically lined with said cathode ray tube scanning means, said screen means having passive interference opaque areas drawn thereon,

control polarized means, optically aligned with said first polarized screen means and said scanning means for varying the polarization angle between said two polarized means,

second rotatable screen means, optically aligned with said polarized first screen means, said scanning means, and said control polarized means,

window drop generating means optically aligned too said second screen means for generation of window drop interference,

photo tube pick-up means optically operative with said first and said second screen means and said scanning means, and said first screen means, said second screen means and said control polarized means located between said photo tube pick-up means and said scanning means, whereby said scanning means in conjunction with said first and said second screen means and said window drop generating means provides said phototube means with visual simulation of passive and window drop interference,

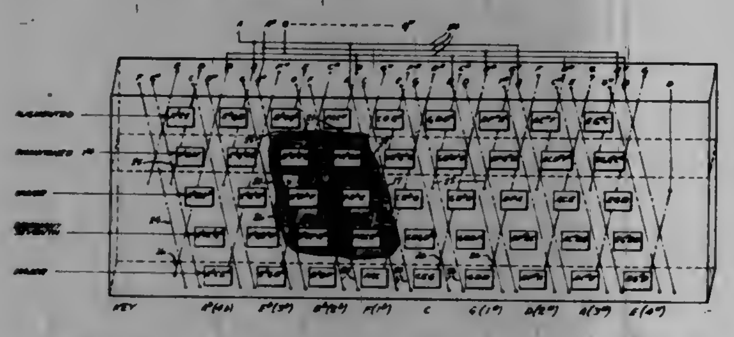
video amplifier means operatively connected to the output of said phototube means for generation of video signals in accordance with the appearance of said passive and window drop interference, and

azimuth drive servo loop operatively connected to said second screen assembly for rotating said screen assembly in accordance with target azimuth and information signals which are supplied from an external target coordinate generator.

3,193,607

KEY SWITCH ASSEMBLY

Walter J. Anderson, Elgin, Ill., assignor to Chicago Musical Instrument Co., Lincolnwood, Ill., a corporation of Illinois
Filed Mar. 7, 1961, Ser. No. 94,066
21 Claims. (Cl. 84—1.04)

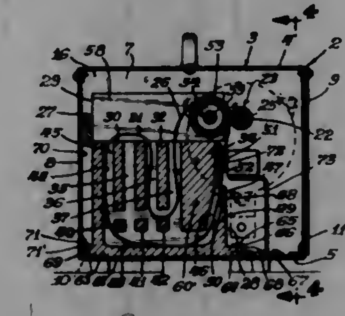


1. A key-switch comprising in combination: an electrically conducive plate; an electrically conductive key element reciprocably supported in electrical contact with said plate; a pair of separate electrical conductors disposed adjacent to but spaced different distances from said key element and electrically insulated therefrom and from each other; and an electrically conductive arm electrically conductively secured to said conductive key element and extending therefrom transversely to said conductors and transversely to the direction in which said key element is reciprocable and selectively engageable simultaneously with both said conductors in response to reciprocation of said key element; and an insulator engageable with both said arm and that one of said conductors which is nearer to said key element in a manner to preclude electrical continuity therebetween during said engagement.

3,193,608

BASIC RHYTHM DEVICE

Anthony A. Bobis, Elmhurst, Ill.
(737 Farragut, Lockport, Ill.)
Filed Dec. 21, 1959, Ser. No. 860,962
6 Claims. (Cl. 84—1.03)

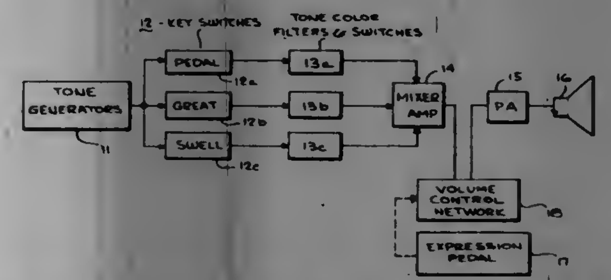


1. A basic rhythm reproducing device comprising a housing having end and intermediate compartments, a motor and preamplifier mounted in said end compartments, respectively, a rotatable mandrel disposed in driven relation to the motor and extending through said intermediate compartment between said end compartments, a plurality of magazines mounted side by side transversely of the mandrel and each having a tape carrying a different recorded rhythm, said tapes engaging said mandrel and driven thereby, a pick-up head operatively associated with each tape and connected to the preamplifier, and switching means between the preamplifier and each head for selectively interconnecting the same, and said magazines each having forwardly and rearwardly extending locking lugs, and said housing having a locking clamp engaging one of the lugs, and said housing having a hinged wall swingable into engagement with the other locking lug attendant to closing the housing and urging said magazine into position engaging the tapes with the mandrel.

3,193,609

VOLUME CONTROL FOR ELECTRONIC ORGANS

Albert Meyer, Deer Park, Ohio, assignor to D. H. Baldwin Company, a corporation of Ohio
Filed Aug. 29, 1961, Ser. No. 134,629
19 Claims. (Cl. 84—1.27)

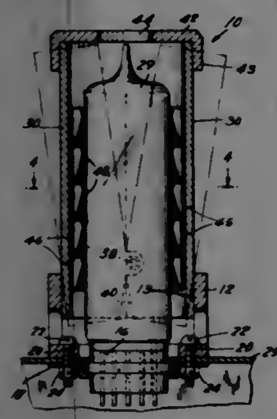


1. In an electronic organ, a plurality of tone generators, means comprising key switches for selecting tones deriving from said tone generators, formant filters connected to said key switches for forming selected ones of said tones, an expression pedal actuated gain control device in cascade with said formant filters, an amplifier in cascade with said gain control device, and an acoustic radiator in cascade with said amplifier, a volume control device for controlling the amplitude versus frequency characteristic of said amplifier, said volume control device having a controllable amplitude versus frequency characteristic having a variable slope magnitude extending between zero and at least five decibels per decade over said audio band.

3,193,610

SHIELDS FOR VACUUM TUBES AND THE LIKE

George M. Worden, Sr., Manhattan, N.Y., assignor, by mesne assignments, to Atlee Corporation, Winchester, Mass., a corporation of Massachusetts
Filed Aug. 10, 1962, Ser. No. 219,356
18 Claims. (Cl. 174—35)



11. A shield for vacuum tubes and the like comprising, in combination, a pair of sleeve halves, transverse pivot means to enable the sleeve halves to pivot transversely

from a secured parallel closed position to a non-parallel open position, a base to receive one end of the sleeve halves and to be held in secure engagement therewith when the said sleeve halves are in said parallel position, and means for holding the sleeve halves together in the secured parallel position in pressure engagement with the said base.

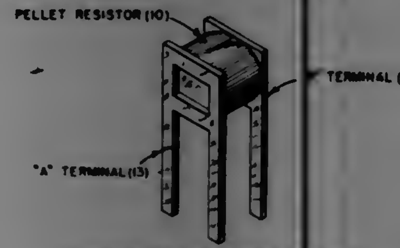
3,193,611

ELECTRONIC PELLET WITH END TERMINALS

Clarence Huetten, Indianapolis, Robert L. Meek, Greensburg, and Louis P. Sweany, Indianapolis, Ind., assignors to P. R. Mallory & Co., Inc., Indianapolis, Ind., a corporation of Delaware

Filed Jan. 28, 1963, Ser. No. 254,298

2 Claims. (Cl. 174—50)



TERMINALS FOR SINGLE PELLET

1. In a microminiature electronic network, a plurality of discrete circuit elements shaped as cylindrical pellets, said pellets being microminiaturized with determined dimensions and having conductive end surfaces, a pair of differently shaped preformed flat terminal members of determined thickness, one of said pair of terminal members connected to one of said pellet end surfaces, said other of said pair of said terminal members connected to said other of said pellet end surfaces, said pair of terminal members connected in parallel planes, the contacting head section of each of said terminal members having square geometry with outside dimensions substantially equivalent to the diameter of said pellets and having a square central portion thereof cut out, each of said terminal members further having coplanar dependencies integrally formed with said head section while extending downward therefrom, the position of said dependencies for defining the polarity of said pellets which are interconnected within said network, the lateral and longitudinal spacing of said dependencies providing a terminal grid system, said dependencies further providing for alignment, orientation, and termination of the network formed by said pellets, and a plurality of such network assemblies being adaptable to formation of a multi-dimensional module having determined dimensions, said module being capable of total encapsulation for environmental protection.

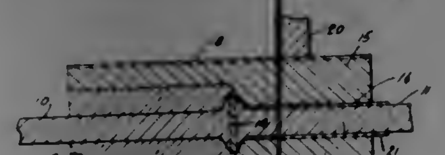
3,193,612

HOUSING FOR SEMICONDUCTOR DEVICES

John M. Gault, Manhattan Beach, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California

Filed Jan. 19, 1961, Ser. No. 83,778

2 Claims. (Cl. 174—52)



1. In combination, a housing and a semiconductor device; said housing comprising a unitary cylindrical body of conductive material having an opening therethrough; said opening having a first diameter from one end of said body to a first predetermined axial position and a second diameter larger than said first diameter from the opposite end of said body to a second predetermined axial position; said semiconductor device being comprised of a body of semiconductor material having a first and second lead extending therefrom; said first and second leads being identical to one another; said body of semiconductor material being positioned adjacent the end of said first diameter portion of said opening; said first lead extending through said first diameter portion; said second lead extending through said second diameter portion; the annular volume between said second lead and said second diameter portion being filled with a sealing medium.

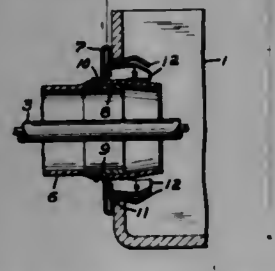
3,193,613

COMBINATION CONDUIT AND WALL CONNECTOR DEVICE FOR THE CONDUIT

Harold S. van Buren, Jr., Cambridge, Mass., assignor to United-Carr Incorporated, a corporation of Delaware

Filed May 8, 1963, Ser. No. 278,855

2 Claims. (Cl. 174—65)



2. A combination of a conduit having a regular internal surface formed of a flexible insulating material, a fastener member and a tubular plug member, said fastener including a base portion having an outer peripheral wall, an inner wall defining an aperture in said member, a series of yieldable prongs extending outwardly from said base portion between said inner and outer walls and said inner wall having a smooth, regular engagement surface, said tubular plug having a peripheral groove formed on the external surface thereof, said plug seated within said conduit remote from the terminal ends of said conduit, and said smooth engagement surface engaging against the external surface of said conduit, and said smooth surface being seated over said peripheral groove forcing a portion of said conduit into said peripheral groove formed on said plug whereby portions of said conduit are captured between said inner wall of said fastener member and said groove portion of said plug to maintain said conduit and said fastener member in fixed assembly.

3,193,614

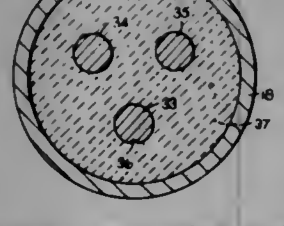
ELECTRIC CABLES

Joseph M. Richards, Sedgley, England, assignor to The Wednesbury Tube Company Limited, Bilston, England, a British company

Filed Aug. 3, 1962, Ser. No. 214,599

Claims priority, application Great Britain, Aug. 5, 1961, 28,521/61

8 Claims. (Cl. 174—112)



1. An electrical cable comprising a sheath, a plurality of conductor cores disposed in said sheath, at least one of said cores being initially provided with a wide-angled recess disposed in axial alignment therewith, and loose insulation material, said material being firmly packed within said sheath to space said conductor cores from

each other and from said sheath, and said material being firmly packed into said recess to visually distinguish the filled recess cross-section of said one core from the integral cross-sections of said remaining cores.

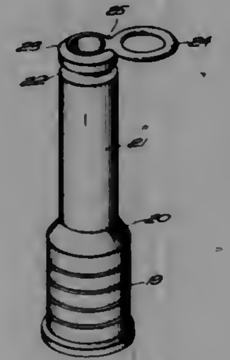
3,193,615

WATERPROOF CAP WITH INTEGRAL SEPARABLE O-RING FOR ENGINE WIRING CONNECTION

Allen Burrows, Providence, R.I.
(38 James St., East Providence, R.I.)

Filed May 17, 1962, Ser. No. 195,615

3 Claims. (Cl. 174—138)



1. A waterproof cap for an electrical cord connection to an electrical fixture on an engine wherein the electrical cord passes through the cap to the electrical fixture, comprising a hollow body portion of waterproof, dielectric, resilient material, one end of said body portion being adapted to engage the electrical cord, said end having a groove adjacent the end, and an O-ring of resilient material adapted to be seated in said groove to constrict said end, the inside diameter of said O-ring being smaller than the diameter of said body portion at the bottom of said groove, said O-ring being molded integrally with said body portion and extending integrally from said grooved end, said integral connection comprising a thin web of separable material.

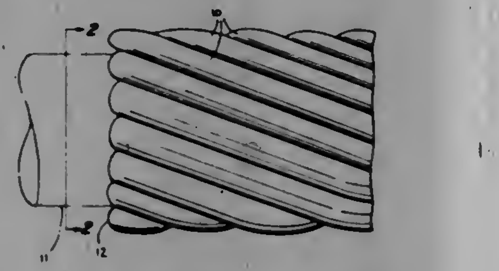
3,193,616

CORONA REDUCING ARMOR RODS

Seymour N. Schlein, University Heights, Ohio, assignor to The Fanner Manufacturing Company, a Division of Textron, Inc., Cleveland, Ohio, a corporation of Rhode Island

Filed July 12, 1963, Ser. No. 294,609

5 Claims. (Cl. 174—127)



1. For use in combination with a high voltage line, a corona reducing armor rod comprising a hard drawn resilient member in the form of an open helix having an inner diameter less than the diameter of the line, the improvement which comprises at least an end of said rod shaped to provide an outer portion starting spaced from the end of the rod, which curves toward the inner diameter of the helix and a surface on the inner side of the rod which curves outwardly toward the outer diameter of the helix, the two described surfaces meeting to form a spatulate end zone which is curved transversely to the axis of the helix.

3,193,617

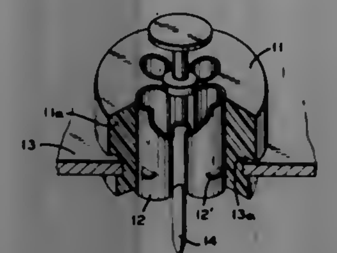
ELECTRICAL TERMINAL PLURAL SOCKET ASSEMBLIES

Stanley Thomas Deakin, London, England, assignor, by mesne assignments, to Sealectro Corporation, Mamaroneck, N.Y., a corporation of New York

Filed June 11, 1962, Ser. No. 201,481

Claims priority, application Great Britain, June 10, 1961, 21,050/61

7 Claims. (Cl. 174—153)



1. An electrical terminal assembly adapted to be located in a hole in a housing or the like and initially to be an interference fit in such hole which comprises an insulating bushing having a flanged head, a conducting element disposed within such bushing, said conducting element having a plurality of holes extending therethrough, means to restrain withdrawal of the bushing from the housing and also to restrain disengagement of the conducting element from the bushing, a second bushing in one of said holes and a conductor in tightly fitting engagement with said second bushing and being insulated from said conducting element, said conductor having an enlargement thereon positioned within the second bushing and beyond one end of the conducting element.

3,193,618

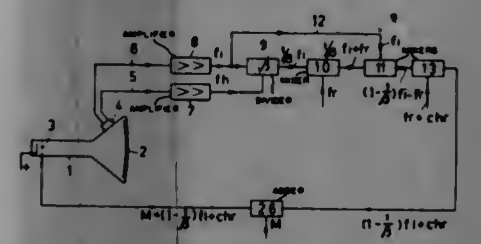
CIRCUIT ARRANGEMENT IN A COLOR TELEVISION RECEIVER FOR CONVERTING THE RECEIVED AND DETECTED TELEVISION SIGNAL INTO A SIGNAL SUITABLE FOR APPLICATION TO A SINGLE-BEAM INDEXING TUBE

Bernardus Henricus Jozef Cornelissen and Jan Davidse, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed July 19, 1962, Ser. No. 210,972

Claims priority, application Netherlands, Aug. 18, 1961, 268,427

5 Claims. (Cl. 178—5.4)



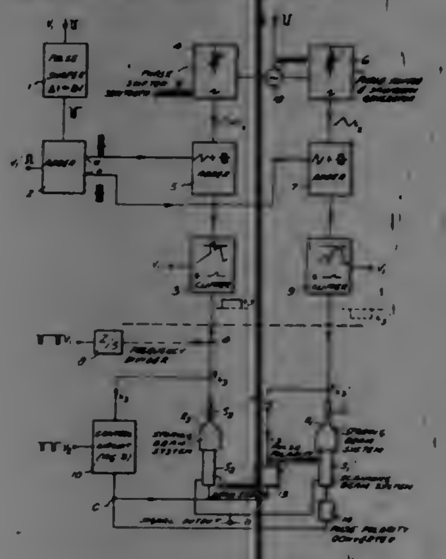
1. Means for converting the subcarrier frequency of color television signals modulated on a subcarrier wave for a television receiver of the type having a single beam indexing tube with an electron gun for modulatng a scanning electron beam directed toward a screen, wherein said screen has a plurality of groups of parallel color strips, indexing strip means parallel with said color strips and within the area of said group, said receiver further comprising a source of a reference carrier of the frequency of said subcarrier wave, a source of said color television signals modulated on said subcarrier wave, and means for detecting the passage of said beam across said indexing strips to provide indexing signals, said means for converting the subcarrier frequency of said color television signals comprising frequency dividing means, means applying said indexing signals to said dividing means, first, second and third mixing means, means applying the output of said dividing means and said reference carrier to

said first mixing means, means for applying said indexing signal and the sum output of said first mixing means to said second mixing means, means applying said color television signals modulated on said subcarrier means and the difference output of said second mixing means to said third mixing means, and means applying the sum output of said third mixing means to said electron gun, the dividing ratio of β of said dividing means being determined by the expression:

$$\left(1-\frac{1}{\beta}\right)=\frac{1}{\alpha}$$

wherein α is the ratio of indexing strips to groups of color strips on said screen.

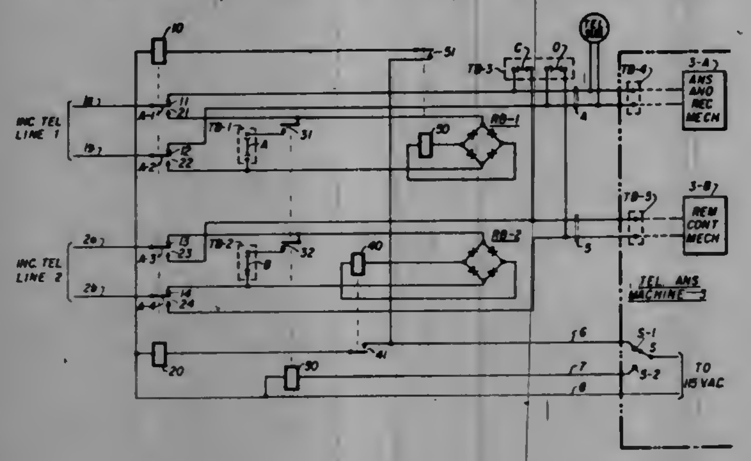
3,193,619
METHOD AND ARRANGEMENT FOR CONVERTING VIDEO SIGNALS FROM ONE TO ANOTHER FRAME FREQUENCY
Emil Sennhenn, Darmstadt-Arheilgen, Germany, assignor to Fernseh G.m.b.H., Darmstadt, Germany
Filed Aug. 7, 1961, Ser. No. 130,736
Claims priority, application Germany, Aug. 6, 1960, F 31,846
16 Claims. (Cl. 178—6.8)



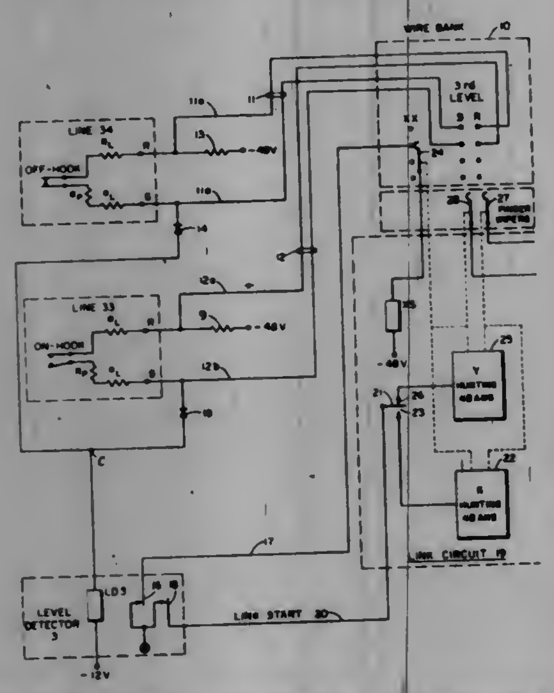
2. A method of converting video signals having a first frame frequency into video signals having a second frame frequency, comprising the steps of: forming a sequence of first stored video signals at said first frame frequency; scanning said stored first video signals at said second frame frequency without scanning those stored first video signals which occur during those individual frame periods in which during continuous storing and scanning at said different frame frequencies, respectively, the sequence of storing and scanning would be reversed; separately forming additional stored video signals respectively identical and simultaneous with those first video signals which occur during individual frame periods immediately preceding those frame periods, respectively, during which said first video signals are not scanned; scanning said additional stored video signals within the duration of said frame periods during which said first video signals are not scanned; and combining all the obtained scanned video signals for delivering a sequence of video output signals at said second frame frequency.

3,193,620
SUPERVISORY CONTROL CIRCUIT FOR MULTI-LINE TELEPHONE ANSWERING MACHINE
Edward A. Marheine, Milwaukee, Wis., assignor, by mesne assignments, to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed June 15, 1962, Ser. No. 202,871
1 Claim. (Cl. 179—6)

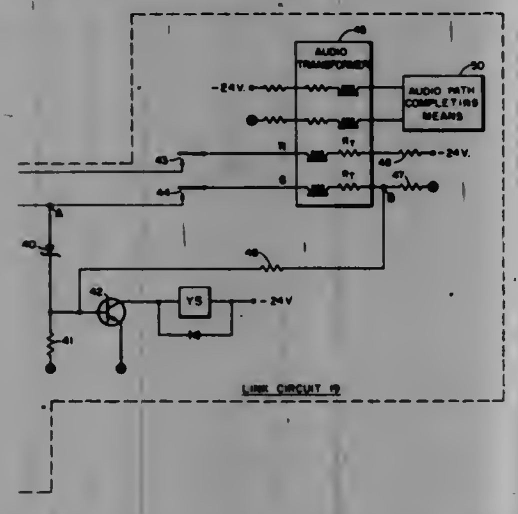
For use with a dually connected telephone answering set adapted to be initially actuated in response to receipt of telephone ringing current received over either a first or a second telephone line adapted for connection thereto, a supervisory switch-through device and circuit arrangement comprising: first control means operated in response to receipt of telephone ringing current received over said first line; second control means operated in response to receipt of telephone ringing current received over said second line; transfers means having a first position for connecting the first telephone line to said answering set and the second telephone line to said second control means, and a second position for connecting said first telephone line to said first control means and said second telephone line to said answering set; a first relay operated by said first control means to operate the said transfer means to said first position for the subsequent initial operation of said answering set by said telephone ringing current received over said first line; a second relay operated by said second control means to operate said transfer means to said second position for the subsequent initial operation of said answering set by said telephone ringing current received over said second line; and means controlled by an operation of said answering set disabling said first or said second control means in accordance with the operation of said second and said first relays, respectively.



3,193,621
TELEPHONE LINE FINDER
Bruce D. Lummis, Webster, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Nov. 1, 1961, Ser. No. 149,248
1 Claim. (Cl. 179—18)

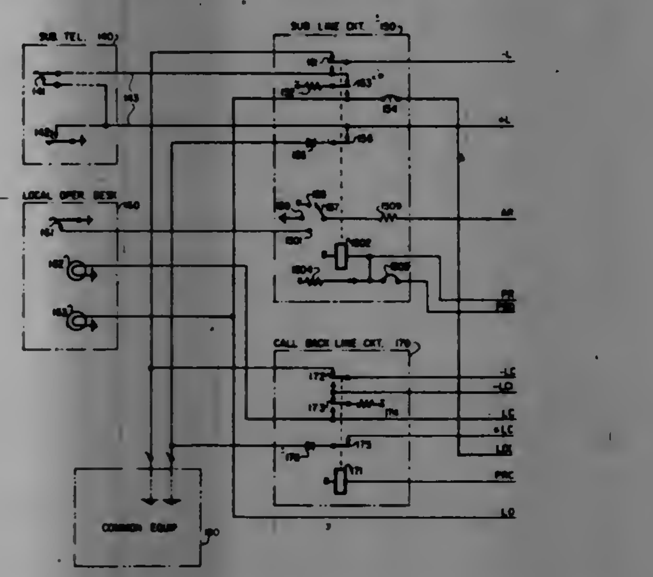


In a telephone system comprising a plurality of separate two-conductor lines each of which has an off-hook condition and an on-hook condition, a loop circuit between the two conductors of each of said lines being produced only in response to that line having its off-hook condition, and individual first resistance means connecting a first conductor of each of said lines to a first point of fixed potential; a line finder circuit therefor comprising first and second audio conductors, hunting means including a switch effective when energized for simultaneously connecting said first and second audio conductors respectively to the first and second conductors of each of said plurality of lines in sequence, an off-hook detector having one end thereof connected to a second point of fixed potential, an energizing circuit for said detector including individual unilateral conducting devices each of which connects the second conductor of a different one of said lines to the other end of said detector, said first point of fixed potential having a polarity and magnitude with respect to said second point of fixed potential to forward bias any one of said devices and to produce a potential of a first given magnitude on the second conductor of a line connected to said one of said devices in response to that line having an off-hook condition, whereby said detector is energized in response to an off-hook condition of any of said lines, means coupled between said detector and in said hunting means for energizing said hunting means in response to the energization of said detector, normally open switchthrough means connected to said first and second audio conductors for extending a connection in response to the closure thereof, potential-responsive means, coupling said second audio conductor to said switchthrough means for effecting the closure thereof in response to said second audio conductor having a potential thereon of at least a second given magnitude, said first given magnitude being at least equal to said second given magnitude, second resistance means for connecting a third point of fixed potential to said second audio conductor in response to the closure of said switchthrough means to produce a potential thereon having a third given magnitude which is less than said second given magnitude and which has a polarity with respect to said second point of fixed potential to back bias said devices to thereby de-energize said detector and said hunting means, and means responsive to current flowing through said second resistance means for maintaining said switchthrough means closed as long as said off-hook condition prevails.

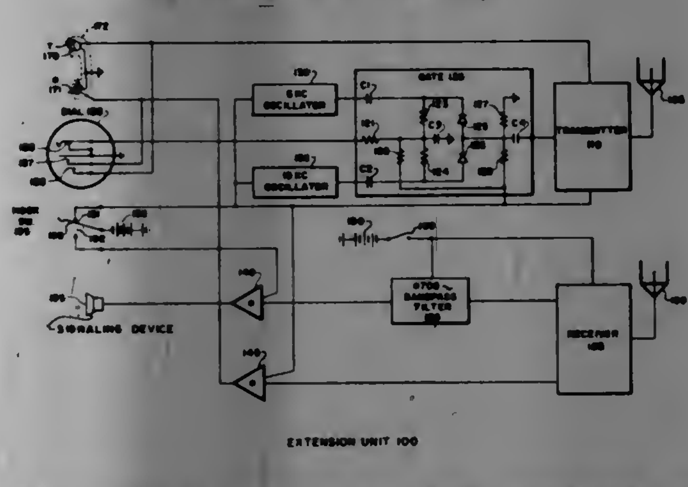


3,193,622
RESTRICTED SERVICE ARRANGEMENTS
Nadios Celestini, Milan, Italy, assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Nov. 22, 1961, Ser. No. 154,191
8 Claims. (Cl. 179—27)

1. In a telephone system, a restricted service arrangement comprising: a central exchange, a private automatic branch exchange, at least one trunk extending between said central exchange and said branch exchange and terminating in said branch exchange in a trunk circuit, a plurality of subscriber lines connected to said branch exchange, each terminating in a line circuit therein, wiring means in said line circuit for setting-up an electrical potential condition characteristic of the type of special service to which the associated subscriber is privileged, local connecting equipment in said branch exchange accessible to each said line circuit and including means jointly responsive to said potential condition and to a signal received over the subscriber line for setting-up special service connections including connections to said trunk circuit, said trunk circuit including means responsive to a signal thereafter received over said subscriber line for automatically seizing a call-back line also terminating in a line circuit having access to said connecting equipment, and means in said trunk circuit for passing an electrical potential condition corresponding to the first-mentioned condition corresponding to the first-mentioned condition onto the connecting equipment seized by said call-back line, whereby said subscriber is prevented from setting-up unauthorized special service connections by way of the last-mentioned equipment.



3,193,623
WIRELESS EXTENSION TELEPHONE
Robert V. Burns, Markham, and Robert T. Cleary, Lockport, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Aug. 7, 1961, Ser. No. 129,611
18 Claims. (Cl. 179—41)



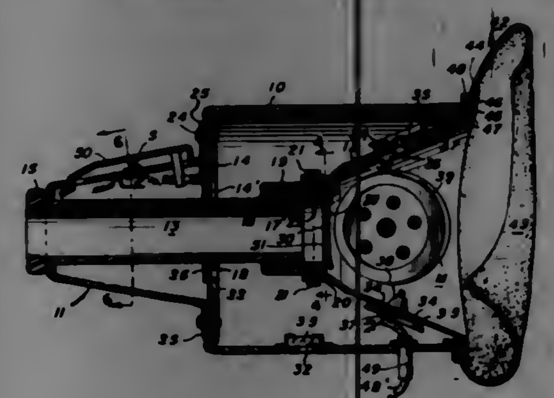
1. A subscriber's extension telephone comprising: an extension unit including; an extension unit radio transmitter, line seizure signal generating means connected to said extension unit radio transmitter operated to send modulating seizure signals to said transmitter, line pulsing signal generating means connected to said extension unit radio transmitter operated to send modulating line pulsing signals to said transmitter, voice signal generating means connected to said extension unit radio transmitter operated to send modulating voice signals to said

transmitter, said extension unit radio transmitter modulated in response to receipt of modulating signals from one of said signal generating means to transmit said signals; and a base unit connected to a telephone line including; a base unit radio receiver operated in response to modulated signals received from said extension unit radio transmitter, line seizure means connected to said base unit radio receiver and to said telephone line operated in response to receipt of line seizure signals from said base unit radio receiver to connect said telephone line to said base unit radio receiver, line pulsing means connected to said base unit radio receiver and to said telephone line operated in response to pulsing signals from said base unit radio receiver to pulse said telephone line, and voice signal repeating means connected to said base unit radio receiver and to said telephone line operated in response to receipt of voice signals from said base unit radio receiver to send said voice signals to said telephone line.

3,193,624
DICTATION MASK SOUND RECEIVER

Horace L. Webb, 378 Lake Shore Drive, Massapequa Park, N.Y., and Harold M. Steinman, 19 Linden St., Garden City, N.Y.

Filed Jan. 19, 1961, Ser. No. 83,698
15 Claims. (Cl. 179—188)

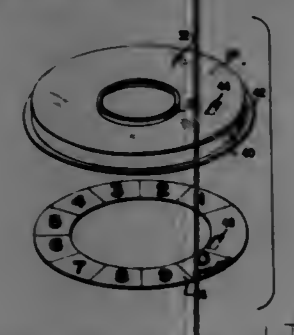


9. A mask for a transducer including a casing provided with an end wall and an open end, an inhalation tube extending into the casing through said end wall, a generally tubular masking wall structure at said open end for location at the face of the user, exhalation means through the mask, a face-fitting piece surrounding said open end having a portion interposed between the margin of said masking wall structure and adjacent surface of the casing serving as a gasket, and means detachably securing and drawing said tube and masking wall structure together which clamps said portion against said surface.

3,193,625
DIAL TELEPHONE NUMBER PLATE COVER

George Childers Triplett, Atlanta, Ga., assignor to Gladwin Plastics, Inc., Atlanta, Ga., a corporation of Georgia

Filed Apr. 9, 1962, Ser. No. 186,044
5 Claims. (Cl. 179—90)

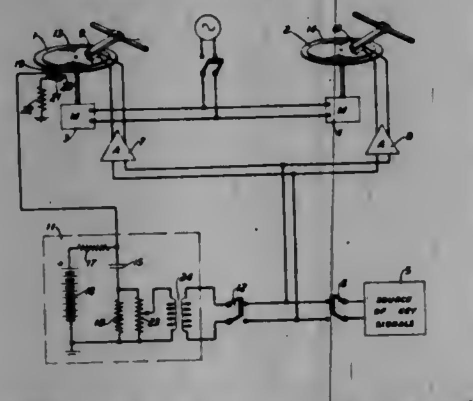


3. For use in combination with a dial telephone of the type comprising a housing having a front wall, said front wall having a circular dial receiving opening therethrough, an annular symbol dial mounted in said housing and received within said opening, a rotatable dialing ring operatively mounted in overlying relationship to the central portion of said dial, and a stationary finger stop cooperatively associated with said dialing ring; an annular cover member of sheet material having an inner surface complementary in shape to and adapted to overlie the front surface of said symbol dial, said cover member having an opening therethrough adapted to receive said finger stop to circumferentially locate said cover member relative to said dial, and peripheral flange means on said cover member adapted to project inwardly through said opening in said front wall of said housing and radially outwardly into underlying engagement with the inner surface of said front wall to secure said cover member to said symbol dial.

3,193,626
DUPLICATE-RECORD INDEXING SYSTEM

Harold L. Barney, Madison, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 29, 1944, Ser. No. 570,429
3 Claims. (Cl. 179—100.4)

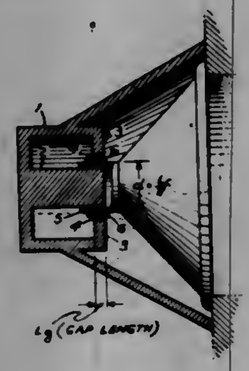


1. In a system for making duplicate recordings, the combination with two record members revolving at the same speed, recorders cooperating with the record members and a source of current to be recorded adapted to be connected to both recorders, of means for indexing the recordings comprising a source of indexing pulses, and a circuit including contacts operated once per revolution of the record members for connecting the pulse source to both recorders.

3,193,627
HIGH FIDELITY LOUDSPEAKERS

William Hecht, 11 Normandy Terrace, West Orange, N.J.

Filed May 31, 1962, Ser. No. 199,148
9 Claims. (Cl. 179—115.5)



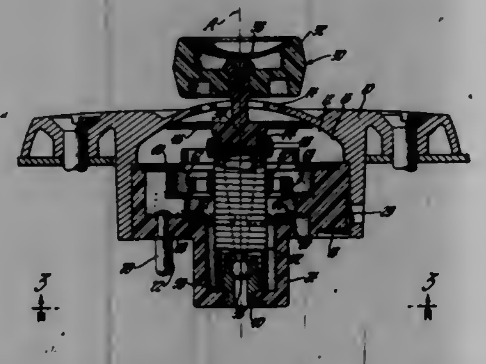
1. In a moving coil loudspeaker, a moving coil structure comprising:

(a) a form defining a constant velocity damping element composed of material selected from the group consisting of relatively pure copper and relatively pure silver, to be positioned in a magnetic gap,
(b) a voice coil winding on the form,
(c) a magnet having inner and outer pole piece extensions disposed to define a magnetic gap to receive between the inner and outer pole piece extensions the voice coil and form,
(d) a sound producing diaphragm connected to one end of the form,
(e) the form longitudinally dimensioned sufficiently greater than the longitudinal dimension of the gap so that the free other end of the form will be beyond the magnetic gap at maximum displacement of the voice coil.

3,193,628
MULTIPLE CIRCUIT CONTROLLER SWITCH WITH ELONGATED FLEXIBLE CONTACT MEMBER

Bert Ray Wanlass, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 26, 1963, Ser. No. 261,116
5 Claims. (Cl. 200—6)



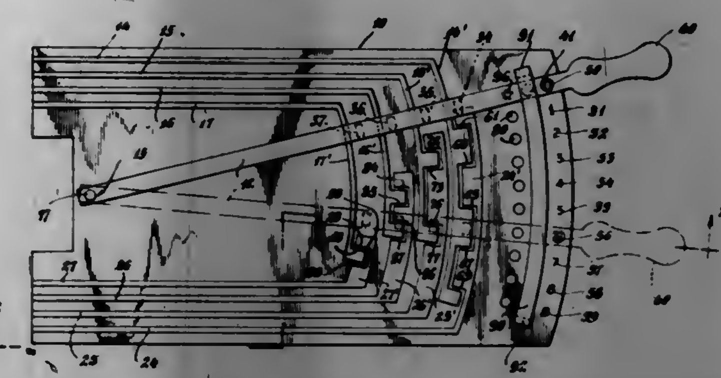
1. A circuit controller comprising, a dielectric base member, a power terminal mounted to said base member, an elongated flexibly resilient contact member electrically connected to said power terminal and having a fixed connection at one end to said base member and having a neutral unflexed axis extending longitudinally thereof through said connection, said resilient member being movable from a neutral unflexed position to a plurality of flexed positions in which the opposite end thereof is radially disposed in different directions from said neutral position, such flexing of said resilient contact member inducing a biasing force therein for biasing said resilient contact member to return to said neutral position, a multiplicity of stationary contacts secured to said base member and in radially spaced positions of varying distances longitudinally from said one end of said resilient flexible member whereby movement of said resilient member to different flexed positions effects its contact with one or more of said stationary contacts to electrically connect the same to said power terminal.

3,193,629
DIGITAL LEVER SWITCH WITH INDICATING MEANS

Rudolf Losch, Fairfield, Stanley M. Szamatulski, Bridgeport, and Abraham Savitzky, Norwalk, Conn., assignors to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York

Filed Nov. 21, 1961, Ser. No. 153,904
5 Claims. (Cl. 200—11)

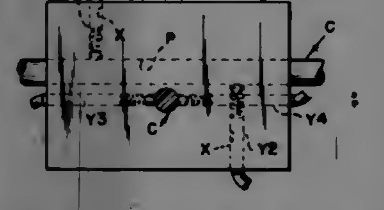
1. An electric switch comprising a circuit board carrying at least one pair of electrically conducting means; each member of said pair including an arcuate part, said arcuate parts being substantially concentric; each arcuate part having at least one radial portion extending toward the arcuate part of the other member of said pair and being circumferentially adjacent a radial portion extending from the arcuate part of said other member; the radial edges of said adjacent portions lying closely adjacent to each other; pivot means physically connected to said circuit board; a switch arm pivotably mounted on said pivot means; at least one electrically conducting bridging means carried by said switch arm and so positioned thereon as to wipe across said adjacent radial edges upon movement of said arm; said bridging means comprising a single electrically conductive contact element having a single, continuous, substantially plane surface of sufficient dimension so as to physically and electrically bridge said edges in some position of said arm, thereby establishing a circuit through said one pair of electrically conducting means.



3,193,630
MULTIPLE CONTACT SWITCH HAVING CABLE SWITCH OPERATING MEANS

Bernard Edward Shlesinger, Jr., 906 Bruce Lane, Annandale, Va.

Filed Aug. 1, 1962, Ser. No. 213,977
29 Claims. (Cl. 200—16)



29. A multiple contact switch programming system comprising an insulated contact block, a substantially unobstructed passageway extending through said block, cable means extending continuously into, through, and out of said passageway in said block and slideable only longitudinally therein and substantially filling said passageway, means associated with said cable means for moving said cable means longitudinally in said passageway, electrical contact means in said block, and said cable means being in engagement with said contact means and cooperating therewith, said cable means including a continuous cable body having longitudinally spaced operating surfaces formed thereon fixed with respect to each other and with respect to said body, said surfaces being movable into, through, and out of said passageway for opening and closing said electrical contact means.

ERRATUM

For Class 200—46 see:
Patent No. 3,193,527

3,193,631
PRESSURE RESPONSIVE SIGNAL INITIATING DEVICE

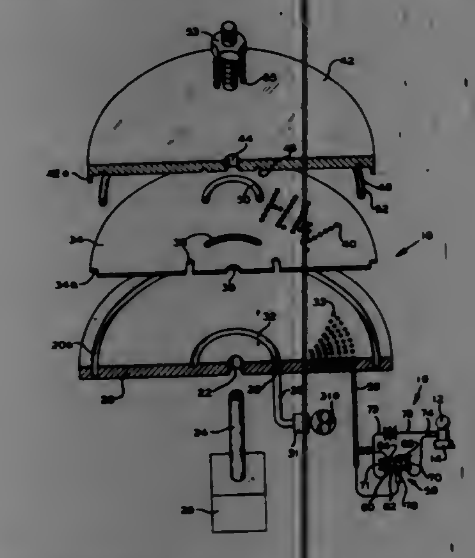
Herbert B. Weingarden, 3546 Devon Hill Road, Toledo 16, Ohio

Filed May 9, 1963, Ser. No. 279,248
8 Claims. (Cl. 200—46)

8. A controlling and operating mechanism for a sign having a plurality of signal responsive means thereon comprising in combination

(a) a plurality of pressure differential switch means with at least one being operatively connected to each

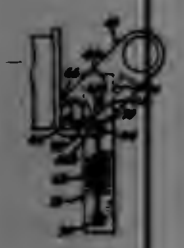
of said signal responsive means for operating the same,
(b) a plurality of pressure conducting means with at least one being confluent with each of said switch means,
(c) a base member carrying said conducting means in a spaced apart relationship,
(d) said base member having an operative face with said conducting means opening to said face,
(e) pressure differential chamber means superimposed over the operative face of said base member and rotatable relative thereto,
(f) perforated means disposed between the operative face of said base member and said chamber means and having spaced perforations therein adapted to cooperate successively with said conducting means upon relative rotation between said perforated means and said base member, and
(g) means drivingly connected to said perforated means and said chamber means for rotating the same unitarily relative to said base member.



3,193,632

PRY-OFF LATCH FOR DISCONNECT SWITCH

Stephen B. Sprague, San Jose, Calif., assignor, by mesne assignments, to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed June 20, 1961, Ser. No. 118, 443
6 Claims. (Cl. 200—48)

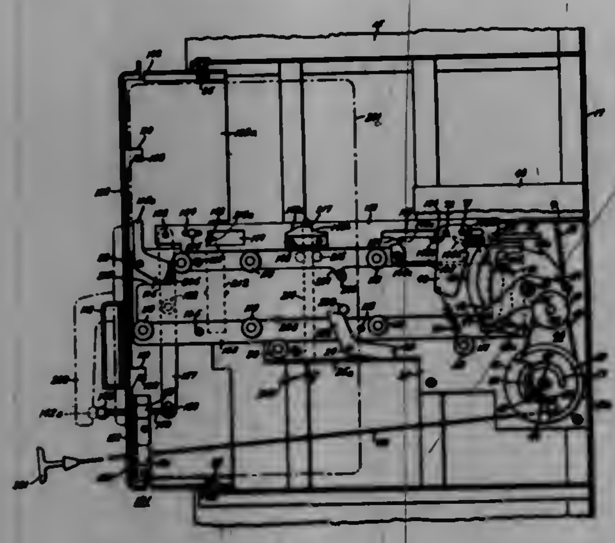


1. A hook-operated disconnect switch comprising stationary contact means and switchblade means mounted for movement into and out of resilient engagement with said stationary contact means, said engagement establishing frictional forces in said members normally resisting the separation thereof, a unitary pry-off latch member mounted on said switchblade means for pivotal and sliding movement relative thereto, said latch member having a latch portion and a pry-off portion, catch means mounted on said contact means and having latch engaging means for engagement by said latch portion when said switch is closed and said latch member moved in an engaging direction, the pry-off portion of said latch member engaging said catch means when said latch member is moved in a disengaging direction to force said switchblade means out of engagement with said contact means.

3,193,633

RACKING MECHANISM INCLUDING A DIFFERENTIAL PULLEY SYSTEM

Philip C. Netzel, Milmont Park, Pa., and Stanton B. Le Fever, Staunton, Va., assignors to General Electric Company, a corporation of New York
Filed July 2, 1962, Ser. No. 215,757
(Filed under Rule 47(a) and 35 U.S.C. 116)
2 Claims. (Cl. 200—50)



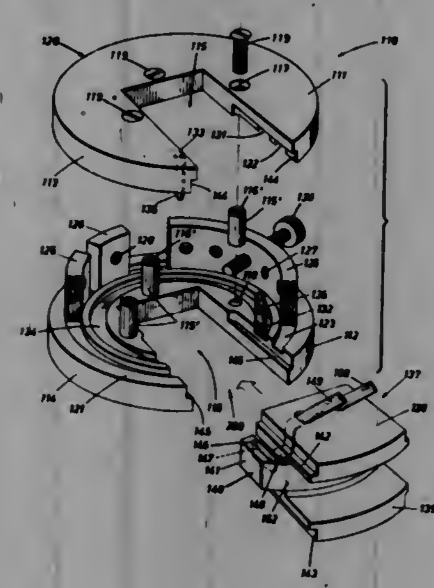
1. In switchgear apparatus: a relatively stationary enclosure unit including a pair of spaced sidewalls; a movable unit disposed between the sidewalls of said enclosure unit and adapted to support an electric circuit interrupter; and a racking mechanism for moving said movable unit relative to the enclosure unit between different predetermined positions, the racking mechanism comprising:
(a) a pair of interengageable camming elements mounted on said enclosure and movable units, respectively, with one of the elements being so movable relative to the other that the coaction therebetween will drive said movable unit between its predetermined positions,
(b) a ratchet wheel for moving said one element upon angular advancement of the wheel,
(c) a ratchet operating pawl disposed adjacent to said wheel for advancing the wheel upon movement of the pawl in a predetermined direction,
(d) means for biasing said pawl in a direction opposite to said predetermined direction,
(e) a differential pulley system for moving said pawl in said predetermined direction, said differential system including
  (i) an output pulley connected to said pawl,
  (ii) a double pulley disposed for limited rotation about an axis which is fixed relative to the axis of said ratchet wheel, the double pulley having greater and lesser rims of different diameters, and
  (iii) a flexible cable attached at one end to said greater rim, looped tautly over the output pulley and wrapped around said lesser rim to which its other end is attached, whereby the output pulley moves said pawl in said predetermined direction in response to constriction of the cable loop upon rotation of the double pulley in a predetermined forward direction to unwind the cable wrapped around said lesser rim,
(f) a driving pulley disposed adjacent to said double pulley for rotation about the same axis, said driving pulley being operatively coupled to the double pulley which is thereby rotated in said forward direction in response to rotation of the driving pulley in a corresponding direction,
(g) coil spring means for normally biasing both said driving pulley and said double pulley in a reverse direction,

(h) a manually operative handle, and
(i) a flexible connecting member anchored to said handle and wrapped around said driving pulley for rotating the driving pulley in its forward direction, thereby moving said pawl and hence incrementally advancing said ratchet wheel, upon operation of the handle.

3,193,634

CONNECTOR FOR DISPLAY STRUCTURES AND THE LIKE

Frank J. Bernard, 200 Geary Ave., Toronto, Ontario, Canada
Filed July 17, 1961, Ser. No. 124,593
9 Claims. (Cl. 200—51)



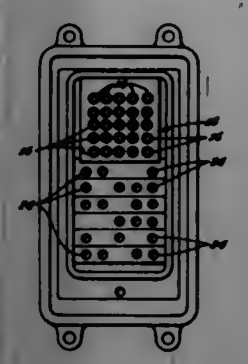
1. In a connector for joining structural elements together, the combination of a body having an internal trackway formation opening throughout its extent to the periphery of the body through a reduced throat formation, electrical conductor means mounted within and extending along said internal trackway and presenting opposed surfaces of contact therealong, support means insertable in a first determined position through said reduced throat formation, said support means carrying second electrical conductor means having contact terminal portions upstanding therefrom at opposite sides, said terminal portions being arranged upon insertion of said support means within said reduced throat formation to register with said internal trackway and upon turning movement being imparted to said support means to move same to a second determined position to make contact respectively with the opposed surfaces of said first electrical conductor means, and means for securing said support means to said body in said second determined position.

3,193,635

STATION IDENTIFYING PLUG-RECEPTACLE ASSEMBLY FOR DATA ACQUISITION SYSTEM

R. T. Hood, Jr., 4705 W. 191st St., Torrance, Calif.
Filed Jan. 29, 1963, Ser. No. 254,620
3 Claims. (Cl. 200—51.03)

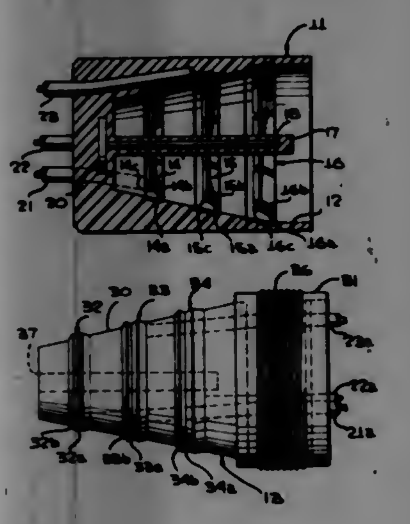
1. A plug-receptacle assembly including: a receptacle; a plug received in said receptacle in a plug-in mating relationship; a selected number of switch-actuating means mounted in said receptacle; and a predetermined number of separate switches, greater than said selected number of switch-actuating means, mounted in said plug, said switches including individual arms spring-biased from a first condition to a second condition and fixed contacts selectively electrically contacted by said arms, said arms being positioned in said plug in respective alignment with corresponding ones of said switch-actuating means, so that selected ones of said arms are actuated to said first condition by said switch-actuating means to establish electrical contact with respective ones of said fixed contacts when said plug is received by said receptacle.



3,193,636

ROTATABLE MULTIPLE-LEAD ELECTRICAL CONNECTOR

Carl W. Daniels, Newport, Ky., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Nov. 7, 1962, Ser. No. 236,104
6 Claims. (Cl. 200—51.12)



1. A multiple-lead connector of the swivel type having male and female portions adapted for relative rotation on a longitudinal axis, the combination comprising:
a female receptacle and a complementary shaped insertable male plug rotatably seated in said receptacle, said plug and receptacle being comprised of electrical insulating material;
a first plurality of axially spaced arcuate contact elements of electrical conducting material concentrically fixed with respect to said axis to the outer surface of said male plug, said first plurality of contact elements having an inclined leading surface in the direction of plug insertion, and having a substantially V-shaped circumferential raceway formed immediately aft of said leading surface, the apex of the V of said raceway being oriented radially with respect to said axis;
a second plurality of axially spaced arcuate contact elements of electrical conducting material concentrically fixed with respect to said axis to the inner surface of said female receptacle, said second plurality of contact elements being axially spaced and in complementary relationship to said first plurality, each of said second contact elements being formed with spring material, one end of said contact elements being secured to said female receptacle and the other end being free and inclined in the direction of plug insertion forming the first leg of V-shaped contacts and terminating in an angularly dependent tip forming the second leg of said V-shaped contacts complementary to said raceway each of said V-shaped

contacts being positioned in mating relationship with a respective V-shaped circumferential raceway when said plug is seated in said receptacle, each of said V-shaped contacts bearing against the sides of said respective V-shaped circumferential raceways so that electrical connection is established between respective ones of said first and second pluralities of contact elements, said leading surface radially urging said second contact elements outwardly during plug insertion, whereby the inclination of the other end of said second contact elements in the direction of plug insertion in cooperation with said leading surface results in the requirement of less force to connect the contact elements than required to disconnect the contact elements; and

electrical leads connected to each of said contact elements.

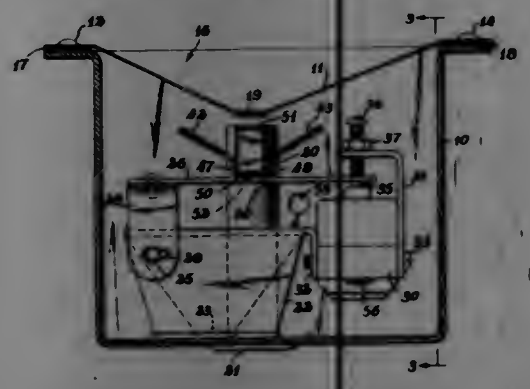
3,193,637

PRECIPITATION DETECTOR

Grover M. Russell, Goshen, Ind., assignor to Penn Controls, Inc., a corporation of Indiana

Filed Apr. 1, 1963, Ser. No. 269,528

12 Claims. (Cl. 200—61.04)



10. A precipitation detector comprising: a support structure, a precipitation receptacle forming a portion of said structure, a mounting member, a pair of sheltered bimetal elements flexuously mounted in said structure each said element having a first portion rigidly fixed relative to the other first portion and having a second portion free to move relative to the first portion, an electrical resistance heater mounted on each bimetal element in close proximity to said receptacle, a switch having a base cooperatively connected to the second portion of one of said elements and having an actuator cooperatively engageable with the second portion of the other said element; and a means mounted on said structure for cooling one of the bimetal elements when precipitation is being received in said receptacle.

3,193,638

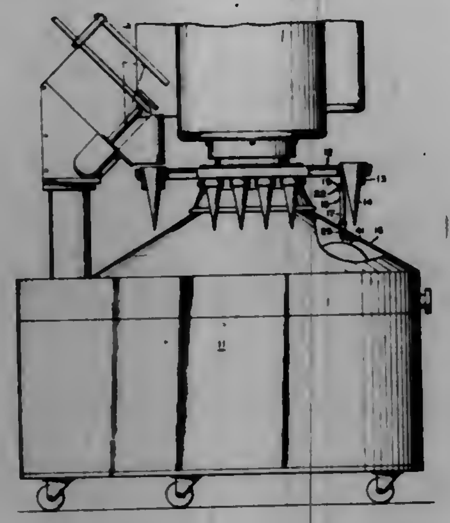
FLEXIBLE ELECTRICAL SWITCH POST

Paul H. Carter, Thomas E. Marion, and Raymond L. Morse, Baltimore, Md., assignors to Universal Machine Co., Inc., Baltimore, Md., a corporation of Maryland

Filed Oct. 26, 1962, Ser. No. 233,416

9 Claims. (Cl. 200—61.41)

6. In combination with a machine having a fixed member and a member spaced from and movable relative to the fixed member, said movable member having an aperture therein adapted to receive and carry an article to be operated upon by the machine, a device for sensing the presence or absence of the article in said aperture at a given station on the fixed member, said sensing device comprising a flexible resilient tube, a head member comprising a flange extending laterally beyond the periphery of the tube out of the path of movement of the movable member and in the path of movement of a portion of an article disposed in said aperture and supported by the movable member, said portion extending beyond the aperture into an open area adjacent the movable member, a pin of electrical conducting material secured to and carried by the head member and extending into the path of movement of the movable member, a base block of an electrical conducting material secured to the other end of the tube and to the fixed member, said flange being of a size to offset the pin from the movable member and prevent contact therewith when the flange is in contact with the article.



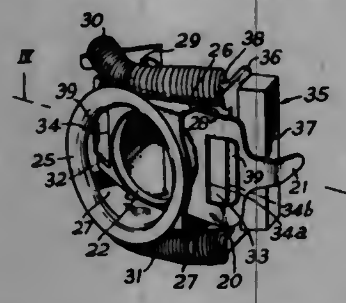
3,193,639

CENTRIFUGAL SWITCH ASSEMBLIES

Edward Barnabas Angold, Shenfield, England, assignor to The Plessey Company Limited, London, England, a British company

Filed Dec. 6, 1960, Ser. No. 75,056

4 Claims. (Cl. 200—80)



1. A centrifugally-operated switch responsive to the speed of rotation of a rotary member, comprising:

(a) a frame adapted to be secured to the rotating member,

(b) at least two weighted governor arms provided with means including outwardly-directed bearing surfaces engaging corresponding bearing surfaces on the frame for pivotal movement of the arms relative to the frame,

(c) at least one compression spring means, means connecting the ends of said spring means to each of the governor arms, said last named means respectively positioned on opposite sides of a plane of the axis of rotation and retaining the governor arms in a pivotal position with their bearing surfaces engaged with those of the frame, said spring means flexed to bias the governor arms in a pivotal position generally towards the axis of rotation,

(d) an axially movable switch operating member secured to an intermediate part of the spring means, whereby pivotal movement of the governor arms in response to centrifugal forces causes axial movement of the switch operating member which is supported solely by the said spring means,

(e) a plurality of co-operating electrical contacts, and,

(f) a contacts actuating structure mechanically connected to at least one of said contacts and including a contacts actuating engagement surface engageable by said switch operating member for operating said contacts.

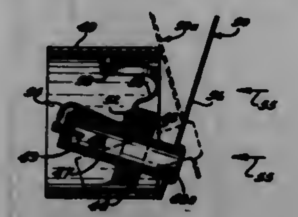
3,193,640

AIR STREAM ACTUATED LIMIT SWITCH

Fred Mineck, Phoenix, Ariz., assignor to Jack G. Firestone, Ontario, Calif.

Filed Apr. 16, 1962, Ser. No. 187,682

1 Claim. (Cl. 200—81.9)



The combination in an air flow operated switch of:

(a) a hollow cylindrical body rigidly fixed to a support,

(b) a pivot block pivotally mounted within the hollow interior of said body,

(c) a mercury switch tube fixed to said pivot block within said body,

(d) a wind actuated disc of larger diameter than the outside diameter of said body fixed to said pivot block and located over the front opening of said body and so located as to receive a flow of air,

(e) and means for connecting said mercury switch tube in a circuit so that increased air speed from said fan tilts said disc and pivot block to actuate said mercury switch to close said circuit.

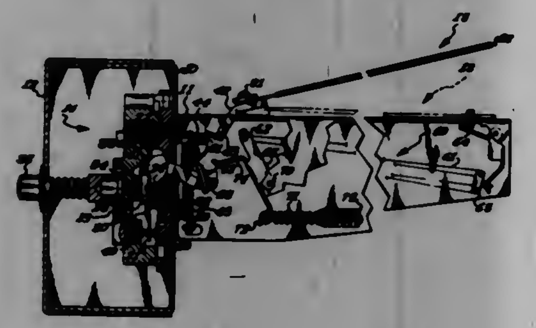
3,193,641

COMBINED HUMIDITY AND AIR FLOW CONTROL

Loren L. Krueger, Minnetonka, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed June 24, 1963, Ser. No. 289,944

3 Claims. (Cl. 200—81.9)



1. In a combined moisture and air flow responsive control device,

a switch mounted in a switch enclosure and having an operating lever protruding from said enclosure,

a base member attached to and extending from said switch enclosure, said lever extending into one end of said base member,

a moisture responsive element mounted in said base member,

a first lever pivotally attached to said base member at said one end to engage said operating lever,

means connecting said element to said base member and said first lever whereby said switch is operated when the moisture level of air surrounding said element is of a selected value to change the length of said element to a predetermined value,

a collapsible metal framework formed by a V shaped length of resilient wire,

a flexible material supported by said framework, said wire providing a bias means to extend said framework and said material to provide a sail,

second lever means attached to said base member and pivotally connecting said framework to be supported by said base member,

and means connecting said second lever means to said operating lever for operating said switch upon the presence of a predetermined amount of air flow.

3,193,642

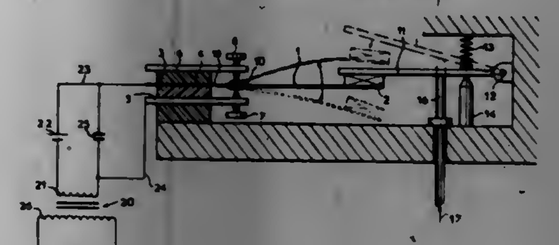
VIBRATORY SWITCH, CHIEFLY FOR IGNITION SYSTEMS

Maurice Etienne Liesse, 27 Ave. Beaurepaire, Saint-Maur, France

Filed Feb. 15, 1963, Ser. No. 258,797

Claims priority, application France, Feb. 20, 1962, 888,537

1 Claim. (Cl. 200—90)



A circuit breaker comprising two stationary contact-making stops, an elastic member extending between the stops and adapted to oscillate between the stops to either side of a neutral position and to close a circuit transiently and alternately with at least one of the stops as the elastic member oscillates and alternately contacts the stops, the elastic member having a free end, a permanent magnet carried by the free end of the elastic member, and an armature selectively movable relative to the permanent magnet to set the elastic member in oscillation, the armature being attracted to the magnet with a force such that the armature and the magnet remain in contact with each other until after movement of said armature forces said elastic member against one of said stops, whereby the magnet performs the dual function both of attracting the armature and of providing weight means on the free end of the elastic member to augment the contact between the elastic member and the stops, and said stops perform the dual function both of making electrical contact with the elastic member and of regulating the position at which the magnet and the armature disengage from each other.

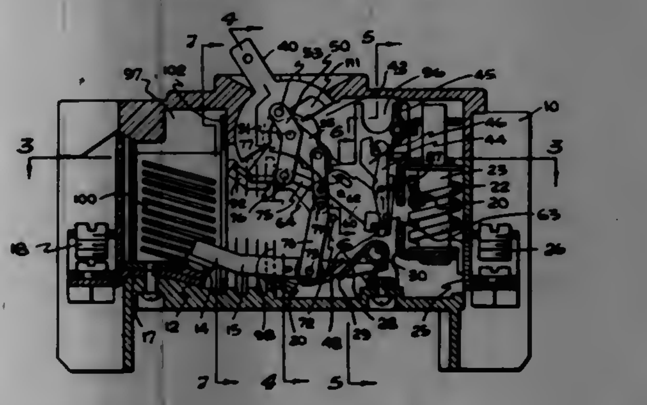
3,193,643

CIRCUIT BREAKER HAVING AN IMPROVED LINKAGE

Joseph S. Hollyday, Pennington, N.J., assignor to Heinemann Electric Company, Trenton, N.J., a corporation of New Jersey

Filed May 15, 1961, Ser. No. 109,914

13 Claims. (Cl. 200—106)



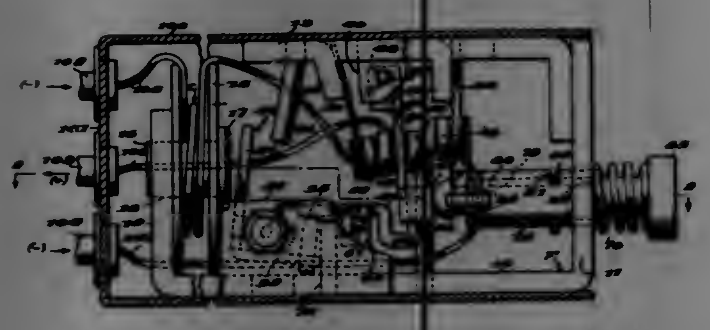
1. In a circuit breaker the combination comprising stationary and movable contacts, a frame plate, a case, a stationary arm carrying said stationary contact and mounted to said case; a four bar linkage comprising a handle link, a catch link, a connecting link and a fourth link; the handle link, the catch link, the connecting link and the fourth link being pivotally connected to define a four-bar linkage; a cradle restraining movement of said catch link when the circuit breaker is in the contacts closed position, a handle connected to said handle link, said stationary contact being engageable by said movable

contact, a fifth link forming with said fourth link a toggle, said frame plate being secured to said case, a pintle to which are pivotally connected said handle and said catch link, said catch link and said handle link being pivotal on said pintle, a lock yieldingly carried by said cradle and engageable with said catch link, a spring biasing said lock and said cradle toward a position in which said lock is engageable by said catch link, a movable arm to which is secured the movable contact, said movable arm being connected to said fifth link and controlled thereby, an electromagnetic means to release said cradle from said catch link, stop means limiting overtravel movement of said toggle when the contacts are closed, and an opening spring means having a portion mounted to said frame plate, said spring means engaging and biasing said movable contact arm to the contacts open position, said links being proportioned relative to each other to permit said toggle to act as a rigid strut to transfer the opening spring pressure to said catch link as the movable arm moves to the contacts open position.

3,193,644

CIRCUIT BREAKERS CONTROLLING AN EXTERNAL ALARM CIRCUIT

Thomas W. Coughlin and William H. Owen, both of Cambridge, Md., assignors to Airpax Electronics Incorporated, Cambridge, Md., a corporation of Maryland
Filed Aug. 25, 1961, Ser. No. 134,010
9 Claims. (Cl. 200—106)

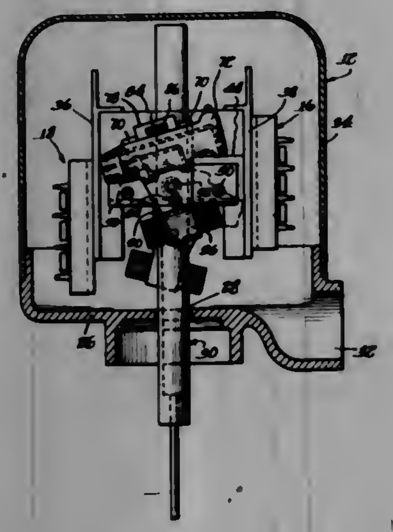


1. An electrical circuit breaker comprising frame means having mounted thereon plural stationary contact means, a movable contact means, spring means biasing said movable contact means in one direction, manual means to move said pivoted contact means in the opposite direction to engage one of said stationary contacts, said plural stationary contact means engageable by and forming stop means for said movable contact means at either end of its movement, means connecting said stationary and movable contact means with two external circuits said stationary and movable contact means operative to open and close said two external circuits, latch means spring biased in one direction and engageable with said movable contact means at one end of its movement, motor means in one of said external circuits, said latch means being responsive to overload in the motor means to release said movable contact means to open said one circuit, said biasing means moving said movable contact means when released to close the other of said circuits, said motor means and said movable and plural stationary contact means and said manual means all lying in substantial axial alignment, said movable contact being pivotally mounted intermediate said two stationary contacts, said movable contact having oppositely facing contact surfaces thereon, said manual means comprising a slidable plunger mounted to extend through and outwardly of said frame means, a spring operative to move said plunger to extend partially outwardly of said frame, plunger guiding means on said frame means, dog means on said plunger guiding means engageable with said manual means when moved to engage said movable contact to engage said one of said stationary contacts to hold said plunger in its manually moved position, said dog being actuated by said spring-biased movable contact means to release said manual means to move outwardly of said frame means to provide a visual indication of the contact setting of the circuit breaker responsive to overload in said one external circuit.

3,193,645

MAGNETIC CONTROL DEVICE

Joseph P. Desjardins, 9147 Juniper Ave., Gary, Ind.
Filed May 17, 1962, Ser. No. 195,518
11 Claims. (Cl. 200—112)

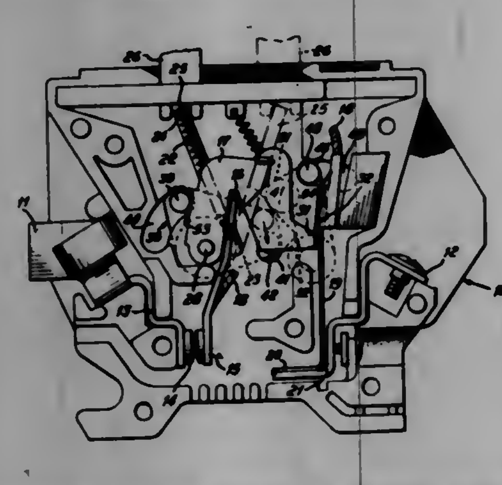


11. A control device comprising, in combination, a frame, a magnet movably mounted on the frame, said magnet having a pair of spaced opposite poles, control means connected to the magnet for operation by the attitude of said magnet, and a second magnet movably mounted in a path passing adjacent to the pair of spaced opposite poles of the first mentioned magnet to attract and to repel, simultaneously, the opposite poles of the first mentioned magnet to affect the position of said first mentioned magnet thereby controlling the operation of said control means.

3,193,646

INTERLOCK FOR MULTI-POLE CIRCUIT BREAKERS

Werner W. Krebs, Mitchell, and Vernon D. Wilson, Covington, Ky., assignors to Wadsworth Electric Manufacturing Company, Covington, Ky., a corporation of Kentucky
Filed May 2, 1962, Ser. No. 191,886
4 Claims. (Cl. 200—116)



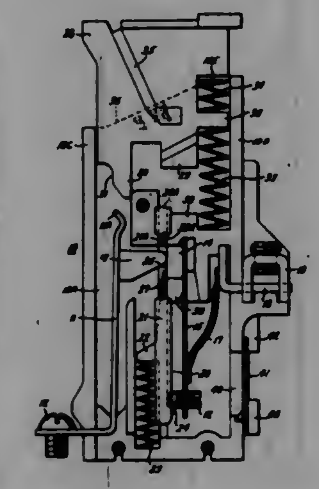
1. A common trip interlock for adjoining circuit breakers each having a fixed contact, a movable contact, a carrier for said movable contact, movable current responsive

means having a latch engageable with said carrier for holding said contacts in engaged position, said interlock comprising, a trip element and an operator element pivotally mounted between said breakers, one of said elements having a cam surface and the other of said elements having a roller engageable with said cam surface, a trip pin on said trip element engageable with said current responsive means, an operator pin on said operator element engageable by said carrier to move said operator element from a "non-tripped" position through a "trip" position to a "tripped" position, said operator element causing said trip element to move from a "non-tripped" position in which said trip element permits said current responsive means to remain latched with its carrier, to a "trip" position in which said trip pin first forces said current responsive means to move out of latched engagement with its carrier and then returns to its original position in which said current responsive means is in an unstrained position.

3,193,647

CIRCUIT BREAKER WITH TRIP-INDICATING HANDLE

Norman R. Beaudoin, Southington, and Benjamin A. Piteo, Jr., Forestville, Conn., assignors to General Electric Company, a corporation of New York
Filed Oct. 29, 1962, Ser. No. 233,575
6 Claims. (Cl. 200—116)

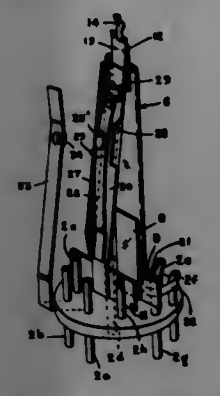


1. An electric circuit breaker comprising:
(a) an insulating casing,
(b) at least two contacts mounted in said casing and movable relative to each other between open and closed circuit positions,
(c) a manually operable handle member mounted in said casing and reciprocally movable into and out of said insulating casing between "off" and "on" positions respectively to operate said contacts between said open and closed circuit positions respectively,
(d) current responsive means in said casing for automatically initiating movement of said contacts to said open circuit position upon the occurrence of predetermined current conditions,
(e) first biasing means in said casing biasing said operating handle outwardly of said insulating casing,
(f) second biasing means in said casing resiliently limiting movement of said handle outwardly of said casing, and normally retaining said handle in said "on" position, and
(g) supplementary biasing means in said casing releasably held and released upon automatic operation of said contacts to said open circuit position to add its bias to said first biasing means whereby said operating handle is moved to a trip-indicating position further outward of said insulating casing upon automatic opening of said contacts.

3,193,648

TIME DELAY CONTROL DEVICE FOR ELECTRICAL CIRCUITS

Angelo A. De Falco, Irvington, N.J., assignor to Falcon Electronics Corp., Harrison, N.J., a corporation of New Jersey
Filed Oct. 1, 1962, Ser. No. 227,454
3 Claims. (Cl. 200—122)

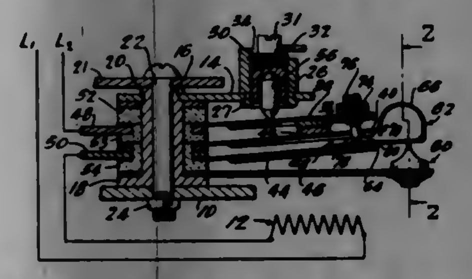


1. In a time delay control device to be connected in a current carrying circuit, a support means, a thermally responsive actuating member having one end flexibly connected to said support means and communicating with said circuit to allow the free end of said member to expand longitudinally relative said support means in response to the thermal changes caused by variations in the current in said circuit, said thermally responsive actuating member of relatively stiff construction, a compensating member of one piece channel construction and at least equal stiffness to said thermally responsive actuating member flexibly connected at one end to said support means a spaced distance from said actuating member, and stress relieving means connecting the other respective end of said compensating member directly to the free end of said actuating member to form an inverted V-shaped actuating means, a stationary contact mounted in said control device remote from the actuating member and intermediate the length of the inverted V-shaped actuating member, said inverted V-shaped actuating means and said support means disposed to form a triangularly shaped actuating assembly wherein said inverted V-shaped actuating means is adapted to deflect towards and away from said stationary contact on expansion and contraction of said actuating member, and a movable contact means operatively connected to said compensating member and nested in the channel portion thereof on the side remote from the actuating member, said movable contact means to be moved with movement of said inverted V-shaped actuating means into and out of engagement with said stationary contact, and means to adjustably space said stationary contact relative the movable contact means to provide a predetermined time delay desired for the control device.

3,193,649

THERMOSTAT SWITCH MEANS HAVING FRICTIONLESS CONTACT ACTUATOR

Karl R. Uhlich, Mansfield, Ohio, assignor to Pace, Inc., Mansfield, Ohio, a corporation of Ohio
Filed July 13, 1962, Ser. No. 209,501
6 Claims. (Cl. 200—138)



1. Apparatus of the character disclosed, in combination, switch means including relatively movable current-con-

ducting members, thermoresponsive means comprising a strip formed of dissimilar metals, an insulating member supported on said strip and arranged to effect movement of one of said current-conducting members upon variations in temperature, retaining means for securing the insulating member to the strip, said insulating member being fashioned with convergingly arranged surfaces, the region of convergence providing a rectilinear bearing for engagement with the member arranged to be moved by the thermoresponsive means.

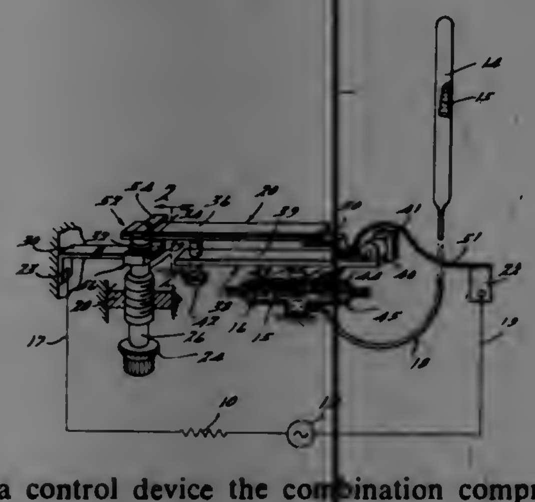
3,193,650

CONDITION RESPONSIVE SWITCH WITH WELD BREAKING MEANS

Rudolph Bergsma, Ann Arbor, Mich., assignor to King Seeley Thermos Co., Ann Arbor, Mich., a corporation of Michigan

Filed Feb. 26, 1962, Ser. No. 175,704

13 Claims. (Cl. 200—140)



1. In a control device the combination comprising; a base member, condition sensing means for sensing conditions of an environment, first electrical contact means supported by said base member and second electrical contact means matable with said first contact means and actuated for movement relative thereto, flexible elongated element means having a first end and a freely movable end for supporting and actuating said second electrical contact means, responsive means operatively connected to said condition sensing means including actuating means operating to actuate said second electrical contact means for controlling the relative position of said contacts in response to predetermined conditions sensed by said condition sensing means, pusher means including an elongated lever arm disposed between said actuating means and said flexible element means, and means for fixedly supporting said first end of said flexible element means relative to a portion of said pusher means, said pusher means creating a first moment arm about said flexible element means support and said actuating means creating a second moment arm about said flexible element means support, said first moment arm being substantially greater than said second moment arm and operative in response to welding of said contact means for reducing the effective stiffness of a portion of said flexible element means thereby permitting the rocking motion of said contact means to break said weld.

3,193,651

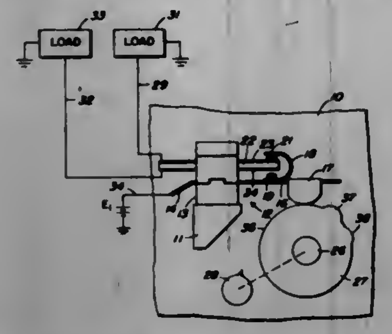
CAM ACTUATED SWITCH

Robert Hawthorn, Scarborough, Ontario, Canada, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa

Filed Feb. 6, 1963, Ser. No. 256,706

1 Claim. (Cl. 200—153)

A switch comprising a supporting member, a sheet of insulation material attached to the supporting member and extending outwardly therefrom, conductors mounted on opposite sides of the insulating member, a U-shaped conductor attached to the supporting member contact points mounted on the inner sides of the U-shaped member alternatively engageable with said conductors, a cam follower attached to the U-shaped member, a cam rotatably supported by the supporting member and in engagement with the cam follower, and said cam formed with a high portion, a low portion, and an intermediate portion such that when the cam follower is in engagement with the low portion of the cam, the U-shaped contact engages one of the conductors on one side of the insulating member, and when the high portion of the cam is in engagement with the cam follower, the other conductor on the other side of the insulating member engages the U-shaped contact and when the cam follower engages the intermediate portion of the cam neither of said contacts engages a conductor.



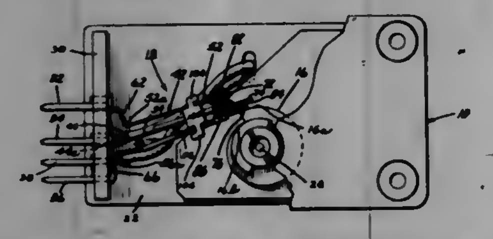
3,193,652

ELECTRICAL CONTACT ASSEMBLY

David C. Lennon, Morrison, Ill., assignor to General Electric Company, a corporation of New York

Filed Jan. 2, 1963, Ser. No. 248,994

3 Claims. (Cl. 200—166)



1. In a control switch, three elongated spring blades disposed in generally parallel fashion and anchored at corresponding ends, and a spacer of insulating material with a portion arranged between the two outer blades and passing loosely through the central blade thereby to enable said central blade to be shifted into engagement with either outer blade and to allow said outer blades to be operated conjointly, said spacer having at its ends lugs which extend loosely in first and second opposite directions through both outer blades, the outer ends of said lugs extending in opposite directions and transversely to said first and second directions and being disposed in contiguity with outwardly facing surfaces of the outer blades, whereby the transverse outer ends of said lugs are engageable by their associated outer blades to preclude the inadvertent dislodgement of the spacer from its loose engagement with said blades.

3,193,653

SWITCH DETENT ARRANGEMENT

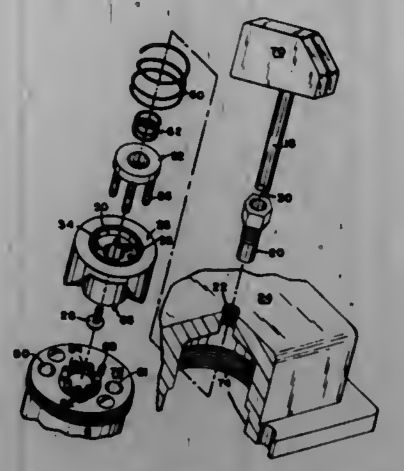
Fred C. Cope, North Syracuse, N.Y., assignor to Crouse-Hinds Company, Syracuse, N.Y., a corporation of New York

Filed Apr. 1, 1963, Ser. No. 269,567

2 Claims. (Cl. 200—166)

1. A detent arrangement comprising a shaft journalled for rotation in a body member, an actuating member fixed to said shaft for rotation therewith, detent means for releasably holding said shaft and actuating member in selected positions of rotation comprising, a plurality of axially extending pins carried by said actuating member, a detent member having an irregular surface positioned

in close proximity to said actuating member, said irregular surface including ridges and grooves over which said pins ride on rotation of said actuating member and yieldable means providing limited axial relative movement between said pins and irregular surface to urge said pins into said grooves of said irregular surface.



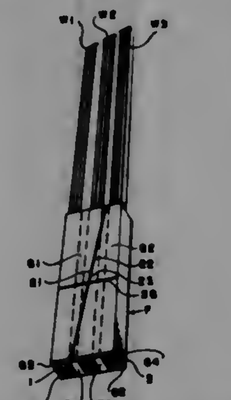
3,193,654

UNITARY SHEATH SECURING MEANS FOR SENSING BRUSH CONTACT DEVICES

Alfred B. Benson, Endwell, N.Y., assignor to Sensing Devices, Inc., a corporation of New York

Filed July 16, 1963, Ser. No. 295,341

4 Claims. (Cl. 200—166)



1. In an electrical sensing brush, the combination of three side-by-side groups of contact wires and a sheathing ferrule securely retaining said wires therein and from one edge of which ferrule said wires extend; one of said groups being spaced from one and the other thereof by structure situated within said ferrule and extending parallel with said wires, said ferrule being formed from a sheet of resilient conductive material of such shape and so wrapped around said wires that meeting of adjacent edges of said sheet form a seam which extends from one to the other of the edges of said ferrule and traverses all of the wires of said one of said groups.

3,193,655

CHAIN WELDING MACHINE

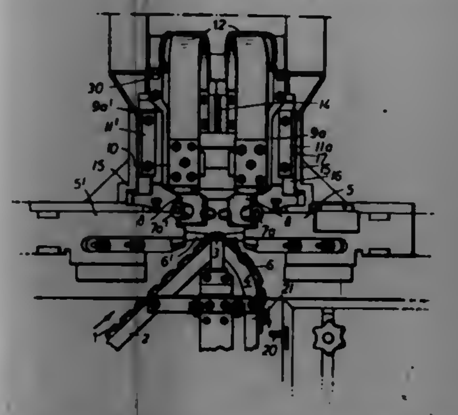
Karl Kleine-Welschede, Cologne-Raderthal, Germany (Hauptstrasse 40, Gersweiler, near Saarbrucken, Germany)

Filed Dec. 7, 1962, Ser. No. 243,030

Claims priority, application Germany, Dec. 19, 1961, M 51,225

6 Claims. (Cl. 219—51)

1. A chain welding machine comprising a frame, a chain link supporting saddle mounted for vertical movement on said frame, means for moving said saddle vertically to and from a welding position, a pair of opposed slides mounted on said frame for horizontal movement toward and away from each other, upsetting tools on said slides, a vertical guideway mounted on each slide perpendicular to the direction of movement thereof, an electrode slide carried by each guideway, a pair of levers pivotally mounted on each electrode slide, a pair of opposed welding electrodes carried by each pair of levers, means to supply welding current to said electrodes and means to move said levers to move the electrodes of each pair toward and away from each other, whereby with a chain link in welding position movement of said opposed slides horizontally will move said upsetting tools into engagement with said link to brings the ends into engagement, movement of said electrode slides vertically in said guides moving said electrodes to a position opposite said link and movement of said levers moving said electrodes into engagement with said link, further simultaneous movement of said opposed slides and the electrodes carried thereby serving to upset the ends of said link and prevent slippage between said electrodes and said link.



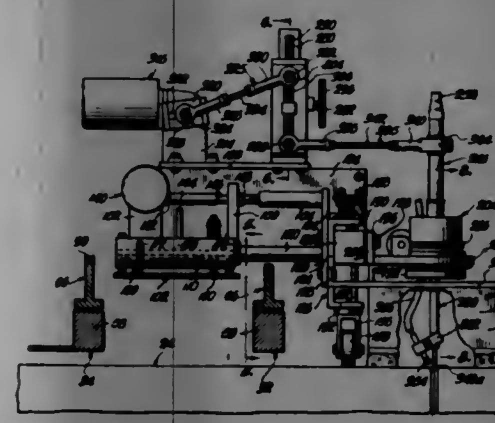
3,193,656

METHOD AND APPARATUS FOR THE AUTOMATIC WELDING OF JOINTS BETWEEN END ABUTTING STATIONARY SECTIONS OF PIPE OR THE LIKE

Billy E. Bell, Tulsa, Okla., and Bernard V. Elliott, Anderson, Mo., assignors of one-half each to Crose-Perrault Equipment Corporation, Tulsa, Okla., a corporation of Oklahoma, and H. C. Price Co., Bartlesville, Okla., a corporation of California

Filed Apr. 21, 1961, Ser. No. 104,701

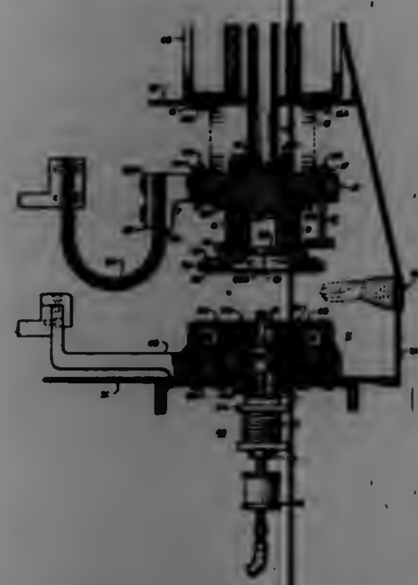
18 Claims. (Cl. 219—60)



1. In welding apparatus for interconnecting a pair of pipe sections disposed in end-to-end relationship, a support unit adapted to be positioned adjacent the joint between said pipe sections; a welding head adapted to be operably coupled to a source of current and to receive a welding rod in disposition with one extremity thereof extending outwardly from the head; and mechanism mounting the head on the support unit for movement relative thereto and with said extremity of the welding rod overlying the joint between said pipe sections, said mechanism including means coupled to the head for swinging the latter in a direction to cause said extremity of the welding rod to move back and forth across said joint and for pivoting the head about an axis to vary the direction of movement of said extremity of the welding rod with respect to the longitudinal axes of said pipe sections.

3,193,657
WELDING APPARATUS

Bodo G. Gebauer, Carpentersville, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Mar. 23, 1962, Ser. No. 181,944
4 Claims. (Cl. 219—78)



1. A welding head for welding an enclosed unit having a flanged header assembly and a correspondingly flanged enclosure can at their respective flanges comprising in combination:

a support means;

a first electrode and a second electrode aligned and engageable with each other,

said first electrode reciprocally mounted to said support means and comprising a base portion with a circular shaped center portion having a free end extending therefrom, said center portion including a depression commencing at said free end and a face plate member, said face plate member having an aperture located substantially concentric with said depression to receive said header assembly and support said flange thereof,

said second electrode fixed to said support means and having a circular shaped periphery, a flat top surface, and a network of air passageways extending therethrough, said top surface including a first aperture located in the center thereof and a set of apertures leading into said network of passageways, said set being spaced equal distance apart and concentric with said first aperture;

means fixed within and received by said first aperture to receive said enclosure can and support said flange thereof;

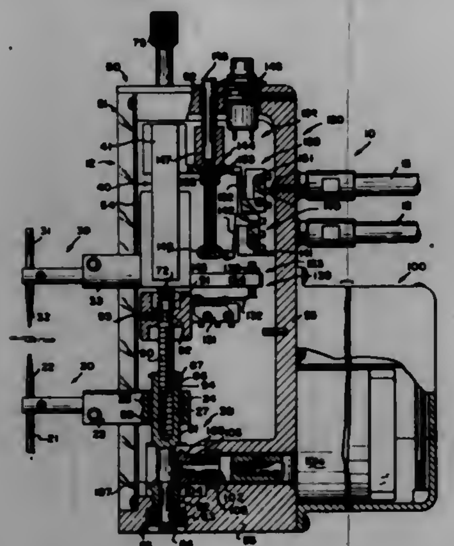
a flexible circular wall engageable with said second electrode and having two ends, one end being fixed to said base portion and the other end being free, a compressible section of bellows, and a flange, said flange including a wedge with a tapered cross-section to provide flexibility and a seal between said wall and said second electrode upon being engaged to thereby form an enclosed chamber about said first electrode and said top surface,

driving means supported by said support means and operatively connected to said base portion to move said circular wall into engagement with said top surface and to move said first electrode into welding engagement with respect to said second electrode and to restore the same, evacuation means coupled to said network passageways for evacuating air from said chamber,

and energizing means to energize said electrodes and weld said flanges together after said electrodes move into welding engagement.

3,193,658
RESISTANCE WELDING MACHINE

Alexander P. Seedorff, 511 N. Kenter Ave., Los Angeles 49, Calif.
Filed Sept. 10, 1963, Ser. No. 307,936
12 Claims. (Cl. 219—86)



1. A resistance welding machine, including a power supply unit for firing said machine and a head adapted to uniformly and accurately position an electrode throughout each welding operation solely by motor and to accurately control the pressure exerted by its electrodes at all times on the work piece being welded, comprising:

(a) a first electrode mounted on a first electrode holder;

(b) a second electrode mounted on a second electrode holder with the working tips of said electrodes being in alignment with each other;

(c) a frame having said second electrode holder holder mounted thereon, said frame being mounted in said head for movement toward said first electrode to position said second electrode holder adjacent said first electrode bolder whereby the working tips of said electrodes contact the work piece being welded;

(d) spring means mounted on said frame for controlling the firing of said welding machine by said power supply unit, said spring means being connected to said second electrode holder for biasing it toward said first electrode holder with a force which is exceeded when the contact pressure of said electrodes on said work piece reaches a predetermined value;

(e) screw means connected to said frame for positioning said frame relative to said first electrode holder;

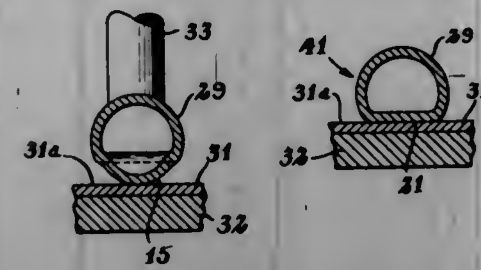
(f) motor system means for operating said screw means, said motor system means including braking means for stopping said screw means instantaneously when the contact pressure of the electrodes on said work piece reaches said predetermined value; and

(g) control means actuated by said second electrode for actuating said braking means and firing said welding machine when said contact pressure reaches said predetermined value.

3,193,659
D-SECTION TUBING WITH WELDING PROJECTIONS THEREON AND METHOD OF FORMING THE SAME

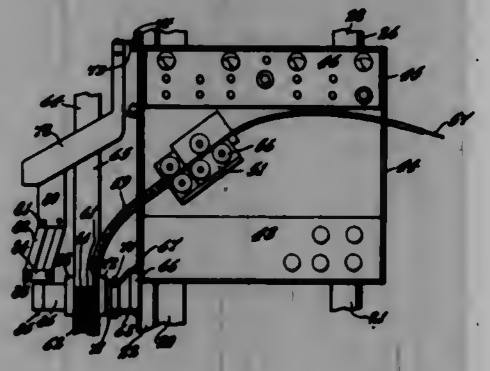
John J. Schaus, Evansville, Ind., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Mar. 26, 1962, Ser. No. 182,365
9 Claims. (Cl. 219—117)

3. A method of manufacture comprising the steps of: applying constrictive die means to a tubular first member to form therein a transversely inwardly deformed portion extending longitudinally of the member and having at spaced intervals projections extending transversely outwardly from the member with the portion of the tubular member diametrically opposite said inwardly deformed portion being substantially undeformed; and fusing said projections to a second member having a portion conforming to said inwardly deformed portion of said first member to have said portion of the second member in surface engagement with said deformed portion of said first member.



3,193,660
CONVERTIBLE VERTICAL WELDING MACHINE

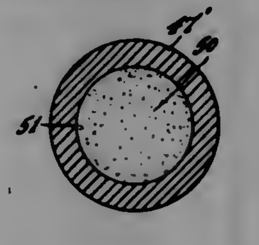
Rene D. Collnet, Philadelphia, Pa., assignor to La Soudure Electrique Autogene, S.A., Brussels, Belgium, a corporation of Belgium
Filed Sept. 4, 1963, Ser. No. 306,545
13 Claims. (Cl. 219—126)



1. In a device for the vertical welding of plates in two different relationships, uprights, a carriage vertically movable on the uprights, a swingable carriage mounted on the vertically movable carriage, said swingable carriage disposable in one position for vertical welding substantially parallel to the plane of the axes of the uprights and in the alternative in a position substantially perpendicular to the plane of the axes of the uprights, means for swinging the swingable carriage between the two positions for vertical welding and an electrode feed mechanism mounted on and movable with the swingable carriage.

3,193,661
WELDING ROD AND ELECTRODE

Francois Georges Danhier, Uccle, Brussels, Belgium, assignor to La Soudure Electrique Autogene, S.A., Brussels, Belgium, a corporation of Belgium
Original application Apr. 26, 1961, Ser. No. 105,719. Divided and this application Oct. 29, 1962, Ser. No. 233,823
7 Claims. (Cl. 219—146)



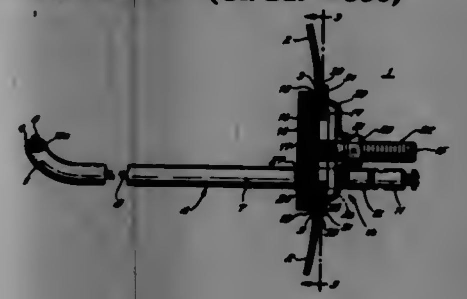
1. A welding rod capable of being coiled, comprising a ductile cobalt base alloy envelope essentially composed of metal of the group consisting of iron, manganese and nickel and said metal of the group being in amount in conformity with the following formula:

$$\%Fe+\frac{\%Mn}{4}+\frac{\%Ni}{4}=2\% \text{ to } 10\%$$

wherein iron permissibly is 2% to 10%, manganese permissibility is 0% to 3% and nickel permissibility is 0% to 12%, and the remainder of the alloy being substantially all cobalt, and the welding rod further comprising a powder core consisting essentially of refractory metal and carbon.

3,193,662
IMMERSION HEATER MOUNTING

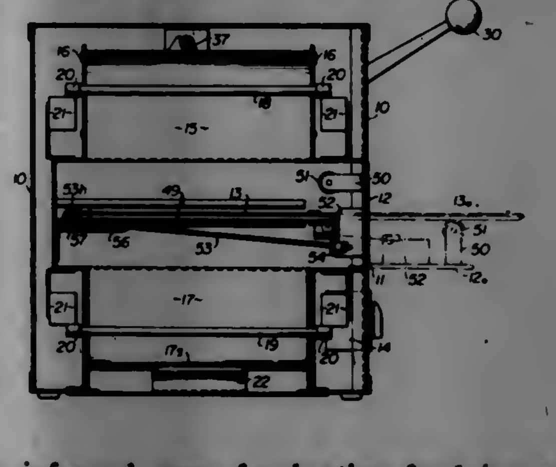
Erwin L. Brandt, Olivet, Mich., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Aug. 9, 1961, Ser. No. 130,414
10 Claims. (Cl. 219—336)



6. In combination with a tank wall provided with a non-circular aperture having a continuous boundary wall and an electrical resistance heater, a mounting assembly comprising a first flange connected to and supporting said heater and disposed at said aperture adjacent one side of said tank wall; a gasket intermediate said first flange and said wall having a first portion margining said aperture and a second portion extending into said aperture and engaging at least two opposed points on said boundary wall of said non-circular aperture to prevent rotation of said gasket with respect to said tank wall; means preventing rotation of said gasket with respect to said first flange; a second flange disposed adjacent said aperture adjacent the opposite of said one side of said tank wall; and clamping means interconnecting said first and second flanges and operative to draw said flanges toward engagement to clamp said wall and said gasket therebetween.

3,193,663
OVEN APPARATUS

Tadeusz Budzich and Robert I. Bruder, Shaker Heights, Ohio, assignors, by direct and mesne assignments, to Litton Industries, Inc., Beverly Hills, Calif.
Filed Oct. 24 1960, Ser. No. 64,435
2 Claims. (Cl. 219—405)

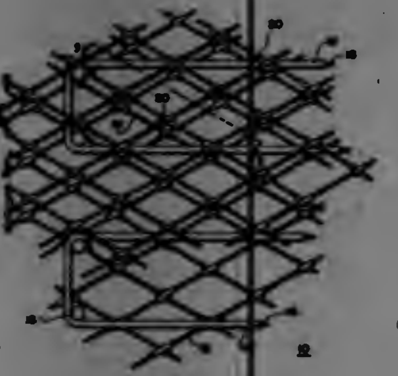


1. In an infra-red oven for heating food items, the combination of an oven structure comprising an outer shell, a hinged door in said shell, a top longitudinally extending transversely curved reflecting surface secured within said shell, an infra-red heating element longitu-

dinally disposed with respect to said curved reflecting surface, a longitudinally extending transversely curved bottom reflecting surface, an infra-red heating element longitudinally disposed with respect to said curved bottom reflecting surface, a food material receiving rack intermediate the top and bottom curved reflecting surfaces and opposite the door, means associated with the rack for engaging the door at the beginning of rack ejection for initiation of door opening, means including a linkage associated with the shell and arranged to operatively connect said door and rack and for attaining and holding intermediate positions and full opening of said door as the rack slides out, and means including a linkage associated with said rack for closing the door during rack retraction.

3,193,664
ELECTRICAL HEATING MAT

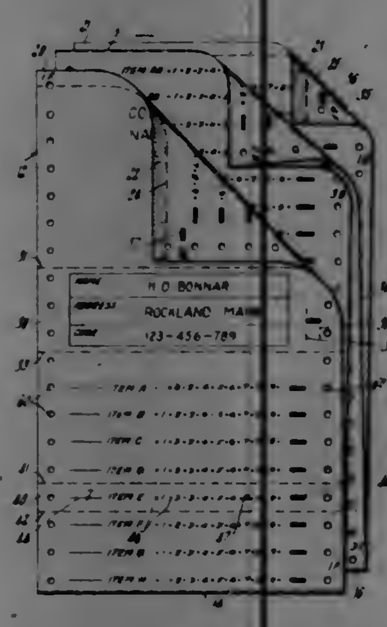
Virgil R. Beery, 538 N. Park St., Centerville, Iowa
Filed Feb. 20, 1961, Ser. No. 90,354
7 Claims. (Cl. 219—549)



1. An electric heating mat comprising an electric heating wire disposed between two layers of flexible thermoplastic mesh fused together.

3,193,665
TABULATING FORM AND METHOD

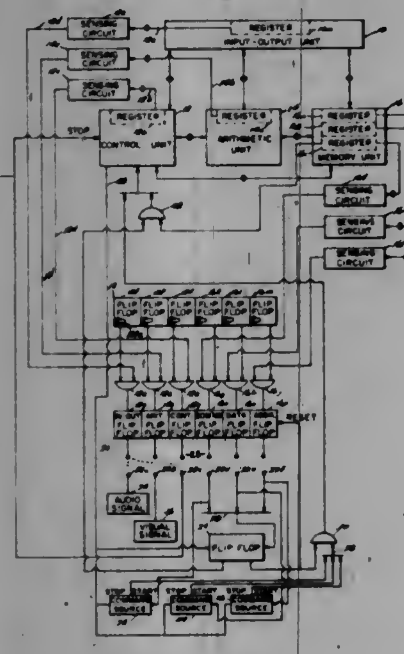
Henry O. Bonnar, Marblehead, Mass.
(% Bonnar-Vawter, Inc., Keene, N.H.)
Filed Sept. 28, 1959, Ser. No. 842,716
8 Claims. (Cl. 235—61.12)



2. A machine readable tabulating form comprising a paper strip of substantially greater length than width having a multiplicity of individual quality tabulation sections extending across the width of said strip and longitudinally spaced from one another for sequential reading of said sections upon longitudinal advance of said strip through a reading and tabulating machine therefor, said quality tabulation sections each including in a single line, transversely arranged and aligned, printed indicia symbolically identifying each of said quality tabulation sections for human recognition, machine initiating indicia for machine recognition of each individual quality tabulation section and machine tabulating indicia defining a code for tabulating a quality entered in each quality tabulation section, and a series of uniformly spaced apertures along at least one long side of said strip for controlling the longitudinal advance of said strip through a reading and tabulating machine therefor, each of said apertures being in transverse registry with a said individual quality tabulation section.

3,193,666
COMPUTER CONTROL SYSTEMS

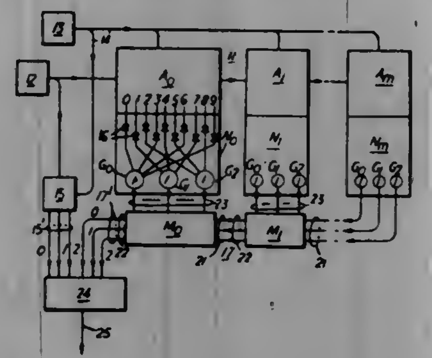
Roy A. Keir, Los Angeles, Calif., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed June 9, 1961, Ser. No. 116,131
2 Claims. (Cl. 235—153)



1. In a computer wherein signal-represented data words are stored in a memory unit via an input-output unit, to be thereafter processed by an arithmetic unit under control of signal-represented command words supplied by a control unit, as from said memory unit, each of said units being interconnected whereby data words can be transferred from any unit to another in accordance with a program of operation, and each of said units including active register locations for words in current process, the improvement which comprises:
- plural sense means to sense the occurrence of any of a plurality of predetermined signal-represented words in each of said active register locations of said computer to form an interrupt signal;
- a plurality of command source means for supplying alternate signal-represented command words in plural prearranged patterns;
- signal-controlled means for providing signal-represented command words to said control unit from said command source means; and
- means settable to alternatively permit and prevent the passage of said interrupt signals from each of said sense means to said signal controlled means thereby to alter the program of operation of said computer accordingly upon the occurrence of a predetermined signal-represented word in one of said active register locations.

3,193,667
ERROR CHECKING CIRCUIT FOR ELECTRONIC COUNTERS

George Sanderson Walker, Edinburgh, Scotland, assignor to Ferranti, Limited, Hollinwood, Lancashire, England, a company of Great Britain and Northern Ireland
Filed Nov. 6, 1961, Ser. No. 150,502
Claims priority, application Great Britain, Nov. 15, 1960, 39,121/60
7 Claims. (Cl. 235—153)

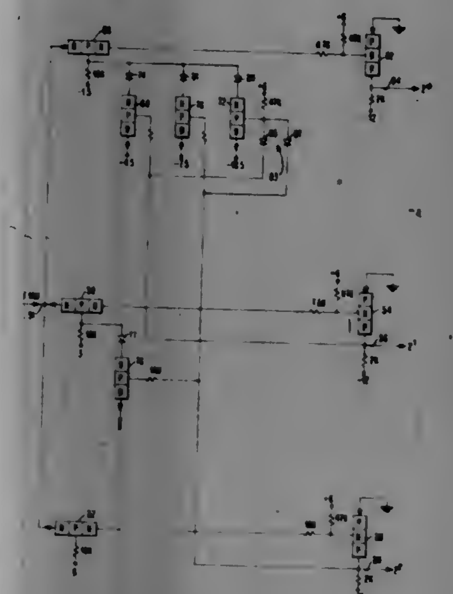


1. Apparatus for checking an electronic counter of electrical pulses which operates on a scale N over at least two powers of N and has for each power of N to the limit required an array of N digit-representing stages including
- (a) a first scale-of-*m* residue computer, where *m* is an integer such that the residue of N to modulus *m* is unity, for producing at any given moment a first computed signal to represent the residue to modulus *m* of the algebraic total of pulses delivered to the counter up to that moment,
- (b) each array of the counter including a residue network arranged to produce at any given moment an array residue signal to represent the residue to modulus *m* of the digit held in that array at that moment,
- (c) a second scale-of-*m* residue computer to which the array residue signals are supplied by said residue networks for producing at any given moment a second computed signal to represrent the residue to modulus *m* of the algebraic sum of the residues represented by the array residue signals at that moment, the sign of the residue derived from each array of an odd-numbered power of N being negative where the said unity residue is negative, and
- (d) a comparator to which the first and second computed signals are supplied by said computers, said comparator being operative to compare said signals and to derive a response when the residues represented by them are unequal.

3,193,668
ANALOGUE TO BINARY CONVERSION APPARATUS

Genung L. Clapper, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 21, 1961, Ser. No. 161,183
2 Claims. (Cl. 235—154)

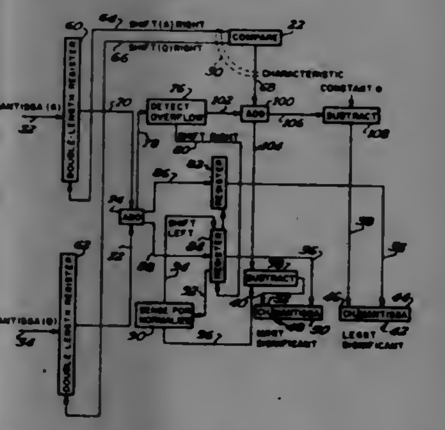
1. An analogue to binary conversion apparatus comprising:
- (a) an input to which an analogue voltage is applied;
- (b) a plurality of NPN output transistors having their emitter directly connected to said input, each having an output from their collector representing an order of a binary series 2^0, 2^1, . . . 2^n and each being controled to represent a "0" or "1" in said order represented;
- (c) means for biasing the base of each NPN output transistor whereby the output of each represents a zero in its corresponding order, said biasing means for each output transistor being of a magnitude proportional to the order of said output transistor;
- (d) transistor switching devices connected in shunt relation to each biasing means wherein each output transistor has $2^{n-k}-1$ switching transistors where *n* is binary order and *k* is the order of said output transistor;
- (e) a source of voltage connected to each switching transistor the magnitude of which is equal to the sum of the bias voltage of the associated transistor plus the magnitude of the bias voltage of a higher order output transistor;



- (f) means for connecting one switching transistor associated with each output transistor to the output of each higher order output transistor whereby the switching transistor will establish its associated source of voltage at its associated output transistor when said higher order output transistor indicates a binary "1";
- (g) a combination switching transistor for each output transistor at least two orders lower than the highest binary order represented by said series of output transistors; and
- (h) means connected to said combination switching transistor and responsive to combinations of higher order representative of binary 1 to bias said combination transistor to conduction whereby the magnitude of said input analogue is converted to a binary indication representative of the magnitude at the outputs of said output transistors.

3,193,669
FLOATING POINT ARITHMETIC CIRCUIT

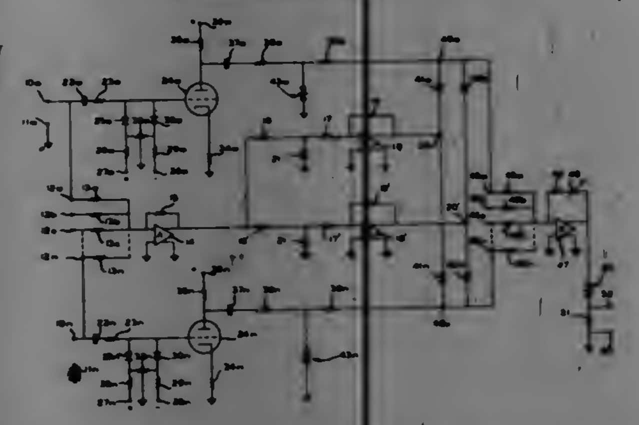
Irvin V. Voltin, Delano, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 26, 1961, Ser. No. 105,762
8 Claims. (Cl. 235—164)



3. A circuit for use with a floating-point adder circuit, comprising: first N stage shiftable storage register means responsive to the adder circuit for storing the most signif-

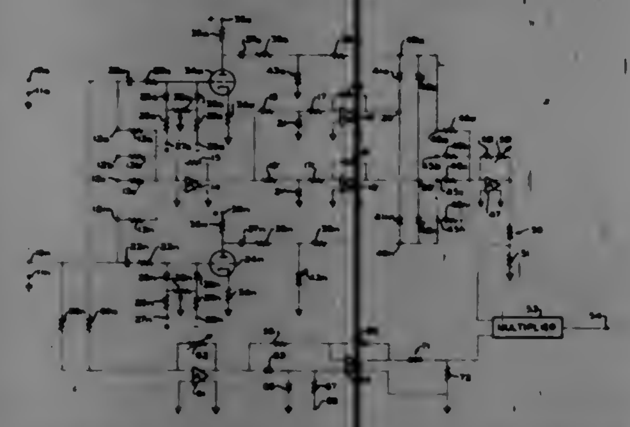
icant half of the sum of the mantissas; second N stage storage register means responsive to said adder circuit for storing the least significant half of said sum; means for sensing the most significant bit of said first register means and for shifting the contents of said first register means a number of stages until said most significant bit is of a first predetermined value; means for generating a characteristic for said sum; first subtracting means responsive to said sensing means for subtracting from said sum characteristic the number of stages so shifted; third register means including N stages for storing the shifted contents of said first register means and M stages for storing said first subtracted characteristic; second subtracting means for subtracting N from said sum characteristic; fourth storage register means including N stages for storing the contents of said second register means and M stages for storing said second subtracted characteristic.

3,193,670
SIGNAL IDENTIFICATION
Joe P. Lindsey, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 11, 1961, Ser. No. 130,919
4 Claims. (Cl. 235—193)



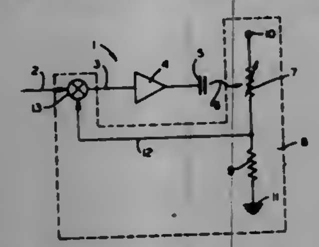
1. Apparatus for measuring common information in a plurality of signals comprising first and second signal summing means, said first summing means being adapted to receive said plurality of signals as inputs; a plurality of signal comparing means, each adapted to transmit a signal when input signals thereto are in phase; means connecting the output of said first summing means as a first input to each of said comparing means; means connecting said plurality of signals as second inputs to respective ones of said comparing means; and means connecting the outputs of said comparing means to the input of said second summing means.

3,193,671
SIGNAL IDENTIFICATION
Joe P. Lindsey, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Mar. 19, 1962, Ser. No. 180,779
5 Claims. (Cl. 235—193)



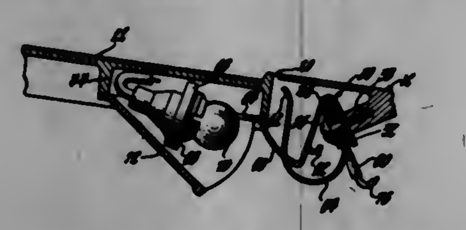
1. Apparatus for measuring common information in a plurality of signals comprising first and second signal summing means, said first summing means being adapted to receive said plurality of signals as inputs, a plurality of signal comparing means, each adapted to transmit a signal when input signals thereto are in phase, means connecting the output of said first summing means as a first input to each of said comparing means, means connecting said plurality of signals as second inputs to respective ones of said comparing means, means connecting the outputs of said comparing means to the input of said second summing means, a signal multiplier, means connecting the output of said second summing means to the first input of said multiplier, third signal summing means, means to apply said plurality of signals to the input of said third summing means, and means connecting the output of said third summing means to the second input of said multiplier.

3,193,672
SOLID STATE COMPUTER
Victor Azgapetian, Santa Barbara, Calif., assignor to Servomechanisms, Inc., Hawthorne, Calif., a corporation of New York
Filed Mar. 28, 1960, Ser. No. 18,028
8 Claims. (Cl. 235—194)



1. In an electronic computer, a solid state closed servo loop including a voltage amplifier; means for supplying a command voltage to said amplifier; electroluminescent means energized by the output of said amplifier and emitting light varying in intensity in relation to said command voltage; and feedback control means supplying an error signal to said amplifier including voltage dividing means having a photoconductive element optically coupled uninterruptibly to said electroluminescent means and responsive to the intensity of said light, means for isolating said photoconductive element from extraneous light, a source of excitation voltage applied across said voltage dividing means for developing a feedback voltage varying in relation to the conductivity of said photoconductive element, and summing means for comparing said feedback voltage with said command voltage and for producing said error signal.

3,193,673
ILLUMINATED VEHICLE COMPARTMENT WITH CLOSURE OPERATED LIGHT SWITCH
Russell L. Herring, Grosse Pointe Woods, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Nov. 19, 1962, Ser. No. 238,379
5 Claims. (Cl. 240—7.1)



1. In combination with a vehicle body member forming a compartment having an access opening closable by a lid member hinged for swing between closed and opened positions and having a courtesy light adapted to light the interior of the compartment, a combined hinge and switch assembly comprising

a first hinge member secured to the body member at one side of the access opening,

a second hinge member secured to the lid member and pivotally connected to the first hinge member,

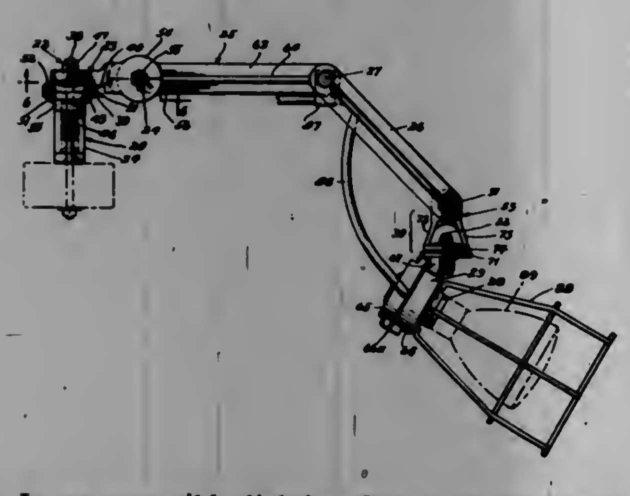
said hinge members being electrically grounded to the vehicle body and one of the hinge members forming a grounded switch contact edge parallel to and slightly spaced from the pivotal connection between the hinge members,

a contact leaf spring member having one end mounted on and electrically insulated from the other of said hinge members,

said leaf spring member having an unsupported end portion normally spaced from the ground switch contact when the lid member is in its closed position and being resiliently deflected and slidable on the grounded switch contact as the lid member is moved between intermediate and fully opened positions,

and circuit means including a vehicle body grounded source of electrical potential connected in series through the courtesy light to the contact leaf spring whereby the leaf spring grounds the electrical circuit to energize the courtesy light as the lid member is moved between its intermediate and fully opened positions and opens the circuit therethrough to deenergize the light as the lid member is moved between its intermediate opened and closed positions.

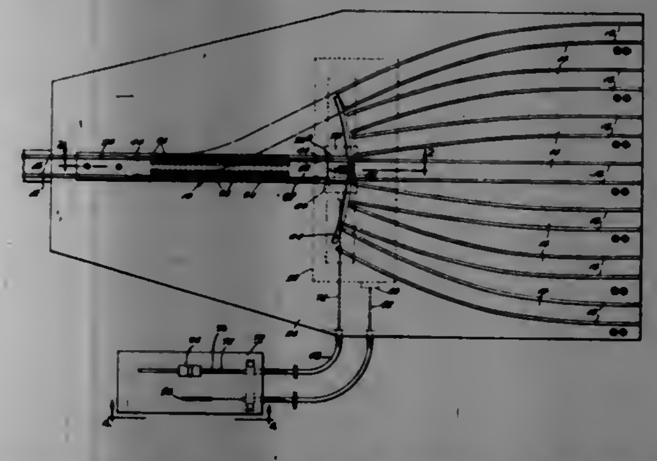
3,193,674
EXTENSIBLE LIGHT FIXTURE
Theodore Samuel Fleming, 1912 Harte Road, Jenkintown, Pa.
Filed Oct. 31, 1961, Ser. No. 148,883
10 Claims. (Cl. 240—52)



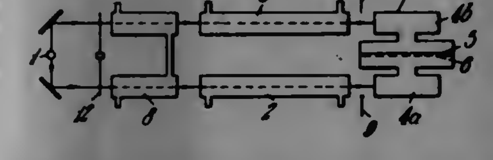
1. In an extensible lighting fixture of the type having articulated arm elements extending between a fixed base and a movable light receptacle, a pivotal mounting carried by the fixed base and incorporating structure affording an axis for an angular pivot, pivotal connections outboard of said angular pivot axis for segments of the articulated arm structure affording oscillating pivot axes for a plurality of oscillating pivots, all of which axes are normal to a plane containing the pivot axis first mentioned, the inboard segment of said articulated arm structure also being configured to rotate about said angular pivot axis, and mounting means connecting the outboard end of the arm structure to the light receptacle and providing a second angular pivot axis which parallels the same plane as the pivot axis first mentioned, regardless of the position of adjustment of said articulated arm structure.

3,193,675
MARSHALLING SWITCH
George L. Parkes, Lyon Station, Pa., and Richard J. Parkes, 113 W. Main, Kutztown, Pa.
Filed Aug. 11, 1960, Ser. No. 49,032
6 Claims. (Cl. 246—415)

1. Apparatus of the type described, comprising a base, a feeder track section mounted on said base, a plurality of siding track sections each having spaced trackways mounted on said base, a connecting track section having one end positioned in registry with said feeder track section and having its opposite end selectively movable and adapted to be positioned in registry with any one of said plurality of siding track sections, a carriage mounted beneath said base movable in a direction generally transverse to said siding track sections and connected to said opposite end of said connecting track section operable to position said end in registry with any one of said siding track sections, means to move said carriage in said transverse direction, a latch mounted in said carriage, an elongated bar having grooves therein corresponding in number to the number of siding track sections and spaced along the bar so that the connecting track is in registry with a particular siding track section when the latch engages a corresponding one of said grooves, means for selectively engaging said latch within a selected one of said grooves whereby said connecting track is maintained in registry with said selected one of said siding track sections, at least one indicator lamp for each of said siding track sections, circuit means connecting said lamp to a source of electrical power, a spring biased spear mounted in each of said grooves to close said circuit for a lamp of a given one of said siding track sections when said connecting track section is locked in registry with said given siding track section.



3,193,676
INFRA-RED GAS ANALYSERS
John Smart, Newcastle-upon-Tyne, England, assignor to Sir Howard Grubb Parsons & Company Limited, Newcastle-upon-Tyne, England
Filed Nov. 26, 1962, Ser. No. 240,041
Claims priority, application Great Britain, Dec. 15, 1961, 45,062/61
6 Claims. (Cl. 250—43.5)



1. An infra-red gas analyser comprising a source of radiation, means directing said radiation into a sample beam path and a reference beam path, a cell containing a sample gas under test located in said sample path, a detector comprising means defining a chamber, a diaphragm dividing said chamber into two separate compartments, a fixed electrode located adjacent said diaphragm one compartment receiving radiation from the sample path and the other compartment receiving radiation from the reference path, a first gas located in both compartments, said first gas being identical with a gas whose presence in the sample gas is to be measured, an additional gas located in both said compartments, said additional gas having a region of absorption different

from that of any of the gases present in the sample gas, a balancing shutter in one beam path, filter means insertable in at least the sample path during checking periods only, said filter means being arranged to absorb all the wavelengths capable of being absorbed by gas to be determined in the sample but to transmit the wavelengths capable of being absorbed by said additional gas in the detector, and a rotating-shutter interrupting both beam paths intermittently between the source and the detector.

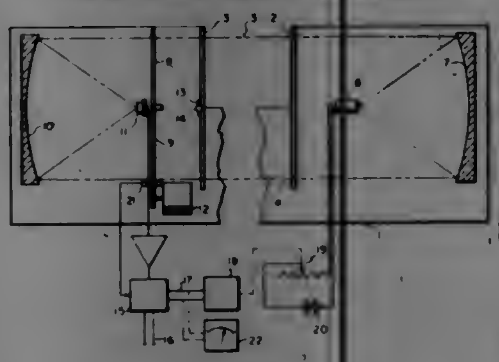
3,193,677

SELF-CALIBRATING TWO PATH INFRARED GAS ANALYZER HAVING ONE ENCLOSED PATH

Thomas F. McHenry, Norwalk, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed May 21, 1963, Ser. No. 282,096

5 Claims. (Cl. 250—43.5)



1. In an infrared gas analyzer comprising in combination and in optical alignment, a source of infrared radiation, two paths, at least one of them being enclosed, said paths being of substantially equal effective cross-section and capable of containing different constituents, means for forming beams from said infrared source and for directing them through the paths, an infrared detector and two filtering means, one of which passes a band of infrared radiation containing a strong absorbing band of a predetermined chemical capable of existing in one path, means for imaging the two beams alternately through each filter onto the detector at a predetermined alternating frequency by relative rotation of paths and filters, and means connected to the output of said detector and responsive at the frequencies of said alternation of the beams and in phase therewith, the improvement which comprises,
   (a) a relatively opaque vane movable to bridge the axis of symmetry of the paths and on one side only of the center of rotation of the filters and paths, whereby an A.C. signal in quadrature to the output signal is produced when the filters become unbalanced to produce a signal in the absence of the predetermined chemical, and
   (b) means for adjusting the position of the vane until no signal is produced in phase with the output signal.

3,193,678

METHOD OF IMPROVING PROPERTIES OF AN ALLOY BY RADIATION

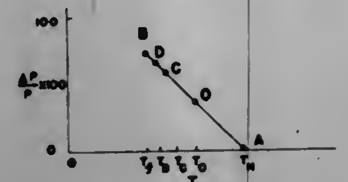
Arthur C. Damask, Margate, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Aug. 14, 1962, Ser. No. 217,782

6 Claims. (Cl. 250—49.5)

(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method for increasing the value of the order of an alloy which exhibits an ordered arrangement of atoms, said alloy being one in which atomic diffusion occurs by a vacancy mechanism, and for which there is a theoretically producible equilibrium degree of order at any particular temperature, and for which there is an atomic freezing-in temperature below which heat alone imparted to said alloy will not produce said equilibrium degree of order, and for which there is a vacancy freezing-in temperature below which no treatment given said alloy will produce said equilibrium degree of order, the method comprising the steps including; holding the temperature of a piece of said alloy above said vacancy freezing-in temperature while irradiating said zone with electromagnetic rays having an energy of at least 0.1 mev. until the degree of order of said alloy approaches a predetermined percentage of the equilibrium degree of order at said holding temperature.



3,193,679

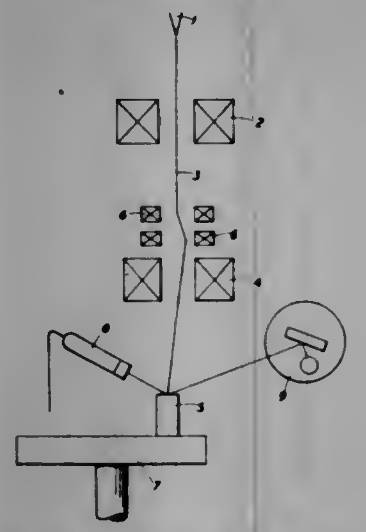
ELECTRON PROBE APPARATUS FOR COUNTING THE NUMBER OF INCLUSIONS IN A SPECIMEN

David Austin Melford and Keith Richard Whittington, Cambridge, England, assignors to T.I. (Group Services) Limited, Birmingham, England, a British company

Filed Apr. 24, 1963, Ser. No. 275,287

Claims priority, application Great Britain, Apr. 24, 1962, 15,481/62

3 Claims. (Cl. 250—49.5)



1. Apparatus for counting the number of inclusions in the surface of a specimen of material, said apparatus comprising: electron-beam-forming means; means for causing said beam to scan an area of the surface of the specimen by causing the beam to pass successively over adjacent lines of the area; means for detecting the back-scatter of electrons from said surface as the beam scans the surface; means for deriving a signal which varies in accordance with the changes in the intensity of the detected back-scatter; means for recording said signal; means for comparing that part of said signal resulting from each scanned line with that part of the recorded signal resulting from the previously scanned line; means for producing a response when significant differences in the two said parts of the signal occur; and means for counting half the number of such responses, the number counted thus being equal to the number of inclusions.

3,193,680

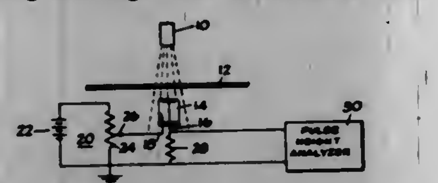
THICKNESS MEASUREMENT USING ALPHA PARTICLES

Herbert L. Anderson, 4923 Kimbark Ave., Chicago 15, Ill.

Filed Oct. 6, 1960, Ser. No. 60,860

2 Claims. (Cl. 250—83.3)

1. A method of measuring the thickness of a substance, comprising passing alpha particles through a substance to be measured, detecting the energy spectrum of the alpha particles passing through the substance, and employing any shift in the energy spectrum of the alpha particles to indicate the thickness of the substance.



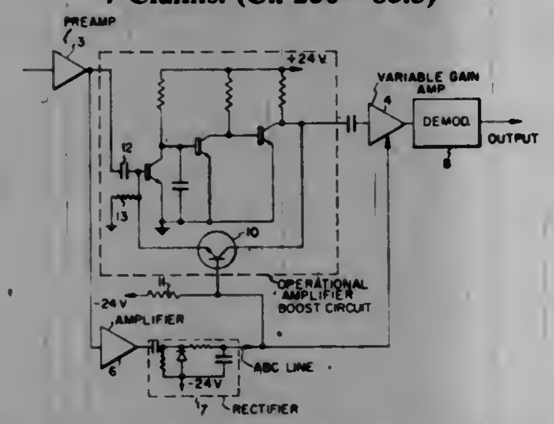
3,193,681

ELECTRONIC PROCESSING CIRCUITS FOR SCANNING SYSTEMS

Frank Schwarz, Stamford, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed Nov. 28, 1961, Ser. No. 155,439

7 Claims. (Cl. 250—83.3)



1. In an instrument scanning across a radiation discontinuity with a detector having a time constant substantially longer than the scanning time across the discontinuity which therefore produces a signal in the form of trapezoidal pulses, the instrument requiring for precise indication a substantially rectangular pulse form, the improvement which comprises processing circuits including
   (a) amplifying means having an input circuit for the trapezoidal pulses,
   (b) a circuit having varying degrees of discrimination in favor of high frequencies,
   (c) means for varying said high frequency discrimination, and
   (d) amplified input signal actuating means for actuating said high frequency discrimination varying means whereby the discrimination in favor of high frequencies increases with increasing input signal.

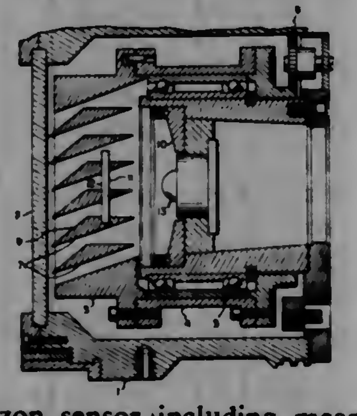
3,193,682

NARROW WAVELENGTH RANGE HORIZON SENSORS

Morris Weiss, Stamford, Conn., assignor to Barnes Engineering Company, Stamford, Conn., a corporation of Delaware

Filed Oct. 12, 1962, Ser. No. 230,130

8 Claims. (Cl. 250—83.3)



1. In a horizon sensor including means for scanning across the horizon and an infrared detector the improvement which comprises a reststrahlen mirror absorbing wavelength shorter than about 14μ and reflecting as reststrahlen longer wavelengths, the mirror being positioned to receive radiation from the scanning means and to reflect its reststrahlen onto the detector.

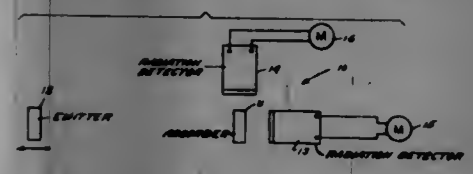
3,193,683

MEASURING SYSTEM USING THE RESONANT ABSORPTION OF GAMMA RAYS

Leonard Reiffel, Chicago, Ill., assignor to IIT Research Institute, a corporation of Illinois

Filed May 23, 1960, Ser. No. 30,983

18 Claims. (Cl. 250—106)



1. In a system for detection of changes in a certain variable, a resonant absorber of such material as to resonantly absorb gamma rays within a certain narrow frequency range, a radio-active emitter effective through intra-nucleus reaction to emit and transmit to said absorber gamma rays having a certain effective frequency at said absorber, and a detector for measuring the absorption of gamma rays by said resonant absorber, the difference between said effective frequency and the mid-frequency of said narrow frequency range being affected by certain parameters including the relative temperatures and relative magnetic field strengths at said emitter and absorber, the relative speeds of movement of said emitter and absorber and relative stress conditions in said emitter and absorber, three of said parameters being substantially constant and said certain variable being a function of the other of said parameters.

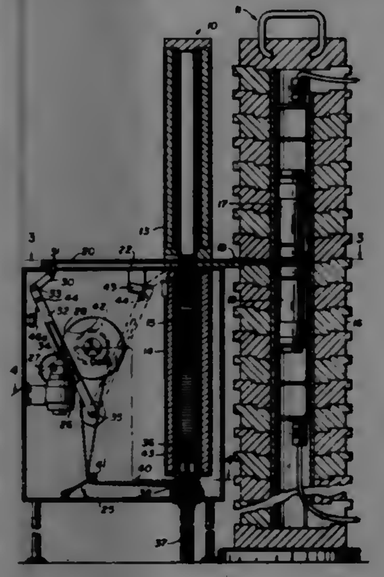
3,193,684

AUTOMATIC SAMPLE CHANGER

Peter F. Kingston, Deep River, Ontario, Canada, assignor to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a corporation of Canada

Filed July 21, 1961, Ser. No. 125,735

7 Claims. (Cl. 250—106)

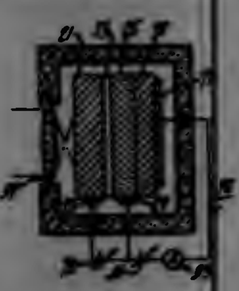


1. Apparatus for transporting a radioactive sample from a storage station to a counting station where radiation from the sample is to be counted, comprising drive means, axially aligned stationary, elongated first and second shielded storage chambers each adapted to store a stack of sample containing holders, an elongated slide having an aperture therein for receiving a sample containing holder, the slide being intermediate said first and second chambers and normal to the longitudinal axes thereof, the

slide being adapted to be moved to a storage position and a counting position, said aperture being in axial alignment with said first and second chambers when the slide is in its storage position and being at the counting station when the slide is in its counting position, transfer means under control of the drive means being adapted to transfer one sample containing holder from said first chamber to said aperture and another sample containing holder from said aperture to said second chamber whenever the slide is in its storage position, the drive means causing repetitive reversible linear motion of the slide between its storage and counting positions.

3,193,685
PHOTOSENSITIVE SUPERCONDUCTOR DEVICE

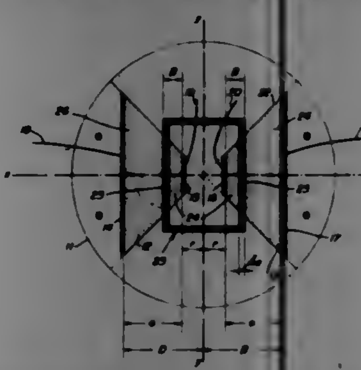
Elias Burstein, Narberth, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 1, 1961, Ser. No. 157,181
6 Claims. (Cl. 250—211)



1. An electronic device comprising an emitter composed of a superconductor, a thin electrically-insulating layer contacting said emitter, a base composed of a degenerate semiconductor of one conductivity type contacting said layer, a collector composed of a semiconductor of the other conductivity, type forming a P-N junction with said base, a first electrode contacting said emitter, a second electrode contacting said base, a third electrode contacting said collector, and means for directing electromagnetic radiation upon said emitter.

3,193,686
PHOTOSENSITIVE DETECTORS AND METHODS UTILIZING PHOTOSENSITIVE DETECTORS FOR POSITIONING ARTICLES

Alfred Heinz, Flemington, N.J., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed May 7, 1963, Ser. No. 279,681
4 Claims. (Cl. 250—211)



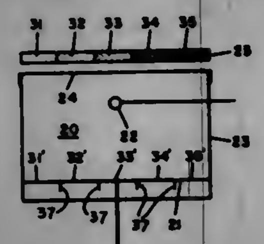
1. In an apparatus for positioning an article wherein a servo positioning system having a known dynamic response characteristic tending to cause a condition of servo hunting of the servo positioning system is controlled in response to the position of a pair of strips of illumination indicative of the position of the article, the combination comprising:

two photoconductve films upon which films the pair of strips of illumination are directed, the position of the pair of strips of light on the films being directly related to the position of the article, the films being symmetrically formed about coordinate axes (x,y) with opposed side edges converging toward said x-axis and having opposed end edges, the distance (y) from the x-axis of any point on a side edge being a function of the distance along the x-axis from the origin of the coordinate axes (x,y); and

means connecting the respective end edges of each photoconductive film for generating an output signal to operate said servo positioning system, said output signal being proportional to the position of the strips of illumination on the films, the films being positioned relative to the article so that the output signal from each film will be the same when the article is in a predetermined position, and the relationship between the distance (y) of a point on a side edge with respect to its distance (x) from the origin of the coordinate axes (x,y) being chosen so that the output signal from the films compensates for the known dynamic response characteristics of the servo positioning system to eliminate servo hunting of the system.

3,193,687
NONLINEAR ELECTRO-OPTICAL SYSTEM

Charles R. Hatcher, Santa Barbara, Calif., assignor to Edgerton, Germeshausen & Grier, Inc., Boston, Mass., a corporation of Massachusetts
Filed May 4, 1962, Ser. No. 192,535
20 Claims. (Cl. 250—216)



1. A nonlinear electro-optical system that comprises:

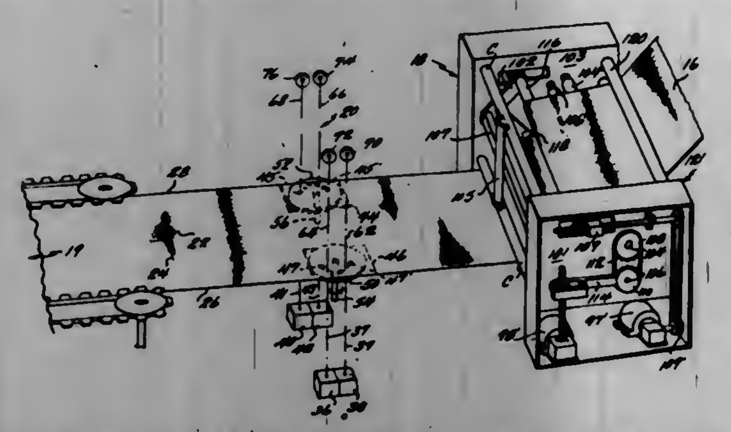
a photosensitive device having an electrode that normally would be driven to current saturation by light impinging upon the active area of said device, said light having a range of intensities above the maximum intensity that will not drive said electrode to current saturation; and

an optical filter interposed between said impinging light and said active area, said optical filter having a density increasing from a first density that will permit current saturation of a corresponding part of said electrode by said light to higher densities that will permit parts of said electrode to respond to said light without being current saturated.

3,193,688
PHOTOSENSITIVE WEFT STRAIGHTENER AND ALIGNMENT DETECTOR

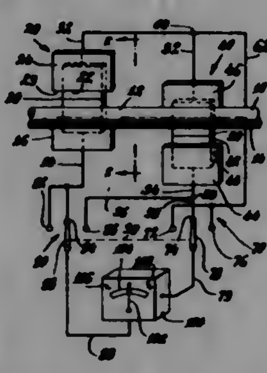
Humphrey Morton, Danville, Va., and Frank W. Leitner, Charlotte, N.C., assignors to American Cloth-Strait Company, Charlotte, N.C., a corporation of North Carolina
Filed Dec. 22, 1960, Ser. No. 77,568
13 Claims. (Cl. 250—219)

7. A system for determining the number of weft threads in a traveling piece of woven fabric which pass a station along the path of travel thereof, comprising a table at said station, said table having a pair of windows therein over which said fabric passes, said windows angularly disposed with respect to each other forming an angle which is bisected by a line running through its apex and normal to said path of travel, said windows being spaced along the path of travel, a plurality of light sources one for each of said windows, a plurality of optical apparatuses for converting said light sources to bands of light which pass through said windows respectively as traveling beams of light, a plurality of discs rotated synchronously with the speed of travel of said fabric and each having equally spaced radial apertures therein, said discs disposed between said light sources and said fabric path of travel respectively and placed such that said apertures traverse said windows causing the traveling beams of light of identical speed to strike said fabric via each of said windows, light-sensitive means operatively associated with each of said windows and responsive to the light beams as they are interrupted by the threads, and means responsive to the number of interruptions to develop weft misalignment corrective signals when said interruptions are different in the respective windows of each pair.



3,193,689
PHOTOSENSITIVE WIRE DIAMETER GAUGE

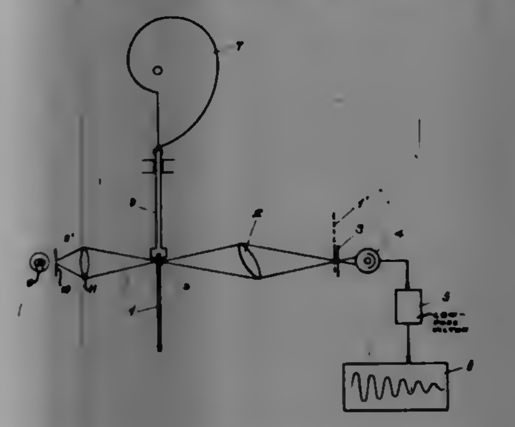
Maxwell A. Kerr, Ridgefield, Conn., assignor to The Perkin-Elmer Corporation, Norwalk, Conn., a corporation of New York
Filed Mar. 24, 1961, Ser. No. 98,096
8 Claims. (Cl. 250—219)



1. A highly sensitive width gauge for determining the distance between opposite lateral edges of an elongated article, which is moving in the direction of its longitudinal axis, comprising: at least one light source, positioned on one side of said article so as to illuminate an area including a part of each of said lateral edges; two photosensitive devices on the side of said article remote from said light source and with their photosensitive surfaces facing said light source; each of said photosensitive devices being of the type which produces an output voltage varying by both sign and magnitude according to the part and extent of the photosensitive surface which is illuminated; one of said photosensitive devices being so positioned and oriented relative to one longitudinal edge of said article that movement of said one edge toward and away from the longitudinal center line of said article causes the change in the output voltage of said one device to have a first electrical polarity and a second opposite electrical polarity, respectively; the other of said photosensitive devices being so positioned and oriented relative to the other edge of said article that movement of said other edge toward and away from said article center line causes the change in the output voltage of said other device to have a third and fourth electrical polarity, respectively, said fourth polarity being opposite to said third polarity; voltage responsive means for indicating the output of said photosensitive devices; and circuit means connecting said photosensitive devices to said voltage responsive indicating means in such manner as to cause said indicating means to respond only to a particular linear arithmetic combination of said first and third polarity voltages and the same linear arithmetic combination of said second and fourth polarity voltages, but to the opposite linear arithmetic combination of said first and second polarity voltages and of said third and fourth polarity voltages; said particular and said opposite arithmetic combinations being such that movement of both said edges of said article toward and away from said center line cause additive effect of said output voltages on said indicating means, but movement of either of said edges toward said center line while said other edge moves away from said center line causes an effect on said indicating means proportional to the difference of said output voltages, so that said indicating means is insensitive to any transverse movement of said article but will indicate any actual change in width of said article even though it be moving transversely also.

3,193,690
METHOD OF AND APPARATUS FOR MEASURING OF THE CONTRAST-TRANSMISSION FUNCTION OF AN OPTICAL SYSTEM

Kazumi Murata and Hiroyuki Matui, both of Osaka-fu, Japan, assignors to Agency of Industrial Science and Technology, Tokyo, Japan, a corporation of Japan
Filed Mar. 22, 1960, Ser. No. 16,733
Claims priority, application Japan, Mar. 26, 1959, 34/9,271
4 Claims. (Cl. 250—232)



2. An apparatus for measuring the performance of an optical system, particularly as a lens, comprising

a rectangular wave template,

a member defining a slit,

a lens positioned between said template and said slit and receiving light passing through said template and directed onto said slit,

a photoelectric cell receiving light passing through said slit,

means for moving said rectangular wave template in a plane to provide a scanning motion and at such a rate that the scanning speed is changed in response to the changing spatial frequency of said moving template, whereby the electrical rectangular wave signal output from said photoelectric cell is of constant time frequency,

a filter removing harmonics from said rectangular wave signal and transforming the latter to sinusoidal form, and

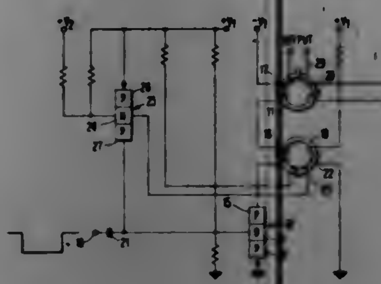
means for displaying the final sinusoidal signal to view its amplitude and phase.

ERRATUM

For Class 307—64 see:
Patent No. 3,193,705

3,193,691
DRIVER CIRCUIT

Ivars G. Akmenkalns, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 23, 1959, Ser. No. 861,622
1 Claim. (Cl. 307—88)

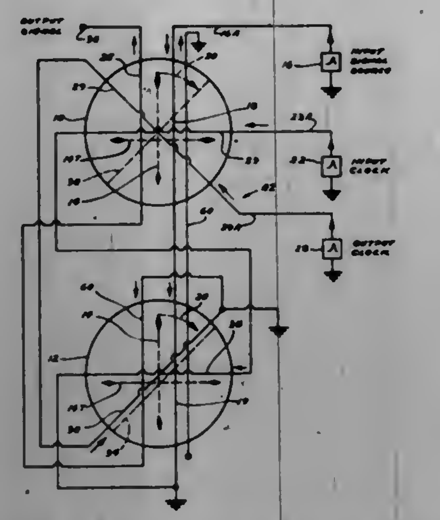


A driver circuit comprising, in combination, first and second transistor amplifiers each having an input and an output, a first saturable magnetic core having an input winding, a reset winding and an output winding, a second magnetic core having an input winding, a feedback winding and a bias winding having a bias current flowing therethrough, said input windings of said cores being connected in series, the output of said first amplifier being serially connected to said input windings, means for receiving a first signal at the input of said first amplifier for activating said amplifier to develop a current for switching or shifting said first core from a first to a second magnetic state to provide a signal through its output winding, said input winding of said first core presenting a relatively high impedance to said first amplifier during the switching time of said core, the current in the biasing winding inhibiting said second core from shifting magnetic states during the switching time of said first core, the impedance of said input winding of said first core decreasing after said first core shifts magnetic states to permit sufficient current to flow through said series input windings to cause said second core to shift magnetic states, said feedback winding developing a signal when said second core shifts, means connecting said feedback winding to the input of said second amplifier to cause the feedback signal to activate said second amplifier, means connecting the output of said second amplifier to the input of said first amplifer, said second amplifier when activated by said feedback signal providing a signal to deactivate said first amplifier, current through said bias winding resetting said second core when said first amplifier is deactivated, and said reset winding of said first core being energizeable to reset said first core.

3,193,692
MAGNETIC THIN FILM AMPLIFIER

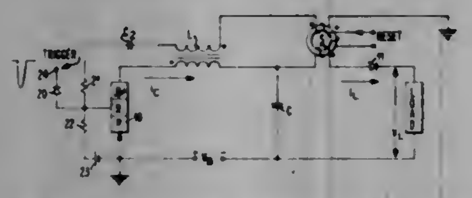
William W. Davis and William M. Overn, Minneapolis, Minn., and Arthur V. Pohm, Ames, Iowa, assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 6, 1960, Ser. No. 20,397
10 Claims. (Cl. 307—88)

1. A magnetic amplifier comprising two independent ferromagnetic elements each having single domain remanence and an easy and a hard magnetization axis, input winding means magnetically associated with each element along both the easy and hard magnetization axes respectively in first relative directions with respect to said elements axes for causing magnetization reversal in first rotational senses, output winding means magnetically associated with the elements hard axes respectively in said first direction in one element and opposite to said first direction in the other for respectively sensing magnetization reversals in rotational senses opposite to the first sense, and initial magnetization returning winding means magnetically associated with each element's easy magnetization axis in a second relative direction and with the hard axis in like relative directions to the output winding means for causing magnetization reversal in the elements by rotation respectively in said opposite senses.



3,193,693
PULSE GENERATING CIRCUIT

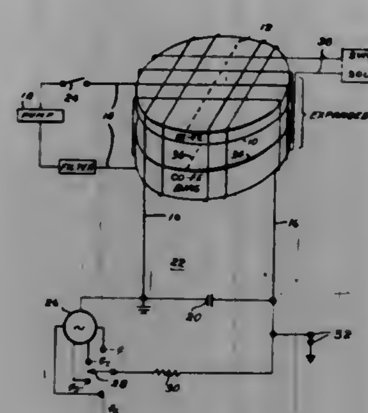
Donald R. Daykin, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 29, 1959, Ser. No. 862,568
1 Claim. (Cl. 307—88)



A pulse generating circuit comprising a potential source; a transistor; an inductive element; a first capacitor; a circuit for charging said first capacitor including said potential source, said transistor, said inductive element, and said first capacitor connected in series circuit arrangement; a load; a diode; a magnetic core type switching device having rectangular hysteresis loop properties; an input winding associated with said magnetic core being responsive to the charging of said first capacitor for setting said magnetic core in a given state of magnetic saturation; a biasing potential for said transistor; a second capacitor; a secondary winding associated with said inductive element; a secondary winding associated with said magnetic core; a control circuit for said transistor comprising said biasing potential, said second capacitor, and both of said secondary windings; means for applying a trigger pulse to said transistor to selectively render said charging circuit conductive, the voltages induced in both of said secondary windings serving to control the charge on said second capacitor in a manner that will maintain said charging circuit conductive for an interval sufficient to charge said first capacitor; a discharge circuit for said first capacitor including said first capacitor, said input winding, said diode, and said load connected in series circuit relationship, said input winding having a high impedance value during the time said capacitor is being charged and a low impedance value when said magnetic core is set in the given state of magnetic saturation to render said discharge circuit conductive and permit said capacitor to discharge into said load; said diode being operable to permit current flow in said discharge circuit in one direction only; a reset winding associated with said magnetic core; and means for applying a current pulse to said reset winding to restore said magnetic core to a state of magnetic saturation which is opposite to that of the given state of magnetic saturation.

3,193,694
PERMANENT SWITCHABLE PARAMETRIC DEVICE BIAS

Virgil A. Ehresman, Richfield, and Charles D. Olson, Dakota County, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed July 10, 1961, Ser. No. 122,922
8 Claims. (Cl. 307—88)

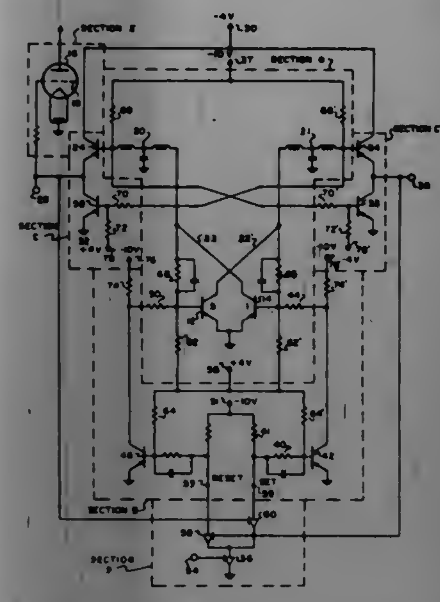


5. A phase locked parametric oscillator comprising a first bistable magnetic film having an easy magnetization axis and an oscillatable magnetization vector normally stable substantially along said axis in either of two opposite directions to represent two respective stable states, a second bistable magnetic film disposed biasingly adjacent said first film and having an easy magnetization axis substantially parallel to the axis of said first film and an effective magnetization vector resting substantially along the said second film's magnetization axis in a given one of its opposite directions and switchable therebetween for biasing the said first film's magnetization vector toward one or the other of its said two directions, a tank circuit including an output line coupled to said first film, and means for causing oscillations in said tank circuit including means for selectively coupling to said tank circuit first or second control signals which are 180° out of phase with each other for causing the oscillations in the tank circuit to be in phase with the selected one of said control signals when said second film biases the magnetization vector of said first film towards a given one of its said two directions or, when the first film's magnetization vector is biased by the second film toward the other of its said two directions, to be out of phase with the selected control signal by substantially 90° in the same direction regardless of which of the first or second control signals is selected, whereby said tank circuit oscillations can be in any one of four different phases substantially 90° apart.

3,193,695
BISTABLE CIRCUITS

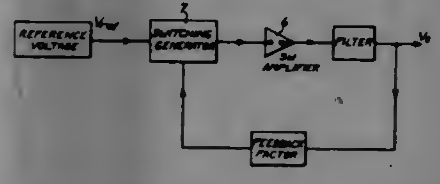
Joseph E. Monahan, Framingham, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 1, 1960, Ser. No. 12,009
3 Claims. (Cl. 307—88.5)

1. A bistable circuit having: first and second transistors cross connected in flip-flop relationship; first and second sources of reference potential; first and second current polarized switching devices; first and second output terminals; each of said switching devices including a first switch connected between one of said terminals and said first source of reference potential and a second switch connected between said same terminal and said second source of reference potential, said first switch and said second switch in each of said switching devices and said first and second transistors all being of the same polarity; means operable by said first transistor for controlling said first switch in said first switching device and said second switch in said second switching device; and, means operable by said second transistor for controlling the second switch of said first switching device and said first switch in said second switching device.



3,193,696
VOLTAGE REGULATION EMPLOYING A TIME BASE MODULATED AMPLIFIER

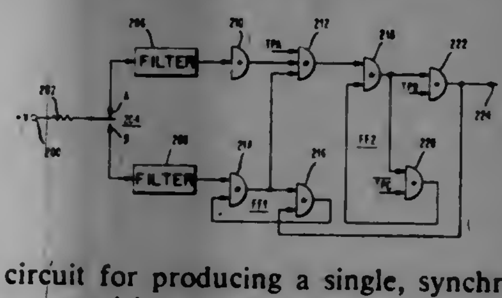
Wesley K. Waldron, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Feb. 23, 1962, Ser. No. 175,130
10 Claims. (Cl. 307—88.5)



1. A time base modulation amplifier circuit comprising an amplifier means normally operating alternately in fully conducting and non-conducting states, means for developing an intermittent reference voltage, switching means connected to an output of said intermittent reference voltage means and an output of said amplifier means for comparing said intermittent reference voltage and output voltage of said amplifier means and adapted to develop a signal dependent on the relationship of the compared voltages, output of said switching means being coupled to an input of said amplifier means, said signal thereby effecting switching operation of said amplifier means from one state to the other.

3,193,697
SYNCHRONIZED SINGLE PULSER

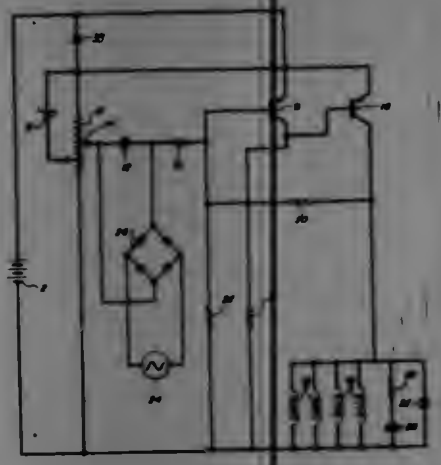
George R. Cogar, Doylestown, and Torkjell Sekse, Norristown, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 6, 1962, Ser. No. 235,754
13 Claims. (Cl. 307—88.5)



1. A circuit for producing a single, synchronized output pulse comprising, input means,
first gate means selectively connectable to said input means,

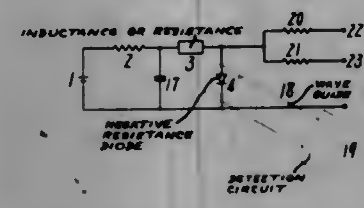
second gate means connected to said first gate means and adapted to receive control signals from control signal supplying means,
third gate means connected to said second gate means,
fourth gate means connected to said third gate means and adapted to receive control signals from control signal supplying means,
output means connected to said fourth gate means,
fifth gate means selectively connectable to said input means, said second gate means connected to said fifth gate means to receive signals therefrom,
sixth gate means connected to said fifth gate means at two circuit locations to form a bistable circuit, said fourth gate means connected to said sixth gate means to supply thereto the same signals as are supplied to said output means,
and seventh gate means connected to said third gate means at two circuit locations to form a bistable circuit and adapted to receive control signals from control signal supplying means.

3,193,698
TRANSISTOR CONTROLLED SPEED SHUNT
Robert M. Henderson, Williams Bay, and Richard Zechlin, Beloit, Wis., assignors, by mesne assignments, to Fairbanks Morse Inc, New York, N.Y., a corporation of Delaware
Filed May 27, 1960, Ser. No. 32,243
4 Claims. (Cl. 307—88.5)



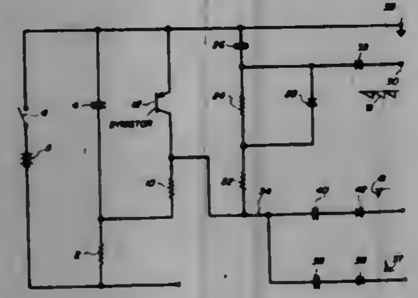
1. A switching circuit comprising first terminal means for connecting a source of fixed voltage thereto, a first transistor having collector, emitter, and base electrodes, the collector and emitter electrodes of said first transistor being connected in series with said first terminal means, electrically passive biasing means connected between said fixed voltage at said first terminal means and the base electrode of said first transistor, said biasing means and said fixed voltage operating to furnish a potential to bias said first transistor into an initial state of conduction, a second transistor having collector, emitter, and base electrodes, first electrically passive means connecting the base electrode of said second transistor to the collector electrode of said first transistor, whereby the emitter-collector current through said second transistor is controlled by the emitter-collector current through said first transistor, means connecting the emitter of said second transistor to a positive terminal of said fixed voltage source, whereby said second transistor is initially biased to cut-off, second terminal means for connecting a current controlled device in series between the collector electrode of said second transistor and a negative terminal of said fixed voltage source, third terminal means for connecting a source of variable voltage thereto, and second electrically passive means connected across a portion of said first biasing means for applying said source of variable voltage to the base of said first transistor, whereby said variable voltage is applied in opposition to the initial bias potential on said first transistor, and the conduction of said first transistor is varied at a predetermined amplitude of said variable voltage to cause an opposite variation in the conduction of said second transistor.

3,193,699
MEMORY UNIT USING A NEGATIVE RESISTANCE ELEMENT
Yasuo Komamiya, Kohoku-ku, Yokohama, and Takeji Sugiyama, Tokyo, Japan, assignors to Agency of Industrial Science and Technology, Tokyo, Japan, a corporation of Japan
Filed Jan. 24, 1961, Ser. No. 84,661
Claims priority, application Japan, Jan. 28, 1960, 35/2,303; Mar. 7, 1960, 35/6,969; Sept. 10, 1960, 35/37,543
3 Claims. (Cl. 307—88.5)



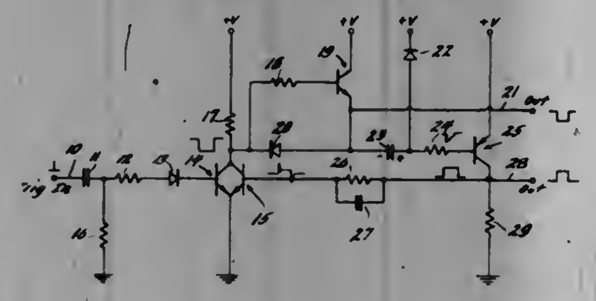
1. A memory unit including a negative resistance element capable of forming bistable states corresponding to 0.1 of a binary code, comprising
a negative resistance element,
means for supplying pulses for read out and for write in,
one of said pulses having an amplitude and time width sufficient to switch said negative resistance element from one of the bistable states to the other of the bistable states,
another of said pulses having an amplitude and time width sufficient to cause oscillation, but insufficient to switch said negative resistance element from one of the bistable states to the other of the bistable states,
a read out circuit,
a waveguide in communication with said negative resistance element for detecting radiated oscillations when the memory content is put in condition 1 of a binary code.

3,193,700
RAMP GENERATOR CIRCUIT EMPLOYING TWO CAPACITORS, ONE INCLUDING MEANS FOR RAPID DISCHARGING THEREOF
George A. Dean and Joseph G. Green, Beloit, and Robert M. Henderson, Williams Bay, Wis., assignors, by mesne assignments, to Fairbanks Morse Inc, New York, N.Y., a corporation of Delaware
Filed Feb. 23, 1961, Ser. No. 91,191
9 Claims. (Cl. 307—88.5)



1. A novel signal generating circuit comprising a source of energizing voltage, first capacitive circuit means connected across said source, normally open voltage sensitive switching means connected in shunt with said first capacitive circuit means, said voltage sensitive switching means being adapted to assume either a conductive or non-conductive state in accordance with the voltage applied thereto, second capacitive circuit means connected in shunt with said switching means, said first and second capacitive circuit means being connected to concurrently charge from said voltage source to render said switching means conductive and to subsequently discharge through said switching means upon the conduction thereof, means connected to said second capacitive circuit means operating to enable said second capacitive circuit means to discharge more rapidly than said first capacitive circuit means to provide a ramp output signal; and output circuit means connected to said second capacitive circuit means to receive said ramp output signal.

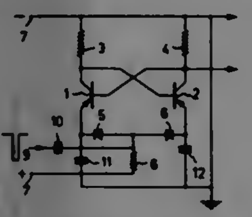
3,193,701
MONOSTABLE FLIP-FLOP CONSUMING CURRENT ONLY DURING PULSE FORMING
Davie B. Lawhon, Warminster, Pa., assignor, by mesne assignments, to United Aircraft Corporation, a corporation of Delaware
Filed Jan. 25, 1962, Ser. No. 168,708
11 Claims. (Cl. 307—88.5)



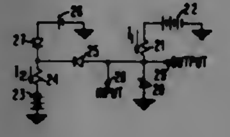
1. A one shot multivibrator comprising a pair of switching transistors of like conductivity type each having a pair of primary current conducting electrodes and a control electrode, said transistors having their primary current conducting electrodes connected in parallel and their control electrodes connected for separate energization, said pair of transistors being normally biased for nonconducting condition between their current conducting electrodes, a third switching transistor of opposite conductivity type and having a pair of current conducting electrodes and a control electrode, said third switching transistor being normally biased into nonconducting condition between its current conducting electrodes, means responsive to conduction by either one of the transistors of the pair for rendering said third transistor conducting and means including a capacitor interconnecting said control electrode of said third switching transistor with one of the primary current conducting electrodes of the pair of switching transistors, means for energizing said control electrode of one of the pair of transistors by an incoming pulse to render that switching transistor conducting, and feedback means interconnecting said third transistor with the other transistor of the pair for energizing the other of said pair of switching resistors into conducting condition responsively to the third switching transistor being rendered conductive, whereby all of said transistors are normally nonconducting and are rendered conducting responsively to an incoming pulse.

3,193,702
MEANS FOR CONTROLLING BISTABLE TRANSISTOR TRIGGER CIRCUITS
Wilhelmus Hubertus Louis Claessen, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 26, 1962, Ser. No. 190,373
Claims priority, application Germany, May 31, 1961, N 20,125
2 Claims. (Cl. 307—88.5)

1. A control circuit for a bistable trigger comprising: a bistable trigger circuit having two transistors, each of said transistors having base, emitter and collector electrodes, the base and collector electrodes of said two transistors being cross-coupled, a source of supply voltage, two semi-condoctor diodes each being connected in the forward direction between the emitter electrode of one of said transistors and a common point, a resistor connected between said common point and a terminal of said source having a potential which is forward directed with respect to said diodes and emitter electrodes, each diode having a recovery time. two capacitors each being connected between the junction point of the emitter electrode of one of said transistors and its associated diode and a point of constant potential, and a source of input control voltage pulses coupled across said resistor through a third capacitor, each input pulse setting up a reversely directed voltage step at said common point, each of said two capacitors having a valve such that the one of said two capacitors connected to the emitter electrode of the one of said transistors which was cut off prior to the application of a particular voltage pulse is fully charged through said transistor and upon application of said particular voltage pulse after termination of the recovery time of the diode which is connected to the emitter-electrode of the other transistor, said one capacitor acting to maintain said one transistor in the conductive condition until after the termination of the recover time of the diode connected to the emitter electrode of said other transistor.



3,193,703
BISTABLE BIASING OF TUNNEL DIODES
William G. Crouse, Endwell, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 31, 1962, Ser. No. 198,982
12 Claims. (Cl. 307—88.5)



1. An electrical circuit comprising
a tunnel diode having low and high voltage states,
first means including a first resistor connected to the diode for supplying a bias current of one predetermined value to the diode,
second means including the first resistor, a semiconductor element and a second resistor connected in series for supplying a bias current of a predetermined lower value to the diode, and
means including a semiconductor element connected to the junction between the first-mentioned semiconductor and the second resistor for rendering the first means and the second means effective when the diode is in its low and high voltage states respectively.

3,193,704
PULSE AMPLIFIER
Richard J. C. Chueh, Philadelphia, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 27, 1962, Ser. No. 213,065
5 Claims. (Cl. 307—88.5)

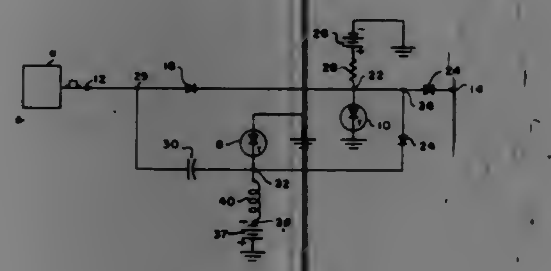
1. A pulse amplifier comprising:
a first junction;
a second junction;

means connected to said first junction and providing thereto a rectangular shaped input pulse having a leading and trailing edge;

first isolation means connected to said first junction;

bistable tunnel diode means connected between said first isolation means and said second junction, said bistable tunnel diode means being switched from a first state to a second state by the leading edge of said input pulse;

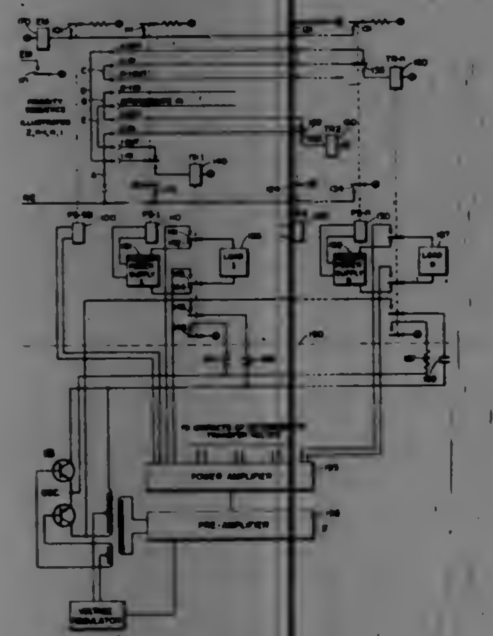
second isolation means connected to said second junction;



means connected between said first junction and said second isolation means including monostable tunnel diode means, said monostable tunnel diode means providing a reset pulse to said tunnel diode bistable means in response to the trailing edge of said input pulse to switch said tunnel diode bistable means from said second state to said first state;

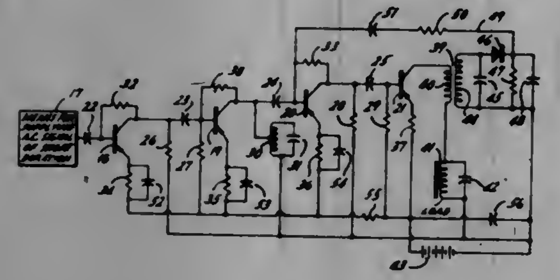
and output circuit means electrically connected to said second junction point, wherein an amplified replica of said input pulse appears on said output circuit means in response to the switching of said bistable means.

3,193,705
POWER SUPPLY TRANSFER CIRCUIT
Maurice H. Bland, Fairport, and Edwin Leetsch, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed May 4, 1962, Ser. No. 192,596
5 Claims. (Cl. 307—64)



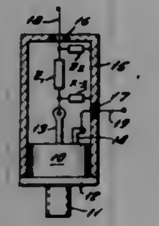
1. A system comprising a given plurality of primary power supplies each generating a tone signal of a predetermined frequency within a given tolerance, the predetermined frequency of the tone signal from at least one of said primary power supplies being different from the predetermined frequency of the tone signal of another one of said primary power supplies, separate individual loads corresponding to each of said primary power supplies, separate individual transfer switch means corresponding to each of said primary power supplies, each of said transfer switch means having a normal switching position and a transfer switching position, individual means for applying the tone signal from each primary power supply to its corresponding load only in response to its corresponding transfer switch means being in its normal switching position, failure means coupled to said plurality of primary power supplies for detecting the failure of a primary power supply to generate its tone signal of a predetermined frequency within said given tolerance and for causing said transfer switch means corresponding to a failed primary power supply to be switched from its normal position to its transfer position, and a standby power supply including an oscillator, separate normally disconnected individual frequency-determining means for said oscillator corresponding to each of said primary power supplies for causing said oscillator to generate a tone signal of the predetermined frequency of any primary power supply in response to the frequency-determining means corresponding to that primary power supply being connected to said oscillator, and means responsive to a transfer switch means being in its transfer switching position for connecting the frequency-determining means corresponding thereto to said oscillator and for connecting the output of said standby power supply to the load corresponding thereto.

3,193,706
SIGNAL RESPONSIVE LOAD ENERGIZATION SYSTEM
Edgar M. Creamer, Jr., Melrose Park, and Harry H. Wilson, Jr., Philadelphia, Pa., assignors, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 2, 1959, Ser. No. 856,825
3 Claims. (Cl. 307—88.5)



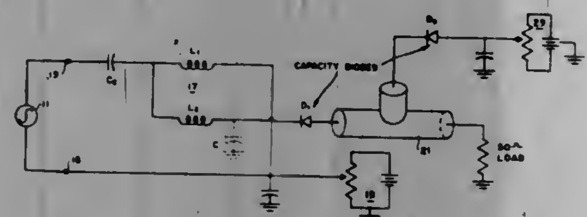
1. A system for operating a device such as a relay in response to an alternating current signal of short duration and for a predetermined time interval independent of the duration of said signal, comprising: a source of said signal, amplifier means connected to said source including at least two cascade-connected transistor stages, the transistors being of the same conductivity type, the first stage including a collector load resistor, the base of the second transistor being coupled to the collector of the first transistor so that the conductivity of the second transistor varies in inverse relation to variation of the conductivity of the first transistor, means for rendering both of said transistors normally conductive, a device to be operated connected in the emitter-collector circuit of the second transistor, means for rectifying the amplified signal in the latter circuit to produce a control pulse, a connection from said rectifying means to the base of the first transistor to effect turn-off of the first transistor by said control pulse, thereby to effect strong conduction of the second transistor and consequent operation of said device, and timing means for maintaining the strong conduction of said second transistor and the consequent operation of said device for a predetermined time interval irrespective of the duration of said signal.

3,193,707
RADIO FREQUENCY SHIELDED CONTROLLED RECTIFIER
Yigal Yanai, Hollywood, Calif., assignor to International Rectifier Corporation, El Segundo, Calif., a corporation of California
Filed Oct. 16, 1962, Ser. No. 230,816
3 Claims. (Cl. 307—88.5)



1. In combination; a silicon controlled rectifier having a plurality of electrodes extending therefrom, a shielding housing of conductive material enclosing said controlled rectifier, and a plurality of impedance elements within said shielding housing electrically connected from said electrodes to said shielding housing to define a filter network; said controlled rectifier having its own respective housing having an anode terminal extending therefrom; said anode terminal and said housing of said controlled rectifier being electrically and thermally connected to said shielding housing.

3,193,708
ASYNCHRONOUS PULSE GENERATOR EMPLOYING CAPACITY DIODES
Roland J. Turner, Bucks County, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Mar. 6, 1963, Ser. No. 263,364
2 Claims. (Cl. 307—88.5)



1. A pulse generating circuit comprising:

means for producing an input signal;

a transmission line transformer having primary and secondary coils and having its primary coil connected to said means producing said input signal;

a nonlinear capacity diode connected to the secondary coil of said transmission line transformer;

means for biasing said diode in the high capacity region of said diode;

a transmission line connected to the output of said diode;

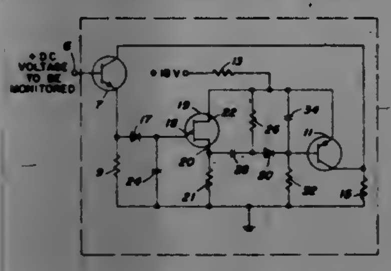
a load resistance connected to the output of said transmission line;

said transmission line being provided with a stub containing a termination;

means for controlling the waveform of the signal passing through said transmission line connected to the termination of said stub, said means comprising a second nonlinear capacity diode connected to said stub; and

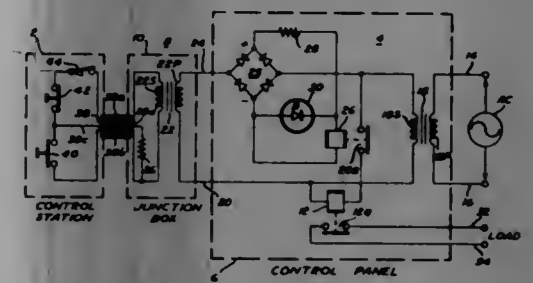
means for controlling the bias on said second diode.

3,193,709
VOLTAGE MONITORING AND CONTROLLING DEVICE
Clyde W. Baxter, Orlando, Fla., and Eugene C. Senti, Cedar Rapids, Iowa, assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Jan. 3, 1961, Ser. No. 80,144
4 Claims. (Cl. 307—100)



1. An electronic automatic level detector comprising: an electron control device for receiving a direct voltage to be monitored; a unijunction transistor connected to said electron control device for sensing the magnitude of said direct voltage coupled through said electron control device, said unijunction transistor producing an output only when said direct voltage exceeds a predetermined magnitude; and voltage diverting means connected to said unijunction transistor to cause said monitored direct voltage to be grounded through said electron control device whenever an output is provided from said unijunction transistor.

3,193,710
INTRINSICALLY SAFE ELECTRICAL DEVICE CONTROL SYSTEMS
William H. Elliot, Milwaukee, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Nov. 9, 1961, Ser. No. 151,306
7 Claims. (Cl. 307—136)



1. A system for safely controlling from a control station located in a hazardous area where explosive gas or dust may be present an electromagnetic relay located in a non-hazardous area and allowing the use of economical switching means at the hazardous area comprising:

general purpose switching means at the hazardous area of the type that is not sealed or provided with explosion proof enclosing means or the like;

an alternating current power supply source at the non-hazardous area;

a control circuit at the non-hazardous area;

a hermetically sealed electrical conduit between the hazardous and non-hazardous areas for preventing seepage of explosive gas therebetween;

conductor means extending through said sealed conduit connecting said control circuit to said general purpose switching means at the hazardous area;

said control circuit comprising:

a stepdown transformer supplied from said source for supplying a reduced amount of electrical potential to said control circuit;

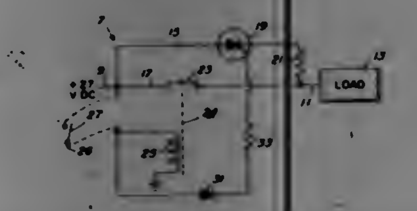
a sensitive electroresponsive device having an operating coil and self-enclosed contacts for controlling said electromagnetic relay;

rectifier means for supplying unidirectional energy to the operating coil of said electroresponsive device;

and a loop circuit having means comprising said rectifier means and said general purpose switching means and said conductor means supplied from the low potential side of said transformer for supplying a small and intrinsically safe amount of electrical energy through said general purpose switching means insufficient to ignite the gas threat when said switching means is operated to cause energization of said operating coil to close said contacts when said general purpose switching means is closed.

3,193,711
STEP-START CIRCUIT

Ralph E. Western, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Jan. 18, 1962, Ser. No. 167,068
5 Claims. (Cl. 307—141)

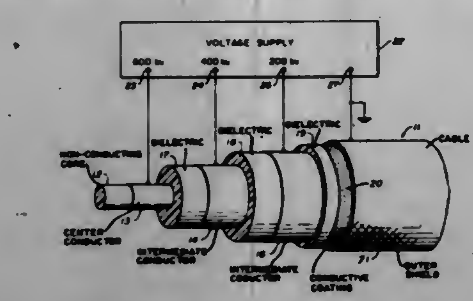


4. A remotely controlled device for effecting the application of electrical power by predetermined increments, said device comprising: an input line adapted to be connected to a direct current high power source; an output line adapted to be connected to a load to be energized by predetermined increments; an auxiliary current path including a resistor and a silicon controlled rectifier the anode of which is connected to said input line and the cathode of which is connected to one side of said resistor, the other side of said resistor being connected to said output line; a main current path including a power switch in the closed position of which said input line is directly connected to said output line; and control means including a remotely situated low power switch one side of which is connected to said input line, a relay winding for actuating said power switch having one side connected to ground and the other connected to the other side of said low power switch, and gate connecting means including a diode and serially connected resistor connecting said other side of said low power switch with the gate of said silicon controlled rectifier whereby when said low power switch is closed said silicon controlled rectifier is substantially immediately rendered conductive to permit passage of current of reduced magnitude to said output line through said auxiliary line and said power switch is actuated by said relay winding a predetermined period of time after said silicon controlled rectifier is rendered conductive to thereafter permit passage of full power to said output line.

3,193,712
HIGH VOLTAGE CABLE

Clarence A. Harris, Berkeley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Mar. 21, 1962, Ser. No. 181,493
2 Claims. (Cl. 307—147)

1. In a coaxial cable for the transmission of direct current from a high voltage source, the combination comprising a center conductor, at least one annular intermediate conductor disposed coaxially around said center conductor and insulated therefrom, an outer conductor disposed coaxially around said intermediate conductor and insulated therefrom, the insulating layers being of like material, the ratio of the spacings between neighboring ones of said conductors to the voltage differences therebetween being progressively less outwardly along a radius of said cable, means coupling said voltage source across said center and outer conductors, and means applying a direct current potential to said intermediate conductor which potential is determined by the relationship:



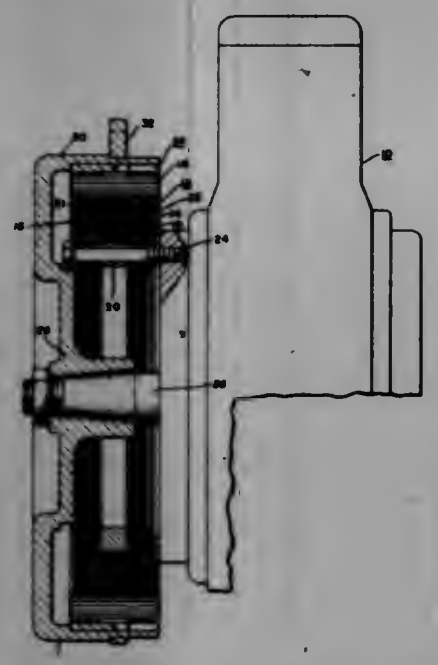
$$V > V_r > \frac{\ln \frac{b}{r}}{\ln \frac{b}{a}} V$$

where:

$\dot{V}_r$=the potential applied to said intermediate conductor,
r=the radius of said intermediate conductor,
b=the radius of said outer conductor,
a=the radius of said inner conductor,
and
V=the potential on said inner conductor relative to that on said outer conductor.

3,193,713
INDUCTOR ALTERNATOR

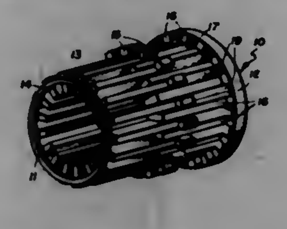
Robert L. Larson and Robert W. Campbell, Anderson, Ind., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Oct. 6, 1960, Ser. No. 60,825
5 Claims. (Cl. 310—168)



1. An alternating current generator comprising, first and second stator cores formed of magnetic material having outer circumferentially spaced and longitudinally extending slots, a core member formed of magnetic material positioned between and in engagement with said stator cores, a fiield coil positioned between said stator cores and around said core member, a stator winding including coils of wire wound in the slots of both stator cores and across the space between said stator cores, said stator cores, stator winding, core member, and field coil forming a fixed assembly, and a one-piece rotor member formed of magnetic material rotatable around the outer periphery of both stator cores, said rotor member having marginally located alternate oppositely directed projections and spaces forming the sole means for completing a magnetic circuit between the outer peripheral faces of said two stator cores.

3,193,714
SINTERED METAL COMMUTATOR

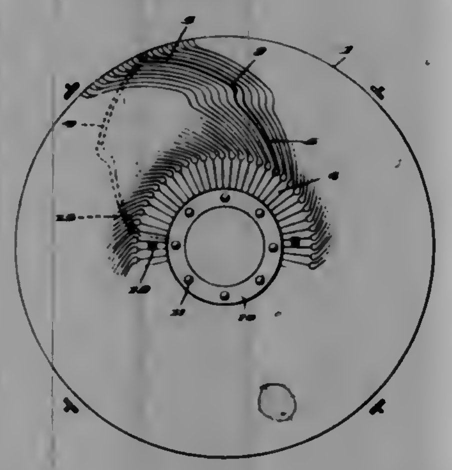
Wilhelm Hoven, Wurselen, Germany, assignor to Garbe, Lahmeyer & Co., A.G., Aachen, Germany, a corporation of Germany
Filed Nov. 14, 1962, Ser. No. 237,585
Claims priority, application Germany, Nov. 14, 1961, G 33,583
2 Claims. (Cl. 310—236)



1. A commutator, comprising:
(a) a first part consisting of a plurality of bars arranged in spaced, parallel relationship and connected by a ring, and
(b) a second part consisting of a plurality of bars arranged in spaced, parallel relationship and connected by a ring and interfitted with the bars of the first part to form an assembly, the said parts being made of pressed and sintered powdered metal, the ends of the bars of the first part being provided with outwardly-extending abutments at the end away from its ring and the bars of the second part being provided with similar abutments adjacent its ring, the abutments being interfifitted to bring about peripheral alignment to define an outwardly-extending flange for incorporation into a rotary electrical device.

3,193,715
ELECTRICAL MACHINE HAVING LAMELLAR WINDINGS AND PLANAR AXIAL AIR GAP

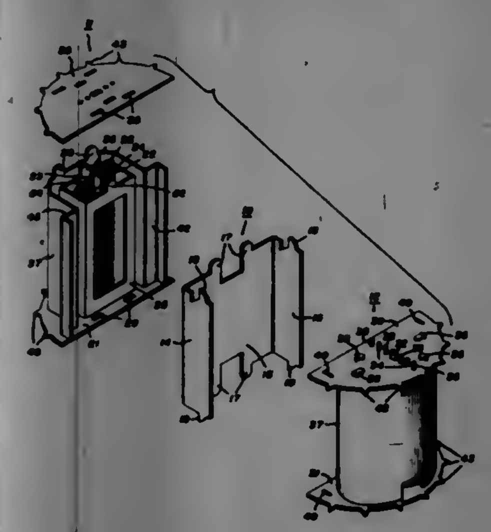
Georges Moressee, Neuilly-sur-Seine, and Robert Dechet, Boulogne-sur-Seine, France, assignors to Compagnie Electro-Mecanique, Paris, France, a corporation of France
Filed Feb. 4, 1963, Ser. No. 256,068
Claims priority, application France, Feb. 8, 1962, 887,394
8 Claims. (Cl. 310—268)



1. An armature for a rotatable electrical machine having a planar axial air gap between one face of the armature and an inductor element, said armature being comprised of an annular disc of insulating material having half turns of lamellar conductors applied to opposite faces thereof, said half turns on opposite faces being electrically connected at the inner and outer edge portions of said disc to establish complete winding turns, and a plane circular commutation track provided adjacent the inner edge of said disc on one face thereof for establishing electrical contact with brush means which extend to an external circuit, said commutation track being constituted by commutator extensions of not more than one half of the half turns on one face of said disc extending essentially radially inward, said commutator extensions being substantially rectilinear and having a width greater than the remainder of the correlated half turns, and said commutator extended half turns alternating with the other half turns which do not participate in the construction of the commutator track so that each of the former half turns is interposed between two of the latter half turns or between two of their groups.

3,193,716
CAGE CONSTRUCTION FOR ELECTRON DISCHARGE DEVICES

Samuel R. Beard, Jr., Owensboro, Ky., assignor to General Electric Company, a corporation of New York
Filed Apr. 5, 1962, Ser. No. 185,261
6 Claims. (Cl. 313—1)

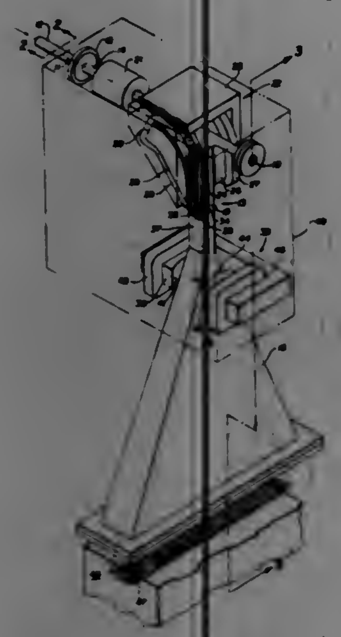


1. An electron tube mount assembly for devices in which a plurailty of electron discharge devices are enclosed within a single envelope comprising:
- (a) a first electron discharge device comprising
  - (1) a first apertured top insulative support,
  - (2) a first apertured bottom insulative support,
  - (3) a plurality of electrodes supported between said top and said bottom insulative supports and maintained in spaced relation thereby, one of said electrodes having a main element, and a pair of side elements attached to said main element, at least one ear extending from each end of said main element and received in corresponding apertures of said top and said bottom supports, and at least one ear extending from each end of each of said pair of side elements, said ears being spaced from said top and said bottom supports and having a cam-like shape,
- (b) a second electron discharge device comprising
  - (1) a second apertured top insulative support,
  - (2) a second apertured bottom insulative support,
  - (3) a plurality of electrodes supported between said second top and said second bottom insulative supports and maintained in spaced relation thereby,
  - (4) apertures in said second top insulative support pivotally receiving the ears extending from corresponding ends of said pair of side elements of said one electrode, and
  - (5) apertures in said second bottom insulative support receiving in cam-like engagement therewith the ears extending from the other corresponding ends of said pair of side elements of said one electrode.

3,193,717

BEAM SCANNING METHOD AND APPARATUS

Craig S. Nunan, Los Altos Hills, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Continuation of application Ser. No. 798,064, Mar. 9, 1959. This application July 3, 1961, Ser. No. 123,942
21 Claims. (Cl. 313—76)

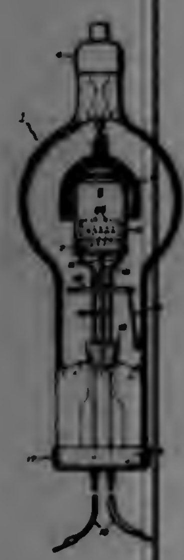


1. A bending magnet for bending a particle beam whereby after the beam is bent there is a particle energy gradient across the bent beam said bending magnet comprising opposing pole pieces adapted to be aligned along opposite sides of the particle beam, said pole pieces having their output surface tilted at an acute angle to the high energy side of the particle beam which has emerged from the output surface so that particles of greater energies will travel longer trajectories through said bending magnet and thereby particles of all energies will be deflected through substantially the same angle, said acute angle being less than 60°, said acute angle being measured, between any given high energy side particle trajectory emanating from said output surface and said output surface, in a direction rotated away from the lower energy side of said bent beam having a particle energy gradient thereacross.

3,193,718

GAS DIODE HAVING AUXILIARY CATHODE FOR FAULT CURRENTS

Harry C. Steiner, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Jan. 7, 1963, Ser. No. 249,649
5 Claims. (Cl. 313—189)

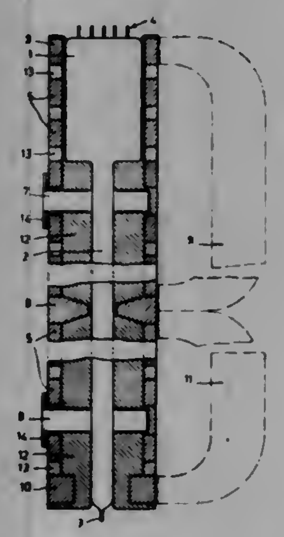


1. A gaseous electric discharge device comprising in combination, an envelope containing an ionizable medium, an anode, a cathode structure cooperatively positioned with respect to said anode, said cathode structure comprising a thermionic cathode, a heat shield surrounding said thermionic cathode, said heat shield including an aperture for the passage therethrough of an arc stream extending between said anode and thermionic cathode, and a refractory metal cold cathode positioned in said shield and including a portion disposed in said arc stream, said cold cathode bearing insulative material effective to collect ions from a plasma in said shield during fault current conduction, means electrically connecting said cold cathode to said cathode structure whereby said cold cathode is adapted for the establishment thereon of cathode spots effective for attracting at least a portion of the arc in said device and thereby relieving said thermionic cathode of some of the duty of supporting the anode current during fault current conduction.

3,193,719

DEMOUNTABLE MAGNETIC FOCUSSING SYSTEM FOR A TRAVELING-WAVE TUBE

John Morland Winwood, Salfords, Hewson Nicholas Graham King, Newdigate, and Roger Woodford Kersey, Edenbridge, England, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 11, 1960, Ser. No. 21,230
Claims priority, application Great Britain, Apr. 13, 1959, 12,440/59
4 Claims. (Cl. 315—3.5)



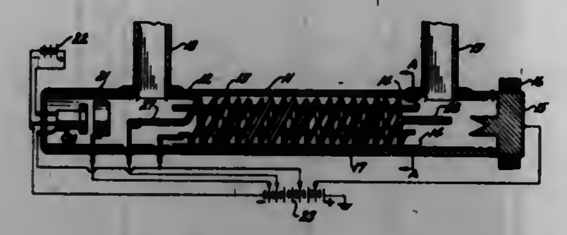
1. The combination of a travelling wave tube and an external demountable magnetic focussing system therefor coaxial with the axis of the tube, said focussing system comprising an external demountable component serving as a source of magnetic flux and further comprising a plurality of soft iron rings positioned around the tube for homogenizing the magnetic field applied thereto, said tube and said rings being fixedly positioned relative to each other to form a rigid assembly provided with fixed reference surfaces of magnetic material for engaging cooperating surfaces of magnetic material of said demountable component.

3,193,720

TRAVELING WAVE TUBE SLOW WAVE STRUCTURE HAVING BI-FILAR HELICES

Frank E. Vaccaro, New Brunswick, N.J., assignor to the United States of America as represented by the Secretary of the Air Force
Filed June 23, 1961, Ser. No. 119,774
5 Claims. (Cl. 315—3.6)

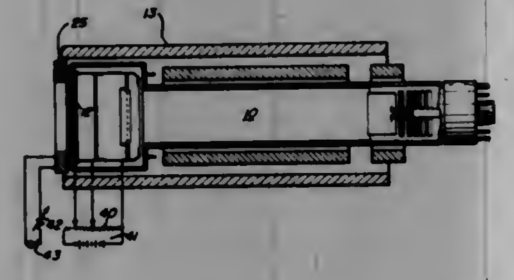
1. In a traveling wave amplifier tube, a slow wave structure comprising first and second wire helices arranged in a bifilar relationship, said first helix being fabricated of smaller diameter wire than said second helix, and a plurality of dielectric rods disposed externally adjacent to both said wire helices, and parallel to the common axis thereof, for the purpose of supporting said slow wave structure.



3,193,721

IMAGE MAGNIFICATION VARYING MEANS FOR PHOTOELECTRONIC IMAGE DEVICES

Yoshiaki Nakayama, Ota-ku, Tokyo, and Shoichi Miyashiro, Kanagawa-ku, Yokohama, Japan, assignors to Tokyo Shibaura Electric Co., Ltd., Horikawacho, Kawasaki-shi, Japan, a corporation of Japan
Filed Aug. 10, 1962, Ser. No. 216,238
Claims priority, application Japan, Aug. 15, 1961, 36/28,899, 36/28,900, 36/41,431, 36/41,432
6 Claims. (Cl. 315—10)



1. A photoelectronic image device comprising an envelope including a photocathode adapted to emit photoelectrons, accelerating electrodes for accelerating said photoelectrons, and a target disposed opposite to said photocathode and adapted to form an image thereon upon impingement of said photoelectrons, a focussing coil encircling said envelope and generating a first magnetic field wherein photoelectrons are made to proceed along lines of magnetic force, said lines of magnetic force extending from said photocathode to said target substantially in parallel with the axis of said envelope, auxiliary magnetic field generating means arranged adjacent to the open end of said focussing coil so as to generate a second magnetic field influencing said first magnetic field between the photocathode and the target, and means supplying voltages to respective electrodes thereby to produce between said photocathode and said target an electric field substantially satisfying the equation

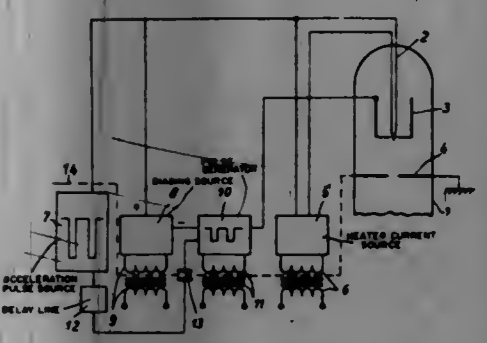
$$n=0.0472\int_0^L \frac{H(z)}{\sqrt{E(z)}}dz$$

wherein n is the number of elementary loops forming the electrons spiral path between the photocathode and the target, z represents a coordinate taken along the two backs along the axis of the envelope having the origin on the photocathode, $E(z)$ represents the potential in volts measured relative to the photocathode, $H(z)$ represents the magnetic flux density in gausses and L represents the distance from the photocathode to the target in centimeters whereby the size of the image formed on the target is made variable.

3,193,722

METHOD AND MEANS FOR CONTROL OF A PULSED BEAM OF CHARGE CARRIERS

Wolfgang Opitz, Aalen, Wurttemberg, Germany, assignor, by mesne assignments, to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Apr. 12, 1961, Ser. No. 102,528
Claims priority, application Germany, Apr. 14, 1960, Z 7,937
1 Claim. (Cl. 315—30)

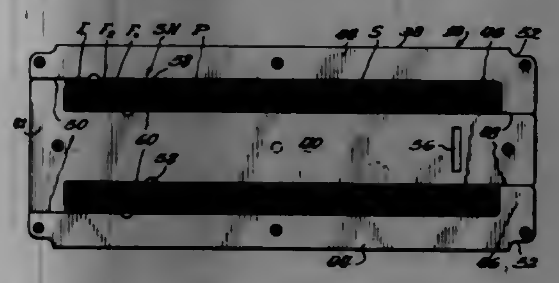


Apparatus for pulse control of the beam of an electron beam generator having an anode, a cathode, and control electrodes, and comprising a bias source for biasing said cathode positively with respect to said control electrode with an amplitude sufficiently high to cut off said electron beam, an acceleration pulse generator to generate a pulse train, consisting of a plurality of rectangular acceleration pulses, means coupling said acceleration pulse generator to said electron beam generator to pulse said anode positively with respect to said cathode and control electrode during each acceleration pulse of said train, a control pulse generator to provide a control pulse train consisting of rectangular control pulses, each control pulse of which is shorter than each acceleration pulse, means for applying said control pulses to said cathode and control electrode of said beam generator to overcome said bias, and a delay line coupling said acceleration pulse generator to said control pulse generator to key said control pulse generator so that each of said control pulses is generated during an acceleration pulse at a predetermined time subsequent to the generation of an acceleration pulse and so that said control pulses are at the same pulse repetition rate as said acceleration pulses.

3,193,723

BALLAST STRUCTURE HAVING FILAMENT WINDINGS REMOTE FROM THE OTHER WINDINGS

Albert E. Feinberg, Chicago, Ill., assignor to Advance Transformer Co., Chicago, Ill., a corporation of Illinois
Filed Dec. 15, 1961, Ser. No. 159,563
11 Claims. (Cl. 315—97)



1. In a ballast structure for use with a fluorescent lamp having cathodes in the lamp at the ends thereof and including a transformer for energizing the lamp and a primary winding and a secondary winding loosely coupled relative one another, means for connecting the primary winding to a source of alternating voltage, at least the secondary winding of said primary and secondary wind-

ings being connected across the cathodes, each cathode comprising a filament having a pair of conductors extending out of an end of the lamp envelope, and the filament windings inductively associated with the primary winding and respectively connected across a pair of conductors; the invention comprising:

an elongate iron core having a winding leg, a side leg and a gapped shunt comprising a magnetic circuit between the winding leg and the side leg, all of the filament windings being coaxially mounted on the winding leg on one side of the shunt and all of the other windings being coaxially mounted on the winding leg on the other side of the shunt, whereby the filament windings and the other windings have a loose magnetic coupling which will result in a substantial phase angle difference between the filament winding current and the secondary winding current.

3,193,724

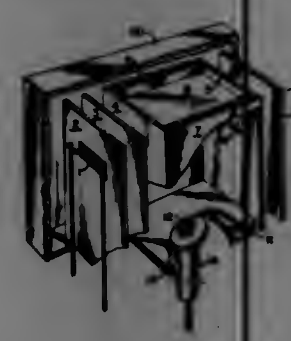
IONIZATION MANOMETER

Anton Martin Klopfer, Aachen, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 28, 1962, Ser. No. 183,079

Claims priority, application Germany, Apr. 17, 1961, N 19,897

2 Claims. (Cl. 315—111)



1. An ionization manometer comprising a pair of parallel plates with aligned apertures, means to generate and project an electron beam through the apertures in said plates whereby gas between the plates is ionized, an anode electrode on the side of said plates remote from the electron beam generating means and aligned with said apertures, a magnetic field for concentrating the electron beam so that electrons in said beam pass through said apertures and strike a given area of said anode without striking the edges of said plates bounding said apertures, a collector electrode disposed between said plates and positioned so that a straight line drawn between the collector and said given area of said anode intersects one of said plates adjacent said anode, and means to apply a potential between the anode and the plate adjacent thereto at which ions liberated by the anode have a velocity sufficient to drive them towards the cathode under the influence of the said magnetic field.

3,193,725

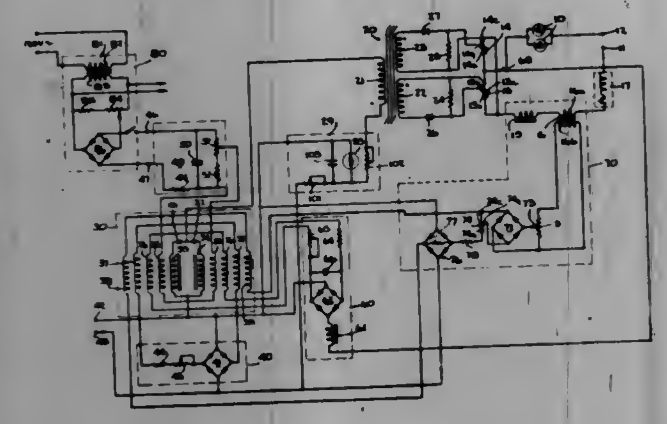
CONTROL SYSTEM FOR SOLID STATE CONTROLLED RECTIFIERS

Stephen J. Skirpan, Flushing, N.Y., assignor to Ward Leonard Electric Co., Mount Vernon, N.Y., a corporation of New York

Filed Mar. 3, 1961, Ser. No. 93,253

6 Claims. (Cl. 315—194)

1. Apparatus for controlling the load current supplied to an incandescent lamp load comprising first and second silicon controlled rectifiers connected to alternately pass and control the amount of load current supplied to the load, a magnetic amplifier having main windings rapidly saturating to pass a substantially increased current and a control winding producing a flux adjustable to vary the time of saturation of the amplifier during a half cycle, a pulse producing transformer having a primary winding and two secondary windings, means for connecting said secondary windings to a respective rectifier to apply a unidirectional gate pulse to a respective rectifier thereby rendering said rectifiers conductive on alternate half cycles, a rectifying means, means for connecting said main windings, said rectifying means and said primary winding in series across a voltage supply for passing current saturating said magnetic amplifier and thereby causing a rapid increase in current through said primary winding, square wave producing means connected across said main and primary windings to limit the voltage and current thereacross to a given value thereby producing unidirectional gate pulses in said secondary windings of a substantially constant amplitude over the range of phase shift of the gate pulses.



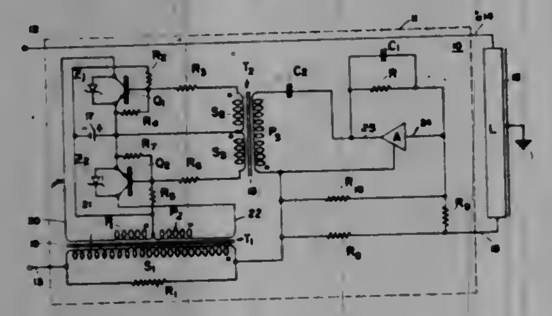
3,193,726

APPARATUS FOR OPERATING ELECTRIC DISCHARGE LAMPS INCLUDING AN IMPEDANCE SIMULATOR

Walter F. Powell, Jr., Danville, Ill., assignor to General Electric Company, a corporation of New York

Filed Aug. 27, 1962, Ser. No. 219,452

10 Claims. (Cl. 315—199)



1. An apparatus for operating an electric discharge lamp from a power source comprising: at least one electric discharge lamp, circuit means for connecting a power source and the electric discharge lamp in a lamp operating circuit and including output leads for supplying the output of the apparatus to the electric discharge lamp, a phase shifting means having an input adapted to receive a feedback signal and an output providing an output signal having a predetermined phase relationship with respect to said feedback signal, circuit means coupling the input of said phase shifting means in circuit with one of said output leads to provide at the input of said phase shifting means a feedback signal functionally related to the current supplied to the electric discharge lamp, an amplifying means for producing in the lamp operating circuit a voltage having substantially the same predetermined phase relationship with respect to the feedback signal as the output signal, said amplifying means having its input coupled with the output of said phase shifting means and having its output connetced in circuit with an input lead.

3,193,727

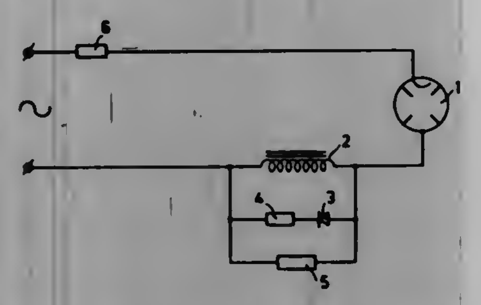
SMOOTHING CIRCUIT FOR MAGNETIC FIELD GENERATOR IN SERIES WITH A.C.-OPERATED MAGNETRON

Karl Sven-Olof Reftmark, Danderyd, Sweden, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 31, 1962, Ser. No. 234,331

Claims priority, application Sweden, Nov. 9, 1961, 11,167/61

6 Claims. (Cl. 315—200)



1. A magnetron energization circuit comprising a magnetron having an anode and a cathode, means providing a magnetic field for said magnetron comprising an inductor, a source of operating potential having an alternating component, means serially connecting said source of potential and inductor between said anode and cathode, whereby said magnetron conducts current intermittently, and unidirectional current conducting means connected in parallel with said inductor, said unidirectional current conducting means having a polarity to conduct only when the intensity of magnetic field in said inductor is decreasing, whereby fluctuations of intensiy of said magnetic field are reduced.

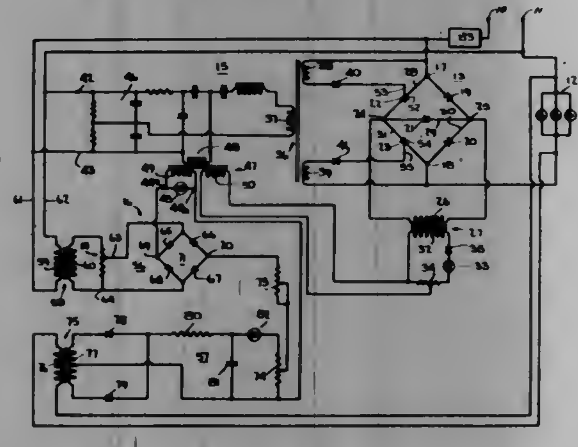
3,193,728

SILICON CONTROLLED RECTIFIER DIMMER

Stephen J. Skirpan, Flushing, N.Y., assignor to Ward Leonard Electric Co., Mount Vernon, N.Y., a corporation of New York

Filed Feb. 25, 1960, Ser. No. 10,989

16 Claims. (Cl. 315—251)



1. Apparatus for controlling the load current supplied to an incandescent lamp load supplied from an alternating source comprising current control means having output terminals for connecting the current control means in series with an incandescent lamp load, said current control means having connected between said output terminals, a bridge network with silicon controlled rectifiers in adjacent legs for alternately passing load current and diodes in the other opposite adjacent legs, surge current limiting and wave shaping means connected across the diagonal opposite to said output terminal diagonal for passing the load current through each silicon controlled rectifier, means for forming drive signals in timed relation with alternating voltage applied to said output terminals and variable in phase relative to the applied voltage to control the conductivity of said silicon controlled rectifiers for passing the load current over a range from dimout to full brilliance, and means connecting said surge current limiting and wave shaping means and said drive signal forming means to impress a pulse on said drive signal forming means to alter the phase relation of drive signals and the applied voltage on application of a low resistance load to render said silicon controlled rectifiers initially non-conductive to block the passage of load current and gradually restore the phase relation of the drive signal and applied voltage in an initial period less than one second.

3,193,729

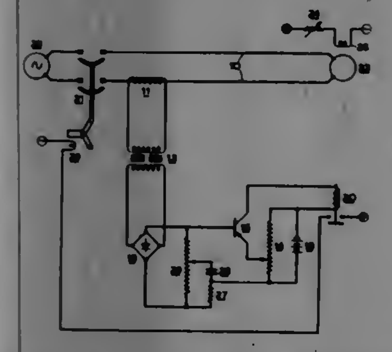
ELECTRICAL RELAY SYSTEMS HAVING INVERSE TIME CHARACTERISTICS

Eric Paddison, Stafford, England, assignor to The English Electric Company Limited, London, England, a British company

Filed Aug. 28, 1961, Ser. No. 134,440

Claims priority, application Great Britain, Mar. 11, 1957, 7,918/57, Patent 882,436

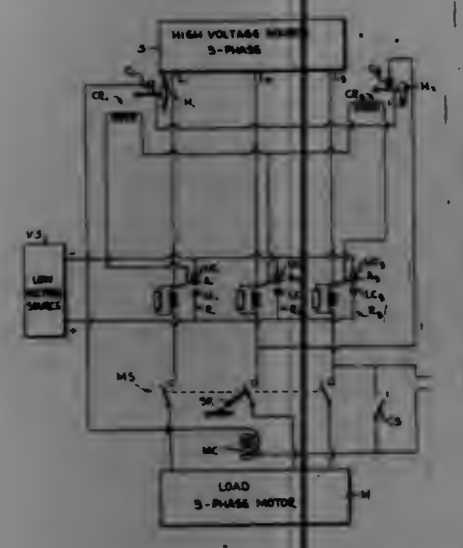
6 Claims. (Cl. 317—36)



1. An overload-protection circuit comprising
a transmission line connected between a source of alternating current and a variable load,
a circuit breaker in said transmission line tripping and isolating said load in response to an overload in excess of a predetermined magnitude,
a current transformer coupled to said line monitoring current flowing through said line,
a full-wave rectifier connected to said transformer rectifying said monitored current,
a resistance potentiometer connected across said rectifier developing a voltage corresponding to said monitored current,
a time constant network comprising a resistor connected in series with a reactive member from one end of said potentiometer to its tapping point,
an amplifier having an input circuit and an output circuit, said input circuit being connected across the other end of said potentiometer and the junction between said resistor and reactive member in said time constant network
means applying a voltage bias to said input circuit, and
circuit-breaker control means connected across the output circuit of said amplifier tripping said circuit breaker substantially instantaneously in the event of the monitored current being such that the voltage between said potentiometer tapping and the said other end thereof exceeds the bias on said amplifier, and after a time delay, in the event of the monitored current being such that the voltage across the one and other end of the potentiometer exceeds said bias, the time delay being dependent on the time taken for the voltage across the resistor in the time constant network to decay to a value at which the difference between this voltage value and the voltage across the one and other ends of the potentiometer exceeds said bias.

3,193,730
ELECTRICAL PROTECTION SYSTEM

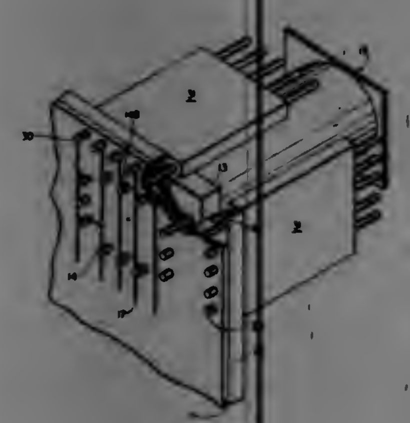
Frank C. Martin, 2325 N. 70th Ave., Omaha, Nebr.
Filed Dec. 20, 1961, Ser. No. 160,797
5 Claims. (Cl. 317—46)



1. An electrical protection system for a three-phase distribution network connected to a source including a load to be connected to each of said phases of said source, a master switch serially connected between each of the phases of said load and said distribution source, a plurality of relays, each having a movable armature contacting two mating contacts in respective energized and deenergized conditions and each having a winding serially connected with one of said phases between said master switch and said three-phase source, a pair of control relays, means for actuating said master switch from two of the phases of said three-phase source, said last-mentioned means including the contacts of said pair of control relays, a low voltage source, means connecting two terminals of said low voltage source to said two contacts of each of the serially connected relays, and means connecting the windings of said control relays for operation from said low voltage source when said armatures of the plurality of relays are connected to both terminals of said low voltage source.

3,193,731
PRINTED MATRIX BOARD ASSEMBLY

Peter K. Gerlach, Lake Forest, George J. David, Chicago, and Rudolph O. Stoehr, Des Plaines, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Aug. 21, 1961, Ser. No. 132,897
2 Claims. (Cl. 317—101)



1. A crosspoint matrix assembly comprising in combination: at least two cards of insulating material positioned adjacent and secured to each other with mounting apertures extending therethrough, said cards forming a flat multi-layer board,

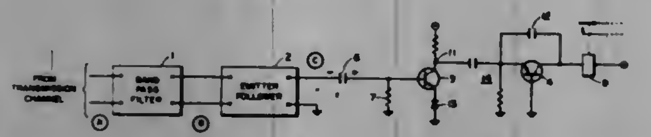
sets of printed conductors on said board forming a coordinate array of vertical and horizontal sets, said vertical conductor sets being carried on one surface of one of said cards and said horizontal conductor sets being carried on one surface of the other card in insulated relation to said vertical sets,

a matrix of reed relays mounted perpendicular to, and on one side only of said board and each having a coil with two ends, a plurality of pairs of encapsulated switch contacts operated in response to the energization of said coil and four separate groups of terminals projecting with their free ends from one end of said relay into corresponding ones of said apertures, certain ones of said terminals terminating said coil ends and certain others of said terminals terminating said contacts, and said four groups of terminals and apertures being disposed substantially along the four sides of a rectangle which overlaps the rectangular area of projected intersection of the respective vertical conductor set and the respective horizontal conductor set, so that at least some of said vertical and horizontal conductors extend between adjacent vertical and horizontal lines respectively of said terminals,

first linking conductors printed on said first-mentioned surface and connecting the terminals terminating one end of said coil and one contact of each said pair separately to corresponding conductors of the respective vertical set, and second linking conductors printed on said second-mentioned surface and connecting the terminals terminating the other end of said coil and the other contact of each said pair separately to corresponding conductors of the respective horizontal set.

3,193,732
TONE CONTROLLED RELAY CIRCUIT

Donald F. Jamieson and Frank Niertit, Rochester, N.Y., assignors to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Jan. 2, 1962, Ser. No. 163,557
6 Claims. (Cl. 317—147)

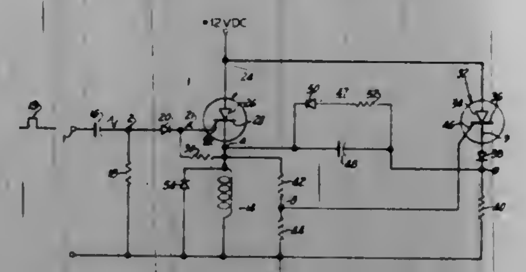


1. In a tone control circuit, a transmission channel, a filter coupled to said transmission channel for detecting a tone transmitted by said transmission channel, a switching device for assuming a first state upon the receipt of said tone and for assuming a second state upon the cessation of said tone, means having an input circuit coupled to the output circuit of said filter and having an output circuit coupled to said switching device for maintaining said switching device in said first state during the application of said tone to said tone control circuit, said last-named means further including a clipper having a clipping level which varies proportionately with the strength of said tone.

5. In a relay control circuit, a coil, a transistor having an emitter, base and collector, a control signal source, a source of operating potential, means for coupling said signal source to said emitter and for coupling said coil with said collector and said source of operating potential in a common base configuration, and means coupled between said emitter and said coil for transferring at least a portion of the back-E.M.F. developed within said coil to said emitter to decrease the turn-on and turn-off time of said current control device.

3,193,733
COUNTER DRIVING CIRCUIT

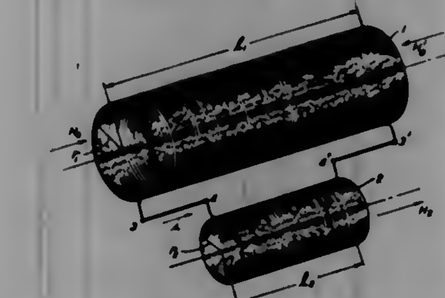
Joseph J. Orsino, Melrose, Mass., assignor to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut
Filed Sept. 27, 1962, Ser. No. 226,569
8 Claims. (Cl. 317—148.5)



1. An electromagnetic counter driving circuit comprising an input terminal for receiving input count pulses, a normally non-conducting controlled rectifier, means to feed an input pulse from said input terminal to the gate electrode of said controlled rectifier thereby rendering said rectifier conducting, a counter solenoid coil connected to said controlled rectifier for conducting current simultaneously therewith, a normally non-conducting controlled switch, a timing capacitor connected between said controlled rectifier and controlled switch, an impedance connected to said capacitor and to said controlled switch, said controlled rectifier supplying current to charge said capacitor and develop across said impedance, a bias potential for maintaining said controlled switch non-conducting, said bias potential falling exponentially as said capacitor charges, and means for applying a gate potential to the gate electrode of said controlled switch, said controlled switch becoming conducting when said gate potential exceeds said bias potential by an amount sufficient to fire said switch, the firing of said controlled switch generating a voltage pulse which is coupled through said capacitor to reverse-bias said controlled rectifier thereby rendering said controlled rectifier non-conducting and interrupting the current flowing through said counter solenoid coil.

3,193,734
SUPERCONDUCTING FLUX CONCENTRATOR

Charles F. Hempstead, Millington, and Young B. Kim, New Providence, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 22, 1962, Ser. No. 181,762
9 Claims. (Cl. 317—158)



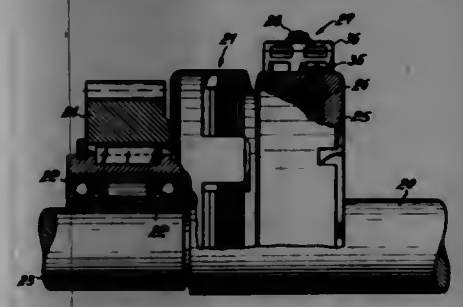
1. A flux concentrator comprising, a first coil of superconducting wire having n_1 turns per unit length wound in the form of a cylinder having a volume V_1, a second coil of superconducting wire having n_2 turns per unit length wound in the form of a cylinder having a volume V_2, where $n_1 < n_2$ and

$$\frac{V_2}{V_1} < \frac{n_1}{n_2}\left(1 - \frac{n_1}{n_2}\right)$$

means for connecting the first and second ends of said first coil to the first and second ends of said second coil respectively, external means for establishing a constant magnetic field component along the axis of said first coil while said coil is in its normal conducting state, means for changing both of said coils to their superconducting state, and means for subsequently removing said externally applied magnetic field.

3,193,735
ELECTRICAL CONNECTOR DEVICE WITH LOCATING MEANS

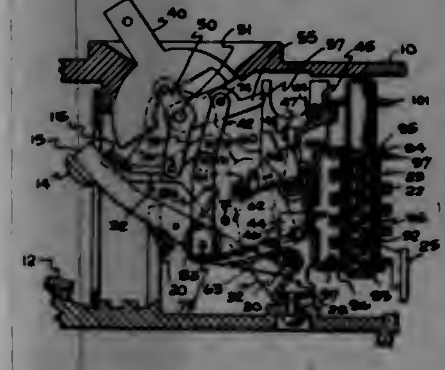
Robert Herr, Remscheid, Otto Ortlinghaus, Wermelskirchen, Jürgen Lemp, Heide, Wermelskirchen, and Adolf Ortlinghaus, Remscheid, Germany, assignors to Gebr. Ortlinghaus, Wermelskirchen, Rhineland, Germany, a firm
Filed May 14, 1963, Ser. No. 292,507
Claims priority, application Germany, June 18, 1962,
O 8,819
12 Claims. (Cl. 317—158)



5. In combination with a stationary electrical device having a winding, a connector device including housing means of insulating material, and a pair of contact elements located in said housing means and having each one end connected to said winding and an opposite free end spaced from and permanently insulated by said housing means from the free end of the other of said pair of contact elements for cooperation with a push-in type plug of electrical supply leads; means securing said connector device to said electrical device turnably about an axis; a plurality of first locating means arranged angularly spaced from each other along a circle about said axis on one of said devices; and a second complementary locating means on the other of said devices and selectively engageable with any one of said plurality of first locating means for locating said connector device in a desired position turned about said axis relative to said electrical device.

3,193,736
ELECTROMAGNETIC CIRCUIT FOR CIRCUIT BREAKERS

Joseph S. Hollyday, Pennington, N.J., assignor to Heinemann Electric Company, Trenton, N.J., a corporation of New Jersey
Filed Sept. 8, 1961, Ser. No. 137,488
13 Claims. (Cl. 317—177)



1. In a circuit breaker an electromagnet comprising a hollow tube, a core enclosed by said tube and movable from one end to the other of the tube, said core being biased to one end of the tube, a coil about a part of the tube, a main frame about said coil and a part of said tube, an armature attractable to said frame by the magnetic flux, and a shunting frame for shunting the magnetic flux of said coil.

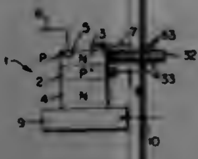
3,193,737

BISTABLE JUNCTION TRANSISTOR

Robert E. Swanson, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 18, 1955, Ser. No. 509,265

11 Claims. (Cl. 317—234)



1. An amplifying asymmetrically conductive device comprising:

(a) a monocrystalline wafer of semiconductive material having two parallel surfaces and having therein first and second spaced zones of one-conductivity type semiconductive material separated by the contiguous with a third zone of opposite conductivity-type semiconductive material, the interfaces between said third zone and said first and second zones comprising first and second PN junctions, said first junction having at least a portion parallel to said surfaces;
(b) said first zone of one conductivity type defined in part by said first PN junction and by a portion of one of said parallel surfaces
(c) said second zone of one conductivity type defined in part by said second PN junction;
(d) said third zone of opposite conductivity type defined in part by said first and second PN junctions;
(e) one of said second and third zones being further defined in part by the other of said parallel surfaces;
(f) a mass of opposite conductivity type inducing activator impurity fused to and alloyed with a surface region of said first zone at said one of said parallel surfaces and producing therein a third, fused PN junction, said fused junction being located within one diffusion length of said third zone;
(g) a first electrode contacting said mass of activator material;
(h) a second electrode contacting said first zone on said one of said parallel surfaces and in close proximity to said first electrode; and
(i) a third electrode contacting said second zone, said parallel portion of said first PN junction spanning the localities on said one of said parallel surfaces of said first electrode and said second electrode.

3,193,738

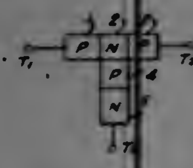
COMPOUND SEMICONDUCTOR ELEMENT AND MANUFACTURING PROCESS THEREFOR

Hiroe Osafune and Ichiemon Sasaki, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed Apr. 24, 1961, Ser. No. 104,985

Claims priority, application Japan, Apr. 26, 1960, 35/22,67

5 Claims. (Cl. 317—234)



4. A PNP/NPNP compound semiconductor device comprising a first P type semiconductor region, a first N type semiconductor region forming a junction with said first P type semiconductor region, a second P type semiconductor region forming a junction with said first N type region, a third P type region forming a junction with said first N type region, a second N type region forming a junction with said third P type region, a first set of terminals including a first terminal connected to said first P type region and a second terminal connected to said second P-type region, a second set of terminals including a third terminal connected to said second N type region, and a fourth terminal, said fourth terminal comprising either of the terminals of said first set, whereby electrical signals may be applied to one set of terminals to cause a change in the electrical condition between said other set of terminals.

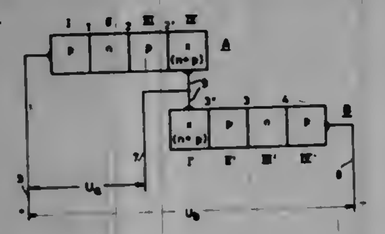
3,193,739

SEMICONDUCTOR DEVICE HAVING FOUR-LAYER COMPONENTS FOR OBTAINING NEGATIVE CURRENT-VOLTAGE CHARACTERISTICS

Alfred Ottmann and Herbert Goetzeler, Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin, Germany, a corporation of Germany

Filed May 15, 1962, Ser. No. 194,861

10 Claims. (Cl. 317—234)



1. An electronic semiconductor device comprising two component semiconductor members each having four electrically sequentially zones alternately containing p-type and n-type impurity atoms respectively, each of said members containing in at least one of its two outer zones both types of impurity atoms and forming a substantially barrier-free junction with the adjacent zone; one of the two outer zones of one of said members having an electrically conductive interconnection with one of the two outer zones of said other member; and respective conductor means contacting said connection and the two other outer zones of said members.

3,193,740

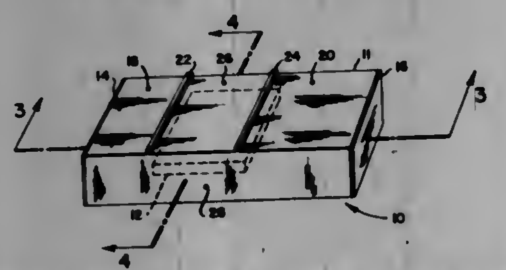
SEMICONDUCTOR DEVICE

Hiroe Osafune and Ichiemon Sasaki, Tokyo, Japan, assignors to Nippon Electric Company Limited, Tokyo, Japan, a corporation of Japan

Filed Aug. 22, 1962, Ser. No. 218,608

Claims priority, application Japan, Sept. 16, 1961, 36/33,654

8 Claims. (Cl. 317—235)



1. A unitary semiconductor wafer comprising
an outer region of one conductivity type having a given resistivity and an inner region of opposite conductivity type totally enclosed within said outer region,
said inner region being generally in the shape of a wafer,
a pair of terminal area contacts disposed on generally opposed surfaces of said outer region, said contacts being arranged generally transverse to the longitudinal plane of said wafer,
the resistance of the portions of said outer region between said terminal area contacts and the corresponding end areas of said inner region being greater than the resistance of the portions of said outer region between the wafer major surfaces and the corresponding surfaces of said inner region,
and said inner region having a predetermined size and position with respect to said outer region to produce predetermined electrical characteristics of resistance and capacitance between said contacts.

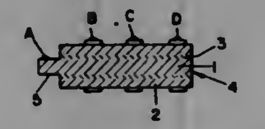
3,193,741

INTEGRAL MULTIPLE RECTIFIER CIRCUIT HAVING LEAD OXIDE LAYER

James F. McGivern, Jr., Philadelphia, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey

Filed Feb. 19, 1962, Ser. No. 173,987

10 Claims. (Cl. 317—238)



1. An electric signal translating element comprising a metallic body of a material selected from the group consisting of lead and lead based alloys, an oxide layer on said metallic body, said oxide being selected from the group consisting of lead monoxide and lead dioxide, an electrical contact on said metallic body and a plurality of spaced electrical contacts on said oxide layer.

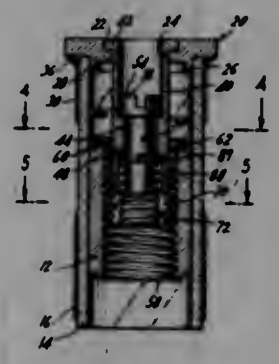
3,193,742

TRIMMER CAPACITOR

Llewellyn T. Barnes, Freeport, N.Y., assignor of one-third to Charles T. Barnes, Freeport, and one-third to John F. Woog, Garden City, N.Y.

Filed Jan. 17, 1963, Ser. No. 252,076

8 Claims. (Cl. 317—249)



1. A trimmer capacitor comprising a hollow cylinder formed of a material having a high dielectric constant and carrying a fixed electrode on the outer surface thereof, a hollow, internally-threaded piston electrode in longitudinal sliding engagement with the interior of said cylinder, means for guiding said piston electrode and preventing rotation thereof, and adjusting means for moving said piston electrode longitudinally within said cylinder and relative to said fixed electrode, said adjusting means including a manually-rotatable shank extending into said cylinder and longitudinally immovable therein, a duplex nut arrangement disposed within the piston electrode and comprising a major nut section and a separate minor nut section, said minor nut section being secured to said shank within said piston electrode for rotation with said shank, said major nut section being loosely mounted on said shank for movement longitudinally of said shank and being in spaced overlying relationship with said minor nut section, means for effecting intercoupling of said nut sections for simultaneous rotation thereof, each nut section having an external peripheral outer surface provided with threading engaging the internal threading of said piston electrode, both nut sections turning with said shank to adjust the piston electrode longitudinally within said cylinder, said nut sections being spaced from each other along the direction of the longitudinal axis of said piston electrode, and means for biasing said major nut section toward said minor nut section to transmit frictional binding force between the external threading of said nut sections and the internal threading of said piston electrode.

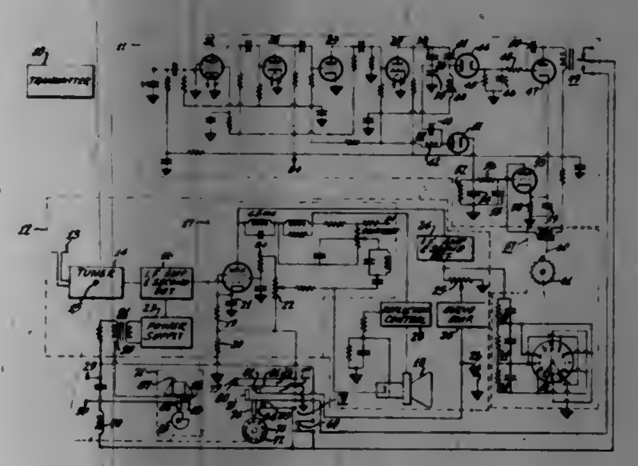
3,193,743

REMOTE MOTOR CONTROL SYSTEM FOR TV TUNER

Daniel A. Tannenbaum, West Collingswood, and Alton J. Torre, Woodbury, N.J., assignors to Radio Corporation of America, a corporation of Delaware

Filed Apr. 27, 1960, Ser. No. 25,049

10 Claims. (Cl. 318—16)



1. A wireless remote control system for control of remotely located apparatus having an internal power supply, comprising the combination of a remote control receiver connected to receive power from said internal power supply, a sequentially operated multi-position step-by-step driving device coupled to control an operation of said remotely located apparatus, a time delay switch operated after a predetermined time interval at one position of said step-by-step driving device, means connecting said switch to open the circuit of said internal power supply and deenergize said remotely located apparatus and said remote control receiver after said predetermined time delay in said one position of said step-by-step driving device, and means coupling said remote control receiver to control the operation of said step-by-step driving device from one position to the next.

3,193,744

OPTICAL SYNCHRO SYSTEM

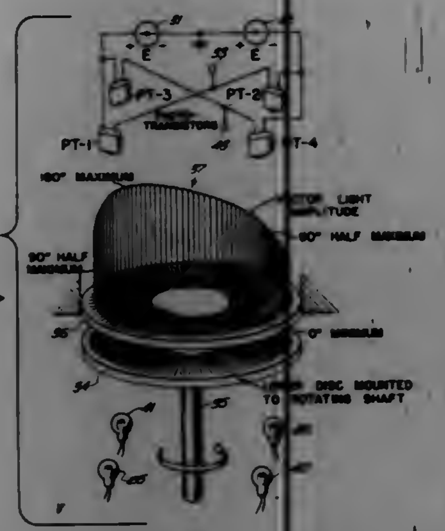
Harold H. Seward, Burlington, Mass.
(16 Frost St., Arlington, Mass.)

Original application Apr. 29, 1958, Ser. No. 731,844, now Patent No. 3,096,444, dated July 2, 1963. Divided and this application Oct. 10, 1962, Ser. No. 229,627

8 Claims. (Cl. 318—18)

1. Apparatus for providing an electrical signal characteristic of an angular parameter of a rotatable shaft comprising, a first circular disc mounted for rotation with said shaft, said first circular disc being axially symmetric about the axis of said shaft, a second circular disc axially symmetric about said axis adjacent to said first disc, said first and second discs having a different number of alternately opaque and translucent sectors, a first photoelectric transducer, a first light source directing light through both said discs to said first photoelectric transducer, a second photoelectric transducer, a second light source directing light through both said discs to said second photoelectric transducer, a third photoelectric transducer, a third light source directing light through both said discs to said third photoelectric transducer, a fourth photoelectric transducer,

and a fourth light source directing light through both said discs to said fourth photoelectric transducer, the four

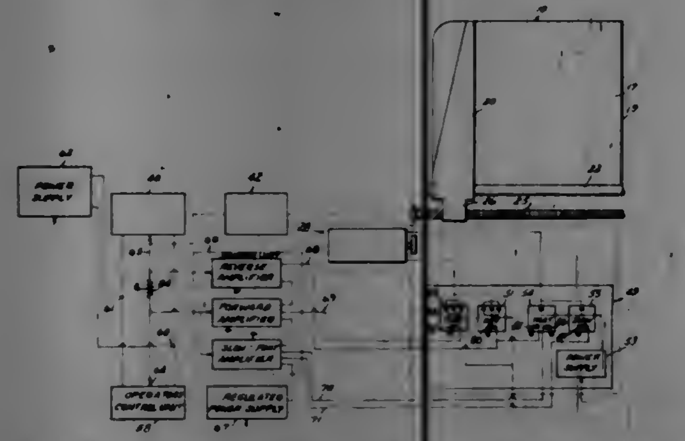


light beams from said light sources being arranged in two pairs with the light beams in each pair interrupted at diametrically opposite points of said discs.

3,193,745

PAPER TRIMMING MACHINE AND ANTI-BACKLASH POSITIONAL SERVO SYSTEM THEREFOR

Thomas H. Brown, New Haven, Conn., assignor to The Smith and Winchester Manufacturing Company, South Windham, Conn., a corporation of Connecticut
Filed Jan. 17, 1961, Ser. No. 83,339
6 Claims. (Cl. 318—29)

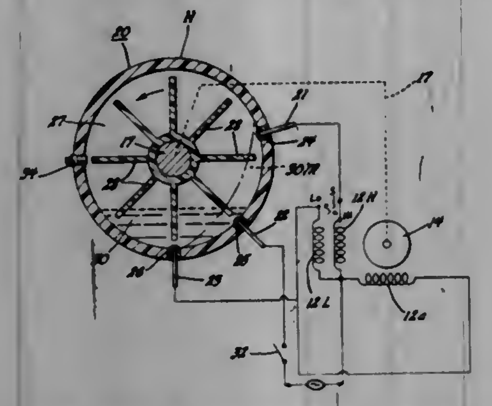


1. A trimming and cutting machine for paper and the like comprising a table, a cutting device operable along a cutting line on said table, a back gauge movable along said table toward and away from the cutting line, motor drive means connected to said back gauge and operable to move said back gauge at fast and slow speeds toward the cutting line and at fast speed only away from the cutting line, a normally balanced bridge circuit including a resistance having a movable tap, means connecting said movable tap to said back gauge for movement proportional therewith, control means to selectively unbalance said bridge circuit in a forward or reverse direction in accordance with the desired back gauge position, means connected to said bridge circuit for sensing the direction of bridge circuit unbalance effected by said control means, the output of said last named means being connected to said motor drive means to initiate movement of said back gauge and said tap in a direction to rebalance said bridge circuit at fast speed forward for large unbalance and at slow speed forward for low magnitude of bridge unbalance, the inertia of the moving system including said motor drive means and the back gauge being sufficient when moving away from the cutting line to overtravel the balance position of the bridge circuit thereby to require forward back gauge movement at low speed as the final rebalancing movement.

3,193,746

CONDUCTING FLUID CENTRIFUGAL SWITCH FOR DYNAMOELECTRIC MACHINE

George A. Neyhouse, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 17, 1961, Ser. No. 103,614
3 Claims. (Cl. 318—225)

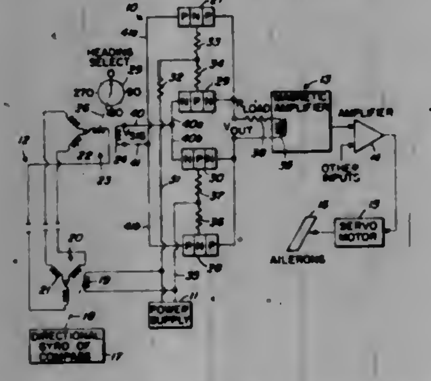


1. For use with a dynamoelectric machine having a multi-winding stator means and a rotor carried by a shaft journalled for rotation relative thereto as enclosed within a structural enclosure, the combination therewith comprising, a fixed housing carried axially of the machine enclosure and having a cavity-like space therein, a shaft extension projecting axially from said rotor shaft and extending into said space, a rotatable member including radially outwardly extending blade portions adapted to traverse an annular path in said cavity, a conducting fluid medium sealed within a part of said space and subject to agitation by said blade portion in response to movement of said blade portions in said annular path, and multiple terminal means insulated from each other as mounted to extend radially outwardly through said fixed housing at fixed predetermined locations totalling at least three in number including one intermediate terminal means for power supply and remaining terminal means located upwardly and downwardly therefrom such that at least pairs of terminal means can be bridged by said conducting fluid medium subject to displacement dependent upon rotor speed of said machine having the multi-winding stator means electrically partially energizable in response to bridging of said pairs of terminal means insulated from each other.

3,193,747

SERVO SYSTEM WITH PARTICULAR PHASE DETECTOR - MODULATOR TRANSISTOR BRIDGE CIRCUITS

Richard L. Kittrell, Cedar Rapids, Iowa, assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Oct. 6, 1961, Ser. No. 143,427
1 Claim. (Cl. 318—489)

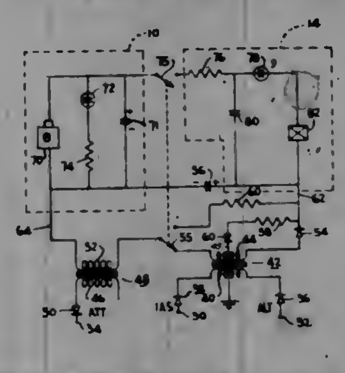


A transistorized bridge circuit connected to function as a phase detector for converting an A.C. voltage signal input to a D.C. voltage output in a flight control system with the phase detector circuit having; a first PNP type transistor, a second PNP type transistor, a first NPN type transistor, and a second NPN type transistor; each of said PNP and NPN type transistors having a base, and two opposite end electrodes including an input and an output electrode; first circuit means interconnecting the bases of said first PNP transistor and said first NPN transistor; second circuit means interconnecting the bases of said second PNP transistor and said second NPN transistor; a two-terminal A.C. voltage reference source with one terminal connected to said first circuit means and the second terminal connected to said second circuit means; a two-terminal voltage signal source with one terminal connected to the end input electrodes of two of said transistors and the other terminal connected to the end input electrodes of the other two transistors; with said first circuit means and said second circuit means both including resistive-impedance means, and the terminals of said two-terminal voltage reference source being so connected to said first circuit means and said second circuit means, respectively, as to provide resistive impedance between each of the terminals of the voltage reference source and the bases of the respective transistors; a two-terminal output with one terminal connected to end output electrodes of two of said transistors and the other terminal connected to end output electrodes of the other two transistors; impedance means electrically connecting end output electrodes of two of said transistors to end output electrodes of the other two transistors for the development of a D.C. voltage output signal when there is a phase difference between the signal of said A.C. voltage reference source and the signal of said signal source; and with the flight control system having; a synchro device provided with a command drive input, and an A.C. signal input from an A.C. power source; amplifying means for the D.C. voltage output signal of said phase detector; servo motor means driven by the output of said amplifying means; and flight control surface means drive connected to and positioned by said servo motor means; said A.C. power source being said two-terminal A.C. voltage reference source; the two-terminal output of said synchro device being connected as an A.C. voltage signal input source to said phase detector with one terminal connected to the input electrodes of two of said transistors and the other terminal connected to the input electrodes of the other two transistors; and with said impedance means connecting the output electrodes of two of said transistors to the output electrodes of the other two transistors providing a conductive-resistive path therebetween.

3,193,748

PILOT SEAT EJECTION CONTROL SYSTEM

Jeremiah E. Langan, Cresskill, N.J., assignor to Leesona Corporation, Cranston, R.I., a corporation of Massachusetts
Filed June 28, 1961, Ser. No. 128,292
2 Claims. (Cl. 320—1)

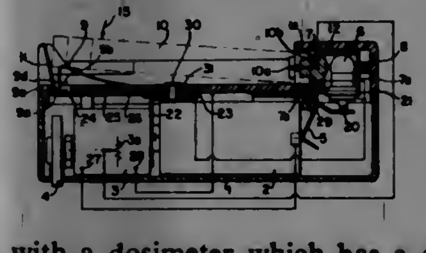


1. An electrical variable time control system comprising an energy storage circuit including a storage capacitor, a discharge circuit having a predetermined time constant, means for discharging said capacitor through said discharge circuit, a plurality of input signals and means for combining said input signals into a resultant signal and applying said resultant signal to said discharge circuit while actuating said means for discharging said capacitor whereby the operating time of said system is determined by the time constant of said discharge circuit and said resultant signal, wherein said means for combining said plurality of input signals comprises a rectifier and a first transformer having a primary and secondary winding, said storage capacitor being connected in a series circuit including said secondary winding and said rectifier, and further including a second rectifier and a resistor serially connected between said secondary winding and one terminal of said first mentioned rectifier to define a decay path for said capacitor.

3,193,749

DOSIMETER CHARGING UNIT

Wilhelm Grimm and Gerhard Gollasch, Ulm (Danube), Germany, assignors to Telefunken Aktiengesellschaft, Berlin, Germany
Filed Aug. 27, 1959, Ser. No. 836,365
Claims priority, application Germany, Aug. 30, 1958, T 15,564
8 Claims. (Cl. 320—1)

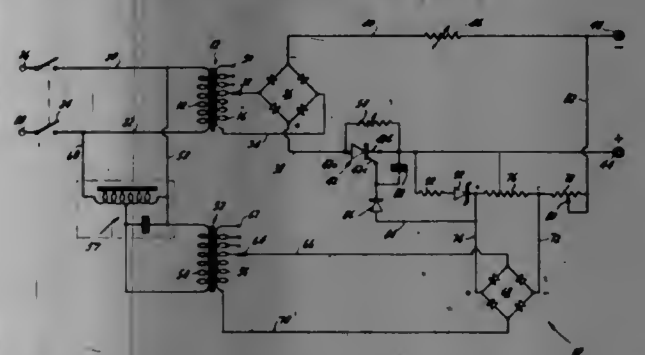


1. For use with a dosimeter which has a charge indicator and a charging switch, a charging unit comprising a casing containing a source of charging voltage, said casing having an overall length which is greater than that of the dosimeter to be charged and being provided with a cavity having opposite end faces, which cavity is shaped to be able to receive the dosimeter to be charged, there being at one end face of said cavity charging contact means electrically connected with said source of charging voltage, said contact means making contact with the charging switch of the dosimeter after the same has been placed into said cavity, there being at the other end of said cavity a slanting abutment along which the dosimeter is pressed while it is in the process of being introduced into said cavity so that at a certain point during the insertion of the dosimeter into said cavity, the charging switch of the dosimeter is closed due to counter pressure exerted by said contact means.

3,193,750

DUAL RATE BATTERY CHARGER WITH D.C. REFERENCE SOURCE

Stanley Chait, Bronx, N.Y., assignor to Macarr, Inc., Bronx, N.Y., a corporation of New York
Filed Jan. 18, 1962, Ser. No. 167,103
6 Claims. (Cl. 320—22)

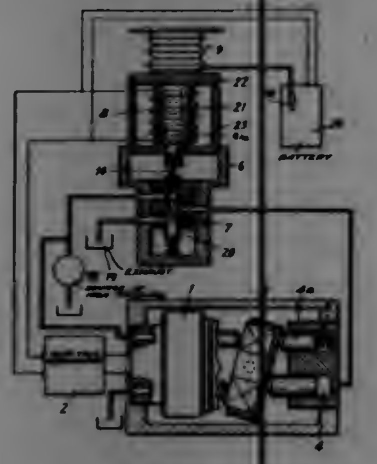


1. A battery charger comprising a charging source of direct current potential, a reference source of direct current potential, positive and negative charging terminals adapted to have the corresponding terminals of a battery connected thereto, a controlled rectifier including a cathode, anode, and a gate, said controlled rectifier blocking in the forward direction until a gating signal is applied

to said gate and thereafter conducting in the forward direction, means connecting said anode to the positive side of said charging source, means connecting the negative side of said charging source to said negative charging terminal, means connecting said cathode to said positive charging terminal, a gating-signal circuit including a resistance connected in series between said reference source and said negative charging terminal for producing a gating signal as a function of the difference between the reference potential of said reference source and the voltage drop across said resistance and the variable potential of the battery connected across said charging terminals, said rectifier when conducting in the forward direction establishing a high-rate charging circuit for said battery, and a resistance bypassing said controlled rectifier and establishing a trickle charging circuit for said battery when said controlled rectifier is blocking, said reference source of direct current potential including a voltage-stabilizing means adapted to be connected to a source of alternating current, and a full-wave rectifier having its input connected to said voltage-stabilizing means, and a preloading resistor connected across the output of said full-wave rectifier and providing said reference potential in said gating-signal circuit.

3,193,751
DEVICE FOR CONTROLLING THE MOTOR OF A HYDROELECTRIC SET

Jean Cadiou, Paris, France, assignor to Societe Anonyme Andre Citroen, Paris, France, a corporation of France
Filed July 12, 1961, Ser. No. 123,452
Claims priority, application France, July 19, 1960, 833,391, Patent 1,270,612; Jan. 19, 1961, 850,195, Patent 79,050
8 Claims. (Cl. 320—35)

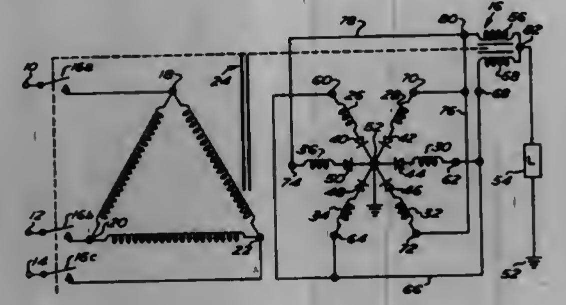


1. A control device for a hydraulic motor of the barrel type, actuated through a source of liquid under pressure, of a hydroelectric group comprising an electrical dynamo which furnishes a voltage usable for different apparatuses, particularly a battery, said motor comprising an inclined impulse plate, a hydraulic cylinder forming an abutment for said plate, a first means for placing said cylinder in communication with a source of liquid under pressure and exhaust, a second and a third means acting upon said first means, said second means being subject to the voltage generated by said generator and said third means being deformable means sensible to the temperature of the battery charge.

3,193,752
PROTECTIVE ARRANGEMENT FOR POWER SUPPLY APPARATUS

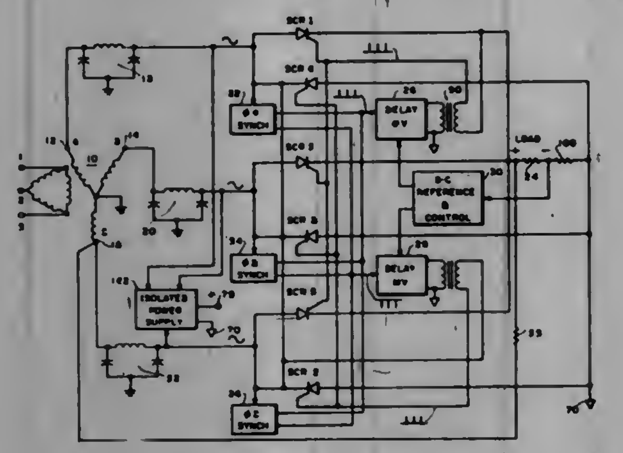
James G. Ellsworth, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 27, 1961, Ser. No. 98,376
3 Claims. (Cl. 321—12)

1. In a multiphase alternating current to direct current power supply, the combination comprising: a plurality of single phase transformers each having a primary winding and at least two secondary windings, said primary windings being connected to a source of multiphase alternating current; a plurality of rectifier means each having a first electrode connected to a point of fixed potential and a second electrode connected to a first terminal of respective ones of said secondary windings; a relay having a first, second and a center tap terminal; means connecting the second terminal of alternate ones of said secondary windings in common to said first and second terminals of said relay; load means; and means connecting said load means between said point of fixed potential and the center tap terminal of said relay coil, the arrangement being such that said relay is operated when either one or more of said rectifiers or said load fails shorted.



3,193,753
REGULATED POWER SUPPLY

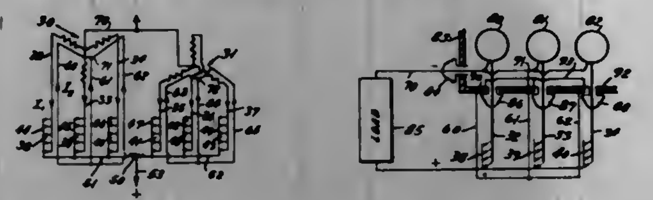
Roger W. Fleming, Kenmore, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 20, 1961, Ser. No. 125,524
10 Claims. (Cl. 321—18)



1. In combination, a multi-phase source of alternating current, a load circuit having first and second terminals, means for rectifying signals from said source and applying direct current power to said load circuit comprising, first and second conduction paths for each phase of said source both connected at one end to said source and respectively connected at the other end to the first and second terminals of said load circuit, at least the first of the conduction paths for each phase including a controled rectifier connected in series with said load circuit, means for controlling the conduction time of said controlled rectifiers including a circuit for each phase of said source for producing trigger pulses in synchronism with the alternating signal of the respective phase, a delay circuit, means coupling the trigger pulses from all phases to said delay circuit to derive a train of pulses separated from each other by the phase angle between the alternating signals from said source and each delay a predetermined amount from its corresponding trigger pulse, means for applying said delayed pulses in parallel to all of said controlled rectifiers, and means for controlling the delay time of said delay circuit.

3,193,754
REDUCED IMPEDANCE TRANSFORMER AND RECTIFIER BUSING

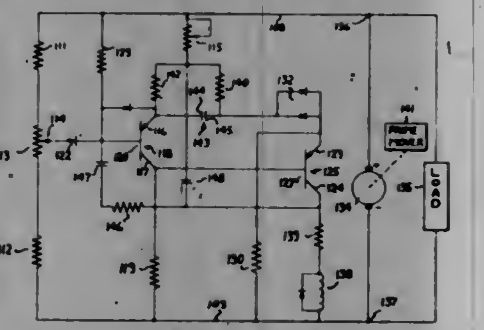
Isadore K. Dortort, Philadelphia, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Jan. 17, 1963, Ser. No. 252,119
10 Claims. (Cl. 321—27)



10. In combination; a multiphase transformer, a rectifier having multiphase A.-C. input means, and a bus system for interconnecting said multiphase transformer and said multiphase A.-C. input means of said rectifier; said bus system being comprised of a first plurality of bus conductors and a second plurality of bus conductors; each of said first plurality of buses extending from said transformer to said rectifier input means and carrying current from said transformer to said rectifier; each of said second plurality of bus conductors being positioned immediately adjacent a respective bus conductor of said first plurality of bus conductors; each of said second plurality of buses being electrically arranged with respect to one another for conducting a current in a direction opposite to the direction of current in their said respective bus of said first plurality of buses; said multiphase transformer being contained within a tank; said tank having a plurality of dual conductor lead through structures in a wall thereof; each of said buses of said first plurality of buses and its said respective bus of said second plurality of buses being connected to a respective dual conductor lead through structure of said plurality of lead through structures; each of said lead-through structures comprising an opening in said tank wall, an electrically conductive member mechanically and electrically secured within said opening, an insulator bushing having a conductor therein secured within said opening and insulated from said tank wall, a first and second conductor lead comprised of one of said buses of said first plurality of buses and its said respective bus of said second plurality of buses respectively on one side of said tank wall and a third and fourth conductor lead on the other side of said tank wall; said first and third conductor leads being connected to said electrically conductive member; said second and fourth conductor leads being connected to said bushing conductor; each of said third conductor leads being electrically connected together in balanced phase groupings.

3,193,755
VOLTAGE REGULATOR

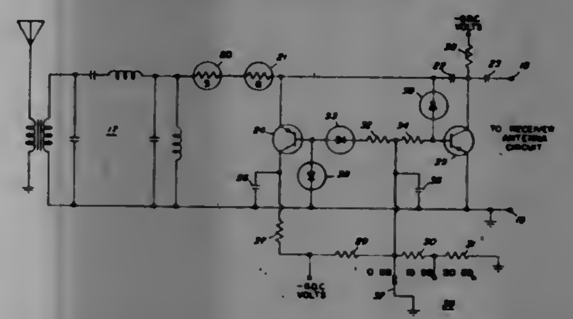
William B. Zelina, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed May 25, 1962, Ser. No. 200,015
3 Claims. (Cl. 322—28)



1. In a voltage regulating system of the type wherein a first transistor device having an emitter, a base, and a collector electrode, is switched between conductive and nonconductive states in response to the operating condition of a voltage reference device to switch a second transistor device having an emitter, a base and a collector electrode, between nonconductive and conductive states for controlling the field excitation of a generator to regulate the output voltage thereof within predetermined upper and lower limits, the combination with said system of a resistance-capacitance timing network interconnecting the emitter electrodes of said first and second transistor devices and being operative to maintain said first transistor device in its nonconductive state until the capacitance has charged to a predetermined level and controlling the conducting time of said second transistor device.

3,193,756
VOLTAGE PROTECTOR AND ATTENUATOR FOR RECEIVER INPUT CIRCUITS

Josiah J. Godbey, Richardson, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Jan. 29, 1962, Ser. No. 169,533
3 Claims. (Cl. 323—17)



1. In an antenna circuit having antenna input coupling means and receiver input circuits with an antenna terminal and a ground terminal, a combined voltage protector and an adjustable attenuator comprising,

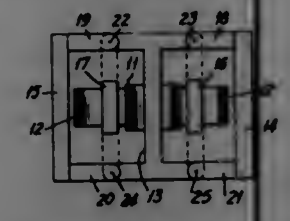
current ballast means connected between said coupling means and said antenna terminal, first and second transistors, each having at least a base, an emitter, and a collector, capacity coupling means for each of said transistors for isolating direct-current circuits from signal circuits, said emitter-collector circuit of each of said transistors being connected through said respective coupling means between said antenna terminal and said ground terminal, said emitter-collector circuits being connected in opposite senses across said receiver input circuits to provide full-wave conduction,

direct-current voltage means including individual circuit-isolating means for each of said transistors for biasing said collectors relative to said respective emitters in the required sense to prepare said transistors for forward conduction, adjustable voltage divider means including individual circuit-isolating means connected to the base of each of said transistors, said voltage divider being adjustable to change the bias on both of said bases simultaneously for changing the degree of conductivity of both of said transistors,

a diode for each of said transistors coupled between said base and said collector of the respective one of said transistors, said diodes becoming conductive in response to application of strong signals from said antenna coupling circuit to said emitter-collector circuits to increase the bias on said respective bases in the direction required for increasing the conductivity of said transistors,

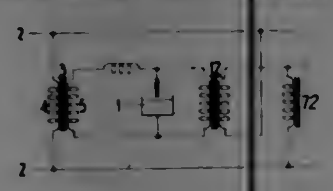
said voltage divider being adjusted to provide predetermined attenuation for signal strength substantially below predetermined destructive values, and said diodes becoming conductive regardless of the setting of said voltage divider in response to application of strong input signal to said coupling means to maintain the signal across said antenna receiver circuits below said destructive values.

3,193,757
DEVICE FOR AN ELECTROMAGNETIC CIRCUIT
Andrew A. Halacsy, 380 Irvington St., Elizabeth, N.J.
Filed Sept. 23, 1959, Ser. No. 842,177
10 Claims. (Cl. 323—51)



1. A magnetic switch and voltage regulator for inductively connecting and disconnecting an energized primary circuit having a constant voltage source with a secondary circuit and regulating the induced voltage of the second circuit while maintaining a constant exciting current flowing in the primary circuit, said switch and regulator comprising a plurality of individual magnetic legs each said leg having two oppositely disposed ends, non-magnetic supporting means for separately supporting each said leg in spaced sequent order, a primary coil wound on one said leg hereinafter called the primary leg and connected in the primary circuit to produce a magnetic flux in said leg, a secondary coil wound on said primary coil and said primary leg and at least one other leg hereinafter called the secondary leg and connected in the secondary circuit, a voltage being induced in said secondary coil by the magnetic flux produced by said energized primary coil, a third leg outside said coils, said primary leg being spaced intermediate said secondary leg and said third leg, magnetic switching means movable normal to the magnetic flux in said legs and positioned at both of the oppositely disposed ends of said sequentially arranged and spaced legs for selectively providing flux paths between said primary and said secondary legs and said primary and said third leg, means for interconnecting said switching means at said oppositely disposed ends of said legs for moving simultaneously as a unit, and means for moving said switching means to shift the magnetic flux path through said primary leg progressively from the secondary leg to said third leg, thereby providing a full range of voltage regulation in said secondary circuit.

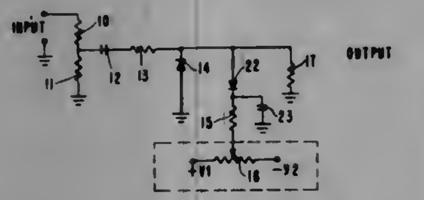
3,193,758
ELECTRIC SUPPLY ARRANGEMENTS
Erich Siegfried Friedlander, Sutton Coldfield, England, assignor to The General Electric Company Limited, London, England
Filed Sept. 15, 1961, Ser. No. 138,306
Claims priority, application Great Britain, Sept. 21, 1960, 32,428/60; Oct. 11, 1960, 34,792/60
12 Claims. (Cl. 323—60)



1. In an electric supply arrangement in which a fluctuating load is fed from an alternating current electric supply network, means for reducing voltage flicker on the network arising from load fluctuations, said means comprising:

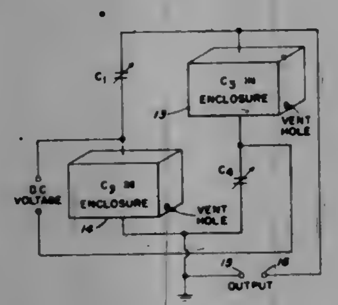
(a) a circuit including saturable reactor means,
(b) means connecting said circuit across said supply network,
(c) an inductance winding,
(d) circuit means connecting said inductance winding across said fluctuating load, and
(e) means constituting an inductive coupling between said inductance winding and said circuit.

3,193,759
GAIN CONTROL MEANS
Charles A. Bogdan, Jr., Vestal, and Fredric C. Fitzgerald, Endicott, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 24, 1961, Ser. No. 91,425
2 Claims. (Cl. 323—66)



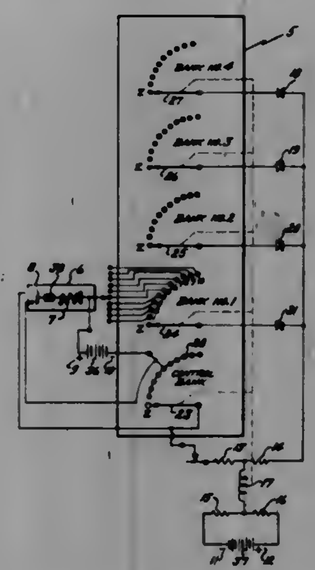
1. A voltage signal gain control circuit for use with low level alternating signals in the range of 200 cycles per second to 8 megacycles, comprising: an input consisting of a signal terminal and a common terminal adapted to receive said alternating signals; a scaling resistance connected to said signal terminal; first semiconducting diode means connected to the free end of said scaling resistance and said common terminal; second semiconducting diode means having one lead connected to said first diode means such that the forward direction of each diode means is opposed to the other; capacitance linking means connected from the free end of said second diode means to said common terminal; remotely located selectively variable current supply means adapted to provide bias current to said diode means for biasing said first diode means to operation in the knee region of its current-voltage characteristic curve; and output means for providing the controlled signal voltage as measured across said first diode means.

3,193,760
AIR PRESSURE SENSITIVE BRIDGE
Julius L. Smith, Jr., Richardson, Tex., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Apr. 28, 1961, Ser. No. 106,395
2 Claims. (Cl. 323—75)



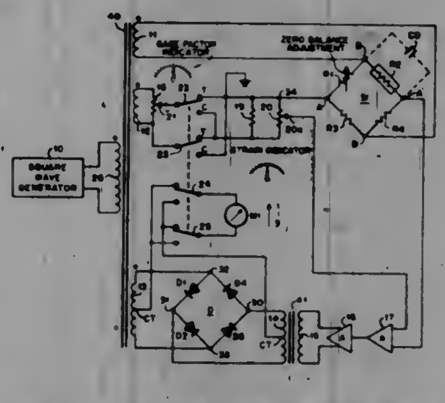
2. A pressure transducer comprising four condensers, said condensers connected in a bridge circuit, two of said condensers, one each in opposite branches of said bridge, being immune to pressure variations, the other two condensers in the other opposite branches of said bridge having dielectric constants which vary with changes in pressure, said other two condensers being mounted in a housing which has a small opening that allows pressure variations that exist a long time between the inside and outside of the housing to equalize, a voltage source connected to said bridge circuit, and an output removed from said bridge circuit proportional to pressure deviations.

3,193,761
APPARATUS FOR CONTROLLING A STEPPING SWITCH BY MEANS OF A BALANCED BRIDGE TECHNIQUE
Henry Hoffmann, Jr., Rome, N.Y., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Apr. 25, 1961, Ser. No. 105,519
1 Claim. (Cl. 323—97)
(Granted under Title 35, U.S. Code (1952), sec. 266)



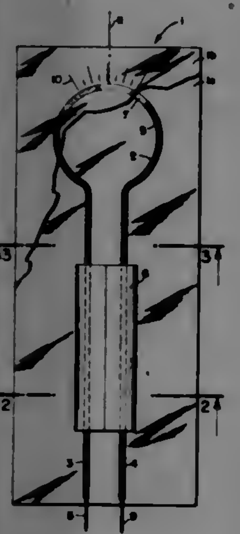
Means for controlling a stepping switch having a plurality of contact-sweeping arms and a single electrical actuating coil for all of said arms, said means comprising a plurality of step position contacts, means for putting said actuating coil in a resistive bridge circuit, means for initiating cyclic progression of said stepping switch by unbalancing said bridge circuit, means for arresting said progression with a balancing potential applied to said bridge through the selected step position contact, and means for allowing said switch to return to its original position by removing said balancing potential.

3,193,762
WHEATSTONE BRIDGE APPARATUS FOR MEASURING THE IMPEDANCE OF TRANSDUCERS, WHICH VARIES AS A FUNCTION OF APPLIED STRAIN
Henry H. Wu, Chicago, Ill., assignor, by mesne assignments, to Strainsert Company, Bryn Mawr, Pa., a corporation of Pennsylvania
Filed Sept. 23, 1960, Ser. No. 58,015
6 Claims. (Cl. 324—62)



1. Apparatus for measuring changes in a resistive transducer comprising a Wheatstone bridge having four legs, one of which includes said resistive transducer and the others of which include impedances, said bridge further including a pair of input terminals and a pair of output terminals, means for applying an alternating square wave signal to the input terminals of said bridge, means producing a alternating square wave reference voltage which is in phase with said square wave signal applied to said input terminals, an amplifier having input and output terminals, means connecting the output terminals of said bridge to the input terminals of said amplifier, means for connecting said reference voltage to said amplifier and in series bucking relationship with the output voltage from said bridge, means for varying the magnitude and reversing the phase of said reference voltage, a phase sensitive detector connected to the output of said amplifier and a null indicator connected to said detector, said reference voltage varying means being adjustable to vary said reference voltage and produce a null indication on said indicator, the last said means in an adjusted position providing an indication of the change in magnitude of the resistance of said transducer.

3,193,763
ELECTROLYTIC COULOMETRIC CURRENT INTEGRATING DEVICE
Curtis C. Beusman, Chappaqua, N.Y., assignor to Curtis Instruments, Inc., Mount Kisco, N.Y., a corporation of New York
Filed June 4, 1962, Ser. No. 199,795
7 Claims. (Cl. 324—94)

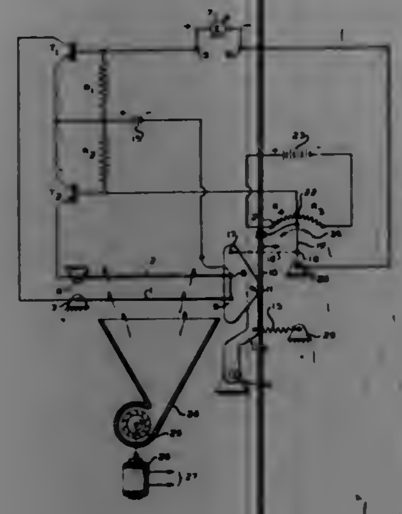


1. A coulometric device comprising a body of non-conductive material having an elongated bore formed therein, columns of liquid metal in said bore and having their adjacent ends intermediate the ends of said bore separated by a slug of non-conductive material which is free to move in said bore, a body comprising electrolyte material connected to each of said columns at locations intermediate the ends thereof and extending from one of said columns to the other, and means for connecting an external source of potential between said columns.

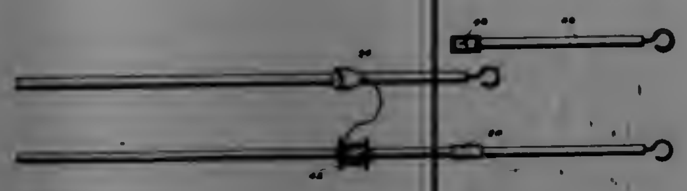
3,193,764
ELECTRICAL MEASURING DEVICE USING A DOUBLE ACTING THERMAL ACTUATOR
Nathaniel B. Wales, Jr., Sharon, Conn., and Charles B. Grady, Jr., West Orange, N.J., assignors to The Metrodynamics Corporation, a corporation of New Jersey
Filed Mar. 1, 1961, Ser. No. 92,698
2 Claims. (Cl. 324—106)

1. In a device for indicating the value of a variable electrical signal potential, the combination comprising: a first thermally extensible resistance wire, a second thermally extensible resistance wire, a lever, tension means to move said lever in response to the difference between the thermal extensions of said first and second wires, a variable reference potential, means responsive to the position of said lever for varying said reference potential, comparator means to generate an error potential which is a function of the algebraic difference between said signal potential and said reference potential, switch means to apply a first

variable current to said first wire in response to the magnitude of a first polarity of said error potential and to apply a second variable current to said second wire in response to the magnitude of a reversal of said first polarity, said switch means including a biasing circuit to prevent said application of said second current in response to said first polarity and to prevent said application of said first current in response to said reversal and indicator means actuated by said lever.

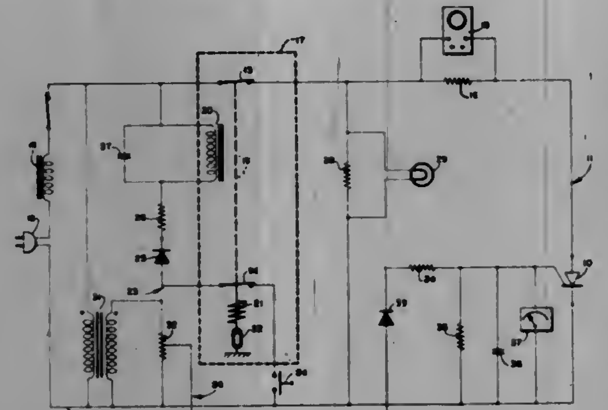


3,193,765
PLURAL EXTENSIBLE POWER LINE VOLTAGE MEASUREMENT PROBES WITH SPOOL MEANS FOR THE INTERCONNECTING CONDUCTOR
Marvin W. Bevins, 3137 S. Cincinnati, Tulsa, Okla.
Filed Dec. 12, 1960, Ser. No. 75,258
2 Claims. (Cl. 324—149)



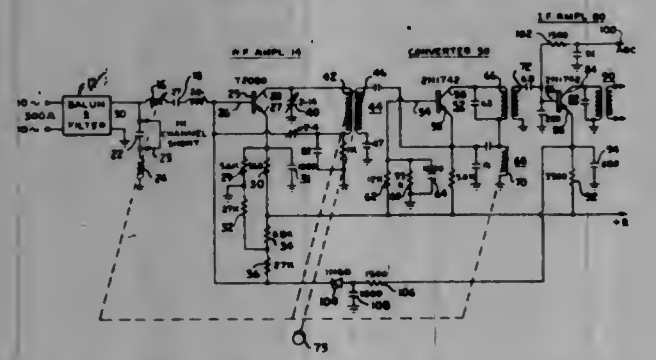
2. In a device of the character described, a first non-conducting tubing member having a conducting electrode removably secured to one end thereof and adapted to be applied to a power lead, a voltage measurement means carried by said tubing member and spaced downwardly from the electrode for facilitating visual inspection of the voltage measurement, said electrode being connected through an electrical resistance to one side of the voltage measurement means, a second non-conducting tubing member having a conducting electrode removably secured to one end thereof and adapted to be applied to a second power lead, said second electrode being connected to the other side of the voltage measurement means through an electrical resistance and an insulated conducting cable that extends between the voltage measurement means and the second electrode, spool means provided on one of said tubing members to control the length of the conducting cable extending between the tubing members, a first non-conducting tubing extension member provided with an electrical resistance and adapted to be secured to the end of the first tubing member after the electrode has been removed, said electrode adapted to be removably secured to the tubing extension and electrically connected through the electrical resistance contained therein to the electrical resistance in the first tubing member, and a second tubing extension member identical to said first tubing extension member and adapted to be secured to the second tubing member.

3,193,766
CONTROLLED SILICON RECTIFIER TEST APPARATUS FOR DETERMINING DEFECTS AND OPERATING CHARACTERISTICS
Joseph W. Fleming, Allendale, N.J., assignor to Electronic Dimmer Corporation, New York, N.Y., a corporation of New York
Filed Feb. 17, 1961, Ser. No. 90,022
7 Claims. (Cl. 324—158)



1. Apparatus for testing a controlled silicon rectifier having anode, cathode, and gate terminals, which apparatus comprises: a relay having two normally closed switches which are mechanically connected together for simultaneous operation between opened and closed positions, a coil for magnetically operating said switches and adjustable tension means connected to said switches biasing the same to said normally closed positions; a first circuit adapted to be connected to a source of alternating voltage and having in series one of said relay switches, load means and the anode-cathode terminals for said controlled silicon rectifier; means connected in shunt across said load means for providing a visible representation of the waveform of the voltage appearing thereacross; a lamp connected in shunt across said load means and the anode-cathode terminals for said controlled silicon rectifier; a second circuit adapted to be connected to said source of alternating voltage and having in series, said coil, the other of said relay switches, a manually operable switch, rectifier means and timing resistance means and having a capacitor connected in shunt across said relay coil; an adjustable source of direct current bias voltage connected between the gate and cathode terminals of said controlled silicon rectifier; and, voltmeter means connected across the gate and the cathode of said controlled silicon rectifier.

3,193,767
TRANSISTOR RADIO SIGNAL RECEIVER WITH MEANS FOR REDUCING DISTORTION IN THE RF AMPLIFIER
John B. Schultz, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Apr. 2, 1962, Ser. No. 184,049
9 Claims. (Cl. 325—319)



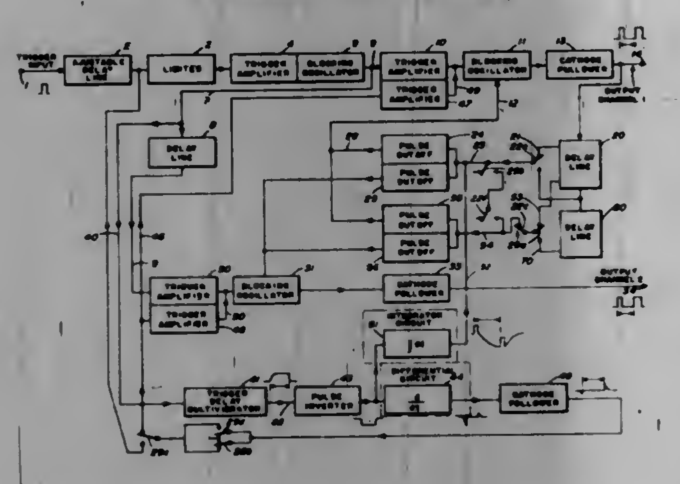
4. In a signal receiver of the type comprising a radio frequency amplifier stage including a transistor having base, emitter and collector electrodes, and having a signal input circuit connected between said base and emitter electrodes, an intermediate frequency amplifier stage comprising a transistor including base, emitter and collector electrodes means providing an automatic gain control circuit for developing a control voltage the magnitude of which is a function of the received signal level, and means for applying said control voltage to a gain controlling electrode of said intermediate-frequency amplifier stage transistor to reduce the gain thereof as signal level increases, the combination comprising,

a direct current load impedance element connected in the emitter-collector current path of said intermediate frequency amplifier stage transistor to develop a direct voltage corresponding to said control voltage,

voltage responsive nonlinear impedance means connected across the radio frequency amplifier stage input circuit and to said load impedance element for applying said direct voltage to a gain controlling electrode of said radio frequency amplifier stage transistor so that the base-emitter current and the gain of said radio frequency amplifier is reduced as signal level increases, and

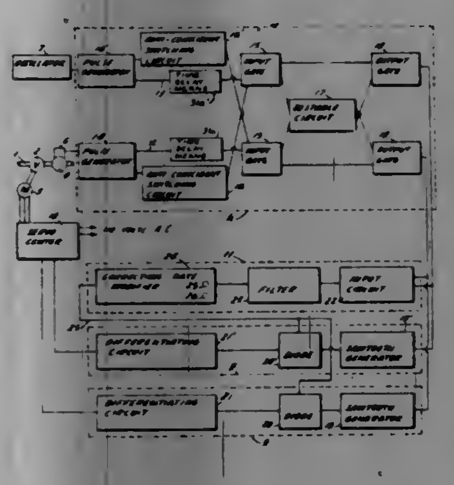
means for providing a greater incremental change in collector current of said radio frequency amplifier than the incremental change in collector current of said intermediate frequency amplifier for a given change of signal level so that for changes of signal level in a predetermined range of signals substantially only the gain of said radio frequency amplifier is changed.

3,193,768
PLURAL-CHANNEL PULSE GENERATOR WITH FEEDBACK CONTROLLING DURATION OF OUTPUT PULSES FROM SAID CHANNELS
Robert W. Scheyhing, Moorestown, and Alexander A. Gorski, Riverton, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Jan. 30, 1962, Ser. No. 169,985
3 Claims. (Cl. 328—62)



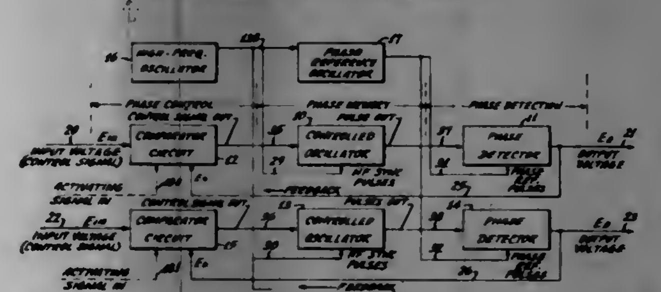
1. A pulse generator including:
- a pulse shaping means having an input terminal, said pulse shaping means receiving an input pulse and providing an output pulse;
- first and second ouput channels, each of said channels having an input, output, and control lead;
- means for receiving said output pulse on the input lead of both of said channels;
- feedback means connected between the output lead of one of said channels and to the control leads of each of said output channels for controlling the duration of said output pulse; and
- further pulse shaping means operatively coupled to the output of said first-mentioned pulse shaping means and operatively coupled to the control lead of at least one of said channels for further controlling the duration of said output pulse.

3,193,769
SIGNAL FREQUENCY COMPARATOR AND CONTROL APPARATUS
Richard A. Graham, Mequon, and Frederick W. Gruner, Milwaukee, Wis., assignors to Jordan Controls, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Mar. 6, 1961, Ser. No. 93,447
3 Claims. (Cl. 328—133)



1. In a frequency comparator having a pair of output channels establishing a positive polarity output pulse in the channel associated with the higher frequency signal and a pair of square wave signal formers connected one to each of said output channels, said formers including a sawtooth generator feeding a diode having an element determining the width of the square wave signal, the combination with said formers of a rate modifier comprising a pair of resistors having one end of each connected to different output channels and the opposite ends connected in common, a direct current filter connected to said resistors and establishing a direct current voltage in proportion to the pulse repetition rate of the output pulses, a modifying circuit including a capacitor and a potentiometer connected in a series circuit across the output side of the filter and a capacitor and a potentiometer in parallel between one side of the filter and the series circuit, said potentiometers constituting means for adjusting the network time constant, and an inverter amplifier connected to the output of the modifying circuit and connected to said diodes for automatically adjusting the width of each square wave signal in accordance with the frequency of said output pulses.

3,193,770
VOLTAGE AND PHASE MEMORY SYSTEM
Thomas G. Marshall, Jr., Skillman, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed May 3, 1961, Ser. No. 107,541
8 Claims. (Cl. 328—155)

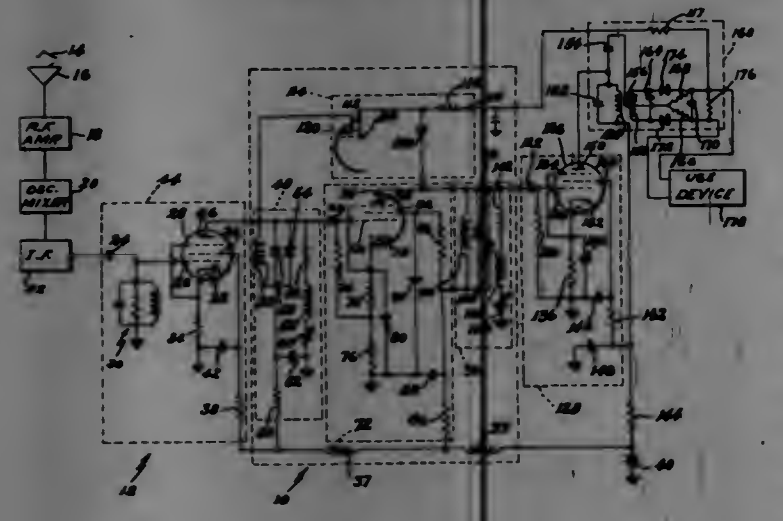


1. A memory system comprising a controlled oscillator, a synchronizing signal source coupled to said controlled oscillator, the frequency of said synchronizing source being the multiple of the frequency of said controlled oscillator frequency, means for comparing the phase of a signal from said controlled oscillator with the phase of a reference signal bearing a fixed phase relation to

the signal from said synchronizing signal source to derive an output signal, and means coupled with said controlled oscillator and with said phase comparing means for changing the phase of said controlled oscillator to change the magnitude of said output signal.

3,193,771
FREQUENCY MODULATION SIGNAL ENHANCER

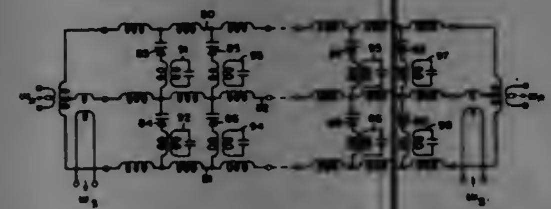
John T. Boatwright, Waltham, Mass., assignor to General Electronic Laboratories, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 6, 1961, Ser. No. 87,422
7 Claims. (Cl. 329—134)



7. A frequency modulation signal enhancing system comprising an amplifier stage having an input and output circuit, means for feeding frequency modulation signals to the input circuit of the amplifier stage, the amplifier stage including a diode signal amplitude limiter coupled to the input circuit for limiting the amplitude of signals fed to the stage, a feedback loop coupled from the output circuit to the input circuit and including a second diode signal amplitude limiter for limiting the amplitude of signals fed through the loop.

3,193,772
TUNABLE TRAVELING WAVE PARAMETRIC AMPLIFIER WITH CONSTANT IDLER FREQUENCY

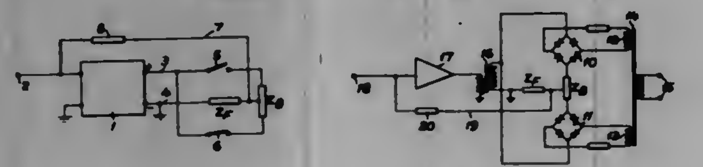
Hsiung Hsu, Clay, and Stephen Wanuga, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Filed Feb. 10, 1961, Ser. No. 88,535
8 Claims. (Cl. 330—4.6)



1. A tunable traveling wave parametric amplifier comprising a multipath transmission line the paths of which support a signal wave of frequency ω_s and phase constant β_s and phase constant β_p, a pump wave of frequency ω_p and an idler wave of frequency ω_i and phase constant β_i, said waves being related by $\omega_p=\omega_s+\omega_i$ and $\beta_p=\beta_s+\beta_i$, nonlinear reactance loading means across which said signal, pump and idler waves parametrically interact coupled to the paths of said transmission line, said nonlinear reactance loading means causing a dispersive region of substantially minimum slope in the ω versus β functions of said paths, where ω is the frequency and β is the phase constant of the waves supported thereby, said paths being constructed so as to provide for a given band of tuned signal frequencies operation of the idler wave at about said dispersive region of the idler path ω versus β function.

3,193,773
MODULATOR-DEMODULATOR CIRCUIT

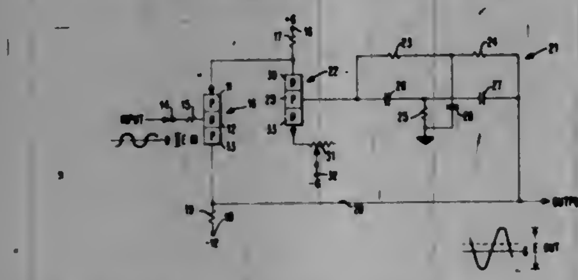
Oddgeir Uglum and Harry Flåten, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Nov. 14, 1961, Ser. No. 152,276
Claims priority, application Sweden, Nov. 15, 1960, 10,957/60
7 Claims. (Cl. 330—10)



1. Modulator-demodulator circuit with an input stage and an output stage, a load means connected in the output stage, a feed back impedance means in the output stage, one of said means having two end terminals and a center tap, the input stage having input terminals for receiving an input quantity and first and second output terminals means, said output stage containing two controlled current connecting means operating periodically at the same frequency but in a push-pull manner, one of said current connecting means being connected between one of said end terminals and one of the output terminal means of the input stage, the other current connecting means being connected between the other end terminal and the same output terminal means of the input stage, the other of said load and feedback impedance means being connected between said center tap and the other output terminal means of the input stage, and means to supply the voltage generated across said feedback impedance to one of the input terminals of said input stage, whereby a feedback signal conforming to the input quantity is obtained and supplied to the input side of said modulator-demodulator circuit.

3,193,774
FREQUENCY SELECTIVE AMPLIFIER

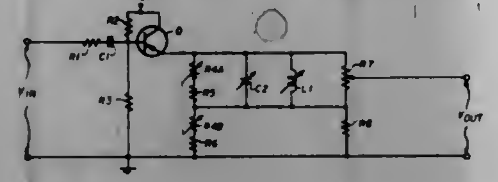
Genung L. Clapper, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 21, 1961, Ser. No: 161,090
2 Claims. (Cl. 330—28)



1. A frequency selective circuit comprising a PNP transistor having an input to the base and an output from the collector, an NPN transistor, a parallel-T circuit connected at its input to the collector output of said PNP transistor and at its output to the base of said NPN, an impedance, means for connecting the emitter of said PNP transistor and the collector of said NPN transistor together in series with said impedance to a source of supply voltage wherein variations in conductivity of said NPN transistor will inversely control conductivity in said PNP transistor, whereby an input signal applied to the base of said PNP transistor will have the frequency characteristics thereof attenuated in accordance with the characteristics of the filter and the characteristics of the NPN transistor shunting said PNP transistor.

3,193,775
ADJUSTABLE ATTENUATION EQUALIZER

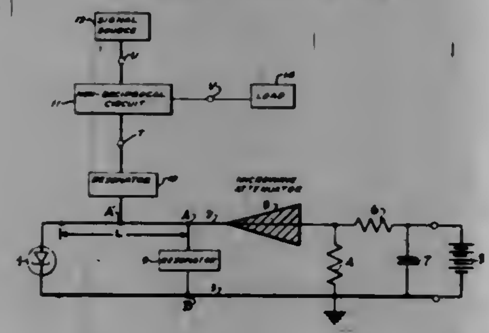
Jose Luis Herrero, San Carlos, Calif., and Gideon Willoner and Robert Lawrence Weeks, North Vancouver, British Columbia, Canada, assignors to Lenkurt Electric Co. of Canada, Ltd., Vancouver, British Columbia, Canada, a corporation of Canada
Filed Apr. 19, 1962, Ser. No. 188,819
5 Claims. (Cl. 330—31)



1. An equalizer circuit in combination comprising:
an input circuit and output circuit;
circuit connections for connecting signals to said input;
an impedance isolating circuit connected to said input;
a compensating circuit interposed betwen said isolating circuit and said output circuit for adjusting the amplitude signal level for a particular range of frequencies in accordance with the frequency response of said compensating circuit;
said impedance isolating circuit including an impedance means connected to said compensating circuit for varying the frequency range and selectivity of said compensating circuit;
and amplitude varying means connected between said compensating means and said output, whereby the amplitude of said range of frequencies may be varied without affecting the amplitude of signals outside of said range.

3,193,776
NEGATIVE RESISTANCE AMPLIFIER CIRCUIT INCLUDING SPURIOUS OSCILLATION SUPPRESSION MEANS

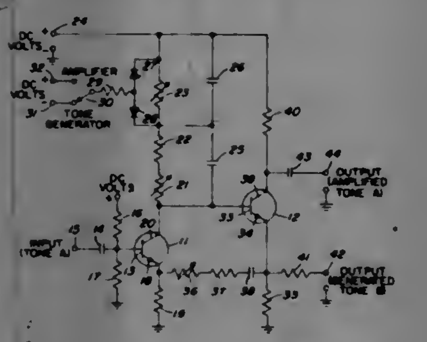
Giovanni Battista Stracca, Milan, Italy, assignor to Marelli Lenkurt S.p.A., Milan, Italy
Filed July 25, 1962, Ser. No. 212,289
Claims priority, application Italy, Aug. 11, 1961, 14,968/61
1 Claim. (Cl. 330—61)



In a microwave system comprising a source of signals to be amplified over an operating band of frequencies, and a load coupled to said source,
a negative resistance amplifier circuit including a transmission line coupled to said source and said load having at one end thereof a negative resistance device, and at the other end thereof means for biasing said device in its negative resistance region and for terminating said transmission line in its characteristic impedance for all frequencies outside of said operating band so as to insure circuit stability, and resonant means coupled to said transmission line, said resonant means including a tuner providing for frequencies within said operating band, a relatively low impedance across said transmission line between said device and said terminating means, and coupled to said transmission line at such a distance from said device as to establish a resonant section of transmission line therebetween, and said tuner means further including a section of a second transmission line short-circuited at one end and coupled capacitively to said first transmission line at the other end, and means for adjusting the postion of said short-circuit and the amount of said coupled capacitance, the combination of said resonant means and said source and load presenting to said negative resistance device a substantially optimum terminating resistance over said operating band of frequencies so as to obtain substantially maximum stable power gain from said circuit.

3,193,777
TRANSISTOR AMPLIFIER-OSCILLATOR WITH A FEEDBACK SWITCHING CIRCUIT

Robert C. Carter, Richardson, Tex., and Robert H. Rogers, East Lansing, Mich., assignors to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed June 18, 1962, Ser. No. 203,164
3 Claims. (Cl. 331—59)



1. An amplifier-oscillator comprising, a first transistor having a first emitter, a first base, and a first collector, a second transistor having a second emitter, a second base, and a second collector, first and second resistors, said first and second emitters being connected through said first and second resistors respectively to a common return circuit, a first impedance circuit connected between said first emitter and said second emitter to provide a feedback circuit between said transistors, a second impedance circuit, a supply terminal for supplying direct-current operating voltage relative to said common return circuit, said first collector being connected to said second base, said joined collector and base being connected through said second impedance circuit to said supply terminal, a thifd resistor, said second collector being connected through said third resistor to said supply terminal, means for biasing said first base to cause said first transistor to operate over the relatively linear portion of its characteristic curve, a signal input terminal coupled to said first base, a signal output and a generator output coupled to said second transistor, said second impedance having a critical value above which said amplifier-oscillator is self-excited and below which it operates as an amplifier, and switching means connected to said second impedance circuit operable to one position for selecting for said second impedance circuit a value of impedance lower than said critical value and operable to another position for selecting for said second impedance circuit a value of impedance higher than said critical value.

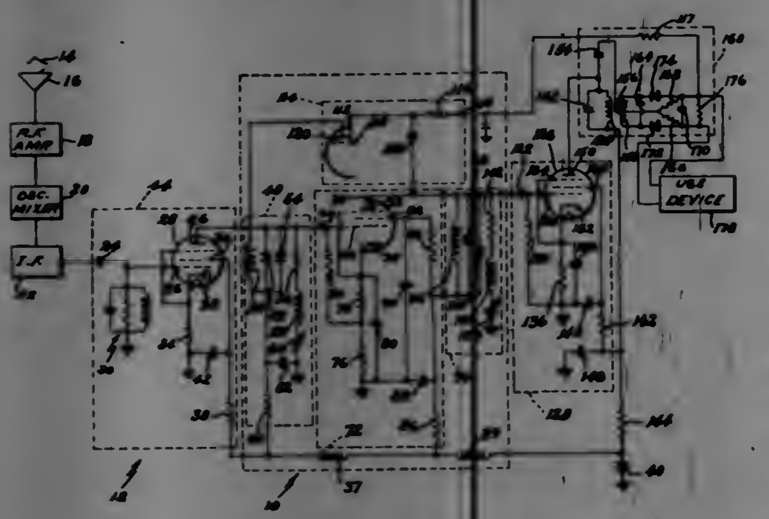
3,193,778
HIGH FREQUENCY OSCILLATOR INCORPORATING A DISTRIBUTED TUNER

Robert L. Maynard, Nashua, N.H., assignor to Sanders Associates, Inc., Nashua, N.H., a corporation of Delaware
Filed Oct. 1, 1962, Ser. No. 227,431
6 Claims. (Cl. 331—98)

1. A high frequency oscillator comprising
(a) an electron tube having a cathode, an anode and a grid,

the signal from said synchronizing signal source to derive an output signal, and means coupled with said controlled oscillator and with said phase comparing means for changing the phase of said controlled oscillator to change the magnitude of said output signal.

3,193,771
FREQUENCY MODULATION SIGNAL ENHANCER
John T. Boatwright, Waltham, Mass., assignor to General Electronic Laboratories, Inc., Cambridge, Mass., a corporation of Massachusetts
Filed Feb. 6, 1961, Ser. No. 87,422
7 Claims. (Cl. 329—134)

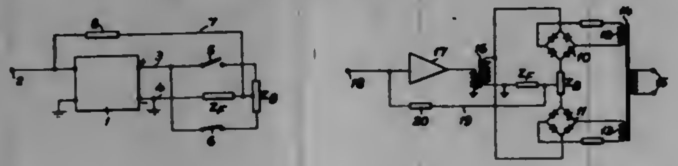


7. A frequency modulation signal enhancing system comprising an amplifier stage having an input and output circuit, means for feeding frequency modulation signals to the input circuit of the amplifier stage, the amplifier stage including a diode signal amplitude limiter coupled to the input circuit for limiting the amplitude of signals fed to the stage, a feedback loop coupled from the output circuit to the input circuit and including a second diode signal amplitude limiter for limiting the amplitude of signals fed through the loop.

3,193,772
TUNABLE TRAVELING WAVE PARAMETRIC AMPLIFIER WITH CONSTANT IDLER FREQUENCY
Hsiung Hsu, Clay, and Stephen Wanuga, Liverpool, N.Y., assignors to General Electric Company, a corporation of New York
Filed Feb. 10, 1961, Ser. No. 88,535
8 Claims. (Cl. 330—4.6)

constructed so as to provide for a given band of tuned signal frequencies operation of the idler wave at about said dispersive region of the idler path ω versus β function.

3,193,773
MODULATOR-DEMODULATOR CIRCUIT
Oddgeir Uglum and Harry Flåten, Vasteras, Sweden, assignors to Allmanna Svenska Elektriska Aktiebolaget, Vasteras, Sweden, a Swedish corporation
Filed Nov. 14, 1961, Ser. No. 152,276
Claims priority, application Sweden, Nov. 15, 1960, 10,957/60
7 Claims. (Cl. 330—10)



1. Modulator-demodulator circuit with an input stage and an output stage, a load means connected in the output stage, a feed back impedance means in the output stage, one of said means having two end terminals and a center tap, the input stage having input terminals for receiving an input quantity and first and second output terminals means, said output stage containing two controlled current connecting means operating periodically at the same frequency but in a push-pull manner, one of said current connecting means being connected between one of said end terminals and one of the output terminal means of the input stage, the other current connecting means being connected between the other end terminal and the same output terminal means of the input stage, the other of said load and feedback impedance means being connected between said center tap and the other output terminal means of the input stage, and means to supply the voltage generated across said feedback impedance to one of the input terminals of said input stage, whereby a feedback signal conforming to the input quantity is obtained and supplied to the input side of said modulator-demodulator circuit.

3,193,774
FREQUENCY SELECTIVE AMPLIFIER
Genung L. Clapper, Vestal, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 21, 1961, Ser. No. 161,090
2 Claims. (Cl. 330—28)

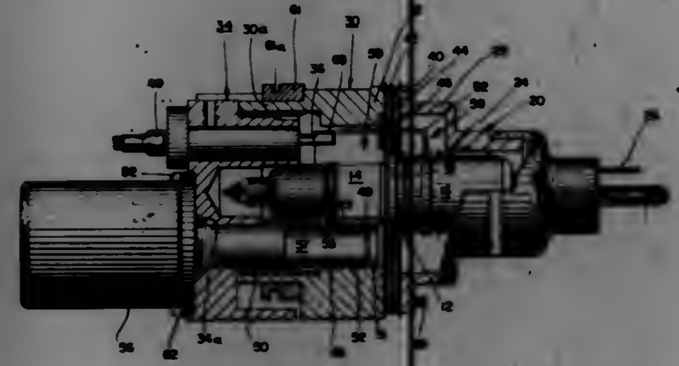
(b) said tube being connected in a distributed reactance circuit including

(1) a resonant anode transmission line having a first outer conductor enclosing said anode, and

(2) a cathode transmission line having a first outer conductor enclosing said cathode,

(c) a tuning mechanism comprising a stator and a rotor,

(d) said stator comprising a plurality of elongated



pole pieces extending longitudinally with respect to said anode transmission line and between said anode and said first outer conductor,

(e) said pole pieces being spaced apart around a longitudinal axis and having circumferential surfaces equally spaced from said axis,

(f) said rotor having a plurality of longitudinally extending prongs radially spaced from said stator surfaces with respect to said axis, and

(g) means for rotating said rotor about said axis.

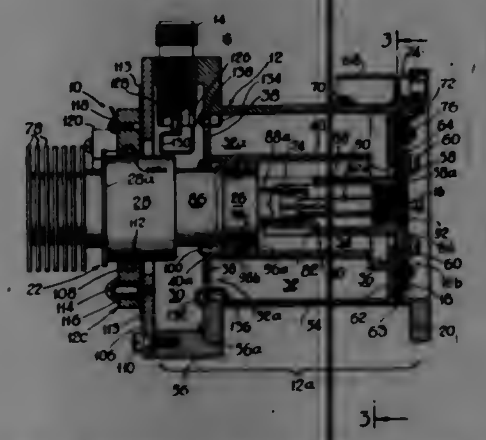
3,193,779

FREQUENCY SELECTIVE AMPLIFIER HAVING FREQUENCY RESPONSIVE POSITIVE FEEDBACK

Charles A. Beaty, West Shore Blvd., Tampa, Fla.

Filed Mar. 27, 1963, Ser. No. 271,041

17 Claims. (Cl. 3[illegible]1—98)



1. A radio frequency device comprising in combination

(A) an electronic valve having a first terminal, a second terminal, and a control terminal,

(1) the valve current between said first and second terminals being controllable by the relative potential of said control terminal with respect to said first and second terminals,

(B) a distributed parameter output circuit coupled between said first terminal and said control terminal,

(C) a control circuit coupled between said second terminal and said control terminal for controlling the energy delivered by said valve to said output circuit,

(1) said control circuit being constructed with a folded coaxial transmission line having first and second concentric and series-coupled coaxial sections,

(2) said second terminal being connected through relatively low radio frequency impedance to the outer conductor of said first coaxial section and to the inner conductor of said second coaxial section and said control terminal being connected through relatively low radio frequency impedance to the other conductors of said coaxial sections,

(D) a conductive housing for said valve, said output circuit and said control circuit,

(1) said housing forming a portion of said output circuit and a portion of said control circuit,

(E) a cylindrical sleeve within said housing and contacting said control terminal and constituting a part of said folded transmission line, and

(F) a conductive sleeve support connected between said sleeve and said housing intermediate said output circuit and said folded transmission line.

3,193,780

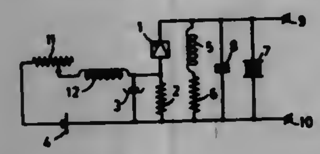
TUNNEL DIODE CRYSTAL OSCILLATOR

Boudewijn Bollee and Dirk van As, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 31, 1962, Ser. No. 234,362

Claims priority, application Netherlands, Nov. 10, 1961, 271,284

3 Claims. (Cl. 331—107)



1. A circuit for generating electric oscillations comprising a tunnel diode, a piezo-electric crystal, a parallel circuit of a capacitor and resistor, said parallel circuit having a negligible impedance for said oscillations, a coil, means connecting said diode, parallel circuit and coil in a closed loop circuit, a source of bias voltage for said diode connected to said resistor, and means connecting said crystal between two points on said loop circuit whereby any impedance between the electrodes of said diode and said crystal is negligible at the frequency of said oscillations, said coil having an inductance determined by the expression:

$$L<R_1R_2C$$

wherein L is the total series inductance of said diode and the circuit connected thereto, R_1 is the series resistance of the internal loss resistance of said diode and the resistance of the circuit connected thereto, R_2 is the absolute value of the negative resistance of said tunnel diode at the work-point, and C is the total capacitance of said tunnel diode and capacitance in parallel therewith, when said crystal is omitted, and:

$$L>R_1R_2C$$

when said crystal is connected.

3,193,781

OSCILLATOR HAVING OUTPUT FREQUENCIES SELECTABLE BY COMBINATIONS OF BILEVEL VOLTAGE SIGNALS

Glen R. Martner, Hawthorne, Calif., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 3, 1962, Ser. No. 164,059

7 Claims. (Cl. 331—112)

2. A pulse generator comprising:

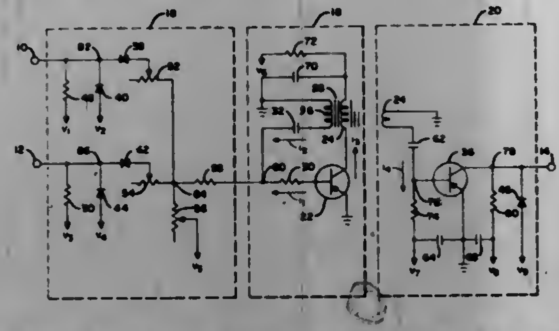
an active element having at least three electrodes;

feedback means coupling a first and a second of said electrodes for causing said active element to oscillate at a predetermined pulse repetition rate;

means coupling the third of said electrodes to a reference potential;

said feedback means including a capacitor means serially coupled between said first and second electrodes;

at least two parallel arranged impedance means common coupled at one end to said first electrode and to said capacitor means for forming a discharge path for said capacitor means;



means separately coupled to each of said parallel arranged impedance means for receiving different combinations of alternative first and second different voltage level digital signals;

each of said parallel arranged impedance means including a switching means responsive to said first and second digital signals for switching each of said parallel arranged impedance means in or out of said discharge path for changing the equivalent resistance of said discharge path;

said predetermined pulse repetition rate determined by the respectively predetermined equivalent resistance of said discharge path as determined by said switching means.

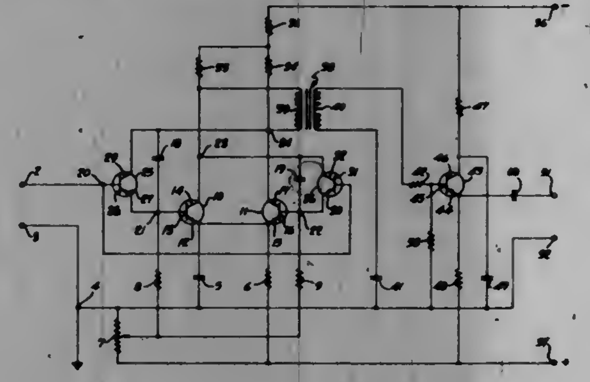
3,193,782

FREQUENCY MODULATOR INCLUDING TRANSISTOR MULTIVIBRATOR

Emil A. Trojak, Palo Alto, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed Aug. 1, 1962, Ser. No. 214,103

4 Claims. (Cl. 332—16)



1. A frequency modulating circuit comprising a source of modulating signals:

an oscillation circuit operatively coupled to the source of modulating signals and including a pair of cross-coupled amplifier devices, said amplifier devices each having at least a control electrode and an output electrode;

a transformer having a primary and a secondary with the primary of said transformer being connected across the output electrodes of said amplifier devices and the secondary being coupled to output terminals; and

amplifying means including a pair of amplifier components respectively cross-coupled between the respective control electrodes and output electrodes of said amplifier devices for supplying amplified components of said modulating signals to the primary of said transformer.

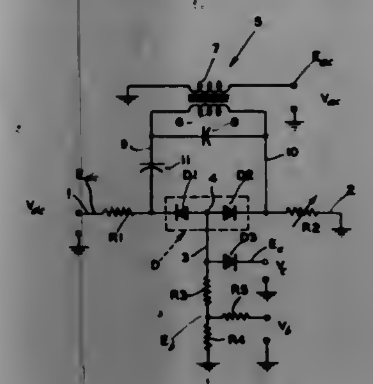
3,193,783

MODULATOR FOR LOW MAGNITUDE VOLTAGE SIGNALS

James E. Brook, Maywood, N.J., assignor to The Bendix Corporation, a corporation of Delaware

Filed May 17, 1960, Ser. No. 29,714

10 Claims. (Cl. 332—52)



1. A modulator comprising a diode switch including a pair of matched diodes connected in series opposition, impedance means connected in parallel with the diode switch, an input arm including a resistor and a source of low amplitude signals connected to one of the diodes, a reference arm of equal resistance to the input arm and including a resistor connected to the other diode, and a gating arm connected between the diodes for alternately biasing the switch to a conducting state to provide a low impedance path from the input arm to the reference arm and to a nonconducting state to apply the signals to the impedance means to provide an alternating voltage output corresponding to the signals.

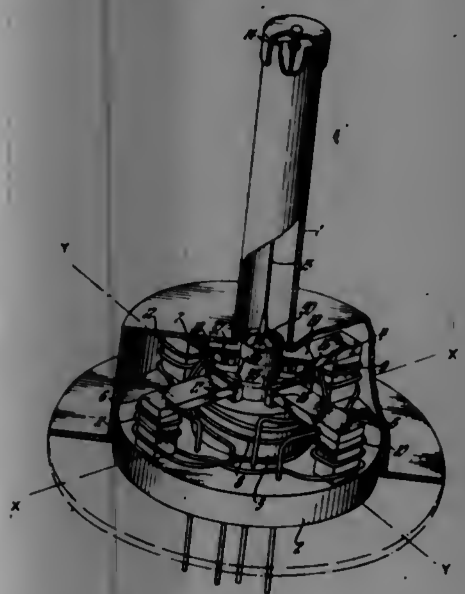
3,193,784

VERTICAL SENSING UNIT

Argyle G. Lautzenhiser, Essex, Mass., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 13, 1961, Ser. No. 123,711

7 Claims. (Cl. 336—30)

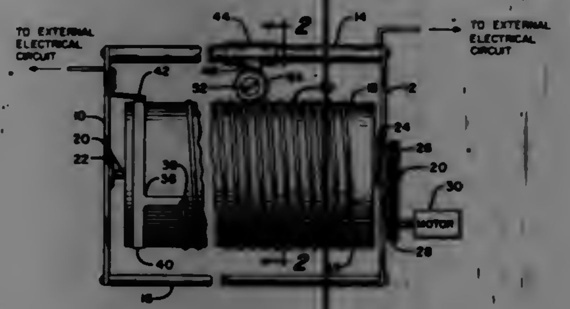


1. A displacement sensing unit comprising a magnetic core having at least a pair of spaced poles, the poles of each pair of poles being opposite each other, means to excite the core to generate an alternating flux therein, an output coil disposed on each of the poles, a non-magnetic armature mounted for movement relative to the core, a plurality of non-magnetic shorting coils mounted on the armature and so arranged that each shorting coil is associated with one of the poles in such a manner that as the armature is caused to move toward one of the poles the associated shorting coil embraces more of the pole, and utilization means connected to the output coils and being

responsive to the voltage induced therein as a measure of the direction and amount of displacement of the armature.

3,193,785
ELECTRICAL CONTACT

Robert L. Mann, Minneapolis, and Donald W. Martin, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 20, 1961, Ser. No. 139,470
7 Claims. (Cl. 336—138)


TO EXTERNAL ELECTRICAL CIRCUIT
TO EXTERNAL ELECTRICAL CIRCUIT
44
2
14
42
32
2
10
20
22
24
26
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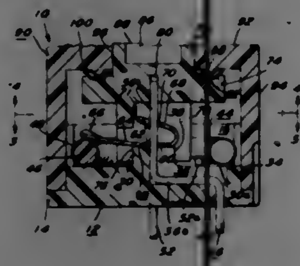
30
MOTOR
28
38
36
40
2
18

1. In a continuously variable electrical impedance device of the type having an electrical conductor wound as a helix upon a cylindrical coil form, said form being arranged for rotation about a longitudinal axis, an electrical contact for engaging said conductor comprising an electrically conductive disc member having a plurality of teeth spaced around its periphery, the spacing being such that at least one of said teeth meshes between adjacent turns of the conductor.

3,193,786
POTENTIOMETER

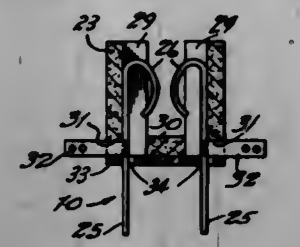
Fred J. Moore, Sr., Largo, and Geoffrey Southwell, St. Petersburg, Fla., assignors to International Resistance Company, Philadelphia, Pa.
Filed May 21, 1963, Ser. No. 282,032
6 Claims. (Cl. 338—164)



1. A potentiometer comprising a base, an annular resistance element mounted on a surface of said base with the ends of the resistance element being spaced apart, a pair of terminal wires extending through said base, each of said terminal wires being electrically connected to a separate end of said resistance element, a contact terminal wire extending through said base and projecting beyond said surface of the base at the center of the resistance element, a contact member of an electrically conducting metal rotatably mounted directly on and contacting the projecting portion of the contact terminal wire and so as to be electrically connected thereto, said contact member having a contact arm slidably engaging the resistance element, an actuator knob mounted and supported on said surface of the base and rotatable about the projecting portion of the contact terminal wire, said actuator knob drivingly engaging said contact member so that rotation of said knob rotates the contact member, and a cover mounted on said base and encompassing the resistance element, contact member and actuator knob, said cover having an opening therethrough through which the actuator knob extends.

3,193,787
PRINTED CIRCUIT BOARD CONNECTOR

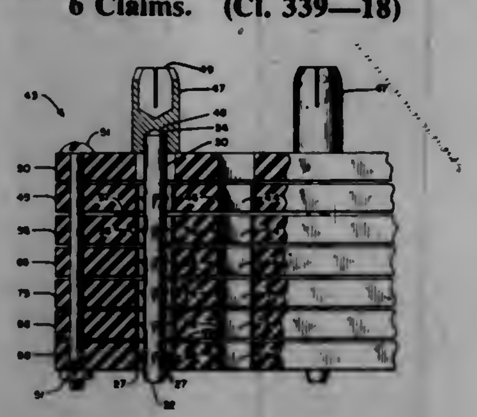
Clarence L. McGhee, 4420 Kushla St., Dallas, Tex.
Filed Mar. 1, 1962, Ser. No. 176,624
2 Claims. (Cl. 339—17)



2. In a series of micro-miniature interconnected electrical circuits, each imprinted on a panel and closely spaced in superposed relationship, a contact receptacle for said panels, a contact terminal element adapted for installation in pairs in opposing relationship in said contact receptacle, the said terminal element having a tang member of indeterminate length sufficient to extend through a plurality of said superposed panels and connected to each of said circuits thereon, a terminal tab formed on said element and perpendicular to said tang member, a yieldable loop formed on said element opposite said tab whereby, when said contact element is paired with another, the loops of both elements are capable of frictionally engaging the opposing surfaces of a circuit panel therebetween, and means on said contact terminal element for securing the same in said contact receptacle on said assembled panels.

3,193,788
MULTILAYER CIRCUIT ASSEMBLY WITH CONNECTING PIN

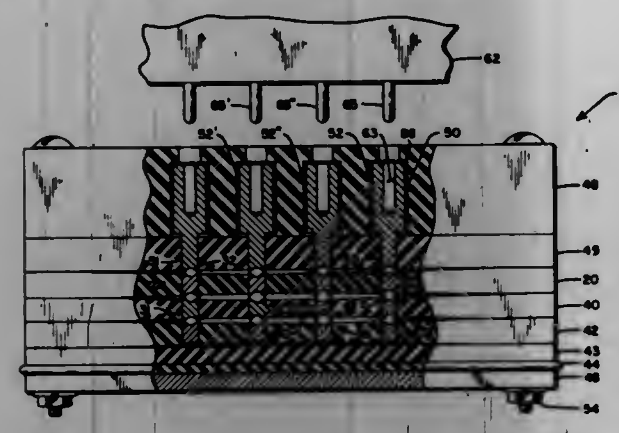
William C. Brown, Edina, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed May 28, 1962, Ser. No. 198,233
6 Claims. (Cl. 339—18)



1. An elongated tubular electrical connecting pin having openings at its opposite ends and a longitudinal slit extending from end to end thereof and having a pair of longitudinal edges disposed in substantial abutting relation, one of the edges having an alignment tab thereon and the other of the edges having a recess therein, the tab being located substantially within the recess; a plurality of resilient projections, each projection having one end integrally associated with the pin and its other end disassociated from the pin, the other end extending outwardly from the external surface of the pin such that the projection forms an acute angle with respect to the external surface, the acute angle formed by each projection opening toward only one end of the pin, the projections being arranged in a plurality of circumferentially substantially equidistantly spaced longitudinal rows, the projections in any one of the rows being longitudinally substantially equidistantly spaced from one another and a plurality of substantially equidistantly spaced circumferential rows, each of the circumferential rows including only one projection from each longitudinal row.

3,193,789
ELECTRICAL CIRCUITRY

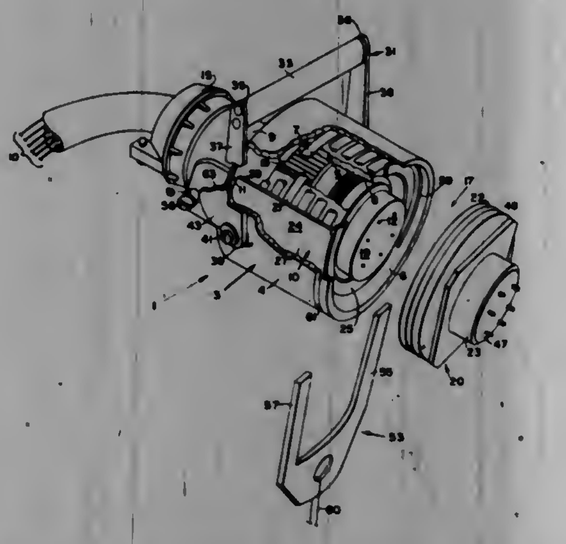
William C. Brown, Edina, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 1, 1962, Ser. No. 214,012
9 Claims. (Cl. 339—18)



1. A printed circuit assembly comprising in combination: superimposed disassemblable insulating support members mounting a plurality of electrically conductive plug elements in rows and columns, said elements extending transversely and having terminal portions flush with major planar surfaces of said support members, said rows and columns of elements in each said support member being aligned with corresponding rows and columns of elements of the next adjacent support member, each of said elements containing at least one recess in one terminal portion and a substantially planar surface at another terminal portion; an electrically conductive deformable element partially received within the recess of each of said plug elements; and a means for applying force to the planar surfaces of said insulating support members thereby causing said deformable elements to deform to provide an electrical interconnection between the plug elements.

3,193,790
UMBILICAL CONNECTOR

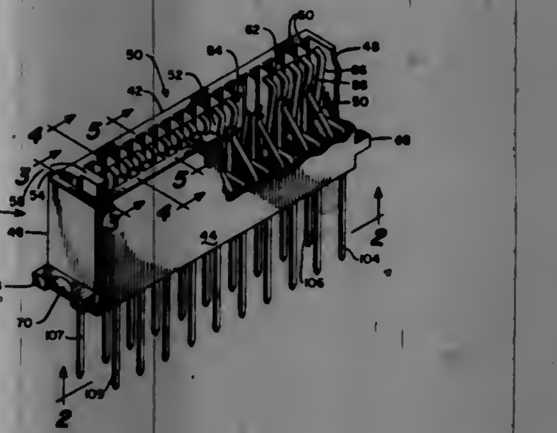
Stanley F. Boyle, Huntsville, Ala., and Phillip E. Theobald, Rochester, Mich., assignors to the United States of America as represented by the Secretary of the Army
Filed Feb. 25, 1963, Ser. No. 260,930
5 Claims. (Cl. 339—45)



1. An electrical connector assembly comprising:
(a) an elongated housing having a base with a central opening therethrough and a wall upstanding about the outer periphery of said base;
(b) a conduit section disposed within said housing and carried by said base in registry with said opening and concentric with said wall;
(c) a hammer disposed in said housing, said hammer having a portion thereof arranged for slidable movement through the end of the housing remote from the base;
(d) a spring disposed in operative engagement between said base and said hammer for normally biasing said hammer in a direction away from the base;
(e) a cocking means carried by the housing and operatively connected to the hammer for moving said hammer toward said housing base against the bias of the spring;
(f) a first electrical connector element carried by the conduit section remote from said base, said element being secured at one end to said conduit section and provided at the opposite end thereof with a plurality of electrical terminal sockets;
(g) a lock releasably carried by said housing adjacent the end remote from the base, said lock providing means to restrain the hammer against the bias of the spring; and
(h) a second electrical connector element adapted to be slidably received and retained within the end of said housing remote from the base, said second element having a plurality of electrical terminals adapted to be matingly received within said sockets, said second element being adapted to be contacted by said hammer whereby on release of said lock, the hammer, under the influence of said spring bias, will forceably move said second element so as to cause said second element to separate from said first connector element.

3,193,791
LAYERED CIRCUIT HOLDER AND RECEPTACLE

Leo L. Bock, Roseville, Minn., Theodore E. Cens, Westport, Conn., and Michael S. Shebanow, Pelham Manor, N.Y., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 26, 1961, Ser. No. 162,004
18 Claims. (Cl. 339—176)



1. In an electrical receptacle adapted for receiving a printed circuit card having a plurality of spaced terminal tabs arranged along one edge thereof, the receptacle comprising: an insulating housing having an opening therein adapted to receive the edge and being defined by spaced side walls joined by end and bottom walls, the bottom wall having a plurality of apertures therein; a plurality of contact members, each of the contact members having a terminal portion an a resilient contact portion, the resilient contact portions being disposed within the opening and arranged in first and second substantially parallel spaced-apart rows, there being one resilient contact portion in the first row and two resilient contact portions in the second row, the resilient contact portion of the first row being aligned with one resilient contact portion of the second row in a plane substantially perpendicular to the direction of the rows; means for extending the terminal portions through the respective apertures for locating the terminal portions in first, second and third substantially parallel planes, the terminal portions located in the

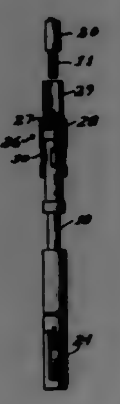
first and second planes being aligned in a direction that is substantially perpendicular to the direction of the planes, the terminal portion located in the third plane being offset in the direction of the planes with respect to the other terminal portions.

3,193,792
CONNECTOR-CONTACT ADAPTER

William T. Shea, Jr., Anaheim, Calif., assignor to Inter-State Electronics Corporation, Anaheim, Calif., a corporation of California

Filed Dec. 3, 1962, Ser. No. 241,685

1 Claim. (Cl. 339—176)



In combination with apparatus for establishing electrical connections for a multiplicity of conductors terminating within a multiple-connector component wherein a multiplicity of contacts extend therethrough in substantially parallel relationship and in which each contact terminates in a recessed conductor-receiving end, the end of each conductor-receiving contact having an insulation-stripped end of an electrical conductor positioned therein and terminating therein and permanently secured thereto by tightly crimping the socket about the stripped end of the conductor, a splice combination for permitting conductor replacements or repair at any conductor-receiving end of any contact which comprises a substantially tubular-shaped elongated connector sleeve element having an intermediate transverse wall to divide the tubular element into two recessed sections, one recessed section being of a depth substantially corresponding to the length of the crimped section of the original conductor-receiving end and the depth of the other recess being sufficient to anchor a conductor therein, the inner and outer diameters of each of the recessed sections of the connector sleeve element at each end being different, the larger of the two recessed sections having an internal diameter substantially corresponding to the outer diameter of the conductor-receiving end of the contact and the outer diameter of the other recessed section substantially corresponding to the recess of the conductor-receiving end of the contact, the tubular connector sleeve element being telescopically positioned over the outer end of the conductor-receiving contact end with the conductor previously crimped therein severed from the contact at substantially the outer end thereof so that the portion of said connector sleeve element having the larger internal diameter surrounds the socket for a distance corresponding substantially to the inward spacing of the transverse wall from the outer end of the connector sleeve element, thereby locating the larger recessed end of the connector sleeve element over the recessed conductor-receiving end of the contact, the said recessed element being crimped to the conductor-receiving end at substantially the same region that the conductor-receiving end was initially crimped to secure the severed electrical conductor, the open end of the smaller of the two recesses in the connector sleeve element being adapted to receive and enclose a stripped end of the electrical conductor, and means to secure the insulation-stripped end of the electrical conductor received within the open end of the smaller section of said sleeve element thereby to establish through the connector sleeve element an electrical connection to one of the multiplicity of contacts.

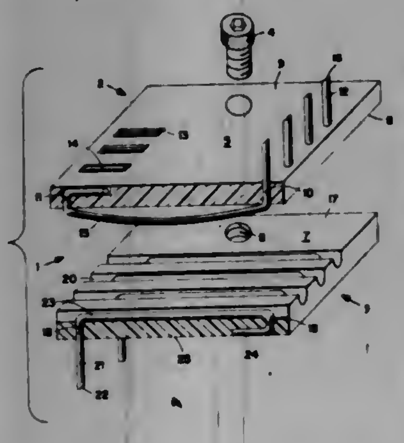
3,193,793
ELECTRONIC CONNECTOR

Kenneth W. Plunkett and Arthur D. Criswell, Huntsville, Ala., assignors to the United States of America as represented by the Secretary of the Army

Filed Mar. 14, 1963, Ser. No. 265,605

4 Claims. (Cl. 339—176)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A connector assembly comprising, an insulating block having a planar surface containing at least two oppositely located aperatures, a first resiliently bowed conductor secured at one end within one of said apertures, the distal end of said conductor extending through the other of said apertures for connection to an external circuit, said conductor including an intermediate bowed portion normally biased out of contact with said planar surface, a second insulating block having a planar surface containing at least two oppositely located apertures and a groove extending transversely across said planar surface, said apertures extending through said second insulating block and in communication with said groove, a second conductor disposed in said groove and secured at one end within one of said apertures, the distal end of said second conductor extending through the other of said apertures for connection to an external circuit, said groove being dimensioned and positioned to receive said bowed intermediate portion of said resilient conductor therein and for insuring aligned parallel relationship of said conductors in said groove, and clamping means cooperatively associated with said insulating blocks for urging said bowed conductor against the force of its bias into linear contact on one side with said planar surface and on its opposite side into linear contact with said second conductor within said groove, said dimensions of said groove being such as to retain said contacts therein in the parallel engaged relation and in engagement with the bottom of said groove for snug-fitting, nonmoveable relationship of said contacts therein.

3,193,794
TERMINAL BLOCKS AND CONNECTORS THEREFOR

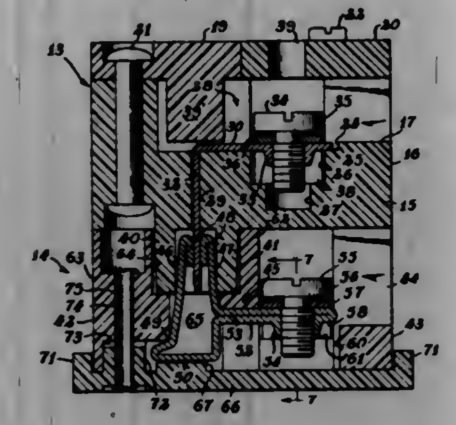
Hans Ege, Chicago, Ill., assignor to Underwriters Safety Device Co., Chicago, Ill., a corporation of Illinois

Filed June 26, 1962, Ser. No. 205,449

2 Claims. (Cl. 339—192)

1. A terminal block comprising at least one connector formed with a pair of upstanding spring fingers having reversely folded free ends in engagement with one another and being divergently downwardly inclined, one of said fingers including a base portion extending as a flat strip and being reversely folded on itself to define a terminal

portion, the reversely folded portion extending toward said one finger and formed integral with said other finger as the base portion thereof, a terminal plate having depending side flanges mounted on said base portion adjacent the reverse folding thereof, a retractable fastener connecting said plate to said base portion and providing means for releasable lead connection thereto, said block including a first recess communicating with a surface thereof and in which said spring fingers are received, said base portion extending to one side of said recess and in confined engagement with the material of said block to prevent movement of said fingers toward said surface, said terminal portion being received in a separate recess communicating with another surface of said block, said separate recess including shoulder means with which the bottom edges of the side flanges of said plate are in engagement, said shoulder means being so located that said terminal portion resists movement of said fingers in the opposite direction from said first-named recess.

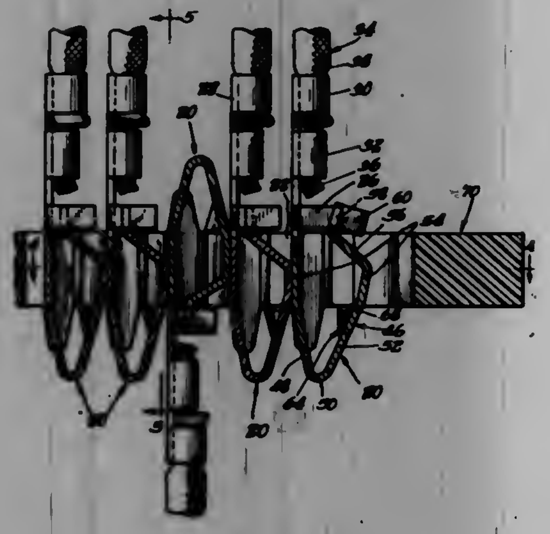


3,193,795
PUSH TYPE TERMINAL CONSTRUCTION

John H. Krehbiel, Brookfield, Ill., assignor to Molex Products Company, Brookfield, Ill., a corporation of Illinois

Filed Sept. 17, 1962, Ser. No. 223,880

18 Claims. (Cl. 339—217)



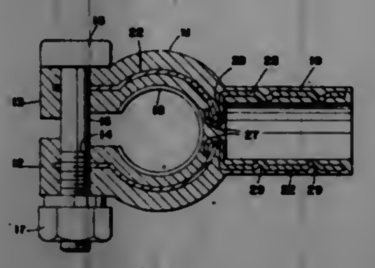
1. A push type terminal construction comprising insulating base means having a predetermined thickness and having a shaped opening therein, said shaped opening having a continuous periphery transverse to said thickness and comprising a repeating pattern of like recesses each adapted to receive a terminal, and a plurality of like terminals plugged into said opening, each terminal being longer than said predetermined thickness and extending from said base means in at least one direction, each of said terminals being received in one of said recesses, each such terminal being in direct physical and electrical engagement with at least one other of said terminals.

3,193,796
BATTERY TERMINAL CONNECTOR

Paul J. Spangler, University Heights, Ohio, assigner to ETC Incorporated, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 2, 1964, Ser. No. 401,152

2 Claims. (Cl. 339—227)



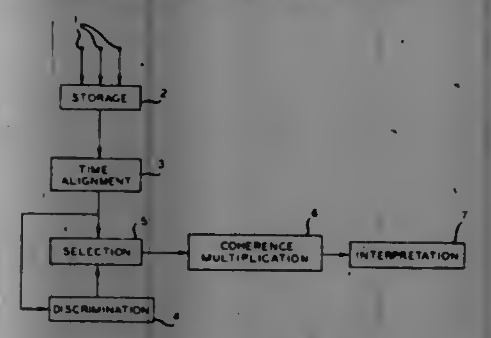
1. A connector for attaching a conductor to a battery terminal, said connector having an open ferrule portion for receiving the bared end of a conductor and a split annular portion for gripping a battery terminal post, said ferrule and annular portions being formed from lead and having a conductive reinforcing core member, said core member having a barrel portion for reinforcing said ferrule portion, a plurality of inwardly directed indentations in said barrel portion for preventing axial extrusion of the surrounding lead as the ferrule portion is crimped onto a conductor and for tightly gripping the bared end of a conductor to form a secure mechanical and electrical union.

3,193,797
DETECTION OF LOW SIGNAL-TO-NOISE RATIO SEISMIC SIGNALS

Joe P. Lindsey, Sheldon E. Elliott, and Ralph C. Loring, all of Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Nov. 27, 1961, Ser. No. 155,113

12 Claims. (Cl. 340—15.5)



10. A process for effecting the proper time alignment of a plurality of seismic signals comprising aligning said plurality of seismic signals for a plurality of values of dip angle, summing the aligned signals corresponding to each of said values of dip angle to form composite signals, comparing the individual aligned signals corresponding to each of said values of dip angle with the respective composite signal and producing an output signal whenever an individual aligned signal is in phase with the respective composite signal, summing the output signals corresponding to each of said values of dip angle to form correlation signals, and comparing said correlation signals to thereby determine the proper value of dip angle.

3,193,798
TRAFFIC DENSITY METER

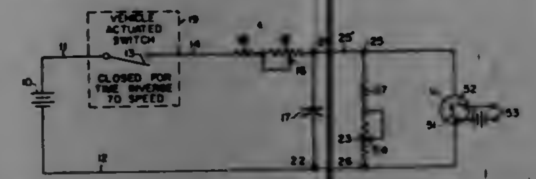
M. Ross Palmer, Brooklyn, Wellington, New Zealand, assignor, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed May 29, 1959, Ser. No. 816,967

15 Claims. (Cl. 340—31)

15. In an apparatus for measuring the density of moving vehicular traffic passing a sampling point over a wide

range of speeds, means responsive to the passage of vehicles for generating pulses from a constant voltage source of time length inversely proportional to the speeds of individual vehicles in traffic over a substantial range of speeds and of number substantially directly proportional to the number of such vehicles in traffic passing said sampling point, means including a cumulative storage element for integrating the total time length of said pulses,

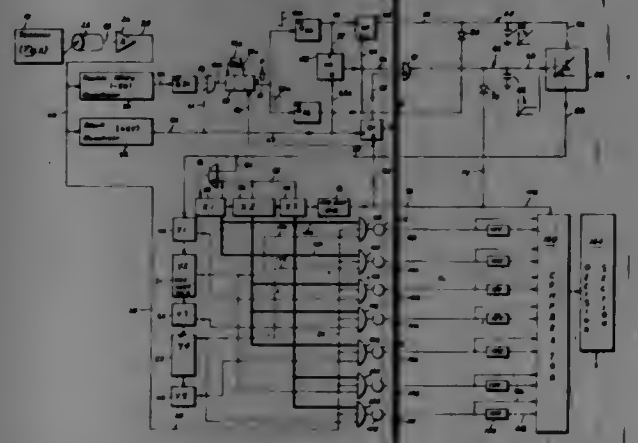


and means for progressively reducing said integrated time length of said pulses on said storage element at a time rate proportional to the net total time length of pulses so integrated, to provide an output proportional to the resulting net integrated total time length of the pulses as so reduced, whereby such output will be representative of the average density of traffic in vehicles per unit of distance.

3,193,799

READING MACHINE WITH TIME-SPATIAL DATA EXTRACTION

Arthur W. Holt, Silver Spring, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed June 6, 1961, Ser. No. 115,165
9 Claims. (Cl. 340—146.3)

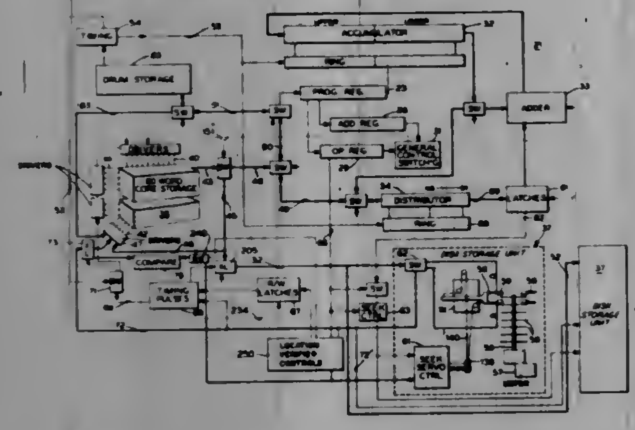


8. In a character reading machine for a character on a background area, wherein the reading machine has a scanner which examines the area by a succession of adjacent scan lines and provides information outputs when the scan lines intercept the character, a plurality of memory devices, there being a memory device associated with each zone of the character area where a zone is defined as a subarea of said area crossed by only a corresponding portion of each of a plurality of said scan lines, the total number and arrangement of said zones covering selected parts of the character area less than the combined character and background area, a control gate associated with each memory device, means to control said gates in such a manner that predetermined information outputs of the scanner are impressed on predetermined memory devices depending on the zone of the character area from which the information outputs are extracted, said control means including means providing a first group of successive signals whose total duration corresponds to the time required for all of the scan lines to cover the area, and means providing a second group of successive signals sequentially operable during each scan line in a manner such that said successive signals of said first and second groups intersect in time to establish in time a grid of time zones which correspond to said subarea zones, means for conducting predetermined sets of signals composed of a signal from each group to preselected gates to enable said preselected gates, and means to conduct said information outputs to all of said gates so that only the gates enabled by a set of said signals from both groups pass information to its associated memory device.

3,193,800

METHOD AND APPARATUS FOR VERIFYING LOCATION AND CONTROLS IN MAGNETIC STORAGE DEVICES

Donald P. Shoultes, Owego, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 14, 1958, Ser. No. 773,968
6 Claims. (Cl. 340—172.5)

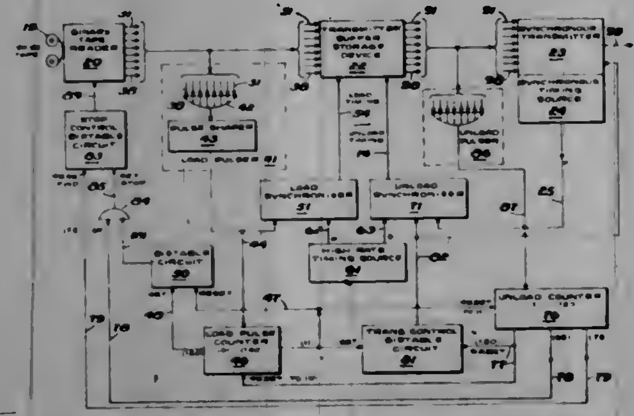


1. In a device for storing data in a plurality of digit positions to provide coded character representations, a rotatable magnetic storage medium having a plurality of circular tracks for storing a plurality of digits, each track having recorded thereon individual track address digits at the beginning of the track, a read and write head movable to read and write on any track, servo means operable to effect movement of the head, means including address storage means for effecting selective operation of the servo means to move the head to a particular track designated by an address in the storage means, comparing means, means responsive to a read or write signal to effect connection of the comparing means to the address storage and head to compare the track address digits on said particular track and the stored address, and means activated by a comparing error signal to prevent a read or write operation on said particular track.

3,193,801

LARGE GAP DATA COMMUNICATION SYSTEM

George F. Grondin, Van Nuys, Calif., assignor to Collins Radio Company, Cedar Rapids, Iowa, a corporation of Iowa
Filed Sept. 28, 1959, Ser. No. 842,795
7 Claims. (Cl. 340—172.5)

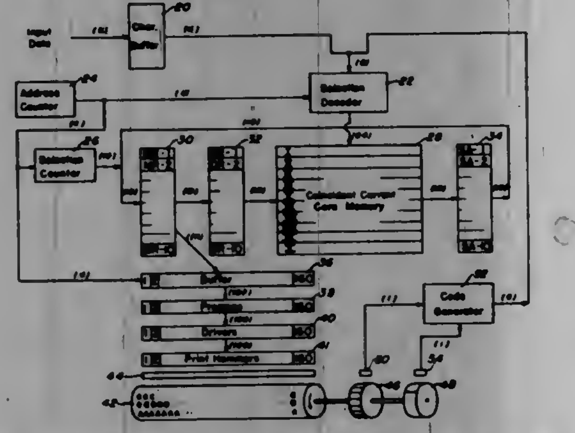


1. A system for bit-synchronously transmitting digital data recorded on tape in blocks separated by large spacer gaps, comprising a nonsynchronous data reader for reading said tape, a synchronous transmitter, a buffer storage device connected between said reader and said transmitter to store nonsynchronously read data, a synchronous timing source connected to said transmitter and to said buffer storage device to synchronously unload it into said transmitter, means for beginning the unloading of said buffer at the beginning of a block being read, timing means triggered by the output of said reader to provide first and second timed points, said first timed point being positioned in time from the beginning of said block by an amount equal to a medium block time, said second time points being time spaced later than said first point, means for measuring the time lengths of blocks being read with respect to said medium block time, said measuring means providing a signal output for each load block having a shorter time length than said medium block time, reader stop means responsive to said signal output of said measuring means to stop the reading operation of said reader at said first timed point, and said reader stop means being responsive to the second timed point to start said reader in its normal reading operation.

3,193,802

DATA HANDLING APPARATUS

Alan J. Deerfield, Franklin, Mass., assignor to Honeywell Inc., a corporation of Delaware
Filed June 29, 1962, Ser. No. 206,477
6 Claims. (Cl. 340—172.5)



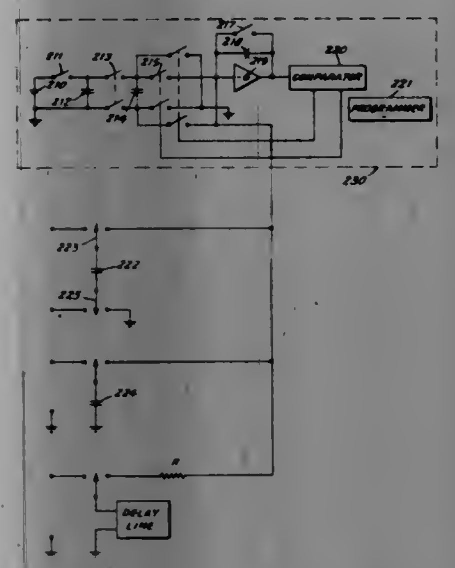
1. In combination with a printer of the kind having a print roll adapted to present successive ones of a set of different data characters to each of a plurality of aligned print hammers, a code generator adapted to generate a different binary digital code combination for each of said print roll characters, means for receiving input data in the form of said data characters represented by said code combinations, a storage device comprising a separate storage cell corresponding to each one of said plurality of print hammers, said storage cells being arranged in groups, each of said different data characters having a corresponding storage location within each of said cells at an address determined by the representative code combination of said character, means for selecting said storage cells in succession for successively arriving data characters, means for storing an indication of each of said arriving data characters in a storage location of the selected storage cell determined by the code of said character, means successively operative on different ones of said groups of storage cells for each generated code combination for simultaneously reading character indications out of all corresponding storage locations in a group, and means for simultaneously energizing said print hammers in accordance with said readout character indications.

3,193,803

ELECTRONIC MULTIPLEXER

Philip A. Hoffman, Towson, Md., assignor to Hoffman and Eaton, Towson, Md., a partnership
Filed Nov. 15, 1960, Ser. No. 69,454
14 Claims. (Cl. 340—173)

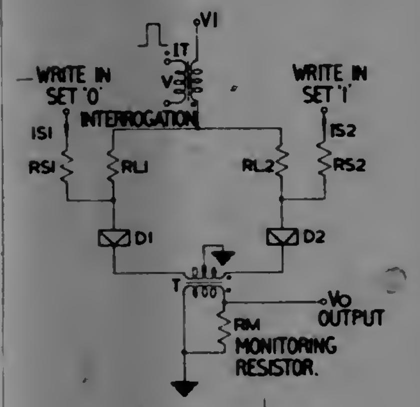
14. An electronic multiplexer-converter comprising a pair of converter charge sharing capacitors, means for producing a reference charge on one of said sharing capacitors, means for connecting said sharing capacitors together in charge sharing relation whereby a predetermined portion of said reference charge is transferred to the other of said sharing capacitors, a third capacitor, a charge transfer circuit for transferring all the charge on said other sharing capacitor to said third capacitor, a plurality of analog signal input storage means, means for impressing the signal from said analog input storage means on said third capacitor, said charge transfer circuit including a high negative gain amplifier connected across said third capacitor, said analog input storage means including a fourth and fifth capacitor, and switch means connecting said fourth and fifth capacitor to said third capacitor for transferring all of the analog input signal charge on said fourth and fifth capacitor to said third capacitor.



3,193,804

ELECTRONIC INFORMATION STORAGE CIRCUIT UTILIZING NEGATIVE RESISTANCE ELEMENTS

Gerald Horace Perry and Eric William Shallow, Malvern, England, assignors to National Research Development Corporation, London, England, a British corporation
Filed Mar. 21, 1962, Ser. No. 181,371
Claims priority, application Great Britain, Apr. 13, 1961, 13,289/61
10 Claims. (Cl. 340—173)



1. An electronic information storage circuit comprising:

(a) a first diode-resistive-impedance combination comprising:
  - a diode having a negative resistance region in its forward voltage-current characteristic, and
  - a resistive impedance for serially connecting a current supply to the diode,

whereby the diode possesses two stable states one low resistance and one high resistance corresponding to points on the voltage-current characteristic separated by the negative resistance region;

(b) a second diode-resistive-impedance combination connected in parallel with said first combination and comprising:

a second diode having a negative resistance region in its forward voltage-current characteristic, and

a second resistive impedance for serially connecting a current supply to the second diode,

whereby the second diode possesses two stable states one low resistance and one high resistance corresponding to points on the voltage-current characteristic separated by the negative resistance region;

(c) an interrogating circuit in a circuit common to both diodes;

(d) pulsing means for pulsing the interrogating circuit with a pulse sufficiently small in magnitude that the diodes remain in the respective resistance states they occupied before the circuit was pulsed; and

(e) detection means including a difference circuit responsive to the difference signal between the outputs of the two diodes.

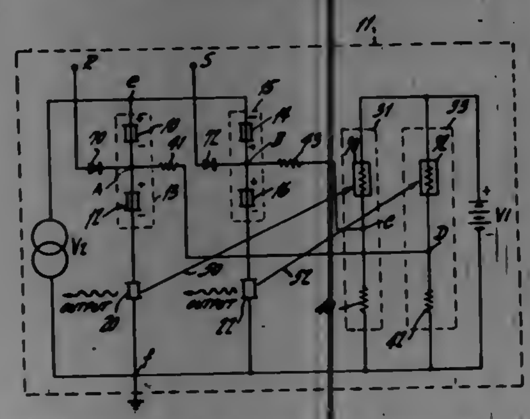
3,193,805

BISTABLE CIRCUIT

Harmon T. Gnuse, Van Nuys, Calif., assignor to Radio Corporation of America, a corporation of Delaware

Filed June 4, 1962, Ser. No. 199,912

5 Claims. (Cl. 340—173.2)



1. A bistable circuit having input terminals and trigger terminals,

first and second series pairs of ferroelectric elements, first and second of said trigger terminals being respectively located at a midpoint between said pairs of ferroelectric elements,

first and second electroluminescent devices, each connected in a series circuit with a different one of said pairs, each of said series circuit being connected between said input terminals,

first and second variable impedance circuits, each comprising a resistor and a photoconductor device connected in series with each other and each having a common midpoint,

means applying an energizing voltage across said input terminals,

means electrically coupling said first and second impedance circuit common points to said first and second trigger terminals, respectively,

means optically coupling a said first electroluminescent device to said second impedance circuit photoconductor device and said second electroluminescent device to said first impedance circuit photoconductor device,

means for applying a biasing voltage across each of said variable impedance circuits,

and means for selectively applying a trigger signal to said trigger terminals.

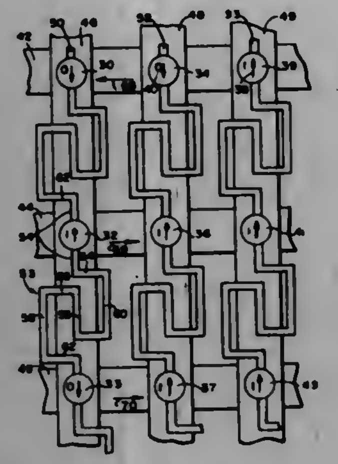
3,193,806

SEARCH MEMORY ARRAY

Arthur V. Pohm, Ames, Iowa, and Richard M. Sanders, St. Paul, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 4, 1960, Ser. No. 292

7 Claims. (Cl. 340—174)



1. A memory matrix comprising a plurality of first magnetic cores arranged in a plurality of rows and columns, each core having one preferred axis of magnetization along which the remanent magnetization thereof may lie in either of two opposite directions respectively representing two stable states of remanent magnetization, said matrix storing information in said columns by predetermined magnetization settings of said first cores in a known digit order, and means for nondestructively searching at least one core in each of the plurality of core columns simultaneously for information identified by known core magnetization settings in known digit order but unknown in column location, said means including a plurality of second magnetic cores inductively coupled one to each of said first cores thereby forming a plurality of core pairs, each second core having one preferred axis of magnetization along which the remanent magnetization thereof may lie in either of two opposing directions respectively representing two states of remanent magnetization and being oriented to have its said preferred axis at an angle to the said preferred axis of the first core inductively coupled thereto, each first core producing a first magnetic field having a direction dependent on the remanent state thereof for rotating the remanent magnetization of the second core inductively coupled thereto, means including a plurality of first drive lines respectively associated with given rows of core pairs for simultaneously applying to the second cores thereof a plurality of second magnetic fields in response to a first plurality of signals carried respectively by said first drive lines and corresponding in polarity to the known core setting of the sought information and applied to the plurality of first lines in the known digit order, the said drive lines being oriented so that each second field is applied in the same direction as or antiparallel to the respective first field according to the polarity of the signal causing that second field and the remanent state of the associated first core, any second field applied in the same direction as the respective first field being effective to rotate the remanent magnetization of the second core coupled thereto further from its preferred axis to a biased position, and any second field applied in the opposite direction to the respective first field being effective to rotate the remanent magnetization of the second core coupled thereto to a substantially unbiased position along its preferred axis, a plurality of second drive lines inductively coupled to said second cores for applying when respectively activated by a plurality of signals a third magnetic field thereto in each of the second cores inductively coupled thereto in a direction substantially antiparallel to the remanent magnetization thereof when lying parallel to its respective preferred axis of magnetization, each third field being insufficient in magnitude to switch the remanent state of any second core which has its remanent magnetization existing substantially in said unbiased position but being sufficient in magnitude to switch any second core which has its remanent magnetization existing at said biased position and output means including a plurality of output lines inductively coupled to all the second cores in each column and oriented so that the magnetic axis of each lies parallel to the said preferred axis of each second core coupled there at least in the region of coupling, each of said output lines including means for substantially cancelling any signals induced therein by direct coupling thereto of any third field, said output means arranged for producing an output signal due to the change of state of any of said second cores.

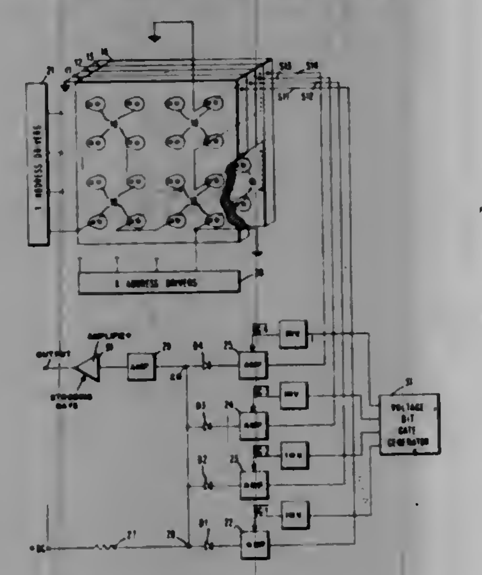
3,193,807

ELECTRICAL SAMPLING SWITCH

Albert W. Vinal, Owego, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 30, 1960, Ser. No. 79,721

6 Claims. (Cl. 340—174)



1. An electrical digit storage system comprising a plurality of non-destructive informamtion storage elements arranged in a storage array, means for reading multi-bit digital information units from said array, a plurality of sensing means coupled to said array for transmitting the multi-bit information unit upon readout, said sensing means including a separate sensing circuit for each bit of said information unit, electrical sampling switch means connected to said sensing means for the purpose of serializing the bits making up said information unit, said electrical sampling switch means comprising plural bi-gain amplifier means corresponding in number to the sensing circuits, each said amplifier means having a signal input terminal, a gate input terminal, and a signal output terminal, said bi-gain amplifiers each having a high gain condition wherein it is effective to transmit signals applied to the signal input terminal thereof to its signal output terminal and a low gain condition wherein it is effective to provide a predetermined constant output signal at its signal output terminal, each separate sensing circuit being coupled to the signal input terminal of one of said amplifiers, a logical AND circuit having a number of inputs equal in number to said bi-gain amplifiers, each said input of said logical AND circuit being connected to the signal output terminal of one of said amplifiers, the constant output signals of said amplifiers in their low gain condition constituting sufficient enabling signals for said logical AND circuit, separate control means coupled to the gate input terminal of each said amplifier normally providing a control signal for maintaining the associated amplifier in the low gain condition, means for sequentially operating said control means to switch one amplifier at a time in a predetermined sequence to its high gain condition while the other amplifiers are in their low gain conditions, the logical AND circuit operating to pass whatever signals are being supplied to the signal input terminal of the amplifier which is in the high gain condition so that for each sequential switching of an amplifier to its high gain condition a signal representing one bit of said information unit is derived from said logical AND circuit.

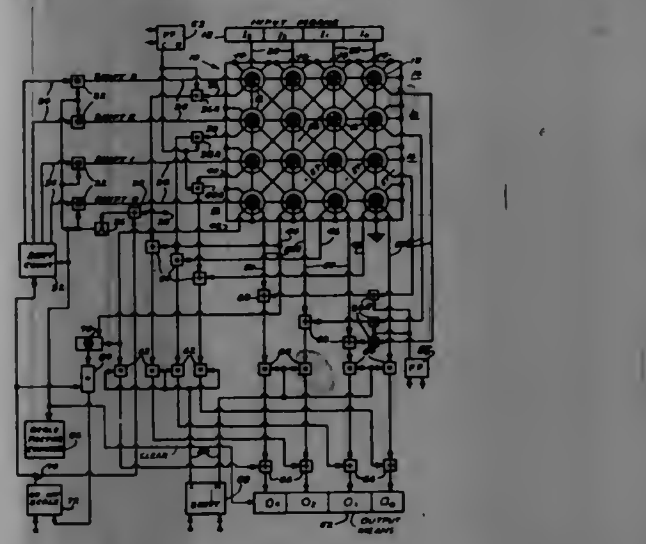
3,193,808

DIGITAL SHIFT CIRCUIT

Richard M. Sanders, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 13, 1960, Ser. No. 62,440

3 Claims. (Cl. 340—174)



1. For scaling digital signals in a digital register; an array of two-state elements arranged in rows, columns and diagonals; the two states being signal-passing and signal-blocking states, a digital-signal input line being input-connected to every element in each array column, a shift line being input-connected to every element in each array row, one of the shift lines being for causing a digital signal shift of zero places, a plurality of sense lines respectively output-connected to every element in each array diagonal parallel to one of the major diagonals, a difference detector connected to two of the sense lines which are respectively output-connected to elements associated with the zero shift line and the input lines of the two left-most columns, output means connected to all of the sense lines, and effectively interconnecting same such that the resultant-interconnected lines each have one output connection in each of the rows and columns, shift control means connected to the shift lines for providing a single impulse on one line to cause a shift, scale-factor control means connected to the shift control means and the difference detector for successively causing zero and a greater than zero signal shifts until the detector senses two different digital signals.

3,193,809

MEMORY NOISE CANCELLATION

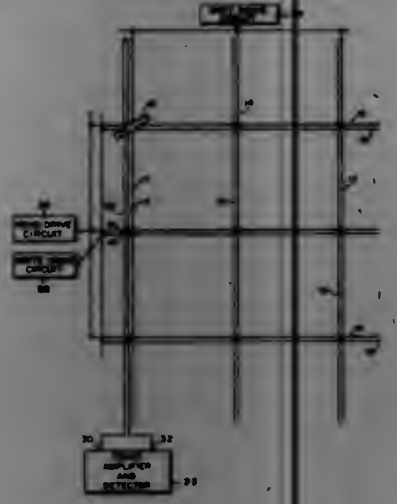
Herbert A. Ullman, Burlington, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed May 3, 1961, Ser. No. 107,553

2 Claims. (Cl. 340—174)

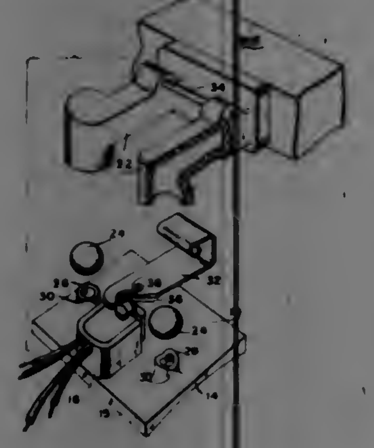
1. In a memory system having storage elements at the intersection of coordinate conductors: a group of storage elements; a sense winding linking said group of storage elements; a digit drive winding also linking said group of storage elements; a write winding perpendicular to said sense and digit drive windings and also linking said stor-

age elements; read windings parallel to said write windings and also linking said storage elements; drive circiuts for pulsing said digit drive, read, and write windings; detection circuitry connected to said sense windings; and, auxiliary windings in close enough proximity with said sense windings so that both are affected by the same electromagnetic fields caused by said read windings, and arranged so that a uni-polar inductive and capacitative signal in said sense windings become bi-polar when applied to said detection circuitry with a net effect of substantial self-cancellation.



3,193,810
HEAD POSITIONING MECHANISM

Donald K. Sampson, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 2, 1959, Ser. No. 817,560
21 Claims. (Cl. 340—174.1)

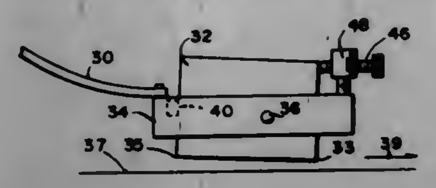


1. In recording apparatus having a transducer member and a storage member movable relative thereto for effecting a fluid force separating said members, the improvement comprising: means for permitting tilt of said transducer member relative to said storage member; and positioning means for locating and maintaining said members in a predetermined separation relationship against said separating fluid force; said positioning means comprising fluid-pressure means operative to produce a force acting upon said transducer member against said separating force.

3,193,811
TRANSDUCER SUPPORT AND POSITIONING ASSEMBLY

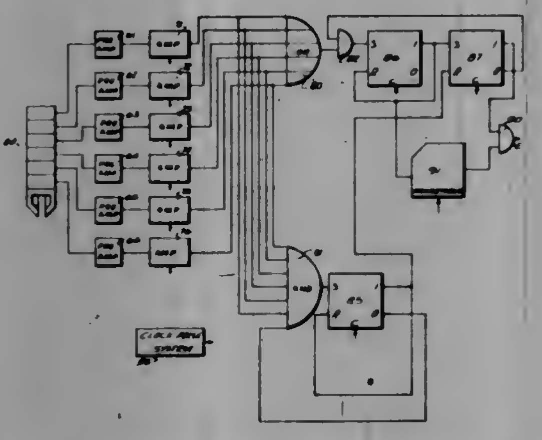
Richard W. Clarke, St. Louis Park, Minn., and Sherman A. Sundin, Seattle, Wash., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 9, 1960, Ser. No. 48,371
9 Claims. (Cl. 340—174.1)

3. Apparatus for maintaining a surface of a first member adjacent to but out of contact with a surface of a second member by action of a fluid boundary layer therebetween while the surfaces are moving in a given direction relative to one another, comprising: means for guiding the surface of the first member in a path of travel; support means; means for fixedly holding the support means with respect to the guiding means; resilient means mounting the second member upon the support means, the second member being connected to the resilient means by pivotal connecting means the axis of which lies transverse to the direction of relative movement of the surfaces; a resilient member disposed between the resilient means and the second member biasing the second member about the axis such that its trailing edge moves toward the first member surface; and stop means engaging the second member for limiting the movement thereof caused by the resilient member whereby the second member is disposed with a predetermined positive angle of attack for being placed in a flying position with respect to the first member.



3,193,812
MISSING BIT DETECTOR ON RECORDED STORAGE MEDIA

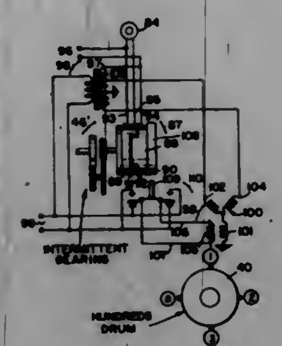
Aaron L. Friend, Phoenix, Ariz., assignor to General Electric Company, a corporation of New York
Filed May 16, 1961, Ser. No. 110,419
10 Claims. (Cl. 340—174.1)



1. Apparatus for detecting irregularities in a column of binary bits recorded on a storage media comprising, a plurality of sensing means each adapted to sense one of the binary bits of a column of binary bits and to generate a sensing signal when a bit is sensed, a first circuit connected to said sensing means and adapted to generate a first gating signal in response to sensing signals received from any of said sensing means, a second circuit connected to said sensing means and adapted to generate a second gating signal when said second circuit receives sensing signals from all of said sensing means, a bistable circuit connected to receive said first and second gating signals and adapted to assume a first stable state upon receipt of said first gating signal and to assume a second stable state upon receipt of said second gating signal, timing means connected to receive said first gating signal and adapted to assume a timing state for a predetermined time upon receipt of said first gating signal, and means connected to said bistable circuit and to said timing means for generating an error signal when said bistable circuit is in said first stable state while said timing means is not in said timing state.

3,193,813
ELECTRICALLY CONTROLLED POSITIONING MEANS

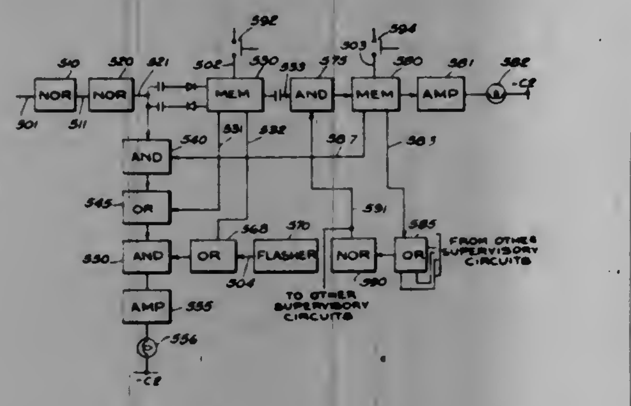
Milton Brown, Glen Rock, N.J., assignor to The Bendix Corporation, a corporation of Delaware
Original application Oct. 30, 1953, Ser. No. 389,390. Divided and this application Oct. 13, 1959, Ser. No. 846,122
4 Claims. (Cl. 340—201)



3. An electrical indicator control system, comprising an indicator having a succession of indicating positions, a synchro including a stator and a rotor and having a drive connection with said indicator, means providing a rotor voltage source and a plurality of different fixed voltages, switch means for selectively applying predetermined ones of said different voltages to the stator in predetermined sequence and said rotor voltage to said rotor, and said means selectively reversing the phase of the rotor voltage for some of the predetermined sequence.

3,193,814
ELECTRONIC ANNUNCIATOR CONTROL

George E. Foster, 7917 S. Yale Ave., Chicago, Ill.
Filed Aug. 17, 1960, Ser. No. 50,144
6 Claims. (Cl. 340—223)


NOR
NOR
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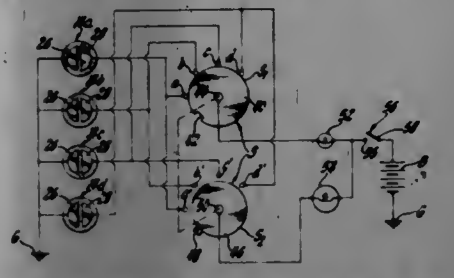
OR
FLASHER
NOR
OR
AMP
FROM OTHER SUPERVISORY CIRCUITS
TO OTHER SUPERVISORY CIRCUITS

1. In an annunciator system of the type wherein a plurality of remote locations are monitored by respective supervisory electronic circuits, the improvement comprising a pair of indicators individual to each circuit having means for generating a corresponding pair of distinctive indicator activating signals, a memory individual to each circuit, an AND gate at each supervisory circuit for controlling the respective memory, means operated by any one of said supervisory electronic circuits responsive to a respective fault signal transmitted from the respective location for transmitting a signal to the AND gate thereat placing the respective memory in one state, means for operating one of the respective pair of signals responsive to the receipt of said fault signal, means for operating the other of said pair of signals responsive to said memory being placed in said one state, and means controlled by said memory in said one state for closing the AND gate for each respective memory to prevent any other memory from being placed in said one state responsive to a fault signal transmitted to a respective AND gate.

3,193,815
ELECTRICALLY CONDUCTIVE PARTICLE INDICATOR FOR ELECTRICALLY NON-CONDUCTIVE FLUIDS

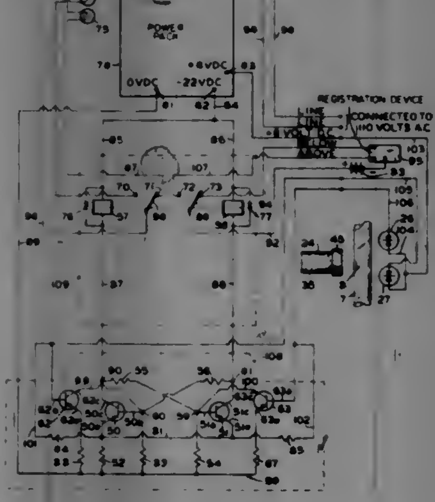
Val H. Prestel, Indianapolis, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed May 7, 1962, Ser. No. 192,718
2 Claims. (Cl. 340—236)



1. A device for indicating the presence of electrically conductive particles in any one of a plurality of containers of nonelectrically conductive fluid and for determining whether the particles have a predetermined current-carrying capaicty, said device comprising a D.C. source, a particle detector located respectively in each of said plurality of containers and including two magnetized elements of electrically conductive material separated by insulating means, a first indicating lamp, switching means connecting each of said detectors in series with said first lamp across said source whereby said lamp is energized when an electrically conductive particle bridges said members, a second lower resistance indicating lamp, said switching means operable to connect said second lamp between said source and any one of said detectors to apply said predetermined current thereto while simultaneously disconnecting said first lamp from said one of said detectors to thereby indicate the existence of a particle of greater than said predetermined current-carrying capacity.

3,193,816
FLOWMETER HAVING PHOTO-DIODE REGISTRATION OF GAS FLOW

Peter W. Brath, Pittsburgh, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania
Filed Jan. 30, 1962, Ser. No. 169,821
6 Claims. (Cl. 340—239)



1. In a fluid flow rate measuring device of the type having a calibrated flow tube with a float means therein positionable at different locations within the tube in accordance with the rate of flow of fluid therethrough, apparatus for automatically registering the rate of flow of fluid through said device with respect to a selected rate of flow, said apparatus comprising in combination:

(a) a first circuit,
(b) a second circuit,

(c) means controlled accordingly as said first or second circuits are selectively energized to register a rate of flow relative to a selected rate,

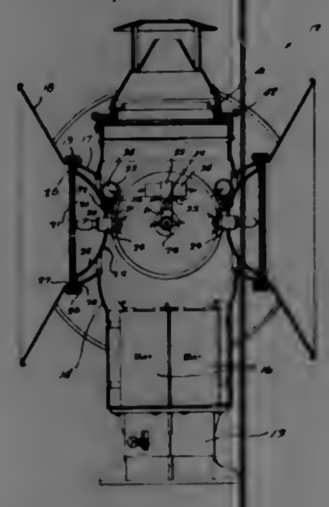
(d) a bi-stable amplifier means having a first stable condition in which it effects energization of said first circuit and a second stable condition in which it effects energization of said second circuit,

(e) a source of beamed light the rays of which pass through the calibrated flow tube of the measuring device simultaneously at first and second closely spaced locations respectively indicative of a first rate of fluid flow through the flow tube, and a second rate of fluid flow through the flow tube greater than said first rate,

(f) photoelectric means operatively responsive to the rays of said beamed light passing through the flow tube at said first and second locations, said rays of beamed light being subject to interruption of impingement on said photoelectric means at either one of said locations by the float means as it moves within said flow tube, and

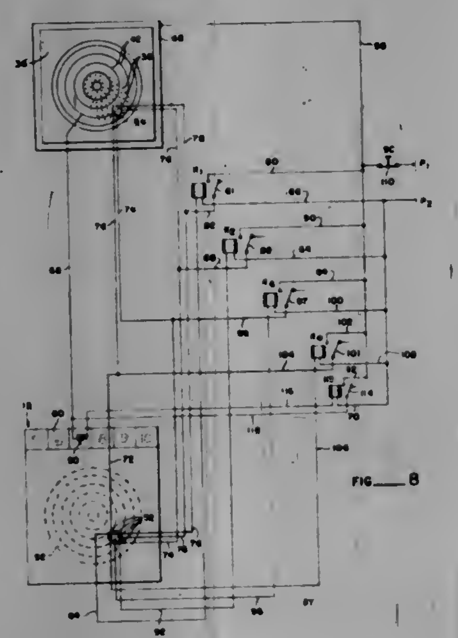
(g) transistor means operative cooperatively with said photoelectric means as the float means moves up to and in said first location in correspondence with a rate of fluid flow up to and including said first selected rate of flow, to effect operation of said amplifier means in said first stable condition, and operative cooperatively with photoelectric means as the float means moves in and above said second location in correspondence with a rate of fluid flow equal to and greater than said second selected rate of flow, to effect operation of said amplifier means in said second stable condition.

3,193,817
SELF-CONTAINED ELECTRICAL BLINKER LIGHT HAVING LAMP AND CONTROL CIRCUIT SUB-ASSEMBLY UNITS
William E. Olewine, Indianapolis, Ind., assignor of thirty-three and one-third percent to Four High Enterprises, Inc., Detroit, Mich., a corporation of Michigan
Filed July 13, 1962, Ser. No. 209,511
1 Claim. (Cl. 340—321)



A railway blinker lamp assembly comprising a vertical housing having four vertical sides at right angles to each other, each of said vertical sides being provided with a light-transmitting portion, a battery in the bottom of said housing, respective blinker subassemblies secured in said housing inwardly adjacent to and facing said light-transmitting portions, each subassembly comprising an outwardly concave, generally parabolic reflector, a lamp socket extending axially through the center of said reflector, a generally S-shaped bracket secured at one end to said socket and engaging the inward side of the reflector at its other end, a gas discharge lamp mounted in said socket, a capacitor and a resistor adjacent the inward side of the reflector, a looped bracket surrounding said capacitor and resistor and clamping them together in side-by-side relation, and common fastening means securing said other end of the S-shaped bracket and said looped bracket to the inward side of said reflector, means electrically connecting the lamp socket and resistor of each subassembly in series to said battery, and means electrically connecting the capacitor of each subassembly in shunt with its associated lamp socket.

3,193,818
METHOD AND APPARATUS FOR READING TARGETS
Ronald E. McDannold, P.O. Box 646, Bellevue, Wash.
Filed Apr. 22, 1963, Ser. No. 274,605
5 Claims. (Cl. 340—323)



1. A reading and scoring device for projectile targets, comprising:

(a) a reader plate having a plurality of small electrical contact points and a plurality of contact rings theron,

(b) an electrical contact arm means facing said reader plate in close proximity thereto and being adapted to contact said contact points through a projectile hole in a target adapted to be moved between said arm means and said reader plate,

(c) a display target means remotely situated from said reading and scoring device having a plurality of lights thereon,

(d) a plurality of first electrical circuit means connecting said contact points on said reader plate with correspondingly located lights on said display target,

(e) a score counter display board means having target numerical values and also having at least one light for each of said target numerical values, and

(f) a plurality of second electrical circuit means connecting said contact rings on said reader plate with the appropriate numerical value on said display board means.

3,193,819
ALARMS FOR PARKING METERS
Eldred J. Magner, 135 Coleridge St., San Francisco, Calif.
Filed July 20, 1962, Ser. No. 211,167
6 Claims. (Cl. 340—280)

1. In a parking meter having

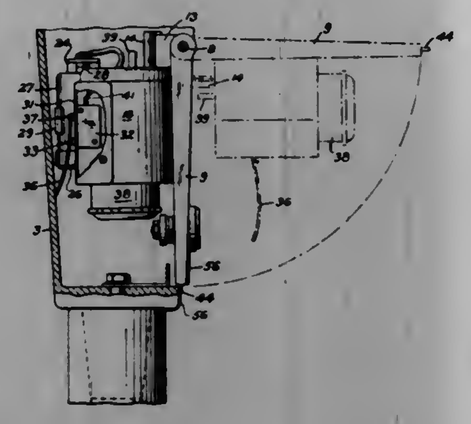
(a) a compartment having an opening in a side thereof

(b) and a swinging door to cover an opening of the compartment

(c) an alarm device on said door comprising

(d) a coin box mounted on the inside of said door concealed in said compartment when said door is closed and adapted to receive coins inserted in the parking meter

(e) a normally closed switch mounted on said coin box

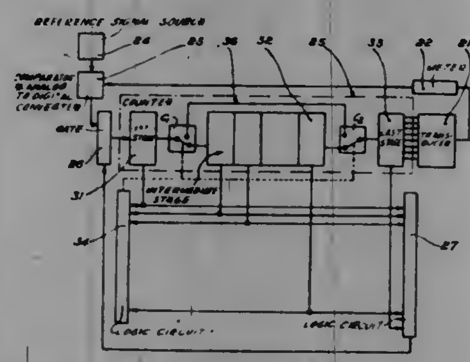


(f) an electrically actuated audible alarm mounted on said coin box,

(g) a source of electric current connected to said switch and said alarm for actuating said alarm when the switch is closed

(h) and a switch actuating element on said coin box coacting with a wall of said compartment when said door is closed for opening said switch.

3,193,820
AUTOMATIC CONTROL SYSTEMS
Herbert H. Ernyei, Paris, France, assignor to Lignes Telegraphiques et Telephoniques, Paris, France, a joint-stock company of France
Filed Mar. 29, 1961, Ser. No. 99,280
Claims priority, application France, Mar. 30, 1960, 822,882, Patent 1,260,703; Apr. 1, 1960, 823,107, Patent 1,260,771
6 Claims. (Cl. 340—347)



6. Digital apparatus comprising

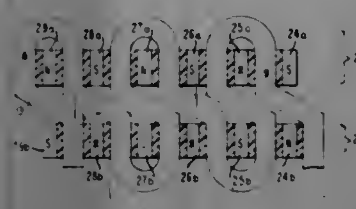
a chain of digital circuits adapted to process digital information and producing an output binary control signal

binary weighted elements actuated by said output binary control signal from said chain of digital circuits and including

at least one each of a lower, intermediate, and higher weight element,

and logic circuit means responsive to said chain of digital circuits to prevent any modification in the state of said at least one lower and intermediate weight elements until the modification in the state of said at least one higher weight element results in the simultaneous initiation of a modification of the state of said at least one lower and intermediate weight elements.

3,193,821
MAGNETIC TRANSDUCING APPARATUS
Lewis A. Knox, Owego, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 31, 1962, Ser. No. 248,341
6 Claims. (Cl. 340—347)



1. Transducing means for providing coded electric signals indicative of the relative location of indicia constructed of low magnetic reluctance material, comprising:

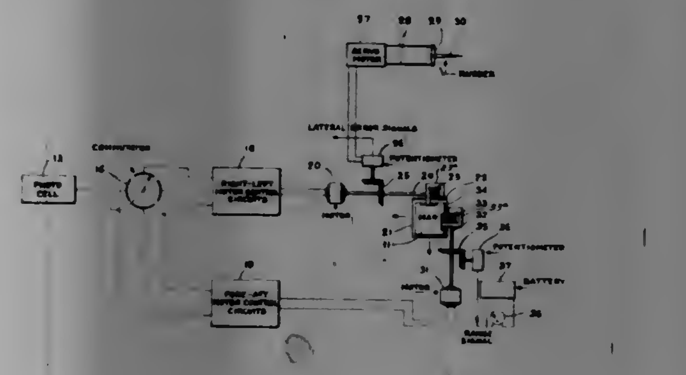
a plurality of single-gapped core parts arranged in a face opposed configuration to form an integral core structure with a single common gap;

a sense winding arranged to inductively cooperate with the integral core structure;

a drive winding separately encircling each of the core parts in such manner as to provide adjacent core parts with different magnetic polarities on energization of the drive winding; and

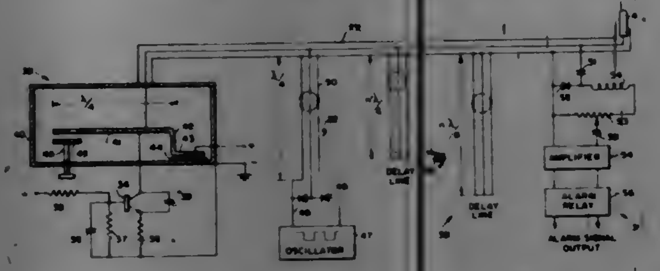
a source of electric power connected to the drive winding for energizing the same whereby electric signals are transformed into the sense winding of instantaneous magnitude dependent on the degree of proximity and relative location of the indicia to the gap and the corresponding magnetic shorting effect developed in the different core parts by the indicia.

3,193,822
PILOTLESS AIRCRAFT NAVIGATIONAL SYSTEM
Carl A. Meneley and Richard E. Laugworthy, Cuyahoga Falls, Ohio, assignors to Goodyear Aerospace Corporation, a corporation of Delaware
Filed Dec. 18, 1948, Ser. No. 66,048
10 Claims. (Cl. 343—7)



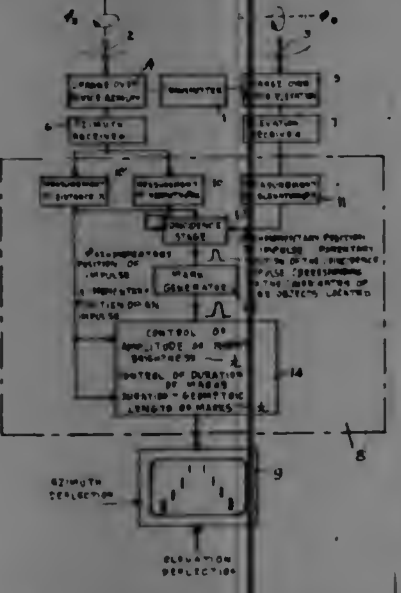
4. Apparatus for controlling flight of aircraft and the like including means for producing a substantially instantaneous image of the terrain over which the aircraft is moving, an opposite contrast previously prepared map of the terrain over which the aircraft is to fly, said map and image having the same scale and orientation, mirror and lens means for superimposing the map and image, means having associated commutator means for moving the mirror means to effect relative movement between the map and image to hunt a matching thereof, light responsive means for indicating a match between the map and image, and means controlled by the light responsive means and operating through the commutator means to bring the aircraft back on course.

3,193,823
METHOD AND APPARATUS FOR DETECTING MOTION
Peter Laakmann, Staten Island, N.Y., assignor to American District Telegraph Company, Jersey City, N.J., a corporation of New Jersey
Filed Mar. 28, 1961, Ser. No. 98,957
8 Claims. (Cl. 343—7)



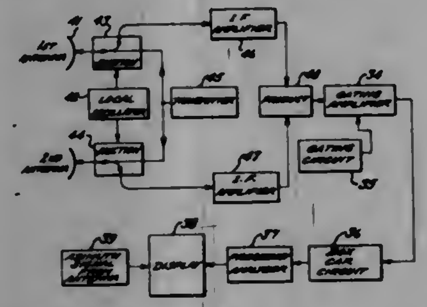
1. Apparatus for detecting motion of an intruder in a predetermined limited space, comprising an oscillator arranged to produce an alternating current having a selected frequency, a transducer for converting said alternating current into radiant energy and arranged to transmit said radiant energy into said space, means intercoupling said oscillator and said transducer, keying means arranged periodically to suppress transmission of said radiant energy after a radiation interval of predetermined length, receiving and detecting means arranged to receive said radiant energy reflected from objects in said space, to mix said received energy and said transmitted energy and to detect modulation components in the mixed energy resulting from the Doppler shift in frequency produced by motion of an object in said space, and alarm signalling means coupled to said detecting means and arranged to produce an alarm signal upon detection of modulation components of predetermined level, said radiation interval being selected so that energy cannot be radiated, be reflected from an object substantially outside said space, and be received before the end of said radiation interval, the periodicity of said suppression of radiant energy transmission being selected so that energy radiated during one radiation interval and received during a subsequent radiation interval will have attenuated sufficiently that modulation components present therein will be below said predetermined level.

3,193,824
AIRCRAFT LANDING SYSTEM
Josef Eitzenberger, 5 Am Kohlerweg, Oberursel, Taunus, and Hans Kuhl, Frankfurt am Main, Germany; said Kuhl assignor to said Eitzenberger
Filed Apr. 17, 1962, Ser. No. 188,072
1 Claim. (Cl. 343—7.9)



A system for facilitating the landing of aircraft on a runway in conditions of poor visibility, comprising two receivers each having an antenna connected to it, transmitting means connected to both said antennas, said antennas being arranged to scan the space sector containing the runway in azimuth and elevation respectively to ascertain the position relative to an aircraft of beacons which bound the runway laterally, a screen, and means including coincidence means responsive to simultaneous receipt by both said antennas of signals from the same beacon to furnish a signal to said screen to produce thereon marks forming a perspective representation of the position of the beacons with respect to the aircraft, said mark producing means including means responsive to the time required for the travel of radar signals between each beacon and the antennas for evaluating simultaneously and one at a time the azimuth and elevation angles of each such beacon, said mark producing means further including means responsive to such evaluating means for varying the size and intensity of the marks for each beacon in inverse proportion to the distance of the aircraft from the beacon.

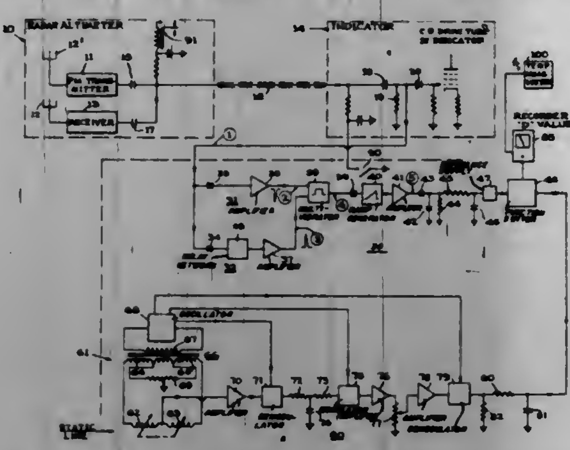
3,193,825
ATMOSPHERIC MOTION NON-COHERENT PULSE DOPPLER SYSTEM
Roger M. Lhermitte, Sudbury, Mass., assignor to the United States of America as represented by the Secretary of the Air Force
Filed Mar. 5, 1963, Ser. No. 263,082
12 Claims. (Cl. 343—9)
(Granted under Title 35, U.S. Code (1952), sec. 266)



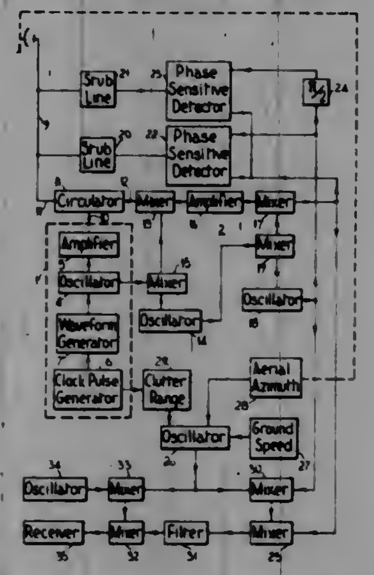
1. Apparatus for determining atmospheric motion comprising radar transmitter means, dual antenna radiating means radiating energy from said transmitter means and receiving echoes from the atmosphere reflected back from falling moisture droplets intercepting said radiated energy, receiver means forming part of said radar means, amplifier means for amplifying said echoes, detector means for detecting the envelope of said amplified echoes, gating means for gating said detected signal at a preselected range, boxcar means for stretching said gated signals, frequency analyzer means for analyzing the frequency content of said stretched signals, azimuth signal generating means drivingly connected to said antenna means, display means for displaying said analyzed signals with respect to signals from said azimuth signal generating means.

3,193,826
WIND DRIFT RECORDER
Chan Street, 805 El Segundo Blvd., El Segundo, Calif.
Filed Sept. 27, 1962, Ser. No. 226,502
6 Claims. (Cl. 343—17.1)

1. A wind drift recorder for indicating the lateral displacement of an aircraft in flight comprising: a pulse modulated radar altimeter including means for transmitting energy toward the terrain over which the aircraft is flying, means for receiving energy reflected from the terrain, first means connected to said transmitting and receiving means responsive to said transmitted and reflected energy for generating pulses whose time separation is proportional to the altitude of said aircraft and including means for converting said pulses to a voltage, a pressure transducer for developing a voltage in respones to the pressure altitude of said aircraft, and a recorder connected to said pressure transducer and said first means for indicating the magnitude and direction of the relative change in voltage of said first means and said pressure transducer.

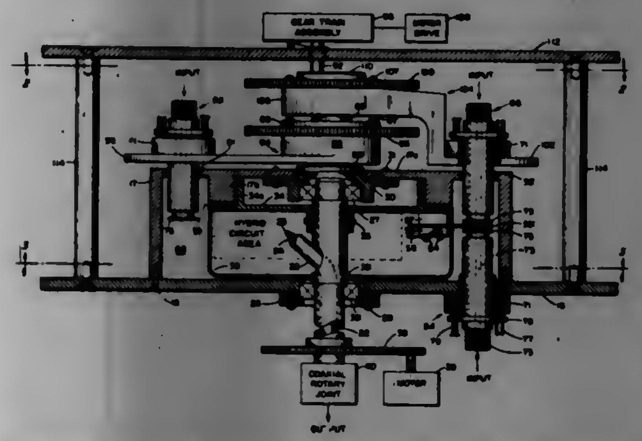


3,193,827
DOPPLER RADAR APPARATUS
Gwilym Phylip Jones, Harrow, Middlesex, and Wilfred Percy Robins, Watford, England, assignors to The General Electric Company Limited, London, England, a British company
Filed Sept. 19, 1962, Ser. No. 224,670
Claims priority, application Great Britain, Sept. 26, 1961, 34,543/61
1 Claim. (Cl. 343—17.5)



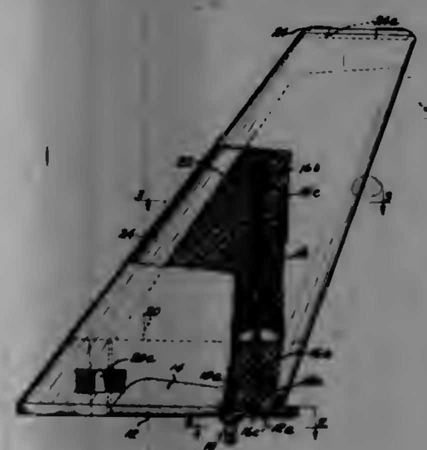
Radar apparatus for use when subject to the effects of clutter signals, comprising a continuous wave transmitter, a receiver at the same location as the transmitter, means to modulate the transmitted signal in a periodic non-sinusoidal manner so that each period of the continuous-wave signal is constituted by four equal intervals during the first of which the frequency of the transmitted signal increases linearly with respect to time from its normal value to some other value, during the second of which the frequency of the transmitted signal remains constant at said other value, during the third of which the frequency of the transmitted signal decreases linearly with respect to time from said other value to its normal value, and during the fourth of which the frequency of the transmitted signal remains constant at its normal value, means to obtain a beat signal dependent upon the difference between the transmitted and received signal frequencies, said clutter signals comprising an irregular frequency band component of said beat signal, continuous wave oscillator means modulated in accordance with the modulation of the transmitted signal, mixing means connected to the oscillator means and to said means to obtain a beat signal, the mixing means being arranged to provide an output signal in which said frequency band of clutter signals is centered about a substantially fixed frequency, filter means connected to the mixing means to remove the band of clutter signals from said output signal, and further mixing means supplied with a signal to remove from the filtered output the frequency variation due to said oscillator means.

3,193,828
AMPLITUDE MODULATING APPARATUS
Robert F. Morrison, Jr., Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Sept. 11, 1961, Ser. No. 137,177
12 Claims. (Cl. 343—100)



4. In an antenna simulating device for simulating an antenna radiation pattern having a plurality of lobes, an annular wave guide transmission means, at least one input coupling means for introducing energy into said wave guide transmission means, at least one rotating pick-off means mounted to rotate within said wave guide transmission means past said input coupling means and in energy coupling relationship with said input coupling means, said pick-off means including separate elements for each of said side lobes coupled to said pick-off means, and means for combining the energy received by said elements of said pick-off means in controllable phase relationship.

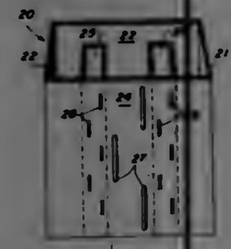
3,193,829
HIGH-PERFORMANCE AIRFOIL ANTENNA
John P. Braun, Bellevue, and Duncan M. Carman, Mercer Island, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Apr. 9, 1962, Ser. No. 186,012
7 Claims. (Cl. 343—708)



1. A high-frequency antenna comprising a conductive fin-like antenna structure adapted for mounting in transversely projecting position relative to a conductive surface, said structure having leading and trailing projecting edges and an elongated slot therein extending generally parallel to such conductive surface, said slot having one end opening at one projecting edge of the fin-like structure and the other projecting edge of said structure being of uninterrupted conductive material, and means extending from said surface to energize the antenna structure comprising a conductor electrically insulated from

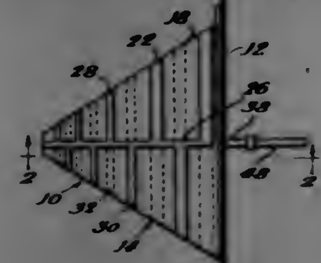
the structure and coupled thereto for high-frequency energy transfer at a location adjacent the open end of the slot through a capacitance which is substantially resonant with said structure at the operating frequency.

3,193,830
MULTIFREQUENCY DUAL RIDGE WAVEGUIDE SLOT ANTENNA
Joseph H. Provencher, San Diego, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 25, 1963, Ser. No. 297,727
6 Claims. (Cl. 34[illegible]—771)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An antenna comprising:
a rectangular waveguide;
a multiplicity of loading ridges mounted on and extending internally of the waveguide;
radiating slots located adjacent to the loading ridges in the same wall that the loading ridges are mounted on for radiating energy at a first frequency; and
other radiating slots located in the same wall that the loading ridges are mounted on and within the areas bounded by said loading ridges for radiating energy at another frequency.

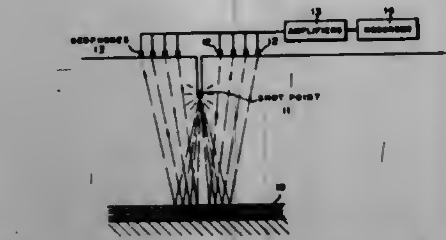
3,193,831
LOGARITHMIC PERIODIC ANTENNA
Richard F. H. Yang, Orland Park, Ill., assignor to Andrew Corporation, Orland Park, Ill., a corporation of Illinois
Filed Nov. 22, 1961, Ser. No. 154,269
14 Claims. (Cl. 34[illegible]—792.5)



1. In a logarithmic periodic antenna comprising a pair of tapered plane radiating portions disposed at an angle and fed at the apex, the improved construction having a coaxial transmission feed line in the plane bisecting the angle between the two portions and each portion having a grounded conductor element connected to the outer conductor of the transmission line and a complementary fed conductor element connected to the inner conductor of the transmission line, the grounded conductor elements and the fed conductor elements, respectively, of the two portions being of substantially indentical construction but having mirror-image symmetry with respect to said bisecting plane.

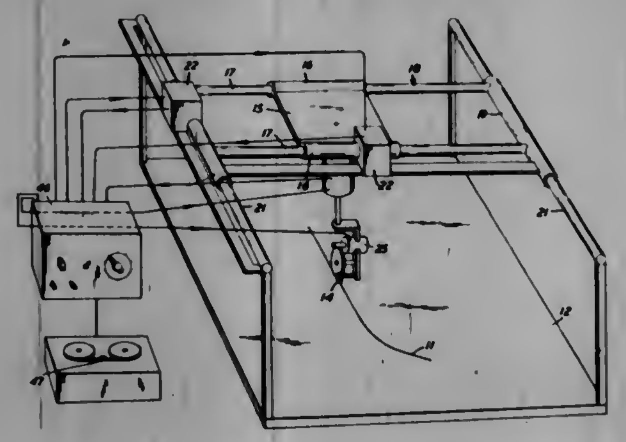
3,193,832
SEISMIC PRESENTATION
Karl O. Heintz, Houston, Tex., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Oct. 1, 1962, Ser. No. 227,284
4 Claims. (Cl. 346—1)

1. A method for photographically recording seismic wave energy comprising:
generating electrical signals in response to said seismic wave energy;



feeding said electrical signals to gating circuit means to produce composite output signals representative of at least two parameters of said seismic wave energy; and
then recording said composite output signals in a manner in which one of said parameters of said seismic wave energy is displayed in shades of grey and another of said parameters of said seismic wave energy is displayed in varying colors.

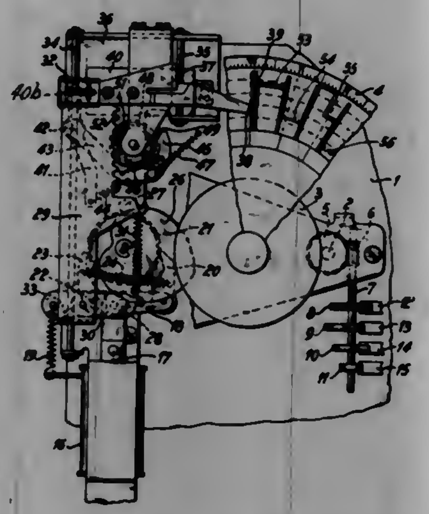
3,193,833
PRODUCING A PROGRAM CONTROL RECORD
Beaumont John Davies, Putnoe, England, assignor to George Richards & Company Limited, Altrincham, England, a company of Great Britain
Filed Aug. 31, 1962, Ser. No. 220,797
14 Claims. (Cl. 346—8)



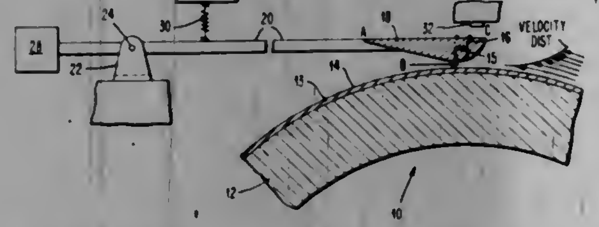
1. Apparatus for controlling a curve following operation comprising a carriage, a stylus on the carriage, steerable drive mechanism for moving the carriage in relation to the apparatus, and a steering device for the mechanism for controlling the direction of movement of the carriage, a transducer arranged to generate signals in response to deviation of the stylus from a line representing the curve to be followed, means for controlling the steering device in response to signals from the transducer to cause the mechanism to be driven in the direction which causes the stylus to follow the line, means for generating signals representing the locus of the carriage in relation to coordinates as the line is followed and means for recording the said locus signals.

3,193,834
APPARATUS FOR RECORDING OPERATIONS OF A MACHINE
Hermann Frank, Villingen, Germany, assignor to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Oct. 19, 1962, Ser. No. 231,802
Claims priority, application Germany, Oct. 20, 1961, K 44,974
10 Claims. (Cl. 346—62)

1. Apparatus for recording operations of a machine, comprising, in combination, recording means for recording on a moving record carrier; operating means including first ratchet means operatively connected to said recording means for actuating the same to produce a record on the record carrier representing machine operations, said first ratchet means having a first pawl, and a first electromagnetic means adapted to be energized under control of the machine and operatively connected to said first pawl for actuating said ratchet means and recording means; control means including second ratchet means operatively connected to said recording means for actuating the same to produce identifiable and distinguishable changes in said record, said second ratchet means having a second pawl, and a second electromagnetic means operatively connected to said second pawl for actuating said second ratchet means and recording means, said control means including a set of rotary cam means having different numbers of projections and a set of control switches respectively cyclically closed by said projections of said cam means, each control switch being connected into the circuit of said second electromagnetic means; and a set of selectively manually operable switches respectively connected in series with said control switches so that said second electromagnetic means is energized when any selected manually operable switch and the corresponding control switch are closed.

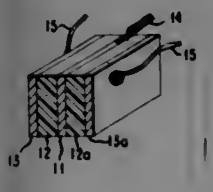


3,193,835
SELF-LOADING TRANSDUCER MOUNTING
Walter G. Wadey, Wynnewood, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 20, 1961, Ser. No. 118,401
11 Claims. (Cl. 346—74)



11. In combination a record medium, a transducer for producing a record on said record medium in response to signals supplied to said transducer, means for moving said record medium at a substantially high recording speed with respect to said transducer to establish a layer of ambient gas carried by the surface of said medium, means for mounting said transducer in variable spaced relationship with the surface of said record medium, said means for mounting being arranged to allow said transducer to be sufficiently spaced from the surface of said record medium to prevent contact therewith when the said record medium is moving at a slow speed, said transducer mounting including a member carrying said transducer and having a first and second surface area facing said record medium, said member having an airfoil shaped to provide Bernouilli forces on said member, said first surface area being oriented to form with the surface of said record medium an acute angle facing a direction opposite to the direction in which said gas layer is carried by said record medium surface and oriented to lead said transducer, said second surface area being oriented to form with the surface of said record medium an acute angle facing a direction opposite that of said angle formed with said first surface and oriented to trail said transducer, whereby said second surface area in combination with said first surface area reacts to said gas layer in manner to exert a first force on said member tending to bring said transducer in closer proximity to the surface of said medium when said recording medium is moved at a high speed for recording and said first surface area reacts to said gas layer in manner to exert a second force opposing said first force and effective to balance said first force when said transducer is in close recording relationship to said record medium.

3,193,836
PLAYBACK APPARATUS FOR ELECTROSTATICALLY RECORDED SIGNALS
Robert James Kerr, Media, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 19, 1962, Ser. No. 180,484
4 Claims. (Cl. 346—74)

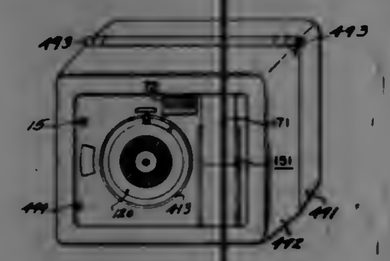


1. In apparatus for the playback of information from electrostatically recorded dielectric medium comprising, in combination, a frontal signal sensing electrode, an opposed backing electrode, means for passing between said electrodes a dielectric material which contains electrostatic charges corresponding to an electrostatically recorded signal whereby to induce in said electrodes an electric signal of an electromotive force proportional to said charges, and amplifier means effective to amplify said induced signal, the improvement which comprises a frontal electrode of laminar construction comprising a center electrode lamina, an electrically conductive shield lamina on each side of said center electrode lamina, and an insulating barrier lamina of dielectric material between each shield lamina and the center electrode lamina, said barrier laminae and the center electrode lamina together providing a fixed gap between said shield laminae, said gap having a width less than 0.002 of an inch, and means to conductively couple said central electrode and said shield laminae to said amplifier means.

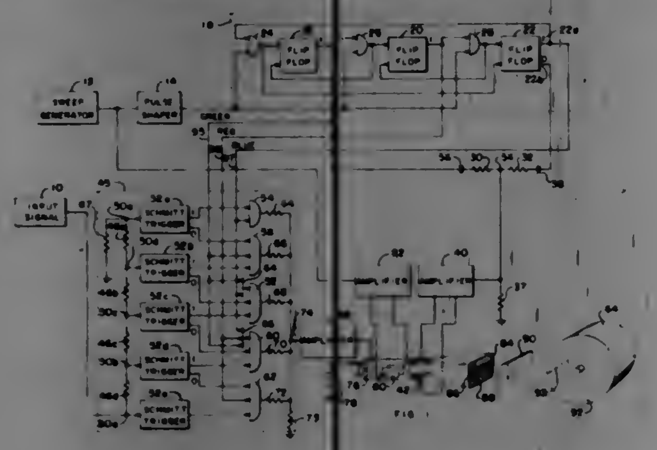
3,193,837
DIGITAL DATA RECORDER
Joseph S. Wapner, Levittown, Pa., George Hamlin Leonard, Darien, Conn., and Donald E. Stephens and Willis Martin Lyford, Hatboro, Pa., assignors to Fischer & Porter Company, Warminster Township, Pa., a corporation of Pennsylvania
Filed Sept. 11, 1958, Ser. No. 760,503
56 Claims. (Cl. 346—78)

1. A chronoscopic digital data-recorder for making successive coded punchings in a record-tape, at successive spaced-apart time-positions thereon, of the successive digital totals of the quantum-units of a variable within successive time-intervals, said recorder including a stepwise movable count-accumulator having on a face thereof a plurality of parallel code-channels and successive count-positions thereacross representing successive coded digital values, arranged sequentially, said code-channels and count-positions comprising a set of high areas and a

set of recessed areas, codewise disposed, a driver for stepwise moving said count-accumulator parallel to its code-channels from its zero position towards its upper-limit position during each time-interval responsive and corresponding to the quantum-units of said variable impressed upon said recorder, a multi-punch tape-puncher in operative juxtaposition to the code-face of said count-accumulator and movable to and fro with respect thereto and having a plurality of punches corresponding to the said code-channels and in registration therewith and arranged in a row generally parallel to said count-positions and disposed generally normal to said code-face, one set of said code-areas of said code-face activating the punches in registration therewith when the tape-puncher is moved to and fro with respect thereto, a punch-driver for driving said tape-puncher to and fro with respect to said code-face, a record-tape in operative juxtaposition to said tape-puncher, means for advancing said record-tape from one time-position thereof to the next time-position thereof during each time-interval, a timing motor for determining said successive time-intervals, means governed by said timing motor for activating said punch-driver at the end of each time-interval, means for returning said count-accumulator to its zero position at the end of each time-interval after the punch-out, and mechanical interlock means intermediate said count-accumulator and said punch-driver or immobilizing said accumulator-driver at the end of ach time-interval during punch-out and during the re-etting of the count-accumulator and for activating said unch-driver immediately after such immobilization of he accumulator-driver and for reactivating said accumulator-driver immediately after the completion of the punch-out, said interlock means barring each of said steps unless the preceding step has been completed.

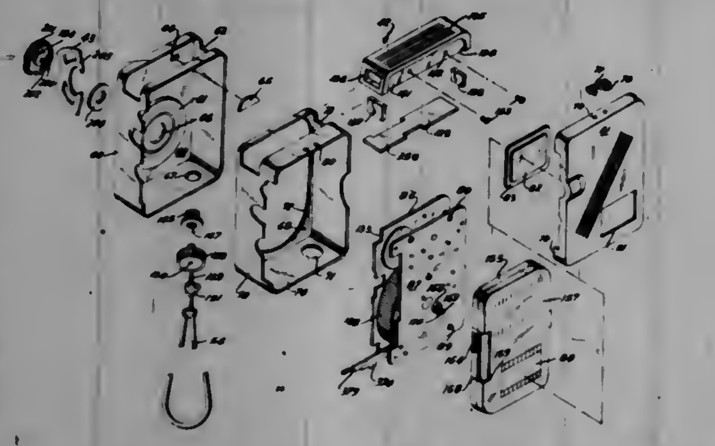


3,193,838
SEISMIC SIGNAL DISPLAY SYSTEM
Roscoe W. Mitchell, Jr., Tulsa, Okla., assignor, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Mar. 5, 1962, Ser. No. 177,498
7 Claims. (Cl. 346—110)



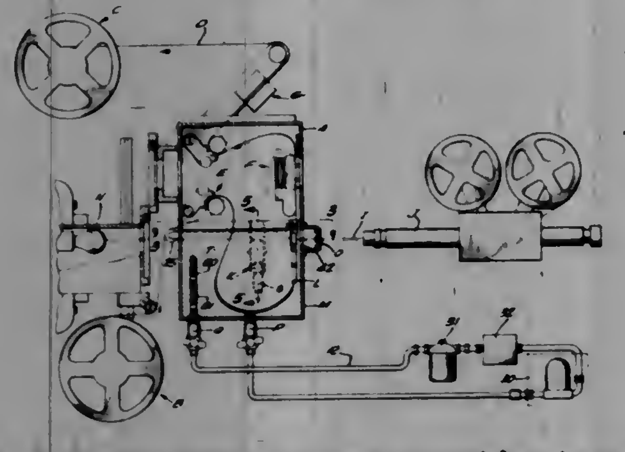
1. A system for presenting a signal having amplitude variations and in which system a cathode ray tube is used, the improvement which comprises: three distinct bands of material on the face of said cathode ray tube, each band emitting a separate primary color when energized by the electron beam from the electron gun of said cathode ray tube; means to sweep traversely the beam successively across each band; a recording medium; means to control the energizing of the electron gun during each sweep according to the amplitude of the signal being processed; means to move said recording medium normal with respect to the sweep across the face of said cathode ray tube; and optical means of a character to display the beam of light received from the cathode ray tube as a single line upon said recording medium.

3,193,839
MOTION PICTURE CAMERA
Jacques Bolsey, Hartsdale, N.Y., assignor, by mesne assignments, to Bolsey Camera Company Inc., Scarsdale, N.Y.
Filed Apr. 21, 1960, Ser. No. 23,852
Claims priority, application Great Britain, May 22, 1959, 17,486/59
4 Claims. (Cl. 352—72)



3. In a motion picture camera, in combination, inner and outer casing members, said inner casing member being located snugly within said outer casing member and said inner and outer casing members being respectively formed with coextensive elongated openings; a pair of parallel plates located within said inner casing member and fixed to each other while remaining at a predetermined distance from each other, said plates being adapted to carry in the space therebetween structure of the camera; and elongated viewfinder means received within the aligned coextensive openings of said inner and outer casing members and extending into the space between and engaging said plates so that said elongated viewfinder means serves to connect said inner and outer casing members to each other as well as to position said pair of parallel plates therein.

3,193,840
APPARATUS FOR LIQUID IMMERSION MOTION PICTURE FILM PROJECTION
Raymond C. Mercer, 4338 Burns Ave., Hollywood, Calif.
Filed Oct. 27, 1961, Ser. No. 148,067.
4 Claims. (Cl. 352—130)



1. A motion picture projector comprising, in combination:

a film drive housing having vertical end walls and an open bottom;

first and second toothed sprocket drives attached to the interiors of respective ones of said end walls, said first and second toothed sprocket drives being adapted for synchronous operation, said first toothed sprocket drive being operable for continuously lowering a film strip at about the longitudinal center of said housing, said second toothed sprocket drive being operable for continuously pulling the film strip upward at the associated end of said housing;

a film gate disposed beneath said second toothed sprocket drive and supported from the associated end wall of said housing, said film gate extending downwardly below said open bottom of said housing and including guide means for guiding the film strip vertically upward to said second toothed sprocket drive;

attachment means carried by at least one wall of said housing;

an open-topped tank having first and second end walls adapted to engage the lower edges of respective end walls of said housing, said first and second end walls having first and second windows respectively formed in the upper portions thereof, said windows being disposed substantially parallel to each other in horizontal alignment;

additional attachment means carried by at least one wall of said tank, and co-operable with said attachment means of said housing in vertically slidable relationship therewith;

latch means for locking said tank beneath said housing in engagement therewith;

a body of liquid, having an index of refraction approximately the same as that of a film to be projected, which fills said tank up to and above said windows;

a light source, supported from said housing, disposed externally to said tank adjacent to said first window and generating a light beam which enters said tank through said first window, passes through said body of liquid within said tank, and leaves said tank through said second window;

said film gate having an aperture which is aligned with said windows when said tank is in its locked position, and being adapted to support the film strip in said aperture with both surfaces thereof in direct contact with said body of liquid;

said tank being at least twice as wide as the film strip and said first toothed sprocket drive being laterally offset relative to said first window so that the film strip is lowered into said body of liquid beside said light beam in a slack, slightly twisted loop;

fluid outlet means formed in the central portion of the bottom of said tank;

fluid inlet means formed in the end of the bottom of said tank adjacent said first end wall, and including means for dispersing the incoming fluid;

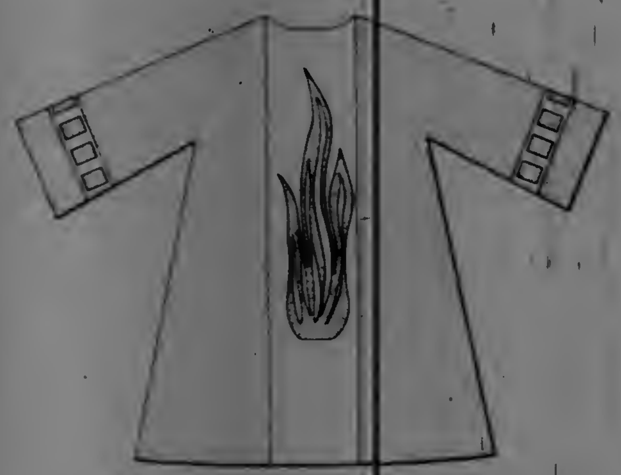
and fluid recirculating means intercoupling said fluid outlet means and fluid inlet means;

the operation being such that the film strip may be threaded into said first and second toothed sprocket drives and said film gate, said tank may separately be filled with said body of liquid, and said tank may thereafter be attached to said housing and locked in place so as to immerse the film strip and said gate aperture in said body of liquid without disturbing the position of the film strip.

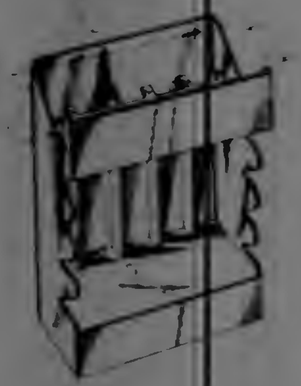
DESIGNS

JULY 6, 1965

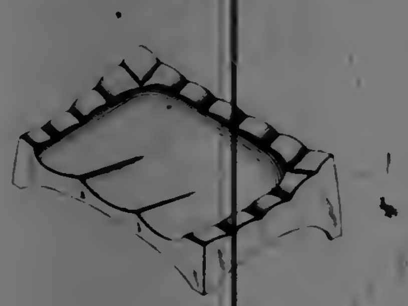
201,539
LITURGICAL VESTMENT
Jane E. Maiarana, 178 Laird Ave., Buffalo, N.Y.
Filed Dec. 7, 1964, Ser. No. 82,940
Term of patent 14 years
(Cl. D3—2[illegible])



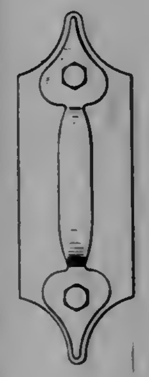
201,540
COMBINED COMB, TOOTHBRUSH, AND TOOTHPASTE RACK
Joe A. Di Tirro, Cleveland, Ohio, assignor to Marianna Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 23, 1963, Ser. No. 76,345
Term of patent 14 years
(Cl. D4—3)



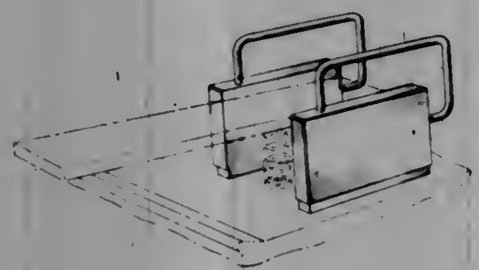
201,541
SOAP DISH OR SIMILAR ARTICLE
Charles O. Bliss, Box 47607, Los Angeles, Calif.
Filed Oct. 28, 1964, Ser. No. 82,365
Term of patent 14 years
(Cl. D4—[illegible])



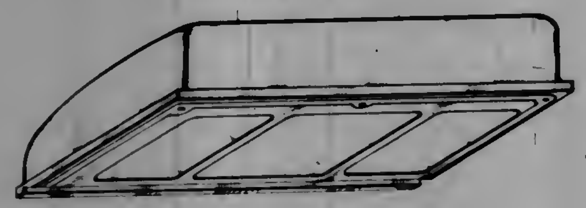
201,542
COMBINED HANDLE AND ESCUTCHEON PLATE
John Pawl, Rte. 30 and 55, Crown Point, Ind.
Filed June 8, 1962, Ser. No. 70,468
Term of patent 14 years
(Cl. D10—8)



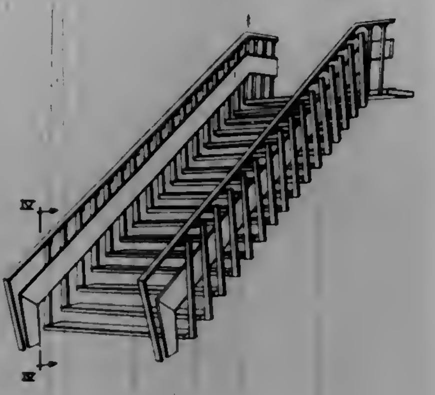
201,543
DIVING BOARD
Myron P. Anthony, Newport Beach, Calif., assignor to Anthony Pools, Inc., South Gate, Calif., a corporation of Delaware
Filed June 6, 1962, Ser. No. 70,434
Term of patent 14 years
(Cl. D13—1)



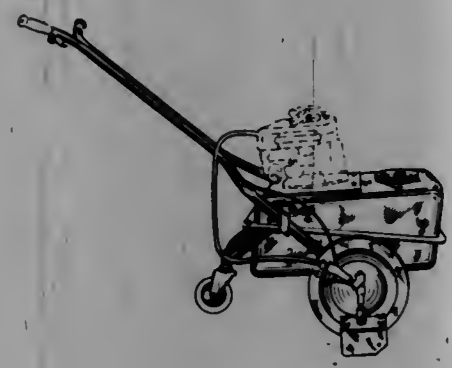
201,544
TOP OF A TELEPHONE BOOTH
Jesse B. Brooks, 5050 Northland Drive NE., Atlanta, Ga.
Filed May 14, 1964, Ser. No. 79,983
Term of patent 14 years
(Cl. D13—1)



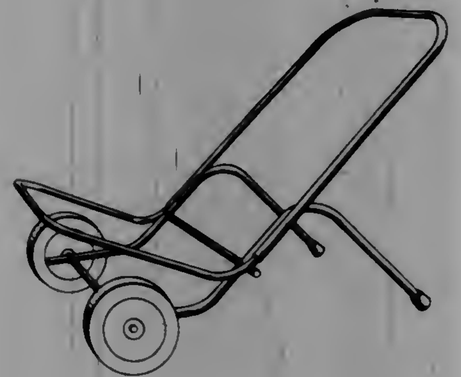
201,545
STAIRWAY
Louis Blum and William J. Horgan, Jr., Pittsburgh, Pa., assignors to Blumcraft of Pittsburgh, Pittsburgh, Pa., a firm consisting of Hyman Blum, Louis Blum, Max Blum, and Harry P. Blum
Filed Dec. 13, 1963, Ser. No. 77,791
Term of patent 14 years
(Cl. D13—7)



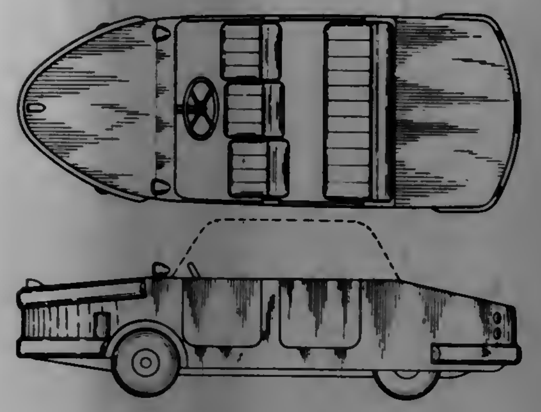
201,546
LINE MARKER
Bill W. Sorenson, Jefferson, Iowa
Filed Apr. 28, 1964, Ser. No. 79,715
Term of patent 14 years
(Cl. D14—3)



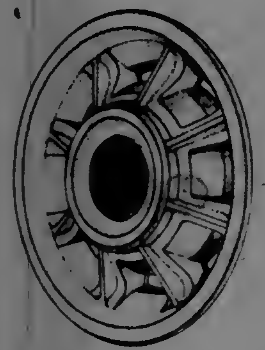
201,547
CAN CARRYING CART
Charles H. Krueger, Jr., 325 Edgewater Drive, Mishawaka, Ind.
Filed Oct. 8, 1964, Ser. No. 82,096
Term of patent 14 years
(Cl. D14—3)



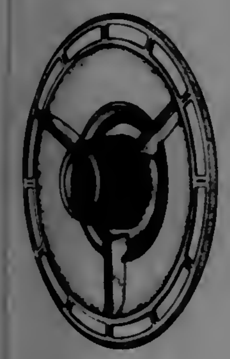
201,548
AUTOMOBILE
Keamon Kurose, 7002 N. Mercer Way, Mercer Island, Wash.
Filed Oct. 23, 1964, Ser. No. 82,299
Term of patent 14 years
(Cl. D14—3)



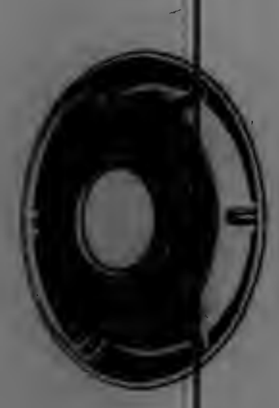
201,549
WHEEL COVER
Donald W. Logerquist, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Aug. 31, 1964, Ser. No. 81,521
Term of patent 7 years
(Cl. D14—30)



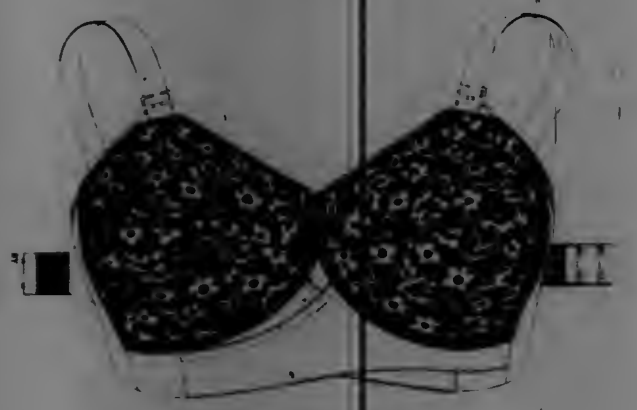
201,550
WHEEL COVER
Philip Garcia, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 8, 1964, Ser. No. 81,631
Term of patent 7 years
(Cl. D14—30)



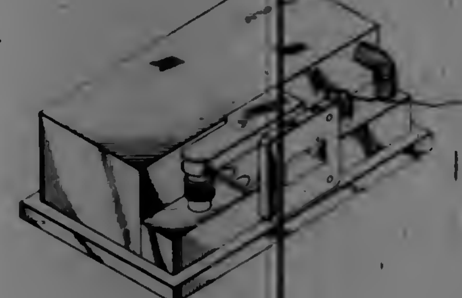
201,551
WHEEL COVER
Stanley R. Wilen, Huntington Woods, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 8, 1964, Ser. No. 81,647
Term of patent 7 years
(Cl. D14—30)



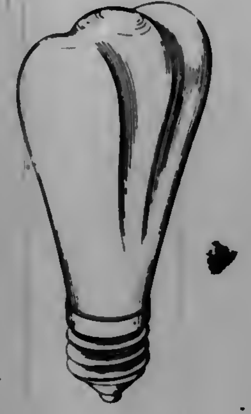
201,552
BRASSIERE
Charles M. Sachs, Fort Lee, N.J., assignor to Sarong, Inc., Dover, Del., a corporation of Delaware
Filed Sept. 3, 1963, Ser. No. 76,429
Term of patent 14 years
(Cl. D20—2)



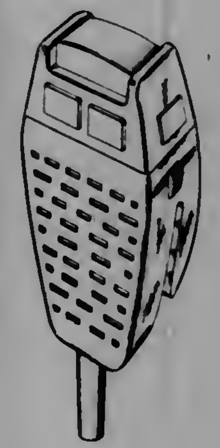
201,553
COMBINED TRAVELING WAVE TUBE AND POWER SUPPLY HOUSING OR SIMILAR ARTICLE
Murray I. Disman, Sunnyvale, and Charles M. Eallonardo, Cupertino, Calif., assignors to Eitel-McCullough, Inc., San Carlos, Calif., a corporation of California
Filed Apr. 28, 1964, Ser. No. 79,728
Term of patent 7 years
(Cl. D26—1)



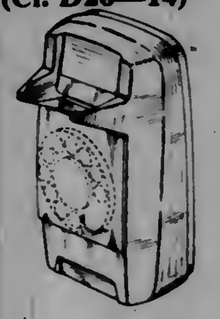
201,554
CHRISTMAS TREE LAMP
Mario C. Pacini, 3000 Clay St., Newport Beach, Calif.
Filed June 1, 1964, Ser. No. 80,235
Term of patent 14 years
(Cl. D26—8)



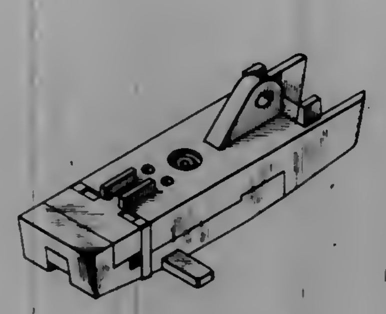
201,555
PORTABLE COMMUNICATION AND CONTROL UNIT
Leon G. Barry, Danbury, Conn., and Harold Kimura, New Rochelle, N.Y., assignors to Dictograph Products Inc., Danbury, Conn., a corporation of Delaware
Filed June 22, 1964, Ser. No. 80,520
Term of patent 14 years
(Cl. D26—13)



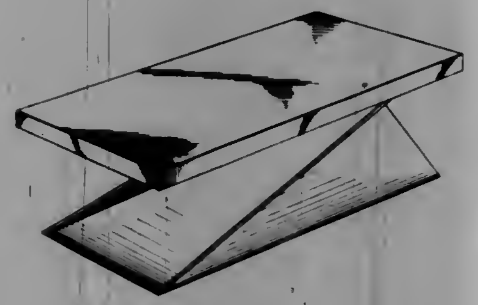
201,556
WALL TELEPHONE BASE
Jerry L. Schoemann, Glen Ellyn, and Martin J. Stevko, Addison, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Feb. 10, 1964, Ser. No. 78,574
Term of patent 14 years
(Cl. D26—14)



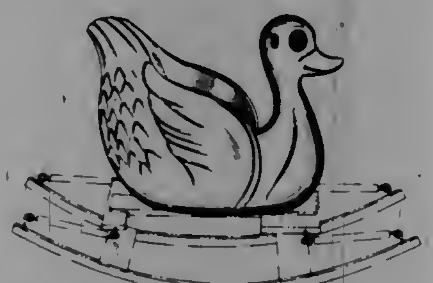
201,557
PHONOGRAPH PICK-UP CARTRIDGE
William A. Cavagnaro, Decatur, and Wesley L. Blankenship, Oreana, Ill., assignors to General Electric Company, a corporation of New York
Filed July 9, 1964, Ser. No. 80,782
Term of patent 14 years
(Cl. D26—14)



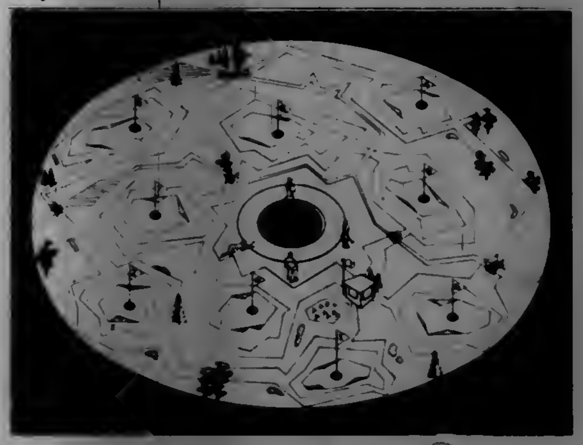
201,558
TABLE
Joseph F. Reyes, 9243 Morrill Ave., Santa Fe Springs, Calif.
Filed Feb. 10, 1964, Ser. No. 78,573
Term of patent 14 years
(Cl. D33—14)



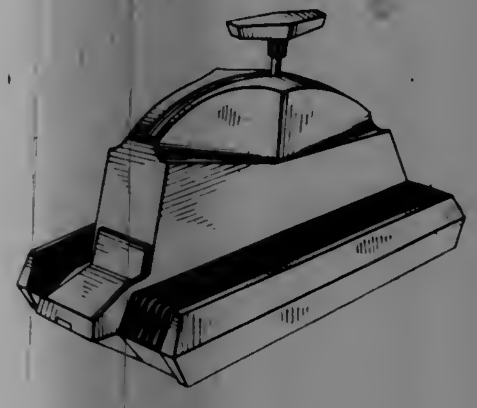
201,559
CHILD'S RIDING TOY
Leslie C. Peltier, Delphos, Ohio, assignor to The Delphos Bending Company, Delphos, Ohio, a corporation of Ohio
Filed June 9, 1964, Ser. No. 80,340
Term of patent 7 years
(Cl. D34—5)



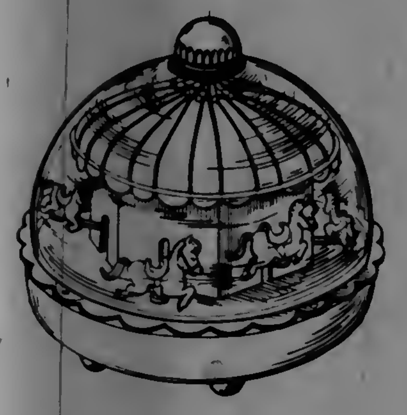
201,560
GOLF DART GAME BOARD
Manuel S. Miranda, 294 S. Bonita Ave., Pasadena, Calif.
Filed Jan. 22, 1965, Ser. No. 83,542
Term of patent 7 years
(Cl. D34—5)



201,561
REMOTE CONTROL FOR A TOY VEHICLE
Robert D. Pfister, Westport, Conn., assignor to De Luxe Reading Corp., Elizabeth, N.J., a corporation of New Jersey
Filed Sept. 21, 1964, Ser. No. 81,793
Term of patent 7 years
(Cl. D34—15)



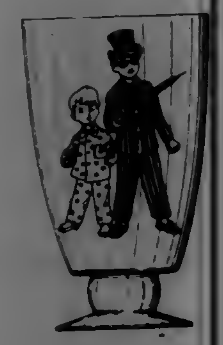
201,562
ENCLOSED CARROUSEL TOY
Willis M. Lakin, Barton, Wis., assignor to Marlin Toy Products, Inc., Horicon, Wis., a corporation of Illinois
Filed Oct. 1, 1964, Ser. No. 81,963
Term of patent 14 years
(Cl. D34—15)



201,563

FOOTED TUMBLER OR SIMILAR ARTICLE

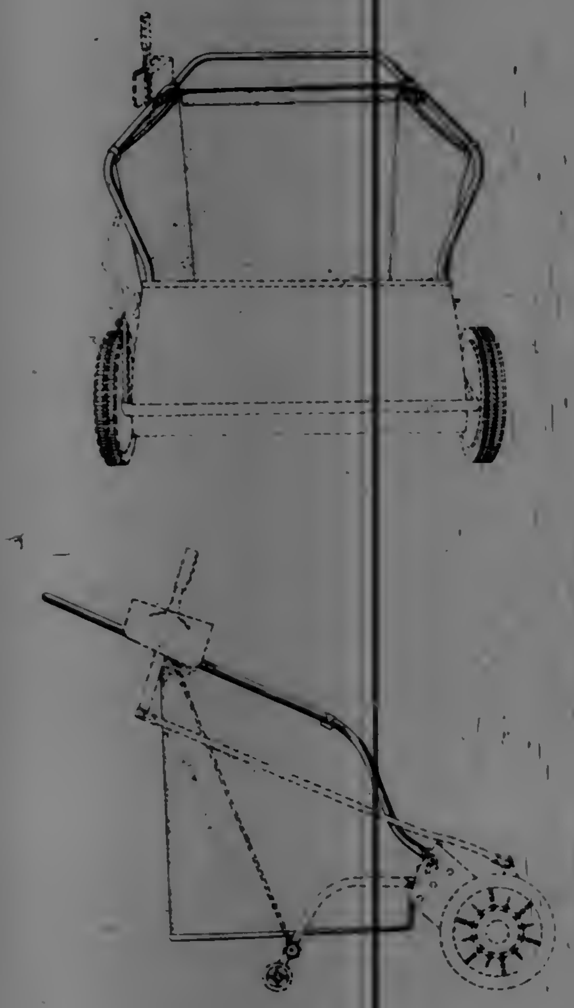
Robert Alexander Wilkin, London, England, assignor to Peter Pan Productions Limited, London, England, a British company
Filed July 29, 1964, Ser. No. 81,053
Claims priority, application Great Britain Feb. 19, 1964
Term of patent 14 years
(Cl. D36—8)



201,564

LAWNSWEEPER OR THE LIKE

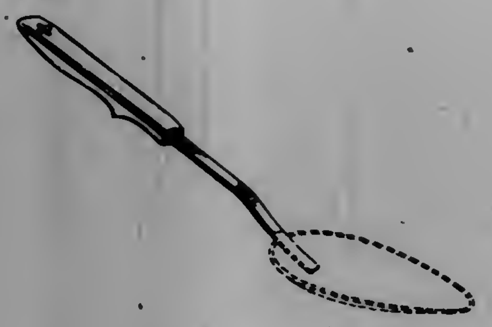
William B. Lambert, 490 Rubicon Road, Dayton, Ohio
Filed May 11, 1962, Ser. No. 70,079
Term of patent 14 years
(Cl. D40—1)



201,565

UTENSIL HANDLE AND TANG

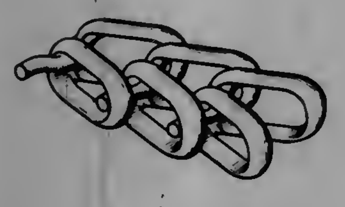
James L. Hvale, Chicago, Ill., assignor to Club Aluminum Products Company, La Grange Park, Ill., a corporation of Illinois
Filed Oct. 28, 1964, Ser. No. 82,364
Term of patent 14 years
(Cl. D44—29)



201,566

BRACELET OR SIMILAR ARTICLE

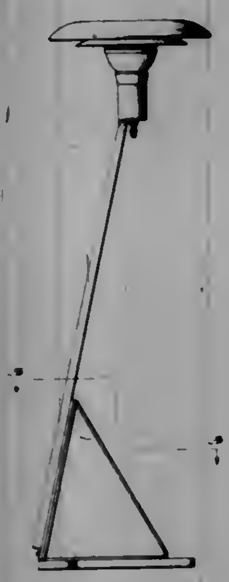
Olof V. Anderson, Forge Road, North Kingston, R.I.
Filed Sept. 10, 1964, Ser. No. 81,663
Term of patent 14 years
(Cl. D45—4)



201,567

FLOOR LAMP OR SIMILAR ARTICLE

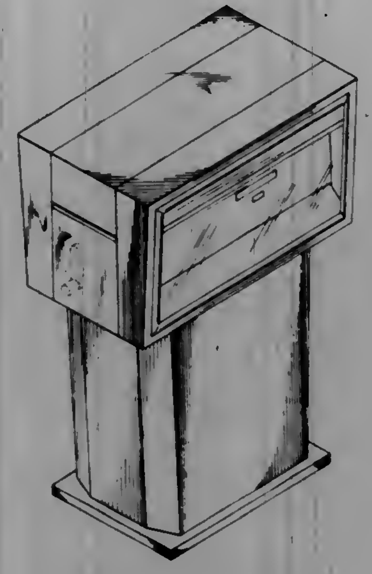
Earl L. Canfield, Book Hill Road, Essex, Conn.
Filed June 15, 1964, Ser. No. 80,394
Term of patent 14 years
(Cl. D48—20)



201,568

GASOLINE PUMP HOUSING

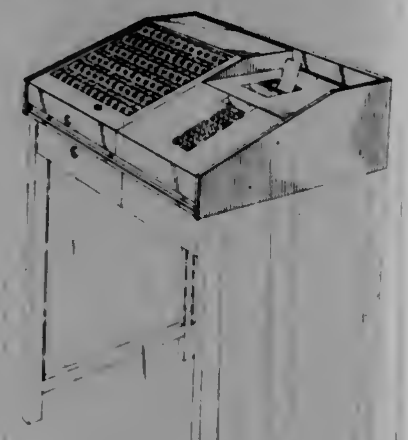
Bolling H. Sasnett, Jr., 692 Longwood Drive NW., Atlanta, Ga.
Filed Aug. 29, 1963, Ser. No. 76,382
Term of patent 14 years
(Cl. D52—2)



201,569

CASH REGISTER OR SIMILAR ARTICLE

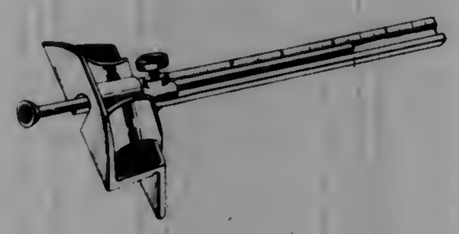
Pierre L. Crease, Kettering, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Sept. 14, 1964, Ser. No. 81,707
Term of patent 14 years
(Cl. D52—4)



201,570

MARKING GAGE

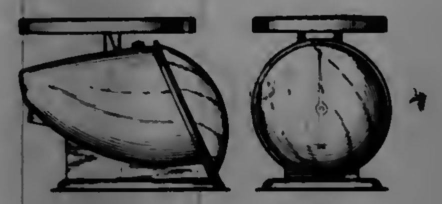
Bernard L. Polkosnik, Fairfield, Conn., assignor to General Hardware Mfg. Co., Inc., New York, N.Y., a corporation of New York
Filed Nov. 20, 1963, Ser. No. 77,509
Term of patent 14 years
(Cl. D52—6)



201,571

HOUSEHOLD SCALE

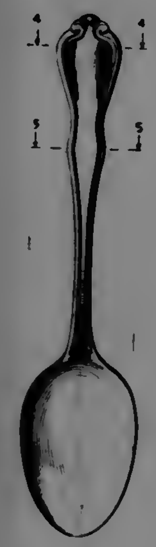
Harold O. Friedrich, Lake Geneva, Wis., assignor to American Family Scale Company, Inc., Chicago, Ill., a corporation of Illinois
Filed Mar. 24, 1964, Ser. No. 79,157
Term of patent 14 years
(Cl. D52—10)



201,572

SPOON OR SIMILAR ARTICLE

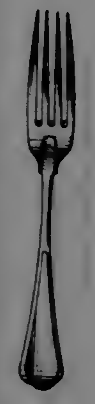
Melvin A. Lea, Oneida, N.Y., assignor to Oneida Ltd., Oneida, N.Y., a corporation of New York
Filed Oct. 15, 1962, Ser. No. 72,104
Term of patent 14 years
(Cl. D54—12)



201,573

DINING FORK OR SIMILAR ARTICLE

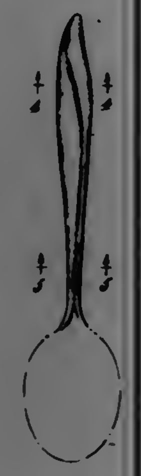
Oliver Messel, London, England (% Imperial Knife Associated Companies, Inc., 1776 Broadway, New York 19, N.Y.)
Filed June 1, 1964, Ser. No. 80,209
Term of patent 14 years
(Cl. D54—12)



201,574

SPOON OR SIMILAR ARTICLE OF FLATWARE

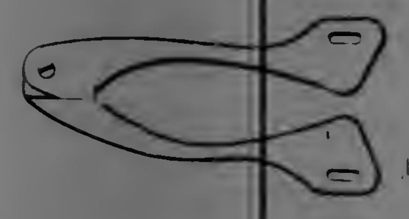
Colin B. Richmond II, Newbury, Mass., assignor to Charles D. Briddell Incorporated, Crisfield, Md., a corporation of Maryland
Filed Feb. 2, 1965, Ser. No. 83,660
Term of patent 14 years
(Cl. D54—12)



201,575

SURVEYOR'S TAPE GRIPPING TOOL

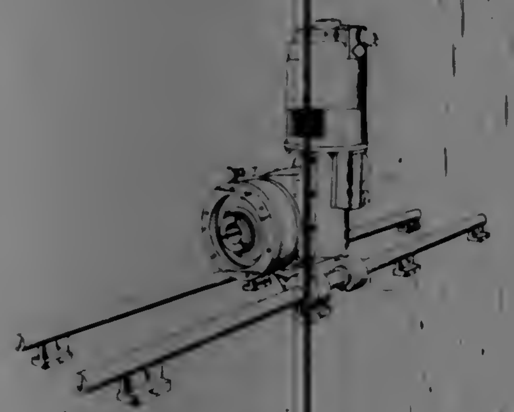
Ray J. Peters and Patrick J. Campbell, both of 2227 Contra Costa Blvd., Pleasant Hill, Calif.
Filed Mar. 16, 1964, Ser. No. 79,004
Term of patent 14 years
(Cl. D54—13)



201,576

COMBINED POWERED CHUCK FIXTURE AND GUIDEWAY FOR TUBE BENDING MACHINES

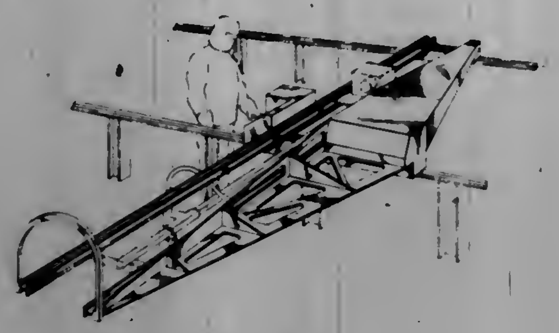
Hans Schmidt, Aurora, Ill., assignor to Pines Engineering Co., Inc., a corporation of Illinois
Filed Nov. 29, 1963, Ser. No. 77,617
Term of patent 14 years
(Cl. D55—1)



201,577

SHAPE CUTTING MACHINE OR SIMILAR ARTICLE

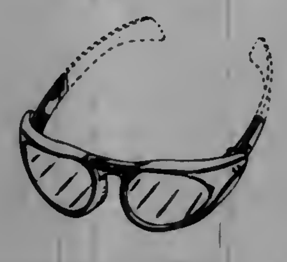
Howard E. Schwartz, Medina, Richard M. Mills, Twinsburg, and Donald A. Wolf, Beachwood, Ohio, assignors, by mesne assignments, to Jetcut Corporation, Bedford, Ohio, a corporation of Ohio
Filed Jan. 9, 1964, Ser. No. 78,140
Term of patent 14 years
(Cl. D55—1)



201,578

PAIR OF SPECTACLES

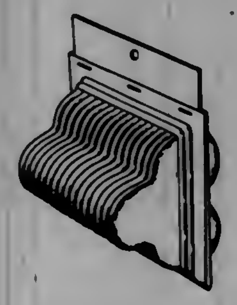
Albert C. Petitto, Hudson, Mass., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware
Filed Jan. 10, 1964, Ser. No. 78,153
Term of patent 14 years
(Cl. D57—1)



201,579

PACKAGE FOR COOKIES OR THE LIKE

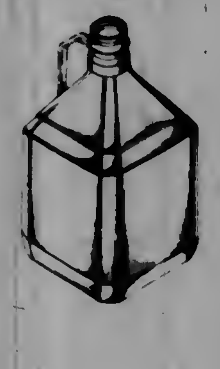
Hugh R. Weiss, Montclair, N.J., assignor to The Pantasote Company, Passaic, N.J., a corporation of New Jersey
Filed Sept. 28, 1964, Ser. No. 81,898
Term of patent 14 years
(Cl. D58—2)



201,580

JUG

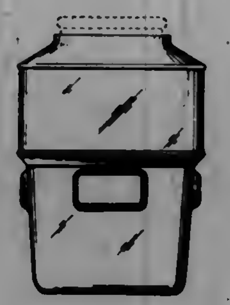
Roy W. Dike, Northbrook, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 20, 1964, Ser. No. 79,606
Term of patent 14 years
(Cl. D58—5)



201,581

BOTTLE

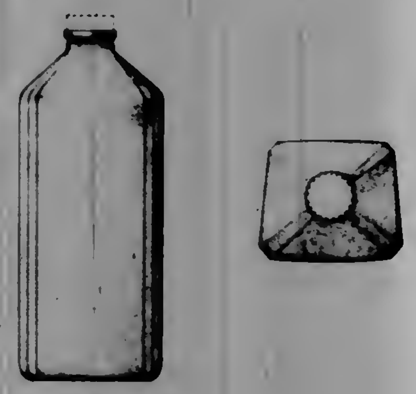
Joseph P. De Vries, Cincinnati, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed July 1, 1964, Ser. No. 80,662
Term of patent 14 years
(Cl. D58—6)



201,582

BOTTLE

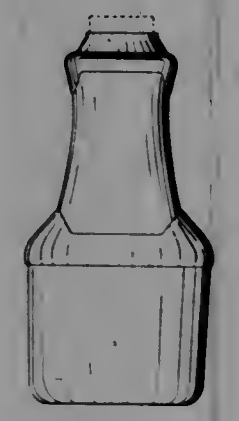
Doyle J. Morgan and James A. Shepler, Toledo, Ohio, assignors to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Aug. 24, 1964, Ser. No. 81,423
Term of patent 14 years
(Cl. D58—6)



201,583

BOTTLE

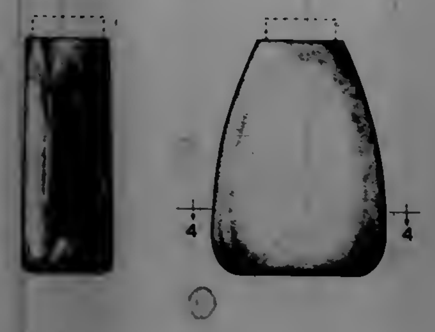
James A. Shepler, Toledo, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Dec. 2, 1964, Ser. No. 82,878
Term of patent 14 years
(Cl. D58—6)



201,584

BOTTLE

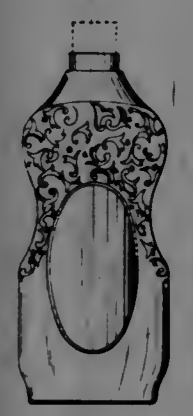
James A. Shepler, Toledo, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Dec. 2, 1964, Ser. No. 82,881
Term of patent 14 years
(Cl. D58—6)



201,585

BOTTLE

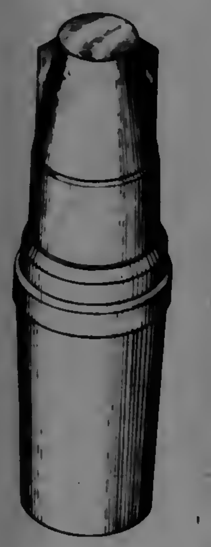
Bruce L. Roberts, Rossford, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Dec. 9, 1964, Ser. No. 82,963
Term of patent 14 years
(Cl. D58—6)



201,586

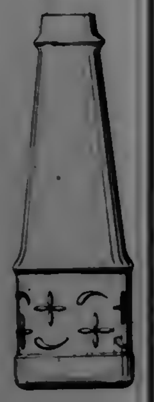
FLASK

Arne Erkers, Styckjunkaregatan 7, Stockholm, Sweden
Filed Apr. 29, 1964, Ser. No. 79,734
Term of patent 14 years
(Cl. D58—8)



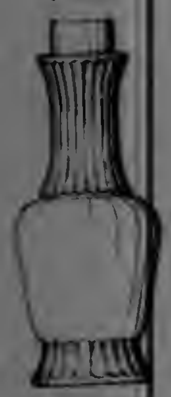
201,587
BOTTLE

Bruce L. Roberts, Rossford, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Oct. 5, 1964, Ser. No. 82,021
Term of patent 14 years
(Cl. D58—8)



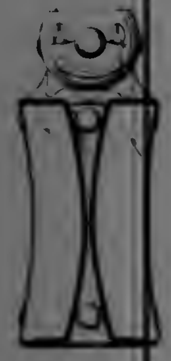
201,588
BOTTLE

James L. Linn, Jr., Maumee, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Jan. 27, 1965, Ser. No. 83,606
Term of patent 14 years
(Cl. D58—8)



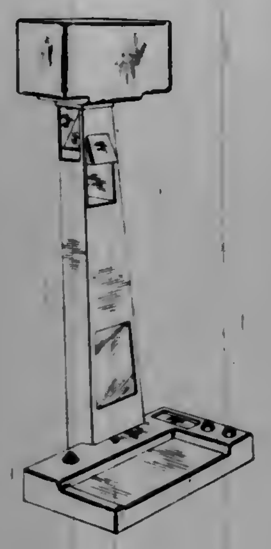
201,589
BOTTLE

Bruce L. Roberts, Rossford, Ohio, assignor to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio
Filed Oct. 13, 1964, Ser. No. 82,157
Term of patent 14 years
(Cl. D58—8)



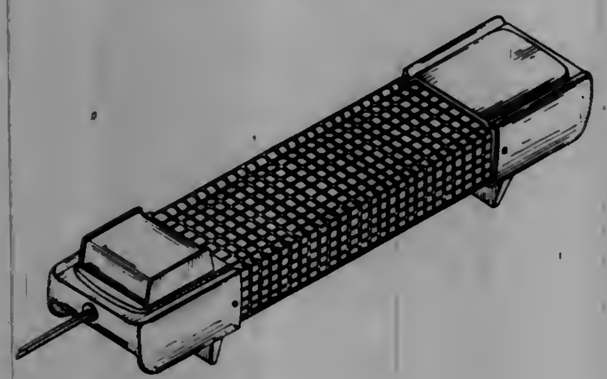
201,590
CAMERA FOR USE WITH CHECK CASHING OPERATION

David Sigmond, 1311 Brightwater Ave., Brooklyn, N.Y.
Filed June 1, 1964, Ser. No. 80,218
Term of patent 7 years
(Cl. D61—1)



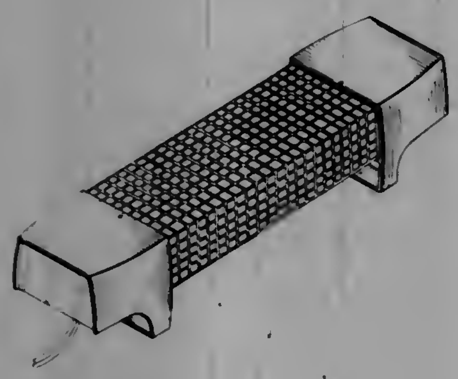
201,591
DEFROSTER FOR REFRIGERATORS OR THE LIKE

R Stuart Davis, Jr., 32021 Weston Drive, Birmingham, Mich.
Filed Mar. 27, 1964, Ser. No. 79,225
Term of patent 7 years
(Cl. D67—2)



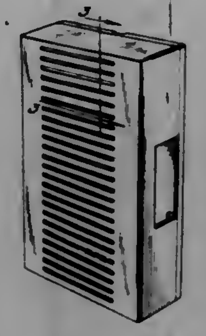
201,592
DEFROSTER FOR REFRIGERATORS OR THE LIKE

R Stuart Davis, Jr., 32021 Weston Drive, Birmingham, Mich.
Filed Mar. 30, 1964, Ser. No. 79,241
Term of patent 7 years
(Cl. D67—2)



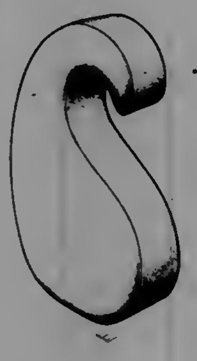
201,593
DOOR CHIME

Norman William Stevenson, Macclesfield, England, assignor to V. & E. Friedland Limited, Macclesfield, England, a British company
Filed Mar. 12, 1962, Ser. No. 69,209
Claims priority, application Great Britain Sept. 13, 1961
Term of patent 14 years
(Cl. D72—1)



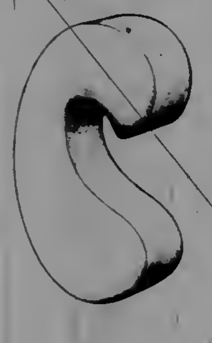
201,594
HANG UP SOAP BAR OR SIMILAR ARTICLE

Gordon K. Woodard, 14155 Magnolia Blvd., Apt. 354, Van Nuys, Calif.
Filed June 1, 1964, Ser. No. 80,212
Term of patent 14 years
(Cl. D73—1)



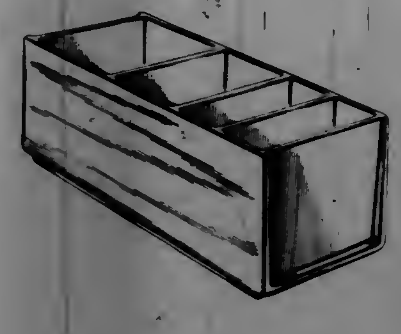
201,595
HANG UP SOAP BAR OR SIMILAR ARTICLE

Gordon K. Woodard, 14155 Magnolia Blvd., Apt. 354, Van Nuys, Calif.
Filed June 1, 1964, Ser. No. 80,234
Term of patent 14 years
(Cl. D73—1)



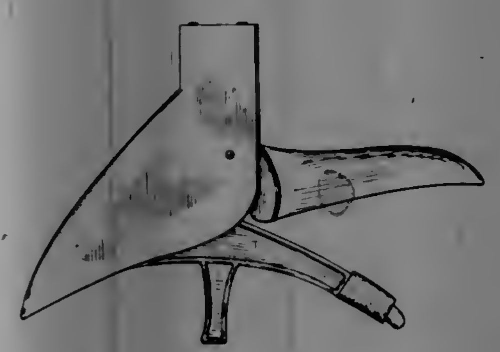
201,596
LIBRARY CARD TRAY

Arthur J. Pulos, Fayetteville, and Paul B. Sweeney, Jr., Syracuse, N.Y., assignors to Gaylord Bros., Inc., Syracuse, N.Y., a corporation of New York
Filed Oct. 26, 1964, Ser. No. 82,310
Term of patent 14 years
(Cl. D74—9)



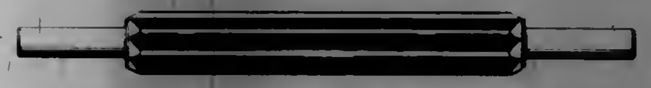
201,597
GARMENT HANGER

Hans Frech, Zuchwil, Switzerland, assignor to V. Glutz-Blotzheim Nachfolger A.G., Solothurn, Switzerland, a company of Switzerland
Filed Oct. 21, 1963, Ser. No. 77,068
Term of patent 14 years
(Cl. D80—8)



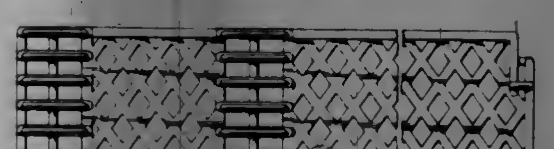
201,598
MASSAGE ROLLER

Imre Gaspar, 1156 N. Poinsettia Drive, Los Angeles 46, Calif.
Filed July 28, 1964, Ser. No. 81,042
Term of patent 7 years
(Cl. D83—1)

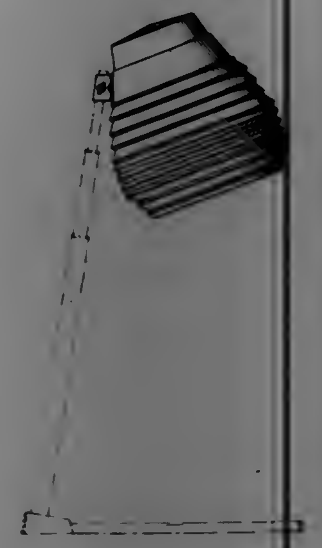


201,599
COMB TRAY

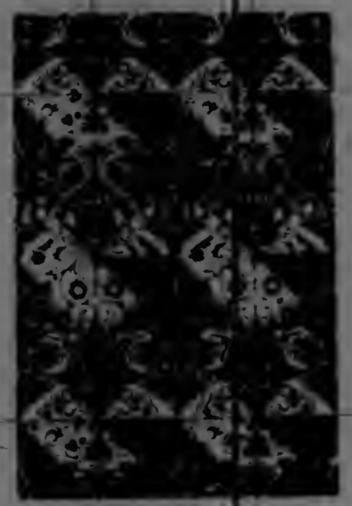
Arthur C. Jermyn, 240 Danbury Circle N., Rochester 18, N.Y.
Filed May 19, 1964, Ser. No. 80,056
Term of patent 7 years
(Cl. D86—10)



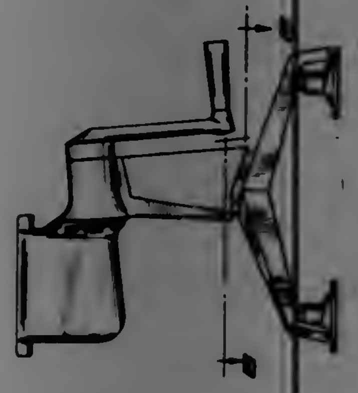
201,600
HAIR DRYER
Horst Genger, Chicago, Ill., assignor to Bretford Manufacturing, Inc., Schiller Park, Ill., a corporation of Illinois
Filed May 26, 1964, Ser. No. 80,154
Term of patent 14 years
(Cl. D86—10)



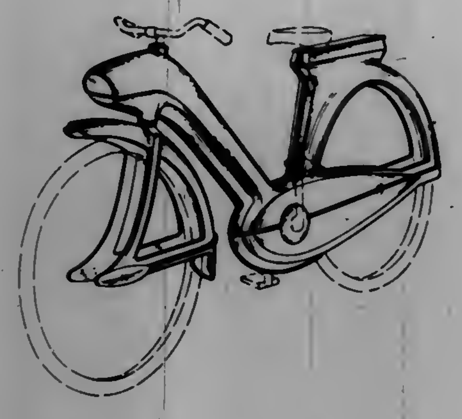
201,601
PLASTIC SHEET MATERIAL OR THE LIKE
Virginia Broderick, Wauwatosa, Wis., assignor to Consoweld Corporation, Wisconsin Rapids, Wis., a corporation of Wisconsin
Filed Sept. 1, 1964, Ser. No. 81,541
Term of patent 14 years
(Cl. D87—3([illegible]))



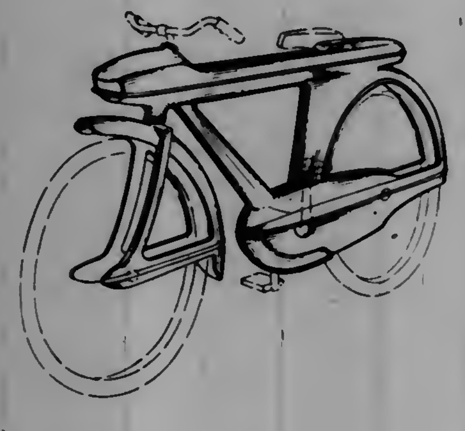
201,602
FOOD CUTTER
Elwood M. Graham and John N. Polivka, both of Minnetonka, Minn., assignors to M. [illegible]. Graham Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Oct. 8, 1964, Ser. No. 82,081
Term of patent 14 years
(Cl. D8[illegible])



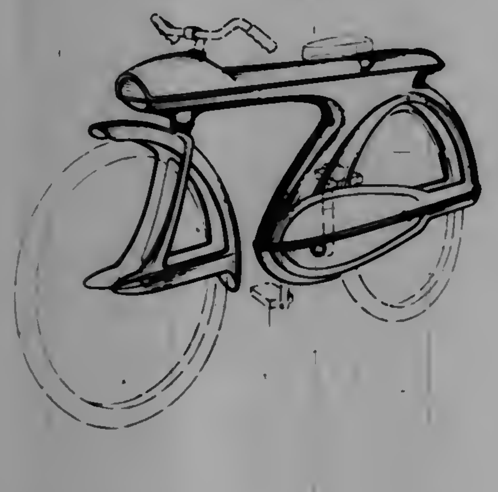
201,603
BICYCLE FRAME
Benjamin G. Bowden, 2331 E. Grecourt Drive, Toledo, Ohio
Filed July 22, 1964, Ser. No. 80,959
Term of patent 14 years
(Cl. D90—8)



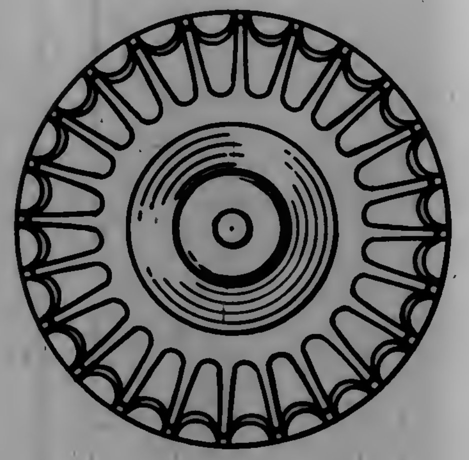
201,604
BICYCLE FRAME
Benjamin G. Bowden, 2331 E. Grecourt Drive, Toledo, Ohio
Filed July 22, 1964, Ser. No. 80,960
Term of patent 14 years
(Cl. D90—8)



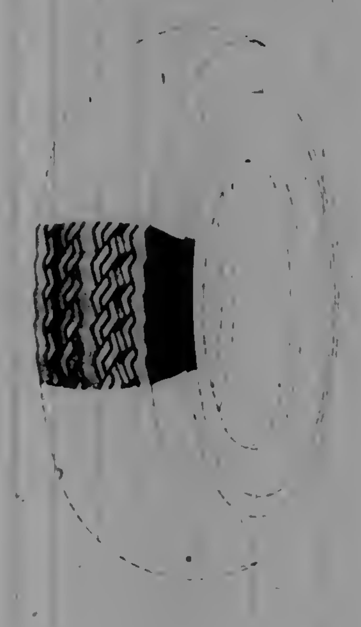
201,605
BICYCLE FRAME
Benjamin G. Bowden, 2331 E. Grecourt Drive, Toledo, Ohio
Filed July 22, 1964, Ser. No. 80,965
Term of patent 14 years
(Cl. D90—8)



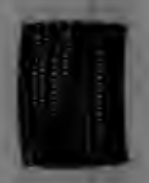
201,606
VALVE CAP FOR TIRE VALVE INSERTS, INNER TUBES AND THE LIKE
Georgie P. McCord, Indianapolis, Ind., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed June 5, 1963, Ser. No. 75,228
Term of patent 14 years
(Cl. D90—20)



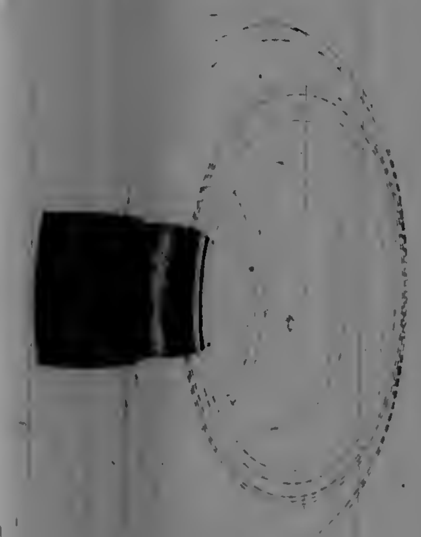
201,607
TIRE
Leonard C. Youngblood, Grosse Pointe Park, Mich., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 25, 1964, Ser. No. 81,872
Term of patent 14 years
(Cl. D90—20)



201,608
TIRE
Robert F. Busch, St. Clair Shores, and John W. Taylor, Grosse Pointe Farms, and Clarence H. Vizina, Jr., Ferndale, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 21, 1964, Ser. No. 82,264
Term of patent 14 years
(Cl. D90—20)



201,609
TIRE
John W. Taylor, Grosse Pointe Farms, William L. Shesterkin and Fredric C. Basel, Jr., Roseville, and Robert F. Bogan, Grosse Pointe Farms, Mich., assignors to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 22, 1964, Ser. No. 82,281
Term of patent 14 years
(Cl. D90—20)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 6TH DAY OF JULY, 1965

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Bamberger, Julien G., to Masco Corp. Catamaran type boats. **Re. 25,816, 7–6–65, Cl. 114—62.**
Butler, Henry J., to Dunlop Rubber Co. Ltd. Spot type disc brakes for vehicles. Re. 25,817, 7–6–65, Cl. 188—73.
Dunlop Rubber Co. Ltd.: *See*—
  Butler, Henry J. Re. 25,817.
Ford Motor Co.: *See*—
  Humenik, Michael, Jr., and Moskowitz. Re. 25,815.
Humenik, Michael, Jr., and D. Moskowitz, to Ford Motor Co. Metallic compositions. Re. 25,815, 7–6–65, Cl. 29—182.7.
Krawacki, Michael J., to Trojon Corp. Rotary motion apparatus. Re. 25,818, 7–6–65, Cl. 103—139.
Masco Corp.: *See*—
  Bamberger, Julien G. Re. 25,816.
Moskowitz, David: *See*—
  Humenik, Michael, Jr., and Moskowitz. Re. 25,815.
Rockwell, Edward A. Brake construction. Re. 25,819, 7–6–65, Cl. 188—72.
Trojon Corp.: *See*—
  Krawacki, Michael J. Re. 25,818.

LIST OF PLANT PATENTEES

Anderson, Frederic W., to Irvin M. Burchell, d.b.a. The **Burchell Nursery. Apricot tree. 2,543, 7–6–65, Cl. 39.**
Burchell, Irvin M.: *See*—
  Anderson, Frederic W. 2,543.
Burchell Nursery, The: *See*—
  Anderson, Frederic W. 2,543.

LIST OF DESIGN PATENTEES

American Family Scale Co., Inc.: *See*—
  Friedrich, Harold O. 201,571.
Anderson, Olof V. Bracelet or similar article. 201,566, 7–6–65, Cl. D45—4
Anthony, Myron P., to Anthony Pools, Inc. Diving board. 201,543, 7–6–65, Cl. D13—1.
Anthony Pools, Inc.: *See*—
  Anthony, Myron P. 201,543.
Automatic Electric Laboratories, Inc.: *See*—
  Schoemann, Jerry L., and Stevko. 201,556.
Barry, Leon G., and H. Kimura, to Dictograph Products Inc. Portable communication and control unit. 201,555, 7–6–65, Cl. D26—13.
Basel, Fredric C., Jr.: *See*—
  Taylor, John W., Shesterkin, Basel, and Bogan. 201,609.
Blankenship, Wesley L.: *See*—
  Cavagnaro, William A., and Blankenship. 201,557.
Bliss, Charles O. Soap dish or similar article. 201,541, 7–6–65, Cl. D4—3.
Blum, Louis, and W. J. Horgan, Jr., to Blumcraft of Pittsburgh, a firm of H., L., M., and H. P. Blum. Stairway. 201,545, 7–6–65, Cl. D13—7.
Blumcraft of Pittsburgh: *See*—
  Blum, Louis, and Horgan. 201,545.
Bogan, Robert F.: *See*—
  Taylor, John W., Shesterkin, Basel, and Bogan. 201,609.
Bowden, Benjamin G. Bicycle frame. 201,603, 7–6–65, Cl. D90—8.
Bowden, Benjamin G. Bicycle frame. 201,604, 7–6–65, Cl. D90—8.
Bowden, Benjamin G. Bicycle frame. 201,605, 7–6–65, Cl. D90—8.
Bretford Mfg., Inc.: *See*—
  Genger Horst. 201,600.
Briddell, Charles D., Inc.: *See*—
  Richmond, Colin B., II. 201,574.
Broderick, Virginia to Consoweld Corp. Plastic sheet material of the like. 201,601, 7–6–65, Cl. D87—3.
Brooks, Jesse B. Top of a telephone booth. 201,544, 7–6–65, Cl. D13—1.
Busch, Robert F., J. W. Taylor, and C. H. Vizina, Jr., to United States Rubber Co. Tire. 201,608, 7–6–65, Cl. D90—20.
Campbell, Patrick J.: *See*—
  Peters, Ray J., and Campbell. 201,575.
Canfield, Earl L. Floor lamp or similar article. 201,567, 7–6–65, Cl. D48—20.
Cavagnaro, William A., and W. L. Blankenship, to General Electric Co. Phonograph pick-up cartridge. 201,557, 7–6–65, Cl. D26—14.
Club Aluminum Products Co.: *See*—
  Hvale, James L. 201,565.
Consoweld Corp.: *See*—
  Broderick, Virginia. 201,601.
Continental Can Co., Inc.: *See*—
  Dike, Roy W. 201,580.
Crease, Pierre L., to The National Cash Register Co. Cash register or similar article. 201,569, 7–6–65, Cl. D52—4.
Davis, R. Stuart Jr. Defroster for refrigerators or the like. 201,591, 7–6–65, Cl. D67—2.
Davis, R. Stuart, Jr. Defroster for refrigerators or the like. 201,592, 7–6–65, Cl. D67—2.
Delphos Bending Co., The: *See*—
  Peltier, Leslie C. 201,559.
De Luxe Reading Corp.: *See*—
  Pfister, Robert D. 201,561.
De Vries, Joseph P., to Owens-Illinois Glass Co. Bottle. 201,581, 7–6–65, Cl. D58—6.
Dictograph Products Inc.: *See*—
  Barry, Leon G., and Kimura. 201,555.
Dike, Roy W., to Continental Can Co., Inc. Jug. 201,580, 7–6–65, Cl. D58—5.
Disman, Murray I., and C. M. Eallonardo, to Eitel-McCullough, Inc. Combined traveling wave tube and power supply housing or similar article. 201,553, 7–6–65, Cl. D26—1.
Di Tirro, Joe A., to Marianna Corp. Combined comb, toothbrush, and toothpaste rack. 201,540, 7–6–65, Cl. D4—3.
Eallonardo, Charles M.: *See*—
  Disman, Murray I., and Eallonardo. 201,553.
Eitel-McCullough, Inc.: *See*—
  Disman, Murray I., and Eallonardo. 201,553.
Erkers, Arne. Flask. 201,586, 7–6–65, Cl. D58—8.
Foster Grant Co., Inc.: *See*—
  Petitto, Albert C. 201,578.
Frech, Hans., to V. Glutz-Blotzheim Nachfolger A.G. Garment hanger. 201,597, 7–6–65, Cl. D80—8.
Friedland, V. & E., Ltd.: *See*—
  Stevenson, Norman W. 201,593.
Friedrich, Harold O., to American Family Scale Co., Inc. Household scale. 201,571, 7–6–65, Cl. D52—10.
Garcia, Philip, to General Motors Corp. Wheel cover. 201,550, 7–6–65, Cl. D14—30.
Gaspar, Imre. Massage roller. 201,598, 7–6–65, Cl. D83—1.
Gaylord Bros., Inc.: *See*—
  Pulos, Arthur J., and Sweeney. 201,596.
General Electric Co.: *See*—
  Cavagnaro, William A., and Blankenship. 201,557.
General Hardware Mfg. Co., Inc.: *See*—
  Polkosnik, Bernard L. 201,570.
General Motors Corp.: *See*—
  Garcia Philip. 201,550.
  Logerquist, Donald W. 201,549.
  Wilen, Stanley R. 201,551.
Genger, Horst, to Bretford Mfg., Inc. Hair dryer. 201,600, 7–6–65, Cl. D86—10.
Glutz-Blotzheim, V., Nachfolger A.G.: *See*—
  Frech, Hans. 201,597.
Graham, Elwood M., and J. N. Pollvka, to M. H. Graham Corp. Food cutter. 201,602, 7–6–65, Cl. D89—1.
Graham, M. H., Corp.: *See*—
  Graham, Elwood M., and Pollvka. 201,602.
Horgan, William J., Jr.: *See*—
  Blum, Louis, and Horgan. 201,545.
Hvale, James L., to Club Aluminum Products Co. Utensil handle and tang. 201,565, 7–6–65, Cl. D44—29.
Jermyn, Arthur C. Comb tray. 201,599, 7–6–65, Cl. D86—10.
Jetcut Corp.: *See*—
  Schwartz, Howard E., Mills, and Wolf. 201,577.
Kimura, Harold: *See*—
  Barry, Leon G., and Kimura. 201,555.
Krueger Charles H., Jr. Can Carrying cart. 201,547, 7–6–65, Cl. D14—3.
Kurose, Keamon. Automobile. 201,548, 7–6–65, Cl. D14—3.
Lakin, Willis M., to Marlin Toy Products, Inc. Enclosed carrousel toy. 201,562, 7–6–65, Cl. D34—15.

LIST OF DESIGN PATENTEES

- Lambert, William B. Lawnsweeper or the like. 201,564, 7-6-65, Cl. D40—1.
- Lea, Melvin A., to Oneida Ltd. Spoon or similar article. 201,572, 7-6-65, Cl. D54—12.
- Linn, James L., Jr., to Owens-Illinois Glass Co. Bottle. 201,588, 7-6-65, Cl. D58—8.
- Logerquist, Donald W., to General Motors Corp. Wheel cover. 201,549, 7-6-65, D14—30.
- Maiarana, Jane E. Liturgical vestment. 201,539, 7-6-65, Cl. D3—26.
- Marianna Corp.: *See*—
  - Di Tirro, Joe A. 201,540.
- Marlin Toy Products, Inc.: *See*—
  - Lakin, Willis M. 201,562.
- McCord, Georgie P., to United States Rubber Co. Valve cap for fire valve inserts, inner tubes and the like. 201,606, 7-6-65, Cl. D90—20.
- Messel, Oliver. Dining fork or similar article. 201,573, 7-6-65, Cl. D54—12.
- Mills, Richard M.: *See*—
  - Schwartz, Howard E., Mills, and Wolf. 201,577.
- Miranda, Manual S. Golf dart game board. 201,560, 7-6-65, D34—5.
- Morgan, Doyle J., and J. A. Shepler, to Owens-Illinois Glass Co. Bottle. 201,582, 7-6-65, Cl. D58—6.
- National Cash Register Co., The: *See*—
  - Crease, Pierre L. 201,569.
- Oneida Ltd.: *See*—
  - Lea, Melvin A. 201,572.
- Owens-Illinois Glass Co.: *See*—
  - De Vries, Joseph P. 201,581.
  - Linn, James L., Jr. 201,588.
  - Morgan, Doyle J., and Shepler. 201,582.
  - Roberts, Bruce L. 201,585.
  - Roberts, Bruce L. 201,587.
  - Roberts, Bruce L. 201,589.
  - Shepler, James A. 201,583.
  - Shepler, James A. 201,584.
- Pacini, Mario C. Christmas tree lamp. 201,554, 7-6-65, Cl. D26—8.
- Pantasote Co., The: *See*—
  - Weiss, Hugh R. 201,579.
- Pawl, John. Combined handle and escutcheon plate. 201,542, 7-6-65, Cl. D10—8.
- Peltier, Leslie C., to The Delphos Bending Co. Child's riding toy. 201,559, 7-6-65, Cl. D34—5.
- Peter Pan Productions Ltd.: *See*—
  - Wilkin, Robert A. 201,563.
- Peters, Ray J., and P. J. Campbell. Surveyor's tape gripping tool. 201,575, 7-6-65, Cl. D54—13.
- Petitto, Albert C., to Foster Grant Co., Inc. Pair of spectacles. 201,578, 7-6-65, Cl. D57—1.
- Pfister, Robert D., to De Luxe Reading Corp. Remote control for a toy vehicle. 201,561, 7-6-65, Cl. D34—15.
- Pines Engineering Co., Inc.: *See*—
  - Schmidt, Hans. 201,576.
- Polivka, John N.: *See*—
  - Graham, Elwood M., and Polivka. 201,602.
- Polkosnik, Bernard L., to General Hardware Mfg., Co., Inc. Marking gage. 201,570, 7-6-65, Cl. D52—6.
- Pulos, Arthur J., and P. B. Sweeney, Jr., to Gaylord Bros., Inc. Library card tray. 201,596, 7-6-65, Cl. D74—9.
- Reyes, Joseph F. Table. 201,558, 7-6-65, Cl. D33—14.
- Richmond, Colin B., II, to Charles D. Briddell, Inc. Spoon or similar article of flatware. 201,57[illegible], 7-6-65, Cl. D54—12.
- Roberts, Bruce L., to Owens-Illinois Glass Co. Bottle. 201,585, 7-6-65, Cl. D58—6.
- Roberts, Bruce L., to Owens-Illinois Glass Co. Bottle. 201,587, 7-6-65, Cl. D58—8.
- Roberts, Bruce L., to Owens-Illinois Glass Co. Bottle. 201,589, 7-6-65, Cl. D58—9.
- Sachs, Charles M., to Sarong, Inc. Brassiere. 201,552, 7-6-65, Cl. D20—2.
- Sarong, Inc.: *See*—
  - Sachs, Charles M. 201,552.
- Sasnett, Bolling H., Jr. Gasoline pump housing. 201,568, 7-6-65, Cl. D52—2.
- Schmidt, Hans, to Pines Engineering Co., Inc. Combined powdered chuck fixture and guideway for tube bending machine. 201,576, 7-6-65, Cl. D55—1.
- Schoemann, Jerry L., and M. J. Stevko, to Automatic Electric Laboratories, Inc. Wall telephone base. 201,556, 7-6-65, Cl. D26—14.
- Schwartz, Howard E., R. M. Mills, and D. A. Wolf, to Jetcut Corp. Shape cutting machine or similar article. 201,577, 7-6-65, Cl. D55—1.
- Shepler, James A., to Owens-Illinois Glass Co. Bottle. 201,583, 7-6-65, Cl. D58—6.
- Shepler, James A., to Owens-Ilinois Glass Co. Bottle. 201,584, 7-6-65, Cl. D58—6.
- Shepler, James L.: *See*—
  - Morgan, Doyle J., and Shepler. 201,582.
- Shesterkin, William L.: *See*—
  - Taylor, John W., Shesterkin, Basel, and Bogan. 201,609.
- Sigmond, David. Camera for use with check cashing operation. 201,590, 7-6-65, Cl. D61—1.
- Sorenson, Bill W. Line marker. 201,546, 7-6-65, Cl. D14—3.
- Stevenson, Norman W., to V. & E. Friedland Ltd. Door chime. 201,593, 7-6-65, Cl. D72—1.
- Stevko, Martin J.: *See*—
  - Schoemann, Jerry L., and Stevko. 201,556.
- Sweeney, Paul B., Jr.: *See*—
  - Pulos, Arthur J., and Sweeney. 201,596.
- Taylor, John W.: *See*—
  - Busch, Robert F., Taylor, and Vizina. 201,608.
- Taylor, John W., W. L. Shesterkin, F. C. Basel, Jr., and R. F. Bogan, to United States Rubber Co. Tire. 201,609, 7-6-65, Cl. D90—20.
- United States Rubber Co.: *See*—
  - Busch, Robert F., Taylor, and Vizina. 201,608.
  - McCord, Georgie P. 201,606.
  - Taylor, John W., Shesterkin, Basel, and Bogan. 201,609.
  - Youngblood, Leonard C. 201,607.
- Vizina, Clarence H., Jr.: *See*—
  - Busch, Robert F., Taylor, and Vizina. 201,608.
- Weiss, Hugh R., to The Pantasote Co. Package for cookies or the like. 201,579, 7-6-65, Cl. D58—2.
- Wilen, Stanley R., to General Motors Corp. Wheel cover. 201,551, 7-6-65, Cl. D14—30.
- Wilkin, Robert A., to Peter Pan Productions Ltd. Footed tumbler or similar article. 201,563, 7-6-65, Cl. D36—8.
- Wolf, Donald A.: *See*—
  - Schwartz, Howard E. Mills, and Wolf. 201 577.
- Woodard, Gordon K. Hang up soap bar or similar article. 201 594, 7-6-65, Cl. D73—1.
- Woodard, Gordon K. Hang up soap bar or similar article. 201,595, 7-6-65, Cl. D73—1.
- Youngblood, Leonard C., to United States Rubber Co. Tire. 201,607, 7—6-65, Cl. D90—20.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 6TH DAY OF JULY, 1965

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- A and C Engineering Co.: *See*—
  - Atherholt, George L., Sr. 3,193,163.
- AP Parts Corp., The: *See*—
  - Osborn, Norton J., and Tabbert. 3,192,593.
- ACF Industries, Inc.: *See*—
  - Anderson, Clifford E., Downs, and Gulick. 3,192,948.
  - Jeep, Charles W., Jr., and Niemeyer. 3,193,151.
  - Korte, Alfred C. 3,193,043.
  - Lowrey, William E. 3,193,248.
- AWEPA: *See*—
  - Weber, Alexander. 3,193,168.
- Abernethey, Ira A., R. W. Vail, H. R. Feichter, and S. J. Cable, to United States Ceramic Tile Co. Mold assembly for forming pregrouted ceramic tile sheets. 3,192,567, 7-6-65, Cl. 18—36.
- Aboytes, Peter: *See*—
  - Iannicelli, Joseph, and Aboytes. 3,193,344.
- Accumulateurs Fixes et de Traction (Societe Anonyme), Societe des: *See*—
  - Emeriat, Raymond. 3,193,414.
- Acidos Grasos Limitada: *See*—
  - Ciocchetti, John E. 3,193,512.
- Ackerman, Donetta. Cosmetic dispensing and skin massaging applicator. 3,192,923, 7-6-65, Cl. 128—65.
- Adams, Clark E., and W. F. Arey, Jr., to Esso Research and Engineering Co. Liquid diffusion separation process. 3,193,582, 7-6-65, Cl. 260—593.
- Adams, James E., to The Bishop and Babcock Corp. Body mounting fastener for automobiles. 3,193,237, 7-6-65, Cl. 248—358.
- Addor, Roger W., to American Cyanamid Co. Novel carbamates of 5- and 6-membered hetero-sulfur compounds and process for preparing same. 3,193,561, 7-6-65, Cl. 260—327.
- Adee, Raymond A. Disc harrow. 3,193,023, 7-6-65, Cl. 172—311.
- Admiral Chair Co.: *See*—
  - Jaffe, Myron, and Bricker. 3,192,574.
- Advance Transformer Co.: *See*—
  - Feinberg, Albert E. 3,193,723.
- Aerojet-General Corp.: *See*—
  - Baird, John. 3,192,713.
  - Klager, Karl. 3,192,707.
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  - Komamiya, Yasuo, and Sugiyama. 3,193,699.
- Agfa Aktiengesellschaft: *See*—
  - Kaufer, Helmut. 3,193,411.
- Agrati, Carlo, to Officine Meccaniche A. Agrati S.r.l. Automatic nut tapping machine. 3,192,543, 7-6-65, Cl. 10—132.
- Air Preheater Co., Inc., The: *See*—
  - Moscardini, Arthur. 3,193,336.
- Air Products and Chemicals, Inc.: *See*—
  - Green, Harold A. 3,193,526.
  - Mascioli, Rocco L. 3,193,515.
- Air Reduction Co., Inc.: *See*—
  - Benner, Charles E. 3,192,536.
- Airpax Electronics Inc.: *See*—
  - Coughlin, Thomas W., and Owen. 3,193,644.
- Ajem Laboratories, Inc.: *See*—
  - Johnson, Willard L., Millhiser, Sorensen, and Kosar. 3,192,677.
- Akhalaya, Mikhail G., V. S. Kasoolin, G. V. Astafiev, S. I. Babkin, A. N. Butrsev. T. V. Kalinina, and G. I. Tatishvili. Instrument for suturing esophagus to intestine or stomach. 3,193,165, 7-6-65, Cl. 227—18.
- Akmenkalns, Ivars G., to International Business Machines Corp. Driver circuit. 3,193,691, 7-6-65, Cl. 307—88.
- Aladdin Industries, Inc.: *See*—
  - Bramming, Carl. 3,193,126.
- Albright, James C., and E. W. Sutton, to Continental Oil Co. Method for determining the position and rate of advance of a displacement front in a secondary recovery system for producing petroleum. 3,193,004, 7-6-65, Cl. 166—4.
- Aldrich, Paul H., and H. I. Enos, Jr., to Hercules Powder Co. Emulsion size consisting of a terpene resin and a reaction product of a terpine resin and use for sizing paper. 3,193,449, 7-6-65, Cl. 162—180.
- Alexander, Ezra M., and D. Labino, to Cataphote Corp. High index glass composition. 3,193,401, 7-6-65, Cl. 106—54.
- Allan-Jervis Marine, Inc.: *See*—
  - Chion, Christ. 3,193,228.
- Allegheny Ludlum Steel Corp.: *See*—
  - Laine, Edward A. 3,192,834.
- Allemeier, Emil A.: *See*—
  - Petersen, Christian, Becker, and Allemeier. 3,192,804.
- Allen, Derek R., to Allen Medical Instrument Corp. Stethoscope with dual convertible receiver. 3,193,047, 7-6-65, Cl. 181—24.
- Allen, Herbert, to Cameron Iron Works, Inc. Valve and method of installing same. 3,192,613, 7-6-65, Cl. 29—157.1.
- Allen Medical Instrument Corp.: *See*—
  - Allen, Derek R. 3,193,047.
- Allen, Scott E., to The Huffman Mfg. Co. Draining device for oil cans. 3,192,970, 7-6-65, Cl. 141—106.
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  - Oxenrider, Bryce C. 3,193,529.
  - Oxenrider, Bryce C. 3,193,530.
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- Allis-Chalmers Mfg. Co.: *See*—
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- Allison, William D., and R. D. Negstad, to Ford Motor Co. Motor vehicle suspension system of a linkage type. 3,193,303, 7-6-65, Cl. 280—124.
- Allmanna Svenska Elektriska Aktiebolaget: *See*—
  - Dreyfus, Ludvig. 3,193,605.
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- Allway Mfg. Co., Inc.: *See*—
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- Altgelt, George A. Method of repairing aircraft cylinder heads. 3,192,618, 7-6-65, Cl. 29—402.
- Aluminum Co. of America: *See*—
  - Dowd, James D., and Perrier. 3,192,752.
- Amato, Jack D., to Arvey Corp. Punching mechanism with tool smoothing means. 3,192,810, 7-6-65, Cl. 83—174.
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- American Air Filter Co., Inc.: *See*—
  - Bressoud, Charles J. 3,193,000.
- American Biltrite Rubber Co., Inc.: *See*—
  - Holdsworth, Dennis W. 3,193,425.
- American Can Co.: *See*—
  - Bauer, Richard M., Forcey, and Osterlund. 3,192,893.
- American Cloth-Strait Co.: *See*—
  - Morton, Humphrey, and Leitner. 3,193,688.
- American Cyanamid Co.: *See*—
  - Addor, Roger W. 3,193,561.
- American District Telegraph Co.: *See*—
  - Laakmann, Peter. 3,193,823.
- American Family Scale Co., Inc.: *See*—
  - Friedrich, Harold O. 3,193,031.
- American Hoist & Derrick Co.: *See*—
  - Timberlake, Robert E. 3,192,760.
- American Locker Co., Inc.: *See*—
  - Stackhouse, Wells F. 3,193,074.
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  - Trojak, Emil A. 3,193,782.
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  - Messmer, Edwin E., and Blain. 3,193,430.
- Anderle, Joseph A., to Levolor Lorentzen, Inc. Venetian blind arrangement. 3,192,991, 7-6-65, Cl. 160—167.
- Anderson, Clifford E., J. S. Downs, and R. A. Gulick, to ACF Industries, Inc. Ball valve with sealing capsule. 3,192,948, 7-6-65, Cl. 137—454.6.
- Anderson, Gerald R.: *See*—
  - Hickey, Frank D., Hirahara, and Anderson. 3,192,974.
- Anderson, Herbert L. Thickness measurement using alpha particles. 3,193,680, 7-6-65, Cl. 250—83.3.
- Anderson, Walter J., to Chicago Musical Instrument Co. Key switch assembly. 3,193,607, 7-6-65, Cl. 84—1.04.
- Anderson, Warren A., to United States of America, Navy. Simulation of radar interference. 3,193,606, 7-6-65, Cl. 35—10.4.
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- Angold, Edward B., to The Plessey Co. Ltd. Centrifugal switch assemblies. 3,193,639, 7-6-65, Cl. 200—80.
- Angyal, Joseph S.: *See*—
  - Herbert, Herman, and Angyal. 3,193,450.
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- Anthon, Erik W., to Warner-Lambert Pharmaceutical Co. Sample handling apparatus. 3,193,148, 7-6-65, Cl. 222—108.
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  - Pfluger, Hans, Krause, and Anton. 3,193,129.
- Appel, Walter D. Windshield wiper blade assembly. 3,192,551, 7-6-65, Cl. 15—250.36.
- Apperson, Kenneth L. Diving weight. 3,192,723, 7-6-65, Cl. 61—70.

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Argabright, Perry A., and E. A. Schmall, to Esso Research and Engineering Co. Catalyst and process for polymerizing alpha-olefins utilizing titanium halide derivatives. 3,193,545, 7–6–65, Cl. 260—93.7.

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Baines, John K. W.; ⅓ to A. S. Baines, and ⅓ to T. B. C. Davis. Apparatus for forming tubing from flexible resilient strip material. 3,193,432, 7–6–65, Cl. 156—467.

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Baranauckas, Charles F., and R. L. K. Carr, to Hooker Chemical Corp. Process for chlorinating a non-terminal carbon atom of unsaturated perhalocarbons. 3,193,587, 7–6–65, Cl. 260—468.

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Barr, Thomas R., to United States Gypsum Co. Control joint for building construction. 3,192,577, 7–6–65, Cl. 20—92.

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Best, Albert M., to Sperry Rand Corp. Silo unloader. 3,193,117, 7–6–65, Cl. 214—17.

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- Cadiou, Jean, to Andre Citroen, Societe Anonyme. Device for controlling the motor of a hydroelectric set. 3,193,751, 7–6–65, Cl. 320—35.
- Cahn, Robert P., to Esso Research and Engineering Co. Low temperature refrigeration in ethylene plants. 3,192,782, 7–6–65, Cl. 62—17.
- Caldo, Cornelio, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Polymeric compositions stabilized against heat aging and light with saccharine derivatives. 3,193,520, 7–6–65, Cl. 260—45.8.
- Caldwell, Henry C., to Smith Kline & French Laboratories. 2,2,2-trichloroethylcarbonate. 3,193,573, 7–6–65, Cl. 260—463.
- Callaghan, Harriet L. Hygienic diaper. 3,192,926, 7–6–65, Cl. 128—286.
- Caloric Corp.: *See*—
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- Cameron Iron Works, Inc.: *See*—
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- Cameron, John A., to General Foods Corp. Scouring articles. 3,192,679, 7–6–65, Cl. 51—402.
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  - Baizer, Manuel M., Campbell, Fariss, and Johnson. 3,193,480.
- Campbell, Robert W.: *See*—
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- Campbell, Thomas: *See*—
  - Bottoms, Harry S., and Campbell. 3,193,102.
- Campbell, Vernon J., to Miehle-Goss-Dexter, Inc. Modular collating machine. 3,193,279, 7–6–65, Cl. 270—58.
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  - Regnier, Gilbert L., Canevari, and Le Douarec. 3,193,559.
- Canterino, Peter J., and J. E. Cook, to Phillips Petroleum Co. Copolymers of bis(halomethyl) aromatic compounds and a vinylidene monomer. 3,193,538, 7–6–65, Cl. 260—86.8.
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  - Kapany, Narinder S., Capellaro, and Ostensen. 3,192,843.
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  - Ragazzini, Mario, Carcano, Garbuglio, and Doria. 3,193,543.
- Cariani, Silvio J. Reuseable caps for candlepins. 3,193,291, 7–6–65, Cl. 273—82.
- Carlisle Chemical Works, Inc.: *See*—
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  - McCarvell, John H., and Carlisle. 3,192,869.
- Carlson, Elmer A., to Honeywell Inc. Control apparatus. 3,193,198, 7–6–65, Cl. 236—1.
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  - Braun, John P., and Carman. 3,193,829.
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  - Haddad, Salomao J. 3,192,742.
- Carr, Donald E., to Phillips Petroleum Co. Combined catalytic cracking and catalytic hydrocracking. 3,193,488, 7–6–65, Cl. 208—68.
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- Carrier Corp.: *See*—
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  - Gerteis, Karl M. 3,193,193.
- Carroll, Edward W. Milling machine for cutting air vents in glass molds. 3,192,833, 7–6–65, Cl. 90—15.
- Carruthers, George A., to Turbo Machine Co. Apparatus and method for false twisting yarns. 3,192,697, 7–6–65, Cl. 57—34.
- Carter, Dora R.: *See*—
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- Carter, Eugene S., to himself and D. R. Carter. Retractible vehicle canopy. 3,192,937, 7–6–65, Cl. 135—7.1.
- Carter, John A., to British Nylon Spinners Ltd. Polymerization of aqueous solutions of polyamide-forming reactants with a continuously decreasing pressure. 3,193,535, 7–6–65, Cl. 260—78.
- Carter, Paul H., T. E. Marion, and R. L. Morse, to Universal Machine Co., Inc. Flexible electrical switch post. 3,193,638, 7–6–65, Cl. 200—61.41.
- Carter, Robert C., and R. H. Rogers, to Collins Radio Co. Transistor amplifier-oscillator with a feedback switching circuit. 3,193,777, 7–6–65, Cl. 331—59.
- Carter, William J., Jr., to The Firewell Co., Inc. Internally cooled gas pump. 3,193,192, 7–6–65, Cl. 230—210.
- Cartwright, Frederick D. Control of directional properties of metals and their alloys. 3,192,756, 7–6–65, Cl. 72—167.
- Cash, James A., Jr. Bedding component manufacturing machine. 3,192,886, 7–6–65, Cl. 112—2.
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- Cayton, Robert J., to Louverdrape, Inc. Non-traversing vertical blind. 3,192,784, 7–6–65, Cl. 74—91.
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- Champagnat, Alfred, and J. Filosa, to The British Petroleum Co. Ltd. Production of yeasts. 3,193,390, 7–6–65, Cl. 99—96.
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- Cherrin, Phil, to Abe, L., Archie, and estate of S. Cherrin, deceased. Snap fastener clasp with adhesive. 3,192,591, 7–6–65, Cl. 24—245.
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- Christopher, Glenn B., to Jet Research Center, Inc. Well tubing cutting device. 3,192,857, 7–6–65, Cl. 102—20.
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- Chueh, Richard J. C., to United States of America, Navy. Pulse amplifier. 3,193,704, 7–6–65, Cl. 307—88.5.
- Chute, Richard, to Chrysler Corp. Rotary regenerator sealing structure. 3,192,998, 7–6–65, Cl. 165—9.
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- Claessen, Wilhelmus H. L., to North American Philips Co., Inc. Means for controlling bistable transistor trigger circuits. 3,193,702, 7–6–65, Cl. 307—88.5.
- Clapper, Genung L., to International Business Machines Corp. Analogue to binary conversion apparatus. 3,193,668, 7–6–65, Cl. 235—154.
- Clapper, Genung L., to International Business Machines Corp. Frequency selective amplifier. 3,193,774, 7–6–65, Cl. 330—28.

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- Ford Motor Co.: *See—*
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  - Behlke, Herbert F. 3,193,304.
- Ford, Ronald M., and D. P. Crane, to Frank R. Ford Ltd. Machine for duplicating with axially movable master sheet. 3,192,855, 7–6–65, Cl. 101—132.5.
- Ford, Wendell F., Jr., D. O. Popovac, and R. C. Sias, to Continental Oil Co. Hydraulic transmission fluid and antioxidant additive therefor. 3,193,504, 7–6–65, Cl. 252—75.
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- Forrest, John L., and A. L. Tribou, to General Aniline & Film Corp. Method and apparatus for removing a strip of coating from a pre-coated web. 3,193,410, 7–6–65, Cl. 134—9.
- Forward, Frank A., and A. I. Vizsolyi, to Skerritt Gordon Mines Ltd. Process for the production of tungstic acid. 3,193,347, 7–6–65, Cl. 23—140.
- Foster, George E. Electronic annunciator control. 3,193,814, 7–6–65, Cl. 340—223.
- Fougea, Edouard, to Constructions Edmond Coignet. Mold for the fabrication of molded concrete panels. 3,192,594, 7–6–65, Cl. 25—121.
- Four High Enterprises, Inc.: *See—*
  - Olewine, William E. 3,193,817.
- Fournier, Joseph I. Universal precision transfer center punch. 3,192,640, 7–6–65, Cl. 33—189.
- Frank, Hermann, to Kienzle Apparate G.m.b.H. Apparatus for recording operations of a machine. 3,193,834, 7–6–65, Cl. 346—62.
- Franklin Institute, The: *See—*
  - Keiper, David A. 3,192,765.
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  - Wicklatz, John E., and Franzus. 3,193,566.
- Frasier, Curtis L., to The Morley Co. Mattress border programmer. 3,193,164, 7–6–65, Cl. 227—5.
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  - Shapiro, Seymour L., and Freedman. 3,193,458.
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  - Schafer, Kenneth A. 3,193,426.
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  - Buck, William B., and Freeze. 3,192,955.
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- Friedlander, Erich S., to The General Electric Co. Ltd. Electric supply arrangements. 3,193,758, 7–6–65, Cl. 323—60.
- Friedrich, Harold O., to American Family Scale Co., Inc. Weighing scale. 3,193,031, 7–6–65, Cl. 177—166.
- Friend, Aaron L., to General Electric Co. Missing bit detector on recorded storage media. 3,193,812, 7–6–65, Cl. 340—174.1.
- Friend, Leo, and G. C. Grub, to Pullman Inc. Ammonia additive in low temperature hydrocarbon-water systems. 3,192,731, 7–6–65, Cl. 62—17.
- Fries, John R., and R. E. Price, to Landis Tool Co. Feed indicator for machine tools. 3,192,675, 7–6–65, Cl. 51—165.
- Frock, William F., and P. E. Hauck. Material handling attachment for front end loader on tractors. 3,193,319, 7–6–65, Cl. 294—88.
- Frowde, Henry L., to Lever Brothers Co. Hair dyeing method using gelatin as a dye resist. 3,193,465, 7–6–65, Cl. 167—88.
- Fryrear, William A., Jr. Removable partial denture prosthesis. 3,192,583, 7–6–65, Cl. 22—193.
- Führmann, Hans, to S.L.F. Enggineering Co. Method for analytical testing of liquids. 3,193,355, 7–6–65, Cl. 23—230.
- Fuhs, Allen E., to United States of America, Army. Apparatus and method of combustion control. 3,193,199, 7–6–65, Cl. 236—15.
- Funk, Eugene. Reaction engine. 3,192,716, 7–6–65, Cl. 60—39.69.
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  - Bartholet, Emil J., and Gaffin. 3,193,246.

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Gammill, Diemer L. Automatic feeder. 3,192,902, 7–6–65, Cl. 119—51.11.
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Gardner, Leland C., Sr., and L. F. Waldrop, Jr. Bell and spigot joint with self locking wedge rings. 3,193,299, 7–6–65, Cl. 277—190.
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Gautier, Philippe J.-B., and M. Pr[illegible]voost, to Saint-Gobain, Compagnie de. Complex fertilizers. 3,193,374, 7–6–65, Cl. 71—41.
Gavin, Thomas W. Repetitive cycle rotary impression machine. 3,192,856, 7–6–65, Cl. [illegible]01—259.
Gebauer, Bodo G., to Automatic Electric Laboratories, Inc. Welding apparatus. 3,193,657, 7–6–65, Cl. 219—78.
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Brewer, Edward G. 3,193,042.
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Gerhold, Clarence G., and D. B. Broughton, to Universal Oil Products Co. Distributing valve. 3,192,954, 7–6–65, Cl. 137—625.11.
Gerlach, Peter K., G. J. David, and R. O. Stoehr, to Automatic Electric Laboratories, Inc. Printed matrix board assembly. 3,193,731, 7–6–65, Cl. 317—101.
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Goetz, Raymond J., and A. J. Cummings, to United States of America, Air Force. Spool mounting of delay line on liquid helium cryostat. 3,192,733, 7–6–65, Cl. 62—45.
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Ottmann, Alfred, and Goetzeler. 3,193,739.
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Gray, Robert E., to Crouse-Hinds Co. Molded plastic box and cover. 3,193,132, 7–6–65, Cl. 220—60.
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Greve, Horst E., and H. Hornschuch, to Ingersoll-Rand Co. Temperature-responsive coupling means. 3,193,068, 7–6–65, Cl. 192—82.
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Grobey Paul A., to Bryant Chucking Grinder Co. Grinding machine having cross feed table and wheelslide. 3,192,674, 7–6–65, Cl. 51—50.
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Gutierrez, Thomas, to FMC Corp. Article handling apparatus. 3,193,280, 7–6–65, Cl. 271—2.
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Haddad, Salomao J., to Carolina Knitting Machine Corp. Stitch cam structure. 3,192,742, 7–6–65, Cl. 66—57.
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Hamilton, Earl F., Lay and Moore. 3,192,884.
Hamilton, Earl F., R. B. Lay, and D. L. Moore, to Hamilton Cosco, Inc. Desk structure. 3,192,884, 7–6–65, Cl. 108—92.
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Hammon, George L., to Hammon Precision Equipment Co. Flame hardening mechanism. 3,193,269, 7–6–65, Cl. 266—5.
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Hanifan, William A., to General Motors Corp. Dishwasher with rotary rack and spray tube. 3,192,935, 7–6–65, Cl. 134—142.
Hanneman, Walter M., to Illinois Tool Works Inc. Thread forming screw having oval threads and a cutting edge. 3,192,819, 7–6–65, Cl. 85—47.
Hansen, Ralph C., to Libbey-Owens-Ford Glass Co. Shipping rack for sheet materials. 3,193,093, 7–6–65, Cl. 206—62.
Hanson, John G. Sprinkler system support means. 3,193,-205, 7–6–65, Cl. 239—276.
Hanson, Marlin M., P. E. Oberg, and R. W. Olmen, to Sperry Rand Corp. Ion bombardment cleaning and coating apparatus. 3,192,892, 7–6–65, Cl. 118—49.1.
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Hardy, Sammie L., to United States of America, Army. Variable throat nozzle. 3,192,709, 7–6–65, Cl. 60—35.6.
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Hartung, Guenther K., to Gulf Research & Development Co. Process for removing nitrogen. 3,193,496, 7–6–65, Cl. 208—212.
Harvison, Ronald E., and K. Mainey, to J. Bibby & Sons Ltd. Weighing apparatus. 3,193,029, 7–6–65, Cl. 177—120.
Haselow, William J., and W. E. Aschenbrenner, to Consolidated Papers, Inc. Sheet control system for paper cutters. 3,192,807, 7–6–65, Cl. 83—24.
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Hatcher, Carlos M. Radio bracket or holder. 3,193,232, 7–6–65, Cl. 248—226.
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Hawkins, Ronald G., to Super Sky Products Co. Skylight construction. 3,192,669, 7–6–65, Cl. 50—52.
Hawthorn, Robert, to Collins Radio Co. Cam actuated switch. 3,193,651, 7–6–65, Cl. 200—153.
Hazen, Gretzolon L., to Dairy Equipment Co. Feeding or dispensing apparatus for ground, granular or pelletized feeds or the like. 3,193,155, 7–6–65, Cl. 222—227.
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  Hollyday, Joseph S. 3,193,736.
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Heinz, Alfred, to Western Electric Co., Inc. Photosensitive detectors and methods utilizing photosensitive detectors for positioning articles. 3,193,686, 7–6–65, Cl. 250—211.
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Heller, Karl-Heinz, to Farbenfabriken Bayer Aktiengesellschaft. Process for the production of high molecular weight polyoxymethylene esters and ethers with a definite degree of polymerization. 3,193,531, 7–6–65, Cl. 260—67.
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Herbst, Ronald S., to United States of America, Army. Fixture for testing gears. 3,192,6[illegible]7, 7–6–65, Cl. 33—179.5.
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Herrmann, Julius, and E. Hoffmann, to Gewerkschaft Eisenhutte Westfalia. Mining support. 3,192,722, 7–6–65, Cl. 61—45.
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Hickey, Frank J., K. Hirahara, and G. R. Anderson, to FMC Corp. Peeling apparatus. 3,192,974, 7–6–65, Cl. 146—50.

Hicks, John W., Jr., and H. B. Cole, to American Optical Co. Light-conducting devices and apparatus for making the same. 3,193,363, 7–6–65, Cl. 65—4.
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Himelreich, Louis E., to H. J. Scheirich Co. One-piece plastic hinge. 3,192,556, 7–6–65, Cl. 16—150.
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Holowaty, Michael O., to Inland Steel Co. Coking process. 3,193,471, 7–6–65, Cl. 202—25.
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Hribar, Leo A., Jr. Tilting dump truck and tilting dump trailer. 3,193,330, 7–6–65, Cl. 298—8.
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Jones, Beecher B. Level construction. 3,192,641, 7-6-65, Cl. 33—215.
Jones, Charles, G. Bonner, and A. H. Raye, to Curtiss-Wright Corp. Multi-unit rotary mechanism. 3,193,187, 7-6-65, Cl. 230—145.
Jones, Gordon H., to Giddings & Lewis Machine Tool Co. Clamp for machine tool. 3,192,[illegible]00, 7-6-65, Cl. 29—1.
Jones, Lee B., III. Roofing connector plate. 3,192,670, 7-6-65, Cl. 50—67.
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Knibbs, Norman V. S., and E. G. S. Thyer, to Fawkham Developments Ltd. Fluidized bed apparatus. 3,192,644, 7-6-65, Cl. 34—57.
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Kostur, J Edward, deceased (Pioneer Trust & Savings Bank, executor), to Comet Industries, Inc. Rotatable turret molding machine. 3,192,800, 7-6-65, Cl. 74—822.
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Laakmann, Peter, to American District Telegraph Co. Method and apparatus for detecting motion. 3,193,823, 7-6-65, Cl. 343—7.

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Lamb, Charles M. Apparatus for aerating and eliminating ice on water. 3,193,260, 7-6-65, Cl. 261—64.
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Liggenstorfer, Arnold, and B. Becker. Proportioning apparatus and method for mixing and feeding liquid resin impregnant with setting agent through single orifice discharge. 3,193,202, 7–6–65, Cl. 239—142.
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Lindsey, Joe P., to Phillips Petroleum Co. Signal identification. 3,193,671, 7–6–65 Cl. 235—193.
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Lissner, Hans. Container of flexible material and in the shape of a sack, pouch, bladder or bag, particularly valved sack, and method of closing the same. 3,193,180, 7–6–65, Cl. 229—62.5.
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Crouch, Fred P., and Lockrow. 3,192,809.
Loew, Gunther: *See*—
Holtschmidt, Hans; Loew, Nischk; and Moosmuller. 3,193,524.
Long, Buddy J.: *See*—
Pittendreigh, William W., and Long. 3,192,744.
Lonza Ltd.: *See*—
Matile, Pascal, Peterhans, and Zollinger. 3,193,353.
Loomis, Glenn L., deceased (J. D. Loomis, independent executrix of said G. L. Loomis), to J. D. Loomis. Automatic connect and disconnect apparatus for hydraulic testing tools. 3,193,015, 7–6–65, Cl. 1[illegible]—67.
Loomis, Jack E., to Clark Equipment Co. Drive-steer wheel. 3,193,040, 7–6–65, Cl. 180—66.
Loomis, Jean D.: *See*—
Loomis, Glenn L. 3,193,015.
Lopater, Benno. Windshield-washer device constituted by a reservoir with pump. 3,193,15[illegible], 7–6–65, Cl. 222—330.
Lorcher, Harry: *See*—
Baumler, Hermann, and Lorcher. 3,193,052.
Lord Mfg. Co.: *See*—
Thorn, Richard P. 3,193,23[illegible].
Wallerstein, Leon, Jr. 3,193,059.
Lorentzen, Levolor, Inc.: *See*—
Anderle, Joseph A. 3,192,9[illegible].
Lorenzi, Gian P.: *See*—
Natta, Giulio, Pino, and Lorenzi. 3,193,544.
Loring, Ralph C.: *See*—
Lindsey, Joe P., Elliott, and Loring. 3,193,797.
Losch, Rudolf, S. M. Szamatulski, and A. Savitzky, to The Perkin-Elmer Corp. Digital lever switch with indicating means. 3,193,629, 7–6–65, Cl. 200—11.
Lothman, Fritz M.: *See*—
Isgriggs, Damon C., Lothman, and Ellerbrock. 3,193,146.
Lotta, Russell P. Holder for hidden clothesline. 3,193,212, 7–6–65, Cl. 242—107.
Loupe, William M.: *See*—
Kroeger, William C., and Loupe. 3,192,875.
Louverdrape, Inc.: *See*—
Cayton, Robert J. 3,192,78[illegible].
Lowrey, William E., to ACF Industries, Inc. Ball valve seat construction. 3,193,248, 7–6–65, Cl. 251—315.
Lowther, Wilfred W.: *See*—
Stevenson, Ralph W., and Lowther. 3,192,598.
Lubalin, Irwin J., to British Industries Corp., Avnet-Shaw Division. Method of and a device for manufacturing composite molds. 3,192,579, 7–6–65, Cl. 22—20.
Lubalin, Irwin J., to British Industries Corp., Arnet-Shaw Division. Apparatus and method for continuously producing investment molds. 3,192,580, 7–6–65, Cl. 22—21.
Lucas, Joseph (Industries) Ltd.: *See*—
Bottoms, Harry S., and Campbell. 3,193,102.
Lucey, John D., and H. N. Johnson, to Lobstor (Bridlington) Ltd. Device for the storage of shellfish. 3,192,899, 7–6–65, Cl. 119—4.
Lummis, Bruce D., to General Dynamics Corp. Telephone line finder. 3,193,621, 7–6–65, Cl. 179—18.
Lundell, Vernon J., to Massey-Ferguson Services N.V. Machine for wafering forage crop material. 3,192,881, 7–6–65, Cl. 107—14.
Lundquist, Burton R., and C. J. Wattenbarger, to Swift & Co. Packaging frozen meat. 3,193,392, 7–6–65, Cl. 99—174.
Lunk, Hans E., to Shell Oil Co. High impact polystyrene. 3,193,518, 7–6–65, Cl. 260—31.2.
Lunt, William G.: *See*—
Pool, Eldert B., Lunt, and Easton. 3,193,247.
Lyall Electric, Inc.: *See*—
Showalter, Alan B. 3,193,226.
Lyford, Willis M.: *See*—
Wapner, Joseph S., Leonard, Stephens, and Lyford. 3,193,837.
Lyon, Charles E., Jr., to Motorola, Inc. Tuning apparatus. 3,192,781, 7–6–65, Cl. 74—10.31.
M&T Chemicals Inc.: *See*—
Kenedi, Peter G., and Gore. 3,193,474.
Macallen Co., Inc., The: *See*—
Coesens, Henry L. 3,192,812.
Macarr, Inc.: *See*—
Chait, Stanley. 3,193,760.
Macey, Alan, and K. C. Stowell, to Associated British Malsters Ltd. Malting processes involving treatment with a gibberellic acid product. 3,193,470, 7–6–65, Cl. 195—71.
Machleidt, Hans: *See*—
Tschesche, Rudolf, Machleidt, and Hartmann. 3,193,565.
Mackay, Donald. Shoe tree for visibility. 3,192,544, 7–6–65, Cl. 12—117.4.
Mackay, James C.: *See*—
De Witt, John R., Mackay, and Reilly. 3,192,545.
Mackey, Thomas S.: *See*—
Lo, Ching-Lung, and Mackey. 3,193,376.
Maclay, William N.: *See*—
Gindler, Ezekiel M., and Maclay. 3,193,517.
Macrae, Ronald L. J., to Coal Industry (Patents) Ltd. Means for protecting the supply cables of mining machines. 3,192,704, 7–6–65, Cl. 59—78.1.
Madeleine, Albert: *See*—
Strube, Henri R. 3,192,647.
Maehl, Elmore F., to National Biscuit Co. Flavor coating apparatus. 3,192,891, 7–6–65, Cl. 118—16.
Magner, Eldred J. Alarms for parking meters. 3,193,819, 7–6–65, Cl. 340—280.
Maieli, Vincent. Automatic liquid dispensing device. 3,193,143, 7–6–65, Cl. 222—42.
Mainey, Kenneth: *See*—
Harvison, Ronald E., and Mainey. 3,193,029.
Malan, George L. Vibrator. 3,193,256, 7–6–65, Cl. 259—1.
Mallory, P. R., & Co., Inc.: *See*—
Huetten, Clarence, Meek, and Sweany. 3,193,611.
Malloy, Paul V., and J. P. R. Cels, to Union Carbide Corp. Silicon-containing barium-aluminum getter material. 3,193,508, 7–6–65, Cl. 252—181.7.
Malobicky, Rudolph L., and S. J. D. Jursa, to Pittsburgh Plate Glass Co. Apparatus for bending glass sheet. 3,193,370, 7–6–65, Cl. 65—290.
Mann, Robert L., and D. W. Martin, to Sperry Rand Corp. Electrical contact. 3,193,785, 7–6–65, Cl. 336—138.
Manning, Howard H., to Channellock, Inc. Pliers. 3,192,805, 7–6–65, Cl. 81—414.
Manor, Paul A., and C. V. Staller, to Rockwell Mfg. Co. Plug valve assembly. 3,192,942, 7–6–65, Cl. 137—246.19.
Mantell, Stanley, and M. S. Gilbert, to Royal McBee Corp. Packaging method. 3,192,680, 7–6–65, Cl. 53—27.
Manufacturing Specialties Co., Inc.: *See*—
Greenstadt, Joseph C., and Ziers. 3,192,996.
Manwiller, Carl H., and J. B. Thompson, to E. I. du Pont de Nemours and Co. Polymerization of formaldehyde. 3,193,533, 7–6–65, Cl. 260—67.
Marchant, Francis C. I., F. I. Clark, and R. W. Jaggard, to Bristol Siddeley Engines Ltd. Aircraft propulsion power plants. 3,193,217, 7–6–65, Cl. 244—23.
Marek, Bruno S. V., and J. Gneisz, to Societe de la Viscose Suisse. Manufacture of paper-like materials comprising synthetic fibres. 3,193,447, 7–6–65, Cl. 162—157.
Marelli Lenkurt S.p.A.: *See*—
Stracca, Giovanni B. 3,193,776.
Maremont Corp.: *See*—
Hambach, August J. 3,193,209.
Hildner, David W. 3,193,310.
Marheine, Edward A., to Automatic Electric Laboratories, Inc. Supervisory control circuit for multi-line telephone answering machine. 3,193,620, 7–6–65, Cl. 179—6.
Marindin, Frederick R.: *See*—
Winter, Alpheus, IV, Marindin, and Pane. 3,193,079.
Marion, Thomas E.: *See*—
Carter, Paul H., Marion, and Morse. 3,193,638.
Markanov, Fjodor S.: *See*—
Karakashjan, Zaven O., Timoshuk, and Markanov. 3,193,112.
Market Forge Co.: *See*—
Swanson, Herbert F. 3,192,734.

Marley, John M., to Clearway Couplings Ltd. Quick-release fastening. 3,192,586, 7–6–65, Cl. 24—196.
Marsh, Adam J., to The North American Coal Corp. Method of recovering mono-acidic aluminum sulfate hydrate. 3,193,345, 7–6–65, Cl. 23—123.
Marsh, Glenn A.: *See*—
Schaschl, Edward, and Marsh. 3,192,720.
Marshall, Thomas G., Jr., to Radio Corp. of America. Voltage and phase memory system. 3,193,770, 7–6–65, Cl. 328—155.
Martin, Donald W.: *See*—
Mann, Robert L., and Martin. 3,193,785.
Martin, Frank C. Electrical protection system. 3,193,730, 7–6–65, Cl. 317—46.
Martin, George V., to Western Electric Co., Inc. Apparatus for sorting articles having an asymmetrical end. 3,193,096, 7–6–65, Cl. 209—74.
Martin-Marietta Corp.: *See*—
Eberwine, Donald A. 3,193,213.
Keys, Robert D. 3,192,766.
Martin, Orval J., to Toledo Scale Corp. Load indicia centering mechanism. 3,192,032, 7–6–65, Cl. 177—178.
Martin, Robert A.: *See*—
Ruhala, Joseph D., and Martin. 3,193,183.
Martin, Royce H. Feather positioning gauge for fletching jigs. 3,192,638, 7–6–65, Cl. 33—180.
Martin, Van C., to International Business Machines Corp. Printer control system. 3,192,854, 7–6–65, Cl. 101—93.
Martin, Wayne T., to Electric Heating Supply, Inc. Manifold. 3,192,850, 7–6–65, Cl. 98—38.
Martino, Louis J., W. E. Moll, and R. E. Weimer, to McDonald's System, Inc. Shipping and storage container. 3,193,095, 7–6–65, Cl. 206—65.
Martner, Glen R., to Sperry Rand Corp. Oscillator having output frequencies selectable by combinations of bilevel voltage signals. 3,193,781, 7–6–65, Cl. 331—112.
Martz, William L. Ventilators for water closets, kitchens and the like. 3,192,539, 7–6–65, Cl. 4—218.
Marx, Annemarie G.: *See*—
Marx, Walter O. A. 3,193,375.
Marx, Dorethea F.: *See*—
Marx, Walter O. A. 3,193,375.
Marx, Hans D.: *See*—
Marx, Walter O. A. 3,193,375.
Marx, Stefan G.: *See*—
Marx, Walter O. A. 3,193,375.
Marx, Ursula M.: *See*—
Marx, Walter O. A. 3,193,375.
Marx, Walter O. A., deceased, by A. G. Marx (nee Wiemer), G. L. Kemme (nee Marx), U. M. Marx, H. D. Marx, D. F. Marx, heirs, S. G. Marx, minor child (by E. Angelberger, trustee), and R. Chavee, to Knapsack-Griesheim Aktiengesellschaft. Magnesium-manganese alloy for use in a pyrotechnical composition. 3,193,375, 7–6–65, Cl. 75—.5.
Marzolph, Herbert: *See*—
Dinges, Karl, and Marzolph. 3,193,537.
Mascioli, Rocco L., to Air Products and Chemicals, Inc. Method of producing polyurethanes. 3,193,515, 7–6–65, Cl. 260—2.5.
Massengale, John T., to FMC Corp. Load carrying collapsible pallet. 3,192,883, 7–6–65, Cl. 108—56.
Massengale, Richard D. Vent construction. 3,192,849, 7–6–65, Cl. 98—37.
Massey-Ferguson Inc.: *See*—
Tweedale, Ralph L. 3,193,118.
Massey-Ferguson Services N.V.: *See*—
Lundell, Vernon J. 3,192,881.
Masten Corp.: *See*—
Hilton, Carl. 3,192,607.
Matheson, Wilfrid G., and T. J. Pricenski, to Sylvania Electric Products Inc. Retaining and securing devices for high temperature applications. 3,193,064, 7–6–65, Cl. 189—36.
Matile, Pascal, E. Peterhans, and W. Zollinger, to Lonza Lt. Method of removing carbon dioxide from ammonia. 3,193,353, 7–6–65, Cl. 23—196.
Matson, Howard J., to Sinclair Research, Inc. Extreme pressure lubricant compositions. 3,193,501, 7–6–65, Cl. 252—46.7.
Matsubayashi, Kanji, and M. Matsumoto, to Kurashiki Rayon Co., Ltd. Production of nitrogenous polyvinyl alcohol derivatives. 3,193,534, 7–6–65, Cl. 260—77.5.
Matsumoto, Masakazu: *See*—
Matsubayashi, Kanji, and Matsumoto. 3,193,534.
Matui, Hiroyuki: *See*—
Murata, Kazumi, and Matui. 3,193,690.
Mauvernay, Roland-Yves, to Centre Europeen de Recherches Mauvernay. 3,5-dimethoxy-4-allyloxy-benzamide compositions and method of use. 3,193,456, 7–6–65, Cl. 167—52.
Maxwell, Stewart A., to Fisher & Ludlow Ltd. Coin operated vending machines. 3,193,072, 7–6–65, Cl. 194—13.
Mayer, Karl: *See*—
Kobl, Karl. 3,192,743.
Mayhew, Raymond L., and E. P. Williams, to General Aniline & Film Corp. Tris(cyanoethoxymethyl)benzenes. 3,193,371, 7–6–65, Cl. 71—2.3.
Maynard, Robert L., to Sanders Associates, Inc. High frequency oscillator incorporating a distributed tuner. 3,193,778, 7–6–65, Cl. 331—98.
McCarthy, Charles E., and A. W. Scannell, to Leath, McCarthy & Maynard, Inc. Hosiery package and method and means for forming same. 3,193,137, 7–6–65, Cl. 221—48.
McCarvell, John H., and W. C. Carlisle. Gas lift method. 3,192,869, 7–6–65, Cl. 103—233.
McClure, Glenn T., to Westinghouse Air Brake Co. Rotary compressor. 3,193,191, 7–6–65, Cl. 230—158.
McCormick, Hamilton L., to General Motors Corp. Core making apparatus. 3,192,578, 7–6–65, Cl. 22—10.
McCuen, Peter A., to Varian Associates. Heat exchange apparatus having additional conducting paths. 3,193,003, 7–6–65, Cl. 165—185.
McDannold, Ronald E. Method and apparatus for reading targets. 3,193,818, 7–6–65, Cl. 340—323.
McDonald, Robert J. Ski pole rings. 3,193,300, 7–6–65, Cl. 280—11.37.
McDonald's System, Inc.: *See*—
Martino, Louis J., Moll, and Weimer. 3,193,095.
McDonough, John M., and M. J. Klein, to United States of America, Air Force. Process for the purification of lithium hydroxide. 3,193,352, 7–6–65, Cl. 23—184.
McElwain, J. F., Co.: *See*—
De Witt, John R., Mackay, and Reilly. 3,192,545.
McFarland, Donald L., and J. L. Benty, to Weyerhaeuser Co. Kitchen counter top or the like. 3,192,882, 7–6–65, Cl. 108—27.
McGhee, Clarence L. Printed circuit board connector. 3,193,787, 7–6–65, Cl. 339—17.
McGivern, James F., Jr., to The Electric Storage Battery Co. Integral multiple rectifier circuit having lead oxide layer. 3,193,741, 7–6–65, Cl. 317—238.
McGraw-Edison Co.: *See*—
Brandt, Erwin L. 3,193,662.
Nesbitt, Clifford W. 3,193,261.
Sprague, Stephen B. 3,193,632.
McGurn, Robert S. Classified directory structure. 3,192,658, 7–6–65, Cl. 40—104.
McHenry, Thomas F., to Barnes Engineering Co. Self-calibrating two path infrared gas analyzer having one enclosed path. 3,193,677, 7–6–65, Cl. 250—43.5.
McIntosh, Euell K., and W. H. Hills, to Monsanto Co. Yarn texturing apparatus and method. 3,192,597, 7–6–65, Cl. 28—1.
McJohnson, Otis S., 30% to L. Hill. Garden clipper. 3,192,625, 7–6–65, Cl. 30—276.
McKeon, Thomas J.: *See*—
Smith, Melvin I., McKeon, and Sudholz. 3,193,356.
McMullen, John J., Associates, Inc.: *See*—
Dunham, William H. 3,193,215.
Field, Sheldon B. 3,192,888.
McNair, Larry D.: *See*—
Livingston, William L., Stengel, and McNair. 3,192,985.
Meaker Co., The: *See*—
Arnold, Peter. 3,193,169.
Meckler, Gershon, to Lithonia Lighting, Inc. Comfort conditioning system. 3,193,001, 7–6–65, Cl. 165—27.
Meek, Robert L.: *See*—
Huetten, Clarence, Meek, and Sweany. 3,193,611.
Mehelich, John J., to Wolverine Toy Co. Upright spiral track ball game. 3,193,292, 7–6–65, Cl. 273—101.
Meier, Johann, to Mepag, A.G. Balance. 3,193,030, 7–6–65, Cl. 177—164.
Meier, Johann, to Mepag A.G. Precision balance. 3,193,036, 7–6–65, Cl. 177—248.
Melchiorre, Oliviero. Shoe heel with detachable portion. 3,192,652, 7–6–65, Cl. 36—42.
Melford, David A., and K. R. Whittington, to T. I. (Group Services) Ltd. Electron probe apparatus for counting the number of inclusions in a specimen. 3,193,679, 7–6–65, Cl. 250—49.5.
Meneley, Carl A., and R. E. Langworthy, to Goodyear Aircraft Corp. Pilotless aircraft navigational system. 3,193,822, 7–6–65, Cl. 244—77.
Meopta, narodni podnik: *See*—
Hampl, Jan. 3,193,210.
Mepag, A.G.: *See*—
Meier, Johann. 3,193,030.
Meier, Johann. 3,193,036.
Mercer, Frank B., to Plastic Textile Accessories Ltd. Process and apparatus for producing ribbed sheeting. 3,193,604, 7–6–65, Cl. 264—209.
Mercer, Raymond C. Apparatus for liquid immersion motion picture film projection. 3,193,840, 7–6–65, Cl. 352—180.
Mercier, Pierre E., to Citroen, Andre, Societe Anonyme. Volumetric machine. 3,192,866, 7–6–65, Cl. 103—161.
Mercier, Robert M.: *See*—
Brunel, Andre L. L., and Mercier. 3,193,251.
Merck & Co., Inc.: *See*—
Harris, Stanton A. 3,193,550.
Merrill, Leland H., and C. F. Bross, said Bross assor. to said Merrill. Pill-counting and container-depositing machine. 3,193,196, 7–6–65, Cl. 235—98.
Messmer, Edwin E., and N. A. Blain, to Amsco Packaging Machinery, Inc. Automatic labeling apparatus. 3,193,430, 7–6–65, Cl. 156—355.
Meth, Max. Apparatus for vertically drawing glass. 3,193,368, 7–6–65, Cl. 65—206.
Metrodynamics Corp., The: *See*—
Wales, Nathaniel B., Jr., and Grady. 3,193,764.
Meyer, Albert, to D. H. Baldwin Co. Volume control for electronic organs. 3,193,609, 7–6–65, Cl. 84—1.27.
Meyer, Edward S. Hand tool for facilitating the insertion of a seal packing material into a narrow groove formed to receive said packing material. 3,192,617, 7–6–65, Cl. 29—278.
Michelin & Cie: *See*—
Bourdon, Pierre M. 3,192,984.
Michels, Frank L., Sr., to Hancock Industries, Inc. Parking meter mechanism. 3,193,073, 7–6–65, Cl. 194—61.
Michelson, Christian E., to Olin Mathieson Chemical Corp. Process of dyeing anodized aluminum. 3,193,416, 7–6–65, Cl. 148—6.1.
Michelson, Yigal: *See*—
Leydig, Clyde O., and Michelson. 3,192,695.
Micro and Precision Mouldings (Chelteham) Ltd.: *See*—
James, Michael J. 3,193,315.
Miehle-Goss-Dexter, Inc.: *See*—
Campbell, Vernon J. 3,193,279.
Miles, Clair E. Gage unit. 3,192,635, 7–6–65, Cl. 33—172.
Miller Avy L. Gas burner. 3,192,989, 7–6–65, Cl. 158—114.

Miller, Bob C., to United States of America, Navy. Nozzle position and after burner lighting indicator. 3,192,711, 7–6–65, Cl. 60—35.6.
Miller, Franklyn D., and E. D. Biggers, to National Distillers and Chemical Corp. Removal of fluorine from wet process phosphoric acid. 3,193,351, 7–6–65, Cl. 23—165.
Miller, Harold L., to Vemco Products Inc. Safety door actuator. 3,193,274, 7–6–65, Cl. 268—59.
Miller, John S., Jr.: *See*—
  Harrison, Thomas L., Miller, and Backus. 3,192,685.
Miller, Joseph G., and M. Evans, to College Research Co. Apparatus for separating metals. 3,193,273, 7–6–65, Cl. 266—37.
Miller, Robert W., and J. A. Schmitt, to The Dow Chemical Co. Process of preparing monochloroformates and process of preparing polycarbonates therefrom. 3,193,528, 7–6–65, Cl. 260—47.
Miller, Wendell S. Heat operated engine. 3,192,705, 7–6–65, Cl. 60—27.
Miller, William L., to Continental Can Co., Inc. Non-spill vented closure for hot cups. 3,193,130, 7–6–65, Cl. 220—44.
Millhiser, Robert G.: *See*—
  Johnson, Willard L., Millhiser, Sorensen, and Kosar. 3,192,677.
Mills, William J., II. Fabric cover for boats. 3,192,542, Cl. 9—1.
Millwater, Robert D.: *See*—
  Kirschner, William. 3,192,663.
Mine Safety Appliances Co.: *See*—
  Timm, Walter. 3,192,728.
Mineck, Fred, to Jack G. Firestone. Air stream actuated limit switch. 3,193,640, 7–6–65, Cl. 200—81.9.
Minnick, Charles E. Apparatus for gripping and pulling. 3,193,254, 7–6–65, Cl. 254—150.
Mitchell, Roscoe W., Jr., to Esso Production Research Co. Seismic signal display system. 3,193,838, 7–6–65, Cl. 346—110.
Mittelman, Oscar R., to Allied Chemical Corp. Edge regulator. 3,193,406, 7–6–65, Cl. 117—120.
Miyashiro, Shoichi: *See*—
  Nakayama, Yoshiaki, and Miyashiro. 3,193,721.
Mobay Chemical Co.: *See*—
  Holtschmidt, Hans, Loew, Nischk, and Moosmuller. 3,193,524.
Moen, Alfred M. Anti-scald valve assembly. 3,192,939, 7–6–65, Cl. 137—100.
Moen, Alfred M. Cartridge ball valve. 3,192,943, 7–6–65, Cl. 137—315.
Moffitt, Roy M., Co., The: *See*—
  Seedorf, Robert R. 3,192,648.
Molex Products Co.: *See*—
  Krehbiel, John H. 3,193,795.
Moll, Justus: *See*—
  Oetjen, Georg-Wilhelm, Nerge, Neumann, and Moll. 3,192,645.
Moll, Wayne E.: *See*—
  Martino, Louis J., Moll, and Weimer. 3,193,095.
Monahan, Joseph E., to Sylvania Electric Products Inc. Bistable circuits. 3,193,695, 7–6–65, Cl. 307—88.5.
Monovalve Motors Corp.: *See*—
  Bovee, Ransom Y. 3,192,859.
Monroe, Edwin P. Suspension device. 3,193,239, 7–6–65, Cl. 248—400.
Monsanto Co.: *See*—
  Baizer, Manuel M. 3,193,475.
  Baizer, Manuel M. 3,193,476.
  Baizer, Manuel M. 3,193,477.
  Baizer, Manuel M. 3,193,478.
  Baizer, Manuel M. 3,193,479.
  Baizer, Manuel M. 3,193,481.
  Baizer, Manuel M. 3,193,482.
  Baizer, Manuel M. 3,193,483.
  Baizer, Manuel M. 3,193,510.
  Baizer, Manuel M., Campbell, Fariss, and Johnson. 3,193,480.
  Crompton, Thomas E. 3,192,[illegible]63.
  Isacks, Albert J., Jr. 3,193,4[illegible]2.
  Leonard, Richard L., Veitch, and Veazey. 3,193,602.
  McIntosh, Euell K., and Hills. 3,192,597.
  Powell, Fred B. 3,192,562.
  Powell, Fred B. 3,192,649.
  Rowe, Alvah L., Jr., and Truscott. 3,193,603.
  Speziale, Angelo J., and Smith. 3,193,562.
Montag, Walter F. Hanger clip and clothes pin. 3,192,585, 7–6–65, Cl. 24—137.
Montecatini Societa Generale per l'Industria Mineraria e Chimica: *See*—
  Caldo, Cornelia. 3,193,520.
  Natta, Giulio, Pino, and Lorenzi. 3,193,544.
Montoya, Jonas L., to Chicago Matrix Corp. Apparatus for forming decorative bows. 3,19[illegible],162, 7–6–65, Cl. 223—46.
Mool, John, to Sinclair Research, Inc. Method of producing boehmite having crystal size in excess of 100 A. 3,193,348, 7–6–65, Cl. 23—143.
Mool, John, to Sinclair Research Inc. Method of producing boehmite of 50 to 80 A. crystal size. 3,193,349, 7–6–65, Cl. 23—143.
Moore, Boyd S. Contourable pneumatic cushions. 3,192,541, 7–6–65, Cl. 5—349.
Moore, Donald L.: *See*—
  Hamilton, Earl L., Lay, and Moore. 3,192,884.
Moore, Fred J., Jr., and G. Southwell, to International Resistance Co. Potentiometer. 3,193,786, 7–6–65, Cl. 338—164.
Moore, Harry W. Automatic stator winding machine and process. 3,192,961, 7–6–65, Cl. 140—92.1.
Moore, Thomas V., to Esso Production Research Co. Underground combustion method for producing heavy oil. 3,193,008, 7–6–65, Cl. 166—11.
Moosmuller, Fritz: *See*—
  Holtschmidt, Hans, Loew, Nischk, and Moosmuller. 3,193,524.
Moressee, Georges, and R. Dechet, to Compagnie Electro-Mecanique. Electrical machine having lamellar windings and planar axial air gap. 3,193,715, 7–6–65, Cl. 310—268.
Moreton, Douglas A., to Bemose & Sons Ltd. Cartons or boxes. 3,193,175, 7–6–65, Cl. 229—31.
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- Schmerling, Louis, to Universal Oil Products Co. Cyclododecyl-chloro-olefins. 3,193,588, 7–6–65, Cl. 260—648.
- Schmid, Bruce K.: *See*—
  - Beuther, Harold, Flinn, and Schmid. 3,193,487.
- Schmidt, Gunther, to Houston Schmidt Ltd. Apparatus for transporting film strips on a fluid cushion. 3,192,845, 7–6–65, Cl. 95—89.
- Schmidt, Harry A., to G. Leblanc Corp. Clarinet positioner. 3,192,817, 7–6–65, Cl. 84—327.
- Schmidt-Nichels, Wilhelm, to General Aniline & Film Corp. Hydroxy, halo and sulfate C_2-4 carboxylic acid diesters of 3,5 di-(hydroxymethyl) 4-loweralkyl aniline. 3,193,569, 7–6–65, Cl. 260—458.
- Schmitt, John A.: *See*—
  - Miller, Robert W., and Schmitt. 3,193,528.
- Schneider, Edward P.: *See*—
  - Pelton, Clyde I., and Schneider. 3,192,759.
- Schoen, William, to Standard Oil Co. Isomerization of paraffin hydrocarbons. 3,193,597, 7–6–65, Cl. 260—683.75.
- Scholl Mfg. Co., Inc., The: *See*—
  - Levitt, Milton R., and Forbes. 3,192,627.
- Schott, Charles M., Jr., to Gloucester Engineering Co., Inc. Method and apparatus for extruding plastic. 3,193,547, 7–6–65, Cl. 264—209.
- Schrader, Carl N., Jr., to Rockwell-Standard Corp. Bladed element for fluid torque converters and the like. 3,192,862, 7–6–65, Cl. 103—115.
- Schroedter, Willburt W., to Combustion Engineering, Inc. Method and apparatus for controlling the temperature of vapor created in a vapor generator. 3,192,908, 7–6–65, Cl. 122—448.
- Schubert & Salzer, Maschinenfabrik Aktiengesellschaft: *See*—
  - Hanel, Ewald. 3,192,741.
- Schulstad, Robert J. Dental wedges and package thereof. 3,193,094, 7–6–65, Cl. 206—63.5.
- Schultz, John B., to Radio Corp. of America. Transistor radio signal receiver with means for reducing distortion in the RF amplifier. 3,193,767, 7–6–65, Cl. 325—319.
- Schultz, Robert J.: *See*—
  - Amenta, Italo M., and Schultz. 3,193,078.
- Schulz, Francis, and W. Glen, to Imperial Chemical Industries Ltd. Non-woven products composed of non-uniformly drawn staple fibers. 3,193,442, 7–6–65, Cl. 161—169.
- Schuster, John R.: *See*—
  - Berkey, William E., and Schuster. 3,192,686.
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  - Bown, Delos E., Schutze, and Watson. 3,193,596.
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- Schwartzman, Gilbert, to Glide-O-Matic Corp. Dauber having spherical valve head. 3,192,553, 7–6–65, Cl. 15—566.
- Schwartzwalder, Karl, to General Motors Corp. Diaphragm for fuel pumps and the like. 3,192,836, 7–6–65, Cl. 92—103.
- Schwarz, Frank, to Barnes Engineering Co. Electronic processing circuits for scanning systems. 3,193,681, 7–6–65, Cl. 250—83.3.
- Schweizer, Henry C., to The Procter & Gamble Co. Powder form waving compositions comprising a metal complex of thioglycollic acid and a chelating agent. 3,193,463, 7–6–65, Cl. 167—87.1.
- Scoggin, Jack S., to Phillips Petroleum Co. Apparatus for propylene polymerization. 3,193,360, 7–6–65, Cl. 23—283.
- Scott, Don, to Fermco Laboratories, Inc. Protecting packaged heat-processed aqueous food from oxygen deterioration. 3,193,393, 7–6–65 Cl 99—182.
- Scott, John A., to Olin Mathieson Chemical Corp. Process for adhesive bonding. 3,193,424, 7–6–65, Cl. 156—73.
- Scott, Robert K.: *See*—
  - Cope, Gerald R., Scott, and Fanning. 3,192,582.
- Scott, Roderic M.: *See*—
  - Rosenau, Milton D., Jr., Scott, and Forman. 3,192,575.
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- Sealectro Corp.: *See*—
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- Sear, Stuart B., and R. H. Speakman, to Imperial Chemical Industries Ltd. Traverse mechanism. 3,193,207, 7–6–65, Cl. 242—43.
- Searle, G. D., & Co.: *See*—
  - Counsell, Raymond E., and Klimstra. 3,193,564.
- Sears, John W., Jr.: *See*—
  - Ratcliff, Ralph A., and Sears. 3,193,253.
- See, Walter G., and A. Williams, to Submerged Combustion, Inc. Combustion apparatus and control system therefor. 3 192.920, 7–6–65, Cl. 126—360.
- Seedorf, Robert R., to The Roy M. Moffitt Co. Sheet dryer of conveyor-wicket type with suction wickets. 3,192,648, 7–6–65, Cl. 34—150.
- Seedorff, Alexander P. Resistance welding machine. 3,193,658, 7–6–65, Cl. 219—86.
- Segel, Edward, and P. R. Glenister, to J. E. Siebel Sons' Co., Inc. Stabilization of malt beverages with bile and compounds thereof. 3,193,387, 7–6–65, Cl. 99—48.
- Segur, Asa B. Fixture for stripping meat from bones. 3,192,557, 7–6–65, Cl. 17—1.
- Seifert, Maurice, Labeling machine. 3,193,431, 7–6–65, Cl. 156—384.
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  - Cogar, George R., and Sekse. 3,193,697.
- Sennhenn, Emil, to Fernseh G.m.b.H. Method and arrangement for converting video signals from one to another frame frequency. 3,193,619, 7–6–65, Cl. 178—6.8.
- Sensing Devices, Inc.: *See*—
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- Sentl, Eugene C.: *See*—
  - Baxter, Clyde W., and Sentl. 3,193,709.
- Service, Robert J.: *See*—
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- Servomechanisms, Inc.: *See*—
  - Azgapetian, Victor. 3,193,672.
- Seward, Harold H. Optical synchro system. 3,193,744, 7–6–65, Cl. 318—18.
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  - Perry, Gerald H., and Shallow. 3,193,804.
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- Sharp, George G., Inc.: *See*—
  - Stiglich, Nicholas M. 3,193,313.
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- Shea, William T., Jr., to Interstate Electronics Corp. Connector-contact adapter. 3,193,792, 7–6–65, Cl. 339—176.
- Shears, Stuart T., to United-Carr Inc. Decorator fastener attaching device. 3,192,590, 7–6–65, Cl. 24—216.
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- Sherrie, Robert M., to Pullman Inc. Container locking devices and assemblies. 3,193,238, 7–6–65, Cl. 248—361.
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- Shinohara, Kamenosuke, H. Tamura, and T. Hosoda, to Yamanouchi Pharmaceutical Co., Ltd. Process of preparing 1-phenyl-2-aminopropane. 3,193,581, 7–6–65, Cl. 260—570.8.
- Shipman, Alan J., to Imperial Chemical Industries Ltd. Catalyzed SO_2 oxidation of aromatic side chains. 3,193,577, 7–6–65, Cl. 260—524.
- Shlesinger, Bernard E., Jr. Multiple contact switch having cable switch operating means. 3,193,630, 7–6–65, Cl. 200—16.
- Short, George O., to Grand Taste Packing Co. Sausage casing sizing apparatus. 3,192,559, 7–6–65, Cl. 17—35.
- Shoultes, Donald P., to International Business Machines Corp. Method and apparatus for verifying location and controls in magnetic storage devices. 3,193,800, 7–6–65, Cl. 340—172.5.
- Showalter, Alan B., to Lyall Electric, Inc. Snap-in fastener for mounting opening. 3,193,226, 7–6–65, Cl. 248—27.
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- Sias, Roy C.: *See*—
  - Ford, Wendell F., Jr., Popovac, and Sias. 3,193,504.
- Sidi, Henri, to Tenneco Chemicals, Inc. Production of high molecular weight polymers of formaldehyde. 3,193,532, 7–6–65, Cl. 260—67.
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  - Segel, Edward, and Glenister. 3,193,387.
- Siebol, George, to Olympic Screw & Rivet Corp. Blind rivet having a grooved and deformable locking boss. 3,192,821, 7–6–65, Cl. 85—77.
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- Silsby, Howard W., III., and J. W. Taylor, to Farrington Electronics Inc. Document feeding apparatus. 3,193,281, 7–6–65, Cl. 271—11.
- Silva, Alfonso F., and L. M. Hall, to Black, Sivalls & Bryson, Inc. Method and apparatus for processing a natural gas stream. 3,192,687, 7–6–65, Cl. 55—33.
- Simas, William E., to The Triangle Co. Portable dumping bin. 3,193,150, 7–6–65, Cl. 222—166.
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- Simoons, Johan R. A., to Koninklijke Pharmaceutische Fabrieken v/h Brocades-Stheeman & Pharmacia, N.V. Apparatus for determining the release rate of drugs, with protracted or delayed action or of other such substances. 3,192,774, 7–6–65, Cl. 73—432.
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  - Matson, Howard J. 3,193,501.
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  - Mool, John. 3,193,349.
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Skirpan, Stephen J., to Ward Leonard Electric Co. Silicon controlled rectifier dimmer. 3,193,728, 7–6–65, Cl. 315—251.

Slavens, Wayne E., to Deere & Co. Corn harvester. 3,192,694, 7–6–65, Cl. 56—106.

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Smith, Theodore D., to Radio Corp. of America. Indicator mechanism. 3,192,779, 7–6–65 Cl. 74—10.

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  Best, Albert M. 3,193,117.
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  Brown, William C. 3,193,789.
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Stock, Marvin G. Hanger for string of lights. 3,193,229, 7–6–65, Cl. 248—74.

Stock, Marvin G. Adjustable seat. 3,193,324, 7–6–65, Cl. 297—64.

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Stracca, Giovanni B., to Marelli Lenkurt S.p.A. Negative resistance amplifier circuit including spurious oscillation suppression means. 3,193,776, 7–6–65, Cl. 330—61.

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Street, Chan. Wind drift recorder. 3,193,826, 7–6–65, Cl. 343—17.1.

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DESIGN PATENTS

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PLANT PATENTS

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
July 6, 1965 Volume 816 Number 1

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 74,491 (THERMOID), Trenton Rubber Manufacturing Company, Brakes and clutches for vehicles; **Reg. No. 118,447** (THERMOID AND DESIGN), Thermoid Rubber Company, Brakelinings, brakelining disks and blocks, clutch-linings, rubber bumpers, etc.; **Reg. No. 123,294**, same, Brakelinings; **Reg. No. 256,447** (THERMOID F-M-L BRAKE LINING), same; **Reg. No. 537,872** (THERMOID AND DESIGN), Thermoid Company, Hydraulic brake fluid; **Reg. No. 541,018**, same, Hydraulic brake parts comprising master cylinders, wheel cylinders, pistons, cups, and cylinder leads, **filed** Jan. 29, 1963, D.C. Conn. (New Haven), Doc. 9628, *H. K. Porter Co., Inc.* v. *Connecticut Asbestos Products, Inc.* Final judgment holding trademarks valid and infringed; defendant enjoined; defendant's counterclaim dismissed with prejudice Feb. 16, 1965.

Reg. No. 118,447. (See Reg. No. 74,491.)

Reg. No. 122,136 (FAFNIR), The Fafnir Bearing Company, Mechanical clutches, grinding, polishing, and spinning spindles, antifriction-bearings, etc., **filed** Aug. 13, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c1402, *The Fafnir Bearing Company* v. *Western Bearings Corporation.* Stipulation and order dismissing cause without prejudice Feb. 9, 1965.

Reg. No. 123,294. (See Reg. No. 74,491.)

Reg. No. 236,447. (See Reg. No. 74,491.)

Reg. No. 427,509 ("MR. DONUT" AND DESIGN), Finis L. Ragsdale, Doughnuts; **Reg. No. 668,784** (MISTER DONUT), Mister Donut of America, Inc., Snack bar services; **Reg. No. 673,298** (DESIGN OF GROTESQUE HUMAN), same; **Reg. No. 683,370** (MISTER DONUT), Mister Donut of America, Inc., doing business as Mister Donut, Flour, filling, and jellies for doughnuts, coffee and vegetable shortening, **filed** Oct. 30, 1964, D.C. Mass. (Boston), Doc. 64–791–J, *Mister Donut of America, Inc.* v. *Sir Donut, Inc. et al.* Final consent judgment; trademarks held valid and infringed; defendants enjoined Feb. 24, 1965.

Reg. No. 537,872. (See Reg. No. 74,491.)

Reg. No. 541,018. (See Reg. No. 74,491.)

Reg. No. 628,681 (INTERNATIONAL AND DESIGN), International Furniture Company, now by merger to Schnadig Corporation, Furniture—namely, wood furniture, upholstery furniture, chairs, etc.; **Reg. No. 725,969** (INTERNATIONAL), Schnadig Corporation, same, **filed** Sept. 25, 1964, D.C.,

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1965

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	16,012
Date of oldest new application	Oct. 12, 1964
Date of oldest amended application	Sept. 29, 1964

J. H. MERCHANT, Director, Trademark Examining Operation.

TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	10-12-64	10-5-64
(II) H. E. KASCHUB, Classes 1, 3, 6, 7, 9, 10, 18, 22, 27, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	11-2-64	9-29-64
Renewals (All Classes)	4-25-65	5-24-65
Sec. 12 (c) Publications (All Classes)	5-14-65	------

Applications filed during the month of May 1965—2,363

Registrations Issued	406—No. 792,007 to No. 792,412
Renewals Issued	70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

W.D.N.C. (Charlotte), Doc. 1944, *Schnadig Corporation* v. *International Furniture Company, Inc.* Judgment dismissing case; injunction issued Mar. 2, 1965.

Reg. No. 645,211 (SAFEWAY), Safeway Stores, Incorporated, Meats and poultry—namely fresh, cured, and cooked meat and luncheon meats and fish and frozen fowl; **Reg. No. 721,716**, same, Retail grocery services, **filed** Feb. 23, 1965, D.C. N. Mex. (Albuquerque), Doc. 6043, *Safeway Stores, Incorporated* v. *Gene's Save-Way.*

Reg. No. 668,784. (See Reg. No. 427,509.)

Reg. No. 673,298. (See Reg. No. 427,509.)

Reg. No. 683,370. (See Reg. No. 427,509.)

Reg. No. 721,716. (See Reg. No. 645,211.)

Reg. No. 724,141 (CONTAC), Smith Kline French Laboratories, Oral nasal decongestant, **filed** Aug. 10, 1964, D.C. Puerto Rico (San Juan), Doc. 3[illegible]8–64, *Menley & James Laboratories, Ltd. et al.* v. *Farmacia Raquel.* Cause dismissed Sept. 9, 1964.

Reg. No. 725,969. (See Reg. No. 628,681.)

Reg. No. 729,665 (PORPOISE), Michigan Fiberglass Company, Boats, **filed** Feb. 23, 1965, D.C., S.D. Ind. (Indianapolis), Doc. IP65–C–91, *Molded Products Company* v. *Buehler Corporation.*

Service by Publication

A petition to cancel each of the registrations identified below having been filed, and the notice of such proceedings sent by registered mail to each registrant at the last known address having been returned by the Post Office as undeliverable, notice is hereby given that unless the registrants listed herein, their assigns or legal representatives, shall enter an appearance within thirty days from the date of this publication, the cancelation will be proceeded with as in the case of default.

Buticaps, Inc., assignee, by mesne assignments, of Stanley Drug Products, Inc., Los Angeles, Calif., Reg. No. 568,796, Canc. No. 8406.

Therm-Aire Equipment Company, Inc., Nashville, Tenn., Reg. No. 443,533, Canc. No. 8482.

Don-Shur Co. (Evelyn F. Deuel, sole owner), assignee of Duo Cosmetics, Inc., Los Angeles, Calif., Reg. No. 524,031, Canc. No. 8454.

EDWIN L. REYNOLDS,
First Assistant Commissioner of Patents.

MARKS PUBLISHED FOR OPPOSITION

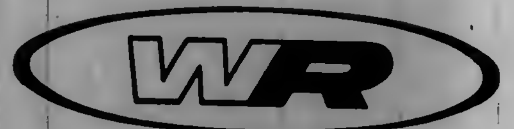
SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 177,727. Will Ross, Inc., Milwaukee, Wis. Filed Sept. 25, 1963.



Class 39—Clothing

For Bathrobes, Patients' Gowns, Pajamas, Nurses' Gowns and Caps, Disposable Diapers and Kerchiefs.

Class 42—Knitted, Netted, and Textile Fabrics, and Sub-

For Pillowcases, Mattress Pads, Pillow Covers, Blankets, Pillows, Bed Spreads, Sheetings, Towelings, Drapes, Towels and Washcloths.

Class 44—Dental, Medical, and Surgical Appliances

For Surgical Dressings—Namely, Obstetrical Pads, Maternity Packs and Kits, Sanitary Belts, Breast Pads, Underpads, Sponges, Gauze, Gauze Bandages, Cotton Balls, Cotton Tipped Applicators, Elastic Bandages, Adhesive Tape, Binders for Post-Operative Use, Doctors' Examining and Operating Gowns, Masks and Gloves; and Surgical Appliances—Namely, Examination Tables, Catheters, Disposable Enema Units, Catheterization Kits, Surgery Preparation Shaving Kits.

Class 52—Detergents and Soaps

For Specialized Detergent for Cleaning Laboratory Glassware and Surgical Instruments.

First use November 1962.

SN 193,290. Polar Metals, Incorporated, Kirkwood, Mo. Filed May 12, 1964.

POLAR

Class 6—Chemicals and Chemical Compositions

For Chemical Solutions, Such as a Zinc-Epoxy Resin Solution, Used for Applying a Coating to Metallic Articles, Shapes and Structures for Protection Against Subsurface Corrosion.

Class 14—Metals and Metal Castings and Forgings

For Metallic Articles, Shapes and Structures—Namely, Beams, Channels, T's, Bars; Plate, Sheet, Bar and Rod Stock; Corrugated Sheet Material; and Wire, Pipe and Tubing, Coated With a Corrosion-Resistant Protective Coating.

Class 21—Electrical Apparatus, Machines, and Supplies

For Copper Electrodes, Zinc Anodes, Rectifiers, Batteries and Other Power Supplies Used in Systems for the Prevention of Subsurface Corrosion.

First use Apr. 27, 1964.

SN 202,772. Corbett & Bertelone, Inc., New York, N.Y. Filed Sept. 28, 1964.

C+B

Class 27—Horological Instruments

For Watch Covers and Watch Cases.

Class 28—Jewelry and Precious-Metal Ware

For Jewelry Consisting of Watch Chains, Neck Chains, and Other Articles of Jewelry for Personal Wear, Not Including Watches, But Including Watch Bracelets.

First use Apr. 15, 1928.

SN 204,463. Forecast House, Inc., New York, N.Y. Filed Oct. 21, 1964.

FORECAST

Class 32—Furniture and Upholstery

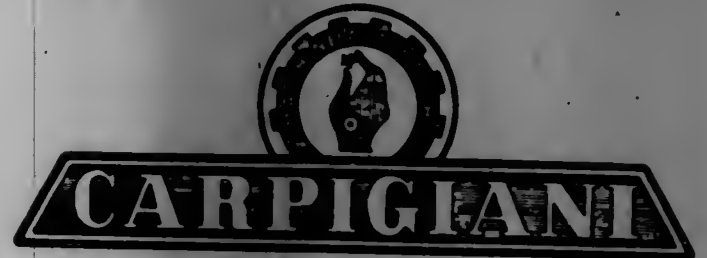
For Living Room, Dining Room, Bedroom and Occasional Furniture; Cabinets, Chests and Desks, Consoles and Buffets, Occasional Tables, Cocktail Tables, Dining and Serving Tables, Chairs, Benches and Stools.

Class 34—Heating, Lighting, and Ventilating Apparatus

For Wall Sconces, Wrought Iron Candlesticks, Chandeliers, Table and Garden Lanterns, Hanging Lanterns, Wall Torches and Lamps and Candelabra.

First use Mar. 2, 1964.

SN 205,390. Carpigiani Bruto S.p.A., Bologna, Italy. Filed Nov. 3, 1964.



Priority claimed under Sec. 44(d) on Italian application filed July 16, 1964; Reg. No. 5642/64, dated July 16, 1964. The drawing is lined for the colors red and blue.

Class 23—Cutlery, Machinery, and Tools, and Parts

For Nonrefrigerated Machines for Making Ice Cream and Whipped Cream, and Beverage Dispensing Machines and Parts Therefor.

Class 31—Filters and Refrigerators

For Automatic and Nonautomatic Machines for the Manufacture and Distribution and Dispensing of Ice Cream and Soft Ice Cream, Industrial Equipment for Manufacture of Ice Cream in Large Amounts, Freezers for Conserving Ice Cream, Machines for Dispensing Cold Beverages, Ice Cube Producing Machines, and Parts for All of Such Machines and Equipment.

SN 206,978. Southern Mills, Inc., Atlanta, Ga. Filed Nov. 25, 1964.

CALDURA

Class 24—Laundry Appliances and Machines

For Ironing Board Cover Cloths, Laundry Press Cover Clóths and Laundry Press Covers.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Heat Resistant Woven and Knitted Fabric.

Class 43—Thread and Yarn

For Heat Resistant Yarn.

First use on or about Nov. 13, 196.

SN 206,991. Sandura Company, Jenkintown, Pa. Filed Nov. 27, 1964.

SANDURA

Owner of Reg. No. 191,145.

Class 4—Abrasives and Polishing Materials

For Protective and Polishing Dressing for the Wear Surface of Floor, Wall, Tabletop and Like Covering Materials.
First use April 1964.

Class 5—Adhesives

For Waterproof Cement.
First use February 1959.

SECTION 2

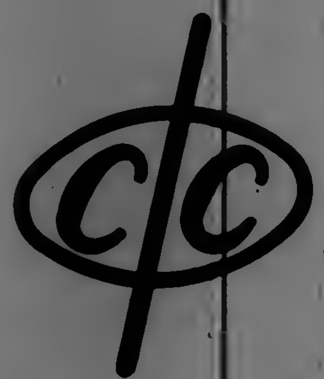
The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

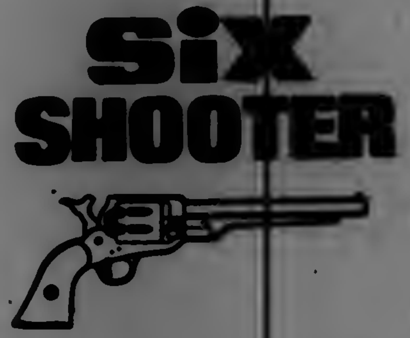
Class 1—Raw or Partly Prepared Materials

SN 187,175. Colman Corporation, Nashua, N.H. Filed Feb. 21, 1964.



For Molded Rubber Shapes and Forms for General Use in the Industrial Arts.
First use in or about January 196.

SN 190,562. Washam Seed Company, Kenedy, Tex. Filed Apr. 7, 1964.



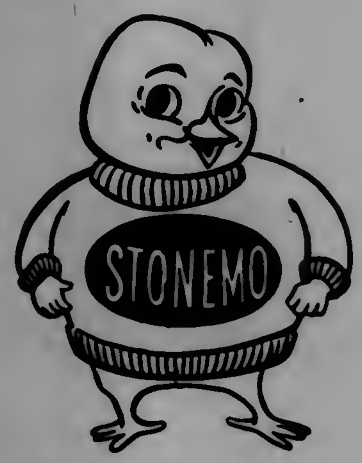
For Planting Seed—Namely, Clover, Barley, Wheat, Oats, Guar, Flax, Cotton Sorghum Hybrid, Corn, and Grass Seed.
First use Feb. 26, 1963.

SN 192,164. Engelhard Hanovia, Inc., Newark, N.J. Filed Apr. 28, 1964.

SYN-MB

Owner of Reg. No. 742,809.
For Synthetic Diamonds for General Use in the Industrial Arts.
First use July 30, 1963.

SN 193,418. Stone Mountain Grit Co., Inc., Lithonia, Ga. Filed May 13, 1964.



Owner of Reg. Nos. 275,114 and 691,083.
For Granite Grit for Poultry.
First use Feb. 4, 1964.

SN 203,886. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Oct. 13, 1964.

SHASTA

Owner of Reg. No. 572,099.
For Finely Divided Limestone for Use as a Line-Marking Material.
First use July 23, 1964.

SN 206,218. Bonded Fibers, Incorporated, Buena Vista, Va. Filed Nov. 16, 1964.

MORIFLEX

For Leather Substitute Used for Shoe Uppers, Luggage, and Upholstery.
First use Aug. 26, 1964.

SN 208,522. Avisun Corporation, Philadelphia, Pa. Filed Dec. 21, 1964.

OLEFOAM

Owner of Reg. Nos. 737,355 and 766,928.
For Synthetic Resins, and Plastics in the Form of Fibers, Films, and Sheets.
First use Oct. 13, 1964.

SN 209,654. Angutrudis, Inc., El Paso, Tex. Filed Jan. 11, 1965.

ANGUTRUDIS

For Live Cattle.
First use Oct. 31, 1963.

SN 212,513. Donovan Industries, Inc., New York, N.Y. Filed Feb. 23, 1965.

SUAVE

For Artificial Leather.
First use Sept. 22, 1964.

Class 2—Receptacles

SN 190,849. Stern Can Company, Inc., Boston, Mass. Filed Feb. 11, 1964.

STERN

For Cans.
First use in or about 1942.

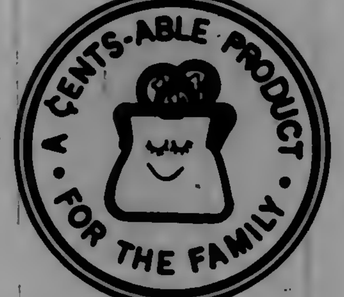
Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 204,154. Fieldson Associates, Inc., Deerfield, Ill. Filed Oct. 16, 1964.

GAL PAL

For Tote Bags.
First use on or about Aug. 5, 1964.

SN 204,563. Fieldson Associates, Inc., Deerfield, Ill. Filed Oct. 22, 1964.



For Tote Bags.
First use on or about July 22, 1964.

SN 204,652. Gaylord Bros., Inc., Syracuse, N.Y. Filed Oct. 23, 1964.

GAYLORD

For Luggage Type Carrying Bag for Books, Records, and Other Library Materials.
First use on or about Dec. 1, 1952.

SN 205,300. Kleer-Vu Industries, Inc., New York, N.Y. Filed Nov. 2, 1964.

poly-VU

For Plastic Enclosures and Inserts for Holding Cards, Pictures, and the Like for Insertion in Wallets, Pass Cases, and the Like.
First use July 1, 1964.

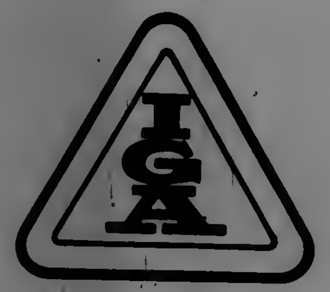
SN 205,301. Kleer-Vu Industries, Inc., New York, N.Y. Filed Nov. 2, 1964.

poly-PRO

For Plastic Enclosures and Inserts for Holding Cards, Pictures, and the Like for Insertion in Wallets, Pass Cases, and the Like.
First use July 1, 1964.

Class 4—Abrasives and Polishing Materials

SN 201,123. Internal Grinding Abrasives Inc., Grand Rapids, Mich. Filed Sept. 2, 1964.



For Abrasive Products—Namely, Grinding Wheels.
First use on or about July 20, 1959.

SN 201,124. Internal Grinding Abrasives Inc., Grand Rapids, Mich. Filed Sept. 2, 1964.

IGA

For Abrasive Products—Namely, Grinding Wheels.
First use on or about July 20, 1959.

SN 205,983. Acme Abrasive Co., Warren, Mich. Filed Nov. 12, 1964.

SPIRAC

For Grinding Wheels.
First use Sept. 22, 1964.

SN 206,212. Barco Chemicals Division, Inc., Miami, Fla. Filed Nov. 16, 1964.

MICRALITE

For Chemical Floor Polish Preparation.
First use Nov. 27, 1961.

SN 206,361. Harri Hoffmann Co., Inc., Milwaukee, Wis. Filed Nov. 17, 1964.

EXECUTIVE SHINE

No claim is made to the exclusive use of the word "Shine" apart from the mark shown.
For Boot and Shoe Polish and Leather Conditioner.
First use on or about Mar. 1, 1962.

SN 206,605. The Carborundum Company, Niagara Falls, N.Y. Filed Nov. 20, 1964.

CARBOROD

For Abrasive Products—Namely, Grinding Wheels and Abrasive Grain.
First use Nov. 21, 1962.

SN 206,626. S. C. Johnson & Son, Inc., Racine, Wis. Filed Nov. 20, 1964.

ENVY

For Floor Polish With Cleaning Properties.
First use on or about Nov. 10, 1964.

SN 207,060. S. C. Johnson & Son, Inc., Racine, Wis. Filed Nov. 27, 1964.

ONE-GO

For Wax With Cleaning Properties for Use on Floors, Furniture, Walls, and Woodwork.
First use on or about Nov. 16, 1964.

SN 207,886. Hollywood Shoe Polish Inc., Richmond Hill, N.Y. Filed Dec. 10, 1964.

STORMI-WETHER

For Shoe Polish.
First use Oct. 22, 1964.

Class 5 — Adhesives

SN 196,286. Miracle Adhesives Corporation, Bellmore, N.Y. Filed June 23, 1964.

QUIK-KEY

For Contact Adhesive, for Laminating Gypsum Board, Instantly Bonding Plastic Laminates on Contact, Installing Plywood Without Nails, and for Household Uses.
First use on or about Apr. 18, 1963.

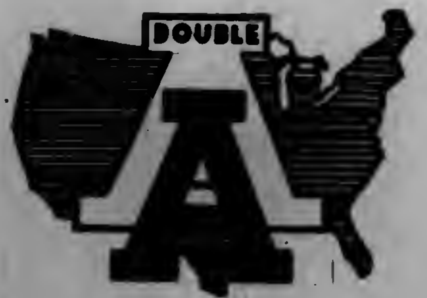
Class 6 — Chemicals and Chemical Compositions

SN 168,815. Farbwerke Hoechst Aktiengesellschaft, vormals Meister Lucius and Brüning, Frankfurt am Main, Germany. Filed May 14, 1963.

LEOMIN

Owner of German Reg. No. 615,0[illegible]8, dated June 15, 1950.
For Textile Auxiliaries for Rayon and Staple Rayon—Namely, Brightening and Lubricating Agents, Softening Agents for Textile Fibers and Finishing Agents.

SN 172,711. Automotive Associates, Inc., New York, N.Y. Filed July 10, 1963.



Applicant makes no claim to the representation of the map of the United States apart from the trademark as shown. The lines shown in the drawing form a part of applicant's trademark and are not representative of color. Owner of Reg. Nos. 701,606 and 701,607.
For Hydraulic Brake Fluid and Anti-Freeze.
First use Mar. 2, 1959, on hydraulic brake fluid.

SN 176,494. Chem-Salts, Inc., Powder Springs, Ga. Filed Sept. 9, 1963.

COPOLOID

For Liquid Copper Fungicide.
First use May 27, 1963.

SN 176,495. Chem-Salts, Inc., Powder Springs, Ga. Filed Sept. 9, 1963.

COPOLOID-3-12

For Liquid Copper-DDT Insecticide-Fungicide.
First use May 27, 1963.

SN 185,746. Technic, Inc., Cranston, R.I. Filed Jan. 27, 1964.

RHODIUM X-LESS

The word "Rhodium" is disclaimed from the mark as shown.
For Rhodium Solution for the Deposition of Rhodium.
First use June 3, 1963.

SN 185,852. Apollo Chemical Corp., New York, N.Y. Filed Feb. 3, 1964.

MCC-2

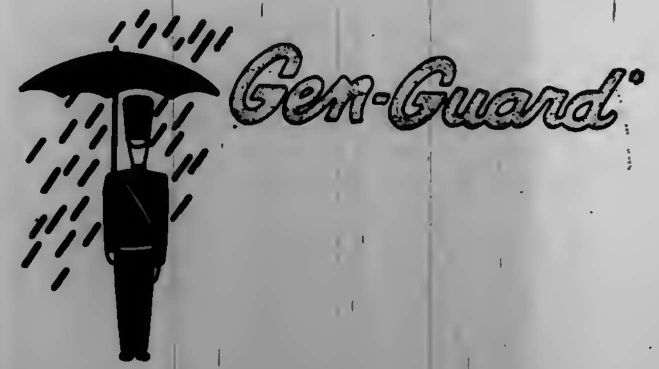
For Combustion Catalyst, Dispersant and Corrosion Inhibitor for Use in Residual or Diesel Fuels.
First use Nov. 6, 1963.

SN 189,345. Monsanto Chemical Company, St. Louis, Mo. Filed Mar. 23, 1964.

HBPA

For Hydrogenated Bisphenol A—Namely, Intermediates for Polymeric Materials.
First use Dec. 9, 1963.

SN 193,658. General Split Corporation, d.b.a. Gensplit Corp., Milwaukee, Wis. Filed May 18, 1964.



For Rain and Stain Repellent for Use on Leather.
First use Jan. 27, 1964.

SN 195,115. Joseph B. Kennington, d.b.a. Reefer Sweet Company, Livermore, Calif. Filed June 8, 1964.

REEFER SWEET

For Desiccant for Refrigerators and Freezers.
First use on or about Jan. 1, 1963.

SN 195,170. Sterling Drug Inc., New York, N.Y. Filed June 8, 1964.

SAFARITONE

For Optical Brighteners and Dispersed Colors for Textiles.
First use August 1953.

SN 195,706. Physio-Control Company, Inc., Seattle, Wash. Filed June 15, 1964.

MEDIGAS

For Compressed Gas for Use With Blood Pressure Measuring Apparatus.
First use May 28, 1964.

SN 195,992. Yardville Supply Co., Yardville, N.J. Filed June 18, 1964.

SWIM CHLOR

For Composition for Use in Chlorinating the Water in Swimming Pools.
First use August 30, 1963.

SN 196,227. American Cholesterol Products, Inc., Edison, N.J. Filed June 23, 1964.

WAXOLAN

For Lanolin Wax Fraction.
First use June 30, 1954.

SN 196,228. American Cholesterol Products, Inc., Edison, N.J. Filed June 23, 1964.

MODULAN

For Acetylated Lanolin.
First use Sept. 4, 1951.

SN 196,229. American Cholesterol Products, Inc., Edison, N.J. Filed June 23, 1964.

AMERLATE

For Isopropyl Lanolate.
First use Oct. 26, 1961.

SN 196,230. American Cholesterol Products, Inc., Edison, N.J.. Filed June 23, 1964.

POLYLAN

For Lanolin Polyunsaturate.
First use Jan. 23, 1957.

SN 196,231. American Cholesterol Products, Inc., Edison, N.J. Filed June 23, 1964.

QUATERLAN

For Lanolin Quaternary Reaction Product.
First use June 17, 1960.

SN 196,233. American Cholesterol Products, Inc., Edison, N.J. Filed June 23, 1964.

SOLULAN

For Water Soluble Lanolin and Lanolin Components.
First use June 10, 1953.

SN 196,234. American Cholesterol Products, Inc., Edison, N.J. Filed June 23, 1964.

VISCOLAN

For Viscous Liquid Lanolin.
First use June 3, 1954.

SN 196,235. American Cholesterol Products, Inc., Edison, N.J. Filed June 23, 1964.

ARLAN

For Acidolized Lanolin.
First use June 8, 1961.

SN 196,236. American Cholesterol Products, Inc., Edison, N.J. Filed June 23, 1964.

ACETULAN

For Acetylated Lanolin Alcohols.
First use Feb. 5, 1954.

SN 196,248. Chemactants, Inc., Edison, N.J. Filed June 23, 1964.

CHEMACTANT

For Industrial Chemical Products Derived From Lanolin—Namely, Water Soluble Lanolin, Lanolin Wax Fraction, Acidolized Lanolin, Barium Lanolate, Lanolin Quaternary Reaction Product, Lanolin Alcohols, Liquid Multi-Sterol Extract, and Lanolin Alcohol Acetate.
First use Feb. 19, 1957.

SN 196,249. Chemactants, Inc., Edison, N.J. Filed June 23, 1964.

LANACID

For Lanolin Fatty Acids.
First use Mar. 23, 1964.

SN 196,359. Crompton & Knowles Corporation, Worcester, Mass. Filed June 24, 1964.

ALTCOFAST

Owner of Reg. No. 562,184.
For Dyes.
First use on or about May 25, 1964.

SN 196,455. Magnet Cove Barium Corporation, Houston, Tex. Filed June 25, 1964.

WONDERSEAL

For Liquid Blend of Highly Polymerized Fatty Composition and a Selected Petroleum Hydrocarbon Resin for Use in Drilling Mud To Bring About Sealing of the Formation Under Bottom Hole Conditions, etc.
First use July 20, 1962.

SN 201,750. Stoeger Arms Corporation, South Hackensack, N.J. Filed Sept. 11, 1964.

PEERLESS

For Gun Blueing Solutions.
First use Aug. 1, 1940.

SN 202,078. Grout Supply Company, Brecksville, Ohio. Filed Sept. 17, 1964.

INTERAID

For Fluidifier for Use in Grout Mixtures for Mortar and Concrete To Contribute to the Grout Mix Certain Properties of Set Retardation, Water Reduction at Equivalent Flowability, Controlled Expansion Prior to Initial Set, and Increased Water Retention.
First use July 30, 1956.

SN 202,785. Atlantic Chemical Corporation, Nutley, N.J. Filed Sept. 28, 1964.

ATLANTIC COLORON A

For Catalytic Agent Employed as a Dyeing Assistant.
First use on or about June 3, 1964.

SN 203,885. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Oct. 13, 1964.

SHASTAWITE

Owner of Reg. No. 572,099.
For Quick Lime and Lime Hydrate.
First use Aug. 20, 1964.

SN 205,108. Shell Oil Company, New York, N.Y. Filed Oct. 29, 1964.

IONOX

Owner of Reg. No. 752,724.
For U.V. Stabilizer (Ultra-Violet Stabilizer).
First use Aug. 7, 1964.

SN 205,111. Signal Oil and Gas Company, Los Angeles, Calif. Filed Oct. 29, 1964.

HERBITOX

For Herbicidal Oil.
First use Aug. 25, 1964.

SN 205,839. Nopco Chemical Company, Newark, N.J. Filed Nov. 9, 1964.

NOPCOSOFT

For Concentrate for Fabric Softeners.
First use May 5, 1963.

Class 7 — Cordage

SN 194,393. Wm. M. Jette & Son, Inc., Providence, R.I. Filed May 27, 1964.

CURLEY-CORD

For Braided Cord.
First use Nov. 2, 1961.

SN 206,645. Ponit Trading Company, St. Louis, Mo. Filed Nov. 20, 1964.

BLUE ACRES

For Binder and Baler Twines.
First use May 1962.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 200,524. Zenith Corporation, Clinton, Mo. Filed Aug. 24, 1964.

ACK-ACK

For Fireworks—Namely, Sky Rockets and the Like That Are Propelled Into the Air and Explode With a Report and/or Stars With Color.
First use June 15, 1964.

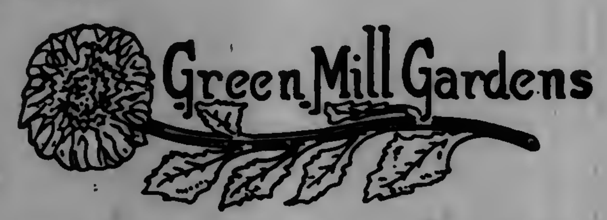
Class 10 — Fertilizers

SN 205,286. Green Mill Gardens, Inc., Addison, Ill. Filed Nov. 2, 1964.

GREEN MILL

Owner of Reg. Nos. 777,169 and 777,170.
For Fertilizer, Soil Conditioners, Plant Foods, and Peat Moss.
First use Oct. 2, 1926.

SN 205,585. Green Mill Gardens, Inc., Addison, Ill. Filed Nov. 5, 1964.



Applicant disclaims the representation of the plant apart from the mark as shown. Owner of Reg. Nos. 777,169 and 777,170.
For Fertilizer, Soil Conditioners, Plant Foods, and Peat Moss.
First use Oct. 2, 1926.

Class 11 — Inks and Inking Materials

SN 186,828. Embossograph Process Company, Incorporated, Brooklyn, N.Y. Filed Feb. 17, 1964.

"HI-FLO"

For Thermographic Raised Printing Powders.
First use Dec. 10, 1963.

SN 190,990. Sun Chemical Corporation, New York, N.Y. Filed Apr. 13, 1964.

WEB-SEC

For Printing Inks.
First use Apr. 1, 1964.

Class 12 — Construction Materials

SN 176,923. Insul-Coustic Corporation, Maspeth, N.Y. Filed Sept. 13, 1963.

TUF-JAC

For Laminated Insulation for Pipes.
First use October 1962.

SN 179,582. American Screen Products Company, Chicago, Ill. Filed Oct. 23, 1963.

SILVER LUME

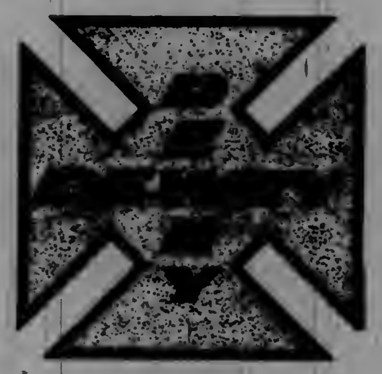
For Metal Door Assemblies, Screen Door Assemblies, Patio Enclosure Assemblies, Component Parts of Said Assemblies, and the Like, With an Aluminum-Like Finish.
First use March 1962.

SN 179,788. General Mills, Inc., Minneapolis, Minn. Filed Oct. 25, 1963.

TALINA

For Hardboard Panels for Wall, Floor, and Other Like Construction.
First use Sept. 6, 1963.

SN 191,195. Martin-Marietta Corporation, New York, N.Y. Filed Apr. 15, 1964.



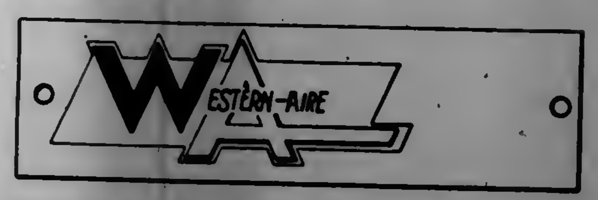
Owner of Reg. Nos. 290,413, 675,415, and others.
For Substantially Inorganic Cement and Cementitious Products Particularly Portland Cement in Various Types, Masons' Cement, Fibered Cement, Rapid-Setting Cement, and Air-Entraining Cement.
First use Jan. 16, 1964, on Portland cement.

SN 191,520. Dowman Products, Inc., Long Beach, Calif. Filed Apr. 20, 1964.

DOWFILL

Owner of Reg. No. 670,819.
For Floor Underlayment Having a Gypsum Cement Base.
First use Nov. 1, 1963.

SN 193,428. Western Aluminum Industries, Inc., Tucson, Ariz. Filed May 13, 1964.



For Aluminum Modular Room Additions.
First use February 1960.

SN 197,396. Johns-Manville Corporation, New York, N.Y. Filed July 8, 1964.

STUD-THIK

For Thermal Insulation, Particularly Mineral Fiber Batts.
First use at least on or about Oct. 10, 1962.

SN 197,588. Lamb Industries, Inc., Toledo, Ohio. Filed July 10, 1964.

WEATHER-LINER

For Windows.
First use Feb. 18, 1964.

SN 197,923. United States Plywood Corporation, New York, N.Y. Filed July 15, 1964.

design
777

For Partition Systems—Namely, Partition Panels of Various Types of Materials, and Moldings.
First use June 9, 1964.

SN 198,428. Minnesota and Ontario Paper Company, Minneapolis, Minn. Filed July 23, 1964.

PANELAP

For Hardboard.
First use July 15, 1964.

SN 200,788. Selby, Battersby & Company, Philadelphia, Pa. Filed Aug. 27, 1964.

SELBAFLOR

Owner of Reg. Nos. 204,448, 771,705, and others.
For Plastic Compositions—Namely, Plastic Floor Components in Different Coatings Comprising a Primer, Body, Grout and Finish Coat Containing Color Flakes; Trowel Applied; in Various Color Patterns; Applicable to New and Old Floor Surfaces; When Cured Providing a Decorative, Resilient, Non-Slip Surface.
First use June 1, 1964.

SN 200,850. Martin-Marietta Corporation, New York, N.Y. Filed Aug. 28, 1964.

THERMOSET

Owner of Reg. Nos. 518,506, 759,888, and others.
For Refractory Dolomite and Magnesite Grains for Repair of Furnaces.
First use July 14, 1964.

SN 203,097. Lifetime Door Sales, Inc., Livonia, Mich. Filed Oct. 1, 1964.

LIFETIME

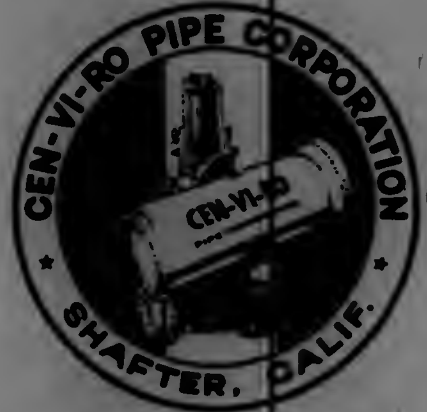
For Wooden Doors Having Solid or Hollow Cores Faced With Plywood or Hardboard for Use as Interior and Exterior Doors for Commercial, Industrial, and Residential Use.
First use Aug. 10, 1964.

SN 203,614. Spring Hill Fuel Co., d.b.a. Aluminum Detail Products, Seattle, Wash. Filed Oct. 8, 1964.

SEASONMASTER

For Aluminum Windows, Doors, and Screens.
First use Sept. 1, 1964.

SN 204,762. Cen-Vi-Ro Pipe Corporation, Shafter, Calif. Filed Oct. 26, 1964.



Applicant disclaims, apart from the mark as shown, the words "Pipe Corporation," both occurrences, "Shafter, Calif.," and the configuration of the pipe and of the forklift.
For Concrete Pipes.
First use Mar. 1, 1954.

SN 205,116. Snook Manufacturing Company, Inc., Palo Alto, Calif. Filed Oct. 29, 1964.

ROKO

For Metal Stakes, Clamps, Ties, Angle Plates, Joist Hangers, Rafter Plate Links, Pipe Hangers, Strip Hangers, and the Like.
First use Jan. 11, 1954.

SN 205,140. Atlas Universal Service, Inc., San Francisco, Calif. Filed Oct. 30, 1964.

S.O.P.

For Metal Doors and Door Frames.
First use 1957.

SN 205,255. G. & W. H. Corson, Inc., Plymouth Meeting, Pa. Filed Nov. 2, 1964.

CORSON-LITE

Owner of Reg. No. 385,860.
For Lightweight Aggregate for Use in Cementitious Materials.
First use Aug. 8, 1964.

SN 205,457. Reynolds Metals Company, Richmond, Va. Filed Nov. 3, 1964.

THRIFTY-RIB

For Metal Roofing and Siding, and Accessories Therefor.
First use at least as early as May 1961.

SN 208,270. Minnesota and Ontario Paper Company, Minneapolis, Minn. Filed Dec. 16, 1964.

CORONATION

For Decorative Tileboard.
First use Oct. 17, 1963.

SN 208,519. Andersen Corporation, Bayport, Minn. Filed Dec. 21, 1964.

FLEXIVIEW

Owner of Reg. No. 598,660.
For Assemblies of Window Sash, Frames and Hardware, Sold Together as Window Units.
First use Feb. 15, 1954.

SN 208,765. Panyl Corporation, Elkhart, Ind. Filed Dec. 23, 1964.

3-WAY

For Molding for Use With Wall and Ceiling Panels.
First use on or before Oct. 1, 1964.

SN 208,910. Gateway Erectors, Inc., Chicago, Ill. Filed Dec. 28, 1964.

G-LOC

Owner of Reg. No. 743,237.
For Clamp Structures for Splicing Together Reinforcement Bars for Reinforcement of Concrete Structures.
First use Mar. 14, 1962.

SN 209,137. Anchor Sales Corporation, Brooklyn, N.Y. Filed Dec. 31, 1964.

LUXURY-WOOD

For Hardwood Veneer Flooring With Vinyl Face.
First use Oct. 28, 1964.

SN 209,197. Saf-T-Grip Specialties Corp., Syosset, N.Y. Filed Dec. 31, 1964.

saf·t·grip

For Water Stops, Gaskets and Extruded Synthetic Plastic Stripping for Use as Construction Materials.
First use June 17, 1964.

SN 209,373. Rapidform Corporation, New York, N.Y. Filed Jan. 5, 1965.

RAPIDJOIST

For Aluminum Shoring Joists.
First use Apr. 4, 1964.

SN 209,464. The Standard Products Company, Cleveland, Ohio. Filed Jan. 6, 1965.

GRIPSTRIP

For Glass-Setting Tape.
First use Dec. 5, 1958.

SN 209,729. Raybestos-Manhattan, Inc., Manheim, Pa. Filed Jan. 11, 1965.

FluoroTite

For Sealing Tape for Plastic and Metal Threads.
First use Dec. 18, 1964.

SN 210,669. Georgia-Pacific Corporation, Portland, Oreg. Filed Jan. 26, 1965.

MODELPREG

For Plywood.
First use Sept. 25, 1964.

SN 211,216. United States Plywood Corporation, New York, N.Y. Filed Feb. 2, 1965.

NOVOBORD

Owner of Reg. Nos. 542,445, 677,212, and others.
For Lumber and Wood Products, i.e., Particle Board With or Without Decorative Faces.
First use Jan. 9, 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 151,947. Mangel Stores Corporation, New York, N.Y. Filed Aug. 27, 1962.

SHOPPER'S FAIR

Owner of Reg. No. 687,336.
For Bolts, Nuts, Screws, Cotter Pins, Washers, Cookware, Bakeware, Metal Holloware, Door Stops, Brackets, Safety Hasps, Springs, Strainers, Paper Bag Holders, Soap Dishes, Staples and Staple Gun Kits; Mats for Stoves, Basins and Tubs, Dust Pans, Training Chairs (Plastic and Wood), Pipe Valve Stem Extensions, Pipe Distribution Nipples, Tow Chains, Sink and Tub Stoppers, Faucets, and Washers.
First use at least as early as August 1956.

SN 165,887. Akron Brass Company, Wooster, Ohio. Filed Apr. 2, 1963.

IMPERIAL

For Fire Hose Nozzles.
First use in or about May 1958.

SN 180,980. The Water Master Company, Highland Park, N.J. Filed Nov. 12, 1963.

THRUST-BACK COLLAR

For Toilet Tank Balls.
First use Oct. 23, 1962.

SN 194,582. Dempro, Inc., Kansas City, Mo. Filed June 1, 1964.

ELECTRO-SHELF

For Motor Operated Shelf Assembly.
First use May 8, 1964.

SN 194,773. Amerock Corporation, Rockford, Ill. Filed June 3, 1964.

IMPERIA

For Cabinet Hardware Such as Knobs, Pulls, Hinges, and the Like.
First use May 1962.

SN 195,250. Louis L. Rifken, d.b.a. Multi-Pipe Clamp Co., Elgin, Ill. Filed June 9, 1964.

MULTI-PIPE CLAMP

Applicant disclaims the word "Clamp."
For Clamping Device.
First use June 3, 1964.

SN 209,656. Beacon Brass Company, Waltham, Mass. Filed Jan. 11, 1965.

SENSOR

For Fluid Mixing Valves.
First use May 4, 1964.

SN 210,409. Bijur Lubricating Corporation, Rochelle Park, N.J. Filed Jan. 22, 1965.

BIJUR-0

Owner of Reg. Nos. 280,010, 768,024, and others.
For High Restriction Outlet Fittings Which Serve To Connect Small Diameter Tubing to a Bearing and Obstruct the Flow of Lubricant From the Tubing to the Bearing and Pumps, Reservoirs, Tanks, Hoses, Valves, Tubing and Lubricants To Be Used in Connection Therewith, To Be Sold Independently as Such or as Replacement Parts or as a Part of a Complete Centralized Lubricating System or Installation.
First use 1926.

SN 210,410. Bijur Lubricating Corporation, Rochelle Park, N.J. Filed Jan. 22, 1965.

BIJUR-1

Owner of Reg. Nos. 280,010, 768,024, and others.
For High Restriction Outlet Fittings Which Serve To Connect Small Diameter Tubing to a Bearing and Obstruct the Flow of Lubricant From the Tubing to the Bearing and Pumps, Reservoirs, Tanks, Hoses, Valves, Tubing and Lubricants To Be Used in Connection Therewith, To Be Sold Independently as Such or as Replacement Parts or as a Part of a Complete Centralized Lubricating System or Installation.
First use 1926.

SN 210,411. Bijur Lubricating Corporation, Rochelle Park, N.J. Filed Jan. 22, 1965.

BIJUR-2

Owner of Reg. Nos. 280,010, 768,024, and others.
For High Restriction Outlet Fittings Which Serve To Connect Small Diameter Tubing to a Bearing and Obstruct the Flow of Lubricant From the Tubing to the Bearing and Pumps, Reservoirs, Tanks, Hoses, Valves, Tubing and Lubricants To Be Used in Connection Therewith, To Be Sold Independently as Such or as Replacement Parts or as a Part of a Complete Centralized Lubricating System or Installation.
First use 1926.

SN 210,412. Bijur Lubricating Corporation, Rochelle Park, N.J. Filed Jan. 22, 1965.

BIJUR-3/0

Owner of Reg. Nos. 280,010, 7[illegible],024, and others.

For High Restriction Outlet Fittings Which Serve To Connect Small Diameter Tubing to a Bearing and Obstruct the Flow of Lubricant From the Tubing to the Bearing and Pumps, Reservoirs, Tanks, Hoses, Valves, Tubing and Lubricants To Be Used in Connection Therewith, To Be Sold Independently as Such or as Replacement Parts or as a Part of a Complete Centralized Lubricating System or Installation.

First use 1926.

SN 210,504. Bijur Lubricating Corporation, Rochelle Park, N.J. Filed Jan. 22, 1965.

BIJUR-00

Owner of Reg. Nos. 280,010, 7[illegible],024, and others.

For High Restriction Outlet Fittings Which Serve To Connect Small Diameter Tubing to a Bearing and Obstruct the Flow of Lubricant From the Tubing to the Bearing and Pumps, Reservoirs, Tanks, Hoses, Valves, Tubing and Lubricants To Be Used in Connection Therewith, To Be Sold Independently as Such or as Replacement Parts or as a Part of a Complete Centralized Lubricating System or Installation.

First use 1926.

Class 14—Metals and Metal Castings and Forgings

SN 205,949. Latrobe Steel Company, Latrobe, Pa. Filed Nov. 10, 1964.

THERM—D—GAS

For Steel Bars, Ingots, and Shaped Articles Including Tool Blanks and Die Blanks.

First use Oct. 7, 1964.

Class 16—Protective and Decorative Coatings

SN 192,062. Minnesota Paints, Inc., Minneapolis, Minn. Filed Apr. 27, 1964.

MINNESOTA

Owner of Reg. Nos. 649,934 and [illegible]51,389.

For Interior and Exterior Paints, Enamels, Varnishes and Primers for Houses, Barns and Other Buildings, Including a Wall Primer and Sealer; Floor and Porch Paint; Trim and Floor Stains and Wood Varnish Stains; a Floor Finish That Seals, Stains and Fills; Marine Paint, Finish, Varnish and Primer; Swimming Pool Paint; Fibrated Asphalt Coating; Interior and Exterior Industrial Paints, Fillers and Primers for Use on Buildings and Bridges; and Paints Usable on Tractors, Automobiles, Power Machinery and Farm Implement Equipment.

First use at least about 1912.

SN 193,479. Magic Decorator Company, St. Louis, Mo. Filed May 14, 1964.

PLASTI SHIELD

For Tough, Pliable, Abrasion Resistant, Industrial Protective Coating To Coat Grain Chutes, as Tank Linings, To Seal Electrical Connections Against Dirt and Moisture, Pipe and Fittings for Acid Handling, and the Like.

First use Apr. 2, 1963.

SN 194,696. The Borden Company, New York, N.Y. Filed June 2, 1964.

DARI-KLAD

For Enamel Especially Formulated for Use on Metal, Concrete and Masonry Surfaces of Food Processing, Handling and Other Equipment and Facilities, Where a High Degree of Resistance to Animal or Vegetable Fats and Oils Is Important.

First use Dec. 1, 1950.

SN 194,699. The Borden Company, New York, N.Y. Filed June 2, 1964.

KORA-KOTE

For Chlorinated Rubber-Based Enamel for Metal, Concrete and Masonry Surfaces of Food Processing, Handling and Other Equipment and Facilities, Where a High Degree of Resistance to Mineral Oils Is Required.

First use Dec. 1, 1950.

SN 200,877. Textron Industries, Inc., Orange, N.J. Filed Aug. 28, 1964.

aqua-relle

For House Paint and House Paint Primer.

First use on or about July 10, 1964.

SN 202,522. Tropical Paint Company, Cleveland, Ohio. Filed Sept. 23, 1964.

TOCO

Owner of Reg. No. 98,214, 98,216, and 571,232.

For Paint for Interior Decorating.

First use at least as early as February 1951.

SN 203,237. Abco, Inc., McKeesport, Pa. Filed Oct. 5, 1964.

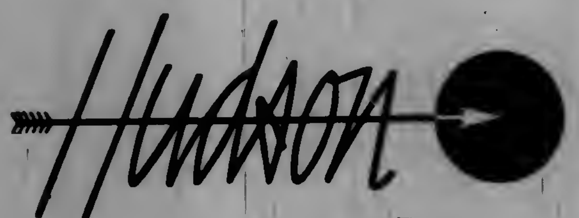
TRACTAZE

For Non-Slip Coating Compositions in the Nature of Paints for Application to Floor Surfaces.

First use on or about Aug. 10, 1964.

Class 17—Tobacco Products

SN 173,359. Hudson Sigarenfabrieken N.V., Roosendaal, Netherlands. Filed July 19, 1963.



Owner of Dutch Reg. No. 143,925, dated Mar. 19, 1962; and U.S. Reg. No. 705,473.

For Pipe Tobacco, Cigars, Cigarillos, and Cigarettes.

First use about May 1961; in commerce about May 1961.

SN 195,120. James D. Lindsey, Knoxville, Tenn. Filed June 8, 1964.

SWEETZER

For Cigars.

First use Apr. 22, 1964.

SN 208,317. The American Tobacco Company, New York, N.Y. Filed Dec. 17, 1964.

SAXON

For Cigarettes.

First use Dec. 11, 1964.

Class 18—Medicines and Pharmaceutical Preparations

SN 194,495. Kalton Laboratories, Inc., Yonkers, N.Y. Filed May 28, 1964.

For Line of Pharmaceutical Preparations.

First use August 1961.

SN 202,948. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Sept. 29, 1964.

STROTOPE

For Radio-Strontium 85 Salt Diagnostic Pharmaceutical.

First use Aug. 28, 1963.

SN 209,164. Kaz Manufacturing Co., Inc., New York, N.Y. Filed Dec. 31, 1964.

kazRub

The word "Rub" is disclaimed apart from the mark as shown. Owner of Reg. No. 758,719.

For vaporizing Ointments for Temporary Relief of Minor Muscular Aches and Pains Due to the Common Cold, Rheumatism, Arthritis, and Overexertion or Fatigue.

First use Aug. 20, 1964.

SN 209,385. American Home Products Corporation, New York, N.Y. Filed Jan. 6, 1965.

TERTRAN

For Medicinal Preparation Acting as a Psychopharmacologic Agent.

First use Nov. 10, 1964.

SN 209,565. Western Research Laboratories, Inc., Denver, Colo. Filed Jan. 7, 1965.

TAP

For Pharmaceutical Preparation in Tablet Form Containing Thyroid, Pituitary Substance, and Digitalis.

First use 1945.

SN 210,151. Parke, Davis & Company, Detroit, Mich. Filed Jan. 18, 1965.

IMMUNOVAC

For Pharmaceutical Preparation—Namely, a Preparation for the Prophylaxis and Treatment of Bacterial Infections of the Respiratory Tract and Accessory Sinuses.

First use on or about Aug. 4, 1943.

SN 210,337. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Jan. 21, 1965.

DRICORID

For Analgetic-Antihistamine Decongestion Preparation.

First use Jan. 7, 1965.

SN 210,697. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories, Los Angeles, Calif. Filed Jan. 26, 1965.

EPI-MEDIHALER

Owner of Reg. Nos. 630,134, 637,949, and 737,438.

For Medication for Inhalation Therapy.

First use Jan. 15, 1965.

SN 210,698. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories, Los Angeles, Calif. Filed Jan. 26, 1965.

ISO-MEDIHALER

Owner of Reg. Nos. 630,134, 637,949, and 737,438.

For Medication for Inhalation Therapy.

First use Jan. 15, 1965.

SN 210,700. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories, Los Angeles, Calif. Filed Jan. 26, 1965.

DUO-MEDIHALER

Owner of Reg. Nos. 630,134, 637,949, and 737,438.

For Medication for Inhalation Therapy.

First use Jan. 15, 1965.

SN 212,552. Donald R. MacEslin, d.b.a. MacEslin and Co., York, Pa. Filed Feb. 23, 1965.

DROXSIL

For Medicinal Antacid Tablet and Liquid.

First use Feb. 1, 1965.

SN 212,814. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories, Los Angeles, Calif. Filed Feb. 25, 1965.

CAPTIVUL

For Anticonvulsant Preparation.

First use Jan. 21, 1965.

SN 212,815. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories, Los Angeles, Calif. Filed Feb. 25, 1965.

DUOHALER

Owner of Reg. Nos. 630,134, 637,949, and 737,438.

For Medication for Inhalation Therapy.

First use Feb. 5, 1965.

SN 213,268. Abbott Laboratories, North Chicago, Ill. Filed Mar. 4, 1965.

FERO-GRAD-500

Owner of Reg. No. 732,658.
For Hematinic and Vitamin Preparation.
First use Dec. 28, 1964.

SN 213,395. American Cyanamid Company, Wayne, N.J. Filed Mar. 5, 1965.

RHINAZINE

Owner of Reg. No. 418,550.
For Nasal Decongestant.
First use Oct. 4, 1944.

SN 214,020. Science Laboratories Inc., Skokie, Ill. Filed Mar. 12, 1965.

VALIANT

Owner of Reg. No. 717,110.

For Medicinal Preparations—Namely, Hydrogen Peroxide, Rubbing Alcohol, Alum, Ammonia Spirits, Boric Acid, Calamine Lotion, Camphor Spirits, Camphorated Oil, Castor Oil, Epsom Salts, Flaxseed, Glycerin, Green Soap Tincture, Nitre Spirits, Oil of Wintergreen, Olive Oil, Peppermint Spirits, Saltpeter, Senna Leaves, Sulfur Flowers, Sweet Oil, Turpentine Spirits, Aspirin, Antiseptics, Citrate of Magnesia, Petroleum Jelly, Suppositories, Vitamins, Mineral Oil, Witch Hazel, and Zinc Oxide.

First use June 30, 1960.

Class 19—Vehicles

SN 151,951. Mangel Stores Corporation, New York, N.Y. Filed Aug. 27, 1962.

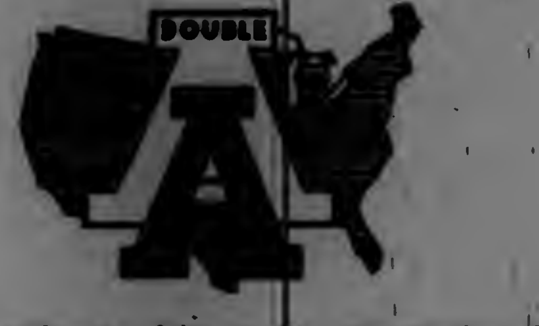
SHOPPER'S FAIR

Owner of Reg. No. 687,336.

For Golf Carts, Boats and Equipment Therefor, Children's Vehicle Seats and Carriers, Children's Carriages; and Vehicle Structural Components—Namely, Shock Absorbers and Springs, Mirrors, Brake Shoes and Equipment Therefor, Windshield Wipers and Arms, Exhaust Pipe Equipment, Trailer Hitches and Parts Therefor, Sun Filters and Visors, Hood Latches, Tire Aprons, Vehicle Floor Mats, Vehicle Seat Cushions, Seat Covers, Curb Alarms, License Plate Frame, Auto Wheel Discs, Shift Knobs (Auto), Auto Luggage Carriers, Auto Fender Flaps, Auto Door Trim, Clothes Bar and Hooks (Auto), Accelerator Heel Pads (Auto), and Steering Wheel Covers (Auto).

First use at least as early as August 1956.

SN 172,712. Automotive Associates, Inc., New York, N.Y. Filed July 10, 1963.



Applicant makes no claim to the representation of the map of the United States apart from the trademark as shown. The lines shown in the drawing form a part of applicant's trademark and are not a representation of color.

For Automotive Parts and Equipment—Namely, Floor Mats of Both Rubber and Plastic, Seat Belts, and Shock Absorbers.

First use Jan. 19, 1962, on floor mats.

SN 190,778. Beachcomber Marine Corporation, Lincoln, Nebr. Filed Apr. 10, 1964.

SiDE-KiCK

For Sporting and Recreational Accessories for Boats, Including Water Skier Tow Bar, Swimmers' Boarding Ladder, Demountable Charcoal Broiler and Picnic Table Wherein both the Broiler and the Table Are Uniquely Constructed for Mounting on a Special Adaptor Affixed to the Boat for Interchangeably Mounting All of Said Accessories and Step Pad.

First use June 1, 1963.

SN 205,200. Robert Gordon Reynolds, d.b.a. Hurricane Fiberglass Products Company, Auburndale, Fla. Filed Oct. 30, 1964.

AiRCAT

For Fiberglass Airboat.
First use Apr. 17, 1960.

SN 208,979. Viking Cycles Limited, Wolverhampton, England. Filed Dec. 28, 1964.

VIKSPORT

Owner of British Reg. No. 840,895, dated Oct. 26, 1962.
For Adult Cycles and Children's Cycles.

SN 209,090. Jervis Corporation, Hicksville, N.Y. Filed Dec. 30, 1964.

TENNA-MIRROR

For Accessories for Automobiles and Trucks—Namely, Rear View Mirrors.

First use Dec. 3, 1964.

SN 214,600. The Bada Company, Pasadena, Calif. Filed Mar. 22, 1965.

ABC

Owner of Reg. No. 676,244.
For Wheel Balancing Weights for Vehicle Wheels.
First use Nov. 8, 1956.

Class 20—Linoleum and Oiled Cloth

SN 208,551. The Danbury Rubber Company, Inc., Danbury, Conn. Filed Dec. 21, 1964.

APOLLO

For Floor and Wall Tile of Resinous Material.
First use Dec. 3, 1964.

SN 209,003. Congoleum-Nairn Inc., Kearny, N.J. Filed Dec. 29, 1964.

MOBILEFLOR

For Plastic Coverings of the Smooth Surface, Resilient Type for Surfaces Such as Floors, Walls, Countertops, and the Like in the Form of Rolls, Rugs, and Tiles.

First use June 1964.

SN 209,756. Armstrong Cork Company, Lancaster, Pa. Filed Jan. 12, 1965.

DECOLON

For Resilient, Hard Surface Type Covering for Floors, Walls, and Other Surfaces.

First use Dec. 23, 1964.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 182,941. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Dec. 13, 1963.

VESPEL

Owner of Reg. No. 760,956.

For Bobbins, Relay Actuators, Insulators, Bushings, Connector Inserts and Similar Parts Which Are Machined, Punched or Moulded From Synthetic Resinous Material for Use in Electrical Applications.

First use Oct. 4, 1963.

SN 182,942. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Dec. 13, 1963.

DU PONT

Owner of Reg. Nos. 371,580 and 601,197.

For Bobbins, Relay Actuators, Insulators, Bushings, Connector Inserts and Similar Parts Which Are Machined, Punched or Moulded From Synthetic Resinous Material for Use in Electrical Applications.

First use Oct. 4, 1963.

SN 187,750. The Edwin F. Guth Company, St. Louis, Mo. Filed Mar. 2, 1964.

WHITE-LUX

For Electric Lighting Fixtures.
First use Feb. 11, 1964.

SN 190,979. Sanders Associates, Inc., Nashua, N.H. Filed Apr. 13, 1964.

INTRAMAX

For Multilayer Circuit Boards for Multilayer Electronic Packaging, High Speed Switching, and Microwave Applications.

First use Apr. 2, 1964.

SN 192,297. Bennie P. Lindenbaum, d.b.a. Specialties Manufacturing Co., Detroit, Mich. Filed Apr. 29, 1964.

SPEMCO

For Electrical Switches.
First use Feb. 15, 1944.

SN 195,856. General Electric Company, Schenectady, N.Y. Filed June 17, 1964.

IRRASIL

For Irradiated Silicone Rubber Tape for Use in Track-Resistant Cable Terminations.

First use May 25, 1964.

SN 197,359. Michael Brodsky, d.b.a. Clifton Hydraulic Press Co., Clifton, N.J. Filed July 8, 1964.

MEMOTROL

For Electrical Control Panels.
First use May 25, 1964.

SN 204,031. Waltham Watch Company, Chicago, Ill. Filed Oct. 14, 1964.

WALTHAM

Owner of Reg. No. 230,678, 731,562, and others.
For Television Receiving Sets.
First use July 30, 1964.

SN 204,376. Fasco Industries, Inc., Rochester, N.Y. Filed Oct. 20, 1964.

INSTA-COM

For Paging and Communicating System and Apparatus.
First use Sept. 9, 1964.

SN 205,340. Poster Packaging, Inc., Chicago, Ill. Filed Nov. 2, 1964.

SHOWCASE

Owner of Reg. No. 710,891.

For Sealing Machines for Sealing Pre-Formed Thermoplastic Containers, and Covers Therefor.

First use in or about December 1960.

SN 205,766. Cerro Corporation, New York, N.Y. Filed Nov. 9, 1964.

ROCKLENE

For Electrical Wire and Cable.
First use Oct. 13, 1964.

Class 22 — Games, Toys, and Sporting Goods

SN. 191,050. Glendinning Enterprises, Inc., Westport, Conn. Filed Apr. 14, 1964.

MAKE MONEY

For Promotional Game Materials—Namely, Equipment Sold as Units, and Parts of Such Units, for Playing Promotional or Contest Games.
First use Dec. 4, 1963.

SN 196,170. The Lionel Toy Corporation, New York, N.Y. Filed June 22, 1964.

CHEM-LAB

For Toy Chemical Sets.
First use Aug. 1, 1941.

SN 204,577. Ideal Fishing Float Company, Inc., Richmond, Va. Filed Oct. 22, 1964.

SNAP CAP

The word "Snap" is disclaimed apart from the mark as shown.
For Fishing Floats.
First use Aug. 8, 1964.

SN 205,209. Union Carbide Corporation, New York, N.Y. Filed Oct. 30, 1964.

UNION CARBIDE

For Aquatic Sporting Goods.
First use on or about Aug. 10, 1964.

SN 207,625. Mattel, Inc., Hawthorne, Calif. Filed Dec. 7, 1964.

DROWSY

For Doll.
First use Nov. 23, 1964.

SN 207,627. Mattel, Inc., Hawthorne, Calif. Filed Dec. 7, 1964.

ZERO M

For Toy Gun.
First use Nov. 23, 1964.

SN 207,632. Mattel, Inc., Hawthorne, Calif. Filed Dec. 7, 1964.

NIGHT-FIGHTER

For Toy Gun.
First use Nov. 23, 1964.

SN 208,650. Wilson Sporting Goods Co., River Grove, Ill. Filed Dec. 21, 1964.

MUSTANG

For Tennis Rackets.
First use Aug. 21, 1964.

SN 208,972. A. G. Spalding & Bros. Inc., Chicopee, Mass. Filed Dec. 28, 1964.

ELITE

For Golf Clubs.
First use Nov. 25, 1964.

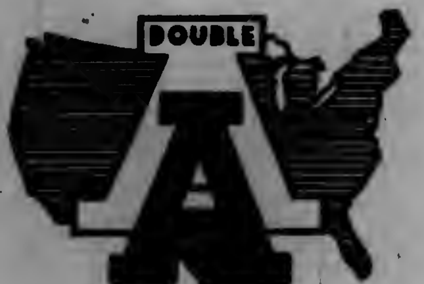
Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 151,954. Mangel Stores Corporation, New York, N.Y. Filed Aug. 27, 1962.

SHOPPER'S FAIR

Owner of Reg. No. 687,336.
For Cutlery, Kitchen Hand Tools, Hand and Machine Tools, Hand Motivated (Propelled or Operated) Carpet Sweepers, Automobile Mufflers, and Automobile Repair Tools.
First use at least as early as August 1956.

SN 172,717. Automotive Associates, Inc., New York, N.Y. Filed July 10, 1963.



Applicant makes no claim to the representation of the map of the United States apart from the trademark as shown. The lines shown in the drawing form a part of applicant's trademark and are not representative of color.
For Automotive Parts and Equipment—Namely, Fuel Pumps, and Exhaust Systems (Mufflers and Parts Therefor).
First use Feb. 1, 1957, on exhaust systems.

SN 192,618. Puritan Chemical Company, Atlanta, Ga. Filed May 4, 1964.

BIG BOY

For Electrically Powered, High Pressure Pump Sprayer for Industrial Cleaning and Washing.
First use on or about Dec. 1, 1963.

SN 196,162. Jaymar Corporation, Charlottesville, Va. Filed June 22, 1964.

Power Mist

The drawing is lined for the colors blue and orange.
For Automatic Coin Operated Car Wash Equipment and Related Facilities.
First use Feb. 24, 1964.

SN 196,942. Brother Industries, Ltd., Mizuho-ku, Nagoya, Japan. Filed July 2, 1964.

BROTHER

Owner of Japanese Reg. Nos. 333,346 and 364,893, dated July 31, 1940 and June 13, 1946, respectively; and U.S. Reg. Nos. 578,481, 605,097, and 615,233.
For Electric Typewriters and Parts Thereof.

SN 198,024. The Bullard Company, Bridgeport, Conn. Filed July 17, 1964.

AKU-SET

For Preset Tooling—Namely, Boring Bars, Quick-Change Chuck Jaws, Chucks, Tool Blocks, Retractable Boring Bars, and Retractable Tools.
First use July 13, 1964.

SN 205,587. Reinold Hagen (Kautex-Werk Reinold Hagen), Hangelar uber Siegburg, Germany. Filed Nov. 5, 1964.

KAUTEX

Owner of U.S. Reg. Nos. 678,405 and 698,340.
For Machines, Apparatus, and Appurtenances for Forming Articles From Plastics, Especially Machines, Apparatus, and Appurtenances for the Manufacture of Bottles, Containers, Tubes, Ampoules, Toys, and Hollow Bodies of Any Shape and Serving Any Purpose, and Component and Spare Parts Thereof.
First use July 27, 1962; in commerce July 27, 1962.

SN 207,414. Muskegon Tool Industries, Inc., Muskegon, Mich. Filed Dec. 3, 1964.

PERMA-NOTCH

For Cutting Tools—Namely, Inserted Reaming Cutters Used in Boring Bars.
First use Mar. 20, 1961.

SN 207,415. Muskegon Tool Industries, Inc., Muskegon, Mich. Filed Dec. 3, 1964.

USELESS

For Cutting Tools—Namely, Boring Bars, Inserted Boring Cutters, Inserted Reaming Cutters, Spade Drill Holders, Inserted Spade Drill Bits, Trepanning Heads, Inserted Trepanning Bits and Inserted Trepanning Wear Pads.
First use Apr. 6, 1964.

SN 208,240. Club Aluminum Products Company, La Grange Park, Ill. Filed Dec. 16, 1964.

CLUB ALUMINUM

Applicant disclaims the word "Aluminum" apart from the mark as shown retaining all common law rights.
For Kitchen Tools—Namely, Spatulas and Spoons.
First use at least as early as Apr. 15, 1964.

SN 210,219. Martin Engineering Company, Neponset, Ill. Filed Jan. 19, 1965.

THUMPER

For Impact and Vibration Inducers and Vibration Accessories and Equipment.
First use on or about Dec. 1, 1961.

SN 210,649. Chicago Pneumatic Tool Company, New York, N.Y. Filed Jan. 26, 1965.

CPT

For Gaseous Medium Compressors and Accessories Therefor.
First use 1924.

SN 211,729. Imperial Knife Associated Companies, Inc., Providence, R.I. Filed Feb. 10, 1965.

ROYAL LOOK

For Stainless Steel Knives, Forks, and Spoons.
First use Jan. 19, 1965.

SN 211,827. Mobile Drilling Company, Inc., Indianapolis, Ind. Filed Feb. 11, 1965.

HEX-COR

For Spiral Flight Earth Augers.
First use Nov. 15, 1963.

SN 214,022. Science Laboratories, Inc., Skokie, Ill. Filed Mar. 12, 1965.

VALIANT

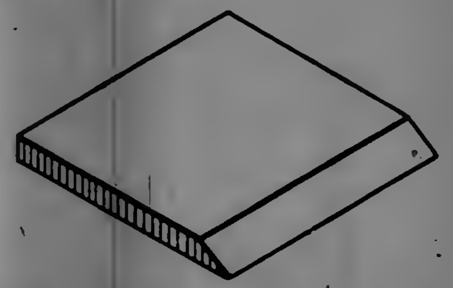
For Razor Blades.
First use Aug. 4, 1964.

SN 214,983. Hall-Toledo, Incorporated, Toledo, Ohio. Filed Mar. 25, 1965.

HALL TOLEDO

Owner of Reg. No. 413,075.
For Valve Refacing Machines, Valve Seat Grinders, Valve Seat Inserting Tools, Valve Guide Tools, Valve Assembly Vacuum Gauges, and Cylinder Hones and Parts Thereof.
First use on or about Mar. 7, 1934.

SN 215,019. Simonds Saw and Steel Company, Fitchburg, Mass. Filed Mar. 25, 1965.



No claim is made to the exclusive use of the representation of a machine knife apart from the mark shown. The mark consists of a red band displayed on a side edge of the knife. The lining on the drawing indicates the color red. Owner of Reg. No. 196,889.
For Machine Knives.
First use December 1923.

Class 25 — Locks and Safes

SN 213,857. Emhart Corporation, Hartford, Conn. Filed Mar. 11, 1965.

SIGNET

For Locksets, Latchsets, Lock Cylinders, Parts of the Aforesaid Goods and Keys.
First use Jan. 18, 1965, on "latchsets."

SN 213,858. Emhart Corporation, Hartford, Conn. Filed Mar. 11, 1965.

ENSIGN

For Locksets, Latchsets, Lock Cylinders, Parts of the Aforesaid Goods and Keys.
First use Dec. 4, 1964.

SN 214,356. Mini-Vault Company, New York, N.Y. Filed Mar. 17, 1965.

MINI-VAULT

For Safe To Store Coins and Stamps.
First use Dec. 10, 1964.

Class 26—Measuring and Scientific Appliances

SN 136,307. Thorn-AEI Radio Valves and Tubes Limited, London, England. Filed Jan. 22, 1[illegible]62.

BRIMAR

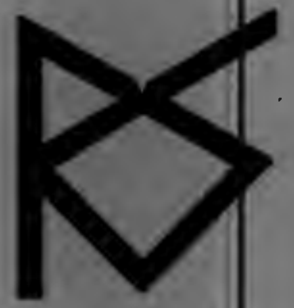
Owner of British Reg. Nos. 554,704, dated Oct. 12, 1934, 821,264, dated May 29, 1961, and 824,0[illegible]4, dated Aug. 10, 1961.
For Electronic, Thermionic and the Like Vacuum, Vapour and Low-Pressure Gas Valves, Electronic and Nucleonic Measuring, Indicating and Controlling Apparatus and Instruments, and Parts of Aforesaid Goods; and Semi-Conductor Devices.

SN 187,315. Nuclear Data, Inc., Palatine, Ill. Filed Feb. 24, 1964.

ENHANCETRON

For Portable Signal Averaging Digital Computers.
First use Jan. 30, 1964.

SN 195,894. Randomatic Data Systems, Inc., Trenton, N.J. Filed June 17, 1964.



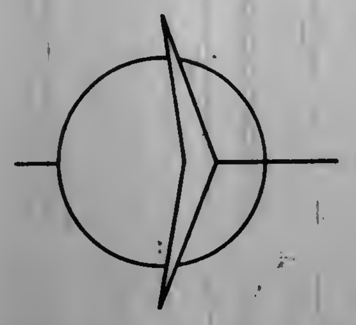
For Automated Card Storage and Retrieving Equipment.
First use Apr. 28, 1964.

SN 196,941. Brother Industries, Ltd., Mizuho-ku, Nagoya, Japan. Filed July 2, 1964.

BROTHER

Owner of Japanese Reg. Nos. 333,[illegible]46 and 364,893, dated July 31, 1940, and June 13, 1946, respectively; and U.S. Reg. Nos. 578,481, 605,097, and 615,233.
For Manually Operated Calculating Machines and Electric Calculating and Adding Machines, and Parts Thereof.

SN 197,218. Waugh Controls Corporation, Van Nuys, Calif. Filed July 6, 1964.



For Flow Ratio Control Instruments and Blending Devices.
First use June 18, 1964.

SN 201,443. King Radio Corporation, Inc., Olathe, Kans. Filed Sept. 8, 1964.

GOLD CROWN

For Radio Communication and Navigation Systems for Aircraft, and Components of Such Systems.
First use Aug. 26, 1964.

SN 201,444. King Radio Corporation, Inc., Olathe, Kans. Filed Sept. 8, 1964.

SILVER CROWN

For Radio Communication and Navigation Systems for Aircraft, and Components of Such Systems.
First use Aug. 26, 1964.

SN 201,502. Acme Visible Records, Inc., Crozet, Va. Filed Sept. 9, 1964.

SLIDEDEX

For Visible Record Inserts Printed With Scales for Conversion of Figures to Percentages.
First use on or about Feb. 1, 1945.

SN 202,010. Camera Optics Manufacturing Corp., Long Island City, N.Y. Filed Sept. 16, 1964.

COC
Rotator

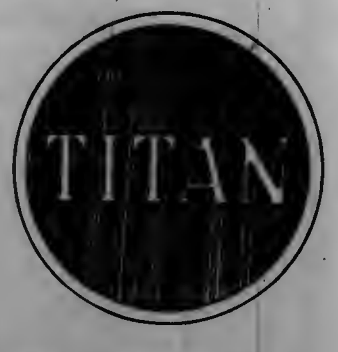
Applicant disclaims all rights in the term "Rotator" apart from the mark as shown. Owner of Reg. No. 618,188.
For Film Slide Projectors and Accessories Therefor—Namely, Rotary Slide Drums, Slide Frames, Projection Screens, Synchronized Sound Devices, Compact Carrying Cases for Projectors, Filing Boxes for Rotary Slide Drums, Remote Control Mechanisms, and Automatic Slide Changing Mechanisms.
First use Sept. 3, 1964.

SN 202,329. The Superior Electric Company, Bristol, Conn. Filed Sept. 21, 1964.

STABILTEMP

Owner of Reg. No. 540,187.
For Electrical Devices for Temperature Control.
First use Aug. 31, 1964.

SN 203,191. Robert D. Marron, d.b.a. Titan Instrument Company, Grand Rapids, Mich. Filed Oct. 2, 1964.



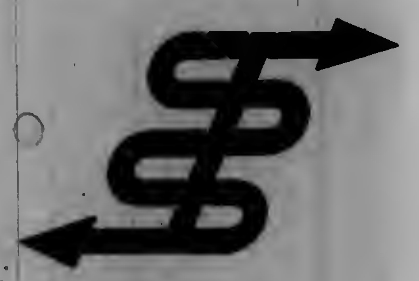
The drawing is lined for the color red.
For Telescopes and Their Accessories—Namely, Telescope Eyepieces, Telescope Solar and Color Filters, Telescope Tripods, and Telescope Star Tracking Mechanisms.
First use May 12, 1964.

SN 204,488. Meopta, Narodni Podnik, Prerov, Czechoslovakia. Filed Oct. 21, 1964.

ADIREX

Owner of Czechoslovakian Reg. No. 155,739, dated Feb. 26, 1964.
For Optical Apparatus, Instruments, Equipment and Parts Thereof—Namely, Cameras, Including Motion Picture Cameras; Projecting and Enlarging Apparatus; Projection Spools; Projection Screens; Epidiascopes; Optical Lenses and Lens Combinations; Optical Filters and Screens; Masks; Adaptors for Cameras and for Other Optical Apparatus; Drawing Instruments; and Slide Rules.

SN 205,101. Hughes Aircraft Company, Culver City, Calif., assignee of Scientific Space Industries, Sherman Oaks, Calif. Filed Oct. 29, 1964.



For Planetaria.
First use Sept. 4, 1964.

SN 206,005. Dearborn Gage Company, Garden City, Mich. Filed Nov. 12, 1964.

ELLSTROM

For Precision Gauge Blocks and Precision Gauges.
First use May 23, 1942.

SN 209,155. Farrand Optical Co., Inc., New York, N.Y. Filed Dec. 31, 1964.

AERO-FARRON

Owner of Reg. Nos. 666,856, 667,090, and others.
For Optical and Photographic Lenses.
First use on or about May 22, 1959.

SN 210,499. Eastman Kodak Company, Rochester, N.Y. Filed Jan. 22, 1965.

RAR

Owner of Reg. No. 752,504.
For Sensitized Photographic Film.
First use Nov. 25, 1964.

SN 214,494. Micro Systems, Inc., Pasadena, Calif. Filed Mar. 22, 1965.

MSI

Owner of Reg. No. 730,070.
For Transducers and Strain Gauges.
First use Jan. 7, 1960.

Class 28—Jewelry and Precious-Metal Ware

SN 197,201. Textron Inc., Providence, R.I. Filed July 6, 1964.

GOLDEN BRAID

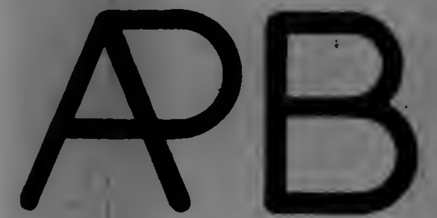
No claim is made to the word "Golden" apart from the remainder of the mark. Owner of Reg. No. 514,593.
For Expansion Bracelets Including Watch Bracelets.
First use June 18, 1964.

SN 197,202. Textron Inc., Providence, R.I. Filed July 6, 1964.

GOLDEN RIBBON

No claim is made to the word "Golden" apart from the remainder of the mark. Owner of Reg. No. 514,593.
For Expansion Bracelets Including Watch Bracelets.
First use June 18, 1964.

SN 204,222. Annette Creations, Inc., Providence, R.I. Filed Oct. 19, 1964.



For Costume Jewelry.
First use Oct. 13, 1964.

SN 213,461. Oneida Ltd., Oneida, N.Y. Filed Mar. 5, 1965.

ENVOY

For Silverplated Flat Tableware.
First use Feb. 25, 1965.

Class 29—Brooms, Brushes, and Dusters

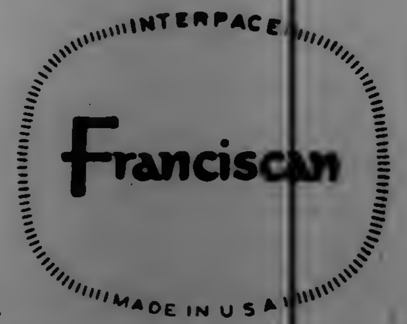
SN 214,023. Science Laboratories, Inc., Skokie, Ill. Filed Mar. 12, 1965.

VALIANT

For Tooth Brushes.
First use January 1961.

Class 30—Crockery, Earthenware, and Porcelain

SN 189,305. International Pipe and Ceramics Corporation, Los Angeles, Calif. Filed Mar. 2[illegible], 1964.



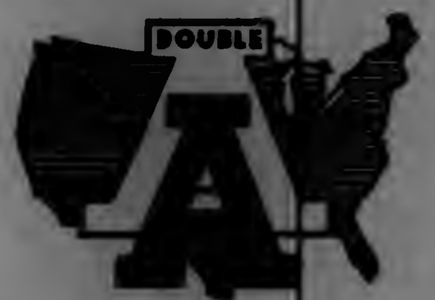
The words "Made in U.S.A." are disclaimed apart from the mark. Owner of Reg. Nos. 323,685, [illegible]20,858, and others.

For Tableware—Namely, Dinnerware and Dinnerware Accessories of China, Fine China and Pottery.

First use July 17, 1963.

Class 31—Filters and Refrigerators

SN 172,714. Automotive Associates, Inc., New York, N.Y. Filed July 10, 1963.



Applicant makes no claim to the representation of the map of the United States apart from the trademark as shown. The lines shown in the drawing form a part of applicant's trademark and are not representative of color.

For Oil Filters and Air Filters for Internal Combustion Engines.

First use May 25, 1961, on oil filters.

SN 195,859. L. F. Grammes & Sons, Inc., Allentown, Pa.

FRIDGETTE

Filed June 17, 1964.

For Refrigerators and Freezers.

First use on or about May 18, 1964.

SN 199,645. Carl O. Walcutt, d.b.a. The Winterizer Company, Worthington, Ohio. Filed Aug. 10, 1964.

WINTERIZER

For Refrigerator System.

First use Dec. 31, 1963.

Class 32—Furniture and Upholstery

SN 185,509. Harter Corporation, Sturgis, Mich. Filed Jan. 28, 1964.

HARTER

For Office, Lobby, Reception Room, Lounge, and Institutional Furniture.

First use 1927.

SN 188,299. Walter H. Tanner, Cleveland, Ohio. Filed Mar. 9, 1964.

symacard

For Filing System Comprising a Cabinet Containing Stationary or Movable Drawers or Shelves, Stationary or Portable Frames and Suspended Holder Units for Filing Cards as Well as Signals, Markers, or Tabs.

First use Jan. 25, 1964.

SN 204,664. Gaylord Bros., Inc., Syracuse, N.Y. Filed Oct. 23, 1964.

GAYLORD

For Displayers, Racks, Holders, Cabinets, Stands, Trays, Sorters and Filing Boxes for Books, Newspapers, Magazines, Pamphlets, Music, Cards, Files and Signs, and Component Parts Therefor; and Card File Cabinets; Book Cases, Shelving and Stools for Library Use.

First use on or about Jan. 1, 1911.

SN 205,601. Natser Corporation, d.b.a. Acco Products, Ogdensburg, N.Y. Filed Nov. 5, 1964.

ACCOFLEX

Owner of Reg. No. 629,112 and others.

For Filing Cabinets and Frames for File Drawers.

First use Sept. 30, 1964.

Class 33—Glassware

SN 201,862. Owens-Illinois Glass Company, Toledo, Ohio. Filed Sept. 14, 1964.

SPECTRAGLAS

For Glass Containers—Namely, Bottles, Jars and Jugs.

First use Sept. 2, 1964.

Class 34—Heating, Lighting, and Ventilating Apparatus

SN 157,194. International Telephone and Telegraph Corporation, New York, N.Y., assignee, by mesne assignment, of Bell & Gossett Company, Morton Grove, Ill. Filed Nov. 14, 1962.

ALLTROL

For Unit for Control of Pressure, Water Expansion, and Water Intake for Use in Hot Water Heating Systems.

First use Jan. 31, 1962.

SN 180,127. Sattler Mfg. Corporation, Los Angeles, Calif. Filed Oct. 30, 1963.

Applicant disclaims the word "Clip."

For Securement Clip or Holder Member for Positioning the Burner Bowl Within the Circular Grate of Stoves and Ranges Used in Portable House Trailers, Sportsman Vehicle Campers, Boats, and Other Mobile Equipment.

First use July 18, 1963.

SN 194,191. S. H. Leggitt Company, Marshall, Mich. Filed May 25, 1964.

DYNA-GLASS

For Glass Lining for Water Heaters.

First use Apr. 14, 1964.

SN 198,351. Gregory Industries, Inc., Lorain, Ohio. Filed July 22, 1964.

TRANQUIL-ARC

For Stud Welding Equipment and Specifically Devices for Controlling Movement of One Part To Be Welded.

First use in or about January 1963.

SN 207,314. Miller Electric Mfg. Co., Appleton, Wis. Filed Dec. 2, 1964.

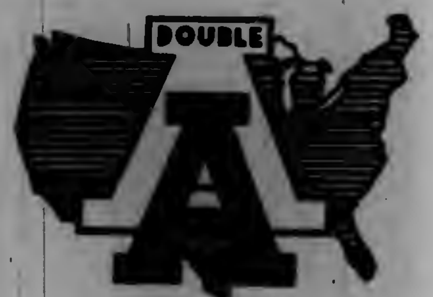
ROUGHNECK

For Arc Welders.

First use Dec. 5, 1958.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 172,716. Automotive Associates, Inc., New York, N.Y. Filed July 10, 1963.



Applicant makes no claim to the representation of the map of the United States apart from the trademark as shown. The lines shown in the drawing form a part of applicant's trademark and are not representative of color.

For Automotive Fan Belts, Radiator and Heater Hoses, and Gaskets Therefor: Fractional Horsepower Belts and Garden Hose.

First use Nov. 29, 1962, on automotive fan belts.

SN 194,089. United States Rubber Company, New York, N.Y. Filed May 22, 1964.

AIRTITE

For Bicycle Inner Tubes.

First use 1948.

SN 201,350. American Hardware Supply Company, East Butler, Pa. Filed Sept. 8, 1964.

VILLAGE PARK

For Plastic and Rubber Garden Hose and Hose-Type Sprinklers.

First use Feb. 12, 1962.

SN 207,278. Douglas Oil Company of California, Los Angeles, Calif. Filed Dec. 2, 1964.

BIG MILER

For Tires.

First use Sept. 14, 1964.

SN 207,959. The B. F. Goodrich Company, Akron, Ohio. Filed Dec. 11, 1964.

COMMANDER

For Pneumatic Tires.

First use about May 15, 1915.

SN 207,960. The B. F. Goodrich Company, Akron, Ohio. Filed Dec. 11, 1964.

LONG MILER

For Pneumatic Tires.

First use January 1953.

SN 208,170. Chemical Rubber Products, Inc., Beacon, N.Y. Filed Dec. 15, 1964.

CHEMPRENE

For Diaphragms and Gaskets.

First use Oct. 9, 1964.

SN 208,279. Frank J. Rodgers, d.b.a. Nycoil Company, Westfield, N.J. Filed Dec. 16, 1964.

NYCOIL

Owner of Reg. No. 683,276.

For Flexible Hose.

First use on or about Jan. 15, 1958.

Class 37—Paper and Stationery

SN 191,205. Norcross, Inc., New York, N.Y. Filed Apr. 15, 1964.

RAGS

Owner of Reg. No. 781,025.

For Wrapping Paper, Writing Paper, Decorative Letter and Note Paper, Tallies, Place Cards, Tags, Seals and Enclosures.

First use Feb. 19, 1964.

SN 193,413. Simon Adhesive Products Corp., Long Island City, N.Y. Filed May 13, 1964.

EZE-STIK

Owner of Reg. Nos. 424,824 and 642,656.

For Adhesive Coated Papers, Fabrics, Films and Foils.

First use in or about 1945.

SN 194,247. Estil L. Sims, Kansas City, Kans. Filed May 25, 1964.

TELE-FILE

For Desk Top File Card Device Including Cards and Holders Therefor.

First use May 7, 1964.

SN 194,647. The Parker Pen Company, Janesville, Wis. Filed June 1, 1964.

JET SET

Applicant disclaims exclusive rights to the word "Set" apart from the mark as shown.

For Fountain Pens and Parts and Accessories Therefor, Ball Point Pens, Mechanical Pencils, and Pen and Pencil Desk Sets.

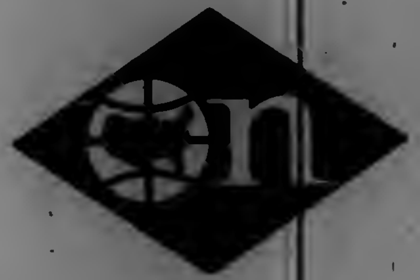
First use May 27, 1964.

SN 194,867. Certified Blood Donor Service Inc., Jamaica, N.Y. Filed June 4, 1964.

GENOGRAPH

For Data Sheets for Recording Blood Serum Characteristics.
First use Jan. 6, 1964.

SN 204,982. Insurance Producers Bulletin, Inc., d.b.a. Nationwide Business Forms, Wheeling, Ill. Filed Oct. 28, 1964.



For Business Forms—Namely, Continuous Forms, Stock Tabulating Forms, Custom Snap-Out Forms, and Stock Snap-Out Forms.
First use Aug. 5, 1964.

SN 205,558. American Pad & Paper Company, Holyoke, Mass. Filed Nov. 5, 1964.

EVIDENCE

For Typewriter Paper, Letter Pads and Legal Pads.
First use in or about February 1934.

SN 205,734. Smith-Lee Co., Inc., Oneida, N.Y. Filed Nov. 6, 1964.

SERV-EASE

Owner of Reg. No. 751,106.
For Paper Place Mats, Paper Dinner Napkins and Paper Cocktail Napkins.
First use Feb. 15, 1961.

SN 206,058. Milprint, Inc., Milwaukee, Wis. Filed Nov. 12, 1964.

TRILAM

For Plastic Film Packaging Material.
First use Dec. 26, 1963.

SN 207,733. Practical Drawing Company, Dallas, Tex. Filed Dec. 8, 1964.

MASTERPIECE

For School Paper and Related Supplies To-Wit, Loose Leaf Note Book Paper, Composition Books, Spelling Books, Stenographers Books; Music Books, Typing Paper, Pencil Tablets, Pocket Memo Books, Manuscript Tablets, Index Dividers, Reinforcement Rings for Loose Leaf Note Book Paper, and Loose Leaf Ring Binders.
First use June 1923.

Class 38—Prints and Publications

SN 189,106. John B. Reeves & Son, Los Angeles, Calif. Filed Mar. 19, 1964.

REEVES

For Printed Plumbing Bid and Contract Forms, Guidebook for Plumbers, Printed Plumbing Data Sheets, Printed Fitting Charts and Books Relating to Plumbing, and Swimming Pool Data Charts.
First use Sept. 15, 1936.

SN 193,954. Haines & Company, Inc., Canton, Ohio. Filed May 21, 1964.

CROSS

CROSS

Owner of Reg. No. 371,080.
For Directories.
First use 1932.

SN 203,597. Robert B. Luce, Inc., Washington, D.C. Filed Oct. 8, 1964.

THE AMERICA TODAY SERIES

Applicant disclaims the right to exclusive use of the word "The" and "Series" apart from the mark as a whole.
For Continuing Series of Books on American Life, Institutions, Culture and Tradition.
First use July 29, 1964.

SN 204,667. Gaylord Bros., Inc., Syracuse, N.Y. Filed Oct. 23, 1964.

GAYLORD

For White and Colored, Printed and Engraved Cards, Books, Sign and Name Plates, Pamphlets, Book Pockets, Guides, Posters, Labels, Tab Type and Shelf List Guide Headings, and Manuals and Catalogs for Library Use.
First use on or about Dec. 15, 1908.

SN 206,000. Capitol Records, Inc., Los Angeles, Calif. Filed Nov. 12, 1964.

the teen set

For Regularly Issued Magazine.
First use Oct. 14, 1964.

SN 206,677. American Heritage Publishing Co., Inc., New York, N.Y. Filed Nov. 23, 1964.

ADVENTURES IN HISTORY

For Books.
First use on or about Sept. 28, 1964.

SN 206,916. Brunswick Publishing Company, Brunswick, Maine. Filed Nov. 25, 1964.

The Brunswick Record

For Newspaper.
First use Nov. 28, 1902.

SN 206,919. The Cellcote Company, Inc., Cleveland, Ohio. Filed Nov. 25, 1964.

THE CORROSION CONSULTANT

For Publication Issued Periodically by the Applicant Containing Informative Matter Relating to the Study and the Solution of Corrosion Problems.
First use Oct. 9, 1964.

SN 207,476. The Christian Science Publishing Society, Boston, Mass. Filed Dec. 4, 1964.

O Arauto da Ciência Cristã

THE CHRISTIAN SCIENCE PUBLISHING SOCIETY
ONE NORWAY STREET, BOSTON, MASSACHUSETTS

The English translation of the mark is "The Herald of Christian Science." Owner of Reg. Nos. 415,009, 687,564, and others.
For Magazine Published Every Three Months in English and in Portuguese.
First use Feb. 25, 1963.

SN 208,571. Haire Publishing Company, New York, N.Y. Filed Dec. 21, 1964.

Apparel MANUFACTURER

For Trade Magazine.
First use Dec. 15, 1943.

SN 212,495. Calculator Workshop, Inc., Akron, Ohio. Filed Feb. 23, 1965.

port • a • rate

For Printed Charts for Determining Insurance Premiums.
First use in or about January 1963.

Class 39—Clothing

SN 136,856. Louis Walter & Company, Inc., Kansas City, Mo., by assignment and change of name from Louis Walter & Co., Inc., Kansas City, Mo. Filed Jan. 29, 1962.

Shari Jr.

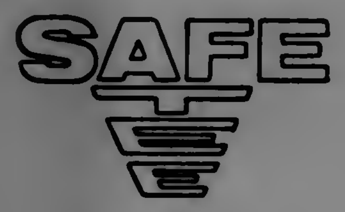
The mark "Shari Jr." is the given name of a living individual, whose consent is of record.
For Ladies' and Misses' Coats and Suits.
First use Dec. 15, 1961.

SN 170,979. R. G. Barry Corporation, Columbus, Ohio. Filed June 14, 1963.

GUSTAVE

Owner of Reg. No. 417,810.
For Slippers.
First use May 14, 1963.

SN 172,490. Edlen Herman Products, Inc., Philadelphia, Pa. Filed July 5, 1963.



For Men's, Women's, and Children's Long and Short Trousers.
First use Mar. 6, 1963.

SN 189,788. Magnet Mills, Inc., New York, N.Y. Filed Mar. 27, 1964.

X BAND

For Ladies' Hosiery.
First use Mar. 9, 1964.

SN 193,056. Swissknit Manufacturing Inc., New York, N.Y. Filed May 8, 1964.

DUETEENO

For Children's Sportwear—Namely, Blouses, Shorts, Slacks, Jackets, Shirts, Jumpers, Sweaters, Knit Shirts, Vests, Dresses, and Panties.
First use July 1961.

SN 193,265. Danny Dare, Inc., Kansas City, Mo. Filed May 12, 1964.

danny dare

The name "Danny Dare" is fictitious. Owner of Reg. Nos. 633,209 and 740,065.

For Crawlers, Outerwear, Jackets, Outer Shorts, Pants, Blue Jeans, Suits, Caps, Hats, Swimming Suits and Trunks, and Sports Coats, for Infants, Toddlers and Tots.

First use Apr. 22, 1964.

SN 198,424. Maggi V, New York, N.Y. Filed July 23, 1964.

MAGGI V

For Women's Maternity Dresses, Robes and Gowns Serving as Outer Garments.

First use Mar. 26, 1964.

SN 201,834. Good Lad Co., Philadelphia, Pa. Filed Sept. 14, 1964.

GOOD LASS

Owner of Reg. No. 419,003.

For Infant Girls' Blouses, Skirts and Suits.

First use Aug. 6, 1964.

SN 202,252. Educator Sports-Wear Co., Philadelphia, Pa. Filed Sept. 21, 1964.

ZIPPO-SPAT

For Majorette Costumes, Band Uniforms, Toreadors, Leotards, Dancing Costumes, Jackets, and Sweaters.

First use Feb. 7, 1964.

SN 203,409. The Londontown Manufacturing Company, Baltimore, Md. Filed Oct. 6, 1964.

CLAETH CLOTH

For Fabric Made Into Clothing—Namely, Raincoats.

First use Sept. 21, 1964.

SN 204,478. Kayser-Roth Corporation, New York, N.Y. Filed Oct. 21, 1964.

BASHFUL BIKINIS

Applicant disclaims any rights to the term "Bikini" apart from the mark as shown.

For Ladies' Lingerie.

First use Sept. 28, 1964.

SN 204,971. Paul Deal, d.b.a. Deala, Miami, Fla. Filed Oct. 28, 1964.

DEALA

Owner of Reg. No. 436,495.

For Ladies' Blouses, Pedal Pusher, Long Jeans, Jamica Jeans and Shortie Shorts.

First use Jan. 15, 1947.

SN 206,222. Boss Manufacturing Company, Kewanee, Ill. Filed Nov. 16, 1964.

SUPER WESTERN

For Work Gloves Made of Leather and Fabric.

First use Jan. 23, 1956.

SN 206,252. Flexnit Company, Inc., New York, N.Y. Filed Nov. 16, 1964.

"L'OEUF"

The English translation of the word "L'Oeuf" is "the egg."

For Brassieres and Girdles.

First use Oct. 15, 1964.

SN 206,447. Glenhaven Ltd., New York, N.Y. Filed Nov. 18, 1964.

S-T-R-E-T-C-H *aire*

For Outer Apparel—Namely, Suits, Coats, Jackets and Pants Sets Comprising Jackets and Pants and Blouses and Pants.

First use Oct. 29, 1964.

SN 206,631. Levy Bros., Inc., Louisville, Ky. Filed Nov. 20, 1964.

KENTUCKIAN

For Men's Shoes and Men's Clothing—Namely, Suits, Trousers or Pants, Jackets, Slacks, Raincoats, Top-Coats and Overcoats.

First use June 14, 1935.

SN 207,106. Bocko Mayo, Inc., New York, N.Y. Filed Nov. 30, 1964.

JUNIOR CORNER

For Ladies' and Girls' Skirts, Jackets and Shifts.

First use Nov. 19, 1964.

SN 207,434. Philip Rothenberg & Co., Inc., New York, N.Y. Filed Dec. 3, 1964.

STUFFED SHIRTS

No claim is made to the word "Shirt" apart from the mark as shown.

For Ladies' Shirts.

First use Nov. 10, 1964.

SN 207,470. Autry-Baker Shoe Corp., Dallas, Tex. Filed Dec. 4, 1964.

For Shoes.

First use on or about June 16, 1964.

SN 207,667. Stockton Manufacturing Co., Inc., Dallas, Tex. Filed Dec. 7, 1964.

WRINKLE-SKIPPER

For Women's, Misses' and Children's Dresses, Shorts, Blouses, Pants, Skirts, Capris and Pedal Pushers.

First use Nov. 23, 1964.

SN 207,687. Woolf Brothers, Inc., Kansas City, Mo. Filed Dec. 7, 1964.

Kelly Accord

For Ladies' Shoes.

First use Nov. 27, 1964.

SN 207,803. The B. F. Goodrich Company, Akron, Ohio. Filed Dec. 9, 1964.

P.F

Owner of Reg. Nos. 429,057, 664,453, and 714,774.

For Footwear, Specifically, Rubber-Soled or Plastic-Soled Canvas Footwear.

First use Oct. 12, 1964.

SN 208,516. Alba-Waldensian, Inc., Valdese, N.C. Filed Dec. 21, 1964.

SOMBODY

For Ladies' Lingerie.

First use Nov. 30, 1964.

SN 209,446. Leonora Inc., New York, N.Y. Filed Jan. 6, 1965.

MISS LEONORA GOWN OF THE MONTH

For Sleeping Gowns and Slips.

First use Oct. 20, 1939.

SN 209,099. The Londontown Manufacturing Company, Baltimore, Md. Filed Dec. 30, 1964.

ALPALAMA

For Topcoats and Raincoats.

First use Dec. 29, 1964.

SN 210,539. Davidson-Bigelow, Incorporated, New York, N.Y. Filed Jan. 25, 1965.

FOOT-TIQUES

For Slipper Socks.

First use Jan. 5, 1965.

SN 210,732. Arpeja Petite Juniors, Inc., Los Angeles, Calif. Filed Jan. 27, 1965.

Young Edwardian
by Arpeja

For Junior Dresses.

First use Dec. 18, 1964.

SN 211,026. Blue Bell, Inc., Greensboro, N.C. Filed Feb. 1, 1965.

SKI-A-REE

For Dungarees and Slacks for Ladies and Girls.

First use Jan. 25, 1965.

SN 211,027. Blue Bell, Inc., Greensboro, N.C. Filed Feb. 1, 1965.

SKI BUM

For Dungarees and Slacks for Ladies and Girls.

First use Jan. 25, 1965.

SN 211,778. Vanity Fair Mills, Inc., Reading, Pa. Filed Feb. 10, 1965.

VANITY VANISHER

Owner of Reg. Nos. 116,092, 757,406, and others.

For Foundation Garments—Namely, Brassieres.

First use Jan. 18, 1965.

SN 211,795. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed Feb. 11, 1965.

HOPSHARKS

For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers and Vests.

First use Jan. 21, 1965.

SN 211,796. Joseph H. Cohen & Sons, Inc., New York, N.Y. Filed Feb. 11, 1965.

JONATHON MOORE

The mark is fanciful.

For Men's and Boys' Outer Garments—Namely, Coats, Suits, Sport Coats, Jackets, Top Coats, Overcoats, Slacks, Trousers and Vests.

First use Jan. 21, 1965.

SN 212,006. Harry Irwin, Inc., New York, N.Y. Filed Feb. 15, 1965.

VISTA IV

For Men's Topcoats, Overcoats and Sport Jackets.

First use Jan. 29, 1965.

SN 212,008. Harry Irwin, Inc., New York, N.Y. Filed Feb. 15, 1965.

VISTA

For Men's Topcoats, Overcoats and Sport Jackets.

First use Jan. 29, 1965.

SN 212,264. Vanity Fair Mills, Inc., Reading, Pa. Filed Feb. 17, 1965.

VANITY SHELL

Owner of Reg. Nos. 116,092, 757,406, and others.
For Foundation Garments—Namely, Brassieres.
First use Feb. 3, 1965.

SN 212,691. E. R. Moore Company, Chicago, Ill. Filed Feb. 24, 1965.

ULTRONIC

For Mortarboard Caps.
First use Feb. 10, 1965.

SN 213,070. Unishops, Inc., Jersey City, N.J. Filed Mar. 1, 1965.

Lingos

For Men's and Boys' Jeans.
First use Jan. 15, 1965.

SN 213,140. Justice Shirtmakers, Inc., Kinston, N.C. Filed Mar. 2, 1965.

JUSTICE

For Men's, Boys' and Women's Shirts.
First use May 10, 1964.

SN 213,501. Wembley, Inc., New Orleans, La. Filed Mar. 5, 1965.

FASHIONATA

For Neckwear.
First use January 1961.

SN 213,512. Amco of Norvelt, Inc., New York, N.Y. Filed Mar. 8, 1965.

WEATHER-OR-NOTS

For Rainwear-Type Coats.
First use Dec. 23, 1964.

Class 40 — Fancy Goods, Furnishings, and Notions

SN 208,689. Markem Machine Company, Keene, N.H. Filed Dec. 22, 1964.

MARKEM

Owner of Reg. Nos. 161,548, 50[illegible],235, and others.
For Paper or Fabric Tape With or Without a Backing of Plastic and/or Adhesive.
First use Apr. 15, 1963.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 186,693. Cabin Crafts, Inc., Dalton, Ga. Filed Feb. 14, 1964.

POLYCORD

For Backing for Carpets and Rugs, Said Backing Comprising a Latex Layer Having Embedded Therein a Woven Backing Fabric With a Warp of Twisted "Kraft" Paper Strands and a Weft of Polypropylene Filaments.
First use Jan. 23, 1964.

SN 202,184. J. P. Stevens & Co., Inc., New York, N.Y. Filed Sept. 18, 1964.

TRONA TWILL

Applicant does not claim exclusive right to use of "Twill" apart from the mark presented herein. Owner of Reg. No. 253,920.
For Piece Goods of One or More Natural Fibers Including Cotton and of Synthetic Fibers or Blends of the Foregoing.
First use Sept. 4, 1964.

SN 202,185. J. P. Stevens & Co., Inc., New York, N.Y. Filed Sept. 18, 1964.

DESTINA PLUS

Owner of Reg. No. 287,449.
For Piece Goods of One or More Natural Fibers Including Cotton and of Synthetic Fibers or of Blends of the Foregoing.
First use Sept. 11, 1964.

SN 205,506. Huyck Corporation, Rensselaer, N.Y. Filed Nov. 4, 1964.

4-D

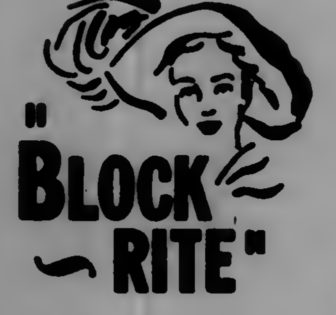
For Felt for Paper Making Machines Having a Wear-Proof Finish.
First use Oct. 12, 1955.

SN 205,520. Erwin Mills, Inc., Durham, N.C. Filed Nov. 4, 1964.

IRONIZED

For Cotton Piece Goods, Having a Wrinkle-Resistant Finish, Suitable for Use in the Manufacture of Men's, Women's and Children's Outerwear Apparel.
First use Oct. 5, 1964.

SN 207,466. Artvale, Inc., New York, N.Y. Filed Dec. 4, 1964.



Owner of Reg. No. 624,552.
For Nets and Meshes and Similar Novelty Fabrics of Cotton and Synthetic Fibers.
First use Jan. 2, 1954.

SN 210,376. Staflex Corporation, New York, N.Y., assignee of Stacy Fabrics Corp., New York, N.Y. Filed Jan. 21, 1965.

ZERO-LON

For Non-Woven Fabric, Both Fusible and Non-Fusible Used as an Interfacing and Interlining in Apparel Manufacture.
First use Nov. 2, 1964.

SN 210,735. Beacon Manufacturing Company, Swannanoa, N.C. Filed Jan. 27, 1965.

PERMALOCK

For Blankets.
First use Jan. 21, 1965.

SN 210,779. Graniteville Company, Graniteville, S.C. Filed Jan. 27, 1965.

Players Twill

The word "Twill" is disclaimed.
For Cotton and Nylon Twill Used Primarily for Slacks.
First use Oct. 22, 1964.

SN 210,862. Diane, Inc., New York, N.Y. Filed Jan. 28, 1965.

PAINTON

For Non-Woven Fabric.
First use Jan. 20, 1965.

SN 211,052. Fieldcrest Mills, Inc., Spray, N.C. Filed Feb. 1, 1965.

Cadeau

For Textile Rugs and Carpeting.
First use Jan. 21, 1965.

SN 211,054. Fieldcrest Mills, Inc., Spray, N.C. Filed Feb. 1, 1965.

camineau

For Textile Rugs and Carpeting.
First use Jan. 12, 1965.

SN 212,191. Collins & Aikman Corporation, New York, N.Y. Filed Feb. 17, 1965.

POUFF

Owner of Reg. No. 681,196.
For Rugs Made of Knitted, Tufted or Woven Fabrics.
First use Sept. 6, 1957.

Class 43 — Thread and Yarn

SN 210,751. Deering Milliken, Inc., New York, N.Y. Filed Jan. 27, 1965.

SPUNA

For Cotton Yarn.
First use May 23, 1963.

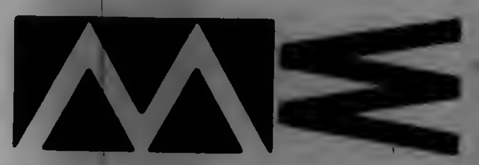
Class 44 — Dental, Medical, and Surgical Appliances

SN 192,821. The Holter Company, Bridgeport, Pa. Filed May 6, 1964.

MEDIFORM

For Cervical Bands and Tuboplasty Hoods.
First use on or about Nov. 1, 1962.

SN 194,902. Mettler Electronics Corp., Pasadena, Calif. Filed June 4, 1964.



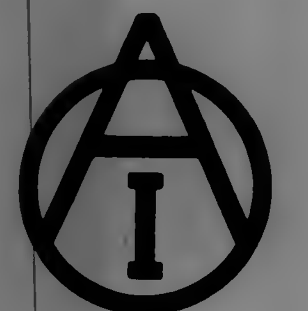
For Ultrasonic Diathermy Equipment and Ultrasonic Cleaning Equipment Used for Cleaning Medical and Dental Tools.
First use Apr. 9, 1964; Sept. 26, 1961, in another combination.

SN 195,868. L'Electronique Appliquee, Paris, France. Filed June 17, 1964.

STATOKINESIMETRE

Owner of French Reg. No. 514,462, dated June 28, 1963 (Seine); Natl. Inst. No. 208,097.
For Apparatus for the Detection and Measurement of Reactions of the Human Body, Mainly Related to the Equilibrium Thereof.

SN 207,094. Synthes AG Chur, Switzerland. Filed Nov. 27, 1964.



Priority claimed under Sec. 44(d) on Swiss Registration No. 205,429; dated Aug. 15, 1964.
For Surgical and Dental Instruments and Apparatus—Namely, Screws, Plates, Intramedullary Nails for Use in the Bone, Injection Needles, Canules, Denture Plates and Fixtures.
First use December 1963; in commerce January 1964.

SN 207,593. Yolán R. Guttman, New York, N.Y. Filed Dec. 7, 1964.

CARBOBOX

Euthanasia Apparatus for Animals.
First use Nov. 20, 1964.

SN 210,037. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Jan. 15, 1965.

STERILUER

For Syringes.
First use Aug. 18, 1964.

SN 210,046. Q-T Products Inc., Hollis, N.Y. Filed Jan. 15, 1965.

"Q-T's"

For Drainage Collection Pouches—Namely, Urinary Collection Pouches, Ostomy Drainage Collection Appliances and Post-Operative Drains.
First use February 1961.

SN 210,107. The Electric Storage Battery Company, Philadelphia, Pa. Filed Jan. 18, 1965.

ASTRO-SCOPIC

For Gas Mask Face Pieces.
First use Aug. 17, 1964.

SN 210,108. The Electric Storage Battery Company, Philadelphia, Pa. Filed Jan. 18, 1965.

AMMO-TOX

For Respirators.
First use Nov. 27, 1964.

SN 210,127. International Latex Corporation, Dover, Del. Filed Jan. 18, 1965.

ABSORBEST

For Tampons.
First use Jan. 6, 1965.

SN 210,875. Instrumentation Associates Inc., New York, N.Y. Filed Jan. 28, 1965.

CAPNOGRAPH

For Apparatus for Monitoring Carbon Dioxide Concentration During Anesthesia or Respiration Testing.
First use January 1959.

Class 45—Soft Drinks and Carbonated Waters

SN 194,295. General Foods Corporation, White Plains, N.Y. Filed May 26, 1964.

SODAFROST

For Flavored Carbonated Ice for Instant Soft Drink Preparations.
First use Mar. 31, 1964.

SN 197,756. John Grubb, d.b.a. Grubb Products, La Habra, Calif. Filed July 16, 1964.

GLU-CO-TOL

For Flavored Carbonated Water Containing Dextrose.
First use May 12, 1955.

SN 199,111. Ronas Corporation, Farmingdale, N.J. Filed Aug. 3, 1964.

SO COOL

For Soft Drinks.
First use July 1, 1964.

SN 199,112. Ronas Corporation, Farmingdale, N.J. Filed Aug. 3, 1964.

SLIMIT

For Low Calorie Soft Drinks.
First use July 1, 1964.

Class 46—Foods and Ingredients of Foods

SN 171,352. H. B. Howard, Pittsburg, Tex. Filed June 19, 1963.

PINEYWOODS

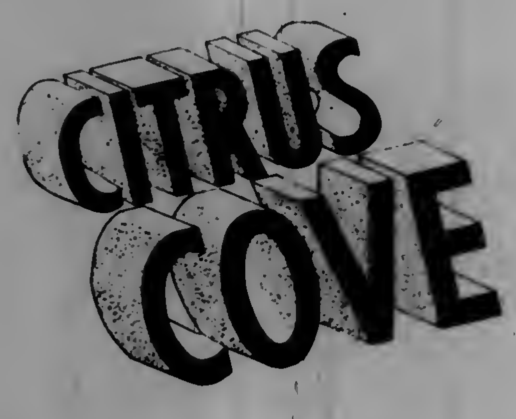
For Fresh Sweet Potatoes.
First use Sept. 1, 1937.

SN 181,789. Mohr Orchards, Inc., Fogelsville, Pa. Filed Nov. 22, 1963.

MOHR

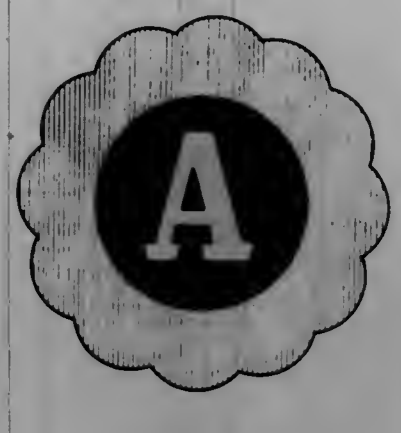
For Fresh Fruit and Preserved Fruit.
First use 1936.

SN 183,508. Orange Cove Orange Growers, Orange Cove, Calif. Filed Dec. 24, 1963.



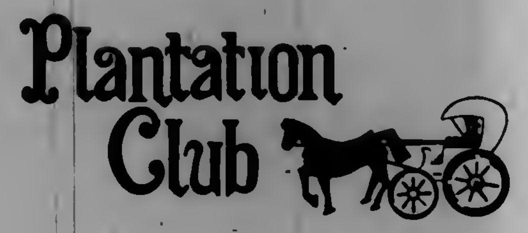
No claim is made to the word "Citrus" except in the specific form of association shown, without waiver of applicant's common law rights in the composite trademark. The stippling shown in the drawing represents shading contrast only and does not represent color.
For Fresh Citrus Fruits; Fresh Grapes.
First use at least as early as April 1947.

SN 184,338. Atkins Pickle Company, Inc., d.b.a. Atkins Pickle Company, Atkins, Ark. Filed Jan. 10, 1964.



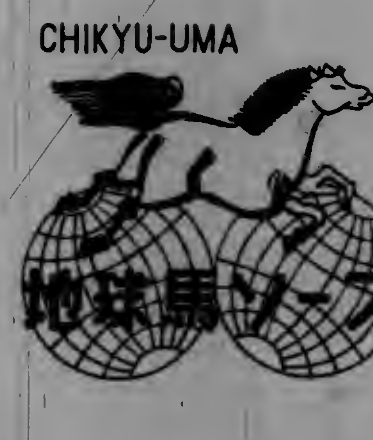
The drawing is lined for the color red, but no claim is made as to such color.
For Canned Pickled Products—Namely, Pickled Onions, Cauliflower, Olives, Peppers, Okra and Tomatoes.
First use Feb. 1, 1949.

SN 184,339. Atkins Pickle Company, Inc., d.b.a. Atkins Pickle Company, Atkins, Ark. Filed Jan. 10, 1964.



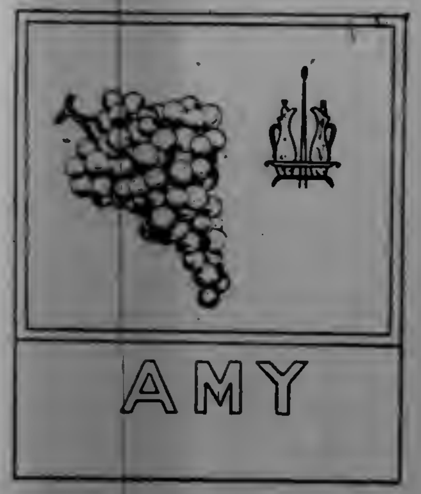
For Pickles.
First use June 1944.

SN 184,495. Nishimoto Trading Co., Ltd., of Hawaii, d.b.a. Nishimoto Trading Co., Ltd., Honolulu, Hawaii. Filed Jan. 13, 1964.



The Japanese word "Chikyu" may be translated as "Earth" or "Globe." The word "Uma" is translated as "Horse," which also applies to the Japanese characters.
For Japanese Sauce; Consisting of Apple, Onion, Tomato, and Seasoning.
First use Oct. 20, 1962.

SN 190,913. Francis Louit Chaigneau, San Sebastian, Spain. Filed Apr. 13, 1964.



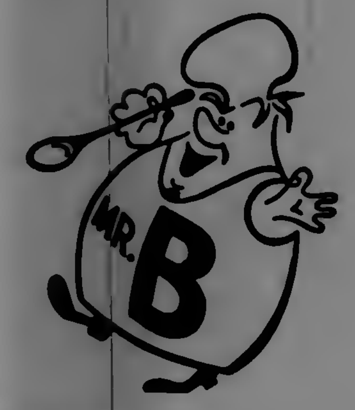
The representation of the grapes is disclaimed apart from the mark as shown. Owner of Spanish Reg. No. 396,747, dated June 7, 1963.
For Vinegar.

SN 193,101. A. J. Bordelon Packing Co., Inc., New Orleans, La. Filed May 11, 1964.

MARDI GRAS

For Canned Sauces, Soups, and Sea Food Stews Made From Either Shrimps, Crawfish or Oysters, Bottled Sauces, and Frozen Foods—Namely, Stuffed Crabs, Eggplant Dressing With Shrimps, Shrimp Creole, Shrimp and Okra Gumbo Soup, Crawfish Bisque, Crab Meat, and Shrimp Patties.
First use March 1944.

SN 193,438. B. B. Foods Corporation, Akron, Ohio. Filed May 14, 1964.



For Frozen Onion Rings.
First use Apr. 15, 1964.

SN 194,288. Firma R. Seelig & Hille, Dusseldorf-Heerdt, Germany. Filed May 26, 1964.

FIXMINZE

For Teas.
First use April 1962; in commerce April 1962.

SN 194,289. Firma R. Seelig & Hille, Dusseldorf-Heerdt, Germany. Filed May 26, 1964.

FIXLINDE

For Teas.
First use April 1962; in commerce April 1962.

SN 194,290. Firma R. Seelig & Hille, Dusseldorf-Heerdt, Germany. Filed May 26, 1964.

FIXMILLE

For Teas.
First use April 1962; in commerce April 1962.

SN 194,291. Firma R. Seelig & Hille, Dusseldorf-Heerdt, Germany. Filed May 26, 1964.

FIXVENE

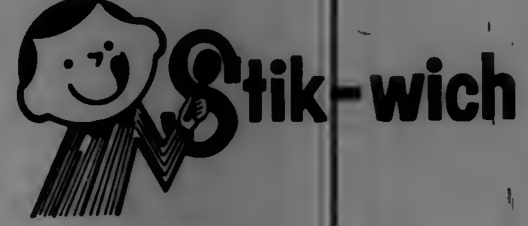
For Teas.
First use April 1962; in commerce April 1962.

SN 194,292. Firma R. Seelig & Hille, Dusseldorf-Heerdt, Germany. Filed May 26, 1964.

FIXBUTTE

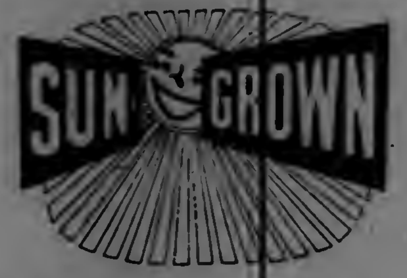
For Teas.
First use April 1962; in commerce April 1962.

SN 194,929. Stik-Wich Corp., Philadelphia, Pa. Filed June 4, 1964.



For Sandwich on a Stick.
First use Apr. 28, 1964.

SN 196,928. West Coast Farms, Watsonville, Calif. Filed July 1, 1964.



Owner of Reg. Nos. 182,411 and 410,160.
For Fresh Vegetables—Namely, Lettuce.
First use June 15, 1941.

SN 197,941. B. A. Bernard & Company, Inc., Camden, N.J. Filed July 16, 1964.

PICKY PET

For Foods for Dogs, Cats and Other Carnivorous Animals.
First use Feb. 3, 1958.

SN 198,564. Leaf Brands, Inc., Chicago, Ill. Filed July 27, 1964.

SPACE-LETS

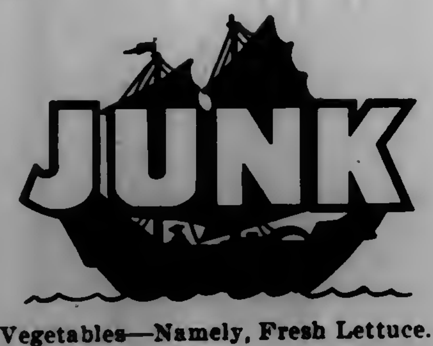
Owner of Reg. No. 572,575.
For Candy.
First use Aug. 1, 1961.

SN 200,603. Thomas and Howard Company of Charleston, Inc., Charleston Heights, S.C. Filed Aug. 25, 1964.

O.HENRY

Owner of Reg. No. 191,255.
For Rice and Coffee.
First use Mar. 1, 1924, on coffee.

SN 201,071. Lee Wong Farms, Inc., Glendale, Ariz. Filed Sept. 1, 1964.



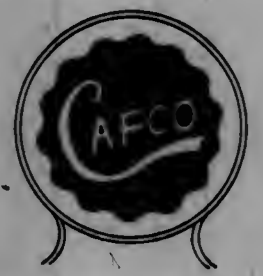
For Fresh Vegetables—Namely, Fresh Lettuce.
First use Apr. 6, 1964.

SN 203,155. Cargo's Candy, Inc., d.b.a. Cargo's, Pittsburgh, Pa. Filed Oct. 2, 1964.

GENTLEMEN ONLY

For Candy and Chocolates and Ingredients Thereof Consisting of Shelled Macadamia Nuts.
First use July 15, 1964.

SN 203,737. Cape Fear Feed Products, Inc., Fayetteville, N.C. Filed Oct. 12, 1964.



For Poultry By-Product Meals Including Meat, Bone and Feather Meals, Used as an Additive in Animal (Including Dog and Cat) and Poultry Feeds.
First use Sept. 21, 1964.

SN 204,936. Wardley Products Company, Inc., Long Island City, N.Y. Filed Oct. 27, 1964.

TUBIFLEX

For Food for Fish.
First use Sept. 3, 1964.

SN 206,129. Cape Fear Feed Products, Inc., Fayetteville, N.C. Filed Nov. 13, 1964.

CAFCO

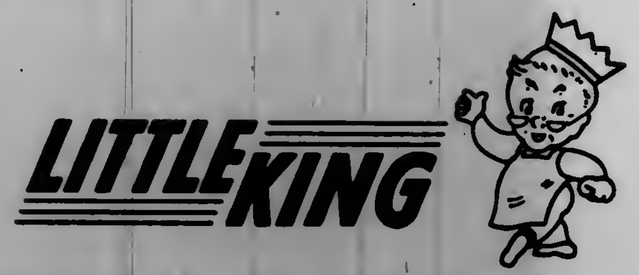
For Poultry By-Product Meals Including Meat, Bone and Feather Meals, Used as an Additive in Animal (Including Dog and Cat) and Poultry Feeds.
First use Sept. 21, 1964.

SN 206,216. Biddle Purchasing Company, d.b.a. Meridian Distributors and/or Good Hope Distributors, New York, N.Y. Filed Nov. 16, 1964.

Good Hope

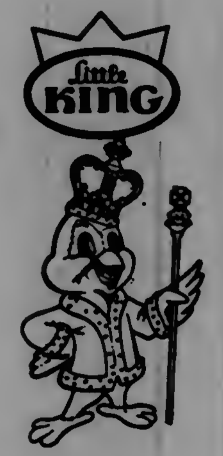
Owner of Reg. Nos. 562,571, 764,043, and others.
For Non-Fat Instant Dry Milk, Pitted Dates in Packages and Cake Mix.
First use Mar. 5, 1964, on non-fat instant dry milk.

SN 208,083. King Kullen Grocery Co., Inc., Westbury, N.Y. Filed Dec. 14, 1964.



Owner of Reg. Nos. 636,547, 761,013, and others.
For Oleomargarine.
First use May 6, 1958.

SN 208,084. King Kullen Grocery Co., Inc., Westbury, N.Y. Filed Dec. 14, 1964.



Owner of Reg. Nos. 636,547, 761,013, and others.
For Bird Food.
First use Sept. 28, 1964.

SN 209,425. Crescent Macaroni & Cracker Company, Davenport, Iowa. Filed Jan. 6, 1965.

Lady Crescent

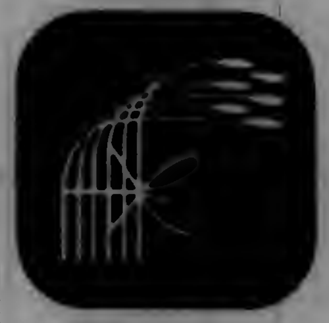
For Cookies.
First use Aug. 20, 1964.

SN 209,431. Filler Products, Inc., Forest Park, Ga. Filed Jan. 6, 1965.

PAR-T-GRA

For Hot Sauce for Snack Food Products.
First use July 1, 1964.

SN 212,879. Grocery Store Products Co., West Chester, Pa. Filed Feb. 26, 1965.



For Macaroni, Spaghetti, Vermicelli, and Noodles.
First use Jan. 26, 1965.

SN 212,880. Grocery Store Products Co., West Chester, Pa. Filed Feb. 26, 1965.

FOULDS

Owner of Reg. Nos. 82,507 and 388,546.
For Macaroni, Spaghetti, Vermicelli, and Noodles.
First use 1891.

Class 47 — Wines

SN 177,989. Guillermo Padilla Limitada Sociedad Anonima Comercial e Industrial, Buenos Aires, Argentina. Filed Sept. 30, 1963.

PADILLA

Owner of Reg. No. 313,554.
For Vermouth.
First use Feb. 11, 1941; in commerce Feb. 11, 1941.

Class 48 — Malt Beverages and Liquors

SN 197,194. S. S. Steiner, Inc., New York, N.Y. Filed July 6, 1964.

ALPHA +

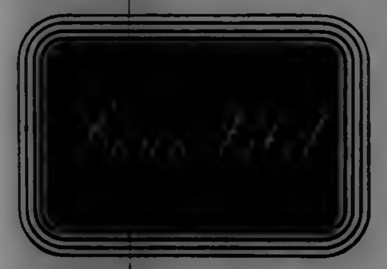
For Converted Hop Extract for Use in the Preparation of Malt Beverages.
First use May 25, 1964.

SN 200,349. International Breweries, Inc., Buffalo, N.Y. Filed Aug. 21, 1964.

TOMAHAWK

For Ale.
First use July 9, 1964.

SN 204,550. Carling Brewing Company, Incorporated, d.b.a. Carling Brewing Company, Cleveland, Ohio. Filed Oct. 22, 1964.



Applicant makes no claim to the exclusive use of a label colored black. Owner of Reg. Nos. 308,966, 701,095, and 781,115.
For Beer.
First use June 1, 1955.

Class 49 — Distilled Alcoholic Liquors

SN 189,253. Barton Distilling Company, Chicago, Ill. Filed Mar. 23, 1964.

PETER PRIME

The name "Peter Prime" is a fictitious name and does not identify any particular individual living or dead.
For Scotch Whisky.
First use July 12, 1960.

SN 194,498. La Madrilena, S.A., Mexico City, Mexico. Filed May 28, 1964.

DON PANCHO

Owner of Mexican Reg. No. 85,2[illegible]8, dated Apr. 19, 1956.
For Liqueurs and Brandies.
First use June 21, 1956; in commerce June 21, 1956.

SN 196,097. Jas. Barclay & Co. Limited, Peoria, Ill. Filed June 22, 1964.

CANADIAN HUSKIE

Without waiver of common law rights, applicant disclaims the word "Canadian" apart from the mark shown.
For Canadian Whiskey.
First use June 9, 1964.

SN 200,948. Wm. Maxwell & Co. (Wines & Spirits), Limited, Bristol, England. Filed S.R. Aug. 31, 1964; Am P.R. Apr. 2, 1965.

W^M MAXWELL

The name Wm. Maxwell does not identify a particular living individual. The lining shown on the drawing does not represent color, it is intended merely as shading.
For Scotch Whisky.
First use October 1963; in commerce October 1963.

Class 50—Merchandise Not Otherwise Classified

SN 196,109. Frank Collman, d.b.a. Frank Collman Company, New York, N.Y. Filed June 22, 1964.

bright • spot

For Window and Counter Displays Whether They Be Made From Wire, Cardboard, Plastic, or Fabrics, for the Purposes of Advertising or Identifying Manufacturers' Products or Name; Placques, Mobils, Streamers, and Posters.
First use June 9, 1964.

SN 199,371. Intercontinental Industries, Inc., Chicago, Ill. Filed Aug. 6, 1964.

A BORSATO

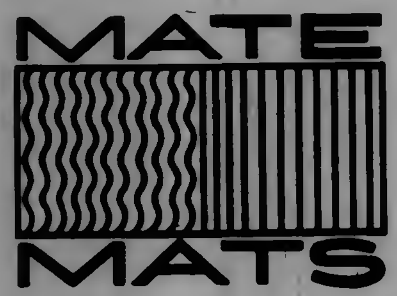
For Ceramic Figurines and Statuettes.
First use April 1952.

SN 208,132. Sodico, Inc., Greer, S.C. Filed Dec. 14, 1964.

floramatic

For Automatic Plant Waterers—Namely, Water-Filled Bulbs Which Dispense Water Gradually to the Plants in Accordance With Their Needs Depending on Temperature and Weather Conditions.
First use Nov. 24, 1964.

SN 212,224. Margaret Mate, Cleveland, Ohio. Filed Feb. 17, 1965.



The word "Mats" is disclaimed apart from the mark as shown. The lining on the drawing forms part of the mark.
For Place Mats, Hot Dish Mats and Floor Mats, Made of Rolled Cigarette Wrappers.
First use Oct. 7, 1964.

Class 51—Cosmetics and Toilet Preparations

SN 193,861. Demeret & Dougherty, Inc., Chicago, Ill. Filed May 20, 1964.

MENT

For Hair Spray.
First use on or about May 4, 1964.

SN 196,237. Antonio Puig y Cia, Barcelona, Spain. Filed June 23, 1964.

COSTABRAVA

The term "Costabrava" means "brave coast." Owner of Spanish Reg. No. 336,327, dated Oct. 21, 1958.
For Perfumes, Cologne, Dentrifice, Lotions for Permanent Wave of Hair, Dyeing and Fixing for Hair, Brilliantine, Rouge, and Beauty Pencils.

SN 196,991. Skan Laboratories, Inc., d.b.a. Skan Laboratories, Pasadena, Calif. Filed July 2, 1964.

SKAN

For Antiseptic Hair Rinse.
First use Jan. 2, 1963.

SN 197,891. L'Oreal, Paris, France. Filed July 15, 1964.

STANDING OVATION

Priority claimed under Sec. 44(d) on French Reg. No. 521,018, dated Apr. 7, 1964 (Seine); Natl. Inst. No. 223,395.
For Perfuming, Dentifrices, Dyes, Coloring Agents, Rinses, and Lotions for Hair and Beards, Preparations for Bleaching of Hair, Preparations for Waving and Setting of Hair.

SN 197,893. L'Oreal, Paris, France. Filed July 15, 1964.

KERASTASE

Priority claimed under Sec. 44(d) on French Reg. No. 512,990, dated Apr. 26, 1964 (Seine); Natl. Inst. No. 204,237.
For Preparations for the Care and Beauty of the Hair.

SN 205,050. Enver Arif, Paris, France. Filed Oct. 29, 1964.
Owner of French Reg. No. 506,043, dated June 23, 1962 (Seine); Natl. Inst. No. 187,293.

PANAME

For Perfumes, Toilet Water, Rouge, Lipsticks, Face Powder, Talcum Powder, Cosmetic Skin Creams and Lotions, Nail Polish, Bath Salts, Brilliantines, and Dentifrices.

SN 206,860. Johnson & Johnson, New Brunswick, N.J. Filed Nov. 24, 1964.

PERSONAL

For Mouthwash and Gargle.
First use Aug. 14, 1964.

SN 207,189. Avon Products, Inc., New York, N.Y. Filed Dec. 1, 1964.

SWEET AND LOW

For Baby Set Containing Lotion, Cream or Powder.
First use Nov. 2, 1964.

Class 52—Detergents and Soaps

SN 192,115. Witco Chemical Company, Inc., New York, N.Y. Filed Apr. 27, 1964.

PINNACLE

For Household Detergent.
First use Feb. 15, 1964.

SN 195,116. Joseph B. Kennington, d.b.a. Reefer Sweet Company, Livermore, Calif. Filed June 8, 1964.

REEFER SWEET

For Cleaning Agent for Refrigerators and Freezers.
First use on or about Jan. 1, 1963.

SN 197,573. The Handmade Soap & Candle Company, Southern Pines, N.C. Filed July 10, 1964.

Mid-South

For Toilet Soap.
First use June 29, 1964.

SN 197,576. The Handmade Soap & Candle Company, Southern Pines, N.C. Filed July 10, 1964.

SOUTHLAND

For Toilet Soap.
First use June 29, 1964.

SN 202,594. O. C. Hoffman, d.b.a. The Vapor-X Company, Tatamy, Pa. Filed Sept. 24, 1964.

VAPOR-X

For Cleaning Flake Crystals for Cleaning Granite and Similar Building and Monument Materials.
First use Apr. 9, 1931.

SN 204,672. Gaylord Bros., Inc., Syracuse, N.Y. Filed Oct. 23, 1964.

GAYLORD

For Treated Typewriter Type Cleaner Sheets.
First use on or about Dec. 3, 1959.

SN 207,433. The Richardson Company, Melrose Park, Ill. Filed Dec. 3, 1964.

RICHODET

For Dishwashing, Laundry and General Purpose Detergent Formulations.
First use July 24, 1964.

SN 208,025. Armour and Company, d.b.a. Armour Grocery Products Co., Chicago, Ill. Filed Dec. 14, 1964.

AQUA ACTIVE

For Liquid Detergents for Household Use.
First use on or prior to Nov. 24, 1964.

SN 208,026. Armour and Company, d.b.a. Armour Grocery Products Co., Chicago, Ill. Filed Dec. 14, 1964.

HUSTLE

For Liquid Detergents for Household Use.
First use on or prior to Nov. 24, 1964.

SN 208,027. Armour and Company, d.b.a. Armour Grocery Products Co., Chicago, Ill. Filed Dec. 14, 1964.

AQUA POWER

For Liquid Detergents for Household Use.
First use on or prior to Nov. 24, 1964.

SN 210,247. Allergan Pharmaceuticals, Santa Ana, Calif. Filed Jan. 21, 1965.

LC-65

For Contact Lenses Cleaning Solution.
First use Jan. 6, 1965.

SERVICE MARKS

Class 100 — Miscellaneous

SN 191,398. Harry Jay Katz, d.b.a. Campus Cakes, Philadelphia, Pa. Filed Apr. 17, 1964.

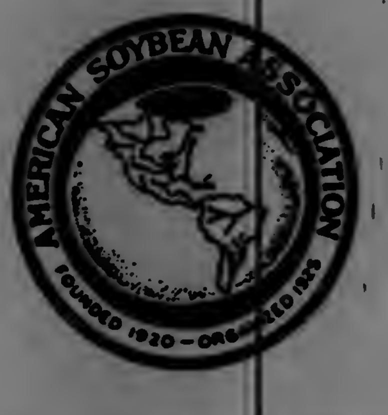
CAMPUS CAKES

Applicant disclaims "Cakes" apart from the mark as shown.

For Providing Cakes for Special Occasions to College Students at the Mail Order Request of Others.

First use March 1963.

SN 202,407. American Soybean Association, Hudson, Iowa. Filed Sept. 23, 1964.



For Association Service—Namely, Promoting the Interests of Soybean Growers and Others Interested in the Sale and Utilization of Soybeans.

First use 1926.

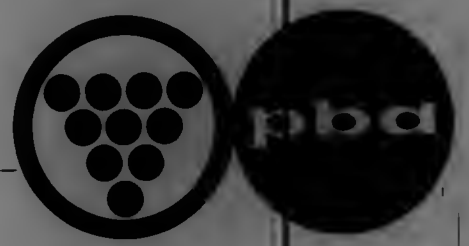
SN 203,981. McDonald's Corporation, Chicago, Ill. Filed Oct. 14, 1964.

LOOK FOR THE GOLDEN ARCHES

For Restaurant Services.

First use on or about Jan. 1, 1962.

SN 204,285. Professional Bowlers Association of America, Akron, Ohio. Filed Oct. 19, 1964.

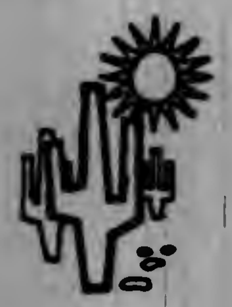


For Association Services—Namely, Performing All Services Necessary to the Promotion of the Interests of Applicant's Members Including Such Activities as Co-Sponsoring Bowling Tournaments, Assisting Sponsors in Promoting Tournaments, Handling Broadcasting Arrangements, Press and Public Relations, Keeping All Official Records, and Formulating and Enforcing Tournament Rules and Standards.

First use Jan. 1, 1959.

Class 101 — Advertising and Business

SN 191,016. Associated Dry Goods Corporation, Phoenix, Ariz. Filed Apr. 14, 1964.



For Department Stores Services.

First use November 1956.

Class 102 — Insurance and Financial

SN 151,177. The Union Commerce Bank, Cleveland, Ohio. Filed Aug. 14, 1962.

AUTO-ISLAND SPEEDBANK

Applicant disclaims the word "Auto-Island" apart from the mark as shown. Owner of Reg. No. 697,593.

For Banking Services.

First use Feb. 15, 1960.

SN 201,388. Richard M. DeLisle, San Jose, Calif. Filed Sept. 8, 1964.

TRUCKARD

For Extending Credit to Individuals for Retail Purchases.

First use July 10, 1964.

SN 203,877. Liberty Life Insurance Company, Greenville, S.C. Filed Oct. 13, 1964.

ACC-U-COMP

For Life Insurance Services Including the Analysis of Money and Insurance Needs of Clients and Policy Holders.

First use during April 1964.

SN 203,940. Computer Analysis and Planning Corporation, Greenvale, N.Y. Filed Oct. 14, 1964.

For Individual and Business Financial Analysis and Planning Through the Development and Use of Advanced Systems.

First use June 1, 1962.

Class 103 — Construction and Repair

SN 193,510. Valley Landscape Company, Inc., Baltimore, Md. Filed May 14, 1964.

VALITE

For Design and Construction of Tennis Courts.

First use 1957.

SN 193,511. Valley Landscape Company, Inc., Baltimore, Md. Filed May 14, 1964.

VALCROME

For Design and Construction of Tennis Courts.

First use 1955.

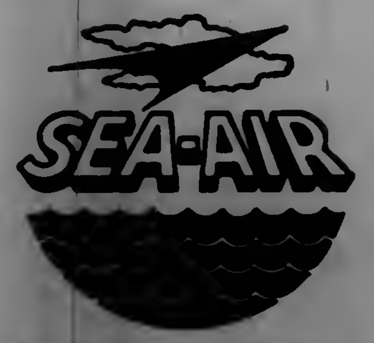
Class 105 — Transportation and Storage

SN 188,019. Lease Plan International Corp., Great Neck, N.Y. Filed Mar. 5, 1964.

For Leasing of Passenger Cars, Trucks, and Other Commercial Vehicles and Equipment.

First use Jan. 19, 1954.

SN 192,815. The Flying Tiger Line Inc., Burbank, Calif. Filed May 6, 1964.



No claim is made to the word "Sea-Air" apart from the mark as shown. Owner of Reg. Nos. 705,701 and 739,205.

For Coordinated Freight Transportation Services Offered by Applicant and Being Performed by Aircraft and Steamships.

First use Nov. 26, 1962.

Class 106 — Material Treatment

SN 196,473. Paper Converting Corporation, Chicago, Ill. Filed June 25, 1964.

For Services of Laminating and Coating Paper, Cloth, Foil, and Similar Goods of Others, Such as Catalog Covers, Book Jackets, Quality Labels, Advertising Displays, Box Wraps, Menus, and the Like.

First use on or about Oct. 14, 1963.

COLLECTIVE MEMBERSHIP MARKS

Class 200

SN 208,356. The Gamma Beta Phi Society, Spartanburg, S.C. Filed Dec. 17, 1964.

ΓΒΦ

For Indicating Membership in the Applicant Organization.

First use Mar. 22, 1964.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

792,007. E-BR. Texas-U.S. Chemical Company. SN 192,957. Pub. 4–20–65. Filed 5–7–64.

792,008. HERCULITE AND DESIGN. Herculite Protective Fabrics Corporation. SN 198,551. Pub. 4–20–65. Filed 7–27–64.

792,009. HITCO-G. H. I. Thompson Fiber Glass Company. SN 201,487. Pub. 4–20–65. Filed 9–8–64.

792,010. WESTAL. R. T. Vanderbilt Company, Inc. SN 201,631. Pub. 4–20–65. Filed 9–10–64.

792,011. INTERNATIONAL PAPER. International Paper Company. SN 201,690. Pub. 4–20–65. Filed 9–11–64.

792,012. HIGLOW. Georgia Kaolin Company. SN 203,753. Pub. 4–20–65. Filed 10–12–64.

792,013. ALTA-PAK. Alta Industries, Inc. SN 209,753. Pub. 4–20–65. Filed 1–12–65.

Class 2 — Receptacles

792,014. UCON. Union Carbide Corporation. SN 171,055. Pub. 4–20–65. Filed 6–14–63.

792,015. MERODOS. Dr. Hans Merkel. SN 193,887. Pub. 4–20–65. Filed 5–20–64.

792,016. A & W AND DESIGN. A & W Root Beer Company. SN 195,490. Pub. 4–20–65. Filed 6–12–64.

792,017. WICO "MEANS DEPENDABLE PERFORMANCE" AND DESIGN. Waterloo Idea Companies. MULTIPLE CLASS (Classes 2, 8, 23, 28, 3[illegible], and 46). SN 197,802. Pub. 2–2–65. Filed 7–13–64.

792,018. PAN-L-TEX. James E. Mead, d.b.a. Mead-Suydam Company. SN 197,895. Pub. 4–20–65. Filed 7–15–64.

792,019. HAPPY HOME ETC. AND DESIGN. F. W. Woolworth Co. SN 199,514. Pub. 4–20–65. Filed 8–7–64.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

792,020. GRIEF CASE. Czela North, d.b.a. Czela. SN 199,600. Pub. 4–20–65. Filed 8–10–64.

792,021. SUPPLETRON. Droutman Mfg. Co., Inc. SN 200,710. Pub. 4–20–65. Filed 8–27–64.

Class 4 — Abrasives and Polishing Materials

792,022. SKIP. Chemex Industries, Inc. MULTIPLE CLASS (Classes 4 and 52). SN 184,213. Pub. 4–20–65. Filed 1–8–64.

792,023. ALADDIN. Churchill Chemical Company. SN 193,107. Pub. 4–20–65. Filed 5–11–64.

Class 5 — Adhesives

792,024. MILADY'S GLUE. Wilhold Glues, Inc. SN 202,338. Pub. 4–20–65. Filed 9–21–64.

792,025. METEOR-MASTIC. B & P Distributors, Inc. SN 202,348. Pub. 4–20–65. Filed 9–22–64.

792,026. BVP ETC. AND DESIGN. B & P Distributors, Inc. SN 202,349. Pub. 4–20–65. Filed 9–22–64.

Class 6 — Chemicals and Chemical Compositions

792,027. DOW AND DESIGN. The Dow Chemical Company. MULTIPLE CLASS (Classes 6 and 15). SN 179,327. Pub. 4–20–65. Filed 10–18–63.

792,028. DIDECYL ANDIMERATE. Sohio Chemical Company. SN 181,690. Pub. 4–20–65. Filed 11–21–63.

792,029. DIALLYL ANDIMERATE. Sohio Chemical Company. SN 181,693. Pub. 4–20–65. Filed 11–21–63.

792,030. ANDIMERYL CHLORIDE. Sohio Chemical Company. SN 181,694. Pub. 4–20–65. Filed 11–21–63.

792,031. DIMETHYL ANDIMERATE. Sohio Chemical Company. SN 181,695. Pub. 4–20–65. Filed 11–21–63.

792,032. DACAGIN. Diamond Alkali Company. SN 187,734. Pub. 4–20–65. Filed 3–2–64.

792,033. TRISOTAN AND DESIGN. The Disincrustant Marseillais Company Limited. SN 189,057. Pub. 4–20–65. Filed 3–19–64.

792,034. HC-110. Eastman Kodak Company. SN 189,278. Pub. 4–20–65. Filed 3–23–64.

792,035. M MAYFAIR AND DESIGN. Arden Farms Co., by merger from Mayfair Markets. SN 189,333. Pub. 4–20–65. Filed 3–23–64.

792,036. WICACRIL. Wica Chemicals, Incorporated. SN 190,457. Pub. 4–20–65. Filed 4–6–64.

792,037. GAMMASAN. Imperial Chemical Industries Limited. SN 195,529. Pub. 4–20–65. Filed 6–12–64.

792,038. D-PLUS. Miles Laboratories, Inc. SN 196,885. Pub. 12–29–64. Filed 7–1–64.

792,039. U-LAM. Packers' & Manufacturers' Company Limited. SN 197,842. Pub. 4–20–65. Filed 7–14–64.

792,040. PREP. Union Carbide Corporation. SN 199,139. Pub. 4–20–65. Filed 8–3–64.

792,041. PHYLON. Phenny Smidt, d.b.a. Phenny Smidt Co. SN 200,114. Pub. 4–20–65. Filed 8–18–64.

792,042. SCOTCH. Minnesota Mining and Manufacturing Company. SN 200,853. Pub. 4–20–65. Filed 8–28–64.

792,043. REDOUT. Becton Dickinson and Company. SN 201,001. Pub. 4–20–65. Filed 9–1–64.

Class 7 — Cordage

792,044. SATINTONE. Chicago Printed String Co. SN 199,882. Pub. 4–20–65. Filed 8–14–64.

Class 8 — Smokers' Articles, Not Including Tobacco Products

792,017. (See Class 2 for this trademark.)

792,045. KEYSER. Keyser Manufacturing Company. SN 190,523. Pub. 4–20–65. Filed 4–7–64.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

792,046. C-LECT-CHOKE. O. F. Mossberg & Sons, Inc. SN 191,582. Pub. 4–20–65. Filed 4–20–64.

Class 10 — Fertilizers

792,047. NITRA-MO. The Nitrogen Company, Inc. SN 190,636. Pub. 4–20–65. Filed 4–8–64.

792,048. PURE GRO. The Pure Oil Company. SN 196,393. Pub. 4–20–65. Filed 6–24–64.

792,049. ROTO BLEND. The Hubbard-Hall Chemical Company. SN 198,557. Pub. 4–20–65. Filed 7–27–64.

792,050. SUGAR BEET BUILDER. The Borden Company, assignee of Smith-Douglass Company, Incorporated. SN 200,291. Pub. 4–20–65. Filed 8–20–64.

792,051. WHEAT WHOPPER. The Borden Company, assignee of Smith-Douglass Company, Incorporated. SN 200,293. Pub. 4–20–65. Filed 8–20–64.

Class 12 — Construction Materials

792,052. MONO GUN. Kaiser Aluminum & Chemical Corporation. SN 136,248. Pub. 7–24–62. Filed 1–22–62.

792,053. AFT. Crown Aluminum Industries Corporation. SN 174,267. Pub. 4–20–65. Filed 8–2–63.

792,054. SPALL-SEAL. Statite Waterproofing Corp. SN 179,563. Pub. 4–20–65. Filed 10–22–63.

792,055. GRANULITE AND DESIGN. Granulite, Inc. SN 181,633. Pub. 4–20–65. Filed 11–21–63.

792,056. CHEMBLOK. Basic Incorporated. SN 185,977. Pub. 4–20–65. Filed 2–4–64.

792,057. TLF. Hunt Process Co., Inc. SN 186,005. Pub. 4–20–65. Filed 2–4–64.

792,058. THOMASITE. Basic Incorporated. SN 187,850. Pub. 4–20–65. Filed 3–3–64.

792,059. WIRE-O-METRIC. Blumcraft of Pittsburgh. SN 188,188. Pub. 4–20–65. Filed 3–9–64.

792,060. TOUGH-NUT. Plastic Engineers, Inc. SN 191,435. Pub. 4–20–65. Filed 4–17–64.

792,061. CIRCLES IN COMBINATIONS PRODUCING THE EFFECT OF THE LETTER F (DESIGN). American Solder & Flux Co. MULTIPLE CLASS (Classes 12 and 34). SN 192,780. Pub. 4–20–65. Filed 5–6–64.

792,062. BACON BIN. Black, Sivalls & Bryson, Inc. SN 193,924. Pub. 4–20–65. Filed 5–21–64.

792,063. TELESCOPE WALL. Hough Manufacturing Corporation. SN 193,960. Pub. 4–20–65. Filed 5–21–64.

792,064. UNISPAN. Hough Manufacturing Corporation. SN 193,961. Pub. 4–20–65. Filed 5–21–64.

792,065. AMGUN. American Fire Clay & Products Company. SN 194,858. Pub. 4–20–65. Filed 6–4–64.

792,066. AMPAK. American Fire Clay & Products Company. SN 194,859. Pub. 4–20–65. Filed 6–4–64.

792,067. CHEMPAC AND DESIGN. Chempac, Inc. SN 196,353. Pub. 4–20–65. Filed 6–24–64.

792,068. FLEX-LOK. Atlas Chemical Co. SN 197,059. Pub. 4–20–65. Filed 7–6–64.

792,069. SUN-SET. Atlas Roofing Manufacturing Company, Inc. SN 197,254. Pub. 4–20–65. Filed 7–7–64.

792,070. VIPCORE AND DESIGN. Grossman Steel Stair Corporation. SN 197,488. Pub. 4–20–65. Filed 7–9–64.

792,071. THE WEEKENDER. The Weekender Corporation. SN 198,388. Pub. 4–20–65. Filed 7–22–64.

792,072. "HOLD-A-HILL." Frehner Mountain West Gardens, d.b.a. Frehner Landscape Center. SN 198,838. Pub. 4–20–65. Filed 7–30–64.

792,073. UNITED STATES PORTLAND CEMENT ETC. AND DESIGN. Ideal Cement Company. SN 199,563. Pub. 4–20–65. Filed 8–10–64.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

792,074. OK. Mathew F. Bauer and George V. Woodling (joint owners), d.b.a. B & W Fitting Co. SN 162,524. Pub. 4–20–65. Filed 2–12–63.

792,075. DESLIN. Design Line, Incorporated. SN 165,995. Pub. 4–20–65. Filed 4–3–63.

792,076. ULTI-MITE. Hoke Incorporated. SN 183,264. Pub. 6–30–64. Filed 12–19–63.

792,077. WEDGWOOD. Lamb Industries, Inc. SN 184,383. Pub. 4–20–65. Filed 1–10–64.

792,078. WCC AND DESIGN. Western Coupling Corporation. SN 189,748. Pub. 1–5–65. Filed 3–26–64.

792,079. ANUBA. Walter Pfaeffli. SN 191,707. Pub. 4–20–65. Filed 4–21–64.

792,080. CHEMTROL. Consolidated Thermoplastics Company, d.b.a. Kraloy/Chemtrol Co. SN 196,848. Pub. 4–20–65. Filed 7–1–64.

792,081. LOMU. Audco Limited. SN 204,545. Pub. 4–20–65. Filed 10–22–64.

792,082. HYDRONAUT. Audco Limited. SN 204,546. Pub. 4–20–65. Filed 10–22–64.

792,083. GREEN THUMB AND DESIGN. Green Thumb Products. SN 204,569. Pub. 4–20–65. Filed 10–22–64.

Class 14 — Metals and Metal Castings and Forgings

792,084. TELCOLUX. Ciba Limited. SN 171,619. Pub. 4–20–65. Filed 6–24–63.

792,085. MI. Metallurgical International Inc. SN 191,198. Pub. 4–20–65. Filed 4–15–64.

792,086. GRAIN LINE. Jones & Laughlin Steel Corporation. SN 208,747. Pub. 4–20–65. Filed 12–23–64.

Class 15 — Oils and Greases

792,027. (See Class 6 for this trademark.)

792,087. INVERTED ANGLES (DESIGN). The Joseph Dixon Crucible Company. SN 175,638. Pub. 4–20–65. Filed 8–23–63.

792,088. STAFUL. Malco Products Inc. SN 197,409. Pub. 4–20–65. Filed 7–8–64.

792,089. FERRULE-EASE. American Grease Stick Company. SN 204,744. Pub. 4–20–65. Filed 10–26–64.

792,090. ELCO "22." The Elco Corporation. SN 206,841. Pub. 4–20–65. Filed 11–24–64.

Class 16 — Protective and Decorative Coatings

792,091. TRANS-I-LAC. Churchill Chemical Company. SN 193,109. Pub. 4–20–65. Filed 5–11–64.

792,092. ROMP-ON. Churchill Chemical Company. MULTIPLE CLASS (Classes 16 and 52). SN 193,116. Pub. 4–20–65. Filed 5–11–64.

792,093. FLAME-X. Flame-X Control Corp. SN 200,838. Pub. 4–20–65. Filed 8–27–64.

Class 17—Tobacco Products

792,094. IN-B-TWEEN. Smokers' Haven, Inc. SN 191,324. Pub. 4–20–65. Filed 4–16–64.

792,095. 20TH ANNIVERSARY MIXTURE. Smokers' Haven, Inc. SN 191,325. Pub. 4–20–65. Filed 4–16–64.

792,096. COGNAC. Smokers' Haven, Inc. SN 194,835. Pub. 4–20–65. Filed 6–3–64.

792,097. SANDHURST. The American Tobacco Company. SN 204,948. Pub. 4–20–65. Filed 10–28–64.

Class 18—Medicines and Pharmaceutical Preparations

792,098. LARK AND DESIGN. Lark Pharmacal Corp. SN 180,913. Pub. 4–20–65. Filed 11–12–63.

792,099. FOOFER. Olin Mathieson Chemical Corporation. SN 189,496. Pub. 4–20–65. Filed 3–24–64.

792,100. APONAL. Hoffmann-La Roche Inc. SN 189,584. Pub. 4–20–65. Filed 3–25–64.

792,101. ROXANTHIN. Hoffmann-La Roche Inc. SN 189,586. Pub. 4–20–65. Filed 3–25–64.

792,102. CANTATE. Colgate-Palmolive Company. SN 199,030. Pub. 4–20–65. Filed 8–3–64.

792,103. ATGARD. Shell Oil Company. SN 199,405. Pub. 4–20–65. Filed 8–6–64.

792,104. VANCE AND DESIGN. Vance-Curtis Products, Inc. SN 200,048. Pub. 4–20–65. Filed 8–17–64.

792,105. GENTIA-SPRAY. Leroy J. Hyman, M.D., d.b.a. Del-Jay Products. SN 201,437. Pub. 4–20–65. Filed 9–8–64.

792,106. SENO PREP. Gray Pharmaceutical Co. SN 202,590. Pub. 4–20–65. Filed 9–24–64.

792,107. GI-PREP. Gray Pharmaceutical Co. SN 202,591. Pub. 4–20–65. Filed 9–24–64.

792,108. PROMAQUID. Ives Laboratories Inc. SN 202,937. Pub. 4–20–65. Filed 9–29–64.

792,109. FLUORCAINE. Barnes-Hind Laboratories. SN 203,729. Pub. 2–23–65. Filed 10–12–64.

792,110. FLUOROCAINE. Barnes-Hind Laboratories. SN 203,730. Pub. 2–23–65. Filed 10–12–64.

792,111. DEXAWIN. Sterling Drug Inc. SN 204,307. Pub. 4–20–65. Filed 10–19–64.

792,112. STALWIN. Sterling Drug Inc. SN 204,308. Pub. 4–20–65. Filed 10–19–64.

792,113. DIHYCON. Consolidated Midland Corporation. SN 204,966. Pub. 4–20–65. Filed 10–28–64.

792,114. AUBRIL. Geigy Chemical Corporation. SN 204,973. Pub. 4–20–65. Filed 10–28–64.

792,115. ASPERGUM. White Laboratories, Inc. SN 205,129. Pub. 4–20–65. Filed 10–29–64.

792,116. GYNAFOAM. Carnrick Laboratories. SN 206,130. Pub. 4–20–65. Filed 11–13–64.

792,117. BIO-BEST. Premier Malt Products, Inc. SN 206,178. Pub. 4–20–65. Filed 11–13–64.

792,118. RIBO-BEST. Premier Malt Products, Inc. SN 206,179. Pub. 4–20–65. Filed 11–13–64.

792,119. HOG-N-RICH. Vita Plus Corporation. SN 206,324. Pub. 4–20–65. Filed 11–16–64.

792,120. DRY-TABS. Gary Pharmacal, Inc. SN 206,445. Pub. 4–20–65. Filed 11–18–64.

792,121. PRO-ANAL. The R-P Company, Inc. SN 206,759. Pub. 4–20–65. Filed 11–23–64.

792,122. SCADAN. Dome Chemicals, Inc. SN 207,199. Pub. 4–20–65. Filed 12–1–64.

792,123. MANEVIAL. Geigy Chemical Corporation. SN 207,204. Pub. 4–20–65. Filed 12–1–64.

792,124. BIRD ETC. AND DESIGN. Bird Corporation. SN 207,941. Pub. 4–20–65. Filed 12–11–64.

792,125. MIPAS. Miles Laboratories, Inc. SN 207,971. Pub. 4–20–65. Filed 12–11–64.

Class 19—Vehicles

792,126. YANMAR PRO-PET. Yanmar Diesel Engine Co., Ltd. SN 172,790. Pub. 4–20–65. Filed 7–10–63.

792,127. RENEGADE. Kaiser Jeep Corporation. SN 191,773. Pub. 4–20–65. Filed 4–22–64.

792,128. GRAND PRIX. Stonetree Chemical Corporation. MULTIPLE CLASS (Classes 19, 21, and 23). SN 193,729. Pub. 4–20–65. Filed 5–18–64.

792,129. GROVE. Grove Manufacturing Co. MULTIPLE CLASS (Classes 19 and 23). SN 196,657. Pub. 4–20–65. Filed 6–29–64.

792,130. GROVE ECONOMY. Grove Manufacturing Co. MULTIPLE CLASS (Classes 19 and 23). SN 196,658. Pub. 4–20–65. Filed 6–29–64.

792,131. BALLUTE. Goodyear Aerospace Corporation. SN 198,731. Pub. 4–20–65. Filed 7–29–64.

792,132. TD AND DESIGN. Taylor-Dunn Manufacturing Company. SN 199,325. Pub. 4–20–65. Filed 8–5–64.

Class 20—Linoleum and Oiled Cloth

792,133. KENTILE FLOORS AND DESIGN. Kentile Floors Inc. SN 197,398. Pub. 4–20–65. Filed 7–8–64.

792,134. TIARA TILE AND DESIGN. Foster Grant Co., Inc. SN 198,729. Pub. 4–20–65. Filed 7–29–64.

Class 21—Electrical Apparatus, Machines, and Supplies

792,128. (See Class 19 for this trademark.)

792,135. SPLIT CIRCLE (DESIGN). General Motors Corporation. SN 159,719. Pub. 6–11–63. Filed 12–26–62.

792,136. MAGI-MATIC. Crawford Door Company. SN 169,613. Pub. 3–10–64. Filed 5–24–63.

792,137. LOW-VAR. Mucon Corporation. SN 174,418. Pub. 8–11–64. Filed 8–5–63.

792,138. TI-CAD. Texas Instruments Incorporated. SN 178,504. Pub. 4–20–65. Filed 10–7–63.

792,139. DIAMOND ELECTRONICS. Diamond Power Specialty Corporation. SN 180,378. Pub. 4–20–65. Filed 11–4–63.

792,140. TECA-MEDELEC. Teca Corporation. MULTIPLE CLASS (Classes 21, 26, and 44). SN 185,328. Pub. 4–20–65. Filed 1–24–64.

792,141. PHOTOCOM. James Electronics, Inc. SN 189,079. Pub. 4–20–65. Filed 3–19–64.

792,142. VAC-THRU. Advac Products, Inc. SN 193,602. Pub. 4–20–65. Filed 5–18–64.

792,143. TERMI-KIT. General Electric Company. SN 194,047. Pub. 4–20–65. Filed 5–22–64.

792,144. SONOMASTER. Sonotone Corporation. SN 195,457. Pub. 4–20–65. Filed 6–11–64.

792,145. WINDJAMMER. William R. Smith, d.b.a. Norweed C. B. Service. SN 195,728. Pub. 4–20–65. Filed 6–15–64.

792,146. SYNCHRO-SOUND. General Exhibits & Displays, Inc. SN 195,857. Pub. 4–20–65. Filed 6–17–64.

792,147. GREEK LETTER SIGMA. Sigma Instruments, Inc. MULTIPLE CLASS (Classes 21 and 26). SN 196,401. Pub. 4–20–65. Filed 6–24–64.

792,148. KURLMASTER. The Songrand Corporation. SN 197,516. Pub. 4–20–65. Filed 7–9–64.

792,149. DESOTO. The Jos. M. Zamoiski Co. MULTIPLE CLASS (Classes 21 and 36). SN 198,621. Pub. 4–20–65. Filed 7–27–64.

792,150. MICROCLAREED. C. P. Clare & Company. SN 200,418. Pub. 4–20–65. Filed 8–24–64.

792,151. MICRO START AND DESIGN. Triple-A Specialty Co. SN 200,605. Pub. 4–20–65. Filed 8–25–64.

792,152. TRAK. Trak Microwave Corporation, assignee of Trak Electronics Company, Inc. SN 201,491. Pub. 4–20–65. Filed 9–8–64.

792,153. CONSUTROL. Norbatrol Electronics Corporation. SN 201,611. Pub. 4–20–65. Filed 9–10–64.

Class 22—Games, Toys, and Sporting Goods

792,154. LOOK. Look. SN 173,849. Pub. 4–20–65. Filed 7–26–63.

792,155. POLYRIDIUM. Stowe-Woodward, Inc. SN 184,664. Pub. 4–20–65. Filed 1–15–64.

792,156. MONSTER BUBBLES. Wham-O Mfg. Co. SN 186,798. Pub. 4–20–65. Filed 2–14–64.

792,157. GREEN ARROW. Brandell Products Corporation. SN 187,240. Pub. 4–20–65. Filed 2–24–64.

792,158. ANIMAL SHOWER. The Dolly Toy Co. SN 190,900. Pub. 4–20–65. Filed 4–13–64.

792,159. MATCH-STIX AND DESIGN. The Sperry and Hutchinson Company. SN 197,788. Pub. 4–20–65. Filed 7–13–64.

792,160. PICTOGRAPH. Samuel Greenberg. SN 198,042. Pub. 4–20–65. Filed 7–17–64.

792,161. PICTOGRAM. Samuel Greenberg. SN 198,043. Pub. 4–20–65. Filed 7–17–64.

792,162. DIAMOND-LOCK AND DESIGN. Warren Paper Products Co. SN 201,770. Pub. 4–20–65. Filed 9–11–64.

792,163. CARAVELLE. Anderson & Thompson Ski Co., Inc. SN 201,781. Pub. 4–20–65. Filed 9–14–64.

792,164. JOINT-FINA. Atlantic Lures, Inc. SN 201,793. Pub. 4–20–65. Filed 9–14–64.

792,165. JIG-O-REE. Best Tackle Manufacturing Co. SN 201,799. Pub. 4–20–65. Filed 9–14–64.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

792,017. (See Class 2 for this trademark.)

792,128. (See Class 19 for this trademark.)

792,129. (See Class 19 for this trademark.)

792,130. (See Class 19 for this trademark.)

792,166. NATIONAL AND DESIGN. Matsushita Electric Industrial Co., Ltd. SN 136,668. Pub. 4–20–65. Filed 1–26–62.

792,167. NATIONAL AND DESIGN. Matsushita Electric Industrial Co., Ltd. SN 148,317. Pub. 4–20–65. Filed 7–3–62.

792,168. MESABI. L & M Radiator Service, Inc. SN 177,656. Pub. 4–20–65. Filed 9–24–63.

792,169. BC AND DESIGN. The Burford Company. SN 188,320. Pub. 9–22–64. Filed 3–11–64.

792,170. MISCELLANEOUS DESIGN. The Burford Company. SN 188,322. Pub. 9–15–64. Filed 3–11–64.

792,171. MAGIC BAY. Magic Bay Car Wash Sales, Inc. SN 191,573. Pub. 4–20–65. Filed 4–20–64.

792,172. VACUMAG. H. Nielsen og Son Maskinfabrik A/S. SN 192,612. Pub. 4–20–65. Filed 5–4–64.

792,173. HYLITE. Bata Shoe Company of Canada Limited. SN 199,007. Pub. 4–20–65. Filed 8–3–64.

792,174. AKRA. Akra Stamp Machine Co., Inc. SN 203,245. Pub. 4–20–65. Filed 10–5–64.

792,175. RIPSNORTER. American Brake Shoe Company. SN 203,852. Pub. 4–20–65. Filed 10–13–64.

792,176. RIVAL. Rival Manufacturing Company. SN 203,890. Pub. 4–20–65. Filed 10–13–64.

792,177. SOM-A-PRESS. Somat Corporation. SN 204,102. Pub. 4–20–65. Filed 10–15–64.

792,178. SCOOPTRAM. Wagner Manufacturing, Inc. SN 204,331. Pub. 4–20–65. Filed 10–19–64.

792,179. DEDTRU. Unison Corporation. SN 204,526. Pub. 4–20–65. Filed 10–21–64.

792,180. STANEX. Perfect Circle Corporation. SN 204,600. Pub. 4–20–65. Filed 10–22–64.

792,181. DAIRY-MAT. K. G. Brown Manufacturing Co., Inc. SN 204,959. Pub. 4–20–65. Filed 10–28–64.

792,182. MODULAIR. Worthington Corporation. SN 206,987. Pub. 4–20–65. Filed 11–25–64.

792,183. MODULGAS. Worthington Corporation. SN 206,988. Pub. 4–20–65. Filed 11–25–64.

792,184. PORTA-TRIM. Superior Sewing Machine and Supply Corp. SN 207,917. Pub. 4–20–65. Filed 12–10–64.

Class 24—Laundry Appliances and Machines

792,185. POLY CLEAN AND DESIGN. Whirlpool Corporation. SN 203,046. Pub. 4–20–65. Filed 9–30–64.

792,186. VERTOMAT. Kannegiesser & Co., Maschinenfabrik G.m.b.H. SN 208,587. Pub. 4–20–65. Filed 12–21–64.

Class 26—Measuring and Scientific Appliances

792,140. (See Class 21 for this trademark.)

792,147. (See Class 21 for this trademark.)

792,187. WESTERN STRATIGRAM. Western Geophysical Company of America. SN 95,958. Pub. 1–30–62. Filed 4–27–60.

792,188. HYFRAX. Robert J. Morrison, d.b.a. Morrison Laboratories, and Morrison Laboratories, Inc. SN 129,515. Pub. 4–20–65. Filed 10–9–61.

792,189. MARTIN-DECKER. Martin-Decker Corporation. SN 139,182. Pub. 3–19–63. Filed 3–5–62.

792,190. RENAULD OF FRANCE. Botany Industries, Inc., d.b.a. Renauld of France. SN 147,348. Pub. 4–20–65. Filed 6–21–62.

792,191. CYTO. Ames Lab-Tek, Inc., by assignment and change of name from Lab-Tek Plastics Co. SN 149,096. Pub. 11–13–62. Filed 7–16–62.

792,192. NEC AND DESIGN. Northeast Electronics Corporation. SN 158,364. Pub. 10–8–63. Filed 12–3–62.

792,193. AII AND DESIGN. Automation Industries, Inc. MULTIPLE CLASS (Classes 26 and 44). SN 161,940. Pub. 4–20–65. Filed 2–4–63.

792,194. E.Z. Perforated Pattern Co., Inc. SN 178,728. Pub. 4–20–65. Filed 10–10–63.

792,195. PROVING GROUND PERFORMANCE. Bear Manufacturing Company. SN 185,015. Pub. 4–20–65. Filed 1–21–64.

792,196. KNIT AMAJIG. The Boye Needle Company. SN 186,230. Pub. 4–20–65. Filed 2–7–64.

792,197. PRECON AND DESIGN. Precision Products & Controls, Inc. SN 187,327. Pub. 4–20–65. Filed 2–24–64.

792,198. ACTIVAC. Tokyo Shibaura Electric Co., Ltd. SN 189,022. Pub. 4–20–65. Filed 3–18–64.

792,199. COURIER. La Belle Industries, Inc. SN 189,084. Pub. 4–20–65. Filed 3–19–64.

792,200. MARK 200. Clevite Corporation. SN 189,655. Pub. 4–20–65. Filed 3–26–64.

792,201. PEYER FIL. Siegfried Peyer, Ing., & Co. SN 191,447. Pub. 4–20–65. Filed 4–17–64.

792,202. RANGE-O-MATIC. Howe Richardson Scale Company. SN 193,872. Pub. 4–20–65. Filed 5–20–64.

792,203. SYMETRA. Dr. Johannes Heindenhain. SN 194,144. Pub. 4–20–65. Filed 5–25–64.

792,204. CRITERION. Anken Chemical & Film Corporation. SN 195,495. Pub. 4–20–65. Filed 6–12–64.

792,205. EVANS. The Hilsinger Corporation. SN 196,861. Pub. 4–20–65. Filed 7–1–64.

792,206. LECTROCELL. Toledo Scale Corporation. SN 199,137. Pub. 4–20–65. Filed 8–3–64.

792,207. ATMO-VAC. Herbert Gottfried. SN 201,414. Pub. 4–20–65. Filed 9–8–64.

792,208. TRAK. Trak Microwave Corporation, assignee of Trak Electronics Company, Inc. SN 201,492. Pub. 4–20–65. Filed 9–8–64.

792,209. RED DIAMOND. General Dynamics Corporation. SN 201,680. Pub. 4–20–65. Filed 9–11–64.

792,210. LOKMATIC. The Lufkin Rule Company. SN 202,282. Pub. 4–20–65. Filed 9–21–64.

792,211. GRO-TAPE. The Lufkin Rule Company. SN 202,604. Pub. 4–20–65. Filed 9–24–64.

792,212. AUTOPRINT. Technicon Instruments Corporation. SN 203,350. Pub. 4–20–65. Filed 10–5–64.

792,213. SIGNALAIRE. Freeland Gauge Company. SN 203,493. Pub. 4–20–65. Filed 10–7–64.

792,214. C-DEK. Colorado Instruments, Inc. SN 203,576. Pub. 4–20–65. Filed 10–8–64.

Class 28 — Jewelry and Precious-Metal Ware

792,017. (See Class 2 for this trademark.)

Class 29 — Brooms, Brushes, and Dusters

792,215. VALETTE. Renee Dubonnet, d.b.a. Dubonnet Associates. SN 191,265. Pub. 4–20–65. Filed 4–16–64.

Class 31 — Filters and Refrigerators

792,216. ROLL-O-PAK. American Air Filter Company, Inc. SN 184,194. Pub. 4–20–65. Filed 1–8–64.

792,217. NATIONAL N AND DESIGN. Matsushita Electric Industrial Co., Ltd. SN 186,670. Pub. 4–20–65. Filed 12–18–63.

792,218. C AND DESIGN. Chemical Separations Corporation. SN 189,269. Pub. 4–20–65. Filed 3–23–64.

792,219. CHEM-SEPS. Chemical Separations Corporation. SN 190,887. Pub. 4–20–65. Filed 4–13–64.

Class 32 — Furniture and Upholstery

792,220. FABRICO AND DESIGN. Fabrico Manufacturing Corporation. SN 186,343. Pub. 4–20–65. Filed 2–10–64.

792,221. SELECT-O-GUIDE. Glamorene, Incorporated. SN 195,223. Pub. 4–20–65. Filed 6–[illegible]–64.

792,222. THE 500 SPECIAL. Henry H. Lovette, d.b.a. Southland Bedding Company. SN 201,953. Pub. 4–20–65. Filed 9–15–64.

792,223. PRINCELY. Henry H. Lovette, d.b.a. Southland Bedding Company. SN 201,954. Pub. 4–20–65. Filed 9–15–64.

792,224. WELDWOOD. United States Plywood Corporation. SN 202,052. Pub. 4–20–65. Filed 9–16–64.

792,225. SUPER SCOT. Bela Seating Company, Inc., assignee of Bela B. Junkunc, d.b.a. J & J Tool and Machine Co. SN 203,506. Pub. 4–20–65. Filed 10–7–64.

Class 33 — Glassware

792,017. (See Class 2 for this trademark.)

Class 34 — Heating, Lighting, and Ventilating Apparatus

792,061. (See Class 12 for this trademark.)

792,226. VETTA. Sicadi Società Internazionale Costruzione Apparecchi Domestici e Industriali S.p.A. SN 150,284. Pub. 4–20–65. Filed 8–1–62.

792,227. NO-FROST. Niagara Blower Company. SN 154,623. Pub. 3–10–65. Filed 10–5–62.

792,228. MICRO-RATIO. Maxon Premix Burner Company, Inc. SN 184,084. Pub. 4–20–65. Filed 1–6–64.

792,229. SURFACE. Midland-Ross Corporation. SN 186,877. Pub. 4–20–65. Filed 2–17–64.

792,230. DURACURVE. Lennox Industries Inc. SN 192,046. Pub. 4–20–65. Filed 4–27–64.

792,231. HEATRON. Heatron, Incorporated. SN 195,101. Pub. 4–20–65. Filed 6–8–64.

792,232. ODOR VAC. G. E. Howard, Inc. SN 198,554. Pub. 4–20–65. Filed 7–27–64.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

792,233. RAPID-GUN. The Goodyear Tire & Rubber Company. SN 175,277. Pub. 4–20–65. Filed 8–19–63.

792,234. SKYWAY. Bridgestone Tire Company Limited. SN 177,856. Pub. 4–20–65. Filed 9–27–63.

792,235. GATES POLYFLEX. The Gates Rubber Company. SN 178,188. Pub. 5–26–64. Filed 10–2–63.

792,236. SCASON. Frank Dahlberg AB. SN 184,038. Pub. 4–20–65. Filed 1–6–64.

792,237. RAPID-PLUGS. The Goodyear Tire & Rubber Company. SN 188,098. Pub. 4–20–65. Filed 3–6–64.

792,238. VINYLAD. Marmon-Herrington Company, Inc. SN 196,538. Pub. 4–20–65. Filed 6–26–64.

792,239. DENMAN GRAN TURISMO. The Denman Rubber Manufacturing Company. SN 199,181. Pub. 4–20–65. Filed 8–4–64.

Class 36 — Musical Instruments and Supplies

792,149. (See Class 21 for this trademark.)

792,240. SYMPHONIE. G. Leblanc Corporation. SN 183,077. Pub. 7–21–64. Filed 12–16–63.

792,241. N·M·S·CO AND DESIGN. National Musical String Co. SN 196,895. Pub. 4–20–65. Filed 7–1–64.

Class 37 — Paper and Stationery

792,242. CAMPUS-WRITES. Bee Zee Originals. SN 157,351. Pub. 12–24–63. Filed 11–16–62.

792,243. JOSEPHSON. Wilson Jones Company. SN 174,466. Pub. 4–20–65. Filed 8–5–63.

792,244. ENVO-DRAFT. Curtis 1000, Incorporated. SN 188,849. Pub. 4–20–65. Filed 3–17–64.

792,245. SIGNET II. Blaisdell Pencil Company. SN 190,327. Pub. 4–20–65. Filed 4–6–64.

792,246. SANI-STAMP-DEW'R. J. & E. Manufacturing Co. SN 191,558. Pub. 4–20–65. Filed 4–20–64.

792,247. DRI-LABELS. Oxford Filing Supply Co., Inc. SN 194,510. Pub. 4–20–65. Filed 5–28–64.

792,248. PEPPERITE. Pepper Printing Co., Inc. SN 194,830. Pub. 4–20–65. Filed 6–3–64.

792,249. A & W ROOT BEER AND DESIGN. A & W Root Beer Co. SN 195,491. Pub. 4–20–65. Filed 6–12–64.

792,250. CELLULATOR. Corvette Paper Company. SN 196,952. Pub. 4–20–65. Filed 7–2–64.

792,251. WEYCROFT. Weyerhaeuser Company. SN 197,222. Pub. 4–20–65. Filed 7–6–64.

792,252. TEXTILOSE. Fort Howard Paper Company. SN 199,814. Pub. 4–20–65. Filed 8–13–64.

792,253. PRANG. The Joseph Dixon Crucible Company, d.b.a. The American Crayon Company. SN 199,975. Pub. 4–20–65. Filed 8–17–64.

792,254. INTERNATIONAL MEDALLION. International Paper Company. SN 200,351. Pub. 4–20–65. Filed 8–21–64.

Class 38 — Prints and Publications

792,255. 1 2 3 AND DESIGN. O. O. Ressel, d.b.a. Woodrow Wilson. SN 200,976. Pub. 4–20–65 Filed 8–31–64

792,256. REAL-A-TOONS. Allen & Rocks, Inc. SN 201,559. Pub. 4–20–65. Filed 9–10–64.

792,257. THE LIVING LIGHT. Confraternity of Christian Doctrine. SN 202,767. Pub. 4–20–65. Filed 9–28–64.

Class 39 — Clothing

792,258. YOUNG PRINCESSE. McCrory Corporation. SN 158,550. Pub. 4–20–65. Filed 12–5–62.

792,259. TRUVAL "200." Truval Shirt Company, Inc. SN 181,078. Pub. 4–20–65. Filed 11–13–63.

792,260. FABRICO AND DESIGN. Fabrico Manufacturing Corporation. SN 186,344. Pub. 4–20–65. Filed 2–10–64.

792,261. THE SNUGGER. Willwear Hosiery Mill, Inc. SN 186,986. Pub. 4–20–65. Filed 2–18–64.

792,262. WEATHER-GUARD. Sears, Roebuck and Co. SN 190,570. Pub. 4–20–65. Filed 4–9–64.

792,263. SAFRE. Morris Metzger & Sons, Inc. SN 192,413. Pub. 4–20–65. Filed 4–30–64.

792,264. PLUSHEES. Miller Shoe Co., Inc. SN 192,738. Pub. 4–20–65. Filed 5–5–64.

792,265. SKAMPS. International Shoe Company. SN 193,473. Pub. 4–20–65. Filed 5–14–64.

792,266. BUTTERCUP AND DESIGN. The Kendall Company. SN 195,112. Pub. 4–20–65. Filed 6–8–64.

792,267. KWIK KUFF AND DESIGN. Robert D. Linderman. SN 196,282. Pub. 4–20–65. Filed 6–23–64.

792,268. ANGUS AND DESIGN. Angus Garment Mfg. Co. SN 197,531. Pub. 4–20–65. Filed 7–10–64.

792,269. BANPRESS SLACKS WITH THE MAGIC MEMORY. Wright Manufacturing Company. SN 197,930. Pub. 4–20–65. Filed 7–15–64.

792,270. PEPERINO'S. Divina Footwear, Inc. SN 198,464. Pub. 4–20–65. Filed 7–24–64.

792,271. NPC. New Process Company. SN 198,863. Pub. 4–20–65. Filed 7–30–64.

792,272. HOBBY HORSE. Infants Specialty Company. SN 199,281. Pub. 4–20–65. Filed 8–5–64.

792,273. JUST WONDERFUL. Sheffield Hosiery Mills, Inc. SN 200,119. Pub. 4–20–65. Filed 8–18–64.

792,274. ALLECOTT. Atlas Underwear Corporation. SN 200,537. Pub. 4–20–65. Filed 8–25–64.

792,275. TERRY TURNER. Schiffer Knitwear Company, Inc. SN 200,663. Pub. 4–20–65. Filed 8–26–64.

792,276. STRETCHTOWN. A. H. Schreiber Co. Incorporated. SN 200,664. Pub. 4–20–65. Filed 8–26–64

792,277. SWINGER BY H.I.S. Henry I. Siegel Co., Inc. SN 201,053. Pub. 4–20–65. Filed 9–1–64

792,278. SENIORS BY H.I.S. Henry I. Siegel Co., Inc. SN 201,054. Pub. 4–20–65. Filed 9–1–64

792,279. WARMEZE. Bristol Manufacturing Corporation. SN 201,180. Pub. 4–20–65. Filed 9–3–64.

792,280. DONZINI. Friedman-Marks Clothing Co., Inc. SN 202,023. Pub. 4–20–65. Filed 9–16–64.

792,281. MAN WITH EYE PATCH (DESIGN). C. F. Hathaway Company. SN 203,290. Pub. 4–20–65. Filed 10–5–64.

792,282. PICKET FENCE ORIGINALS. March & Mendl, Inc. SN 203,979. Pub. 4–20–65. Filed 10–14–64.

792,283. UPPER HALFS. R.F.R. Associates, Inc. SN 204,094. Pub. 4–20–65. Filed 10–15–64.

792,284. HIDE 'N SEEK. The Lovable Company. SN 204,174. Pub. 4–20–65. Filed 10–16–64.

792,285. NASHARR AND DESIGN. Nasharr Freres. SN 204,186. Pub. 4–20–65. Filed 10–16–64.

792,286. CO-FLEX. Proudfoot Hosiery Corp. SN 204,288. Pub. 4–20–65. Filed 10–19–64.

792,287. CORESTRETCH. Sport-Wear Hosiery Mills, Inc. SN 204,302. Pub. 4–20–65. Filed 10–19–64.

792,288. UNICORE. Union Manufacturing Company. SN 204,324. Pub. 4–20–65. Filed 10–19–64.

792,289. SERVISOX. Kayser-Roth Corporation. SN 204,579. Pub. 4–20–65. Filed 10–22–64.

792,290. GLYNDEBOURNE. Neiman-Marcus Company. SN 204,694. Pub. 4–20–65. Filed 10–23–64.

792,291. STIRRUP KING. Key Work Clothes Inc. SN 204,726. Pub. 4–20–65. Filed 10–5–64.

Class 40 — Fancy Goods, Furnishings, and Notions

792.292. BANDRIBBONS AND DESIGN. Bandribbons. SN 177,949. Pub. 4–20–65. Filed 9–30–63.

792,293. CON-T-ROLLERS. Starlet, Inc. SN 182,003. Pub. 4–20–65. Filed 11–27–63.

792,294. PERFECTION. The Boye Needle Company. SN 184,885. Pub. 4–20–65. Filed 1–20–64.

792,295. JAUNTIES. Promenade Hosiery Mills Incorporated. SN 189,501. Pub. 4–20–65. Filed 3–24–64.

792.296. NAME DROPPERS AND DESIGN. Mercantile Distributors, Inc. SN 198,191. Pub. 4–20–65. Filed 7–20–64.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

792.297. Z COTTON-PLUS. American Enka Corporation. SN 184,680. Pub. 4–20–65. Filed 1–16–64.

792,298. SANDALWOOD. Textile Corporation of America. SN 186,205. Pub. 4–20–65. Filed 2–6–64.

792,299. TERRIER AND DESIGN. Sardo Textile Corp. SN 193,298. Pub. 4–20–65. Filed 5–12–64.

792,300. SOIR DE LYS. The Jaunty Fabric Corporation. SN 196,448. Pub. 4–20–65. Filed 6–25–64.

792,301. SUPPL-AIRE. The Jaunty Fabric Corporation. SN 196,449. Pub. 4–20–65. Filed 6–25–64.

792,302. SOIR-AIRE. The Jaunty Fabric Corporation. SN 196,450. Pub. 4–20–65. Filed 6–25–64.

792,303. CHALKTONES. Burlington Industries, Inc. SN 198,711. Pub. 4–20–65. Filed 7–29–64.

792,304. CLINCHER. Burlington Industries, Inc. SN 198,830. Pub. 4–20–65. Filed 7–30–64.

792,305. DEALERS CHOICE. Burlington Industries, Inc. SN 198,831. Pub. 4–20–65. Filed 7–30–64.

792,306. KINGS KNIGHT. Burlington Industries, Inc. SN 198,933. Pub. 4–20–65. Filed 7–31–64.

792,307. GREAT DAY. Burlington Industries, Inc. SN 198,934. Pub. 4–20–65. Filed 7–3[illegible]–64.

792,308. TAZARON. Burlington Industries, Inc. SN 199,021. Pub. 4–20–65. Filed 8–3–64.

792,309. SUPERBREEZE. Burlington Industries, Inc. SN 199,022. Pub. 4–20–65. Filed 8–3–64.

792,310. WONDA-BREEZE. Burlington Industries, Inc. SN 199,170. Pub. 4–20–65. Filed 8–4–64.

Class 43 — Thread and Yarn

792,311. FLAX-LON. Wm. Whitaker & Sons, Inc. SN 177,393. Pub. 7–21–64. Filed 9–1[illegible]–63.

Class 44 — Dental, Medical, and Surgical Appliances

792,140. (See Class 21 for this trademark.)

792,193. (See Class 26 for this trademark.)

792,312. ETHICAL. Ethicon, Inc., assignee of Gladys E. MacDonald, d.b.a. Ethical Line. SN 131,291. Pub. 7–3–62. Filed 11–3–61.

792,313. OSTEOLITE. Matilda Clementine Frank, d.b.a. Osteolite Company. SN 190,362. Pub. 4–20–65. Filed 4–6–64.

792,314. SYSCOM. William Cooper & Nephews, Inc. SN 199,177. Pub. 4–20–65. Filed 8–[illegible]–64.

792,315. ROTASAGE. Dr. Shiffer Laboratories, Inc., assignee of Charles Ellwood Shiffer, d.b.a. Dr. Shiffer's Laboratories. SN 202,713. Pub. 4–20–65. Filed 9–25–64.

792,316. CHRONOFUSOR. United States Catheter & Instrument Corporation. SN 205,015. Pub. 4–20–65. Filed 10–28–64.

792,317. RAPOL. United States Catheter & Instrument Corporation. SN 205,017. Pub. 4–20–65. Filed 10–28–64.

792,318. TUBE-LOK. J. A. Deknatel & Son, Inc. SN 205,044. Pub. 4–20–65. Filed 10–29–64.

792,319. TERRADENT. Robert C. Eshelman, d.b.a. Terradental Company. SN 205,051. Pub. 4–20–65. Filed 10–29–64.

792,320. DISPOSETTE. Mitzi Co., Inc. SN 205,085. Pub. 4–20–65. Filed 10–29–64.

792,321. CHIPPER GRIPPER. Howard L. Martin, d.b.a. Helmar Products. SN 206,562. Pub. 4–20–65. Filed 11–19–64.

792,322. BMP. Burron Medical Products, Inc. SN 207,706. Pub. 4–20–65. Filed 12–8–64.

Class 45 — Soft Drinks and Carbonated Waters

792,323. A-B. Anheuser-Busch, Incorporated. MULTIPLE CLASS (Classes 45 and 46). SN 199,527. Pub. 4–20–65. Filed 8–10–64.

Class 46 — Foods and Ingredients of Foods

792,017. (See Class 2 for this trademark.)

792,323. (See Class 45 for this trademark.)

792,324. SESA MAIZE. The Kelling Nut Co., assignee of Little Crow Milling Company, Inc. SN 119,392. Pub. 1–23–62. Filed 5–5–61.

792,325. CHATKA. Amtorg Trading Corp. SN 170,877. Pub. 1–5–65. Filed 6–13–63.

792,326. WHISTLES. General Mills, Inc. SN 178,439. Pub. 4–20–65. Filed 10–7–63.

792,327. DAISYS. General Mills, Inc. SN 178,441. Pub. 4–20–65. Filed 10–7–63.

792,328. BUGLES. General Mills, Inc. SN 178,442. Pub. 4–20–65. Filed 10–7–63.

792,329. LAURA LEE. Laura Lee Candies, Inc. SN 181,783. Pub. 4–20–65. Filed 11–22–63.

792,330. CHEF RITE. Supermarkets Operating Co. SN 181,930. Pub. 4–20–65. Filed 11–26–63.

792,331. NEW ORLEANS STYLE. Morehouse Foods, Inc., d.b.a. Morehouse Mustard Mills. SN 183,776. Pub. 4–20–65. Filed 12–30–63.

792,332. SHURFROST. Shurfine-Central Corporation, assignee of Central Retailer-Owned Grocers, Inc. SN 184,357. Pub. 4–20–65. Filed 1–10–64.

792,333. POLO AND DESIGN. Polo Food Products Co. SN 185,623. Pub. 4–20–65. Filed 1–29–64.

792,334. THREE DIAMOND DESIGN. Mitsubishi Shoji Kaisha, Ltd. SN 186,551. Pub. 4–20–65. Filed 2–12–64.

792,335. PRIOR PARK. Salada Foods Ltd. SN 186,571. Pub. 4–20–65. Filed 2–12–64.

792,336. PRO-GRAM. H. E. Products. SN 197,830. Pub. 4–20–65. Filed 7–14–64.

792,337. EK AND DESIGN. Eric's Kitchens, Inc. SN 198,148. Pub. 4–20–65. Filed 7–20–64.

792,338. SATSUMA. Haas-Davis Packing Company, Inc. SN 198,165. Pub. 4–20–65. Filed 7–20–64.

792,339. TWEET. Sanna Dairies, Inc. SN 198,497. Pub. 4–20–65. Filed 7–24–64.

792,340. RIDGEMONT. Weston Biscuit Company Inc., d.b.a. Superior Biscuit Company. SN 199,332. Pub. 4–20–65. Filed 8–5–64.

792,341. MAGIC. Basic Vegetable Products, Inc. SN 200,402. Pub. 4–20–65. Filed 8–24–64.

792,342. BEL-AIR. Safeway Stores, Incorporated. SN 202,854. Pub. 4–20–65. Filed 9–28–64.

792,343. CABIN HOME. Western Grain Company. SN 202,879. Pub. 4–20–65. Filed 9–28–64.

792,344. CHATKA. A. H. Morse Co. SN 202,942. CONCURRENT USE. Pub. 1–5–65. Filed 9–29–64.

792,345. BERKELEY SQUARE. Fruit Cake Bakers of America, Inc. SN 203,276. Pub. 4–20–65. Filed 10–5–64.

792,346. HELLER. Heller Candy Company, Inc. SN 203,292. Pub. 4–20–65. Filed 10–5–64.

792,347. GREENETTES. H. & T. Packing Company. SN 206,619. Pub. 4–20–65. Filed 11–20–64.

792,348. MINK COTE. Tri Associates, Inc. SN 207,166. Pub. 4–20–65. Filed 11–30–64.

792,349. SUN-DIXIE. Don G. Ward, d.b.a. Ward Coffee & Tea Co. SN 207,175. Pub. 4–20–65. Filed 11–30–64.

Class 48 — Malt Beverages and Liquors

792,350. STEINER-ISO. S. S. Steiner, Inc. SN 191,890. Pub. 4–20–65. Filed 4–23–64.

Class 49 — Distilled Alcoholic Liquors

792,351. E-P-L. Whyte & Mackay Limited. SN 190,216. Pub. 4–20–65. Filed 4–2–64.

792,352. CLUB 400. Majestic Distilling Company, Inc. SN 201,220. Pub. 4–20–65. Filed 9–3–64.

792,353. CLUB 800. Majestic Distilling Company, Inc. SN 201,221. Pub. 4–20–65. Filed 9–3–64.

Class 50 — Merchandise Not Otherwise Classified

792,354. TAPE PRINTER TP. Com-Tech, Inc., by change of name from Tapeprinter, Inc. SN 193,422. Pub. 2–9–65. Filed 5–13–64.

792,355. EVER TREE AND DESIGN. William H. Shafer. SN 200,497. Pub. 4–20–65. Filed 8–24–64.

792,356. PLASTAK-CANPAL. Rocket Jet Engineering Corporation. SN 209,731. Pub. 4–20–65. Filed 1–11–65.

792,357. VESTO-ROC. Gamco, Inc. SN 210,766. Pub. 4–20–65. Filed 1–27–65.

792,358. GAMCORK AND DESIGN. Gamco, Inc. SN 210,767. Pub. 4–20–65. Filed 1–27–65.

792,359. VISTA-CORK. Gamco, Inc. SN 210,770. Pub. 4–20–65. Filed 1–27–65.

Class 51 — Cosmetics and Toilet Preparations

792,360. PEPPI. Peppi Sales Corp., assignee of Peppi Products, Ltd. SN 172,007. Pub. 3–23–65. Filed 6–27–63.

792,361. TOUCHABLE. Clairol Incorporated. SN 185,572. Pub. 4–20–65. Filed 1–29–64.

792,362. KM ETC. AND DESIGN. K. M. Cosmetics Sales Co., Inc. SN 185,784. Pub. 4–20–65. Filed 1–31–64.

792,363. START'N FINISH. Turner Hall Corporation, assignee of Rilling Dermetics Company. SN 190,974. Pub. 4–20–65. Filed 4–13–64.

792,364. MID DAY ETC. AND DESIGN. John Romain Inc. SN 198,225. Pub. 4–20–65. Filed 7–20–64.

792,365. NAUTILUS AND DESIGN. Juanita Jay Johns, d.b.a. Jay Johns. SN 199,071. Pub. 4–20–65. Filed 8–3–64.

792,366. 40 LOVE. Jean Desprez. SN 200,553. Pub. 4–20–65. Filed 8–25–64.

792,367. V–25. Stauffer Chemical Company. SN 200,673. Pub. 4–20–65. Filed 8–26–64.

792,368. SHAMROCK LEAVES. Adam (Ireland) Limited. SN 201,074. Pub. 4–20–65. Filed 9–2–64.

792,369. GAY ROMANCE. Chas. Pfizer & Co., Inc. SN 204,825. Pub. 4–20–65. Filed 10–26–64.

792,370. GOLDEN NIGHT. Chas. Pfizer & Co., Inc. SN 204,827. Pub. 4–20–65. Filed 10–26–64.

792,371. VISCOUNT. Beecham Products Inc. SN 204,880. Pub. 4–20–65. Filed 10–27–64.

Class 52 — Detergents and Soaps

792,022. (See Class 4 for this trademark.)

792,092. (See Class 16 for this trademark.)

792,372. KLEER-BRITE. Economics Laboratory, Inc. SN 178,899. Pub. 4–20–65. Filed 10–14–63.

792,373. LUXURY. Wilco Company. SN 180,982. Pub. 4–20–65. Filed 11–12–63.

792,374. GOLDEN NIGHT. Chas. Pfizer & Co., Inc. SN 204,828. Pub. 4–20–65. Filed 10–26–64.

792,375. VISCOUNT. Beecham Products Inc. SN 204,881. Pub. 4–20–65. Filed 10–27–64.

Service Marks

Class 100 — Miscellaneous

792,376. HOUSTON INTERNATIONAL. Houston International Hotels, Inc. SN 180,013. Pub. 4–20–65. Filed 10–29–63.

792,377. VAGABOND. Vagabond Motor Hotels, Inc. SN 186,913. Pub. 4–20–65. Filed 2–17–64.

792,378. M AND DESIGN. Multifastener Corporation. SN 193,976. Pub. 4–20–65. Filed 5–21–64.

792,379. REPRESENTATION OF A FEMALE SILHOUETTE. Tops Club, Inc. SN 196,824. Pub. 4–20–65. Filed 6–30–64.

Class 101 — Advertising and Business

792,380. MISCELLANEOUS DESIGN. Preferred Business Service Corporation. SN 198,628. Pub. 4–20–65. Filed 7–20–64.

Class 104 — Communication

792,381. VOICE OF THE SUSQUEHANNA VALLEY. Harry L. Magee, d.b.a. Bloom Radio. SN 174,212. Pub. 4–20–65. Filed 8–1–63.

Class 106 — Material Treatment

792,382. PERMA-PAC. Phoenix Dye Works, Inc. SN 181,921. Pub. 4–20–65. Filed 11–26–63.

Class 107 — Education and Entertainment

792,383. COME CATCH A RAINBOW. Pittsburgh Plate Glass Company. SN 174,229. Pub. 4–20–65. Filed 8–1–63.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 1 — Raw or Partly Prepared Materials

792,384. Theodore Efrom Mfg. Co., Chicago, Ill. SN 192,769. Filed P.R. 5–5–64; Am. S.R. 5–14–65.

MARBLSHEEN

For Synthetic Marble in the Form of Slabs, Panels, Sections, and the Like, for Use in the Industrial Arts.

First use Apr. 24, 1964.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

792,385. Crosman Arms Company, Inc., Fairport, N.Y. SN 188,427. Filed P.R. 3–11–64; Am. S.R. 5–4–65.

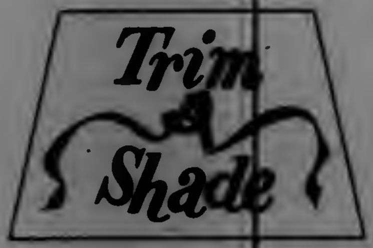
SUPER B·B

For Shot Particularly for Air Rifles.

First use Jan. 28, 1964.

Class 34 — Heating, Lighting, and Ventilating Apparatus

792,386. The Verplex Company, Essex, Conn. SN 187,831. Filed P.R. 3-2-64; Am. S.R. 5-6-65.



For Lampshades and Ribbon Decorations Therefor.
First use Jan. 31, 1964.

Class 38 — Prints and Publications

792,387. Melvin H. Daskal, Chicago, Ill. SN 181,756. Filed P.R. 11-22-63; Am. S.R. 3-26-65.

DASKAL FAX on TAX

For Tax Letter.
First use Oct. 29, 1963.

792,388. Frentrup Publishing Co., San Francisco, Calif. SN 186,938. Filed P.R. 2-18-64; Am. S.R. 5-12-65.

THIS WEEK IN SAN FRANCISCO

For Guide-Magazine Published Periodically.
First use Feb. 11, 1964.

792,389. Haywood Publishing Company, Chicago, Ill. SN 193,274. Filed P.R. 5-12-64; Am. S.R. 5-6-65.

Today's COMMUNICATIONS

For Magazine.
First use Apr. 15, 1964.

792,390. Automotive Service Publishing Corporation, Chicago, Ill. SN 194,117. Filed P.R. 5-25-64; Am. S.R. 5-7-65.

AUTOMOTIVE SERVICE & BODY NEWS

For Trade Newspaper.
First use May 1, 1964.

792,391. The Merrill Anderson Company, Inc., New York N.Y. SN 195,538. Filed P.R. 6-12-64; Am. S.R. 5-14-65.

ESTATE PLANNING STUDIES

For Pamphlets Relating to Estate Planning Which Are Published Quarterly.
First use Apr. 15, 1964.

792,392. The Merrill Anderson Company, Inc., New York, N.Y. SN 195,539. Filed P.R. 6-12-64; Am. S.R. 5-14-65.

ESTATE PLANNING BRIEFS

For Pamphlets Relating to Estate Planning Which Are Published Monthly.
First use Apr. 15, 1964.

792,393. Decker Communications, Inc., New York, N.Y., assignee of Vision Incorporated, New York, N.Y. SN 200,126. Filed P.R. 8-18-64; Am. S.R. 3-16-65.

BUSINESS ADVERTISING

For Magazine, Published and Distributed on a Monthly Basis, Dealing With Developments in the Field of Business Advertising.
First use Feb. 6, 1964.

792,394. Success Motivation Institute, Inc., Waco, Tex. SN 202,867. Filed P.R. 9-28-64; Am. S.R. 5-14-65.

MAGIC FORMULA FOR SELLING YOURSELF

For Educational and Training Courses Comprising Books, Booklets and Related Printed Instructional Material, and Sound Recordings Pertaining Thereto.
First use at least as early as Dec. 26, 1963.

792,395. McGraw-Hill, Inc., New York, N.Y. SN 205,437. Filed 11-3-64.

PLASTICS CATALOG

For Section of an Annual Publication.
First use October 1940.

792,396. OA Business Publications, Inc., Elmhurst, Ill. SN 206,069. Filed 11-12-64.

BANKING AUTOMATION

For Trade Publication of Data Processing Equipment and Application for Financial Institutions—Namely, a Manual and Supplemental Bulletins.
First use Dec. 1, 1962.

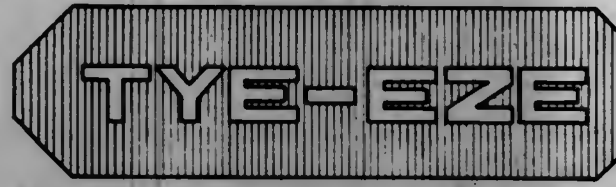
792,397. Packaging Digest, Inc., Mount Prospect, Ill. SN 207,146. Filed 11-30-64.

PACKAGING DIGEST

For Business Periodical in the Nature of a Tradepaper.
First use Nov. 21, 1963.

Class 40 — Fancy Goods, Furnishings, and Notions

792,398. Tye-Rite, Inc., Des Moines, Iowa. SN 188,682. Filed P.R. 3-13-64; Am. S.R. 5-7-65.



The drawing is lined for red, but color is not claimed as a part of the mark.
For Shoe Laces.
First use Feb. 28, 1964.

Class 46 — Foods and Ingredients of Foods

792,399. Quincy Soybean Company, Quincy, Ill. SN 129,390. Filed P.R. 10-6-61; Am. S.R. 4-26-65.

QUINCY

For Soybean Meal for Animal Feeds.
First use Sept. 26, 1961.

792,400. Tipton C. Wilcox, d.b.a. Wilcox Cake Co., Detroit, Mich. SN 178,387. Filed P.R. 10-4-63; Am. S.R. 5-14-65.

"SIMPLY DIVINE"

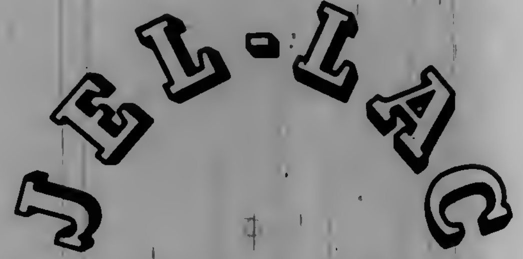
For Fruit Cake.
First use Sept. 26, 1963.

792,401. Pevely Dairy Company, d.b.a. Polar Dairy Company, St. Louis, Mo. SN 183,334. Filed P.R. 12-20-63; Am. S.R. 5-3-65.

LUSH BAR

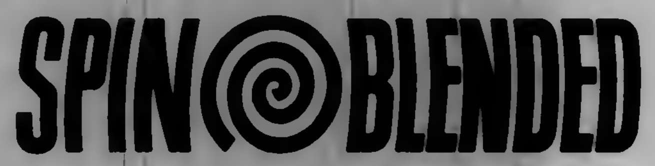
For Frozen Confections on a Stick.
First use Sept. 6, 1963.

792,402. Golden Glow Dairy Products, Inc., Los Angeles, Calif. SN 193,782. Filed P.R. 5-19-64; Am. S.R. 5-4-65.



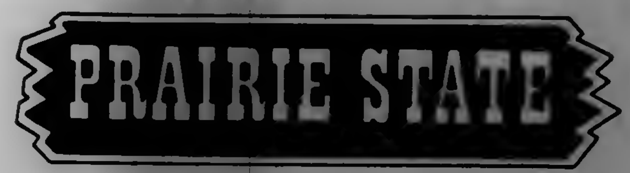
For Reconstituted Milk Product in the Nature of a Mixture of Powdered Milk in Combination With Other Ingredients, To Which Water Is Added.
First use Apr. 29, 1964.

792,403. Southern Bakeries Company, Atlanta, Ga. SN 195,334. Filed P.R. 6-10-64; Am. S.R. 2-4-65.



For Bread.
First use June 4, 1962.

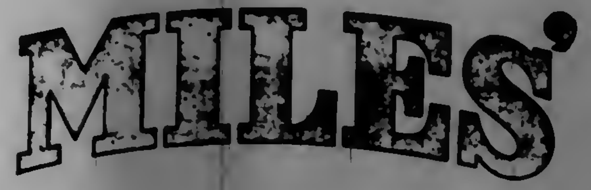
792,404. John B. Sanfilippo & Son, Inc., Chicago, Ill. SN 196,563. Filed P.R. 6-26-64; Am. S.R. 5-17-65.



For Shelled Nuts.
First use Nov. 14, 1963.

Class 49 — Distilled Alcoholic Liquors

792,405. Sazerac Company, Inc., d.b.a. Macaulay & Company, New Orleans, La. SN 193,708. Filed P.R. 5-18-64; Am. S.R. 5-14-65.



The drawing is lined for shading purposes only.
For Gin.
First use Feb. 1, 1960.

Class 50 — Merchandise Not Otherwise Classified

792,406. Sealed Air Corporation, Hawthorne, N.J. SN 191,616. Filed P.R. 4-20-64; Am. S.R. 4-22-65.

NU-MAT

For Plastic Insulating and Packaging Pads.
First use June 28, 1963.

Class 51 — Cosmetics and Toilet Preparations

792,407. Turner Hall Corporation, New York, N.Y. SN 165,969. Filed P.R. 4-2-63; Am. S.R. 5-6-65.

SHADES OF FASHION

For Lipstick.
First use Feb. 26, 1963.

Class 52 — Detergents and Soaps

792,408. Imperial Type Metal Company, Philadelphia, Pa. SN 187,287. Filed P.R. 2-24-64; Am. S.R. 5-12-65.

CLEAN-O-PLATE

For Solution Used To Prepare a Photoengraving Plate for Etching by Removal of Dirt and Grease From the Surface of Said Plate.
First use Jan. 10, 1964.

Service Marks

Class 101 — Advertising and Business

792,409. The E. F. MacDonald Company, Dayton, Ohio. SN 161,531. Filed P.R. 1–28–63; Am. S.R. 4–2–65.

WORLD-WIDE SALES INCENTIVE SERVICE

The words "Sales Incentive Services" are disclaimed apart from the mark as shown.

For Promotion of the Sale of Goods and Services of Others by Providing Sales Incentive Plans.

First use during the first part of January 1958.

Class 102 — Insurance and Financial

792,410. Life Assurance Company of Pennsylvania, Philadelphia, Pa. SN 158,353. Filed P.R. 12–3–62; Am. S.R. 5–5–65.

THE UNIVERSITY LIFE PLAN

For Underwriting of Life Insurance for University and College Students.

First use Aug. 27, 1962.

792,411. Franklin Jack Lacey, d.b.a. Jack Lacey and Junior Bankers of America, St. Petersburg, Fla. SN 177,059. Filed 9–16–63.

JUNIOR BANKERS OF AMERICA

For Promotion of Savings Accounts, Investments and General Banking by Minors.

First use May 1957.

Class 103 — Construction and Repair

792,412. U.DU Car Wash, Inc., Kansas City, Mo. SN 198,239. Filed P.R. 7–20–64; Am. S.R. 4–26–65.

U DU

For Services of Furnishing Coin-Operated Facilities for Car Washing.

First use Apr. 13, 1964.

TRADEMARK REGISTRATIONS RENEWED

44,363. VELVET GRIP. Cl. 39. 7–4–05.
44,547. BOSTON. Cl. 39. 7–11–05.
44,790. VASELINE. Cl. 18. 7–25–05.
45,498. GOLD HEART. Cl. 46. 8–22–05.
46,064. MACHINERY. Cl. 38. 9–5–05.
46,088. PARAGON. Cl. 1. 9–5–05.
46,090. COMET. Cl. 1. 9–5–05.
46,092. ATLAS. Cl. 1. 9–5–05.
46,992. AUTOCAR. Cl. 19. 10–17–05.
47,189. COCA-COLA. Cl. 45. 10–31–05.
47,349. OKONITE AND DESIGN. Cl. 21. 10–31–05.
195,490. DIXIE. Cl. 46. 2–24–25.
195,504. HIGH CHIEF. Cl. 46. 2–24–25.
196,207. MEISSONIER. Cl. 29. 3–10–25.
196,208. KAZANOX. Cl. 29. 3–10–25.
196,209. GILDMORE. Cl. 29. 3–10–25.
196,210. ESPERANTO. Cl. 29. 3–10–25.
196,212. CAMOX. Cl. 29. 3–10–25.
196,214. ARTCRAFT. Cl. 29. 3–10–25.
196,304. VALETERIA. Cl. 24. 3–17–25.
196,673. BENJ. FRANKLIN. Cl. 2[illegible]. 3–24–25.
197,047. BOKAY. Cl. 15. 4–7–25.
197,065. MONOLITH. Cl. 15. 4–7–25.
197,576. BROGDEX. Cl. 23. 4–21–25.
197,938. E AND DESIGN. Cl. 46. 4–28–25.
198,072. DICTAPHONE. Cl. 21. 5–5–25.
198,145. MB MEANS BEST AND DESIGN. Cl. 21. 5–5–25.
198,245. CREAMETTE. Cl. 45. 5–12–25.
198,425. CREAMETTE. Cl. 46. 5–19–25.
198,698. AIR MAIL. Cl. 46. 5–26–25.
198,969. PETER DAWSON AND DESIGN. Cl. 49. 6–2–25.
199,068. PMS AND DESIGN. Cl. 4[illegible]. 6–2–25.
199,210. CAPEM. Cl. 23. 6–2–25.
199,416. THE AVENUE. Cl. 28. 6–9–25.
199,675. GRISON. Cl. 1. 6–16–25.
199,680. METRO. Cl. 15. 6–16–25.
200,061. TRENTON. Cl. 46. 6–23–25.
200,447. BEAUTY WE HANDLE THE WORLD AND DESIGN. Cl. 23. 6–30–25.
200,448. TRIUMPH WE HANDLE THE WORLD AND DESIGN. Cl. 23. 6–30–25.
200,449. EAGLE WE HANDLE THE WORLD AND DESIGN. Cl. 23. 6–30–25.
200,450. DANIEL BOONE WE HANDLE THE WORLD AND DESIGN. Cl. 23. 6–30–25.
200,451. HERCULES WE HANDLE THE WORLD AND DESIGN. Cl. 23. 6–30–25.
200,452. SUCCESS WE HANDLE THE WORLD AND DESIGN. Cl. 23. 6–30–25.
200,593. SENTINEL. Cl. 16. 7–7–25.
200,719. NO RUSTOL. Cl. 15. 7–7–25.
203,313. LOLLY POPS. Cl. 39. 9–15–25.
203,726. DESIGN OF TWO GROTESQUE FIGURES MADE OF CORDAGE. Cl. 7. 9–22–25.
203,728. LOZELLE. Cl. 1. 9–22–25.
204,643. RED GLOBE. Cl. 46. 10–20–25.
204,644. BLUE GLOBE. Cl. 46. 10–20–25.
204,936. FLUFF. Cl. 52. 10–27–25.
205,178. PARA-FLUX. Cl. 12. 11–3–25.
411,800. KNIGHT. Cl. 1. 2–6–45.
413,924. ELECTRAULIC. Cl. 23. 5–22–45.
414,006. BAG-VELOPE. Cl. 2. 5–22–45.
414,107. V-B. Cl. 23. 5–29–45.
414,215. ANTARA. Cl. 6. 5–29–45.
414,241. MELROSE. Cl. 49. 5–29–45.
414,534. DURAPROOF. Cl. 6. 6–12–45.
414,746. CORO ELEGANTE. Cl. 28. 6–26–45.
414,765. CORO-TEENS. Cl. 28 and 2. 6–26–45.
414,883. LAMINAR-FLOW. Cl. 13. 7–3–45.
415,359. ANGELWEAVE. Cl. 39. 8–7–45.
415,532. BISSET'S. Cl. 49. 8–7–45.
416,204. RICHKRAFT. Cl. 12. 9–4–45.
416,220. B-T-U. Cl. 12. 9–4–45.
416,238. R REDMOND AND DESIGN. Cl. 14. 9–4–45.
416,471. INTERLOOP. Cl. 39. 9–18–45.
416,552. ROYAL PARK. Cl. 39. 9–18–45.
417,181. THE FOUNDATION OF A NATION. Cl. 39. 10–16–45.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued May 19, 1959

678,662. ECHO CALF. Cl. 1.
678,664. LITTLE TRAVELER. Cl. 3.
678,666. KLINCH KOAT AND DESIGN. Cl. 3.
678,670. IMPERIAL. Cl. 4.
678,680. CHLORO BLOC AND DESIGN. Cl. 6.
678,683. A-M. Cl. 6.
678,685. WILT. Cl. 6.
678,686. STERIGERMED. Cl. 6.
678,689. HYDRI-FOAM. Cl. 6.
678,704. VU-AD. Cl. 6.
678,706. BIOTHANECIDIN. Cl. 6.
678,709. STERI-PLATE. Cl. 6.
678,722. CV PANELWALL. Cl. 12.
678,724. VENUS. Cl. 12.
678,730. RHEEM-RICHMOND. Cl. 13.
678,732. FLEX-HEAD. Cl. 13.
678,734. VENETIAN. Cl. 13.
678,737. SOUTHERN KITCHENS. Cl. 13.
678,759. FAIRCREST. Cl. 18.
678,760. HORMONAID. Cl. 18.
678,761. ROXODIUM. Cl. 18.
678,767. ROWATINEX. Cl. 18.
678,771. TRITIS. Cl. 18.
678,773. MONILITROL. Cl. 18.
678,774. SUN TABS AND DESIGN. Cl. 18.
678,775. SPASTIPAX. Cl. 18.
678,776. VASCUTONEX. Cl. 18.
678,777. SUCCINAVITE. Cl. 18.
678,780. DEPO-CORTEF. Cl. 18.
678,785. PIRASOL. Cl. 18.
678,787. REX AND DESIGN. Cl. 19.
678,792. BIG BOY AND DESIGN. Cl. 19.
678,794. SPACEMASTER. Cl. 19.
678,795. COURIER. Cl. 19.
678,798. CANDACE SNUG-A-BED AND DESIGN. Cl. 21.
678,799. PEQUOT. Cl. 21.
678,806. NOVICOR AND DESIGN. Cl. 21.
678,808. GOLDEN GLO. Cl. 21.
678,810. AUDID GUIDE AND DESIGN. Cl. 21.
678,813. SAAJ LORICA. Cl. 21.
678,818. COMFORMATIC. Cl. 21.
678,821. LIMELIGHT. Cl. 21 and 32.
678,824. MATADOR. Cl. 22.
678,828. SCR PACKAGE LINE. Cl. 23.
678,830. FRIDEN CREATES A NEW WORLD ETC. AND DESIGN. Cl. 23.
678,831. MAJIK LODER. Cl. 23.
678,832. MASERATI AND DESIGN. Cl. 23.
678,833. MASERATI AND DESIGN. Cl. 23.
678,834. STEP-START. Cl. 23.
678,842. HIL-A-VATOR. Cl. 23.
678,850. LINE-A-MATIC. Cl. 23.
678,859. SAFE-SEE. Cl. 26.
678,860. SHARP-SITE. Cl. 26.
678,862. CINEFLEX. Cl. 26.
678,866. MOONSCOPE. Cl. 26.
678,867. LUXLITE. Cl. 27.
678,868. LUXRAY. Cl. 27.
678,870. LINMARK. Cl. 27.
678,871. COMMUTER. Cl. 27.
678,876. PERMAZE. Cl. 31.
678,882. NEVAMAR CAREFREE KITCHENS AND DESIGN. Cl. 32.
678,892. BREEZETTE. Cl. 34.
678,893. CARL-QUE. Cl. 34.
678,894. ALUMIDURE. Cl. 34.
678,899. AUTOMATOPHONE. Cl. 36.
678,907. CHORD-AID. Cl. 38.
678,908. GILLESPIE SIGNS AND DESIGN. Cl. 38.
678,920. BULL-DOG. Cl. 39.
678,926. GILBERT ORCEL JR. Cl. 39.
678,934. THRUST. Cl. 39.
678,938. JET KOOL. Cl. 42.
678,942. KWILTEX. Cl. 42.
678,943. ELTIKON. Cl. 43.
678,944. HYTRON. Cl. 43.
678,945. MAKEUR. Cl. 44.
678,946. CAPRI. Cl. 44.
678,949. VIBRA-HEAT. Cl. 44.
678,951. PERMA-PLATE. Cl. 44.
678,954. R-TACH. Cl. 44.
678,955. HAX. Cl. 45.
678,965. MADRE SICILIA. Cl. 46.
678,970. SKIM-EGGS. Cl. 46.
678,971. SKIM-CHICK. Cl. 46.
678,974. MINTED GOLD. Cl. 46.
678,976. MRS. CUBBISONS. Cl. 46.
678,979. NEO-CEBIMIX. Cl. 46.
678,986. RIO VISTA. Cl. 46.
678,988. FARM MAID. Cl. 46.
678,992. LAY-N-LAY. Cl. 46.
678,994. ELENDI. Cl. 46.
678,996. GLENLOMOND AND DESIGN. Cl. 49.
679,000. KEYPORT. Cl. 50.
679,001. ELITE-HAVEN AND DESIGN. Cl. 50.
679,004. MID-JET. Cl. 50.
679,005. CRAFTINT PAINT-N-GROUP. Cl. 50.
679,008. K-9. Cl. 50.
679,009. JANMARIE. Cl. 51.
679,010. INVISIBLE VEIL. Cl. 51.
679,016. BYRNES. Cl. 51.
679,020. SPUNJ. Cl. 52.
679,026. FANCIFUL LETTERS AS AND DESIGN. Cl. 100.
679,028. SATELLITE SAVINGS CLUB AND DESIGN. Cl. 102.
679,031. McINTOSH AND DESIGN. Cl. 103.
679,041. KUT KLEEN. Cl. 23.
679,044. CASSEL. Cl. 36.
679,051. SIDNEY FABRE & SON JEAN LAFITTE AND DESIGN. Cl. 46.
679,054. CANDY ABC'S. Cl. 46.

Section 18

217,700. ARMSTRONG AND DESIGN. Cl. 12. 9–7–26.
277,411. HULA. Cl. 46. 11–11–30.
423,850. TRAIL BLAZER. Cl. 28. 9–10–46.
429,357. STARLET. Cl. 6. 4–29–47.
437,766. DUROFLEX. Cl. 28. 3–30–48.
569,912. BUTCHER BOY. Cl. 46. 2–3–53.
685,005. DENSO CHEMIE AND DESIGN. Cl. 16. 9–15–59.
688,728. DYNETICS. Cl. 23. 11–24–59.
770,739. TROY. Cl. 25. 6–2–64.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

46,038. BANQUET AND DESIGN. Cl. 46. 9–5–05. McCormick & Company, McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

59,755. BANQUET AND DESIGN. Cl. 46. 1–15–07. McCormick & Co., McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

60,560. BANQUET AND DESIGN. Cl. 46. 2–12–07. McCormick & Co., McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

195,986. WM. P. HARTLEY'S. Cl. 46. 3–10–25. Wm. P. Hartley (London & Aintree) Limited, Chivers-Hartley Limited, London, England. Amended to appear:

Wm. P. HARTLEY'S

385,684. BODY-GUARD. Cl. 32. 8–11–41. The Englander Company, Inc., New York, N.Y. Amended: In the statement, column 2, lines 3 through 5 are deleted, and the drawing is amended to appear:

BODY-GUARD

541,469. BANQUET AND DESIGN. Cl. 46. 4–24–51. McCormick & Company, Inc., McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

542,462. BANQUET AND DESIGN. Cl. 45. 5–15–51. McCormick & Company, Inc., McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

549,551. BANQUET AND DESIGN. Cl. 46. 10–16–51. McCormick & Company, Inc., McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

559,374. BANQUET AND DESIGN. Cl. 46. 5–27–52. McCormick & Company, Inc., McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

590,391. KOW KRUNCH. Cl. 46. 6–1–64. Fisher Flouring Mills Company, Seattle, Wash. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Texas and Louisiana, by order of the First Assistant Commissioner dated January 5, 1965 following decision on Concurrent Use Proceeding No. 243, *Allied Mills, Inc.* v. *Fisher Flouring Mills Company.*

614,006. BANQUET AND DESIGN. Cl. 46. 10–11–55. McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

663,888. BANQUET McCORMICK AND DESIGN. Cl. 46. 7–1–58. McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

674,286. BANQUET McCORMICK AND DESIGN. Cl. 46. 2–17–59. McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

677,067. BANQUET McCORMICK AND DESIGN. Cl. 46. 4–14–59. McCormick & Company, Incorporated, Baltimore, Md. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of Montana, Wyoming, Colorado, New Mexico, Idaho, Utah, Arizona, Washington, Oregon, Nevada and California, by order of the First Assistant Commissioner dated March 25, 1965 following decision on Concurrent Use Proceeding No. 275, *Nelson-Ricks Creamery Company, doing business as Banquet Better Foods* v. *McCormick & Company, Incorporated.*

714,691. REPRESENTATION OF SWORDSMAN. Cl. 23. 5–2–61. Champlain Company, Inc., Roseland, N.J. Corrected: In the statement, column 1, line 1, "New Jersey" should be deleted and *New York* should be inserted.

719,965. CHAMPLAIN. Cl. 23. 8–15–61. Champlain Company, Inc., Roseland, N.J. Corrected: In the statement, column 1, line 1, "New Jersey" should be deleted and *New York* should be inserted.

724,880. DIAMOND BRAND AND DESIGN. Cl. 46. Diamond Walnut Growers, Inc., Stockton, Calif. Amended: In the statement, column 2, lines 1 through 3, the description of goods is deleted and *shelled and unshelled nuts* is inserted.

725,508. DUREX. Cl. 6. 12–26–61. Morrison Oil Co., Portland, Oreg. Restricted under the provisions of Sec. 18 of the Trademark Act of 1946 to that area of the United States excluding the States of North Dakota, South Dakota, Iowa, Minnesota, Nebraska, Wisconsin, Colorado, Kansas, Illinois, Michigan, Oklahoma, Texas, Indiana and Ohio, by order of the First Assistant Commissioner dated April 8, 1965 following decision on Concurrent Use Proceeding No. 270, *Mid-States Distributing Company, Inc.* v. *Morrison Oil Co.*

787,001. ROSPIN. Cl. 6. 3–23–65. Geigy Chemical Corporation, Ardsley, N.Y. Corrected: In the statement, column 2, line 2, "acarides" should be deleted and *acaricides* should be inserted.

788,202. DAVANTE. Cl. 39. 4–13–65. Davidow Suits, Inc., New York, N.Y. Corrected: In the statement, column 1, line 1, "Davidson" should be deleted and *Davidow* should be inserted.

TRADEMARK REGISTRATIONS—NEW CERTIFICATES

New Certificates issued under sections 7(c), 7(f), 7(g) of the Trademark Act of 1946 for the unexpired term of the original registrations.

441,329. CASUAL. Cl. 6. Sportline, Inc., 11–16–48. New Cert. Sec. 7(c) to The Gillette Company, Boston, Mass.

582,999. ELECTROWRITER. Cl. 21. The Pioneer Electric and Research Corporation, 11–24–53. New Cert. Sec. 7(c) to Victor Comptometer Corporation, Chicago, Ill.

622,753. ARCHITECTURAL FORUM. Cl. 38. Time, Incorporated, 3–6–56. New Cert. Sec. 7(c) to Urban America, Inc., New York, N.Y.

706,435. CHICAGO FM GUIDE. Cl. 38. FM Guide, Inc., 10–25–60. New Cert. Sec. 7(c) to Omnibus, Incorporated, Kenilworth, Ill.

783,393. STYLIZED A (DESIGN). Cl. 106. Ames American, 1–12–65. New Cert. Sec. 7(c) to Albany Felt Company, Albany, N.Y.

REGISTRATIONS PUBLISHED UNDER SEC. 12(c)

The following marks registered under the act of 1905, or the act of 1881, are published under the provisions of section 12(c) of the Trademark Act of 1946. These registrations are not subject to opposition but are subject to cancellation under section 14 of the act of 1946.

Class 5—Adhesives

375,302. Feb. 13, 1940. The Seamless Rubber Company, Inc., New Haven, Conn. Pub. by Rexall Drug and Chemical Company, d.b.a. The Seamless Rubber Company, Los Angeles, Calif.

HUSKY
TAPE

For Adhesive Tape.

Class 8—Smokers' Articles, Not Including Tobacco Products

413,286. Apr. 17, 1945. Lane Tobacco, Ltd., New York, N.Y. Pub. by Lane Limited, New York, N.Y.

COMMODORE

For Pipes, Pipe Cases, Pipe Stands, Combination Humidor and Pipe Cases, etc.

Class 15—Oils and Greases

412,928. Apr. 3, 1945. Frank W. Dryden & Sons, Baltimore, Md. Pub. by Dryden Oil Company, Inc., Baltimore, Md.

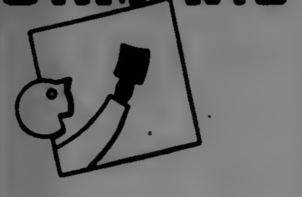
DRYDENE

For Upper Motor Lubricant and Penetrating Oils and Greases.

Class 16—Protective and Decorative Coatings

413,685. May 8, 1945. Norman Paint Company, Washington, D.C. Pub. by Norman Paint Company, Inc., Washington, D.C.

NORMAN'S



For Flat Wall Paint, House Paint, Interior Gloss Paint, etc.

427,120. Jan. 28, 1947. Jack Norin, Baltimore, Md. Pub. by General Liquids Corporation, Baltimore, Md.

LIQUID SANDPAPER

For Liquid Chemical Composition for Dulling the Gloss on Enameled, Varnished, or Lacquered Surfaces.

Class 18—Medicines and Pharmaceutical Preparations

198,128. May 5, 1925. H. Clay Glover Co., Inc., Garden City, N.Y. Pub. by registrant.

GLOVER'S

For Preparation for Treating the Human Scalp.

242,414. May 22, 1928. Irwin, Neisler & Co., Decatur, Ill. Pub. by Neisler Laboratories, Inc., Decatur, Ill.

SODINGO

For Effervescing Salts With Fruit Acids for Treating Acidosis.

369,815. Aug. 1, 1939. Irwin, Neisler & Co., Decatur, Ill. Pub. by Neisler Laboratories, Inc., Decatur, Ill.

OSMOPAK

For Hypertonic Antiseptic Dressing in Paste Form for Local Infected Inflammatory Lesions.

369,816. Aug. 1, 1939. Irwin, Neisler & Co., Decatur, Ill. Pub. by Neisler Laboratories, Inc., Decatur, Ill.

VERATRITE

For Medicinal Tablets To Provide Symptomatic and Functional Relief for Hypertension.

431,845. Aug. 12, 1947. Irwin, Neisler & Co., Decatur, Ill. Pub. by Neisler Laboratories, Inc., Decatur, Ill.

Vertavis

For Medicinal Tablet of Veratrum Viride Biologically Standardized and Intended for the Treatment of Essential Hypertension.

Class 22 — Games, Toys, and Sporting Goods

202,965. Sept. 8, 1925. United States Rubber Company, New York, N.Y. Pub. by registrant.

FAIRWAY

For Golf Balls.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

143,952. June 21, 1921. Frick Company, Waynesboro, Pa. Pub. by registrant.

FRICK

For Sawmills.

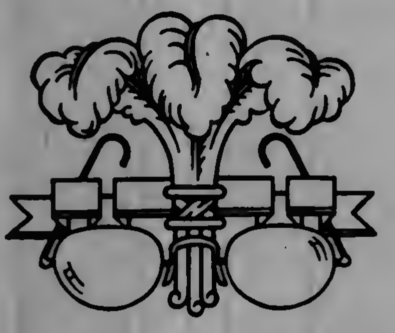
412,244. Feb. 27, 1945. L. C. Smith & Corona Typewriters, Inc., Syracuse, N.Y. Pub. by SCM Corporation, New York, N.Y.

SKYRITER

For Typewriting Machines.

Class 26 — Measuring and Scientific Appliances

415,194. July 31, 1945. Shuron Optical Company, Inc., Geneva, N.Y. Pub. by Textron Inc., Rochester, N.Y.



For Ophthalmic Mountings and Parts Thereof, Ophthalmic Lenses, etc.

Class 31 — Filters and Refrigerators

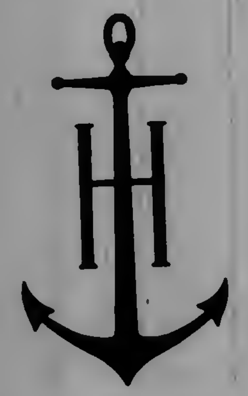
144,236. June 28, 1921. Frick Company, Waynesboro, Pa. Pub. by registrant.

FRICK

For Ice-Making and Refrigerating Machinery.

Class 33 — Glassware

376,781. Apr. 9, 1940. Anchor Hocking Glass Corporation, Lancaster, Ohio. Pub. by registrant.



For Glass Bottles, Tumblers, Tableware, Condiment Jars, Mixing Bowls, and Other Food Preparing Vessels, Food-Packing Jars, Bottles, Jugs, and Tumblers, Cosmetic Jars, and Cuspidors.

Class 34 — Heating, Lighting, and Ventilating Apparatus

388,874. July 15, 1941. Frick Company, Waynesboro, Pa. Pub. by registrant.

FRICK

For Unit Air Conditioners.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

397,529. Sept. 8, 1942. Wolverine Fabricating & Mfg. Co., Inc., Inkster, Mich. Pub. by registrant.

VULKOL

For Sheet Packing and Gasket Material Comprising a Fibre Base Sheet Coated With a Compressible Sealing Material.

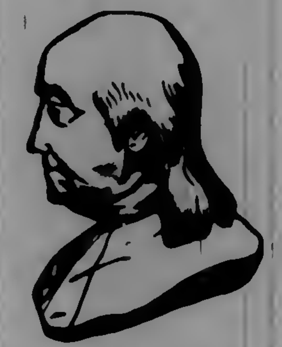
Class 38 — Prints and Publications

44,395. July 4, 1905. The Curtis Publishing Company, Philadelphia, Pa. Pub. by registrant.

THE LADIES' HOME JOURNAL

For Monthly Magazine Devoted Exclusively to Women's Interests.

44,432. July 4, 1905. The Curtis Publishing Company, Philadelphia, Pa. Pub. by registrant.



For Illustrated Weekly Magazine of General Interest Entitled "The Saturday Evening Post."

44,433. July 4, 1905. The Curtis Publishing Company, Philadelphia, Pa. Pub. by registrant.

THE SATURDAY EVENING POST

For Illustrated Weekly Magazine of General Interest.

199,549. June 9, 1925. Globe Newspaper Company, Boston, Mass. Pub. by registrant.

The Boston Sunday Globe

For Sunday Edition of a Daily Newspaper.

412,512. Mar. 13, 1945. Norcross, New York, N.Y. Pub. by Norcross, Inc., New York, N.Y.

Red Head

For Greeting Cards.

412,779. Mar. 27, 1945. Norcross, New York, N.Y. Pub. by Norcross, Inc., New York, N.Y.

TOP KNOT

For Greeting Cards, and Decorative Printed Tags.

413,390. Apr. 24, 1945. Norcross, New York, N.Y. Pub. by Norcross, Inc., New York, N.Y.

Mr. Red Head

For Greeting Cards, and Decorative Printed Tags.

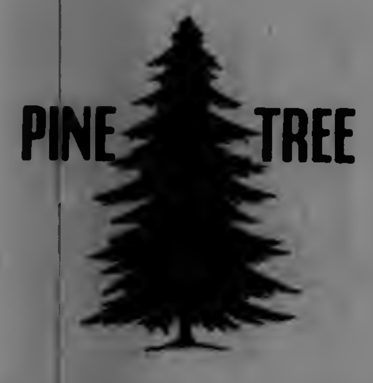
Class 39 — Clothing

414,047. May 22, 1945. Beaver Shirt Manufacturing Co. Inc., d.b.a. Beaver Shirt Mfg. Co., Inc., New York, N.Y. Pub. by registrant.

Glentop

For Dress and Sport Shirts.

437,586. Mar. 30, 1948. Hammond Moccasins, Inc., Bangor, Maine. Pub. by Spencer Shoe Corporation, Boston, Mass.



For Leather Moccasins for Men and Children.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

415,694. Aug. 14, 1945. United States Rubber Company, New York, N.Y. Pub. by registrant.

NAUGALON

For Fabrics Coated With Waterproofing Materials.

Class 44—Dental, Medical, and Surgical Appliances

286,042. Aug. 11, 1931. L. E. Shunk Latex Products, Inc., Akron, Ohio. Pub. by The Akwell Corporation, Akron, Ohio.

TEXIDE

For Prophylactic Rubber Articles for the Prevention of Contagious Diseases.

304,213. June 27, 1933. The Killian Manufacturing Co., Akron, Ohio. Pub. by The Akwell Corporation, Akron, Ohio.

SILVER-TEX

For Prophylactic Rubber Articles for the Prevention of Contagious Diseases.

327,461. Aug. 27, 1935. Koin-Pak Sales Corp., Akron, Ohio. Pub. by The Akwell Corporation, Akron, Ohio.

KOIN-PACK

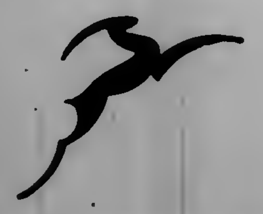
For Prophylactic Rubber Articles for the Prevention of Contagious Diseases.

354,626. Feb. 15, 1938. The Killian Manufacturing Company, Akron, Ohio. Pub. by The Akwell Corporation, Akron, Ohio.

X cello's

For Prophylactic Rubber Articles for the Prevention of Contagious Diseases.

371,558. Sept. 26, 1939. The Killian Manufacturing Company, Akron, Ohio. Pub. by The Akwell Corporation, Akron, Ohio.



APRIS

For Prophylactic Rubber Articles for the Prevention of Contagious Diseases.

413,806. May 15, 1945. E. I. du Pont de Nemours and Company, Wilmington, Del. Pub. by registrant.

DU PONT

For Intensifying and Fluoroscopic Screens for Industrial X-Ray Work, etc.

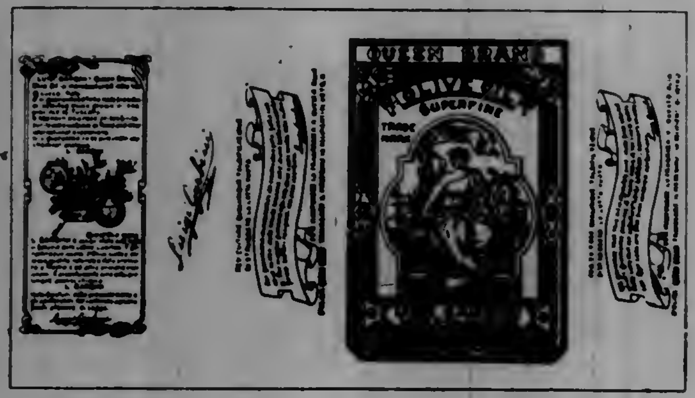
Class 46—Foods and Ingredients of Foods

196,108. Mar. 10, 1925. Altshuler Brothers & Company, Youngstown, Ohio. Pub. by Albro Packing Co., Springboro, Pa.

Albro

For Pickles, Sauerkraut, and Mustard.

320,268. Dec. 18, 1934. Luigi Garbini, Lucca, Italy. Pub. by Francesco Bertolli S.p.A., Lucca, Italy.



For Olive Oil.

Class 49—Distilled Alcoholic Liquors

313,422. May 29, 1934. Doornkaat Aktiengesellschaft, Norden, Germany. Pub. by registrant.

Doornkaat

For Whiskey, gins.

Class 50—Merchandise Not Otherwise Classified

311,076. Mar. 13, 1934. Michele D'Agnillo, d.b.a. California Artificial Flower Company, Providence, R.I. Pub. by California Artificial Flower Company, Providence, R.I.

CALIFORNIA ART FLOWER CO
A Genuine CALART CREATION

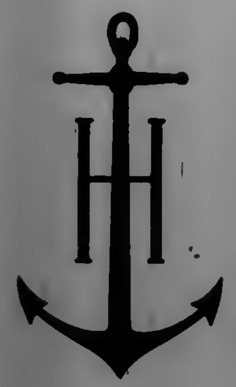
For Artificial Flowers, Artificial Foliage, and Artificial Fruits.

311,079. Mar. 13, 1934. Michele D'Agnillo, d.b.a. California Artificial Flower Company, Providence, R.I. Pub. by California Artificial Flower Company, Providence, R.I.

CALART

For Artificial Flowers, Artificial Foliage, and Artificial Fruits.

369,485. July 25, 1939. Anchor Cap & Closure Corporation, Long Island City, N.Y. Pub. by Anchor Hocking Glass Corporation, Lancaster, Ohio.



For Caps or Closures.

Class 52—Detergents and Soaps

196,910. Mar. 31, 1925. H. Clay Glover Co., Inc., Garden City, N.Y. Pub. by registrant.

GLOVER'S

For Soap.

INDEX OF REGISTRANTS

JULY 6, 1965

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

A & W Root Beer Co., Santa Monica, Calif. 792,016, pub. 4-20-65. Cl. 2.

A & W Root Beer Co., Santa Monica, Calif. 792,249, pub. 4-20-65. Cl. 37.

Adam (Ireland) Ltd., Dublin, Ireland. 792,368, pub. 4-20-65. Cl. 51.

Advac Products, Inc., Stamford, Conn. 792,142, pub. 4-20-65. Cl. 21.

Air Survey Corp., Arlington, Va. 679,026, canc. Cl. 100.

Akra Stamp Machine Co., Inc., Arcadia, Calif. 792,174, pub. 4-20-65. Cl. 23.

Akwell Corp. : *See—*
  Shunk, L. E., Latex Products, Inc.
  Killian Mfg. Co., The.
  Koin-Pak Sales Corp.

Albro Packing Co. : *See—*
  Altshuler Bros. & Co.

Allen & Rocks, Inc., Washington, D.C. 792,256, pub. 4-20-65. Cl. 38.

Alta Industries, Inc., Beaverton, Oreg. 792,013, pub. 4-20-65. Cl. 1.

Alton Box Board Co. : *See—*
  Richkraft Co., The.

Altshuler Bros. & Co., Youngstown, Ohio, by Albro Packing Co., Springboro, Pa. 196,108, 12(c) pub. 7-6-65. Cl. 46.

American Air Filter Co., Inc., Louisville, Ky. 792,216, pub. 4-20-65. Cl. 31.

American Astral Corp., New York, N.Y. 678,944, canc. Cl. 43.

American Brake Shoe Co., New York, N.Y. 792,175, pub. 4-20-65. Cl. 23.

American Cone and Pretzel Co., St. Louis, Mo. 678,976, canc. Cl. 46.

American Crayon Co., The : *See—*
  Dixon, Joseph, Crucible Co., The.

American Cyanamid Co., New York, N.Y. 678,785, canc. Cl. 18.

American Enka Corp., Enka, N.C. 792,297, pub. 4-20-65. Cl. 42.

American Fire Clay & Products Co., Canfield, Ohio. 792,065-6, pub. 4-20-65. Cl. 12.

American Grease Stick Co., Ltd., Muskegon Heights, Mich. 792,089, pub. 4-20-65. Cl. 15.

American Hardware Corp., The, New Britain, Conn. 770,739, canc. Cl. 25.

American Machine & Foundry Co. : *See—*
  Southwark Foundry & Machine Co.

American-Marietta Co., Chicago, Ill. 678,683, canc. Cl. 6.

American Solder & Flux Co., Philadelphia, Pa. 792,061, pub. 4-20-65. Multiple Class (Classes 12 and 34).

American Tobacco Co., The, New York, N.Y. 792,097, pub. 4-20-65. Cl. 17.

Ames Lab-Tek, Inc., Billerica, Mass., from Lab-Tek Plastics Co., Westmont, Ill. 792,191, pub. 11-13-62. Cl. 26.

Amtorg Trading Corp., New York, N.Y. 792,325, pub. 1-5-65. Cl. 46.

Anchor Hocking Glass Corp. : *See—*
  Anchor Cap & Closure Corp.

Anchor Hocking Glass Corp., Lancaster, Ohio. 376,781, 12(c) pub. 7-6-65. Cl. 33.

Anderson, Merrill, Co., Inc., The, New York, N.Y. 792,391. Cl. 38.

Anderson, Merrill, Co., Inc., The, New York, N.Y. 792,392. Cl. 38.

Anderson & Thompson Ski Co., Inc., Seattle, Wash. 792,163, pub. 4-20-65. Cl. 22.

Angus Garment Mfg. Co., Athens, Ga. 792,268, pub. 4-20-65. Cl. 39.

Anheuser-Busch, Inc., St. Louis, Mo. 792,323, pub. 4-20-65. Multiple Class (Classes 45 and 46).

Anken Chemical & Film Corp., Newton, N.J. 792,204, pub. 4-20-65. Cl. 26.

Applied Dynamics Corp. : *See—*
  Dynetics Corp.

Architectural Terra Cotta Institute, Washington, D.C. 678,722, canc. Cl. 12.

Arden, Elizabeth, Sales Corp., New York, N.Y. 679,010, canc. Cl. 51.

Arden Farms Co., from Mayfair Markets, Los Angeles, Calif. 792,035, pub. 4-20-65. Cl. 6.

Arder Cross Island Laboratories, Inc., Franklin Square, N.Y. 678,709, canc. Cl. 6.

Armour and Co., to Armour and Co., Chicago, Ill. 197,938, ren. 7-6-65. Cl. 46.

Armstrong Co., The, Detroit, Mich. 217,700, canc. Cl. 12.

Atlantic Lures, Inc., Providence, R.I. 792,164, pub. 4-20-65. Cl. 22.

Atlas Chemical Co., Miami, Fla. 792,068, pub. 4-20-65. Cl. 12.

Atlas Roofing Mfg. Co., Inc., Meridian, Miss. 792,069, pub. 4-20-65. Cl. 12.

Atlas Underwear Corp., Piqua, Ohio. 792,274, pub. 4-20-65. Cl. 39.

Audco Ltd., Newport, England. 792,081-2, pub. 4-20-65. Cl. 13.

Autocar Co., The, Ardmore, Pa., to The White Motor Co., Cleveland, Ohio. 46,992, ren. 7-6-65. Cl. 19.

Automation Industries, Inc., Torrance, Calif. 792,193, pub. 4-20-65. Multiple Class (Classes 26 and 44).

Automotive Service Publishing Corp., Chicago, Ill. 792,390. Cl. 38.

Avon Products, Inc. : *See—*
  Pape, Harry W.

B & P Distributors, Inc., Philadelphia, Pa. 792,025-6, pub. 4-20-65. Cl. 5.

B & W Fitting Co. : *See—*
  Bauer, Mathew F., and George V. Woodling.

Bailey, John T., d.b.a. United Fibre Co., to The Grady-Travers Co., Inc., New York, N.Y. 203,726, ren. 7-6-65. Cl. 7.

Bandribbons, Monmouth, Oreg. 792,292, pub. 4-20-65. Cl. 40.

Barnes-Hind Laboratories, Sunnyvale, Calif. 792,109-10, pub. 2-23-65. Cl. 18.

Basic, Inc., Cleveland, Ohio. 792,056, pub. 4-20-65. Cl. 12.

Basic, Inc., Cleveland, Ohio. 792,058, pub. 4-20-65. Cl. 12.

Basic Vegetable Products, Inc., Vacaville, Calif. 792,341, pub. 4-20-65. Cl. 46.

Bata Shoe Co. of Canada, Ltd., Batawa, Ontario, Canada. 792,173, pub. 4-20-65. Cl. 23.

Bauer, Mathew F., and G. V. Woodling, d.b.a. B & W Fitting Co., Cleveland, Ohio. 792,074, pub. 4-20-65. Cl. 13.

Beecham Products, Inc., Clifton, N.J. 792,371, pub. 4-20-65. Cl. 51.

Beecham Products, Inc., Clifton, N.J. 792,375, pub. 4-20-65. Cl. 52.

Bee Zee Originals, Chesterfield, Mo. 792,242, pub. 12-24-63. Cl. 37.

Bear Mfg. Co., Rock Island, Ill. 792,195, pub. 4-20-65. Cl. 26.

Beaver Shirt Mfg. Co. Inc., d.b.a. Beaver Shirt Mfg. Co., Inc., New York, N.Y. 414,047, 12(c) pub. 7-6-65. Cl. 39.

Becton Dickinson and Co., Rutherford, N.J. 792,043, pub. 4-20-65. Cl. 6.

Bela Seating Co., Inc., from B. B. Junkunc, d.b.a. J & J Tool and Macihne Co., Chicago, Ill. 792,225, pub. 4-20-65. Cl. 32.

Belair Industries, Inc., Bergenfield, N.J. 678,946, canc. Cl. 44.

Bertolli, Francesco, S.p.A. : *See—*
  Garbini, Luigi.

Best Tackle Mfg. Co., Sebewaing, Mich. 792,165, pub. 4-20-65. Cl. 22.

Bird Corp., Richmond, Calif. 792,124, pub. 4-20-65. Cl. 18.

Bisset, John, & Co. Ltd., Leith, Edinburgh, Scotland. 415,532, ren. 7-6-65. Cl. 49.

Black, Sivalls & Bryson, Inc., Kansas City, Mo. 792,062, pub. 4-20-65. Cl. 12.

Blaisdell Pencil Co., Bethayres, Pa. 792,245, pub. 4-20-65. Cl. 37.

Block & Anderson, Ltd., London, England. 678,850, canc. Cl. 23.

Bloom Radio : *See—*
  Magee, Harry L.

Blumcraft of Pittsburgh, Pittsburgh, Pa. 792,059, pub. 4-20-65. Cl. 12.

Bobrich Products Corp., New York, N.Y. 678,949, canc. Cl. 44.

Borden Co., The, New York, N.Y., from Smith-Douglass Co., Inc., Norfolk, Va. 792,050-1, pub. 4-20-65. Cl. 10.

Botany Industries, Inc., d.b.a. Renauld of France, Reno, Nev. 792,190, pub. 4-20-65. Cl. 26.

Boye Needle Co., The, Chicago, Ill. 792,196, pub. 4-20-65. Cl. 26.

Boye Needle Co., The, Chicago, Ill. 792,294, pub. 4-20-65. Cl. 40.

Brandell Products Corp., Chicago, Ill. 792,157, pub. 4-20-65. Cl. 22.

Brenton, Pearl S., Indianapolis, Ind. 678,666, canc. Cl. 3.

Bridgestone Tire Co., Ltd., Tokyo, Japan. 792,234, pub. 4-20-65. Cl. 35.

Bristol Mfg. Corp., Bristol, R.I. 792,279, pub. 4-20-65. Cl. 39.

Brogdex Co., Pomona, Calif. 197,576, ren. 7-6-65. Cl. 23.

Brown, K. G. Mfg. Co., Inc., Mattituck, N.Y. 792,181, pub. 4-20-65. Cl. 23.

Burford Co., The, Maysville, Okla. 792,169-70, pub. 9-22-64. Cl. 23.

Burlington Industries, Inc., New York, N.Y. 792,303-10, pub. 4-20-65. Cl. 42.

Burron Medical Products, Inc., Bethlehem, Pa. 792,322, pub. 4-20-65. Cl. 44.

California Artificial Flower Co. : *See—*
  D'Agnillo, Michele.

Calmic Ltd., Crewe, Cheshire, England. 678,776, canc. Cl. 18.

Candace, Inc., Chicago, Ill. 678,798, canc. Cl. 21.

Candle-Lite, Inc. : *See—*
  Standard Oil Co.

Canfield Oil Co., Cleveland, Ohio. 679,020, canc. Cl. 52.

Carlson Tool & Machine Co., Geneva, Ill. 678,893, canc. Cl. 34.

Carnrick Laboratories, Summit, N.J. 792,116, pub. 4-20-65. Cl. 18.

Cartlidge, Christopher, d.b.a. Original Trenton Cracker Co., to Original Trenton Cracker Co., Inc., Trenton, N.J. 200,061, ren. 7-6-65. Cl. 46.
Cassel Enterprises: *See—*
Cassel, Tommy G.
Cassel, Tommy G., d.b.a. Cassel Enterprises, Shreveport, La. 679,044, canc. Cl. 36.
Cates, Florine, Denver, Colo. 678,664, canc. Cl. 3.
Central Retailer-Owned Grocers, Inc.: *See—*
Shurfine-Central Corp.
Chemex Industries, Inc., Tampa, Fla. 792,022, pub. 4-20-65. (Consolidated certificate, Classes 4 and 52.)
Chemical Separations Corp., Oak Ridge, Tenn. 792,218-19, pub. 4-20-65. Cl. 31.
Chemieprodukte G.m.b.H., Leverkusen-Rheindorf, Germany. 685,005, canc. Cl. 16.
Chempac, Inc., Cicero, Ill. 792,067, pub. 4-20-65. Cl. 12.
Chesebrough Mfg. Co., to Chesebrough-Pond's Inc., New York, N.Y. 44,790, ren. 7-6-65. Cl. 18.
Chesebrough-Pond's Inc.: *See—*
Chesebrough Mfg. Co.
Chicago Printed String Co., Chicago, Ill. 792,044, pub. 4-20-65. Cl. 7.
Churchill Chemical Co., Galesburg, Ill. 792,091-2, pub. 4-20-65. Cl. 16.
Churchill Chemical Co., Galesburg, Ill. 792,023, pub. 4-20-65. Cl. 4.
Ciba Ltd., Basel, Switzerland. 792,084, pub. 4-20-65. Cl. 14.
Cie. d'Equipement Sanitaire Limitee, Montreal, Quebec, Canada. 678,686, canc. Cl. 6.
Clairol, Inc., New York, N.Y. 792,361, pub. 4-20-65. Cl. 51.
Clare, C. P., & Co., Chicago, Ill. 792,150, pub. 4-20-65. Cl. 21.
Clevite Corp., Cleveland, Ohio. 792,200, pub. 4-20-65. Cl. 26.
Clinical Products Ltd., Surrey, England. 678,775, canc. Cl. 18.
Coca-Cola Co., The, to The Coca-Cola Co., Atlanta, Ga. 47,189, ren. 7-6-65. Cl. 45.
Cohn & Rosenberger, Inc., to Coro, Inc., New York, N.Y. 199,416, ren. 7-6-65. Cl. 28.
Colgate-Palmolive Co., New York, N.Y. 792,102, pub. 4-20-65. Cl. 18.
Colorado Instruments, Inc., Broomfield, Colo. 792,214, pub. 4-20-65. Cl. 26.
Com-Tech, Inc., from Tapeprinter, Inc., Beverly Hills, Calif. 792,354, pub. 2-9-65. Cl. 50.
Concrete Thermal Casings, Inc.: *See—*
Universal Zonolite Insulation Co.
Confraternity of Christian Doctrine, Washington, D.C. 792,237, pub. 4-20-65. Cl. 38.
Conklin, E. W., & Son, Binghamton, N.Y., to Philadelphia Seed Co., Philadelphia, Pa. 46,088, ren. 7-6-65. Cl. 1.
Conklin, E. W., & Son, Binghamton, N.Y., to Philadelphia Seed Co., Philadelphia, Pa. 46,090, ren. 7-6-65. Cl. 1.
Conklin, E. W., & Son, Binghamton, N.Y., to Philadelphia Seed Co., Philadelphia, Pa. 46,092, ren. 7-6-65. Cl. 1.
Consolidated Midland Corp., Katonah, N.Y. 792,113, pub. 4-20-65. Cl. 18.
Consolidated Packaging Machinery Corp.: *See—*
Cundall, Powell & Mosher, Inc.
Consolidated Thermoplastics Co., d.b.a. Kraloy/Chemtrol Co., Los Angeles, Calif. 792,080, pub. 4-20-65. Cl. 13.
Continental Carbon Co., to Chas. Pfizer & Co., Inc., New York, N.Y. 411,800, ren. 7-6-65. Cl. 1.
Controls Co. of America: *See—*
Redmond, A. G., Co.
Cooper, William, & Nephews, Inc., Chicago, Ill. 792,314, pub. 4-20-65. Cl. 44.
Coro, Inc.: *See—*
Cohn & Rosenberger, Inc.
Coro, Inc., New York, N.Y. 414,746, ren. 7-6-65. Cl. 28.
Coro, Inc., New York, N.Y. 414,765, ren. 7-6-65. Multiple Class (Classes 2 and 28).
Corrao, Antonio, Corp., Brooklyn, N.Y. 678,965, canc. Cl. 46.
Corvette Paper Co., Los Angeles, Calif. 792,250, pub. 4-20-65. Cl. 37.
Craftint Mfg. Co., The, Cleveland, Ohio. 679,005, canc. Cl. 50.
Craftint Mfg. Co., The, Cleveland, Ohio. 679,008, canc. Cl. 50.
Crawford Door Co., Detroit, Mich. 792,136, pub. 3-10-64. Cl. 21.
Creamette Co., The, Minneapolis, Minn. 198,245, ren. 7-6-65. Cl. 45.
Creamette Co., The, Minneapolis, Minn. 198,425, ren. 7-6-65. Cl. 46.
Crosman Arms Co., Inc., Fairport, N.Y. 792,385. Cl. 9.
Crown Aluminum Industries Corp., Pittsburgh, Pa. 792,053, pub. 4-20-65. Cl. 12.
Cundall, Powell & Mosher, Inc., to Consolidated Packaging Machinery Corp., Buffalo, N.Y. 199,210, ren. 7-6-65. Cl. 23.
Curtis 1000 Inc., St. Paul, Minn. 414,006, ren. 7-6-65. Cl. 2.
Curtis 1000, Inc., St. Paul, Minn. 792,244, pub. 4-20-65. Cl. 37.
Curtis Publishing Co., The, Camden, N.J., and Philadelphia, Pa., by The Curtis Publishing Co., Philadelphia, Pa. 44,432-3, 12(c) pub. 7-6-65. Cl. 38.
Curtis Publishing Co., The, Camden, N.J., and Philadelphia, Pa., by The Curtis Publishing Co., Philadelphia, Pa. 44,395, 12(c) pub. 7-6-65. Cl. 38.
Czela, Costa Mesa: *See—*
North, Czela.
D'Agnillo, Michele, d.b.a. California Artificial Flower Co., by California Artificial Flower Co., Providence, R.I. 311,076, 12(c) pub. 7-6-65. Cl. 50.
D'Agnillo, Michele, d.b.a. California Artificial Flower Co., by California Artificial Flower Co., Providence, R.I. 311,079, 12(c) pub. 7-6-65. Cl. 50.
Dahlberg, Frank, AB, Stockholm, Sweden. 792,236, pub. 4-20-65. Cl. 35.
Daskal, Melvin H., Chicago, Ill. 792,387. Cl. 38.
Dawson, Peter, Ltd., to Peter Dawson Ltd., Glasgow, Scotland. 198,969, ren. 7-6-65. Cl. 49.
Decker Communications, Inc., from Vision Inc., New York, N.Y. 792,393. Cl. 38.
De Hart Mfg. Co., Winston-Salem, N.C. 679,041, canc. Cl. 23.
Deknatel, J. A., & Son, Inc., Queens Village, N.Y. 792,318, pub. 4-20-65. Cl. 44.
Del-Jay Products: *See—*
Hyman, Leroy J., M.D.
Denman Rubber Mfg. Co., The, Warren, Ohio. 792,239, pub. 4-20-65. Cl. 35.
Design Line, Inc., El Segundo, Calif. 792,075, pub. 4-20-65. Cl. 13.
Desprez, Jean, Neuilly-sur-Seine, Seine, France. 792,366, pub. 4-20-65. Cl. 51.
Diamond Alkali Co., Cleveland, Ohio. 792,032, pub. 4-20-65. Cl. 6.
Diamond Alkali Co., Cleveland, Ohio. 678,685, canc. Cl. 6.
Diamond Power Specialty Corp., Lancaster, Ohio. 792,139, pub. 4-20-65. Cl. 21.
Dictaphone Corp., Bridgeport, Conn. 198,072, ren. 7-6-65. Cl. 21.
Dietz Meats, Inc., San Francisco, Calif. 569,912, canc. Cl. 46.
Disincrustant Marseillais Co., Ltd., The, Manchester, England. 792,033, pub. 4-20-65. Cl. 6.
Divina Footwear, Inc., Miami, Fla. 792,270, pub. 4-20-65. Cl. 39.
Dixie Paper Shell Pecan Exchange: *See—*
Dixie Pecan Growers Exchange, Inc.
Dixie Pecan Growers Exchange, Inc., to R. L. Odom, d.b.a. Dixie Paper Shell Pecan Exchange, Barnesville, Ga. 195,490, ren. 7-6-65. Cl. 46.
Dixon, Joseph, Crucible Co., The, Jersey City, N.J. 792,087, pub. 4-20-65. Cl. 15.
Dixon, Joseph, Crucible Co., The, d.b.a. The American Crayon Co., Jersey City, N.J. 792,253, pub. 4-20-65. Cl. 37.
Dollar Federal Savings and Loan Association, Columbus, Ohio. 679,028, canc. Cl. 102.
Dolly Toy Co., The, Tipp City, Ohio. 792,158, pub. 4-20-65. Cl. 22.
Dome Chemicals, Inc., New York, N.Y. 792,122, pub. 4-20-65. Cl. 18.
Doornkaat Aktiengesellschaft, Norden, Germany. 313,422, 12(c) pub. 7-6-65. Cl. 49.
Dow Chemical Co., The, Midland, Mich. 792,027, pub. 4-20-65. (Consolidated certificate, Classes 6 and 15.)
Dr. Shiffer's Laboratories: *See—*
Dr. Shiffer Laboratories, Inc.
Dr. Shiffer Laboratories, Inc., from C. E. Shiffer, d.b.a. Dr. Shiffer's Laboratories, Cleveland, Ohio. 792,315, pub. 4-20-65. Cl. 44.
Drontman Mfg. Co., Inc., New York, N.Y. 792,021, pub. 4-20-65. Cl. 3.
Drug Specialties, Inc., Winston-Salem, N.C. 678,771, canc. Cl. 18.
Dryden, Frank W., & Sons, by Dryden Oil Co., Inc., Baltimore, Md. 412,928, 12(c) pub. 7-6-65. Cl. 15.
Dryden Oil Co., Inc.: *See—*
Dryden, Frank W., & Sons.
Dubonnet Associates: *See—*
Dubonnet, Renee.
Dubonnet, Renee, d.b.a. Dubonnet Associates, New York, N.Y. 792,215, pub. 4-20-65. Cl. 29.
Du Pont de Nemours, E. I., and Co., Wilmington, Del. 413,806, 12(c) pub. 7-6-65. Cl. 44.
Duraclean Co.: *See—*
Marshall, Irl.
Duroflex Corp., New York, N.Y. 437,669, canc. Cl. 28.
Dwan & Co., San Francisco, Calif. 678,842, canc. Cl. 23.
Dynetics Corp., from Applied Dynamics Corp., Natick, Mass. 688,728, canc. Cl. 23.
E & J Mfg. Co., Burbank, Calif. 678,954, canc. Cl. 44.
ES/Products, Inc., Mamaroneck, N.Y. 678,732, canc. Cl. 13.
Eastman Kodak Co., Rochester, N.Y. 792,034, pub. 4-20-65. Cl. 6.
Eastwood Industries, Inc., Chicago, Ill. 678,810, canc. Cl. 21.
Economics Laboratory, Inc., St. Paul, Minn. 792,372, pub. 4-20-65. Cl. 52.
Efron, Theodore, Mfg. Co., Chicago, Ill. 792,384, pub. 7-6-65. Cl. 1.
Elco Corp., The, Cleveland, Ohio. 792,090, pub. 4-20-65. Cl. 15.
Electraulic Presses Ltd., Rodley, near Leeds, England. 413,924, ren. 7-6-65. Cl. 23.
Elekal, Societe Anonyme, Paris, France. 678,680, canc. Cl. 6.
Elgeet Optical Co., Inc., Rochester, N.Y. 678,862, canc. Cl. 26.
Endicott Johnson Corp., Endicott, N.Y. 203,313, ren. 7-6-65. Cl. 39.
Erick's Kitchens, Inc., Billings, Mont. 792,337, pub. 4-20-65. Cl. 46.
Eshelman, Robert C., d.b.a. Terradental Co., Los Angeles, Calif. 792,319, pub. 4-20-65. Cl. 44.
Ethicon, Inc., Somerville, N.J., from G. E. MacDonald, d.b.a. Ethical Line, Grosse Pointe Farms, Mich. 792,312, pub. 7-3-62. Cl. 44.
Fabre, Sidney, & Son, Lafitte, Parish of Jefferson, La. 679,051, canc. Cl. 46.
Fabrico Mfg. Corp., Chicago, Ill. 792,220, pub. 4-20-65. Cl. 32.
Fabrico Mfg. Corp., Chicago, Ill. 792,260, pub. 4-20-65. Cl. 39.

Fair, The, Chicago, Ill. 678,759, canc. Cl. 18.
Fashion Park, Inc., New York, N.Y. 416,552, ren. 7-6-65. Cl. 39.
Fieldcrest Mills, Inc., Spray, N.C. 678,818, canc. Cl. 21.
Finch, Joseph S., and Co.: *See—*
Records & Goldsborough, Inc.
Flame-X Control Corp., Los Angeles, Calif. 792,093, pub. 4-20-65. Cl. 16.
Flavour Candy Co., Chicago, Ill. 679,054, canc. Cl. 46.
Fluff Co., The: *See—*
Pape, Harry W.
Ford Motor Co., Dearborn, Mich. 678,795, canc. Cl. 19.
Fort Howard Paper Co., Green Bay, Wis. 792,252, pub. 4-20-65. Cl. 37.
Foster Grant Co., Inc., Leominster, Mass. 792,134, pub. 4-20-65. Cl. 20.
Frank, Matilda C., d.b.a. Osteolite Co., Denver, Colo. 792,313, pub. 4-20-65. Cl. 44.
Freeland Gauge Co., Detroit, Mich. 792,213, pub. 4-20-65. Cl. 26.
Frehner Landscope Center: *See—*
Frehner Mountain West Gardens.
Frehner Mountain West Gardens, d.b.a. Frehner Landscope Center, Salt Lake City, Utah. 792,072, pub. 4-20-65. Cl. 12.
Frentrup Publishing Co., San Francisco, Calif. 792,388. Cl. 38.
Frick Co., Waynesboro, Pa. 144,236, 12(c) pub. 7-6-65. Cl. 31.
Frick Co., Waynesboro, Pa. 143,952, 12(c) pub. 7-6-65. Cl. 23.
Frick Co., Waynesboro, Pa. 388,874, 12(c) pub. 7-6-65. Cl. 34.
Friden Inc., from Friden Calculating Machine Co., Inc., San Leandro, Calif. 678,830, canc. Cl. 23.
Friedman-Marks Clothing Co., Inc., Richmond, Va. 792,280, pub. 4-20-65. Cl. 39.
Fries & Fries Co., The, to Fries & Fries, Inc., Cincinnati, Ohio. 198,698, ren. 7-6-65. Cl. 46.
Fries & Fries, Inc.: *See—*
Fries & Fries Co., The.
Frost, George, Co., Shirley, Mass. 44,368, ren. 7-6-65. Cl. 39.
Frost, George, Co., Shirley, Mass. 44,547, ren. 7-6-65. Cl. 39.
Fruit Cake Bakers of America, Inc., Chicago, Ill. 792,345, pub. 4-20-65. Cl. 46.
Gallum, A. F., & Sons Corp., Milwaukee, Wis. 678,662, canc. Cl. 1.
Gamco, Inc., Big Spring, Tex. 792,357-9, pub. 4-20-65. Cl. 50.
Garbini, Luigi, by Francesco Bertolli S.p.A., Lucca, Italy. 320,268, 12(c) pub. 7-6-65. Cl. 46.
Gary Pharmacal, Inc., Chicago, Ill. 792,120, pub. 4-20-65. Cl. 18.
Gates Rubber Co., The, Denver, Colo. 792,235, pub. 5-26-64. Cl. 35.
Geigy Chemical Corp., Ardsley, N.Y. 792,114, pub. 4-20-65. Cl. 18.
Geigy Chemical Corp., Ardsley, N.Y. 792,123, pub. 4-20-65. Cl. 18.
General Aniline & Film Corp., New York, N.Y. 414,215, ren. 7-6-65. Cl. 6.
General Dynamics Corp., New York, N.Y. 792,209, pub. 4-20-65. Cl. 26.
General Electric Co., Schenectady, N.Y. 792,143, pub. 4-20-65. Cl. 21.
General Exhibits & Displays, Inc., Chicago, Ill. 792,146, pub. 4-20-65. Cl. 21.
General Liquids Corp.: *See—*
Norin, Jack.
General Mills, Inc., Minneapolis, Minn. 792,327-8, pub. 4-20-65. Cl. 46.
General Motors Corp., Detroit, Mich. 792,135, pub. 6-11-63. Cl. 21.
Genevay, Jacques, Paris, France. 678,899, canc. Cl. 36.
Gillespie Signs: *See—*
Gillespie, William E.
Gillespie, William E., d.b.a. Gillespie Signs, Steubenville, Ohio. 678,908, canc. Cl. 38.
Glamorene, Inc., Clifton, N.J. 792,221, pub. 4-20-65. Cl. 32.
Glenlomond Whisky Liqueur Co.: *See—*
Pawson, Kenneth V. F.
Globe Newspaper Co., Boston, Mass. 199,549, 12(c) pub. 7-6-65. Cl. 38.
Glover, H. Clay, Co., Inc., Garden City, N.Y. 198,128, 12(c) pub. 7-6-65. Cl. 18.
Glover, H. Clay, Co., Inc., Garden City, N.Y. 196,910, 12(c) pub. 7-6-65. Cl. 52.
Golden Glow Dairy Products, Inc., Los Angeles, Calif. 792,402. Cl. 46.
Goodyear Aerospace Corp., Akron, Ohio. 792,131, pub. 4-20-65. Cl. 19.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 792,233, pub. 4-20-65. Cl. 35.
Goodyear Tire & Rubber Co., The, Akron, Ohio. 792,237, pub. 4-20-65. Cl. 35.
Gottfried, Herbert, Oceanside, N.Y. 792,207, pub. 4-20-65. Cl. 26.
Grady-Travers Co., Inc.: *See—*
Bailey, John T.
Granulite, Inc., Tampa, Fla. 792,055, pub. 4-20-65. Cl. 12.
Gray Pharmaceutical Co., Inc., Newton, Mass. 678,777, canc. Cl. 18.
Gray Pharmaceutical Co., Yonkers, N.Y. 792,106-7, pub. 4-20-65. Cl. 18.
Green Thumb Products, Toledo, Ohio. 792,083, pub. 4-20-65. Cl. 13.
Greenberg, Samuel, Downsview, Ontario, Canada. 792,161, pub. 4-20-65. Cl. 22.
Griess-Pfleger Tanning Co., The, Waukegan, Ill. 203,728, ren. 7-6-65. Cl. 1.
Grossman Steel Stair Corp., Bronx, N.Y. 792,070, pub. 4-20-65. Cl. 12.
Grove Mfg. Co., Shady Grove, Pa. 792,129-30, pub. 4-20-65. Multiple Class (Classes 19 and 23).
Grumbacher, Max, to M. Grumbacher, Inc., New York, N.Y. 196,207-14, ren. 7-6-65. Cl. 29.
Grumbacher, M., Inc.: *See—*
Grumbacher, Max.
H. E. Products, Covina, Calif. 792,336, pub. 4-20-65. Cl. 46.
H. & T. Packing Co., Salinas, Calif. 792,347, pub. 4-20-65. Cl. 46.
Haas-Davis Packing Co., Inc., Mobile, Ala. 792,338, pub. 4-20-65. Cl. 46.
Hales & Hunter Co., Chicago, Ill. 678,992, canc. Cl. 46.
Hall, C. P., Co., The: *See—*
Hall, Charles P.
Hall, Charles P., d.b.a. The C. P. Hall Co., to The C. P. Hall Co., Akron, Ohio. 205,178, ren. 7-6-65. Cl. 12.
Hammond Moccasins, Inc., Bangor, Maine, by Spencer Shoe Corp., Boston, Mass. 437,586, 12(c) pub. 7-6-65. Cl. 39.
Harmonic Reed Corp., Rosemont, Pa. 678,866, canc. Cl. 26.
Hathway, C. F., Co., Waterville, Maine. 792,281, pub. 4-20-65. Cl. 39.
Hax Ltd., London, England. 678,955, canc. Cl. 45.
Haywood Publishing Co., Chicago, Ill. 792,389. Cl. 38.
Heatron, Inc., York, Pa. 792,231, pub. 4-20-65. Cl. 34.
Hehemann Supply Co., El Paso, Tex. 679,016, canc. Cl. 51.
Hehr Mfg. Co., Los Angeles, Calif. 678,892, canc. Cl. 34.
Heidenhain, Dr. Johannes, Traunreut uber Traunstein, Germany. 792,203, pub. 4-20-65. Cl. 26.
Heller Candy Co., Inc., Paterson, N.J. 792,346, pub. 4-20-65. Cl. 46.
Helmar Products: *See—*
Martin, Howard L.
Herculite Protective Fabrics Corp., Newark, N.J. 792,008, pub 4-20-65. Cl. 1.
Hibb Co.: *See—*
Small, B. J.
Hilsinger Corp., The, Plainville, Mass. 792,205, pub. 4-20-65. Cl. 26.
Hoffman International Corp.: *See—*
United States Hoffman Machinery Corp.
Hoffmann-La Roche Inc., Nutley, N.J. 792,100-1, pub. 4-20-65. Cl. 18.
Hoke Inc., Cresskill, N.J. 792,076, pub. 6-30-64. Cl. 13.
Home Service Co.: *See—*
Marshall, Irl.
Hough Mfg. Corp., Janesville, Wis. 792,063, pub. 4-20-65. Cl. 12.
Houston International Hotels, Inc., Houston, Tex. 792,376, pub. 4-20-65. Cl. 100.
Howard, G. E., Inc., Dayton, Ohio. 792,232, pub. 4-20-65. Cl. 34.
Howe Richardson Scale Co., Clifton, N.J. 792,202, pub. 4-20-65. Cl. 26.
Hubbard-Hall Chemical Co., The, Waterbury, Conn. 792,049, pub. 4-20-65. Cl. 10.
Hudson & Co., Holley, N.Y., to King Kullen Grocery Co., Inc., Westbury, N.Y. 195,504, ren. 7-6-65. Cl. 46.
Hunt Process Co., Inc., Santa Fe Springs, Calif. 792,057, pub. 4-20-65. Cl. 12.
Hutchinson Candy Co.: *See—*
Hutchinson, Edson L.
Hutchinson, Edson L., d.b.a. Hutchinson Candy Co., San Francisco, Calif. 277,411, canc. Cl. 46.
Hyman, Leroy J., M.D., d.b.a. Del-Jay Products, Shaker Heights, Ohio. 792,105, pub. 4-20-65. Cl. 18.
Ideal Cement Co., Denver, Colo. 792,073, pub. 4-20-65. Cl. 12.
Imperial Chemical Industries, Ltd., London, England. 792,037, pub. 4-20-65. Cl. 6.
Imperial Type Metal Co., Philadelphia, Pa. 792,408. Cl. 52.
Indian Head Mills, Inc., New York, N.Y. 678,799, canc. Cl. 21.
Industrial Press, The, New York, N.Y. 46,064, ren. 7-6-65. Cl. 38.
Infants Specialty Co., San Francisco, Calif. 792,272, pub. 4-20-65. Cl. 39.
Independent Screen Co., Oklahoma City, Okla. 678,734, canc. Cl. 18.
International Paper Co., New York, N.Y. 792,011, pub. 4-20-65. Cl. 1.
International Paper Co., New York, N.Y. 792,254, pub. 4-20-65. Cl. 37.
International Shoe Co., St. Louis, Mo. 792,265, pub. 4-20-65. Cl. 39.
Interwoven Stocking Co., to Powerhouse, Inc., New Brunswick, N.J. 416,471, ren. 7-6-65. Cl. 39.
Irwin, Neisler & Co., by Neisler Laboratories, Inc., Decatur, Ill. 242,414, new certificate. Cl. 18.
Irwin, Neisler & Co., by Neisler Laboratories, Inc., Decatur, Ill. 369,815-16, new certificate. Cl. 18.
Irwin, Neisler & Co., by Neisler Laboratories, Inc., Decatur, Ill. 431,845, 12(c) pub. 7-6-65. Cl. 18.
Ives Laboratories Inc., New York, N.Y. 792,108, pub. 4-20-65. Cl. 18.
J. & E. Mfg. Co., Easthampton, Mass. 792,246, pub. 4-20-65. Cl. 37.
J & J Tool and Machine Co.: *See—*
Bela Seating Co., Inc.
James Electronics, Inc., Chicago, Ill. 792,141, pub. 4-20-65. Cl. 21.
Janmarie, Inc., Sherman Oaks, Calif. 679,009, canc. Cl. 51.
Jaunty Fabric Corp., The, New York, N.Y. 792,300-2, pub. 4-20-65. Cl. 42.
Jay, Johns: *See—*
Johns, Juanita J.

Johns, Juanita J., d.b.a. Jay Johns, Palm Beach, Fla. 792,365, pub. 4–20–65. Cl. 51.
Jones & Laughlin Steel Corp., Pittsburgh, Pa. 792,086, pub. 4–20–65. Cl. 14.
Jones, Wilson, Co., Chicago, Ill. 792,243, pub. 4–20–65. Cl. 37.
Julius Schmind, Inc., New York, N.Y. 678,773, canc. Cl. 18.
Junkunc, Bela B.: *See—*
  Bela Seating Co., Inc.
K.M. Cosmetics Sales Co., Inc., Brooklyn, N.Y. 792,362, pub. 4–20–65. Cl. 51.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 792,052, pub. 7–24–62. Cl. 12.
Kaiser Jeep Corp., Toledo, Ohio. 792,127, pub. 4–20–65. Cl. 19.
Kannegiesser & Co., Maschinenfabrik G.m.b.H., Vlotho, Weser, Germany. 792,186, pub. 4–20–65. Cl. 24.
Kaolin, Georgia, Co., Elizabeth, N.J. 792,012, pub. 4–20–65. Cl. 1.
Kayser-Roth Corp., New York, N.Y. 792,289, pub. 4–20–65. Cl. 39.
Keefauver, James S., White Salmon, Wash. 679,004, canc. Cl. 50.
Kendall Co., The, Walpole, Mass. 792,266, pub. 4–20–65. Cl. 39.
Kelling Nut Co., The, Chicago, Ill., from Little Crow Milling Co., Inc., Warsaw, Ind. 792,[illegible]24, pub. 1–23–62. Cl. 46.
Kentile Floors Inc., Brooklyn, N.Y. 792,133, pub. 4–20–65. Cl. 20.
Key Work Clothes, Inc., Fort Scott, Kans. 792,291, pub. 4–20–65. Cl. 39.
Keyser Mfg. Co., Sussex, England. 792,045, pub. 4–20–65. Cl. 8.
Killian Mfg. Co., The, by The Akwell Corp., Akron, Ohio. 304,213, 12(c) pub. 7–6–65. Cl. 44.
Killian Mfg. Co., The, by The Akwell Corp., Akron, Ohio. 371,558, 12(c) pub. 7–6–65. Cl. 44.
Killian Mfg. Co., The, by The Akwell Corp., Akron, Ohio. 354,626, 12(c) pub. 7–6–65. Cl. 44.
King Kullen Grocery Co., Inc.: *See—*
  Hudson & Co.
Koin-Pak Sales Corp., by The Akwell Corp., Akron, Ohio. 327,461, 12(c) pub. 7–6–65. Cl. 44.
Kraloy/Chemtrol Co.: *See—*
  Consolidated Thermoplastics Co.
L & M Radiator Service, Inc., Hibbing, Minn. 792,168, pub. 4–20–65. Cl. 23.
La Belle Industries, Inc., Oconomowoc, Wis. 792,199, pub. 4–20–65. Cl. 26.
Lab-Tex Plastics Co.: *See—*
  Ames Lab-Tex, Inc.
Lacey, Jack, and Junior Bankers of America: *See—*
  Lacey, Franklin J.
Lacey, Franklin J., d.b.a. Jack Lacey and Junior Bankers of America, St. Petersburg, Fla. 792,411. Cl. 102.
Lamb Industries, Inc., Toledo, Ohio. 792,077, pub. 4–20–65. Cl. 13.
Lane Ltd.: *See—*
  Lane Tobacco, Ltd.
Lane Tobacco, Ltd., by Lane Ltd., New York, N.Y. 413,286, 12(c) pub. 7–6–65. Cl. 8.
Langley Corp., San Diego, Calif. 678,824, canc. Cl. 22.
Lappa, Angelo S., d.b.a. Novicor Electronics, Pittsburgh, Pa. 678,806, canc. Cl. 21.
Lark Pharmacal Corp., Woodside, N.Y. 792,098, pub. 4–20–65. Cl. 18.
Lawrence, Victor J., Pittsburgh, Pa. 678,907, canc. Cl. 38.
Leblanc, G., Corp., Kenosha, Wis. 792,240, pub. 7–21–64. Cl. 36.
Lee, Laura, Candies, Inc., Miami, Fla. 792,329, pub. 4–20–65. Cl. 46.
Lekas & Drivas, Inc., New York, N.Y. 678,994, canc. Cl. 46.
Lennox Industries Inc., Marshalltown, Iowa. 792,230, pub. 4–20–65. Cl. 34.
Life Assurance Co. of Pennsylvania, Philadelphia, Pa. 792,410. Cl. 102.
Limelight Lamps, Inc., Los Angeles, Calif. 678,821, canc. Multiple Class (Classes 21 and 32).
Linderman, Robert D., Idaho Falls, Idaho. 792,267, pub. 4–20–65. Cl. 39.
Linen Thread Co., Ltd., Glasgow, Scotland. 678,943, canc. Cl. 43.
Little Crow Milling Co., Inc.: *See—*
  Kelling Nut Co., The.
Look, Nevers (Nievre), France. 792,154, pub. 4–20–65. Cl. 22.
Lovable Co., The, Atlanta, Ga. 792,284, pub. 4–20–65. Cl. 39.
Lovette, Henry H., d.b.a. Southland Bedding Co., High Point, N.C. 792,222–3, pub. 4–20–65. Cl. 32.
Ludlow Mfg. & Sales Co., Needham Heights, Mass. 678,942, canc. Cl. 42.
Lufkin Rule Co., The, Saginaw, Mich. 792,210–11, pub. 4–20–65. Cl. 26.
Luscoe Products Ltd., Toronto, Ontario, Canada. 678,761, canc. Cl. 18.
Lux Clock Mfg. Co., Inc., The, Waterbury, Conn. 678,867–8, canc. Cl. 27.
Macaulay & Co.: *See—*
  Sazerac Co., Inc.
MacDonald, E. F., Co., The, Dayton, Ohio. 792,409. Cl. 101.
Magee, Harry L., d.b.a. Bloom Radio, Bloomsburg, Pa. 792,381, pub. 4–20–65. Cl. 104.
Magic Bay Car Wash Sales, Inc., Nashville, Tenn. 792,171, pub. 4–20–65. Cl. 23.
Majestic Distilling Co., Inc., Lansdowne, Md. 792,352–3, pub. 4–20–65. Cl. 49.
Malco Products Inc., Akron, Ohio. 792,088, pub. 4–20–65. Cl. 15.
March & Mendl, Inc., New York, N.Y. 792,282, pub. 4–20–65. Cl. 39.
Marlboro Shirt Co., Inc., Baltimore, Md. 678,934, canc. Cl. 39.
Marmon-Herrington Co., Inc., Oak Hill, W. Va. 792,238, pub. 4–20–65. Cl. 35.
Manning, Bowman & Co., Meriden, Conn., to McGraw-Edison Co., Elgin, Ill. 198,145, ren. 7–6–65. Cl. 21.
Marshall, Irl, d.b.a. Home Service Co., to Duraclean Co., Deerfield, Ill. 414,534, ren. 7–6–65. Cl. 6.
Martin-Decker Corp., Long Beach, Calif. 792,189, pub. 3–19–63. Cl. 26.
Martin, Howard L., d.b.a. Helmar Products, Arlington, Tex. 792,321, pub. 4–20–65. Cl. 44.
Matsushita Electric Industrial Co., Ltd., Osaka, Japan. 792,166–7, pub. 4–20–65. Cl. 23.
Matsushita Electric Industrial Co., Ltd., Kitakawachi-gun, Osaka, Japan. 792,217, pub. 4–20–65. Cl. 31.
Maxon Premix Burner Co., Inc., Muncie, Ind. 792,228, pub. 4–20–65. Cl. 34.
Mayfair Markets: *See—*
  Arden Farms Co.
Mead, James E., d.b.a. Mead-Suydam Co., Wayne, N.J. 792,018, pub. 4–20–65. Cl. 2.
Mead Suydam Co.: *See—*
  Mead, James E.
Mercantile Distributors, Inc., New York, N.Y. 792,296, pub. 4–20–65. Cl. 40.
Merck & Co., Inc., Rahway, N.J. 678,979, canc. Cl. 46.
Merkel, Dr. Hans, Nurtingen-Wurttemburg, Germany. 792,015, pub. 4–20–65. Cl. 2.
Metal Hydrides, Inc., Beverly, Mass. 678,689, canc. Cl. 6.
Metallurgical International Inc., Passaic, N.J. 792,085, pub. 4–20–65. Cl. 14.
Metro Stations, Inc., Olean, to Socony Mobil Oil Co., Inc., New York, N.Y. 199,680, ren. 7–6–65. Cl. 15.
Metzger, Morris, & Sons, Inc., New York, N.Y. 792,263, pub. 4–20–65. Cl. 39.
Midland-Ross Corp., Toledo, Ohio. 792,229, pub. 4–20–65. Cl. 34.
Mid States Corp., Union City, Mich. 678,787, canc. Cl. 19.
Mid-States Corp., Union City, Mich. 678,794, canc. Cl. 19.
Miles Laboratories, Inc., Elkhart, Ind. 792,038, pub. 12–29–64. Cl. 6.
Miles Laboratories, Inc., Elkhart, Ind. 792,125, pub. 4–20–65. Cl. 18.
Miller Shoe Co., Inc., Cincinnati, Ohio. 792,264, pub. 4–20–65. Cl. 39.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 792,042, pub. 4–20–65. Cl. 6.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 678,670, canc. Cl. 4.
Missouri Valley Milling Co., Mandan, N. Dak., to Peavey Co., Minneapolis, Minn. 45,498, ren. 7–6–65. Cl. 46.
Mitsubishi Shoji Kaisha, Ltd., Chiyoda-ku, Tokyo, Japan. 792,334, pub. 4–20–65. Cl. 46.
Mitzi Co. Inc., Newark, N.J. 792,320, pub. 4–20–65. Cl. 44.
Monroe Garment Co.: *See—*
  Monroe Garment Co., Inc.
Monroe Garment Co., Inc., from Monroe Garment Co., Monroe, N.C. 678,920, canc. Cl. 39.
Morehouse Foods, Inc., d.b.a. Morehouse Mustard Mills, Los Angeles, Calif. 792,331, pub. 4–20–65. Cl. 46.
Morehouse Mustard Mills: *See—*
  Morehouse Foods, Inc.
Morrell, John, Mfg. Co.: *See—*
  Morrell, John P.
Morrell, John P., d.b.a. John Morrell Mfg. Co., Elgin, Ill. 678,831, canc. Cl. 23.
Morrison Laboratories, and Morrison Laboratories, Inc.: *See—*
  Morrison, Robert J.
Morrison, Robert J., d.b.a. Morrison Laboratories, and Morrison Laboratories, Inc., Harrisburg, Pa. 792,188, pub. 4–20–65. Cl. 26.
Morse, A. H., Co., Brookline, Mass. 792,344, pub. 1–5–65. Cl. 46.
Mossberg, O. F., & Sons, Inc., North Haven, Conn. 792,046, pub. 4–20–65. Cl. 9.
Mucon Corp., Newark, N.Y. 792,137, pub. 8–11–64. Cl. 21.
Multifastener Corp., Detroit, Mich. 792,378, pub. 4–20–65. Cl. 100.
Nasharr Freres, Chicago, Ill. 792,285, pub. 4–20–65. Cl. 39.
National Musical String Co., New Brunswick, N.J. 792,241, pub. 4–20–65. Cl. 36.
National Screw & Mfg. Co., The, Cleveland, Ohio. 414,883, ren. 7–6–65. Cl. 13.
National Steel Construction Co., Seattle, Wash. 678,894, canc. Cl. 34.
National Store Fixture Co., Inc., Odenton, Md. 678,882, canc. Cl. 32.
Neiman-Marcus Co., Dallas, Tex. 792,290, pub. 4–20–65. Cl. 39.
Neisler Laboratories, Inc.: *See—*
  Irwin, Neisler & Co.
New Process Co., Warren, Pa. 792,271, pub. 4–20–65. Cl. 39.
Niagara Blower Co., New York, N.Y. 792,227, pub. 3–10–64. Cl. 34.
Nielsen, H., OG Son Maskinfabrik A/S, Copenhagen N., Denmark. 792,172, pub. 4–20–65. Cl. 23.
Nitragin Co., Inc., The, Milwaukee, Wis. 792,047, pub. 4–20–65. Cl. 10.
Norbatrol Electronics Corp., Pittsburgh, Pa. 792,153, pub. 4–20–65. Cl. 21.
Norcross, by Norcross, Inc., New York, N.Y. 413,390, 12(c) pub. 7–6–65. Cl. 38.

Norcross, by Norcross, Inc., New York, N.Y. 412,512, 12(c) pub. 7–6–65. Cl. 38.
Norcross, by Norcross, Inc., New York, N.Y. 412,779, 12(c) pub. 7–6–65. Cl. 38.
Norcross, Inc.: *See—*
  Norcross.
Norin, Jack, by General Liquids Corp., Baltimore, Md. 427,120, 12(c) pub. 7–6–65. Cl. 16.
Norman Paint Co., by Norman Paint Co., Inc., Washington, D.C. 413,685, 12(c) pub. 7–6–65. Cl. 16.
Norman Paint Co., Inc.: *See—*
  Norman Paint Co.
North, Czela, d.b.a. Czela, Costa Mesa, Calif. 792,020, pub. 4–20–65. Cl. 3.
Northeast Electronics Corp., Concord, N.H. 792,192, pub. 10–8–63. Cl. 26.
Norweed C. B. Service: *See—*
  Smith, William R.
Novicor Electronics: *See—*
  Lappa, Angelo S.
MacDonald, Gladys E.: *See—*
  Ethicon, Inc.
McGraw-Edison Co.: *See—*
  Manning, Bowman & Co.
McGraw-Hill, Inc., New York, N.Y. 792,395. Cl. 38.
McCrory Corp., New York, N.Y. 792,258, pub. 4–20–65. Cl. 39.
McIntosh Marine Service Co., Inc., Beaumont, Tex. 679,031, canc. Cl. 103.
Oa Business Publications, Inc., Elmhurst, Ill. 792,396. Cl. 38.
Odom, R. L.: *See—*
  Dixie Pecan Growers Exchange, Inc.
Officine Alfieri Maserati S.p.A., Modena, Italy. 678,832–3, canc. Cl. 23.
Okonite Co., The: *See—*
  Okonite Co., Ltd., The.
Okonite Co., Ltd., The, New York, N.Y., to The Okonite Co., Passaic, N.J. 47,349, ren. 7–6–65. Cl. 21.
Olin Mathieson Chemical Corp., New York, N.Y. 792,099, pub. 4–20–65. Cl. 18.
Optical Development Corp., Chicago, Ill. 678,859–60, canc. Cl. 26.
Orcel, Gilbert, Paris France. 678,926, canc. Cl. 39.
Original Trenton Cracker Co.: *See—*
  Cartlidge, Christopher.
Osteolite Co.: *See—*
  Frank, Matilda C.
Oxford Filing Supply Co., Inc., Garden City, N.Y. 792,247, pub. 4–20–65. Cl. 37.
Packaging Digest, Inc., Mount Prospect, Ill. 792,397. Cl. 38.
Packers' Manufacturers' Co., Ltd., Masterton, New Zealand. 792,039, pub. 4–20–65. Cl. 6.
Pape, Harry W., d.b.a. The Fluff Co., Cincinnati, Ohio, to Avon Products, Inc., New York, N.Y. 204,936, ren. 7–6–65. Cl. 52.
Parfait, Inc., Chicago, Ill. 429,357, canc. Cl. 6.
Pawson, Kenneth V. F., d.b.a. Glenlomond Whisky Liqueur Co., Leith, Edinburgh, Scotland. 678,996, canc. Cl. 49.
Peavey Co.: *See—*
  Missouri Valley Milling Co.
Pepper Printing Co., Inc., Memphis, Tenn. 792,248, pub. 4–20–65. Cl. 37.
Peppi Products, Ltd.: *See—*
  Pippe Sales Corp.
Peppi Sales Corp., from Peppi Products, Ltd., Brooklyn, N.Y. 792,360, pub. 3–23–65. Cl. 51.
Perfect Circle Corp., Hagerstown, Ind. 792,180, pub. 4–20–65. Cl. 23.
Perforated Pattern Co., Inc., New York, N.Y. 792,194, pub. 4–20–65. Cl. 26.
Permanent Filter Corp., Los Angeles, Calif. 678,876, canc. Cl. 31.
Perry, George M., Sr., Camilla, Ga. 678,792, canc. Cl. 19.
Pevely Dairy Co., d.b.a. Polar Dairy Co., St. Louis, Mo. 792,401. Cl. 46.
Peyer, Siegfried, Ing., & Co., Zurich, Switzerland. 792,201, pub. 4–20–65. Cl. 26.
Peyron, Antoine F. R., Paris, France. 678,945, canc. Cl. 44.
Pfaeffli, Walter, Zurich, Switzerland. 792,079, pub. 4–20–65. Cl. 13.
Pfizer, Chas., & Co., Inc., New York, N.Y. 792,369–70, pub. 4–20–65. Cl. 51.
Pfizer, Chas., & Co., Inc., New York, N.Y. 792,374, pub. 4–20–65. Cl. 52.
Pfizer, Chas., & Co., Inc.: *See—*
  Continental Carbon Co.
Philadelphia Seed Co.: *See—*
  Conklin, E. W., & Son.
Phoenix Dye Works, Inc., Cleveland, Ohio. 792,382, pub. 4–20–65. Cl. 106.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 792,383, pub. 4–20–65. Cl. 107.
Plastic Engineers, Inc., Metairie, La. 792,060, pub. 4–20–65. Cl. 12.
Polar Dairy Co.: *See—*
  Pevely Dairy Co.
Poland Spring Bottling Corp.: *See—*
  Ricker, Hiram, & Sons.
Polo Food Products Co., Chicago, Ill. 792,333, pub. 4–20–65. Cl. 46.
Powerhouse, Inc.: *See—*
  Interwoven Stocking Co.
Precision Products & Controls, Inc., Tulsa, Okla. 792,197, pub. 4–20–65. Cl. 26.
Precision Time Corp., New York, N.Y. 678,870–1, canc. Cl. 27.
Preferred Business Service Corp., Oak Park, Ill. 792,380, pub. 4–20–65. Cl. 101.
Premier Malt Products, Inc., Milwaukee, Wis. 792,117, pub. 4–20–65. Cl. 18.
Premier Malt Products, Inc., Milwaukee, Wis. 792,118, pub. 4–20–65. Cl. 18.
Promenade Hosiery Mills, Inc., New York, N.Y. 792,295, pub. 4–20–65. Cl. 40.
Propulsion Engine Corp., South Milwaukee, Wis. 678,834, canc. Cl. 23.
Proudfoot Hosiery Corp., New York, N.Y. 792,286, pub. 4–20–65. Cl. 39.
Pure Oil Co., The, Palatine, Ill. 792,048, pub. 4–20–65. Cl. 10.
Quincy Soybean Co., Quincy, Ill. 792,399. Cl. 46.
R.F.R. Associates, Inc., New York, N.Y. 792,283, pub. 4–20–65. Cl. 39.
R-P Co., Inc., The, Tulsa, Okla. 792,121, pub. 4–20–65. Cl. 18.
Records & Goldsborough, Inc., Baltimore, Md., to Joseph S. Finch and Co., Schenley, Pa. 414,241, ren. 7–6–65. Cl. 49.
Redmond, A. G., Co., Owosso, Mich., to Controls Co. of America, Melrose Park, Ill. 416,238, ren. 7–6–65. Cl. 14.
Renauld of France: *See—*
  Botany Industries, Inc.
Resse, O. O., d.b.a. Woodrow Wilson, Corona Del Mar, Calif. 792,255, pub. 4–20–65. Cl. 38.
Rexall Drug and Chemical Co.: *See—*
  Seamless Rubber Co., Inc.
Rheem Mfg. Co., Richmond, Calif. 678,730, canc. Cl. 13.
Richkraft Co., The, Chicago, Ill., to Alton Box Board Co., Alton, Ill. 416,204, ren. 7–6–65. Cl. 12.
Ricker, Hiram, & Sons, South Poland, Maine, to Poland Spring Bottling Corp., Poland Spring, Maine. 199,068, ren. 7–6–65. Cl. 45.
Rilling Dermetics Co.: *See—*
  Hall, Turner Corp.
Rio Vista Restaurant: *See—*
  Seaton, Wilson E.
Rival Mfg. Co., Kansas City, Mo. 792,176, pub. 4–20–65. Cl. 23.
Riverside Consolidated Growers: *See—*
  Riverside Heights Orange Assn.
Riverside Heights Orange Growers Assn., to Riverside Consolidated Growers, Riverside, Calif. 204,643–4, ren. 7–6–65. Cl. 46.
Rocket Jet Engineering Corp., Glendale, Calif. 792,356, pub. 4–20–65. Cl. 50.
Romain, John, Inc., New York, N.Y. 792,364, pub. 4–20–65. Cl. 51.
Rowa-Wagner K.G. Arzneimittelfabrik, Bensberg, near Koln, Germany. 678,767, canc. Cl. 18.
Rutger Fabrics Corp., New York, N.Y. 678,938, canc. Cl. 42.
SCM Corp.: *See—*
  Smith, L. C., & Corona Typewriters, Inc.
Safeway Stores, Inc., Oakland, Calif. 792,342, pub. 4–20–65. Cl. 46.
Salada Foods Ltd., Don Mills, Ontario, Canada. 792,335, pub. 4–20–65. Cl. 46.
Sanfilippo, John B., & Son, Inc., Chicago, Ill. 792,404. Cl. 46.
Sanna Dairies, Inc., Madison, Wis. 792,339, pub. 4–20–65. Cl. 46.
Sardo Textile Corp., New York, N.Y. 792,299, pub. 4–20–65. Cl. 42.
Sazerac Co., Inc., d.b.a. Macaulay & Co., New Orleans, La. 792,405. Cl. 49.
Schreiber, A. H., Co., Inc., New York, N.Y. 792,276, pub. 4–20–65. Cl. 39.
Schiffer Knitwear Co., Inc., New York, N.Y. 792,275, pub. 4–20–65. Cl. 39.
Scripto, Inc., Atlanta, Ga. 678,704, canc. Cl. 6.
Sealed Air Corp., Hawthorne, N.J. 792,406. Cl. 50.
Seamless Rubber Co., Inc., The, New Haven, Conn., by Rexall Drug and Chemical Co., d.b.a. The Seamless Rubber Co., Los Angeles, Calif. 375,302, 12(c) pub. 7–6–65. Cl. 5.
Sears, Roebuck and Co., Chicago, Ill. 792,262, pub. 4–20–65. Cl. 39.
Seaton, Wilson E., d.b.a. Rio Vista Restaurant, Atlanta, Ga. 678,986, canc. Cl. 46.
Shafer, William H., Las Vagas, Nev. 792,355, pub. 4–20–65. Cl. 50.
Sheffield Hosiery Mills, Inc., Miami, Fla. 792,273, pub. 4–20–65. Cl. 39.
Shell Oil Co., New York, N.Y. 792,103, pub. 4–20–65. Cl. 18.
Shiffer, Charles E.: *See—*
  Dr. Shiffer Laboratories, Inc.
Shower Door Co. of America, Atlanta, Ga. 678,724, canc. Cl. 12.
Shunk, L. E., Latex Products, Inc., by The Akwell Corp., Akron, Ohio. 286,042, 12(c) pub. 7–6–65. Cl. 44.
Shurfine-Central Corp., from Central Retailer-Owned Grocers, Inc., Northlake, Ill. 792,332, pub. 4–20–65. Cl. 46.
Shuron Optical Co., Inc., Geneva, N.Y., by Textron, Inc., Rochester, N.Y. 415,194, 12(c) pub. 7–6–65. Cl. 26.
Sicadi Societa Internazionale Costruzione Apparecchi Domestici E Industriali S.p.A., Milano, Italy. 792,226, pub. 4–20–65. Cl. 34.
Siegel, Henry I., Co., Inc., New York, N.Y. 792,277–8, pub. 4–20–65. Cl. 39.
Sigma Instruments, Inc., South Braintree, Mass. 792,147, pub. 4–20–65. (Consolidated certificate, Classes 21 and 26.)
Sipe, James B., and Co., Pittsburgh, Pa. 200,593, ren. 7–6–65. Cl. 16.
Small, B. J., d.b.a. Hibb Co., Baltimore, Md. 678,951, canc. Cl. 44.
Smidt, Phenny, d.b.a. Phenny Smidt Co., Peabody, Mass. 792,041, pub. 4–20–65. Cl. 6.

Smidt, Phenny, Co.: *See*—
Smidt, Phenny.

Smith-Douglass Co., Inc.: *See*—
Borden Co., The.

Smith, L. C., & Corona Typewriters, Inc., by SCM Corp., New York, N.Y. 412,244, 12(c) pub. 7–6–65. Cl. 23.

Smith, William R., d.b.a. Norweed C. B. Service, Knoxville, Tenn. 792,145, pub. 4–20–65. Cl. 21.

Smokers' Haven, Inc., Columbus, Ohio. 792,094–6, pub. 4–20–65. Cl. 17.

Societe Anonyme des Aciens Etablissements A. Combe & Fils & Cie, Paris, France. 199,67[illegible], ren. 7–6–65. Cl. 1.

Socony Mobil Oil Co., Inc.: *See*—
Metro Stations, Inc.

Sohio Chemical Co., Cleveland, Ohio. 792,028–31, pub. 4–20–65. Cl. 6.

Somat Corp., Coatesville, Pa. 792,[illegible]77, pub. 4–20–65. Cl. 23.

Songrand Corp., The, Kansas City, Mo. 792,148, pub. 4–20–65. Cl. 21.

Sonotone Corp., Elmsford, N.Y. 792,[illegible]44, pub. 4–20–65. Cl. 21.

Southern Bakeries Co., Atlanta, Ga. 792,403. Cl. 46.

Southern Household Products Co., Inc., Birmingham, Ala. 678,737, canc. Cl. 13.

Southland Bedding Co.: *See*—
Lovette, Henry H.

Southwark Foundry & Machine Co., Philadelphia, Pa., and Cleveland, Ohio, and Chicago, Ill., to American Machine & Foundry Co., New York, N.Y. 196,673, ren. 7–6–65. Cl. 23.

Spencer Shoe Corp.: *See*—
Hammond Moccasins, Inc.

Sperry and Hutchinson Co., The, New York, N.Y. 792,159, pub. 4–20–65. Cl. 22.

Sport-Wear Hosiery Mills, Inc., Etowah, Tenn, 792,287, pub, 4–20–65. Cl. 39.

Standard Oil Co., Whiting, Ind., and Chicago, Ill., to Candle-Lite, Inc., Cincinnati, Ohio. 197,0[illegible]5, ren. 7–6–65. Cl. 15.

Standard Oil Co., Whiting, Ind., and Chicago, Ill., to Candle-Lite, Inc., Cincinnati, Ohio. 197,0[illegible]7, ren. 7–6–65. Cl. 15.

Starlet, Inc., Union, N.J. 792,293, pub. 4–20–65. Cl. 40.

Statite Waterproofing Corp., Bogota, N.J. 792,054, pub. 4–20–65. Cl. 12.

Stauffer Chemical Co., New York, N.Y. 792,367, pub. 4–20–65. Cl. 51.

Steiner, S. S., Inc., New York, N.Y. 792,350, pub. 4–20–65. Cl. 48.

Sterling Drug Inc., New York, N.Y. 792,111–2, pub. 4–20–65. Cl. 18.

Stonetree Chemical Corp., Chicago, Ill. 792,128, pub. 4–20–65. (Consolidated certificate, Classes 19, 21, and 23.)

Stowe-Woodward, Inc., Newton Upper Falls, Mass. 792,155, pub. 4–20–65. Cl. 22.

Structural Clay Products Research Foundation, Geneva, Ill. 678,828, canc. Cl. 23.

Success Motivation Institute, Inc., Waco, Tex. 792,394. Cl. 38.

Superior Biscuit Co.: *See*—
Weston Biscuit Co., Inc.

Superior Sewing Machine and Supply Corp., New York, N.Y. 792,184, pub. 4–20–65. Cl. 23.

Supermarkets Operating Co., Union, N.J. 792,330, pub. 4–20–65. Cl. 46.

Svenska Ackumulator Aktiebolaget Jungner, Stockholm, Sweden. 678,813, canc. Cl. 21.

Tapeprinter, Inc.: *See*—
Com-Tech, Inc.

Taylor-Dunn Mfg. Co., Anaheim, Calif. 792,132, pub. 4–20–65. Cl. 19.

Taylor, Smith & Taylor Co., The, East Liverpool, Ohio. 679,001, canc. Cl. 50.

Technicon Instruments Corp., Chauncey, N.Y. 792,212, pub. 4–20–65. Cl. 26.

Teco Corp., White Plains, N.Y. 792,140, pub. 4–20–65. Multiple Class (Classes 21, 26, and [illegible]4).

Terradental Co.: *See*—
Eshelman, Robert C.

Testor Corp., The, Rockford, Ill. [illegible]78,808, canc. Cl. 21.

Texas Instruments Inc., Dallas, Tex. 792,138, pub. 4–20–65. Cl. 21.

Texas-U.S. Chemical Co., Port Neches, Tex. 792,007, pub. 4–20–65. Cl. 1.

Textile Corp. of America, Los Angeles, Calif. 792,298, pub. 4–20–65. Cl. 42.

Textron, Inc.: *See*—
Shuron Optical Co., Inc.

Thompson, H. I., Fiber Glass Co., Gardena, Calif. 792,009, pub. 4–20–65. Cl. 1.

Tide Water Oil Co., Bayonne, N.J., and New York, N.Y., to Tidewater Oil Co., Los Angeles, Calif. 200,719, ren. 7–6–65. Cl. 15.

Tobin, Philip J., Philadelphia, Pa. 779,000, canc. Cl. 50.

Tokyo Shibaura Electric Co., Ltd., Kawasaki, Japan. 792,198, pub. 4–20–65. Cl. 26.

Toledo Scale Corp., Toledo, Ohio. 792,206, pub. 4–20–65. Cl. 26.

Tops Club, Inc., Milwaukee, Wis. 792,379, pub. 4–20–65. Cl. 100.

Trail Metal Products Co., Inc., Miami, Fla. 423,850, canc. Cl. 28.

Trak Electronics Co., Inc.: *See*—
Trak Microwave Corp.

Trak Microwave Corp., Tampa, Fla., from Trak Electronics Co., Inc., Wilton, Conn. 792,152, pub. 4–20–65. Cl. 21.

Trak Microwave Corp., Tampa, Fla., from Trak Electronics Co., Inc., Wilton, Conn. 792,208, pub. 4–20–65. Cl. 26.

Tri Associates, Inc., Minneapolis, Minn. 792,348, pub. 4–20–65. Cl. 46.

Triple-A Specialty Co., Chicago, Ill. 792,151, pub. 4–20–65. Cl. 21.

Truval Shirt Co., Inc., New York, N.Y. 792,259, pub. 4–20–65. Cl. 39.

Turner, Day and Woolworth Handle Corp.: *See*—
Turner Day & Woolworth Handle Co.

Turner Day & Woolworth Handle Co., to Turner, Day and Woolworth Handle Corp., Louisville, Ky. 200,447–52, ren. 7–6–65. Cl. 23.

Turner Hall Corp., New York, N.Y., from Rilling Dermetics Co., Bridgeport, Conn. 792,363, pub. 4–20–65. Cl. 51.

Turner Hall Corp., New York, N.Y. 792,407. Cl. 51.

Tye-Rite, Inc., Des Moines, Iowa. 792,398. Cl. 40.

U-Du Car Wash, Inc., Kansas City, Mo. 792,412. Cl. 103.

Union Carbide Corp., New York, N.Y. 792,040, pub. 4–20–65. Cl. 6.

Union Carbide Corp., New York, N.Y. 792,014, pub. 4–20–65. Cl. 2.

Union Mfg. Co., Union Point, Ga. 792,288, pub. 4–20–65. Cl. 39.

Unison Corp., Detroit, Mich. 792,179, pub. 4–20–65. Cl. 23.

United Dairy Farmers, Norwood, Ohio. 678,988, canc. Cl. 46.

United Fibre Co.: *See*—
Bailey, John T.

United Sound & Signal Co., Inc., Columbia, Pa. 678,706, canc. Cl. 6.

United States Catheter & Instrument Corp., Glens Falls, N.Y. 792,316–17, pub. 4–20–65. Cl. 44.

United States Hoffman Machinery Corp., New York, to Hoffman International Corp., Long Island City, N.Y. 196,304, ren. 7–6–65. Cl. 24.

United States Plywood Corp., New York, N.Y. 792,224, pub. 4–20–65. Cl. 32.

United States Rubber Co., New York, N.Y. 415,694, 12(c) pub. 7–6–65. Cl. 42.

United States Rubber Co., New York, N.Y. 202,965, 12(c) pub. 7–6–65. Cl. 22.

Universal Zonolite Insulation Co., Chicago, Ill., to Concrete Thermal Casings, Inc., Kirkland, Wash. 416,220, ren. 7–6–65. Cl. 12.

Upjohn Co., The, Dover, Del., from The Upjohn Co., Kalamazoo, Mich. 678,780, canc. Cl. 18.

Vagabond Motor Hotels, Inc., San Diego, Calif. 792,377, pub. 4–20–65. Cl. 100.

Vance-Curtis Products, Inc., Kansas City, Mo. 792,104, pub. 4–20–65. Cl. 18.

Vanderbilt, R. T., Co., Inc., New York, N.Y. 792,010, pub. 4–20–65. Cl. 1.

Vapor Blast Mfg. Co., Milwaukee, Wis. 414,107, ren. 7–6–65. Cl. 23.

Verplex Co., The, Essex, Conn. 792,386. Cl. 34.

Vineland Poultry Laboratories, Landis Township, N.J. 678,760, canc. Cl. 18.

Vision Inc.: *See*—
Decker Communications, Inc.

Vita-Fluor: *See*—
Vita-Fluor Corp.

Vita-Fluor Corp., d.b.a. Vita-Fluor, Pomona, Calif. 678,774, canc. Cl. 18.

Vita Plus Corp., Madison, Wis. 792,119, pub. 4–20–65. Cl. 18.

Wagner Mfg., Inc., Portland, Oreg. 792,178, pub. 4–20–65. Cl. 23.

Ward Coffee & Tea Co.: *See*—
Ward, Don G.

Ward, Don G., d.b.a. Ward Coffee & Tea Co., McKenzie, Tenn. 792,349, pub. 4–20–65. Cl. 46.

Warren Paper Products Co., Lafayette, Ind. 792,162, pub. 4–20–65. Cl. 22.

Waterloo Idea Companies, Waterloo, Iowa. 792,017, pub. 2–2–65. Multiple Class (Classes 2, 8, 23, 28, 33, and 46).

Wear-Right Gloves, Inc.: *See*—
Wimelbacher & Rice.

Weekender Corp., The, Norfolk, Va. 792,071, pub. 4–20–65. Cl. 12.

Welch & Sons Ltd., North Shields, Northumberland, England. 678,974, canc. Cl. 46.

Western Biscuit Co., Inc., d.b.a. Superior Biscuit Co., Passaic, N.J. 792,340, pub. 4–20–65. Cl. 46.

Western Coupling Corp., Burbank, Calif. 792,078, pub. 1–5–65. Cl. 13.

Western Geophysical Co. of America, Los Angeles, Calif. 792,187, pub. 1–30–62. Cl. 26.

Western Grain Co., Birmingham, Ala. 792,343, pub. 4–20–65. Cl. 46.

Weyerhaeuser Co., Tacoma, Wash. 792,251, pub. 4–20–65. Cl. 37.

Wham-O Mfg. Co., San Gabriel, Calif. 792,156, pub. 4–20–65. Cl. 22.

Whirlpool Corp., Benton Harbor, Mich. 792,185, pub. 4–20–65. Cl. 24.

Whitaker, Wm., & Sons, Inc., Philadelphia, Pa. 792,311, pub. 7–21–64. Cl. 43.

White Laboratories, Inc., Kenilworth, N.J. 792,115, pub. 4–20–65. Cl. 18.

White Motor Co., The: *See*—
Autocar Co., The.

Whyte & MacKay, Ltd., Glasgow, Scotland. 792,351, pub. 4–20–65. Cl. 49.

Wica Chemicals, Inc., Charlotte, N.C. 792,036, pub. 4–20–65. Cl. 6.

Wilco Co., Los Angeles, Calif. 792,373, pub. 4–20–65. Cl. 52.

Wilcox Cake Co.: *See*—
Wilcox, Tipton C.

Wilcox, Tipton C., d.b.a. Wilcox Cake Co., Detroit, Mich. 792,400. Cl. 46.

Wilhold Glues, Inc., Los Angeles, Calif. 792,024, pub. 4–20–65. Cl. 5.

Willwear Hosiery Mill, Inc., Chattanooga, Tenn. 792,261, pub. 4–20–65. Cl. 39.

Wilson, Woodrow: *See*—
Resse, O. O.

Wimelbacher & Rice, to Wear-Right Gloves, Inc., New York, N.Y. 415,359, ren. 7–6–65. Cl. 39.

Wirtz, Paul C., Lebanon, N.J. 678,970–1, canc. Cl. 46.

Wolverine Fabricating & Mfg. Co., Inc., Inkster, Mich. 397,529, 12(c) pub. 7–6–65. Cl. 35.

Woodling, George V.: *See*—
Bauer, Mathew F., and George V. Woodling.

Woolworth, F. W., Co., New York, N.Y. 792,019, pub. 4–20–65. Cl. 2.

Worthington Corp., Harrison, N.J. 792,182–3, pub. 4–20–65. Cl. 23.

Wright Mfg. Co., Toccoa, Ga. 792,269, pub. 7–6–65. Cl. 39.

Yanmar Diesel Engine Co., Ltd., Osaka, Japan. 792,126, pub. 4–20–65. Cl. 19.

Zamoiski, Jos. M., Co., The, Baltimore, Md. 792,149, pub. 4–20–65. Multiple Class (Classes 21 and 36).

U.S. GOVERNMENT PRINTING OFFICE : O—1966

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 13, 1965 Volume 816 Number 2

PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of May 1965

Examiner affirmed	223
Examiner affirmed in part	31
Examiner reversed	64
Total	318

Adjudicated Patents

(C.A. Wash.) Tunsen Patent No. 2,731,698 (25—32), for APPARATUS FOR FORMING CONCRETE PIPE IN SITU, *Held* valid and infringed. *No-Joint Concrete Pipe Co.* v. *Hanson*, 344 F.2d 13; 144 USPQ 519.

(D.C. Wis.) Horner Patent No. 2,973,614 (66—25.4), for ROTARY POWER MOWER AND CATCHER. Claims 1 to 4 and 8 to 12 *Held* valid and infringed. *Toro Mfg. Co.* v. *Jacobsen*, 240 F. Supp. 507; 145 USPQ 378.

(D.C. Wis.) Horner Patent No. 3,049,853 (66—25.4), for ROTARY POWER MOWER. Claims 1 and 2 *Held* invalid. *Id.*

Disclaimer

3,160,257.—*Claude D'Evelynes*, Chatswood, Australia. ELECTRIC TYPEWRITER. Patent dated Dec. 8, 1964. Disclaimer filed Apr. 30, 1965, by the inventor.

Hereby enters this disclaimer to claims 5, 6, 7, 12, 13 and 14 of said patent.

New Applications Received During May 1965

Patents	7478
Designs	465
Plant Patents	4
Reissues	39
Total	7986

Issue—July 13, 1965

Patents	1306	No. 3,193,841 to No. 3,195,146, incl.
Designs	47	No. 201,610 to No. 201,656, incl.
Plant Patents	1	No. 2,544
Total	1354	

PATENT EXAMINING CORPS

R. A. WAHL, Superintendent

CONDITION OF PATENT APPLICATIONS AS OF JUNE 1, 1965

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—F. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7-11-62	3- 3-58
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	12- 7-62	9-15 58
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	2- 5-63	6-20-60
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	9- 4-62	5-18-59
COMPOSITIONS AND MOLDING, GROUP 150—G. D. MITCHELL, Acting Manager Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-18-62	1- 6-60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures	7-20-62	8-21-59
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	9- 6-62	8-10-59
CHEMICAL ENGINEERING, GROUP 1[illegible]—G. D. MITCHELL, Manager Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-18-62	1- 5-61
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	10- 5-62	6-20-60
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	12-27-62	5-12-60
INFORMATION TRANSMISSION, GROUP 230—S. W. CAPELLI, Manager Communications; Multiplexing Techniques; Facsimile and Related Art.	10-19-62	1-19-60
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Manager Data Processing, Computation and Conversion; Storage Devices and Related Art.	7- 5-62	10-30-58
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Manager Semi-Conductor and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	10- 2-62	2- 2-60
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager Optics; Radiant Energy; Measuring.	9-10-62	2-11-59
ELEMENTS, GROUP 270—E. J. SAX, Manager Conductors; Switches; Miscellaneous.	1-25-63	7- 6-60

Total number of pending applications (excluding Designs)	198,522
Total number of Design applications pending	5,223
Total number of applications awaiting action (excluding Designs)	146,049
Total number of Design applications awaiting action	1,905
Date of oldest new application awaiting action	July 5, 1962
Date of oldest amended application awaiting action	March 3, 1958

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1965, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953.*

Patents	Numbers 2,444,412 to 2,446,164, inclusive
Plant Patents	Numbers 799 to 804, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	6-18-63	6-30-61
MANUFACTURING; METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Founding; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus.	10-26-62	10-14-60
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—A. M. HORTON, Manager Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	3- 5-63	9-29-59
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12-19-62	5- 3-61
FLUID HANDLING, GROUP 360—E. PAUL, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	2- 4-63	8-29-60
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GAREAU, Manager Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	4- 1-63	6- 7-60
HEAT GENERATION, TRANSFER AND UTILIZATION, GROUP 380—P. L. PATRICK, Manager Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation; Refrigeration; Drying; Ventilation; and Illumination.	4- 8-63	8-25-59
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	4- 1-63	7-18-61
CIVIL ENGINEERING, GROUP 420—B. BENDETT, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	3- 5-63	4- 4-60
PHYSICS, GROUP 430—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	1-28-63	6-27-60
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	2-25-63	10-10-60
TRANSPORTATION, GROUP 450—P. ARNOLD, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	3-21-63	9-21-59
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	5-14-63	5-22-61
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager Printing; Typewriters; Stationery; Material Treatment.	7-20-62	12-31-58
DESIGNS, GROUP 490—J. A. MANIAN, Manager Industrial Arts; Household, Personal and Fine Arts.	8-12-64	5-11-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

In re Nathaniel Grier

No. 7258. Decided March 11, 1965

[52 CCPA —; 342 F.2d 120; 144 USPQ 654]

1. Appeal to U.S. Court of Customs and Patent Appeals—Reasons of Appeal.

Upon consideration of the asserted inadequacy of appellant's reasons of appeal as they relate to appellant's claims 1 and 2, *Held* that "Analyzing the reasons of appeal cumulatively, we find assignments of error amply embracing rejection as unpatentable over a combination of references; claiming subject matter that would be obvious from the references; as being unduly broad and failing to point out the invention; in sustaining rejection of certain claims for reasons applied to others and rejection as unpatentable over a specific reference," that "In our judgment the reasons of appeal are sufficiently broad in scope and adequate to bring within our purview and comprehension every facet of the matter before us essential to the attainment of the ends of justice," that "The reasons of appeal are sufficiently replete with properly cognizable substance to enable us to determine, if necessary, whether or not the Board committed error in rejecting claims 1 and 2 as lacking adequate support in the specification," and that "Inadequate support of the specification may be another way of saying the claims are unduly broad."

2. Same—Matter Before Court—Correction by Board of Appeals After Notice of Appeal.

In connection with the action of the Board of Appeals, taken after notice of appeal, in correcting its decision by certifying its reversal as to appellant's claims 13 and 14, and changing the language concluding the decision from "AFFIRMED" to "AFFIRMED-IN-PART," *Held* that "The Board did nothing more than to exercise a purely ministerial function in its administrative capacity," that "It simply corrected *nunc pro tunc* an error of omission plainly obvious to it," that "It made no new or different determination of an issue," that "It exercised no judicial function," that "It merely certified the fact of an unrecorded determination made when the matter was within the full competence of its jurisdiction," that "It was well within its province in so doing," and that "Claims 13 and 14 were allowed and are therefore not embraced by the appeal before us."

3. Same—Same—Failure To Argue One Ground of Rejection—*In re Le Baron*, 42 CCPA 956, Construed.

"In objecting to the lack of a working example describing the formation of a chloro-substituted compound, the Examiner is apparently relying upon the "how to make" requirement of 35 U.S.C. 112. The issue would then appear to be whether one skilled in the art would be able to make the disclosed chloro-substituted compounds. Appellant has not argued this point in his brief. He apparently thought that the rejection had been dropped because of the Board's allowance of claims 13 and 14. The Solicitor maintains that since the appellant has not controverted the rejection, it *must* be affirmed and cites *In re Le Baron.* We do not consider *Le Baron* apposite. *Le Baron* held only that with regard to a prior art rejection, failure to argue that a particular feature recited in a claim made it patentable is an abandonment of any claim to patentability based on the recited feature. We do not feel that a claim is abandoned for failure to argue one ground of rejection. Such a result would be particularly inequitable in the present case where appellant relied upon the letter from the Patent Office which might reasonably have led him to believe that the rejection had been dropped."

4. Application—Disclosure—Sufficiency of Disclosure.

"Appellant's Example VI indicates that 8-benzoyloxy-4-methylquinoline salicylate is prepared by first esterifying 4-methyl-8-hydroxyquinoline and then salifying with salicyclic acid. The Neher patent indicates that 5-chloro-8-hydroxyquinoline may be esterified by undecylenic acid chloride. Since chloro-8-hydroxyquinoline is a known product and easily esterified as indicated by Neher, one skilled in the art would apparently have no trouble making appellant's chloro-substituted compounds according to the general process set forth in appellant's working examples. Thus, the rejection of claims 1 and 2 for an inadequate disclosure with regard to the chloro compounds is *reversed.*"

5. Patentability—Compound—Obviousness—Properties To Be Considered.

"* * * to be considered is the improved properties of appellant's compounds as compared to the parent compound oxine. Oxine causes skin irritation, whereas appellant's compounds are relatively free of irritation. Furthermore, as noted by the Board, appellant's 8-benzoyloxyquinoline salicylate has an antifungal activity which "is at least three-fold that of the parent compound, 8-hydroxyquinoline." The appellant cites *In re Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43, in urging that the properties of his compounds must be considered in the determination of obviousness. The Solicitor contends that a difference of degree between the properties sought to be patented and the prior art does not establish unobviousness. We think that a large difference in degree, such as is present here, is persuasive evidence to be considered along with other evidence of unobviousness."

6. Same—Same—Same.

"After carefully weighing the evidence before us, we hold that the claimed compounds are not obvious in view of the prior art. It is possible, to be sure, to reconstruct appellant's compound, carefully fitting together the three references. However, in view of the difficulties encountered in salifying an oxine ester and the improved properties obtained when the proper salifying agent, salicylic acid, is chosen, such a reconstruction cannot be considered an obvious one."

7. Claim—Undue Breadth—*In re Sus* Distinguished.

"In view of the breadth of the disclosure of the ester portion and appellant's contention that there is nothing critical in the carboxylic acid used, we hold that the term "carboxylic acid" is not unduly broad. In holding thus, we do not underestimate the seriousness of the Examiner's objections. However, in this case we do not feel that the dangers are so great that the scope of appellant's claims should be restricted. The Solicitor relies upon *In re Sus*, 49 CCPA 1301, 306 F.2d 494, 134 USPQ 301, in asserting that appellant's invention is too broadly claimed. In *Sus*, this court found "substituted aryl" to be too broad because only a limited number of aryl compounds were disclosed and because the use of the compounds specifically disclosed was essential to securing the asserted novel results. We do not have that situation here. Appellant has defined his carboxylic acids broadly and has indicated that according to his theory almost any carboxylic acid will work."

8. Patentability—Particular Subject Matter—"Fungicidal Agent and Process for Manufacturing Same."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Fungicidal Agent and Process for Manufacturing Same," as lacking adequate support in the specification, for failing to properly define the invention, and as unpatentable over the prior art, is reversed.

Appeal from the Patent Office. Serial No. 758,555.

REVERSED.

Joseph Hirschmann for appellant.

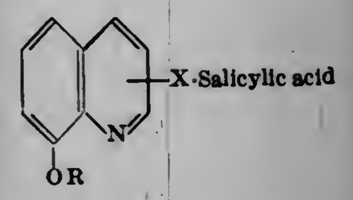
Clarence W. Moore (*Fred W. Sherling* of counsel) for the Commissioner of Patents.

Before Worley, *Chief Judge*, and Rich, Martin, Smith, and Almond, Jr., *Associate Judges*

Almond, *J.*, delivered the opinion of the court.

Nathaniel Grier appeals from a decision of the Board of Appeals affirming the Examiner's rejection of claims 1–3, 9, 16, 17 and 19–21 in his application[1] for a fungicidal agent. Claims 1 and 2 are illustrative of the compounds sought to be patented.

1. A salicylate of a carboxylic organic acid ester of an 8-hydroxyquinoline.
2. A compound of the formula



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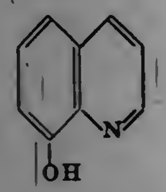
[1] Serial No. 758,555, filed September 2, 1958, for "Fungicidal Agent and Process for Manufacturing Same."

wherein R is the acyl group of an organic carboxylic acid, and X is a member of the group consisting of hydrogen, lower alkyl, and chlorine.

Claim 16 is illustrative of the composition claims.

> A pharmaceutical preparation for the treatment of fungal infections comprising a pharmaceutical carrier mixed with a compound as defined in claim 1.

Appellant states that his compounds may be used for "athletes foot" or as industrial mildewproofing agents. It is admitted that the use of 8-hydroxyquinoline, also known as oxine,



as an antifungicide is well known, but it produces irritation when used on the skin. Appellant describes his inventive concept as follows:

> Appellant, however, conceived the idea that by blocking the hydroxyl and amine (pyridine) groups of the oxine, the irritant action could be reduced or eliminated while still retaining the antifungal activity; that is, by forming an ester with the OH group (by reaction with an organic carboxylic acid) and by neutralizing the basic amine moiety (by adding on an acid to form a "salt"). However, when appellant attempted to prepare salts of esters, he found that with the many salifying acids that he tried, no reaction would take place. Thus, as described in the specification * * * the benzoic acid ester of 8-hydroxyquinoline could not be made to form a salt with malonic, maleic, citric, tartaric, phthalic, B-resorcylic and gentisic acids under a variety of conditions, despite the fact that 8-hydroxyquinoline itself readily forms salts with these acids, the salts being well-defined and isolatable.
>
> Appellant found, however, that salicylic acid was an outstanding exception and formed salts not only with the preferred benzoic acid ester of 8-hydroxyquinoline but also with its other esters. Even phthalic acid, which is closely related to salicylic acid, failed to form a salt with 8-henzoyloxyquinoline.

As stated in appellant's specification and noted by the Board, 8-benzoyloxyquinoline salicylate, one of appellant's preferred species, has an order of activity at least threefold that of the parent compound, 8-hydroxyquinoline.

The Examiner allowed claims to 8-benzoyloxymethylquinoline salicylates and di-8-quinolinylphthalate di-salicylate but rejected generic claims and species claims to 8-benzoyloxyquinoline salicyclate and 8-benzoyloxychloroquinoline salicylates. The several grounds of rejection applied against the claims will be discussed separately.

Inadequate Disclosure

At the threshold of our consideration of the issues here presented, it appears necessary to make disposition of certain contentions set forth in the Solicitor's brief and asserted in argument before us.

It is contended that the appeal of claims 1 and 2 must be dismissed because appellant's reasons of appeal do not allege error in the rejection of these claims as lacking support in the specification and the rejection must therefore stand. It is further contended that if the appeal is not dismissed as to claims 1—2 and claims 13—14 as lacking adequate support in the specification, the rejection of these claims should be affirmed because "although reason of appeal No. 8 alleges error in such rejection of claims 13 and 14, the brief on behalf of appellant does not controvert or discuss the rejection."

In support of these contentions, the Solicitor cites *In re Gruschwitz et al.*, 50 CCPA 1498, 320 F.2d 401, 138 USPQ 451 and *In re Le Baron*. 42 CCPA 956, 223 F.2d 471, 106 USPQ 176.

The record discloses that the Examiner rejected claims 1—2 for failure to properly define the invention; claims 1—2 as unpatentable over the art of record, and claims 1—2 and 13—14 as lacking adequate support in the specification. The Board sustained the Examiner as to claims 1 and 2 but reversed as to claims 13 and 14.

For reasons hereinafter to appear, it is not necessary to discuss further claims 13 and 14 in connection with the above noted contentions.

[1] We turn to the asserted inadequacy of the reasons of appeal as they relate to claims 1 and 2. Analyzing the reasons of appeal cumulatively, we find assignments of error amply embracing rejection as unpatentable over a combination of references; claiming subject matter that would be obvious from the references; as being unduly broad and failing to point out the invention; in sustaining rejection of certain claims for reasons applied to others and rejection as unpatentable over a specific reference.

In our judgment the reasons of appeal are sufficiently broad in scope and adequate to bring within our purview and comprehension every facet of the matter before us essential to the attainment of the ends of justice. The reasons of appeal are sufficiently replete with properly cognizable substance to enable us to determine, if necessary, whether or not the Board committed error in rejecting claims 1 and 2 as lacking adequate support in the specification. Inadequate support of the specification may be another way of saying the claims are unduly broad. Both rejections have their basis in 35 U.S.C. 112. The specification and the claims constitute the heart of the record. They are before us. Courts do not decide in a vacuum nor are they called upon to close their eyes to the obvious.

There is no possible basis for comparison of the scope and substance of the reasons of appeal here with the total lack of those attributes in the reasons of appeal with which the majority of this court dealt in *In re Gruschwitz*, where neither specifically nor cumulatively were any reasons assigned by appellant. In the so-called reasons of appeal the claims were merely numerically identified in association with the allegation that the Board had committed error in its rejection. As in *In re Timmerbeil*, 50 CCPA 1514, 320 F.2d 413, 138 USPQ 461, no reason whatsoever was assigned except a statement, totally devoid of a modicum of specificity, that the Board had committed error.

Notice of appeal was given on May 1, 1963. On the same date appellant filed further request for reconsideration relating to claims 13 and 14 calling the Board's attention to the Examiner's rejection of these claims and the Board's blanket affirmation of the decision of the Examiner with no mention of claims 13 and 14 in the discussion of the rejection in the Board's opinion.

By letter dated May 29, 1963 the Board took cognizance of the allegations and prayer of the petition for reconsideration and corrected its decision by certifying its reversal as to claims 13 and 14. The language concluding the decision was changed from "AFFIRMED" to "AFFIRMED-IN-PART." This action was taken by the administrative officer by order of the Board. The Board recognized and stated that it was bereft of jurisdiction to further consider the appealed matter by reason of the previous filing of the notice of appeal with its consequent transference of jurisdiction to this court, citing *In re Allen*, 28 CCPA 792, 115 F.2d 936, 47 USPQ 471. The Board stated that "it may, for purposes of appeal to the court, correct any typographical errors, obvious omissions, etc." The Solicitor contends that this action by the Board taken after the notice of appeal was ultra vires on its part and that it could not have the effect of reversing the rejection because the decisions of the Board theretofore rendered did not mention this rejection but affirmed the Examiner generally which is to be construed as an affirmance of the rejection.

We have no quarrel with the principle enunciated in *In re Dreshfield*, 27 CCPA 1013, 110 F.2d 235, 45 USPQ 36; *In re Le Baron*, supra, and *In re Rogoff*, 46 CCPA 733, 261 F.2d 601, 120 USPQ 185, cited by the Solicitor. These cases are completely inapposite to the situation here presented.

[2] The Board did nothing more than to exercise a purely ministerial function in its administrative capacity. It simply corrected *nunc pro tunc* an error of omission plainly obvious to it. It made no new or different determination of an issue. It exercised no judicial function. It merely certified the fact of an unrecorded determination made when the matter was within the full competence of its jurisdiction. It was well within its province in so doing. Claims 13 and 14 were allowed and are therefore not embraced by the appeal before us.

In allowing claims 13 and 14 the Board necessarily reversed the Examiner's rejection that the disclosure was inadequate. It seems clear that the ground of rejection as applied to claims 1 and 2 was also reversed since there is no basis for distinguishing between the two sets of claims. However, since the record is not clear on this point, we will consider the rejection as applied to claims 1 and 2.

The Examiner's answer states the rejection as follows:

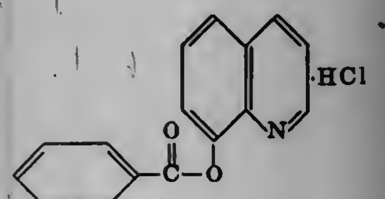
> The basis for this rejection is that the specification only prepares the unsubstituted or lower alkyl substituted organic carboxylic acid ester quinoline salicylates. Nowhere in the specification is there any indication of the preparation of the chloro derivative. While it is recognized that the original claims constitute part of the specification and claims 13–14 were directed to specific chloro derivatives of the claimed compounds, there is no basis for these claims in the specification.

[3] In objecting to the lack of a working example describing the formation of a chloro-substituted compound, the Examiner is apparently relying upon the "how to make" requirement of 35 U.S.C. 112. The issue would then appear to be whether one skilled in the art would be able to make the disclosed chloro-substituted compounds. Appellant has not argued this point in his brief. He apparently thought that the rejection had been dropped because of the Board's allowance of claims 13 and 14. The Solicitor maintains that since the appellant has not controverted the rejection, it *must* be affirmed and cites *In re Le Baron*. We do not consider *Le Baron* apposite. *Le Baron* held only that with regard to a prior art rejection, failure to argue that a particular feature recited in a claim made it patentable is an abandonment of any claim to patentability based on the recited feature. We do not feel that a claim is abandoned for failure to argue one ground of rejection. Such a result would be particularly inequitable in the present case where appellant relied upon the letter from the Patent Office which might reasonably have led him to believe that the rejection had been dropped.

[4] Despite the lack of argument in appellant's brief, we think that the rejection lacks merit. Appellant's Example VI indicates that 8-benzoyloxy-4-methylquinoline salicylate is prepared by first esterifying 4-methyl-8-hydroxyquinoline and then salifying with salicylic acid. The Neher patent indicates that 5-chloro-8-hydroxyquinoline may be esterified by undecylenic acid chloride. Since chloro-8-hydroxyquinoline is a known product and easily esterified as indicated by Neher, one skilled in the art would apparently have no trouble making appellant's chloro-substituted compounds according to the general process set forth in appellant's working examples. Thus, the rejection of claims 1 and 2 for an inadequate disclosure with regard to the chloro compounds is *reversed*.

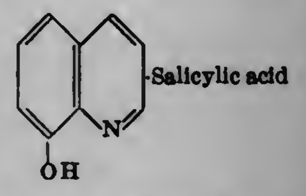
Prior Art Rejection

The generic claims and the benzoic acid ester species were rejected as obvious in view of the prior art. The primary reference, an article by Matsumura,[2] describes the formation of benzoyloxyquinoline hydrochloride,



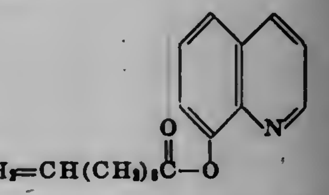
In that portion of the Matsumura article incorporated in the record, there is no indication of utility for 8-benzoyloxyquinoline or its hydrochloride.

An article by Van Winkle and Christiansen [3] was relied upon by the Examiner to show 8-hydroxyquinoline salicylate,



The article describes work performed in order to determine if the acid molecule attached to the 8-hydroxyquinoline nucleus affected skin irritation accompanying the use of the compounds as antiseptics. Five compounds, the sulphate, citrate, tartrate, β-resorcylate and salicylate were tested. Results indicated that changing the acid molecule had little effect on antiseptic action and irritation. Germicidal activity was affected with the sulphate and citrate being the most effective germicide.

The third reference, a patent to Neher,[4] discloses undecylenic acid esters of 8-hydroxyquinolines,



Neher states that salts of a large number of acids, both mineral and organic (including acetic and propionic acids) can be formed "in the usual manner."

The Board summarized the Examiner's position as follows:

> It is the Examiner's position that the compounds of the prior art are known to possess antifungal activity; that the specific ester of 8-hydroxyquinoline defined in claim 9 [8-benzoyloxyquinoline] is shown in Matsumura and the substitution of salicylic acid as the salifying agent in place of the hydrochloride would be sufficiently evident to one of ordinary skill in this art in view of Van Winkle et al. The Examiner further refers to Neher as showing the broad concept of organic acid esters of 8-hydroxyquinoline and corresponding halogen and

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[2] 52 J. Am. Chem. Soc. 463.
[3] 18 J. Am. Pharm. Assn. 794–796.
[4] U.S. Patent 2,666,058, January 12, 1954.

methyl substituted derivatives thereof salified by other organic acids as having antifungal activity. Accordingly, the Examiner holds the substitution of salicylic acid specifically as the salifying agent for the hydrochloric acid in Matsumura would be obvious in view of the cited art.

Appellant argues that salification of the 8-benzoyloxyquinoline of Matsumura with salicylic acid is not obvoius and points to the fact that of the many organic acids tested only salicylic acid worked. He further relies on his affidavit, filed after the Board's decision, which indicates that acetic and propionic acids do *not* form salts with the Neher compounds. It was appellant's contention that Neher's teaching was erroneous and that failure of acetic and propionic acids to salify an oxine ester would lead away from using another organic acid such as salicylic acid. In its consideration of the affidavit, the Board did not criticize it but only stated:

> Appellant's unsuccessful attempts to prepare the salts disclosed in Neher are not considered as affecting the clear teaching of such salts, without regard to the method by which they were made.

The Solicitor argues that if acetic and propionic acids will not salify the oxine ester,

> * * * only a chemist without the slightest initiative would stop without trying other carboxylic acids, and salicylic acid would be one of the first to be tried by the person skilled in the art because salicylic acid is known to be useful in this respect as taught by Van Winkle et al.

This statement seems to overlook the difference between oxine and the oxine ester. The failure of acetic and propionic acids to salify the oxine ester would indicate that salification of the ester is more difficult than salification of the oxine and might well suggest stopping. If one exhibited "initiative" and looked to the Van Winkle article, the most obvious acids are the citrate and β-resorcylate. Yet these acids, according to the uncontroverted statement in appellant's application, will not salify the oxine ester. To go further would indeed require initiative.

[5] Another factor to be considered is the improved properties of appellant's compounds as compared to the parent compound oxine. Oxine causes skin irritation, whereas appellant's compounds are relatively free of irritation. Furthermore, as noted by the Board, appellant's 8-benzoyloxyquinoline salicylate has an antifungal activity which "is at least three-fold that of the parent compound, 8-hydroxyquinoline." The appellant cites *In re Papesch*, 50 CCPA 1084, 315 F.2d 381, 137 USPQ 43, in urging that the properties of his compounds must be considered in the determination of obviousness. The Solicitor contends that a difference of degree between the properties sought to be patented and the prior art does not establish unobviousness. We think that a large difference in degree, such as is present here, is persuasive evidence to be considered along with other evidence of unobviousness.

[6] After carefully weighing the evidence before us, we hold that the claimed compounds are not obvious in view of the prior art. It is possible, to be sure, to reconstruct appellant's compound, carefully fitting together the three references. However, in view of the difficulties encountered in salifying an oxine ester and the improved properties obtained when the proper salifying agent, salicylic acid, is chosen, such a reconstruction cannot be considered an obvious one. The prior art rejection is thus *reversed*.

Undue Breadth

Claims 1, 2, 3, 16, 19 and 21 were rejected for failing to properly define the invention in the claims under 35 U.S.C. 112 because of the term "carboxylic organic acid." The objection was stated in the Examiner's answer as follows:

> The use of such broad terminology not supported by the specification renders the claims "a mere invitation to experiment" and fails to meet the requirements of 35 U.S.C. 112. The esters of pinonic acid, caronic acid, and thujaketonic acid, caryophyllenic acid, vitamin A_2 acid, etc. are embraced by the terminology "carboxylic organic acid ester." Clearly such complex structures are not supported by the description of the invention in the specification or any of the working examples.

The Examiner also felt that the term embraced carboxylic acids containing inoperative "substituents such as

$$CH_2{=}CH{-}C{\equiv}C{-}CH{=}CH{-}C{\equiv}CH{-}$$

[sic]."

The appellant argues that his application indicates that the essential feature of the ester is that it must be an organic carboxylic acid, and that it does not make any difference what the acid is. He further states:

> Applicant has not, of course, tested all carboxylic acid esters of oxine; but he has tested a sufficient number to reach the reasonable conclusion that the nature of the esterifying acid is of no consequence * * *.

The problem confronting us here is not a novel one. We are well aware of the arguments on both sides. The Patent Office requires strict conformity with the statute in order to protect the public. The applicant, on the other hand, should not be denied the use of language necessary to give him the broadest protection commensurate with the scope of his disclosed invention. In deciding the question of undue breadth, it is necessary then to consider the scope of the disclosed invention.

In his specification appellant teaches that the acid may be monobasic, dibasic, aromatic or heterocyclic. These acids may contain the following groups, "alkyl, * * * aryl, aralkyl, aralkylene, furyl, and the like." Appellant has indicated that the carboxy group is the essential part of the organic acid. He has suggested a theory which supports this contention. Furthermore, he has defined carboxylic acids broadly and named a wide range of specific acid esters, e.g., acetate, palmitate, cyclopentylacetate, benzoate, veratrate, phthalate and succinate. It is further noted that the remainder of the fungicide is limited to 8-hydroxyquinoline and salicylic acid, which according to appellant are important in determining the properties of the compound.

[7] In view of the breadth of the disclosure of the ester portion and appellant's contention that there is nothing critical in the carboxylic acid used, we hold that the term "carboxylic acid" is not unduly broad. In holding thus, we do not underestimate the seriousness of the Examiner's objections. However, in this case we do not feel that the dangers are so great that the scope of appellant's claims should be restricted. The Solicitor relies upon *In re Sus*, 49 CCPA 1301, 306 F.2d 494, 134 USPQ 301, in asserting that appellant's invention is too broadly claimed. In *Sus*, this court found "substituted aryl" to be too broad because only a limited number of aryl compounds were disclosed and because the use of the compounds specifically disclosed was essential to securing the asserted novel results. We do not

have that situation here. Appellant has defined his carboxylic acids broadly and has indicated that according to his theory almost any carboxylic acid will work.

[8] The decision of the Board is thus reversed.

REVERSED.

Rich, *J.*, concurring, with whom Smith, *J.*, joins.

This case is one more example of why reasons of appeal should be dispensed with by statutory amendment. They continue to waste our time and energy in useless debate over senseless technicalities.

See my concurring and dissenting opinions in *In re LePage's Inc.*, 50 CCPA 852, 312 F.2d 455, 136 USPQ 170, and *In re Gruschwitz*, 50 CCPA 1498, 320 F.2d 401, 138 USPQ 451, respectively, and Judge Smith's dissenting opinion in *In re Timmerbeil*, 50 CCPA 1514, 320 F.2d 413, 138 USPQ 461.

Reasons of appeal waste our time because the Patent Office appears to consider it to be its legal duty to waste its time concocting arguments as to why reasons of appeal *may* not be legally sufficient under *some* of our many conflicting opinions on the question.

Meanwhile the backlog in this court increases as it does in the Patent Office, is threatening to increase further, and such time wasting is inimical to sound government.

The Claim 13–14 Jurisdictional Question

The court's opinion appears to take the view that the "purely ministerial" and *nunc pro tunc* correction by the Board of its opinion, to express its intention to allow claims 13 and 14, presents a fact situation distinguishable from that in *In re Allen*, 28 CCPA 792, 115 F.2d 936, 47 USPQ 471.

In *Allen*, the day following the filing of the notice of appeal the Board rendered a decision saying:

> This is a petition for reconsideration of our decision dated September 30, 1939. Reconsideration of claim 3 is requested. *Through inadvertence* this claim was not listed as allowable in our former decision. It contains the same limitation as the claims which we held allowable. [Emphasis added.]

The Board allowed claim 3 but this court held the Board was without jurisdiction to do so because of the taking of the appeal. It thereupon considered claim 3 as rejected, reviewed the rejection on the merits, and allowed it for the very reason the Board had tried to allow it, a great work of supererogation.

Since I think the decision in the instant case is sound and is clearly inconsistent with *Allen*, I would expressly overrule *Allen* to the extent hereinafter indicated and not leave it to be inferred that we have to some uncertain extent modified it.

There is a good reason to overrule *Allen* as to ex parte cases. The reasoning of that opinion is faulty in treating all appeals to this court from the Patent Office as though they were appeals from a trial *court* to an appellate court. The analogy holds only in *inter parties* cases wherein a Patent Office tribunal, the Board of Patent Interferences or the Trademark Trial and Appeal Board in an opposition or interference, renders a decision determining rights as between two or more parties litigant, none of whom is the Patent Office. In doing that the tribunal does act as a court (though it is not one) and the procedure followed in other courts is analogous and may well be followed.

In *ex parte* cases the situation is entirely different and the Patent Office tribunal, the Board of Appeals or the Trademark Trial and Appeal Board acting in an ex parte case, is but an arm of the administrative agency which *is itself a party litigant* when the case reaches this court. The applicant-appellant in our court in an ex parte case is here demanding his rights under the law, not against some private party, but from the administrative agency. That agency appears in our court, through its Solicitor, in the posture of an opposing party litigant but, realistically, still as the agency refusing the demands of the appellant. The Patent Office posture is that of a *defendant*, not that of a court. The only reason for hearing the case at all is to decide whether the agency is legally justified in its refusal. If, for any reason whatever, the agency wishes to alter its refusal in any degree and to concede to the appellant any of his demands, I know of no reason, either in the authority or the "reason" found supposedly controlling in *Allen*, why the agency cannot go far beyond the correction of inadvertently erroneous refusals and concede any part or all of the rights demanded by the appellant while the case is in our court. There is no reason why we should hear and determine appellants' claims to patent or trademark registration rights which the Patent Office is willing to concede to him. Our function under the law is merely to review refusals adhered to.

In civil litigation, when a plaintiff makes demands of a defendant, the first court to hear them does not insist on hearing and deciding cases in which the defendants are willing to confess judgment. Why should we? In ex parte cases we are the *first* court to hear the claim.

As a result of the *Allen* case, the anomalous situation now exists that the Patent Office takes a rigid position that it loses jurisdiction to do anything in an ex parte case as soon as the notice of appeal to our court is filed; but if review of its refusal in the same case be sought under 35 U.S.C. 145 or 15 U.S.C. 1071(b) (Sec. 21(b) of the Lanham Act as amended) by civil action against the Commissioner of Patents in the District Court, the Patent Office deems itself able to behave like any other party defendant to a suit and as capable of conceding the plaintiff's claims at any time. Appeals to this court therefore prevent, under the wholly unnecessary and ill-founded technicality of the *Allen* rule, the desirable settlement of litigation. The error and evil of the rule should be transparently obvious.

U.S. Court of Customs and Patent Appeals

In re Alford G. Farnham, Francis N. Apel and Howard L. Bender

No. 7244. Decided March 18, 1965

[52 CCPA —; 342 F.2d 455; 144 USPQ 746]

1. Patentability—Process—Obviousness—Use of Ion Exchange Resins in Catalyzing Chemical Reactions.

In connection with a process for the production of "Bisphenol A," *Held* that "It seems to us that a person of ordinary skill in this art should be charged with the knowledge of the references as to the availability and use of ion exchange resins in catalyzing chemical reactions * * *."

2. Same—Same—Same—Same.

Held that "* * * appellants' invention does in fact involve something more than the selection of a known catalyst and its use in place of another in a known reaction to produce Bisphenol A," that "Appellants appear to have discovered that the desired reaction required pretreatment of the ion-exchange resin catalyst to reduce its moisture content before it could be successfully used in the process"; and that "We think appellants' recognition of the necessity for low water content in the catalyst is an important and unobvious contribution to this art."

3. Same—Particular Subject Matter—"Preparation of Bisphenols."

The decision of the Board of Appeals, refusing certain claims in an application entitled "Preparation of Bisphenols" as unpatentable over the prior art, is reversed as to three claims and affirmed as to the others.

Appeal from the Patent Office. Serial No. 706,295.

MODIFIED.

Walter C. Kehm (*John F. Hohmann*, *Paul A. Rose*, of counsel) for appellants.

Clarence W. Moore (*J. F. Nakamura* of counsel) for the Commissioner of Patents.

Before Worley, *Chief Judge*, and Rich, Martin, Smith, and Almond, Jr., *Associate Judges*

Smith, J., delivered the opinion of the court.

Appellants have correctly referred to the issue on this appeal as "a classical section 103 rejection on the question of whether the differences between appellants' invention and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in this art."

The invention disclosed in appellants' application [1] and claimed in appealed claims 1–8, 10 and 11 [2] relates to a process for the production of a bisphenol by the known condensation reaction between a phenol and a ketone to produce, e.g., 2,2-bis(4-hydroxy-phenyl) propane, which will hereinafter be referred to by its commercial designation "Bisphenol A."

As stated in appellants' brief:

> The condensation reaction of phenols with ketones has been known for 20 or more years. The major industrial process for the reaction is one employing an acidic catalyst such as hydrochloric acid. Much of the Bisphenol-A produced in the U.S. today is made by such a process. The use of mineral acids as catalysts in the process, however, has created problems in product purity as well as in subsequent by-product and catalyst removal. Corrosion problems in handling and manufacturing equipment for use with such strong acid catalysts in the presence of water added to such problems as did the adverse effects upon the rate of reaction due to the dilution of the acid by the water formed in the reaction. While these problems have not been unsurmountable, they have proven to be expensive and create extensive purification requirements on the process.

Appellants' process uses a cation exchanging resin as the catalyst instead of the soluble acid catalyst heretofore employed. The Board of Appeals affirmed the rejection of the appealed claims as covering but an obvious modification of the process disclosed in

Stoesser et al., 2,623,908, December 30, 1952.

The other references cited are:

Jansen, 2,468,982, May 3, 1949.

"Amberlite Ion Exchange," p. 10, Rohm and Haas Co., The Resinous Products Div., Philadelphia (September 1953).

Sussman, 38 Industrial & Eng. Chem., 1228–30 (1946).

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[1] Ser. No. 706,295, filed Dec. 31, 1957, for "Preparation of Bisphenols."

[2] Claims 2 and 3 which are representative of the claims on appeal read as follows:

2. A process for the production of bisphenols which includes the steps of contacting a mixture of a phenol having a reactive hydrogen para to the phenolic hydroxyl and a ketone having at least one methyl group alpha to the carbonyl, said mixture containing at least three molar parts of said phenol per molar part of said ketone, with a substantially insoluble cationic-exchanging resin at a temperature between about 40° C. and 150° C. for a time sufficient to form a bisphenol by the reaction of the said phenol with the said ketone and thereafter recovering the bisphenol from the resulting mixture.

3. A process as described in claim 2 wherein the insoluble cationic exchange resin has been treated so as to be substantially free of water.

The Board also took note of the following text, which was made of record in the first office action:

Nachod et al., Ion Exchanging Technology, 273–79 (Academic Press, New York, 1956).

The Examiner stated in the final rejection that he was aware that no reference anticipated the claims and that each reference contained disclosure not pertinent to the claims. It was his position, however, that the cumulative disclosures of the prior art were such at the time of appellants' invention to make it obvious to a person of ordinary skill in this art. Appellants' position as here summarized in their brief traverses this position and argues that the positions of the Examiner and the Board are incorrect "in that those of ordinary skill in this art with the references before them *would not be taught* that ion exchanging polymeric resins would catalyze the condensation reaction between phenol and acetone in this process."

There is no question but that the Stoesser process produces Bisphenol A by reacting phenol with acetone in the presence of a volatile acidic condensing agent. The reference discloses that the reaction may be carried out with stirring at temperatures preferably from 40° to 70° C. and also may be carried out at higher temperatures up to 100° C. It discloses further that the bisphenol forms as crystals in the reaction mixture.

Stoesser also points out that the "process may advantageously be carried out by procedure which involves feeding the phenol and the acetone in the desired proportions to a reaction zone, * * * [and] intermittently, or continuously, withdrawing crude reaction product from the reaction zone * * *."

Jansen discloses a process for preparing the bisphenol 2,2-bis(4-hydroxyphenyl) propane by carrying out the acid condensation of phenol with acetone in the usual manner, but in the presence of a mercapto acid, such as beta-mercapto propionic acid, as a catalyst for accelerating the reaction. The reaction is carried out in the presence of anhydrous calcium chloride and hydrochloric acid (Example I), hydrochloric acid (Example III) or anhydrous hydrogen chloride (Examples IV to VII) as an acidic condensing agent. The reaction is carried out in a batch operation by mixing the phenol and acetone in a reaction vessel, adding the mercapto acid catalyst and acidic condensing agent and stirring the reaction mixture. The patent points out that normal operating temperatures of about 20° to 50° C. are preferred, but that the reaction may be effected at temperatures as high as 100° C. or higher.

The article by Sussman discloses that acid-regenerated cation exchangers, in the absence of any ionizable salt, catalyze a wide variety of reactions normally carried out with acid catalysts. The cation exchangers disclosed are "Zeo-Karb H," a sulfonated coal type, and phenolformaldehyde types of resins containing sulfonic acid groups. The presence of strongly acidic groups is stated to be the necessary characteristic of a cation exchanger for catalysis.

The Amberlite Ion Exchange publication of Rohm & Haas Co. states under the heading, "Catalysis by Acids and Bases," that "Amberlite" ion exchange resins are "solid" acids or bases, and that the resins are ideal for many reactions catalyzed by acids or bases.

The excerpt from Ion Exchange Technology, a text and reference work by F. C. Nachod et al., points out several advantages in the use of ion exchange resins as acid catalysts. Among those advantages are:

(1) A catalyst-free product is obtained by a simple filtration step and eliminates costly and difficult neutralization, precipitation, distillation and extraction steps. (2) Side reactions can be kept to a minimum. (3) Corrosion resistant equipment is not as necessary as in the case of some soluble catalysts. (4) Continuous processing can be obtained by passing the reactants through beds of ion exchange resin catalysts. Nachod et al. also point out that "These materials would be expected to have catalytic properties similar to soluble salts of sulfuric acid or salts of carboxylic acids and this expectation has been confirmed," and that the "reactions catalyzed by soluble salts and acids are also catalyzed in a similar manner by cation exchange materials."

Appellants' position in summary is:

> The use of the synthetic resinous cation exchanging materials in the practice of the invention described and claimed by appellants is submitted to be a genuinely new and novel use of these materials that would not have been obvious to anyone skilled in the art at the time at which the invention was made. Prior to appellants' invention, the only known materials that could catalyze this reaction were the strong mineral acids such as characterized by the Stoesser et al. reference and the Jansen reference.

[1] Appellants attack the position of the Examiner and the Board as being essentially a "hindsight" rejection resulting from their selection of portions of the prior art "clearly guided by appellants' specification." We do not agree with this position. It seems to us that a person of ordinary skill in this art should be charged with the knowledge of the references as to the availability and use of ion exchange resins in catalyzing chemical reactions and that, as stated by the Board:

> * * * Although the specific reaction claimed is not disclosed by these secondary references, we see no reason to believe it would not be operative when catalyzed with an acidic resin instead of free acid. Obviousness under 35 U.S.C. 103 does not require absolute predictability. *In re Moreton*, 48 CCPA 875; 1961 C.D. 277; 771 O.G. 295; 288 F.2d 708; 129 USPQ 227...

[2] It appears, however, that appelants' invention does in fact involve something more than the selection of a known catalyst and its use in place of another in a known reaction to produce Bisphenol A. Appellants appear to have discovered that the desired reaction required pre-treatment of the ion-exchange resin catalyst to reduce its moisture content before it could be successfully used in the process. This pre-treatment is disclosed in the specification and provides an important basis from which appellants attack the position of the Examiner and the Board. Thus in discussing Sussman's coal exchanger, appellants point out in their brief:

> * * * Its water content even in the air dried condition of 15–30% *stops the reaction dead*—indeed it prevents it from even starting. Example 5 of appellants' specification (R. 14–15) shows that *at only 3% water, the reaction gave no conversion of acetone.*

They also point out, quite correctly, that Stoesser et al. state they can use 10% water with their reactants and can use hydrochloric acid which appellants assert contains 63% water in its most concentrated form. The discovery of the deleterious effect of water in the ion-exchange resins when used in the disclosed reaction appears from the record to be an important aspect of appellants' process. It is stressed by appellants as an essential difference between the prior art teachings and the disclosed process. The Examiner admits that "the references do not disclose that the resin should be freed from water prior to use in the reaction."

We do not agree, however, with the reasoning of the Examiner that:

> * * * Since it is apparent that Stoesser used a dry catalyst and that the pressure [sic: presence?] of water in the reaction serves no useful purpose, the use of a dry resin in the process is indicated.

While not expressly stated in the Board opinion, it seems that some such view necessarily underlies its affirmance of the Examiner's rejection. We think appellants' recognition of the necessity for low water content in the catalyst is an important and unobvious contribution to this art. We think the Examiner and the Board erred in failing to treat each appealed claim separately.

[3] Considering the claims on appeal separately, we find reference to the substantially water-free condition of the cationic exchange resin only in claims 3, 7 and 8. We therefore affirm the rejection of claims 1, 2, 4–6, 10 and 11 and reverse the rejection of claims 3, 7 and 8.

MODIFIED.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,740,739, D. R. Harwin et al., CARPET UNDERLAY, **filed** Feb. 4, 1965, D.C.N.J. (Trenton), Doc. 106–65, *Allen Industries, Inc.* v. *National Sponge Cushion Co., Inc.* **Same, filed** Feb. 4, 1965, D.C., S.D. Calif (Los Angeles), Doc. 65–185–FW, *National Sponge Cushion Co.* v. *Allen Industries, Inc. et al.*

2,741,775, E. G. Schmidt, TANK DISCHARGE VALVE; **2,763,872**, A. B. Nelson, TOILET FLUSH TANK FLOAT VALVE, **filed** Feb. 26, 1965, D.C., W.D.N.C. (Charlotte), Doc. 1990, *Lavelle Rubber Company* v. *Radiator Specialty Company.*

2,742,462, G. Gever, NEW N-(5-NITRO-2-FURFURYLIDENE)-3-AMINO-2-OXAZOLIDONES, **filed** Sept. 5, 1963, D.C., S.D.N.Y., Doc. 63/2632, *The Norwich Pharmacal Company* v. *Portex, Inc. et al.* Consent judgment; defendants enjoined Feb. 16, 1965. **Same, filed** Mar. 3, 1965, D.C., N.D. Ga. (Atlanta), Doc. 9351, *The Norwich Pharmacal Company* v. *Joseph O'Connor et al.* Consent judgment; case dismissed Mar. 17, 1965. **Same,** Doc. 9352, *The Norwich Pharmacal Company* v. *Fred Ellis Woodruff et al.* Consent judgment; case dismissed Mar. 17, 1965. **Same, filed** Mar. 20, 1965, D.C., W.D. Ark. (Fort Smith), Doc. 546, *The Norwich Pharmacal Company* v. *Tyson's Foods, Inc. et al.* **Same,** Doc. 547, *The Norwich Pharmacal Company* v. *Service and Research, Inc. et al.* **Same, filed** June 3, 1965, D.C., N.D. Ga. (Gainesville), Doc. 1070, *The Norwich Pharmacal Company* v. *V. C. Lovell.* **Same, filed** June 7, 1965, D.C., W.D. La. (Shreveport), Doc. 11,156–S, *The Norwich Pharmacal Company* v. *Farmers Feed & Supply.* **Same, filed** June 8, 1965, D.C., W.D. La. (Shreveport), Doc. 11,158, *The Norwich Pharmacal Company* v. *McGehee Feed Store, Inc. et al.*

2,762,359, G. B. Entz, STONE CUTTING MACHINE, **filed** Feb. 24, 1965, D.C., W.D. Ark. (Fort Smith), Doc. 1861, *Imperial Stone Cutters, Inc. et al.* v. *Herman Schwartz.*

2,763,872. (See 2,741,775.)

2,784,037, A. Rexroth, APPARATUS FOR SHOOTING MATERIAL INTO CUPOLAS; **3,086,823**, same, METHOD AND APPARATUS FOR CHARGING CUPOLAS, **filed** June 28, 1962, D.C., E.D. Wis. (Milwaukee), Doc. 62–C–176, *Alfred Rexroth* v. *John E. Penner et al., doing business as Interstate Supply and Equipment Company.* Patent No. 3,086,823 included by amended complaint July 25, 1963; said amended complaint as to Patent No. 3 086,823 dismissed. Consent decree holding Patent No. 2,784,037 valid and infringed; defendants enjoined Feb. 4, 1965.

2,831,609, Monthriand and Montpetit, LIQUID DISPENSING APPARATUS, **filed** Feb. 17, 1965, D.C. Minn. (Minneapolis), Doc. 4–65/44, *Bar-Boy, Inc. et al.* v. *Elwyn McPherson et al.*

2,833,392, H. G. Meissner, FEEDER FOR DISCRETE CELLULOSE MATERIAL, **filed** Feb. 1, 1965, D.C., E.D. Mich. (Detroit), Doc. 26431, *Combustion Engineering, Inc.* v. *Riley Stoker Company.*

2,835,933, R. L. Evans, DOOR FRAME, **filed** Feb. 25, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65C–168, *Kewanne Mfg. Co.* v. *Acme Steel Door Corp.* **Same, filed** Mar. 1, 1965, D.C. Ariz. (Phoenix), Doc. 5440 Phx., *Kewanne Manufacturing Company* v. *Presto Doors, Inc.*

2,839,909, J. E. Morgan, KNITTED FABRIC, **filed** Sept. 23, 1958, D.C., E.D. Pa. (Philadelphia), Doc. 25348, *Augusta Knitting Corporation et al.* v. *John E. Morgan et al.* Final decree; claims 1 to 18 of Patent No. 2,839,909 held invalid Feb. 25, 1965.

2,850,109, R. A. Benjamin, LIGHT-PERMEABLE SOUND-ABSORBING PANEL, **filed** July 9, 1963, D.C. Del. (Wilmington), Doc. 2704, *Bolt Beranek et al.* v. *Thomas Industries, Inc.* Stipulation of dismissal Feb. 26, 1965.

2,860,635, E. H. Wilburn, STERILIZABLE AND STERILIZED HYPODERMIC SYRINGE ASSEMBLIES, **filed** Mar. 19, 1963, D.C., E.D. Pa. (Philadelphia), Doc. 33096, *Edgar H. Wilburn* v. *Burron Medical Products, Inc. et al.* Stipulation of dismissal (notice Feb. 24, 1965).

2,871,852, L. D. Miller, ORTHOPEDIC DEVICE, **filed** Jan. 2, 1963, D.C., E.D. Mich. (Detroit), Doc. 23377, *Leland D. Miller* v. *Becker Orthopedic Appliance Company.* Stipulation and final consent judgment Feb. 15, 1965.

2,877,577, H. Jacobson, POLYTETRAFLUOROETHYLENE PRESSING ACCESSORY; **3,142,916**, S. Jacobson, ACCESSORY FOR GARMENT STEAMING DEVICES, **filed** Feb. 10, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–224–TC, *Sidney Jacobson* v. *Bishop Freeman Co.*

2,896,945(*a*), H. Waldman, TAPE RECORDING AND REPRODUCING APPARATUS, **filed** Aug. 30, 1962, D.C., S.D.N.Y., Doc. 62/2986, *Robosonics, Inc.* v. *Mind-A-Fone Corp.* Consent order discontinuing action Mar. 10, 1965.

2,896,945(*b*); **3,127,474**, H. Waldman, TELEPHONE ANSWERING APPARATUS, **filed** May 20, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65C–515, *Robosonics, Inc.* v. *Teledyne, Inc.*

2,903,032, G. I. Cervene, APPARATUS FOR MEASURING AND SEGREGATING SLICED PRODUCTS FROM SLICING MACHINES; **3,099,304**, Monsees and Reinhart, APPARATUS FOR STACKING AND WEIGHING SLICED FOOD PRODUCTS, **filed** Mar. 9, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c429, *Unexcelled Chemical Corporation* v. *Rose Packing Company, Inc. et al.* Case dismissed without prejudice Feb. 12, 1965.

2,922,883, E. C. Giaimo, Jr., ELECTROSTATIC CHARGING MEANS AND METHOD; **3,052,539**, H. G. Greig, ELECTROSTATIC PRINTING; **3,052,540**, same, DYE SENSITIZATION OF ELECTROPHOTOGRAPHIC MATERIALS, **filed** Mar. 5, 1965, D.C., S.D.N.Y., Doc. 65/686, *SCM Corporation* v. *Radio Corporation of America.*

2,932,471, Exner and Scarbrough, BROAD BANDWIDTH DIGITAL SERVO, **filed** Mar. 2, 1965, D.C. Del. (Wilmington), Doc. 2981, *Westinghouse Electric Corp.* v. *Hughes Aircraft Company.*

2,935,602, R. S. Fremont, LIGHTING FIXTURES FOR RECESSED CEILING MOUNTING, **filed** Feb. 11, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c210, *Halo Lighting, Inc.* v. *North Shore Electrical Supply Company.* **Same, filed** Apr. 5, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c524, *Progress Manufacturing Co., Inc. et al.* v. *Robert S. Fremont.*

2,937,649, Gresham and Hoffmann, HAIR CURLER, **filed** May 19, 1961, D.C., S.D.N.Y., Doc. 61/18[illegible]8, *Tip-Top Products Company* v. *Delamere Company, Inc.* Stipulation and order of dismissal Feb. 9, 1965.

2,952,909, P. J. J. Vaes, DRY-SHAVER COMPRISING A REMOVABLE OR TILTABLE CUTTING HEAD; **3,032,873**, same, DRY-SHAVER COMPRISING A HINGED CUTTING PLATE; **3,070,884**, same, MOUNTED PLATE PROTECTIVE MEMBER FOR DRY SHAVER HEAD; **Des. 187,590**, R. W. J. Veersema, DRY SHAVER, **filed** July 9, 1963, D.C., S.D.N.Y., Doc. 63/2039, *North American Philips Co., Inc.* v. *Murray M. Smolkin.* Consent judgment granting an injunction Mar. 5, 1965.

2,977,177, T. McLaughlin et al., AIRCRAFT FLIGHT PATH RECORDING DEVICE, **filed** Mar. 9, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65C–245, *Loral Corporation* v. *Transydyne Corp.*

2,980,574, A. B. Menzer, PLASTIC SHEET MATERIAL; **3,075,429**, D. G. Deddo, INTEGRAL PANEL FOR SUNLIGHT CONTROL. **filed** Mar. 16, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c488, *Kenron Awning & Window Corporation* v. *Daniel G. Deddo et al.* Stipulation and consent order of dismissal with prejudice Sept. 25, 1964.

2,980,875, E. E. Sivacek, THERMO-RESPONSIVE DEVICE, **filed** Feb. 14, 1962, D.C., N.D. Ohio (Cleveland), Doc. C62–196, *King-Seeley Thermos Co.* v. *The Stevens Manufacturing Co., Inc.* Consent judgment; claims 1, 19, 20, 21 and 22 of Patent No. 2,980,875 held infringed; no injunction to issue Feb. 4, 1965.

2,981,228, G. Brandano, DISPLAY TANK FOR SHELLFISH, **filed** Nov. 9, 1964, C.C.A., 1st Cir., Doc. 6430, *Giuseppe Brandano et al.* v. *Stanley L. Handman et al.* Judgment of District Court affirmed (notice Mar. 10, 1965).

2,982,424, A. G. Van Syoc, FURNITURE CONSTRUCTION, **filed** Jan. 30, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c173, *REM Corporation* v. *Sperry and Hutchinson Company.* Stipulation and order dismissing this action including all claims and counterclaims May 19, 1964. **Same, filed** Feb. 25, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65C–1[illegible]9, *Siloro Corp.* v. *Astor Metal Products Co., Inc.*

2,988,848, J. H. Lemelson, NOISEMAKING TOYS, **filed** Mar. 4, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. [illegible]5C–218, *Jerome H. Lemelson* v. *Gerber Products Co. et al.* **Same, filed** July 22, 1964, D.C., S.D.N.Y., Doc. 64/2271, *Jerome H. Lemelson* v. *Alan Jay Clarolyte Company.* Stipulation and order of discontinuance Mar. 22, 1965. **Same, filed** Apr. 26, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65C–445, *Jerome H. Lemelson* v. *Seymour Cowit et al.*

3,032,873. (See 2,952,909.)

3,052,539. (See 2,922,883.)

3,052,549. (See 2,922,883.)

3,070,884. (See 2,952,909.)

3,075,429. (See 2,980,574.)

3,086,823. (See 2,784,037.)

3,099,304. (See 2,903,032.)

3,127,474. (See 2,896,945(*b*).)

3,142,916. (See 2,877,577.)

Re. 23,273, G. P. Kearse, ANTENNA SYSTEM, **filed** June 1, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c[illegible]41, *Hi-Lo Manufacturing Company* v. *Clear Beam Antenna Corp.* Order of dismissal Dec. 2, 1964.

Re. 23,422, F. R. Perry, CLEANING METHOD AND MATERIAL THEREFOR, **filed** Mar. 12, 1965, C.C.A., 8th Cir., Doc. 17972, *Agrashell, Inc.* v. *Hammons Products Company.*

Re. 23,863, F. J. Sowa, SOLUTIONS OF ORGANIC MERCURY COMPOUNDS, **filed** Nov. 27, 1963, D.C.N.J. (Newark), Doc. 1003–63, *Frank J. Sowa et al.* v. *Nuodex Products Company of California, Inc.* Stipulation of dismissal Feb. 5, 1965.

Re. 24,555, R. H. Abplanalp, DISPENSING CAP FOR AEROSOLS, **filed** Nov. 30, 1964, D.C., N.D. Ill. (Chicago), Doc. 64c1991, *Precision Valve Corporation et al.* v. *Aerosol Research Company.* Order of voluntary dismissal of plaintiffs' complaint without prejudice Feb. 2, 1965. **Same, filed** Feb. 2, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c152, *Precision Valve Corporation* v. *Aerosol Research Company.*

Re. 25,129, C. W. Walter, APPARATUS FOR COLLECTING, STORING, AND DISPENSING WHOLE BLOOD; **Re. 25,171**, same, BLOOD ADMINISTERING APPARATUS, **filed** Feb. 19, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c267, *Fenwal Incorporated* v. *Cutter Laboratories, Inc.*

Re. 25,171. (See Re. 25,129.)

Re. 25,646 (of 2,820,908), G. B. Linderman, LIGHT SHIELD FOR PINHOLE DETECTORS, **filed** July 9, 1963, D.C., N.D. Ill. (Chicago), Doc. 63c1195, *Linderman Engineering Co., Inc.* v. *Binks Industries.* Consent judgment; patent held valid and infringed Mar. 1, 1965.

Des. 174,482, Willinger and Nestler, BOTTOM AQUARIUM FILTER, **filed** May 15, 1964, D.C.N.J. (Newark), Doc. 458–64, *Aquariums Unincorporated* v. *Louis Gallo.* Notice of discontinuance Mar. 3, 1965.

Des. 183,626, W. F. Morrison, FLYING TOY, **filed** Mar. 3, 1965, D.C. Minn. (Minneapolis), Doc. 4–65/63, *Wham-O Manufacturing Company, Inc.* v. *Cosom Corporation.* **Same, filed** Mar. 4, 1965, D.C., S.D.N.Y., Doc. 65/655, *Wham-O Manufacturing Co., Inc.* v. *Irwin Corporation.*

Des. 187,590. (See 2,952,909.)

Des. 188,689, E. B. Wolfsohn, CANDLESTICK ORNAMENT, **filed** Oct. 6, 1960, D.C., S.D.N.Y., Doc. 60/3885, *Nated Corp. et al.* v. *Dan Brechner & Co., Inc. et al.* Stipulation and order of discontinuance Nov. 23, 1964.

Des. 190,789, I. I. Levis, HAND MIRROR, **filed** Sept. 12, 1963, D.C., S.D.N.Y., Doc. 63/2698, *Irene I. Levis* v. *Soovia Janis, Inc.* Stipulation and order of discontinuance Mar. 30, 1965. **Same, filed** Feb. 4, 1965, D.C., S.D.N.Y., Doc. 65/374, *Irene I. Levis et ano.* v. *Dan-Dee Imports, Inc.* Stipulation and order of discontinuance with prejudice May 27, 1965.

Des. 190,918, T. D. Poulsen, DOLL, **filed** Oct. 22, 1964, D.C., S.D.N.Y., Doc. 64/3215, *Dam Things Establishment* v. *Adanta Novelties Corporation.* Stipulation and order of dismissal Feb. 25, 1965. **Same, filed** Dec. 23, 1964, D.C., S.D.N.Y., Doc. 64/3958, *Dam Things Establishment* v. *Jouet Inc. et ano.* Stipulation and order dismissing complaint without prejudice Feb. 26, 1965. **Same, filed** Dec. 24, 1964, D.C.N.J. (Newark), Doc. 1157–64, *Dam Things Establishment* v. *Kaysam Corporation of America.* Action terminated May 18, 1965.

Des. 190,964, C. O. Bliss, PITCHER OR SIMILAR ARTICLE, **filed** Dec. 3, 1963, D.C., S.D.N.Y., Doc. 63/3514, *Bliss-craft of Hollywood* v. *Rona Plastic Corp.* Order dismissing action Mar. 4, 1965.

Des. 192,771, L. E. Greenberg, BOAT; **Des. 195,175**, same, PLAY POOL OR SIMILAR ARTICLE, **filed** Feb. 5, 1965, D.C., E.D. Va. (Norfolk), Doc. 4961, *Coleco Industries, Inc.* v. *General Foam Extrusion Corp. et al.* Consent decree; patents held infringed; defendants enjoined Mar. 4, 1965. **Same, filed** Feb. 5, 1965, D.C., S.D.N.Y., Doc. 65/386, *Coleco Industries, Inc.* v. *Forman & Co., Inc. et ano.* Consent judgment; defendants enjoined Mar. 5, 1965.

Des. 195,175. (See Des. 192,771.)

Des. 197,146, G. Fisher, SHOE BAG, **filed** Feb. 14, 1964, D.C., S.D.N.Y., Doc. 64/510, *Triangle Mfg. Co., Inc.* v. *Protex Products Company Sales, Inc. et al.* Stipulation and order dismissing action Mar. 10, 1965.

Des. 199,621, J. Johnson, ARMCHAIR, **filed** Nov. 30, 1964, D.C., S.D.N.Y., Doc. 64/3649, *Frank & Son, Inc.* v. *Charlton Co., Inc.* Stipulation and order of dismissal with prejudice Mar. 9, 1965.

PLANT PATENTS

GRANTED JULY 13, 1965

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,544
OREGON GRAPE HOLLY SHRUB
Charles Szerszen, 27819 Center Ridge Road,
Westlake, Ohio
Filed Feb. 6, 1964, Ser. No. 343,172
1 Claim. (Plt.—54)

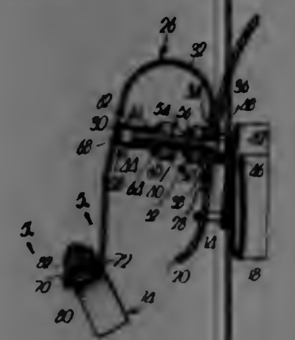
A new and distinct variety of Oregon grape holly shrub (*Mahonia aquifolium*), characterized by the range of colors and color-change displayed in the new growth, changing from an initial yellow-greenish color in individual leaves through bright orange to scarlet as the growth continues, the color change usually progressing inwardly from the edge of the individual leaf to the stem, until a bright scarlet is attained throughout the leaf, the scarlet foliage as the new growth hardens becoming a substantially solid deep red colored leaf before turning to a dark green in the mature growth with at times some red remaining for a much longer time in parts exposed to strong sunlight.

PATENTS

GRANTED JULY 13, 1965

GENERAL AND MECHANICAL

3,193,841
EAR MUFF MOUNTING STRUCTURE FOR HEADGEAR
Frank P. Haluska, 1857 W. Sprague Road,
Broadview Heights, Ohio
Filed Feb. 3, 1964, Ser. No. 342,181
6 Claims. (Cl. 2—3)

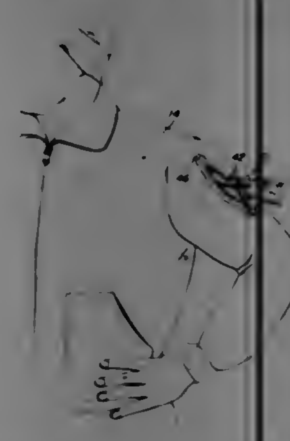


1. Structure for mounting an ear muff on headgear comprising:

a generally U-shaped support member of resilient material and having a first leg section adapted to be secured to said headgear, a second leg section spaced outwardly from said first leg section and thereby adapted to be spaced from the headgear, and a bight section interconnecting adjacent extremities of said first and second leg sections and biasing the second leg section inwardly toward said first leg section, said second leg section being adapted to carry an ear muff thereon in a location to engage the head of a wearer of the headgear in overlying relationship to one of his ears; and

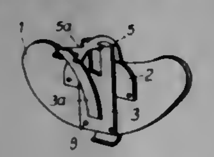
selectively extensible means carried by one leg section of the member and engaging the other leg section for varying the spacing therebetween against the bias of said bight section to permit variation of the pressure of the ear muff against said wearer's head.

3,193,842
SKI TOW TICKET HOLDER
Harold Bell, Gloucester, Mass., assignor to Cape Ann Manufacturing Co., Gloucester, Mass., a corporation of Massachusetts
Filed June 28, 1963, Ser. No. 291,312
4 Claims. (Cl. 2—94)



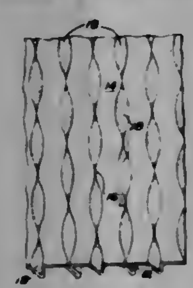
1. A skier's outer jacket comprising a sleeve having a vertically disposed entrance slit formed in the upper outer shoulder portion thereof, a pocket having inner and outer panels defining an open edge peripherally attached to the sleeve in peripheral relation to the slit whereby the slit forms an entrance and egress for the pocket, closure means for said pocket, and a flexible strap attached to the upper edge of the pocket and having one end thereof selectively projected through the entrance slit or received within the pocket, said strap being relatively narrow in relation to the length of the slit and including means thereon for grippingly engaging a ski tow or lift ticket so that the ticket may be stored in a convenient safe place but yet readily displayed for admittance into a ski tow or lift, said strap having a length less than the depth of the pocket for ease of storage therein.

3,193,843
HOLDER FOR READY-TO-WEAR TIES
Edmund Feller, 2 Mannheimer Strasse, Schriesheim an der Bergstrasse, Germany
Filed Jan. 3, 1963, Ser. No. 249,224
Claims priority, application Germany, May 24, 1962, F 36,896
5 Claims. (Cl. 2—153)



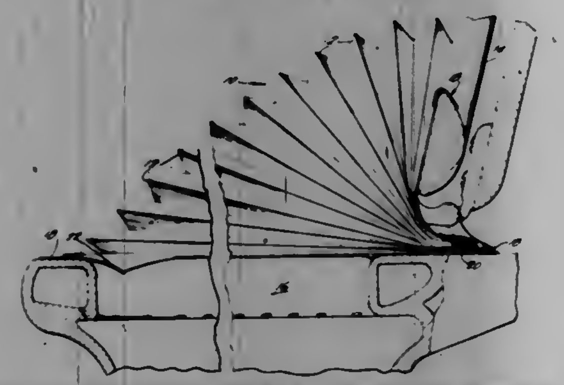
1. A tie holder for ready-to-wear ties comprising a first plate and a clamp having first and second portions, bearing means swingably mounting the clamp on the first plate for movement between a clamping position in which the first portion of the clamp is substantially parallel to the first plate and an unclamping position in which said first portion is substantially normal to the first plate, guide means mounted on said first plate and cooperating with said bearing means, said second portion cooperating with said guide means and extending substantially normal to said first portion, and said bearing means including means cooperating with said second portion for slidably shifting said first portion toward and away from said first plate in a direction generally normal thereto when said clamp is in said clamping position to vary the distance between the plate and the clamp portion for accommodating collar closures of different thicknesses.

3,193,844
PLEATED FABRIC CONSTRUCTION
Jessie W. Eng, 1811 40th Ave., Oakland, Calif.
Filed Nov. 13, 1963, Ser. No. 323,396
4 Claims. (Cl. 2—211)



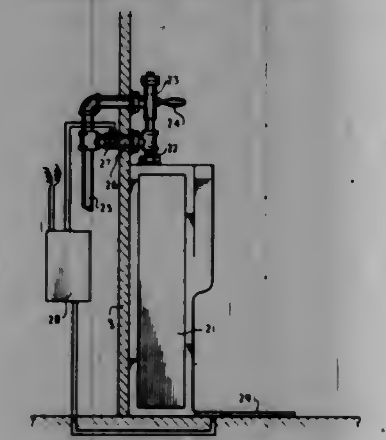
1. In a garment for women, a pleat construction comprising: a series of spaced apart longitudinal first portions each being folded together along their longitudinal center line; second unfolded longitudinal portions separating said first portions and having a different color than said first portions; and thread stitches connecting said first and second portions together at predetermined evenly spaced apart intervals along a line coincident with the outer edge of said first portions and along one side edge of said second portions, said thread stitches being laterally offset from a line generally perpendicular to the pleats on adjacent pleats, but being in alignment with a said perpendicular line on alternate pleats in a series, whereby when the garment is stretched, the pleats spread apart to form a plurality of open pockets revealing said first longitudinal portions having a different color.

3,193,845
SPLASH SHIELD
Charles A. Funk, Cottage St., Hainesport, N.J.
Filed Feb. 12, 1964, Ser. No. 344,302
3 Claims. (Cl. 4—1)



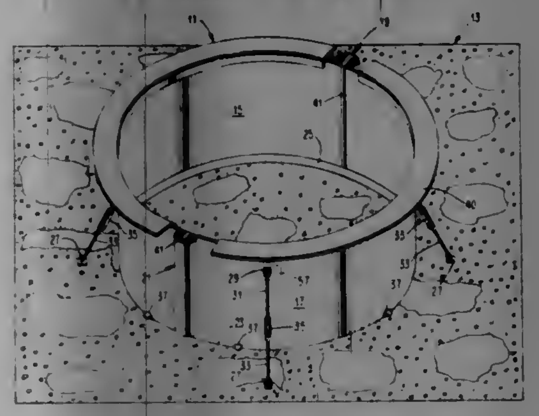
3. In combination with a commode having a bowl and a seat, a splash shield having pleated surfaces, means connecting said shield to the bowl, and said seat disposed for compressing and expanding said shield when lowered and raised respectively with respect to the bowl.

3,193,846
TOILET FLUSHING APPARATUS
Palma Adrien Lefebvre, P.O. Box 639, Cornwall, Ontario, Canada
Filed Oct. 28, 1963, Ser. No. 319,335
2 Claims. (Cl. 4—100)



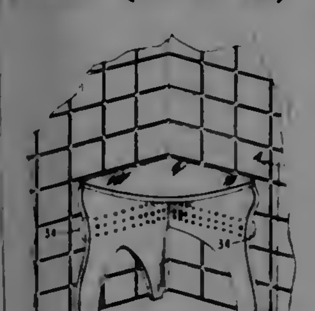
1. In combination with a building having a barrier such as a wall, a toilet unit having a waste receiving portion, a water supply pipe having a water supply under pressure, said toilet unit being disposed in front of said barrier; a water feed pipe interconnected to said toilet unit for discharge of water into said waste receiving portion thereof; a normally closed, manually operable flush valve located in front of said barrier clearly exposed and readily visible to a user in the regular way; one end of said water supply pipe being interconnected to said flush valve for discharge of water thereinto and one end of said water feed pipe being interconnected to said flush valve for receiving water therefrom; a conduit passing through said barrier, one end of said conduit being attached to said water supply pipe in juxtaposition to receive water therefrom intermediate the end thereof discharging into said flush valve and the water supply thereof, the other end of said conduit being attached to said water feed pipe in juxtaposition to discharge water thereinto intermediate the end thereof interconnected to said flush valve and the interconnection therewith of said waste receiving portion of said toilet unit; a normally closed, automatically actuated valve in said conduit disposed behind said barrier and concealed from the user giving no visible evidence of its existence; and user operated pressure sensitive electrical control means coacting with said automatically actuating valve to open on the departure of a user from the toilet unit said manually operable flush valve and said automatically actuated valve being operable independently of one another.

3,193,847
COLLAPSIBLE SWIMMING POOL
John J. Mashura, 315 Westpark Lane, Clifton Heights, Pa.
Filed Dec. 31, 1962, Ser. No. 248,324
5 Claims. (Cl. 4—172)



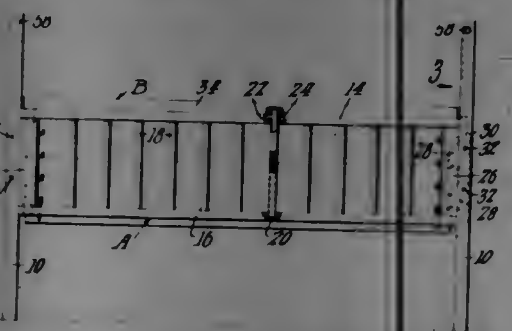
1. A swimming pool comprising:
(a) a base member having an endless groove therein, said groove having sides and being formed to provide the shape of said swimming pool;
(b) a removable wall member fitting into said groove;
(c) sealant means disposed in said groove between the sides thereof and said removable wall member to render the groove water tight;
(d) a plurality of anchor members disposed in said base member and around the outside of the perimeter of said groove;
(e) a plurality of support members connected between said wall member and associated anchor members to hold said wall member rigid thereby providing a wall for said swimming pool;
(f) wedge means inserted in said groove to force said wall member against said sealant to further aid in making said pool water tight.

3,193,848
SHOWER SEAT
William G. Levy, North Conway, N.H., assignor to Yield House, Inc., North Conway, N.H., a corporation of New Hampshire
Filed Mar. 29, 1963, Ser. No. 268,939
1 Claim. (Cl. 4—185)



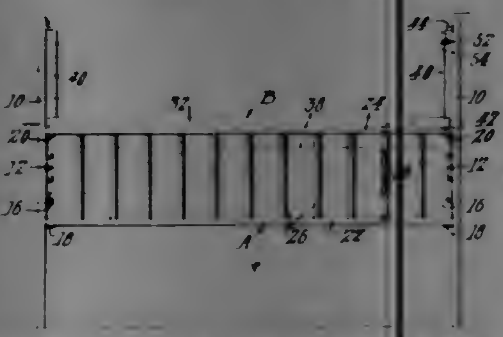
A shower seat having, in combination, a flat seat member having two edges disposed at right angles to one another forming a corner and a third edge connecting with side edges to form said seat, a flat panel shaped to provide an outer leg and a corner leg spaced from one another, a top seat supporting edge, and a hinge receiving inner side edge, a second flat panel shaped to provide an outer leg only, a top seat supporting edge, and a hinge receiving inner side edge, a hinge connecting said panels along said inner side edges, a seat hinge connecting said seat to the top edge of one of said panels for movement between down and up out-of-the-way positions, a pin and socket connection between the seat and the top edge of the other said panel for relatively positioning said seat and said panel in the down position, and vacuum cups on the outer face of each panel for engagement with adjacent shower area walls.

3,193,849
DROP SIDE CONSTRUCTION
Henry J. Landry, Lake Road, Ashburnham, Mass.
Filed Dec. 19, 1963, Ser. No. 331,713
5 Claims. (Cl. 5—100)



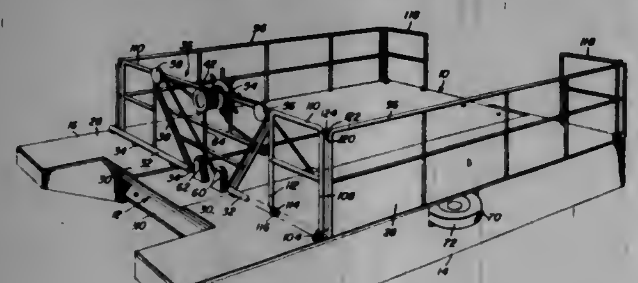
1. A drop side construction comprising a pair of parallel elongated supporting members, means connecting said members in fixed relation, a drop side frame located between the elongated members and being slidable with respect thereto, an undercut groove in each elongated support, a headed member at each end of the drop side, the heads of the headed members being located and slidably guided in said undercut slots, the slots each having an opening too narrow to allow the heads to escape therefrom, and adjacent one end of each slot a hole of a size large enough to receive the heads to assemble the drop side with respect to said elongated supporting members, said holes facing each other.

3,193,850
DROP SIDE CONSTRUCTION HAVING SLIDE RODS
Henry J. Landry, Lake Road, Ashburnham, Mass.
Filed Dec. 19, 1963, Ser. No. 331,726
5 Claims. (Cl. 5—100)



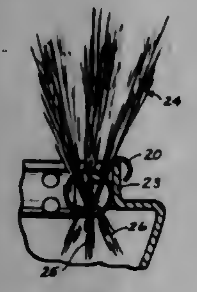
1. A drop side for an article of furniture including a supporting frame having a pair of spaced parallel elongated members, said drop side comprising a fixed drop side part, means securing said part in fixed relationship with respect to said elongated frame members, said fixed side part being arranged transversely with respect to the elongated frame members and in an area with respect thereto more adjacent one end than the other end, and a relatively movable drop side part located between the fixed part and said other end of the frame members, the movable part being movable from an overlapping relationship with respect to the fixed side part wherein the two parts take up approximately the area of the fixed part, to an extended condition between the elongated supporting members extending the area covered by the drop side, means at the ends of the movable part slidingly interengaged with said elongated supporting members, said interengaging means comprising slide rods mounted on the elongated support members in parallel relationship with respect thereto, and means adjacent the ends of the movable parts mounted to slide on said rods, a spring-pressed pin on the movable side part, said pin engaging the rod under pressure of the spring, the rod having a notch therein for selectively receiving the pin when aligned therewith, and means for moving the pin out of the notch to release the movable side part.

3,193,851
FOLDING PONTOON TRAILER BOAT
Harold W. Fiebelkorn, Shellsburg, Iowa, assignor of one-third to Donald Fiebelkorn, Shellsburg, Iowa
Filed Dec. 4, 1963, Ser. No. 328,005
11 Claims. (Cl. 9—1)



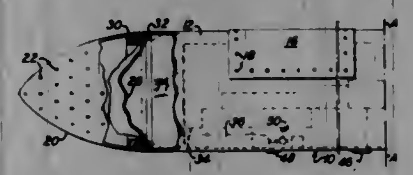
4. A collapsible catamaran comprising a generally horizontally disposed combined main frame and deck section, a pair of generally parallel elongated pontoons extending along and pivotally secured to the opposite side marginal edge portions of said deck section for rotation about axes extending longitudinally of said deck section and positions between outer upright positions and folded inner positions rotated approximately ninety degrees under said marginal edge portions, each of said pontoons including at least one upright when in the folded inner collapsed position whose free upper end swings down and over said deck section when said pontoons are pivoted to their outer upright and extended positions, said free ends of said uprights and said deck section including coacting means for locking said pontoons in said extended positions.

3,193,852
BLIND HOLDER
Fred A. Murrmann, 4537 43rd Ave., Minneapolis, Minn.
Filed July 19, 1962, Ser. No. 210,897
8 Claims. (Cl. 9—5)



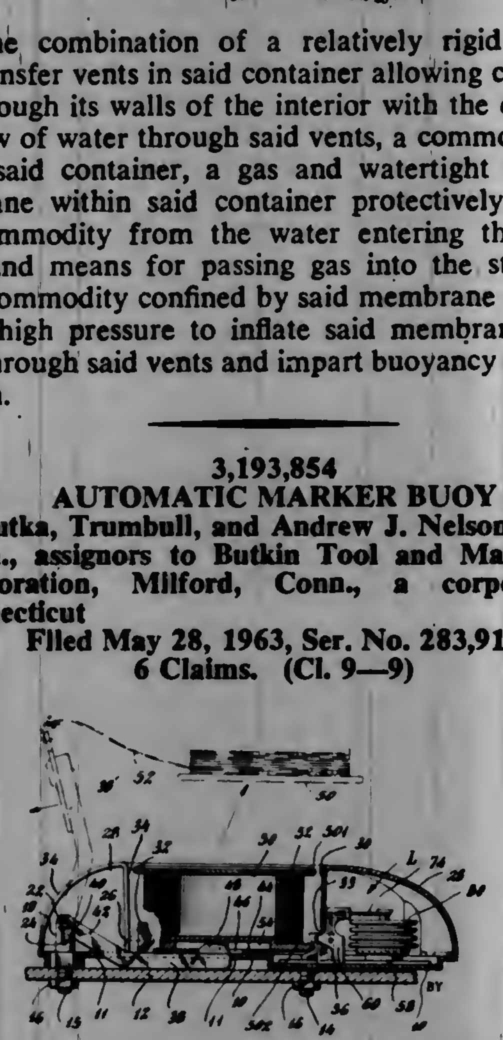
1. A blind holder comprising,
(a) an elongate and hollow tube having a plurality of apertures closely spaced around the circumference thereof and also spaced longitudinally therealong,
(b) said apertures being adapted to receive therethrough the stalks of natural vegetation such as reeds and the like, with individual random pairs of said apertures being adapted to make contact with an individual stalk at spaced points along the length of said stalk, and retain individual stalks at arcuately and longitudinally spaced positions,
(c) said tube further being formed from a relatively stiff but bendable material, and
(d) means for securing said hollow tube in a nonrotatable position, whereby natural vegetation stalks may be inserted through a pair of said apertures and held at an upward angle without said tube rotating.

3,193,853
PRESSURIZED MEMBRANE CONTAINER
David O. Alexander, Washington, D.C., assignor of twenty-five percent to Sol B. Wiczer, Washington, D.C.
Filed Mar. 30, 1964, Ser. No. 355,782
10 Claims. (Cl. 9—8)



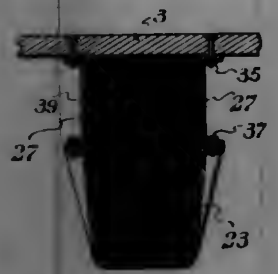
1. The combination of a relatively rigid container, fluid transfer vents in said container allowing communication through its walls of the interior with the exterior for free flow of water through said vents, a commodity stored within said container, a gas and watertight expandable membrane within said container protectively separating said commodity from the water entering through said vents, and means for passing gas into the storage area of the commodity confined by said membrane under sufficiently high pressure to inflate said membrane to expel water through said vents and impart buoyancy to the combination.

3,193,854
AUTOMATIC MARKER BUOY
John Butka, Trumbull, and Andrew J. Nelson, Stratford, Conn., assignors to Butkin Tool and Manufacturing Corporation, Milford, Conn., a corporation of Connecticut
Filed May 28, 1963, Ser. No. 283,913
6 Claims. (Cl. 9—9)



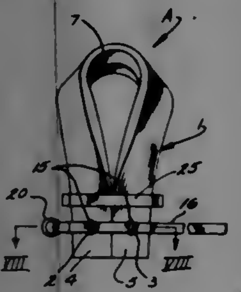
1. Automatically operable apparatus for indicating the position of a sunken object which comprises: a base adapted to be secured to such object; marker buoy means in the form of a substantially cylindrical spool having at least a first circular flange extending circumferentially around a first end thereof; at least one retaining lug means positioned adjacent said base to retain a first portion of the periphery of said first flange thereagainst; a generally L-shaped latch member adjacent a second portion of the periphery of said first flange, said latch member being pivotally secured to said base and having a first position wherein a first leg of said latch member is positioned above said flange and a second leg below said flange and a second position wherein said first leg is away from said flange and said second leg bears upwardly against said flange; spring means positioned to urge said latch member from its first to its second position; retaining means positioned to retain said latch member in its first position but actuatable to release said latch member; pressure responsive means connected to actuate said retaining means to release said latch member; and means for forcibly ejecting said marker buoy means from said base.

3,193,855
AQUATIC FLOAT AND ASSEMBLY
Hyatt Chapman, 5432 E. 5th Place, Tulsa, Okla.
Filed Dec. 6, 1963, Ser. No. 328,596
1 Claim. (Cl. 9—11)



An aquatic assembly comprising a member to be supported on water and having an underside of substantial extent, a float comprising a plurality of separable superposed sections including a lowermost section and at least one upper section, all the sections being filled with plastic foam, the lowermost section having a closed bottom and an open top, and the foam in the lowermost section having its upper surface exposed to the foam in said at least one upper section, said at least one upper section having an open top and an open bottom with the foam adjacent the underside of said member being exposed to the underside of said member, the foam in said lowermost section being substantially flush with the open top of said lowermost section and the foam in said at least one upper section being substantially flush both with the open top and with the open bottom of said at least one upper section, outwardly extending interengaging flange means on the top of the lowermost section and on the bottom of said at least one upper section, means releasably securing the interengaging flange means together, outwardly extending flange means on the top of said at least one upper section, and means releasably securing the last-named flange means to the underside of said member.

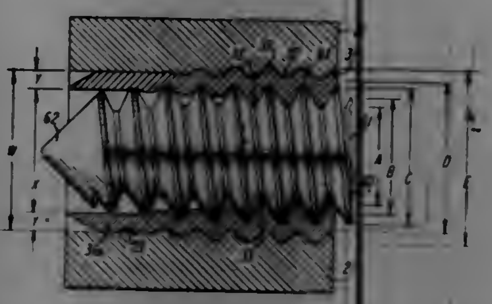
3,193,856
LIFE PRESERVER AND METHOD OF MAKING SAME
John K. Coolidge, Grand Rapids, Mich., assignor to The Gunn Company, Incorporated, Grand Rapids, Mich., a corporation of Michigan
Original application Mar. 2, 1962, Ser. No. 177,083, now Patent No. 3,125,771, dated Mar. 24, 1964. Divided and this application Aug. 12, 1963, Ser. No. 301,523
6 Claims. (Cl. 9—337)



1. A method of fabricating a life preserver, consisting in the steps of providing an elongated strip of flexible foam material; cutting a portion of an edge from said strip from generally its center; positioning said ends of said strip together; and providing means proximate said ends of said strip for securing the life preserver to a person's body.

3,193,857
METHODS OF PRODUCING STRONG THREADED ANCHORAGES

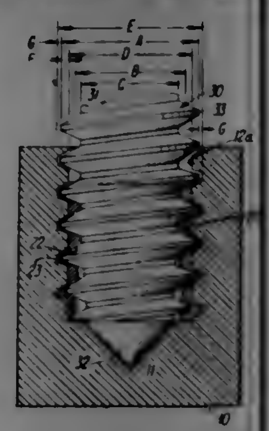
Simon S. Kahn, Glen Ridge, N.J., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Mar. 24, 1961, Ser. No. 98,116
6 Claims. (Cl. 10—1)



1. The method of producing a strong threaded anchorage in a workpiece formed of relatively soft metal, comprising providing a substantially cylindrical bore in said workpiece, providing a ferrule formed of relatively hard sheet metal characterized by plastic flow under swaging pressure and having a substantially cylindrical opening therein, securing said ferrule in place in said bore with the exterior surface of said ferrule in frictional engagement with the adjacent surface of said workpiece interiorly of said bore and subjecting the interior surface of said ferrule to swaging pressure with an extremely hard thread-swaging member so as simultaneously to swage an internal thread upon the interior surface of said ferrule and to swage an external thread-like structure upon the exterior surface of said ferrule and to compress an internal thread-like structure upon said workpiece interiorly of said bore, wherein said thread-like structures are complementary and said external thread-like structure is swaged into interlocked frictional engagement with said internal thread-like structure so as securely to anchor said ferrule in place in said bore, said internal thread having a major diameter that is greater than the initial diameter of said opening and a minor diameter that is less than the initial diameter of said opening, said internal thread being adapted to receive and to engage a cooperating external thread carried upon the shank of a screw, or the like.

3,193,858
METHODS OF PRODUCING STRONG THREADED ANCHORAGES

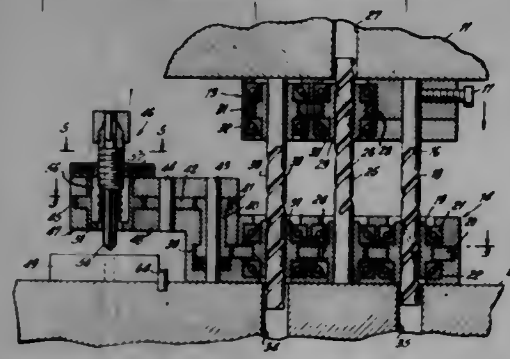
Simon S. Kahn, Glen Ridge, N.J., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Mar. 24, 1961, Ser. No. 98,124
10 Claims. (Cl. 10—1)



1. The method of producing a strong threaded anchorage in a workpiece formed of relatively hard metal, comprising providing an internal thread-like structure upon said workpiece interiorly of a substantially cylindrical bore formed therein, providing a ferrule formed of relatively soft metal characterized by plastic flow under swaging pressure and having a substantially cylindrical opening therein, frictionally securing said ferrule in place in said bore, and subjecting the interior surface of said ferrule to swaging pressure with an extremely hard thread-swaging member so as simultaneously to swage an internal thread upon the interior surface of said ferrule and to swage an external thread-like structure upon the exterior surface of said ferrule, wherein said thread-like structures are complementary and said external thread-like structure is swaged into interlocked frictional engagement with said internal thread-like structure so as securely to anchor said ferrule in place in said bore, said internal thread having a substantially constant major diameter that is greater than the initial diameter of said opening and a substantially constant minor diameter that is less than the initial diameter of said opening, said internal thread being adapted to receive and to engage a cooperating external thread carried upon the shank of a screw, or the like.

3,193,859
THREAD TAPPING DEVICE ROTATABLE BY RECIPROCATING PRESS

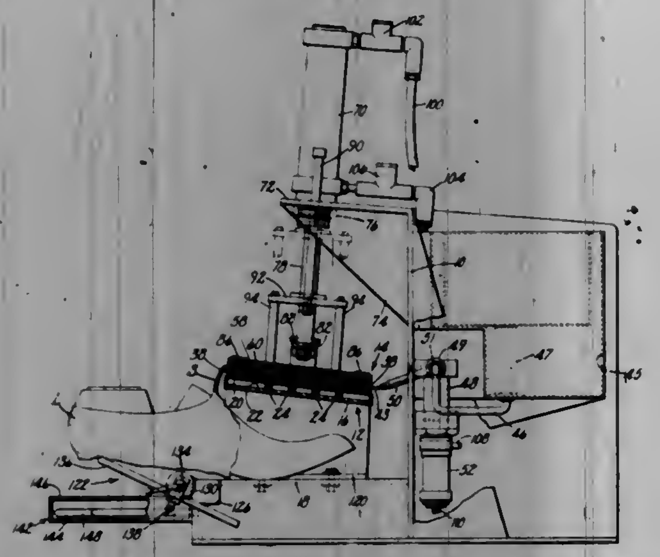
William Henry Pfister, 179 McClellan Ave., Livingston, N.J.
Filed July 13, 1962, Ser. No. 209,730
5 Claims. (Cl. 10—138)



1. A tapping attachment for a punch press or the like comprising a top plate, a bottom plate opposite the top plate, means to reciprocate the top plate with respect to the bottom plate, a top gear block secured to the top plate, a bottom gear block secured to the bottom plate, a gear train carried within each of the gear blocks, a helically grooved first lead screw secured at one end to the top gear box and extending therefrom, a first helically splined bushing carried within the bottom gear box in driving engagement with the first lead screw, a first gear within the bottom gear train around the first bushing and secured thereto, a second gear within the bottom gear train in mesh with said first gear, a second helically grooved lead screw secured at one end to the second gear and extending outwardly thereof toward the top gear block, a second helically splined bushing within the top gear block in driving engagement with the second lead screw, a third gear within the top gear train around the second bushing and secured thereto, a fourth gear within the top gear train in mesh with the third gear, a third helically grooved lead screw, secured at one end to the fourth gear and extending outwardly thereof toward the bottom gear block, a third helically splined bushing within the bottom gear block in driving engagement with the third lead screw, a fifth gear around the third bushing and secured thereto, an extension on the bottom gear block, a pinion gear member within the extension in mesh with the fifth gear, a tap receiving chuck assembly carried by the extension, a chuck gear in the chuck assembly, a feed nut in said chuck assembly for advancing the chuck toward a work part, a speed reducing gear train interconnecting the pinion gear member and chuck gear, whereby rapid reciprocation of the top and bottom plates toward and away from each other will be translated in rotation of the chuck assembly at a suitable tapping speed.

3,193,860
TEMPERATURE GRADIENT MULLING

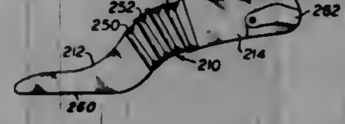
Arthur Bradshaw and Graham J. Mansfield, Leicester, England, assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Jan. 21, 1964, Ser. No. 339,212
Claims priority, application Great Britain, Feb. 19, 1963, 6,548/63
9 Claims. (Cl. 12—59.7)



1. A machine for conditioning leather comprising a first contact means engageable with an article to be conditioned, said first contact means having means for dispersing a conditioning solution to a surface of an article to be conditioned, means for heating said first contact means, a second contact means engageable with an opposite surface of the article and having a lower operative temperature than said first contact means, and means facilitating the relative positioning of said contact means whereby a temperature gradient is established across an article to be conditioned during the conditioning portion of the operative cycle of the machine.

3,193,861
SHOE TREE

Jean Howard, New York, N.Y., assignor to Novel Inventions Inc., New York, N.Y., a corporation of New York
Filed Sept. 21, 1962, Ser. No. 225,433
17 Claims. (Cl. 12—115.8)

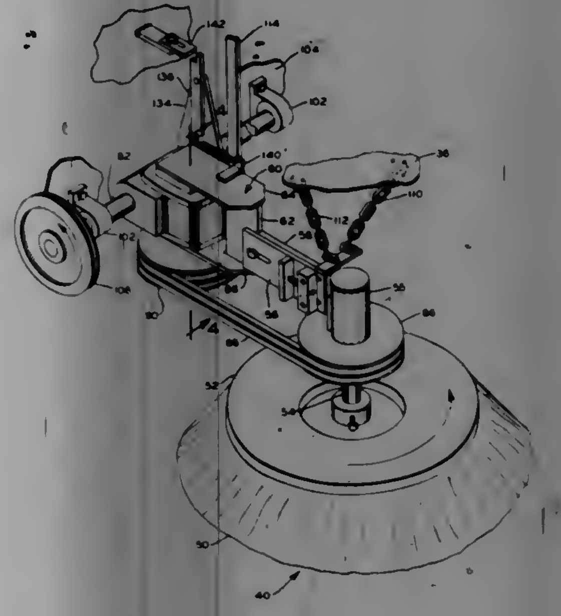


1. A shoe tree, comprising a unitary member including front, central and rear portions, said front and rear portions being relatively stiff thin walled hollow members adapted to conform substantially to the shape of the interior of the front and rear portions of a shoe, respectively, said central portion being formed as a bellows with ridges and grooves, and a resilient band disposed within one of said grooves, said band being under tension whereby to cause said central portion to elongate.

3,193,862
VEHICLE FOR SWEEPING LARGE SURFACES

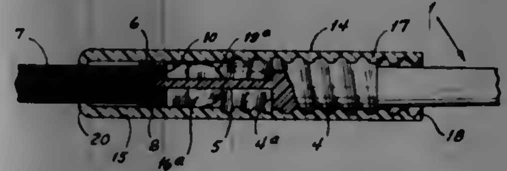
James E. Lyon, Perrysburg, Ohio, assignor to American Lincoln Corporation, Toledo, Ohio, a corporation of Ohio
Filed Dec. 28, 1961, Ser. No. 162,674
6 Claims. (Cl. 15—87)

5. A power sweeper for sweeping a large surface comprising, in combination, a main frame, wheel means rotatably mounted on said frame, a side broom, a generally vertical, side broom shaft, means on said side broom for connecting it to said shaft, bearing means for rotatably supporting said side broom shaft, a pivotable housing, means mounted on said frame for pivotally supporting said housing in a vertical plane, arm means connecting said housing and said bearing means whereby said side broom can be pivoted in a vertical plane with said housing, said connecting means being pivotally mounted on said housing to enable said connecting means, said bearing means, and said side broom to pivot in a horizontal plane around said housing, a side broom handle attached to said housing to raise said side broom, a spring having one end attached to said housing toward the center of said sweeper from the pivotal connection of the pivot connecting means, a lever pivotally supported by said gear housing with one end connected to the other end of said spring, and means for engaging and pivoting said lever to place said spring under tension only when said broom is raised, to move said broom inwardly under said sweeper.



3,193,863
PAINT BRUSH CONSTRUCTION

Bernard Myers, Surbiton, Surrey, England, and George L. Camarero, Jackson Heights, Long Island, N.Y.; said Camarero assignor to American Flange & Manufacturing Co. Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 5, 1963, Ser. No. 306,882
2 Claims. (Cl. 15—169)

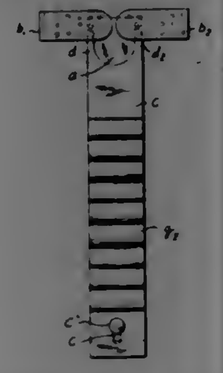


1. A paint brush of the type having replaceable bristles comprising an elongated handle member, an integral portion of reduced cross section extending longitudinally from one end of said handle member and terminating in a free end, said free end having circumferentially enlarged engaging means integrally formed therewith, an external thread formation located adjacent said one end, a bristle knot including a body of bristles adhesively bound together at their butt ends in a hardened mass of synthetic plastic resin, said mass having laterally engageable receiving means integrally formed therein rotatably interlocked with said engaging means, said interlock preventing relative longitudinal displacement of said handle and bristle knot, a one piece ferrule having an internally threaded cylindrical portion and a flattened tubular portion of reduced cross section extending longitudinally from said

cylindrical portion, said one end of said handle member threadedly engaged within said cylindrical ferrule portion with said resin mass slideably and nonrotatably engaged within said flattened tubular ferrule portion so that relative rotation between said handle and ferrule causes said bristles to be propelled or retracted relative to said ferrule.

3,193,864
TOOTHBRUSH

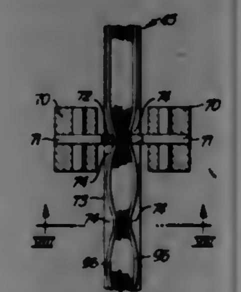
Herbert Makowsky, Wielandstrasse 25, Bremen, Germany
Filed July 30, 1963, Ser. No. 298,669
Claims priority, application Germany, Aug. 29, 1962,
M 54,068
10 Claims. (Cl. 15—172)



1. A toothbrush, comprising, in combination, elongated handle means; a pair of oblong brush carrier means pivotally mounted in the area of one of said handle means for turning movement relative thereto in mutually opposite directions between a first position in which said oblong brush carrier means extend from said area alongside each other in longitudinal direction of said handle means, and a second position in which said oblong brush carrier means extend from said area in directions opposite to each other and transversely of said longitudinal direction of said handle means, each of said brush carrier means being curved in a plane transverse of the plane of rotation thereof and being equipped with a plurality of bristles projecting therefrom in a direction transverse of the plane of rotation of said brush carrier means; and slide means operatively connected to said pair of brush carrier means for turning one of said brush carrier means between said first and second positions thereof in a first direction of movement transversely of said longitudinal direction while simultaneously turning the other of said brush carrier means in a second direction of movement opposite said first direction.

3,193,865
HELICAL BRUSH MEANS AND METHOD FOR MAKING THE SAME

Lloyd E. Jones, Arcadia, Calif., assignor to Industrial Brush Company, Arcadia, Calif., a corporation of California
Filed June 27, 1961, Ser. No. 119,869
11 Claims. (Cl. 15—182)

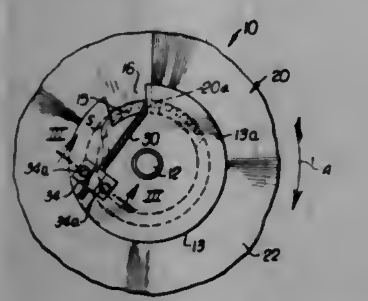


4. A method of continuously forming a helical brush means from a preformed preassembled brush strip means including a channel-like base member, a generally uniform layer of bristles extending from said base member, and a retainer element for said bristles within said base member, comprising the steps of: longitudinally moving said preassembled brush strip means into a curved path at a selected continuous rate of movement; forming a plurality of opposed spaced indentations in said base member while said brush strip means continues its movement in said curved path; and directing said brush strip means along a continuation of said curved path to form a helical brush means.

10. A continuous helical brush strip means comprising: a continuous helical brush strip member having continuous spaced imperforate side walls inclined inwardly, a core member between said side walls, brush filaments extending between said side walls and beneath the core member, said side walls having longitudinally extending edge margins initially pressed toward each other to provide a deformed stressed zone continuous along and at top portions of the side walls for clamping said filaments in addition to the inward inclination of said side walls, said edge margins at said zone being peripherally stretched, said edge margins at said zone having a plurality of spaced indentations therein to further stress and deform said zone, said edge margins between said spaced indentations converging against said filaments in opposed peripheral curves, said indentations terminating with inner ends thereof spaced above said core member for clamping retention and grouping of said filaments.

3,193,866
ROTARY BRUSH MEANS AND BRUSH STRIP SLACK ACCUMULATOR THEREFOR

Lloyd E. Jones, Pasadena, Calif., assignor to Industrial Brush Company, Arcadia, Calif., a corporation of California
Filed July 16, 1963, Ser. No. 295,451
4 Claims. (Cl. 15—182)



3. A slack accumulator means for a brush strip means helically wound about a core means in one direction comprising, in combination:

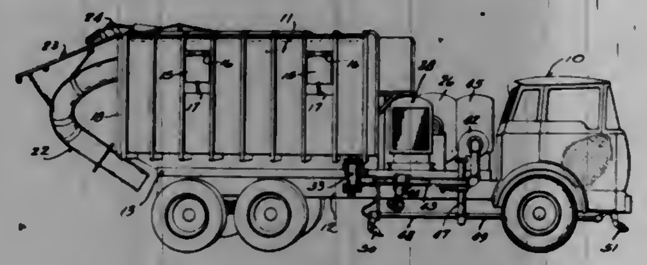
means on the core means providing an opening therein enlarged in the direction of the helical winding and adjacent one end of the brush strip means;

and a slack accumulating flexible member having one end connected to the said one end of the brush strip means and having its other end connected to the core means at a location beyond said opening and in the general direction of the helical winding.

3,193,867
STREET CLEANING APPARATUS

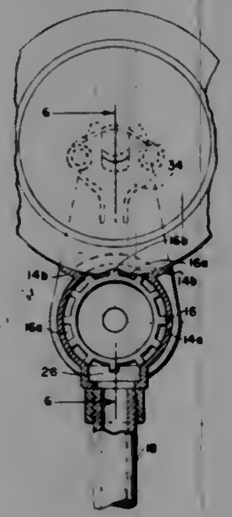
Ben Daneman, Milwaukee, and Howard E. Paulson, Waukesha, Wis., assignors to Central Engineering Company, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Aug. 12, 1963, Ser. No. 301,325
1 Claim. (Cl. 15—314)

Combined vacuum pick-up and water-flushing street cleaning apparatus comprising, a self-propelled vehicle having auxiliary power means mounted thereon and a closeable tank having a closeable rear dump door, means for mounting said tank at the rear of said vehicle about a transverse pivot axis for dumping material rearwardly from said tank and out said dump door, a blower mounted on said vehicle and driven by said power means, a duct placing said blower in communication with said tank, said duct being formed in two separate and sealable sections to permit automatic separation thereof when said tank is dumped and sealed therebetween when said tank is not tilted, a vacuum pick-up nozzle detachably secured to said tank, a sump fixed to said vehicle and located beneath the bottom of said tank, and spaced a distance forward of said pivot axis, a stand pipe fixed to and extending downwardly from said tank bottom and terminating at its open lower end in an annular flange, said sump having an upper open end adapted to be in sealing engagement with said flange and in fluid receiving communication with said stand pipe and said tank when the latter is not tilted, said flange and sump being in abutting relationship and automatically separable when said tank is tilted, a fluid pump on said vehicle and having a suction side and a pressure discharge side, said pump being connected to said power means and driven thereby, a conduit placing said sump in fluid communication with the suction side of said pump, spray nozzles fixed to said vehicle and in fluid receiving communication with the discharge side of said pump, whereby the latter sucks fluid from said tank through said sump and conduit and forceably ejects it out said nozzles, and means for selectively controlling flow in said vacuum nozzle and water flushing means.



3,193,868
CONTINUOUS FEED PAINT ROLLER

Irwin B. Cassidy, 219 Linden Ave., Westfield, N.J.
Filed Aug. 14, 1962, Ser. No. 216,802
13 Claims. (Cl. 15—553)



1. A pressure feed liquid distributor adapted to be connected to a source of liquid under superatmospheric pressure, which comprises a frame, a handle for said frame, a surface contacting roller mounted for rotation in said frame, a liquid feed roller mounted for rotation in said frame and in contact with said surface contacting roller, said frame having a rigid housing partially surrounding and in liquid tight contact with the arcuate surface of said liquid feed roller, said liquid feed roller having grooves in the surface extending along the length of the surface, and means to supply the liquid under pressure to the surface of the liquid feed roller on the surface opposite the surface in contact with the surface contacting roller whereby on rotation of the surface contacting roller the liquid on the liquid feed roller is deposited on the surface contacting roller, said liquid feed roller serving as a liquid choke when not rotating.

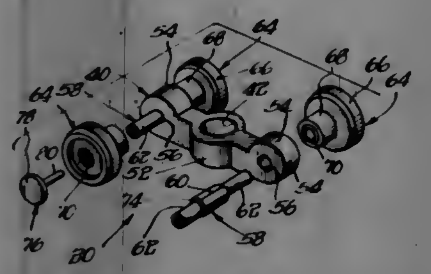
3,193,869
HAND DRYING DEVICE

George D. Coppock, Jr., 619 Broadmor Drive, Tempe, Ariz.
Filed Feb. 28, 1963, Ser. No. 261,775
7 Claims. (Cl. 15—564)

5. In a hand drying device the combination of: a fabric terry cloth bag containing powdered diatomaceous earth.

3,193,870
TRUCK ASSEMBLY FOR SLIDING DOORS

Delmar D. McNinch, Rock Falls, Ill., assignor to Lawrence Brothers, Inc., Sterling, Ill., a corporation of Illinois
Filed Apr. 25, 1963, Ser. No. 275,681
4 Claims. (Cl. 16—97)



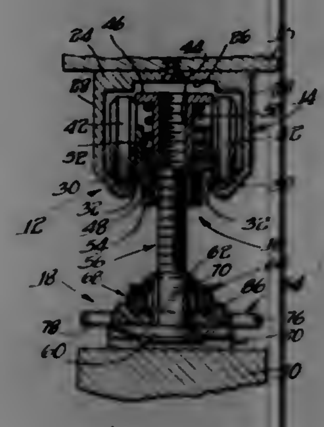
1. A truck assembly for use in a sliding door installation of the type including an overhead track, said truck assembly comprising: a yoke body having means for attaching a sliding door thereto and having a transverse bore, the walls of said bore being of yieldably deformable material; an axle member having exposed tubular end portions and a central portion situated in said bore in an interference fit; a wheel member rotatably mounted on each of said end portions; and a hub cap member mounted to each of said end portions, including a stem portion received in said tubular end portion and a disc portion at the outer end of said stem portion for holding the corresponding wheel member in position on said axle member.

3,193,871
HANGER FOR SLIDING DOORS

Robert E. Foltz, Sterling, Ill., assignor to Lawrence Brothers, Inc., Sterling, Ill., a corporation of Illinois
Filed Apr. 5, 1963, Ser. No. 270,906
5 Claims. (Cl. 16—105)

4. In a mounting arrangement for sliding doors, the combination comprising: guide track means adapted to be attached to the top jamb of a door opening and including parallel track elements having spaced confronting edges; a carriage unit adapted for transportable relocation in said guide track means, including a truck assem-

bly having a vertical bore, said carriage unit further including an internally threaded member slidably received in said bore and having a head overlying a truck assembly, a spring surrounding said member between said head and said truck assembly resiliently to support a door suspended from said member, and a body of resinous anti-friction material fixed to said member beneath said carriage unit to hold said unit in position against the force of said spring, said body having parallel opposite sides spaced apart to cooperate with the confronting edges of said track elements in silently holding said member against rotation; and a suspension arrangement including a bolt threadedly engaging said member, means on said bolt cooperating in mounting a door



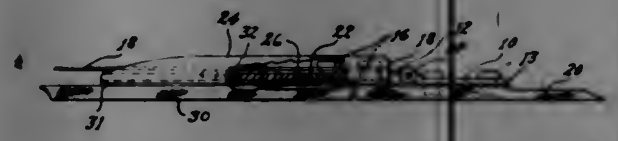
thereto, accessible means axially adjustably and nonrotatably mounted on said bolt for use in rotating the same relative to said internally threaded member whereby to regulate the vertical position of a door hung from said member and from said suspension arrangement, stop means on said bolt for controllably compressing resilient means against said accessible means, and resilient means including a non-metallic body between said stop means and said accessible means yieldably to permit movement of said accessible means toward said carriage unit for enlarging the space between said accessible means and said door mounting means whereby to facilitate substantially noiseless attachment and detachment of said door from said suspension arrangement.

3,193,872
ANTI-SHEAR AND TENSIONING DEVICE

Howard E. Freeman, Grand Prairie, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force

Filed Feb. 27, 1964, Ser. No. 347,973

2 Claims. (Cl. 16—137)



1. An anti-shear and tensioning device for use where two elements are to be joined together by means of straps emanating from one of said elements, said device comprising,

strap means,

a hinge having one side secured to one of said elements and the other side secured to a strap means,

a rigid bumper block on said other side of said hinge,

a channel member secured to the other of said elements and aligned at the mating point with said one of said elements where said hinge is secured, and

a rigid bumper block within said channel positioned to abut said first-mentioned bumper block when said strap is in position for joinder of said elements.

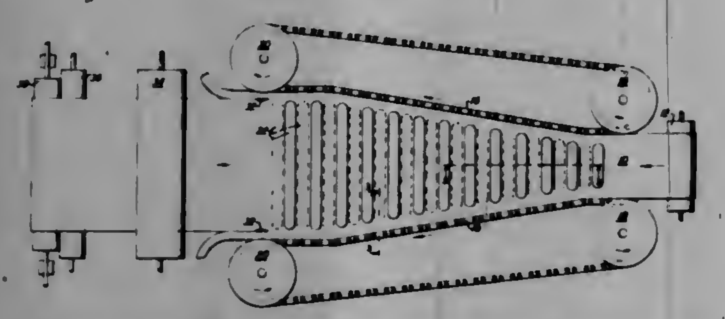
3,193,873
DEVICE FOR THE CONTINUOUS SIMULTANEOUS TRANSVERSE AND LONGITUDINAL DRAWING OF THERMOPLASTIC STRIPS

Michael Wienand, Siegburg, Germany, assignor to Dynamit Nobel A.G., Troisdorf, Bezirk Cologne, Germany, a corporation of Germany

Filed Oct. 19, 1961, Ser. No. 146,139

Claims priority, application Germany, Dec. 24, 1960, D 35,038

9 Claims. (Cl. 18—1)



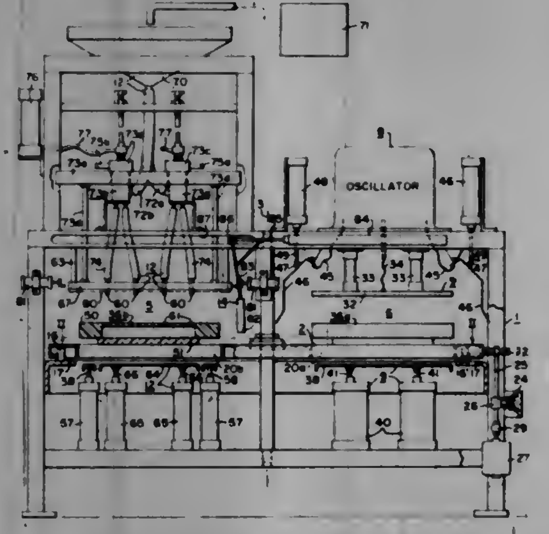
1. Apparatus for treating a plastic strip which comprises means to feed said strip continuously along a path of travel, lengthening means positioned along said path of travel to lengthen said strip by stretching said strip continuously in a direction out of its normal plane, and separate widening means positioned along said same path of travel at least in part coextensively with said lengthening means and operative simultaneously with said lengthening means to widen said strip simultaneously with the lengthening thereof during the feeding of said strip continuously along said path of travel.

3,193,874
APPARATUS FOR PREPARING MOLDED ARTICLES

Eugene Jablonski, Catonsville, Md., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 16, 1963, Ser. No. 295,394

4 Claims. (Cl. 18—4)



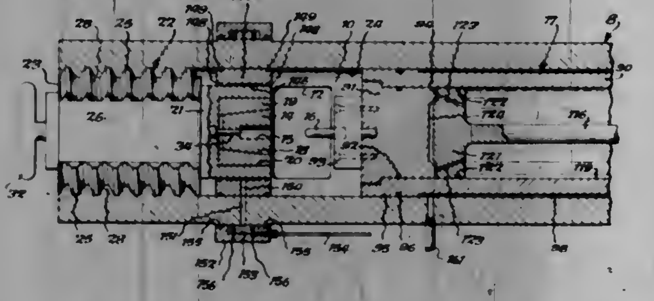
2. In a molding apparatus, a frame defining a station, a horizontal turntable having an opening extending vertically therethrough and constructed and arranged for rotary movement to cause said opening to enter and leave said station, and on said frame at said station: a source of moldable material, mold filling and emptying means disposed above the turntable, a mold having a lower mold part with flat upper surface supported by the turntable in extension over said opening with horizontal clearances at opposite edges and having as upper mold part normally resting on said lower mold part and extending over said clearances at opposite sides, elongated horizontally-extending upper-mold-part-lifting elements normally disposed beneath said turntable in alignment with said clearances, respectively, actuator means operable to lift said lifting elements upwardly through said opening past said lower mold part into contact with the bottom of said upper mold part to raise same into a cooperative relationship with said mold-filling-and-emptying means whereby a molded article disposed in said upper mold is dislodged and dropped onto said lower mold part on the turntable, clamping means for holding the upper mold part above the turntable while the upper-mold-part-lifting elements are retracted to position beneath the table top, molded-article-ejecting means actuable to sweep between the upper and lower mold parts through the path of travel of the upper-mold-part-lifting elements to move the molded article from atop the lower mold part and outwardly of the apparatus, a lower-mold-part-lifting element normally disposed beneath the turntable between the upper-mold-part-lifting elements, and actuator means operable to lift said lower-mold-part-lifting element upwardly through the turntable opening into contact with the lower mold part to raise same into contact with the upper mold part for closing the bottom of same for filling of the mold by said mold filling and emptying means and for lowering of the filled mold in toto onto the turntable over its opening following unclamping of the upper mold part.

3,193,875
EXTRUSION PRESS

Paul H. Taylor, Grand Island, N.Y., assignor to Tayco Developments, Inc., North Tonawanda, N.Y., a corporation of New York

Filed Oct. 13, 1961, Ser. No. 144,955

9 Claims. (Cl. 18—5)



1. In a press motivated by the expansive force of a compressible liquid under compression, a tubular main ram having an end head at one end and being provided with an opening at its other end, a main cylinder slidingly containing said main ram and forming a closed chamber with said end of said main ram provided with said opening and said closed chamber containing said compressible liquid, means compressing said liquid in said chamber to a required working value, a head fixed to said main cylinder and arranged in said main ram against said end head and isolating said end head from said liquid in said chamber while being so compressed, and means conducting said liquid from said chamber to between said fixed head and said end head when said compressible liquid in said chamber has been compressed to said required working value.

3,193,876
MOLD AND HEATING APPARATUS THEREFOR

Stanley W. Thompson, Scottsdale, Ariz., assignor, by mesne assignments, to Thompson Industries Co., Inc., Los Angeles, Calif., a corporation of Delaware

Filed Sept. 25, 1962, Ser. No. 226,138

2 Claims. (Cl. 18—5)

1. In a mold and heating apparatus therefor, the combination of:

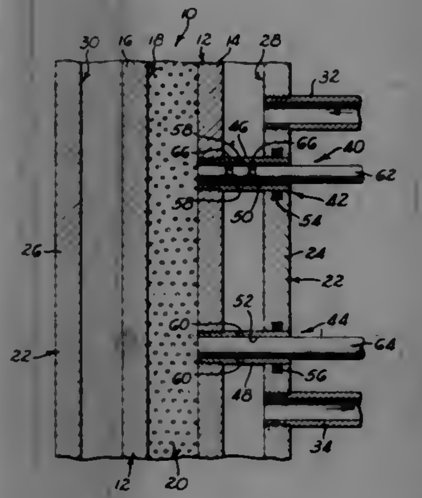
(a) wall means defining a mold cavity having a mold surface;

(b) another wall means spaced from the wall means first mentioned and cooperating therewith to form a steam chamber separated from said mold cavity by said first wall means;

(c) valve means comprising a plurality of spaced valves for admitting steam from said steam chamber into said mold cavity;

(d) each of said valves including a cylinder bridging said steam chamber and having a bore extending through both of said wall means and through said mold surface and communicating with said mold cavity;

(e) each of said cylinders having at least one port providing communication between said bore therein and said steam chamber;



(f) each of said valves including a valve member slidable in said bore of the corresponding cylinder between a closed position wherein it covers the corresponding port to prevent communication between said steam chamber and said mold cavity and an open position wherein it uncovers such port to provide communication between said mold cavity and said steam chamber;

(g) each of said valve members having an end surface which is positionable flush with said mold surface to provide a continuous surface engageable with a molded article when said valve members are in their closed positions; and

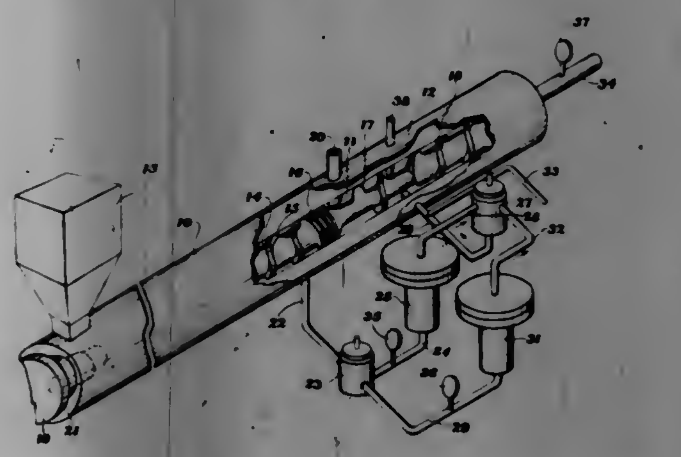
(h) each of said valve members being of such length as to be slidable into said mold cavity so that said end surface disengages a molded article therein from said mold surface.

3,193,877
MULTISTAGE EXTRUSION SCREW AND ALTERNATE FILTERS

Robert B. Edwards, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Apr. 2, 1962, Ser. No. 184,386

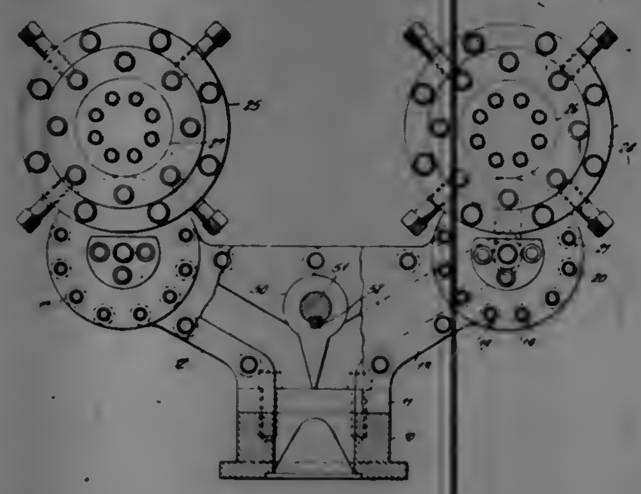
4 Claims. (Cl. 18—12)



1. Apparatus for extruding and mixing thermoplastic compositions comprising a heated extrusion cylinder, a

multi-stage extrusion screw positioned therein, means for rotating said screw, said screw having a plasticizing and metering stage, a flow restriction stage, a gas releasing stage, a pumping stage, a first conduit in fluid communication with the extrusion cylinder adjacent said first mentioned screw stage and having a first transfer valve therein, a second conduit in fluid communication with the extrusion cylinder adjacent said third mentioned screw stage and having a second transfer valve therein, a pair of conduits in parallel connecting said first transfer valve to said second transfer valve, a filter in each of said pair of conduits in parallel, said transfer valves being adjustable to select a path of flow for the thermoplastic material through either of said pair of conduits in parallel.

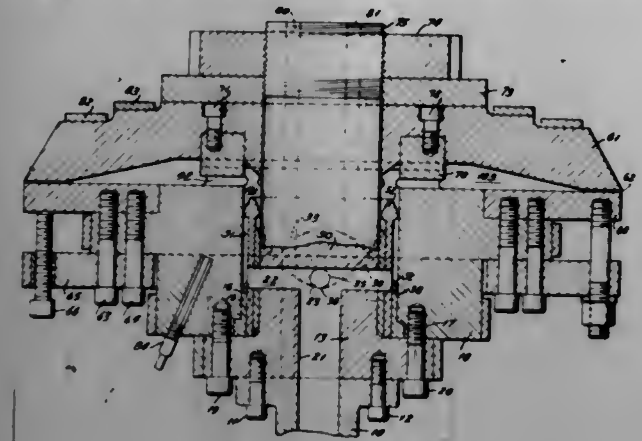
3,193,878
DUAL EXTRUSION DIE
Herbert O. Corbett, Canandaigua, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Oct. 23, 1962, Ser. No. 232,414
4 Claims. (Cl. 18—[illegible])



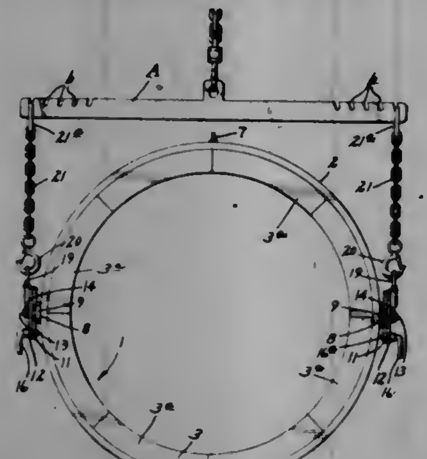
1. In combination: a single extruder and a plurality of extrusion dies; said single extruder being connected to a manifold input; said manifold input being connected to a plurality of manifold outputs; angularly adjustable connection means for connecting each of said manifold outputs to a respective extrusion die receiving conduit; each of said extrusion die receiving conduits being elongated members extending laterally from their said respective angularly adjustable connection means; each of said angularly adjustable connection means defining parallel axes of rotation for said respective extrusion die receiving conduits each of said extrusion die receiving conduits receiving a respective extrusion die of said plurality of extrusion dies whereby a plurality of independent extrusions can be derived from said single extruder; each of said extrusion die receiving conduits being angularly adjustable around their said respective manifold output whereby the center to center separation between said plurality of independent extrusions can be changed.

3,193,879
EXTRUSION DEVICE
Herbert O. Corbett, Canandaigua, N.Y., assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
Filed Oct. 23, 1962, Ser. No. 232,431
4 Claims. (Cl. 18—1[illegible])

1. An extrusion die; said extrusion die comprising an upper lip ring, and a lower lip ring; said upper lip ring and lower lip ring being fixed in rigid spaced relationship with respect to one another to define a radially extending chamber terminating on an annular discharge orifice; a channel extending into the center of said radially extending chamber to conduct a mass of molten resin into said chamber, and a radial directing means interposed between said channel and the radially extending portions of said chamber; said radial directing means comprising a ring having a plurality of radially directed slots therein; adjacent slots of said radially directed slots overlapping one another to prevent formation of weld lines; said slots being arranged in first and second parallel spaced planes; each slot of each of said planes radially overlapping two adjacent slots of the other of said planes.

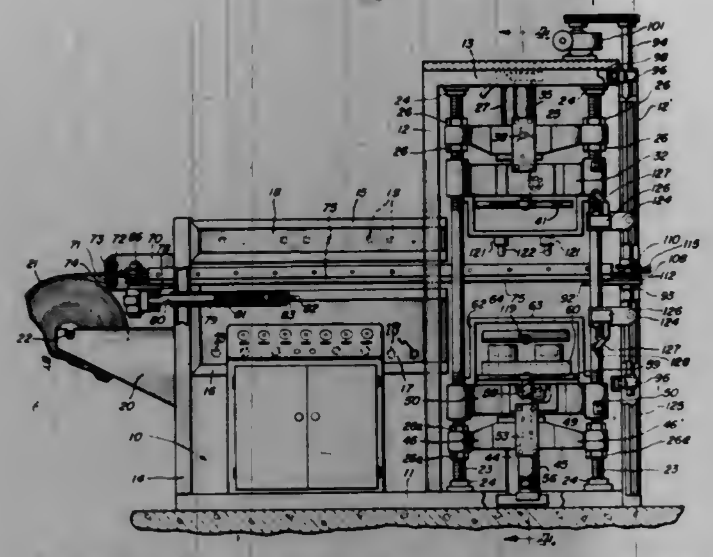


3,193,880
TIRE RETREADING MOLD AND LIFTING MEANS THEREFOR
Eugene J. Capistrant and Rudolph E. Olson, Minneapolis, Minn., assignors to Paul E. Hawkinson Company, Minneapolis, Minn., a corporation of Minnesota
Filed Dec. 28, 1962, Ser. No. 248,014
2 Claims. (Cl. 18—18)



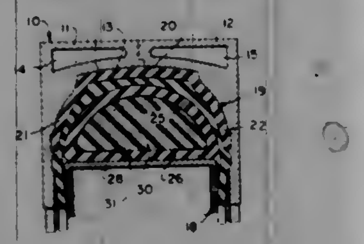
1. In a device of the class described,
(a) a generally cylindrical mold formed to define radially outwardly projecting-circumferentially endless supporting flanges at its marginal edges,
(b) a steam-conducting heating tube wound spirally about the outer surface of said mold intermediate said flanges,
(c) a pair of axially extended bridge bars spanning said heating tube at diametrically spaced points and having their opposite ends anchored to said flanges,
(d) the intermediate portion of said bars defining radially outwardly projecting trunnions and diametrically enlarged bearing flange elements the bearing surfaces of which lie in parallel planes extending axially of said mold,
(e) clamping plate elements one each journalled on one of said trunnions and having faces in slidable engagement with one of said bearing surfaces,
(f) a clamping dog having screw-threaded engagement with one of said elements and extending through circumferentially extended slots in the other thereof,
(g) and hook means carried by the other of said elements.

3,193,881
AUTOMATIC PLASTIC FORMING AND TRIMMING MACHINE
J Edward Kostur, Elmhurst, Ill.; Pioneer Trust & Savings Bank, executor of the estate of said Kostur, deceased, assignor to Comet Industries, Inc., Bensenville, Ill., a corporation of Illinois
Filed Sept. 6, 1961, Ser. No. 141,938
10 Claims. (Cl. 18—19)



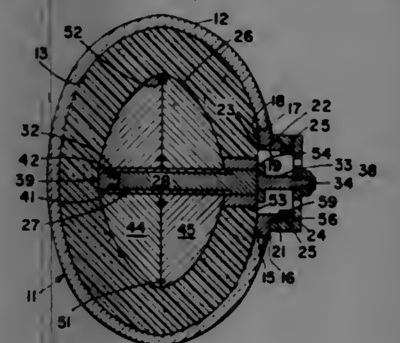
9. Molding apparatus for articles comprising first and second molding members mounted for controlled movement toward and away from each other,
a cutting die mounted between said molding members,
means for introducing a sheet of moldable sheet material between said molding members,
means for moving said molding members a first distance toward one another to force a portion of said sheet material into the first of said members to effect at least a portion of a molding operation of an article,
said moving means thereafter being operative to move said first member in a direction opposite to its first direction of movement to remove said first member from the molded article,
and said moving means being operative to move the second said member an additional distance in the direction of its initial movement and into cutting relationship with said die to sever said portion of said sheet material from the remainder of said sheet material.

3,193,882
INSULATING CORE FOR TIRE RECAPPING
Randolph R. Pollock, 1103 N. Locust Ave., Lawrenceburg, Tenn.
Filed May 3, 1962, Ser. No. 192,260
4 Claims. (Cl. 18—38)



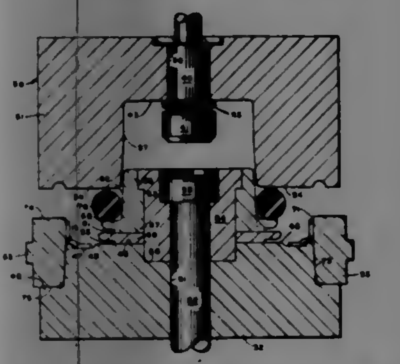
2. Apparatus for use in the vulcanizing of a cap to a tire casing comprising a matrix, tread-forming projections on said matrix, means for applying vulcanizing heat to said matrix, a toroidal curing tube disposed within said casing, said toroidal curing tube having a generally semicircular outer periphery and a non-circular inner periphery in cross-section, means for introducing air under pressure into said curing tube, an annular rim having a cross-section corresponding to said inner periphery and disposed against the same to cause pressure to be exerted against the tire casing by said outer periphery, and an insulating core of cellular material located within and substantially filling said curing tube to prevent the transfer of heat through said curing tube and said annular rim.

3,193,883
MANDREL FOR SHAPING SOLID PROPELLANT ROCKET FUEL INTO A MOTOR CASING
Joseph G. Thibodaux, Jr., Newport News, and Donald J. Lewis, Hampton, Va., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Sept. 7, 1960, Ser. No. 54,552
4 Claims. (Cl. 18—39)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A combination solid propellant rocket motor casing and mandrel for forming shaped concavities therein, comprising: a unitary rocket motor casing having an aperture substantially smaller than the largest dimension of the casing; mandrel means comprising a center section and a plurality of two-part discoidal members detachably mounted on said center section said two-part discoidal members being small enough when disassembled from said center section to pass through said aperture; means for thereafter attaching said two-part discoidal members to said center section to form said mandrel structure substantially larger than said aperture and means for positioning said mandrel axially within a motor casing.

3,193,884
MOLD FOR MULTIPLE-LIP SEAL
Robert N. Haynie, Los Altos, and Lloyd E. Voss, Redwood City, Calif., assignors to Federal-Mogul-Bower Bearings, Inc., Detroit, Mich., a corporation of Michigan
Original application Jan. 29, 1962, Ser. No. 169,683. Divided and this application May 4, 1964, Ser. No. 368,753
7 Claims. (Cl. 18—42)



1. A mold for making multiple-lip radial shaft seals, comprising an upper mold element, a lower mold element, an outer ring bounding the outer periphery of the mold cavity and seating between the holding apart said upper and lower mold elements, and a plurality of insert washers between said upper and lower mold elements seating against said mold elements when said mold is closed, said washers and mold elements having mating surfaces, at least one of each pair of surfaces being stepped at a common distance from an axis to provide (1) a plu-

rality of generally rectangular cross-section mold cavity portions between them, with a parting line for each cavity portion so that gas is released from each said cavity portion through said parting lines, and (2) a lip-separating portion having an extremity where each lip joins the main body of elastomer, said extremities being at successively different distances from said axis so that the lips molded thereby are successively longer and, when said seal is extracted from said mold, can be pulled from said mold cavity portions without fracture.

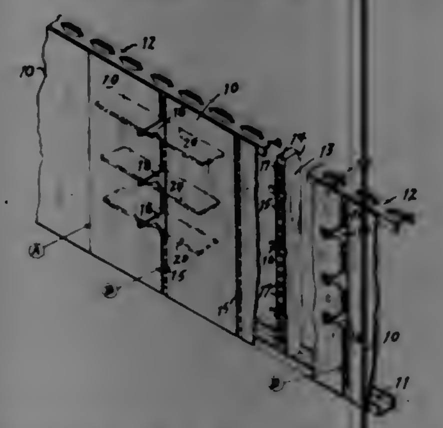
3,193,885

WALL WITH FLOATING STUD

Lloyd Gartner, 1900 Washington St., San Francisco, Calif., and Harold Taber, San Francisco, Calif.; said Taber assignor to said Gartner

Filed Apr. 27, 1961, Ser. No. 105,960

1 Claim. (Cl. 20—4)



In a dismountable wall for a temporary or permanent interior partitioning purpose, the combination of a base forming channel member, an upper ceiling supported channel member, a plurality of vertically extending studs movably held between said channel members having a rabbet along at least one side thereof, a plurality of U-shaped clips secured at vertically spaced points within the rabbet of said studs having oppositely extending tongues formed integrally therewith, said oppositely extending tongues being spaced outwardly from the surface of said studs adjacent the rabbet therein and parallel thereto, an elongated shelf supporting channel member having conventional shelf bracket accommodating slots in the web thereof disposed within said rabbet and over said U-shaped clips and secured to said studs independently of said clips with the slotted web outwardly disposed, and cooperating panel members having continuous rabbets extending centrally along their meeting edges and receiving corresponding clip tongues, characterized by the fact that the rabbets in the meeting sides of said panel formed members are of a depth and have edges of unequal width, whereby said panels when positioned upon said studs with one side out the longer sides of said rabbet will meet and conceal said shelf supporting member and when positioned upon said studs with the reverse side out the shorter sides of said rabbet will expose the shelf supporting slots of said bracket supporting member.

3,193,886

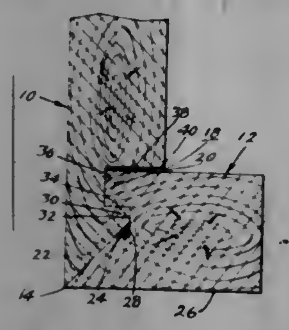
CABINET JOINT

Arthur D. Wenger, Reading, and Jay G. Henne, Laureldale, Pa., assignors to Quaker Maid Kitchens, Inc., Leesport, Pa., a corporation of Pennsylvania

Filed Oct. 24, 1962, Ser. No. 232,824

4 Claims. (Cl. 20—92)

1. A glue fastened cabinet corner joint for joining a cabinet side panel to a perpendicularly disposed stile to form a cabinet corner edge, said joint comprising engaged mitered surfaces of the side panel and stile extending inwardly from the corner edge, the mitered surface of the stile terminating inwardly at the outer edge of a groove in the stile, said groove having an inner and outer side and a bottom extending between the inner and outer sides, the mitered planar surface of the side panel extending inwardly of the inward termination of the mitered surface of the stile in the plane of said mitered surface and intercepting the bottom of said groove at a point between the sides of said groove to define a glue pocket between the outer edge of said groove and the point of intersection of said mitered surface of said side panel with the bottom of the groove, the mitered surface of said side panel defining one face of a beveled tongue which is received by the groove in said stile, said tongue having an inner face abutting the inner side of said groove upon alignment of said mitered surfaces, a slot in said side panel adjoining and partly defined by said beveled tongue, a tongue of said stile extending into said slot in the side panel, the outer side of said tongue being defined in part by the inner side of said groove, and a substantial clearance between the inner edge of said slot and the inner side of said tongue to facilitate assembly of said joint, said stile and side panel being glued together whereby a quantity of glue enters said pocket and said clearance between the inner edge of said slot and the inner side of said tongue, said clearance in conjunction with said beveled shoulder and groove permitting, during assembly of the joint, a limited relative movement of said side panel and stile perpendicular to the corner edge in the plane of the mitered surfaces, the clamping of said side panel and stile by a clamping force applied in the plane of the stile perpendicular to the corner edge automatically aligning said corner edge and applying pressure to all of the engaged surfaces of said joint.



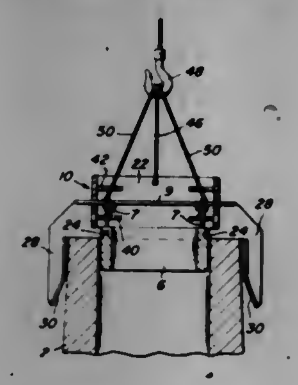
3,193,887

APPARATUS FOR POSITIONING A HOT TOP IN AN INGOT MOLD

Walter Z. Grochowski, Chicago, Ill., assignor to United States Steel Corporation, a corporation of New Jersey

Filed Oct. 29, 1963, Ser. No. 319,795

1 Claim. (Cl. 22—31)



A guide for positioning a rectangular hot top within the opening of an ingot mold comprising four plates connected to form a hollow rectangle, a central plate extending between two opposite plates of said rectangle, means on said central plate adapted to receive a lifting member, two opposite plates of said rectangle having an extension portion extending beyond the other plates of said rectangle and having a downwardly extending finger thereon, the distance between the inside of said fingers of each plate being slightly greater than the length of one side of said mold, a generally vertical shoulder on each of said last named plates, the distance between the said shoulders on each plate being slightly greater than the length of one side of said hot top, a central finger plate attached to each of said last named plates extending outwardly and downwardly therefrom, the distance between the inside of said last named fingers being slightly greater than the length of the other side of said mold, a generally vertical shoulder on each of said finger plates, the distance between said last named shoulders being slightly greater than the length of the other side of said hot top.

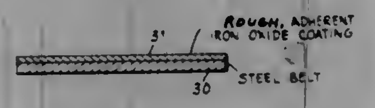
3,193,888

CONTINUOUS CASTING APPARATUS INCLUDING ENDLESS STEEL BELT WITH RED IRON OXIDE COATING

Stanley Herbert Rochester, Kingston, Ontario, Canada, assignor to Aluminium Laboratories Limited, Montreal, Quebec, Canada, a corporation of Canada

Filed Aug. 29, 1961, Ser. No. 134,695

1 Claim. (Cl. 22—57.4)



In a continuous aluminum casting apparatus including endless belt rollers, and means for the introduction of a molten aluminum body, the improvement in combination therewith which comprises a flexible endless steel belt for directly restraining said molten aluminum body having an inner structural layer carried by said rollers and an outer layer for contact with said molten aluminum body, the inner structural layer of said belt comprising a steel body, and the outer layer of said belt comprising red iron oxide having a high degree of self-cohesion and having a relatively uniform thickness including relatively uniform pitting having a pit depth of at least 0.002 inch. said outer red iron oxide layer being extremely thin compared to said inner structural layer sufficient to repeatedly flex without appreciable cracking and scaling during repeated passage of said endless belt around said endless belt rollers, and said outer layer being produced in situ by oxidation of said inner layer so that said layers are firmly bonded together by a diffused transitional zone therebetween including ferrous metal and iron oxide constituents.

3,193,889

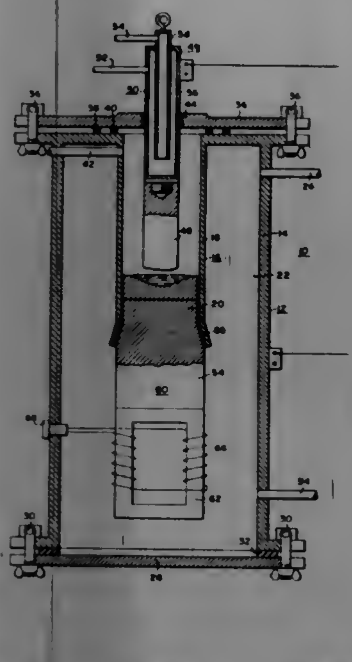
METHOD AND APPARATUS FOR PRODUCING UNIFORM GRAIN REFINEMENT IN METAL INGOTS

Donald H. Lane, Pittsburgh, James W. Cunningham, Oklahoma, Jack McDonald, Penn Hills Township, Allegheny County, and William A. Tiller, Export, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 24, 1961, Ser. No. 126,156

6 Claims. (Cl. 22—61)

1. An electric arc-melting furnace comprising an elongated crucible capable of containing a solidifying ingot, a melting electrode disposed in the crucible, said crucible comprising side walls and a bottom closure, means sealing the bottom closure to the side walls to provide a gas-tight seal, said bottom closure adapted to be welded to said solidifying ingot and an ultrasonic transducer unit comprising a wave transmitting coupling bar and a transducer stack attached by a low loss joint to the bar, the wave transmitting coupling bar of the transducer unit being integral with the bottom closure, whereby ultrasonic energy is directly transmitted through the said wave transmitting coupling bar to the bottom closure of the elongated crucible and thence directly to molten metal deposited on the bottom closure during operation of the arc-melting furnace.



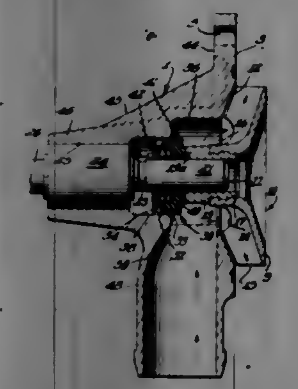
3,193,890

APPARATUS FOR CASTING CENTRIFUGAL TYPE PUMPS

Harry E. Clary, Chesterland, Ohio, and Joseph A. O'Neill, Quincy, Ill., assignors to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio

Original application Nov. 17, 1959, Ser. No. 853,649, now Patent No. 3,162,136, dated Dec. 22, 1964. Divided and this application June 22, 1964, Ser. No. 377,031

6 Claims. (Cl. 22—68)



1. Apparatus for casting a centrifugal impeller pump housing having a generally annular main body portion with a flat peripheral flange at one end, a tubular extension at the opposite end and a laterally projecting nipple intermediate the ends which comprises: a die having a cavity for externally shaping said housing, a first die pin extending into said die cavity from the flange-forming end thereof having a tapered face for forming a frusto-conical recess in the flange, a cylindrical portion for forming a cylindrical chamber in the main body extending from the bottom of the frusto-conical recess and a flat shoulder for forming an end wall for said chamber, a second die pin projecting into the die cavity from the nipple forming portion thereof having a main body for forming the interior of the nipple and a curved leading end projecting into the cavity around the cylindrical portion of the first pin to coact with the first pin in forming a tangential recess for directing liquid from the nipple into the chamber with a whirling action, and a third pin aligned with the first pin and projecting from the opposite end of the die cavity to coact with the first pin for defining a reduced diameter passageway communicating with the chamber in axial alignment therewith.

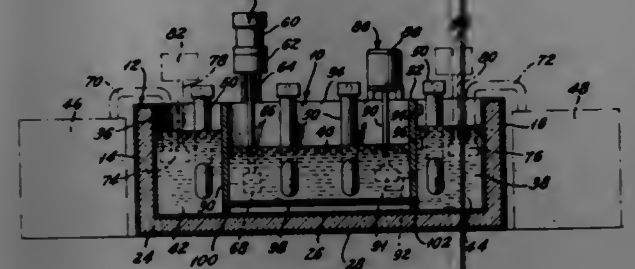
3,193,891

CONSTANT LEVEL IMMERSION MELTING POT

Edward Joseph Funk, Jr., Stoneleigh, Md., assignor to The C. M. Kemp Mfg. Co., Glen Burnie, Md., a corporation of Maryland

Filed Mar. 4, 1963, Ser. No. 262,493

5 Claims. (Cl. 22—79)



1. A melting pot apparatus for holding and continuously supplying hot molten metal to a plurality of metal casting machines which comprises a melting pot, said pot being divided by at least two partitions extending across the melting pot into a relatively large reservoir chamber for receiving metal to be melted and at least two smaller casting chambers immediately adjacent to said reservoir chamber, heating means positioned in said chambers for maintaining said metal in its molten state, a conduit connection between at least two of said casting chambers to equalize the molten metal level in said casting chambers, said connection being immersed entirely within the molten metal in said reservoir chamber whereby the metal passing therethrough is maintained in its molten state, pump means in each of the casting chambers for discharging molten metal therefrom to a casting machine, conduit means in communication with said reservoir chamber and with at least one casting chamber, second pump means in said reservoir chamber for supplying molten metal from said reservoir chamber through said conduit means to at least one casting chamber, and control means for maintaining a substantially constant level of molten metal in at least one casting chamber, said control means being responsive to predetermined upper and lower levels of the molten metal in said one casting chamber to energize said second pump means whereby the level of molten metal in said one casting chamber is maintained between said upper and lower levels, the second pump means in said reservoir chamber operating substantially independently of the pump means in the casting chambers whereby the transfer of molten metal to said one casting chamber is effected intermittently during continuous discharge of molten metal from said casting chambers.

3,193,892

APPARATUS FOR VACUUM TREATMENT OF MOLTEN METAL

Adolf Sickbert, Wattenscheid-Eppendorf, Germany, assignor to Bochumer Verein für Gusstahlfabrikation Aktiengesellschaft, Bochum, Germany, a German corporation

Filed Mar. 19, 1963, Ser. No. 266,377

Claims priority, application Germany, Mar. 22, 1962, B 66,466

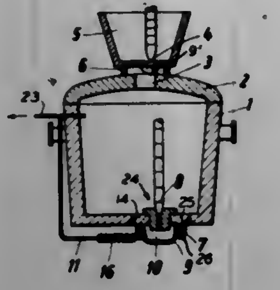
1 Claim. (Cl. 22—88)

Apparatus for the vacuum treatment of molten metal comprising:

(a) a ladle for holding the molten metal during the treatment;

(b) a discharge spout for discharging treated metal from the vessel having a passageway extending therethrough for passage of molten metal and an inlet end disposed for receiving molten metal from the vessel and an outlet end disposed for discharging the molten metal, said spout extending through a wall of the ladle;

(c) a stopper for opening and closing the spout passageway;



(d) a closure cap enclosure for said spout outside the vessel and in sealed relation with the wall of the vessel adjacent the discharge spout, said closure being openable;

(e) conduit means communicating said closure with the inside of said ladle at the upper part thereof.

3,193,893

MOLDING PROCESS

Alvan Richard Ross, Plainfield, N.J., and Mortimer Stafford Thompson, North Woodbury, Conn., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

No Drawing. Filed Oct. 4, 1962, Ser. No. 228,277

8 Claims. (Cl. 22—196)

1. A process comprising forming a pattern from a moldable oxymethylene polymer, covering the pattern with a refractory mold-forming composition, and subjecting the covered pattern to an elevated temperature to remove the polymer and form a mold.

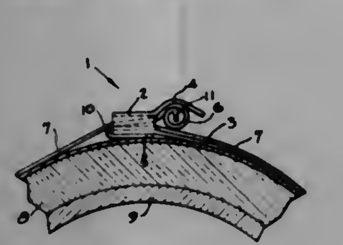
3,193,894

LOCKING CLIP

Donald P. Rutter, Bernardsville, and Anthony E. Cimochowski, Somerville, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed May 8, 1963, Ser. No. 278,821

4 Claims. (Cl. 24—21)



1. A locking clip for securing the ends of a banding strap in adjusted tensioned position, comprising:

(a) a tubular body,

(b) a banding strap having one end secured in fixed position,

(c) the other end of said banding strap passing through said tubular body,

(d) said other end of said banding strap being rolled upon itself until the proper tension is applied to the banding strap,

(e) at least one arm extending from said tubular body,

(f) the rolled portion of said banding strap being in contact with one portion of said arm to cooperate with said arm to hold said banding strap in adjusted position, and

(g) said one portion of said arm and an adjacent portion of said arm being contiguous to at least a portion of the external peripheral surface of said rolled portion of said banding strap to provide a protective cover therefor.

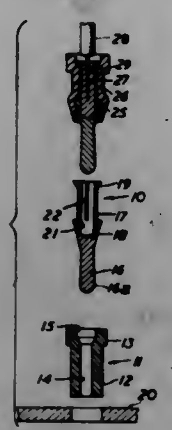
3,193,895

PLUG AND SOCKET CONNECTIONS

Robert Frederick Oxley, Priory Park, Ulverston, Lancashire, England

Filed Feb. 23, 1962, Ser. No. 175,247

4 Claims. (Cl. 24—73)



1. A plug and socket connection comprising a socket support member of resiliently deformable material having a cylindrical bore therethrough, a socket member having at one end thereof a tubular wall portion formed by a longitudinal blind bore in said socket member, said longitudinal bore having an open end and being, in the unstressed condition of the socket member, of substantially constant cross-section, said tubular wall portion lying within said cylindrical bore and forming a socket, said tubular wall portion having at least one longitudinal slit and having an outside diameter which, in the unstressed condition of the socket member, is greater than the inside diameter of the bore in which it lies to deform said tubular wall portion, said socket having a cross-section which progressively increases away from said open end, and a plug member having a plug portion entered into said socket, said plug portion having a tip and a tapering portion so related to the diameter of said socket that the tapering portion of said plug will be held therein.

3,193,896

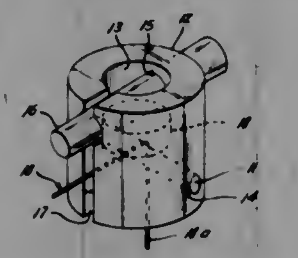
TAUT SUSPENSION SYSTEM

Henry Joseph Lovegrove, Hadley Wood, Barnet, England, assignor to Weston Instruments, Inc., a corporation of Texas

Filed Oct. 15, 1963, Ser. No. 316,321

Claims priority, application Great Britain, Oct. 16, 1962, 39,153/62

4 Claims. (Cl. 24—126)



1. A taut suspension mechanism comprising:
an elongated pin having a curved surface,
a flexible elongated ligament having a first and a second end, at least one of said ends being in tension, said ligament being supported by said pin in a plane substantially perpendicular to the longitudinal axis of said pin whereby said ligament embraces at least a portion of said curved surface,
a base member in the form of a cylinder for supporting said pin at the extremities thereof, said base member defining a coaxial bore and a coaxial slot extending from said bore to the outer wall of said cylinder, said bore and said slot allowing for the free passage of said first and second ends of said ligament,
a disk-shaped pad, and
means including a wedge pin mechanically coupled to said base member for pressing said pad against at least a portion of said ligament which is in contact with said curved surface.

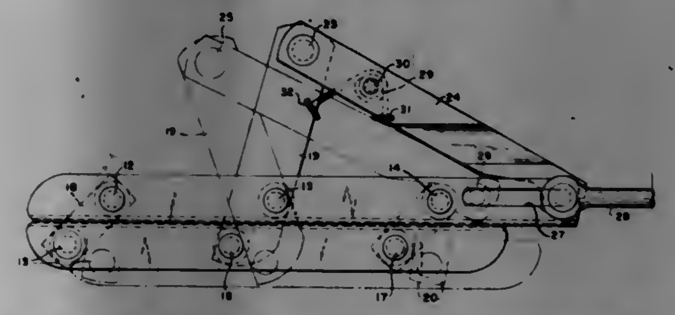
3,193,897

WIRE GRIP

Torsten Fredric Angquist, Jamestown, N.Y., assignor to Crescent Niagara Corporation, Buffalo, N.Y., a corporation of New York

Filed Apr. 9, 1963, Ser. No. 271,747

2 Claims. (Cl. 24—134)



1. In a wire grip, the combination including first and second cooperating elongated jaw members arranged in parallel side by side relationship, first and second links spaced from each other and disposed angularly with respect to said jaw members, each of said links having a pivotal connection with each of the respective jaw members, whereby the opposing edges of said jaw members may be moved toward and away from each other in parallel translatory movement, said opposing edges each being longitudinally recessed to grip a length of wire, the axes of the pivotal connections of said first link being disposed on a line which is coincidental with a line extending centrally and longitudinally of said first link and which is parallel with a line passing through the axes of the pivotal connections of said second link, said line passing through the axes of the pivotal connections of said second link being angularly disposed with respect to a line extending centrally and longitudinally of said second link, said second link being disposed at a greater angle than said first link with respect to said jaws when said jaws are in the closed position, one end of said second link having an elongated portion extending substantially outwardly from one of the jaw members to provide an actuating lever, a third link having one end pivotally connected with the outer end of said actuating lever, the other end of the third link being slidably and pivotally connected with one of the jaw members and having means for connection with a pulling force.

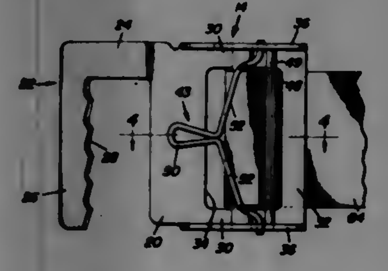
3,193,898

SLIDE BUCKLE WITH ROLLER

Robert E. Holman, Jr., 10619 Doric St., Dallas, Tex.

Filed Aug. 2, 1962, Ser. No. 214,297

12 Claims. (Cl. 24—196)

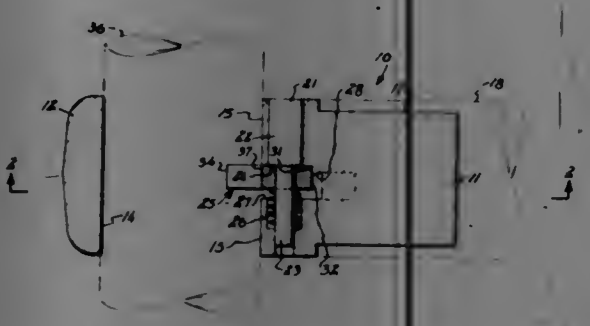


1. A cargo retainer comprising a strap and a buckle adjustably secured thereto, said buckle comprising a plate-like body having a planar face free of projections and constituting an open frame having ends and sides

defining an opening therebetween, locking and abutment members disposed in side-by-side relation and extending across said opening, mounting means upon the other face of said body on opposite sides of said opening and supporting in spaced relation to said other face the ends of said members for sliding movement of said members across said opening and toward and from each other, rotation preventing means on one of said members, said strap having a loop embracing said locking member and having the portions of said strap contiguous to said loop extending through said opening and overlying said body planar face, one of said strap portions being received between and being releasably wedgingly engaged by said members whereby tension applied to the other of said portions will urge said locking member toward said abutment member and thereby cause said members to wedgingly grip said one of said strap portions and hold said strap in adjusted position in said buckle, a release means movably mounted upon said body and engaging at least one of said members and effecting separating movement of said members whereby to release said wedging engagement of said members with said strap and free the latter for adjustment of said strap upon said buckle, means associated with said mounting means and engaging said members and limiting movement of the latter toward and preventing contact of the latter with the adjacent ends of said opening, and means on said buckle for detachably anchoring the latter to a support means.

3,193,899
LOCKING HOOK

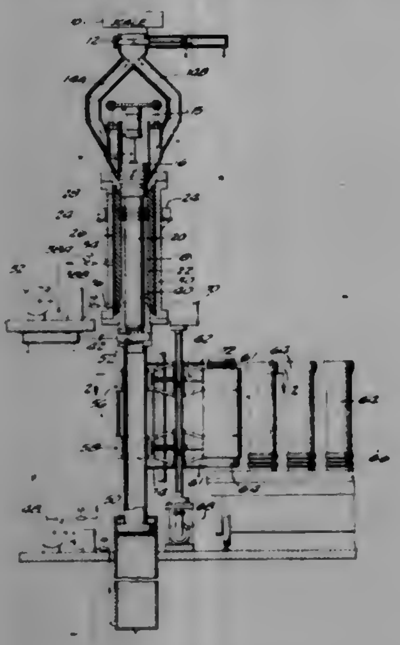
Wallace J. S. Johnson, Berkeley, Calif., assignor to Up-Right, Inc., Berkeley, Calif., a corporation of California
Filed May 13, 1963, Ser. No. 279,857
2 Claims. (Cl. 24—2[illegible]1)



1. A locking hook, comprising:
a body member having a root and a side wall forming two sides of a hook opening;
a locking member;
means mounting said locking member on said body opposite to said side wall for limited rotational movement between first and second rotational positions relative to said body member about an axis parallel to the axis of said hook opening and for limited movement relative to said body member between first and second positions transverse to the axis of rotation of said locking member;
said locking member having first and second portions thereon, said first portion being disposed adjacent said root and movable theretowards upon rotation of said locking member to its first rotational position and said second portion being disposed adjacent said root opening and movable towards said side wall upon rotation of said locking member to its second rotational position;
means permitting said locking member to rotate between its first and second rotational positions when said locking member is in its first transverse position;
means permitting said locking member to move between its first and second transverse positions when said locking member is in its second rotational position;
means positively preventing rotation of said locking member from its second to its first rotational position when said locking member is in its second transverse position;
means urging said locking member towards its second transverse position when said locking member is in its second rotational position;
manually operable means for moving said locking member from its second to its first transverse postion; and
means for releasably holding said locking member in its first rotational position when said locking member has been rotated to its first rotational position.

3,193,900
APPARATUS FOR MANUFACTURING CLAY PIPE

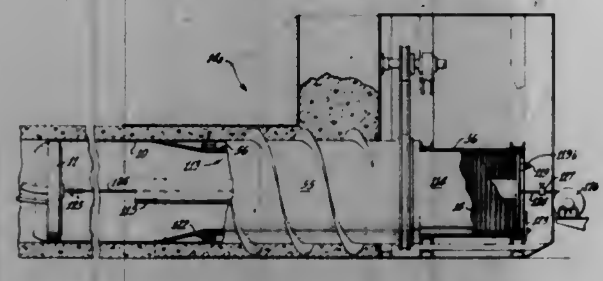
Paul H. Wendt, Arcadia, Calif., assignor to Pacific Clay Products, Los Angeles, Calif., a corporation of California
Filed Sept. 30, 1963, Ser. No. 312,426
3 Claims. (Cl. 25—31)



1. Apparatus for manufacturing clay pipe from granular clay particles, comprising in combination: an upright mandrel having a cylindrical outer surface, a single integral upright elastomeric sleeve encircling said mandrel and having a cylindrical bore extending for a major portion of its axial length, to define an annular cavity, said sleeve being open at both ends, said major portion of the elastomeric sleeve having a substantially uniform wall thickness which is greater than the thickness of the annular cavity, the lower end of said elastomeric sleeve having an internal recess, an axially movable end member having a central bore for slidable reception of the lower end of said upright mandrel, said end member serving to close the lower end of said annular cavity and having an upper rim projecting into said recess to define an annular enlargement at the lower end of said annular cavity, movable means for closing the upper end of said annular cavity, means for filling said annular cavity with granular clay particles through the upper end of said elastomeric sleeve, hydraulic means for contracting the elastomeric sleeve to compact the clay particles around said mandrel to form a length of molded clay pipe with an integral bell in said annular enlargement, and means for lowering the end member and the molded pipe length downward as a unit out of said annular cavity and away from the mandrel and elastomeric sleeve, upon relaxation of said hydraulic means.

3,193,901
APPARATUS FOR MAKING CAST-IN-PLACE PIPE

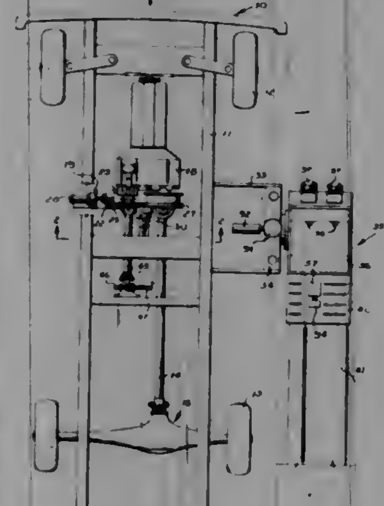
Herbert S. Lee, Los Alamitos, and James F. O'Conner, Long Beach, Calif., assignors to American Pipe and Construction Co., South Gate, Calif., a corporation of Delaware
Filed Nov. 20, 1961, Ser. No. 155,531
14 Claims. (Cl. 25—32)



1. Apparatus for producing cast-in-place pipe comprising: a skid adapted to be moved longitudinally along the ground, an envelope cartridge supported from said skid, a folded but inflatable tubular envelope disposed within said cartridge, said envelope having a sealed stationary end extending rearwardly from said skid and a sealed front end disposed within said cartridge, means for inflating said tubular envelope intermediate said sealed ends with sufficient pressure to sustain a layer of cementitious material, and means supported from said skid for progressively encasing said envelope with material as said skid and cartridge are advanced.

3,193,902
VEHICLE SUPPORTED CONCRETE MOULDING MACHINE

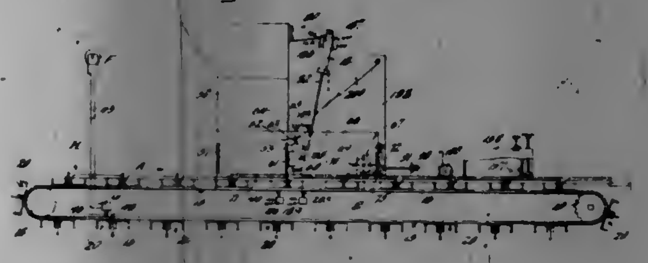
Alwyn H. Cheney, 23 Vancouver Ave., Springbank, South Australia, Australia
Filed Dec. 26, 1963, Ser. No. 333,437
Claims priority, application Australia, Feb. 25, 1963, 27,711/63
9 Claims. (Cl. 25—32)



1. A vehicle supported concrete moulding machine comprising:
a vehicle,
land wheels on the vehicle,
a variable speed hydraulic forward travel motor and speed reduction gear box connected for drive to one or more of the land wheels,
a concrete extruder on the vehicle, and
a mould on the concrete extruder, characterized by:
an hydraulic extruder motor driving concrete extrusion means on the concrete extruder,
driven hydraulic pump means on the vehicle hydraulically connected to both the forward travel and extrusion motors, and
a forward travel pressure responsive throttle valve in the hydraulic line between said pump means and said travel motor for control of rate of oil flow therebetween, said forward travel pressure responsive throttle valve being hydraulically connected to and responsive to the input pressure of the extruder motor,
whereby forward travel speed of the vehicle is a function of the input hydraulic pressure of said extruder motor.

3,193,903
TILE CASTING INSTALLATION

Donald M. White, Hialeah, Fla., assignor to Nordon, Inc., Fort Lauderdale, Fla., a corporation of Florida
Filed May 11, 1962, Ser. No. 194,054
2 Claims. (Cl. 25—43)



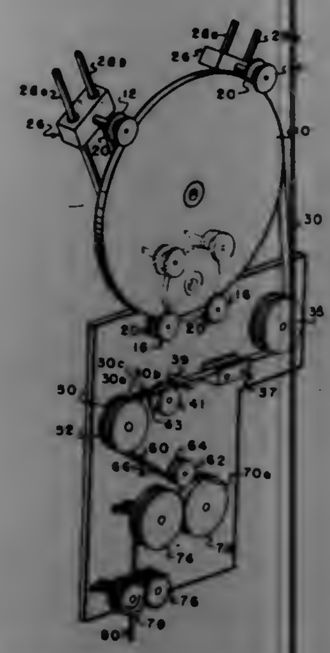
1. A tile casting installation comprising, in combination, a supporting frame; an endless conveyor extending linearly from a loading end of said frame to a delivery end; flight structures on said conveyor defining resting places conformed to the bottom configuration of pallets for receiving and transporting tile material through the installation from the receiving point to the point of delivery, a predetermined percentage of said flight structures conformed to fit pallets with depressed portions to form thick-butt tiles and the remainder to fit shallow pallets for thinner gauge tiles; a hopper disposed above an intermediate portion of the run of said conveyor for successively charging pallets placed on said conveyor with tile forming material; reciprocating tamping means adapted to be projected into material occupying the depressed portions of the pallets for thick-butt tiles; power means for projecting and retracting said tamping means; and trigger means carried by said thick-butt flight structures only, for actuating said tamper projecting and retracting means, whereby said tamping means is active only when a thick-butt tile pallet is disposed beneath it.

3,193,904
APPARATUS FOR FOLDING A PAPER STRIP INTO A YARN

Cyril G. Evans, Bobby L. Pitts, and William P. Warthen, Spartanburg, S.C., assignors to Deering Milliken Research Corporation, Spartanburg, S.C., a corporation of Delaware
Filed Mar. 11, 1963, Ser. No. 264,375
15 Claims. (Cl. 28—1)

1. Apparatus for continuously forming flat, twistless folded paper yarn from a paper strip comprising: a first rotatably mounted roll having a curved bottomed annular groove in its peripheral surface to shape the unfolded paper strip into a substantially U-shaped configuration, a second rotatably mounted roll having a flat bottomed annular groove therein with a width less than the unfolded width of the paper strip, guide means to continuously supply said paper strip to said first roll to shape said paper strip into a subtsantially U-shaped configuration and then to guide the paper strip a partial wrap around said second roll, tension means to draw the substantially U-shaped paper strip firmly into the bottom of the groove in said second roll, thereby causing the edges of the paper strip

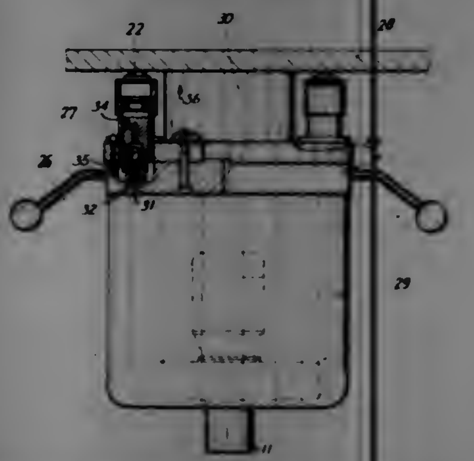
to fold inwardly toward each other on the same side of the paper strip as the paper strip takes the partial wrap around



said second roll, and means to crease the paper strip in its folded configuration.

3,193,905
CONVEYING AND SUPPORTING DEVICE FOR CONVEYING AND DISPLACING HEAVY OBJECTS

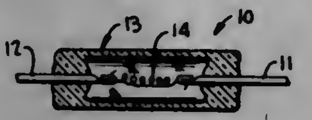
Hellmut Müller, Fabrikstrasse 34, Plochingen (Neckar), Germany
Filed Sept. 8, 1961, Ser. No. 136,816
Claims priority, application Germany, Sept. 13, 1960, M 46,543
12 Claims. (Cl. 29—[illegible])



1. A device for operating on work pieces comprising a tool carrier and a downwardly directed tool carried by the carrier and positioned below it, a stationary substantially horizontal supporting surface above the carrier, guide means acting in a direction perpendicular to such surface situated intermediate said carrier and said stationary supporting surface on the opposite side of the carrier from the tool, said guide means including parts connected with said carrier so as to be movable therewith and with respect thereto, said guide means during movement of said movable carrier being interposed between said movable carrier and said stationary supporting surface, and magnet means fixedly connected with the carrier on the opposite side of the carrier from said tool, said magnet means being located adjacent to and magnetically cooperating with the lower face of said supporting surface, whereby said carrier can be moved over said supporting surface and after interruption of said movement of said carrier along said stationary supporting surface said magnet means affix said carrier onto said lower face of said supporting surface and said carrier is supported on its side opposite the tool.

3,193,906
METHOD OF MAKING MICROMINIATURE INCANDESCENT LAMPS

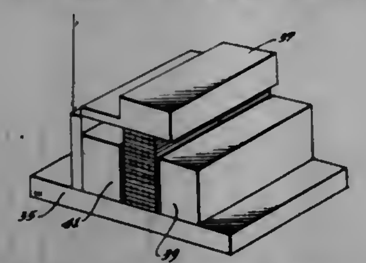
Donald J. Belknap, 302 Patterson Court, Takoma Park, Md.
Original application Mar. 4, 1960, Ser. No. 12,877, now Patent No. 3,040,204. Divided and this application Mar. 6, 1962, Ser. No. 193,030
5 Claims. (Cl. 29—25.11)
(Granted under Title 35, U.S. Code (1952), sec. 266)



4. A method of constructing microminiature incandescent lamps, comprising the steps of fusing a glass bead to each end of a pair of opposed wire leads, forming hooks at the extremities of each lead, inserting the ends of a filament coil into each hook so formed, pinching the hooks together to fix the filament coil between said leads and each glass bead, heating one end of a hollow glass tube having an internal diameter slightly larger than the diameter of each glass bead until said end turns in sufficiently to contact the periphery of one glass bead, suspending said glass tube by the turned-in end from one glass bead, the other end of said glass tube encasing the other glass bead and said filament coil fixed between said leads and each glass bead, then positioning a heating element adjacent each end of the suspended glass tube, heating each end of said suspended glass tube in a vacuum with the positioned heating elements to bake out the lamp assembly, then increasing the heat in turn applied to each end of said suspended glass tube in a vacuum by said heating elements to successively fuse said glass beads to said glass tube.

3,193,907
HIGH SPEED CATHODE-RAY DIRECT WRITING TUBE

Norman F. Fyler, Menlo Park, Calif., assignor to Litton Precision Products, Inc., a corporation of Delaware
Filed Mar. 22, 1960, Ser. No. 16,734
11 Claims. (Cl. 29—25.17)



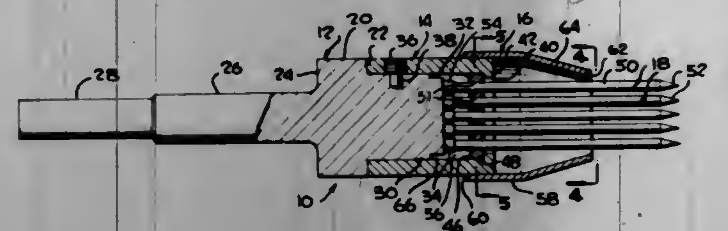
1. In the method of treating a mosaic vitreous target structure having a plurality of fine wires imbedded therein running from a first side of the structure to a second opposite side, the combination of steps comprising: heating the vitreous structure to make it flexible; bending the structure to make the first side convex and the second side concave; and cutting the first side to provide a planar surface.

3,193,908
NEEDLE SCALER

Hoyt T. White, Hampton, Va., assignor to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia
Filed Oct. 3, 1963, Ser. No. 313,465
5 Claims. (Cl. 29—81)

1. A scaling device comprising an anvil having a striking face on one of its sides, an elongated mounting member secured to an opposite side of said anvil and projecting therefrom, a plurality of scaling elements, and mounting means movably mounting said scaling elements on said anvil so that one end of each scaling element may move into and out of contact with said striking face, said

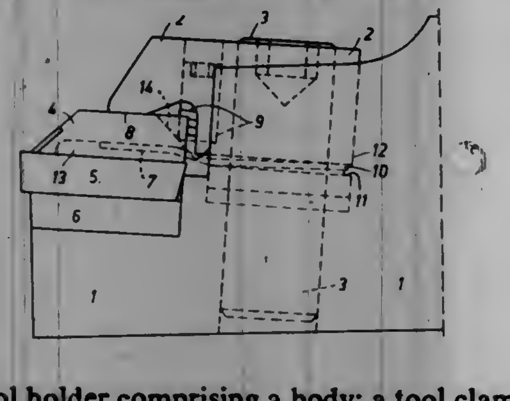
elongated mounting member comprising a stepped shaft in axial alignment with said striking surface and said mounting means comprising a cup-shaped sleeve telescopically receiving a reduced portion of said anvil, said striking face located within said sleeve and on a free end of said re-



duced portion, said sleeve having an end wall spaced from said striking surface and provided with an opening therethrough, said scaling elements extending through said opening and having head means located between said striking surfaces and end wall.

3,193,909
TOOL HOLDERS

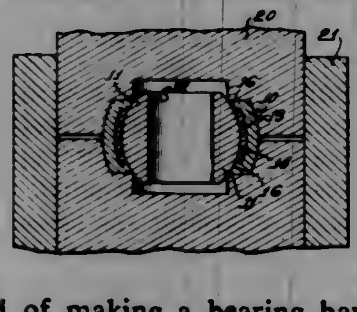
Wlajko Mihic, Tegnervagen 9, Gavle, Sweden
Filed Oct. 7, 1963, Ser. No. 314,273
Claims priority, application Sweden, Oct. 15, 1962, 10,994/62
11 Claims. (Cl. 29—96)



1. A tool holder comprising a body; a tool clamp having a clamping portion supported by said body; a seat in said body in proximity to said clamping portion for at least one cutting tool; a chip-breaker between said seat and said clamping portion; a spring for maintaining said chip-breaker biased against said clamping portion, said spring having a circular retaining portion and a biasing portion; and means for permitting rotation of said spring and chip-breaker to permit adjustment of said chip-breaker, said means comprising a circular recess in said clamp for rotatably retaining said spring circular portion.

3,193,910
METHOD OF MAKING BEARINGS

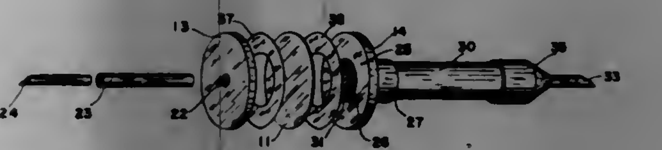
Jack R. Evans, Santa Monica, Calif., assignor to Southwest Products Co., Monrovia, Calif., a corporation of California
Application Oct. 12, 1959, Ser. No. 845,730, now Patent No. 3,085,312, dated Apr. 16, 1963, which is a division of application Ser. No. 805,295, Apr. 9, 1959. Divided and this application Oct. 1, 1962, Ser. No. 227,364
4 Claims. (Cl. 29—149.5)



1. A method of making a bearing having a ball, an outer race member and an annular insert of thermoplastic and thermosetting material between said ball and race member, the steps comprising forming an annular cylindrical race member, molding said insert around said ball with the insert being centrally positioned and contacting most of the circumferential area of the ball, and forming the entire outer and inner surfaces of said race member around said ball and insert to form a pair of spaced annular shouldered portions on the race member to extend around and engage opposite edges of the insert and retain said insert in said race member.

3,193,911
METHOD FOR MAKING A PRESSURE-RESPONSIVE DEVICE

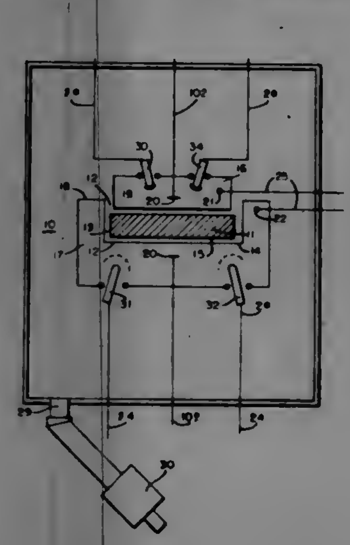
John E. Lindberg, Jr., Alamo, Calif.
(1211 Upper Happy Valley Road, Lafayette, Calif.)
Filed July 12, 1962, Ser. No. 209,474
15 Claims. (Cl. 29—155.5)



1. A method of providing a snap-action diaphragm from a thin flat sheet of metal comprising, holding a peripheral rim portion only of said sheet while first subjecting one side of the central portion bounded by said rim portion to gas under pressure sufficient to stretch said central portion beyond its elastic limit and then relieving that pressure from that said side and applying gas under pressure to the other side while backing up substantially the entire said central portion on said first side substantially on the plane of said rim portion, to provide a fold enabling repeatable recycling.

3,193,912
ELECTRO-STATIC PARTICLE COLLECTING DEVICE

Herbert S. Polin, % Laboratoire de Recherches Physiques, Veyrier, Geneva, Switzerland
Continuation of application Ser. No. 415,100, Mar. 9, 1954. This application Jan. 4, 1963, Ser. No. 249,412
4 Claims. (Cl. 29—155.5)

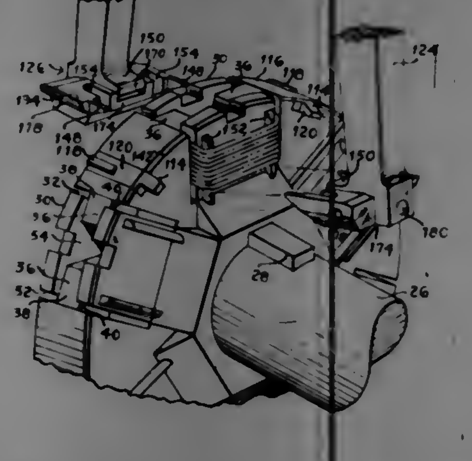


1. A process for making electrets comprising the steps of heating a mass of piezo-electric active material comprising a crystallographic structure of electro-responsively active crystals free from binder material and having a low dielectric constant and a melting point above 100° C., to a temperature just below the fusion point of said material, applying a high direct-current polarizing voltage to said material, maintaining both said high voltage and said elevated temperature for a period of time sufficient to orient the individual molecules and the individual

simple crystal lattices of said material such that at least eighty percent of said molecules and said individual simple crystal lattices are polarized and aligned by said field and causing said material to cool gradually while continuing to subject said material to said high direct-current voltage during said cooling step.

3,193,913
COIL TRANSFERRING MACHINE

Harry W. Moore, 5051 Kittridge Road, Dayton, Ohio
Original application Sept. 2, 1960, Ser. No. 53,801, now Patent No. 3,137,931, dated June 23, 1964. Divided and this application Mar. 23, 1964, Ser. No. 363,659
2 Claims. (Cl. 29—155.5)

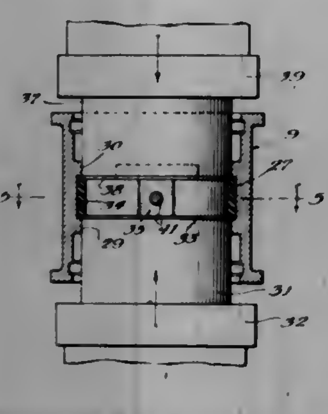


1. The method of transferring coils into inwardly directed coil-receiving slots of an annular field member of a polyphase dynamoelectric device, comprising the steps of: placing a dummy member having coils forming one phase deposited in outwardly directed coil-receiving slots therein within the bore of an annular field member having inwardly directed coil-receiving slots with the outwardly directed coil-receiving slots of said dummy member aligned with some of said inwardly directed slots; transferring each of the coils from said dummy member slots to said inwardly directed slots; removing said dummy member from within said field member; placing a dummy member having coils forming a second phase deposited in outwardly directed coil-receiving slots therein within the bore of said field member with its outwardly directed slots aligned with at least some other of said inwardly directed slots; transferring each of the second phase coils from the last mentioned dummy member slots to the aligned inwardly directed slots of said field member; removing said last mentioned dummy member from within said field member, and repeating the foregoing operations as required to deposit the coils for all the phases in the slots of the field member.

3,193,914
METHOD OF MAKING A BUTTERFLY VALVE WITH AN INTEGRAL SEAT

Henry R. Killian, Glen Ellyn, Ill., assignor to Henry Pratt Company, a corporation of Illinois
Original application Apr. 17, 1961, Ser. No. 103,491. Divided and this application June [illegible], 1962, Ser. No. 201,007
3 Claims. (Cl. 29—157.1)

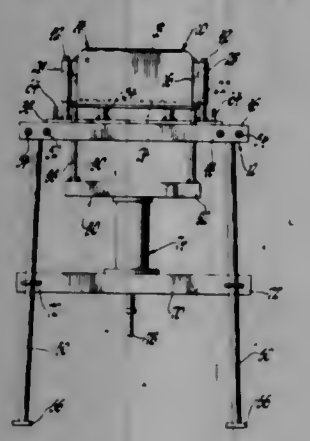
1. The method of forming a resilient valve seat in a butterfly valve body comprising the steps of forming in a metal valve body portion a pair of opposite trunnions on a common center line and a pair of spaced internal cylindrical surfaces concentric with the desired seat surface and about an axis intersecting the trunnion center line centrally between the trunnions,
- placing the valve body about a mold member having a surface shaped to the desired internal surface of the seat,
- piloting one of said cylindrical valve body surfaces into engagement with said mold part to locate the seat internal surface forming portion of the mold to a central location within the valve body between said trunnions,
- inserting pins through the valve body and into the mold part to support the valve body on said mold part and to form openings in the valve seat for a valve shaft,



- placing a predetermined amount of unvulcanized rubber-like material compound between said mold part and body,
- closing the space between said mold part and body with an upper mold part engaging the other of said cylindrical valve body surfaces,
- then applying heat and pressure simultaneously shaping, vulcanizing and bonding the rubber-like material to the valve body to form an inner valve seating surface of the shaped surface of said mold part.

3,193,915
MOLD SEPARATING DEVICE

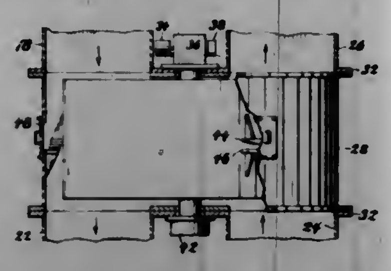
Douglas H. Gillie, 26680 Woodmont, Roseville, Mich., and Ralph James MacKay, 15420 Fairmount, Detroit, Mich.
Filed Oct. 3, 1963, Ser. No. 313,497
12 Claims. (Cl. 29—239)



1. Mold separating means for a mold having a first part and a second part, said means comprising:
- a support having a plurality of apertures therein, said support being adapted to receive said mold with one of said parts engaging said support adjacent said apertures;
- means for removably securing said one part on said support;
- a movable member mounted on said support and having elongated members extending therefrom and through said apertures and adapted to engage the other of said parts at spaced points therearound;
- and means operatively connected to said movable member for actuating said movable member and moving said moveable member toward said mold and engaging said elongated members with said other part of said mold to separate said other part from said support and said one part.

3,193,916
APPARATUS FOR DISASSEMBLING A ROTOR FROM ITS SUPPORT BEARING

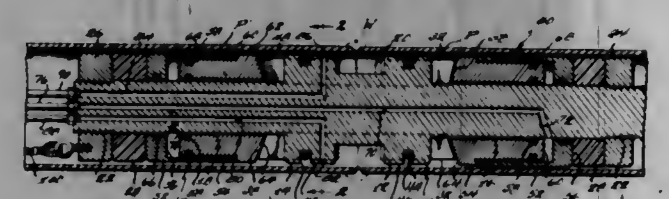
Richard L. Brunell and Sterling R. Holly, Wellsville, N.Y., assignors, by mesne assignments, to Combustion Engineering, Inc., a stock corporation of Delaware
Filed Oct. 12, 1961, Ser. No. 144,700
4 Claims. (Cl. 29—240)



1. Apparatus for disassembling a rotor from its support bearing in an assembly having an upright rotor including a cylindrical rotor shell joined to a central rotor post by radial partitions to form a series of sectoral compartments therebetween, a mass of perforate heat absorbent material carried in the compartments of the rotor, a cylindrical housing surrounding said rotor including end plates at opposite ends thereof apertured to direct a flow of heating fluid and fluid to be heated through spaced portions of the rotor, bearing means supporting said rotor for rotation about its axis, means for rotating said rotor about its axis, said disassembly apparatus comprising ledge means disposed circumferentially about the inner periphery of the rotor housing, a plurality of axially inclined ledge members circumferentially arranged about the outer surface of the rotor shell above said ledge means to provide a maximum and minimum spacing between confronting surfaces of the ledge means and ledge members, and disassembling means for insertion between said ledge means and ledge members, said disassembly means adapted to raise said rotor free of its support bearing when advanced into the minimum spacing between ledge members and ledge means to permit removal of the bearing for repair or replacement.

3,193,917
METHOD FOR MAKING AND TESTING A PIPELINE

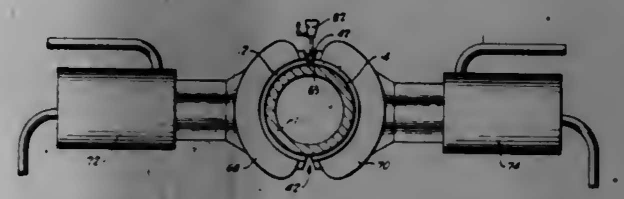
Glenn L. Loomis, Pasadena, Tex.; Jean D. Loomis, executrix of Glenn L. Loomis, deceased, assignor to Jean D. Loomis
Original application Oct. 5, 1962, Ser. No. 228,600, now Patent No. 3,153,845, dated Oct. 27, 1964. Divided and this application Feb. 20, 1964, Ser. No. 351,579
8 Claims. (Cl. 29—407)



1. The method of making a pipeline from a plurality of elongated, tubular sections of pipe connected in sequence comprising the steps of: arranging an end of one section of pipe adjacent a free end of a previously connected section of pipe of the pipeline being made; establishing a barrier at a spaced point from the free end of the previously connected section of pipe and a second barrier at a spaced point from the said end of the one section of pipe, the barriers being simultaneously established; engaging the interior of the end portions of the respective sections of pipe and axially aligning the said end of the one section of pipe with the free end of the previously connected section of pipe simultaneously with the establishment of the barriers in the respective sections of pipes; connecting the aligned ends of the sections of pipe to one another; then applying fluid under pressure to the space between the barriers to test the connection for leaks; and if no leaks occur, then relieving and removing the fluid under pressure and releasing the spaced barriers, and repeating the above steps.

3,193,918
METHOD OF FABRICATING DRILL PIPE

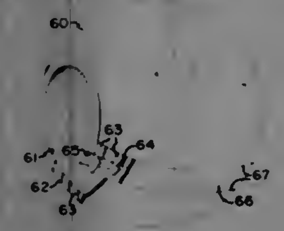
Russell C. Heldenbrand, Box 173, New Iberia, La.
Filed Jan. 8, 1962, Ser. No. 164,810
4 Claims. (Cl. 29—447)



1. A method for applying a protective sleeve device to the center portion of a joint of drill pipe having upset coupling means at each end thereof comprising the steps of:
- heating a split sleeve;
- holding the sleeve tightly around the center portion of the drill pipe;
- welding the split sleeve to form an integral sleeve while holding the sleeve tightly around the drill pipe and protecting the drill pipe from excessive heat caused by the weld; and,
- cooling the integrally formed sleeve whereby the sleeve will contract and tightly grip the pipe.

3,193,919
METHOD OF FABRICATING PRESSURE VESSELS

Thomas P. M. Rouse, Jr., 17 Glenview Drive, Bristol, R.I.
Original application May 26, 1961, Ser. No. 113,591, now Patent No. 3,167,204, dated Jan. 26, 1965. Divided and this application Oct. 2, 1962, Ser. No. 227,960
4 Claims. (Cl. 29—477)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The method of fabricating a metal section for constructing pressure vessels and the like which comprises:
(a) extruding a flat metallic sheet having two parallel wall surfaces and a plurality of longitudinal stiffening ribs between said surfaces and integral therewith along the entire length of said surfaces, said ribs being substantially perpendicular to the wall surfaces and parallel to the direction of the extrusion; (b) rolling the sheet so that opposite edges of said wall surfaces meet substantially forming a tubular section; and (c) joining the edges thus meeting by cutting out a portion of the outer wall surface of said tubular section along the axial length thereof, welding the meeting edges of the inner wall surface in the region exposed by the removal of said cut-out portion, replacing said cut-out portion with a strip of the same dimensions and welding said strip to the outer wall surface from which said cut-out portion was removed along the lines of cutting therefrom.

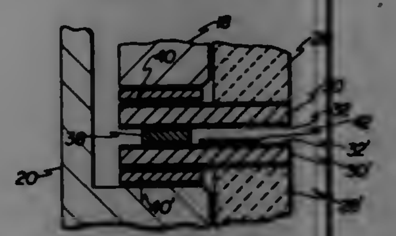
3,193,920

PRESSURE SEALING OF PLATED ENVELOPE SECTIONS

Robert D. Culbertson, San Jose, Russell C. McRae, Santa Clara, and Harvey C. Warner, Belmont, Calif., assignors to Eitel-McCullough, Inc., San Carlos, Calif., a corporation of California

Original application Aug. 17, 1959, Ser. No. 834,219. Divided and this application Nov. 13, 1962, Ser. No. 237,208

4 Claims. (Cl. 29—4[illegible]2)



1. A method of pressure sealing two vacuum envelope sections, said sections each having a hard metal sealing ring protruding outwardly from each of said sections forming rims, said sealing rings being plated with a soft ductile metal, said method comprising the steps of placing a hard metal spacer ring on said plated surface of one of said sealing rings substantially coaxially with said one of said sealing rings, placing a soft metal gasket fabricated from the same material as said soft ductile plating and having a thickness greater than said spacer ring on a plated surface of said one of said sealing rings substantially coaxially with and exterior of said spacer ring, placing a plated surface of the other of said sealing rings on said gasket substantially coaxially with said spacer ring, forming a vaccum around said sections, heating said rings and gasket to a temperature below the melting temperature and above the annealing temperature, and applying pressure to said rims on both of said sealing rings to compress said sealing gasket causing it to adhere to said plated surface of said rings.

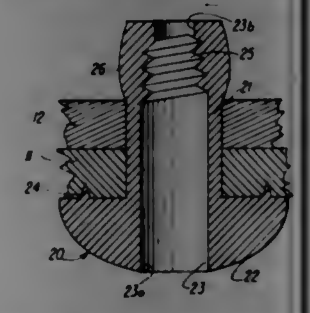
3,193,921

METHODS OF SECURING TOGETHER WORKPIECES UTILIZING BLIND FASTENERS

Simon S. Kahn, Glen Ridge, N.J., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Apr. 6, 1961, Ser. No. 101,173

4 Claims. (Cl. 29—5[illegible]9)



1. The method of securing together a plurality of assembled workpieces formed of relatively soft metal and provided with a corresponding plurality of aligned holes therethrough, comprising providing a fastener formed of relatively hard metal and including an elongated tubular shank terminating at the outer end thereof in an enlarged head and having an opening extending from the exterior axially through said head and into said shank, inserting said shank through said aligned holes in said assembled workpieces and with said head in frictional engagement with the adjacent outermost of said assembled workpieces and with the inner end of said shank disposed inwardly of the adjacent innermost of said assembled workpieces, inserting an elongated thread-swaging member formed of extremely hard metal from the exterior into the outer end of said opening, operating said thread-swaging member from the exterior to subject the interior surface of said shank to swaging pressure so as to swage an internal thread in said shank interiorly of said opening, said subjecting of the internal surface of the outer portion of said shank to swaging pressure also simultaneously swaging an external thread-like structure upon the exterior surface of the outer portion of said shank and swaging an internal thread-like structure in said workpieces interiorly of said holes therein, wherein said thread-like structures are complementary and disposed in interlocked frictional engagement with each other so as securely to anchor said assembled workpieces in place upon the outer portion of said shank, said subjecting of the internal surface of the inner portion of said shank to swaging pressure also simultaneously expanding the same to produce an enlargement thereupon disposed inwardly of the adjacent innermost of said assembled workpieces and in frictional engagement therewith, and then disengaging said thread-swaging member from said internal thread and removing the same from said opening back to the exterior so that said opening is unobstructed, whereby said plurality of assembled workpieces are securely clamped together between said head and said enlargement and independently of said thread-swaging member, and whereby said unobstructed opening is adapted removably to receive the shank of a screw, or the like, carrying thereupon an external thread and with the external thread in cooperating engagement with said internal thread.

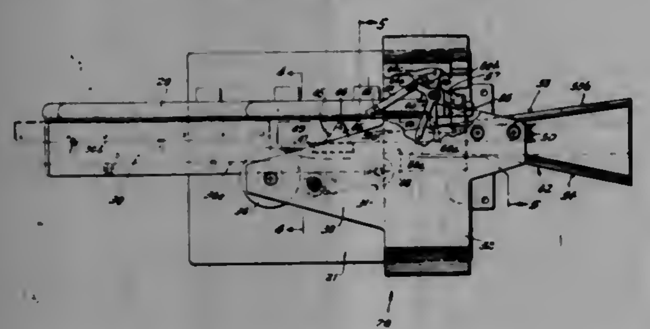
3,193,922

CARTON OPENING AND HANDLING DEVICE

Ralph G. Borchetta, Jr., Harrison, N.Y., and John J. Bogdanski, Joseph V. Kubovy, and James E. Mulreed, Stamford, Conn., assignors to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware

Filed June 13, 1962, Ser. No. 202,263

15 Claims. (Cl. 30—2)



1. A device for operating upon a carton having a wall formed by a first flap overlying and releasably secured to a second flap to separate said flaps and open the carton;

comprising means for maintaining the carton with the wall exposed,

shoe means having a leading nose portion,

means for relatively moving the shoe means with respect to the carton for projecting the nose portion under the wall,

and blade means secured to the shoe means rearwardly of the nose portion and extending laterally beyond the nose portion for entry between the two flaps to sever any releasable connection therebetween.

3,193,923

SAFETY RAZOR HAVING ADJUSTABLE BLADE EDGE EXPOSURE

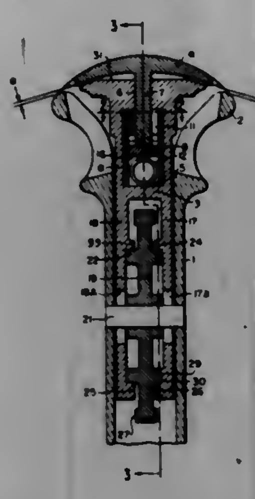
Frederick Charles Clemenson, Ferring, England, assignor to The Gillette Company, Boston, Mass., a corporation of Delaware

Filed Apr. 24, 1962, Ser. No. 189,884

Claims priority, application Great Britain, Apr. 25, 1961, 14,899/61

4 Claims. (Cl. 30—67)

1. A safety razor comprising a blade platform member, a cap member adapted to clamp a razor blade against the platform, a catch member urged by spring means to a first position in which the catch engages the cap to retain the cap in position on the platform, the catch being movable against the action of the spring means into a second position in which it allows removal of the cap, a detent member which is urged by the said spring means into a position of engagement with the catch member to hold the member in its second position, the arrangement being such that the movement of the cap into its clamping position on the platform displaces the detent from its position of engagement against the action of the said spring means, thereby permitting movement of the catch member into its first position under the action of the said spring means.



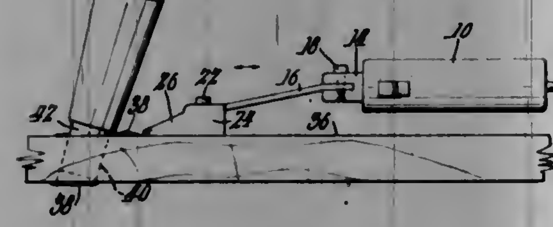
3,193,924

TOOL FOR REMOVING GLUE

Henry J. Gariepy, % Gariepy Products, Inc., South Ashburnham, Mass.

Filed Nov. 22, 1963, Ser. No. 325,656

2 Claims. (Cl. 30—168)



1. A power operated tool for removing glue from wood furniture without damaging the wood and comprising a handle, a chuck on the handle, a shank removably secured to the chuck at one end, and a relatively heavy, thick metal chisel head, the shank having its end opposite the chuck secured to said chisel head, said chisel head comprising a member of comparative thickness having a forward sharpened edge and a forward blunt surface extending from the sharpened edge upwardly, said chisel head having a flat, coplanar lower surface and an upper surface, the sharpened edge being at the intersection of the forward surface with the lower surface, and said blunt forward surface extending upwardly at a slight angle with respect to a line extending at right angles from the lower surface, and the lower flat surface flatly contacting the wood from which the glue is to be chipped, and preventing the sharpened edge from digging into the wood, said handle being of a type which contains mechanism providing for a short high speed substantially reciprocatory motion of the chuck, shank and the chisel head.

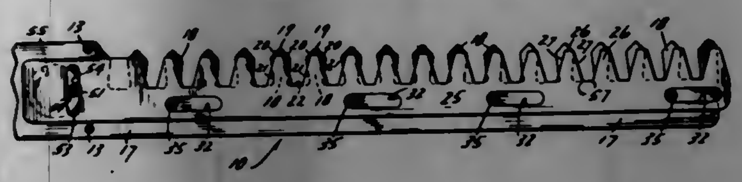
3,193,925

HEDGE TRIMMER

Paul A. Hawley, Jefferson City, Mo., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Dec. 4, 1962, Ser. No. 242,273

3 Claims. (Cl. 30—210)



1. A hedge trimmer comprising: a stationary base blade presenting a series of spaced teeth; a reciprocable cutter blade presenting a series of spaced teeth in overlying shearing cooperation respectively with said base blade teeth, said cutter blade having a spacing between adjoining teeth dissimilar to the spacing of adjoining teeth of said base blade whereby some pairs of cooperating teeth initiate shearing cooperation prior to initiation of such shearing cooperation by other pairs of cooperating teeth; and drive means connected to said cutter blade to reciprocate said cutter blade with respect to said base blade and determine the stroke of said cutter blade with respect to said stationary blade, said cutter blade being positioned with respect to said stationary blade so as to present a full depth opening between adjoining teeth of each blade at each end of the stroke of said cutter blade and all movable blade teeth are displaced from a position of shearing cooperation with said stationary blade at each end of each stroke.

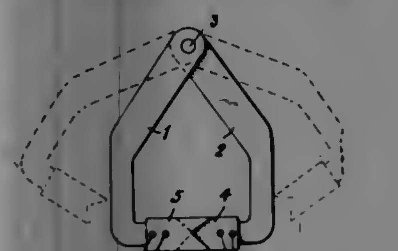
3,193,926

BLADES FOR MOLTEN GLASS CUTTERS

William T. Honiss, 51 Fernwood Road, West Hartford, Conn.

Filed Apr. 17, 1963, Ser. No. 273,616

4 Claims. (Cl. 30—350)



1. A cutting blade for shearing charges of molten glass from a supply source, the blade having a body provided on one of its faces with an inclined surface tapering in a manner to terminate in a relatively sharp forward edge, a relatively thin laminate applied over said inclined surface and having a forward portion extending beyond the terminating edge of the blade, said laminate being provided on that surface of the blade which is away from the plane of severance by the blade, the laminate having high resistance to wear and the body of the blade having less resistance to wear but being of greater heat conductivity than the laminate and being thicker than the laminate.

3,193,927

APPARATUS AND PROCESS FOR SEPARATING WHEY FROM CUT COAGULATED MILK

Jacob Ubbels and Johan T. van der Linde, Ede, Netherlands, assignors, by mesne assignments, to Bedrijven van Het Nederlands Instituut voor Zuivelonderzoek, Ede, Netherlands, an institution of the Netherlands

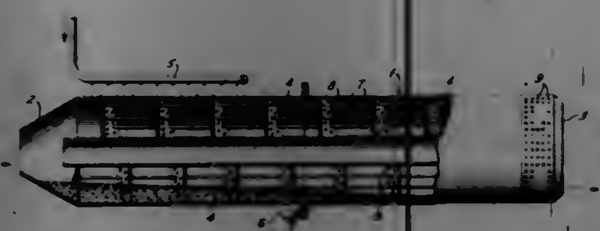
Filed June 4, 1962, Ser. No. 199,830

Claims priority, application Netherlands, June 5, 1961, 265,559

4 Claims. (Cl. 31—46)

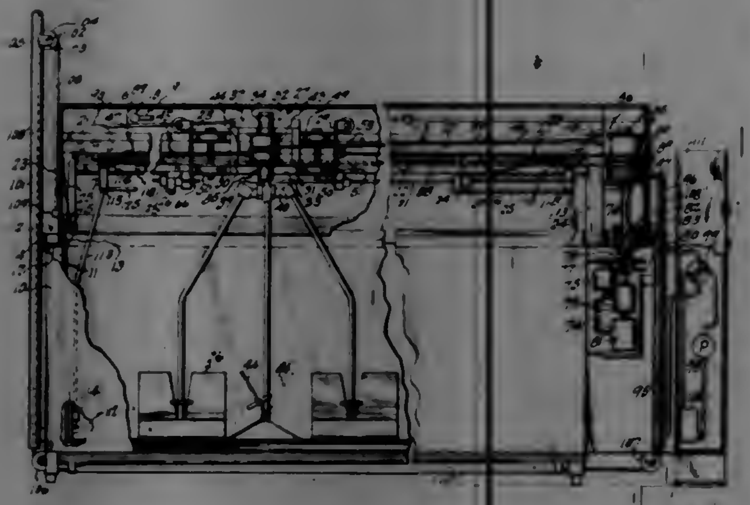
1. Apparatus for separating whey from cut coagulated milk, comprising a tubular body open at opposite ends

and having its longitudinal axis vertically inclined with respect to the horizontal plane, the vertically lower open end of said body being the receiving end and the opposite end therefrom the discharge end, means supporting said body to permit it to be rotated, said body being perforated along at most a portion of its wall at the discharge end a screw shaped member fixed to the inner



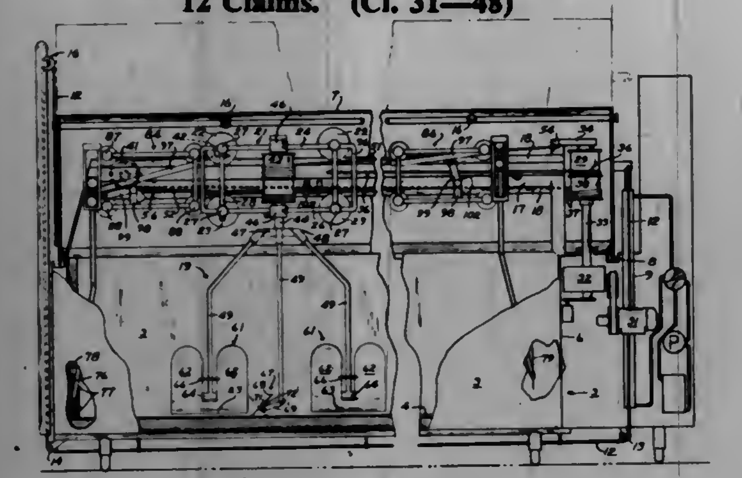
wall of said body for feeding material from its receiving end to its discharge end and adapted to rotate with said body, collar means partially closing off said receiving end, said screw-shaped member being perforated along at least a portion of the flight of said screw, and stirring means including a plurality of rods extending through and fixed to said screw-shaped member in a longitudinal direction and spaced from the walls of said tubular body.

3,193,928
CURD PRODUCING APPARATUS
Lowell J. Collins, 936 61st St., Oakland 8, Calif.
Filed Dec. 17, 1962, Ser. No. 245,002
7 Claims. (Cl. 31—48)



1. In curd processing apparatus including a vat having a bottom and opposite ends and sides, a cover for the vat, and an agitator for agitating the contents of the vat; operating means for the agitator comprising a single rigid beam having its respective ends supported by the respective ends of the vat, a carrier vehicularly mounted on said beam and including power means for inducing travel of said carrier back and forth along said beam within the confines of said cover when the cover is in sealed position on the vat, and rotative means on said carrier drivingly connected to said agitator and having operative connections with the respective ends of the beam to effect rotation of said rotative means as the carrier is drawn back and forth along the beam and a terminal agitator adjacent at least one end of the vat having drive means responsible to movements of the carrier toward the end of its travel, whereby curd processing is carried out throughout the length of the vat in a sealed enclosed condition.

3,193,929
APPARATUS FOR AGITATING THE CURD OF COTTAGE CHEESE DURING THE MANUFACTURING PROCESS
Lowell J. Collins, Piedmont, Calif.
(936 61st St., Oakland, Calif.)
Filed June 17, 1964, Ser. No. 375,701
12 Claims. (Cl. 31—48)



1. In an apparatus for processing cheeses and including a vat for containing the ingredients of the cheese, apparatus for agitating and mixing the ingredients to maintain a substantially uniform temperature throughout the mass of ingredients and to prevent adherence of such ingredients to each other in the vat comprising:

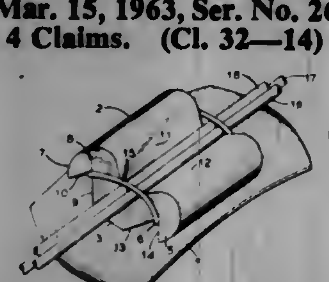
(a) a carriage beam supported on the vat,

(b) main carriage means movably supported for translation along the beam and including agitator paddle means depending from the main carriage means into the vat and movable to stir the ingredients in the vat and to scrape the bottom of the vat to prevent adherence of the ingredients to each other and to the vat upon translation of the main carriage means along the beam,

(c) auxiliary carriage means movably supported for translation along the beam and including agitator paddle means depending from the auxiliary carriage into the vat and movable to stir the ingredients in the vat and to scrape the ends of the vat to prevent adherence of the ingredients thereto and to each other upon translation of the auxiliary carriage along the beam, and

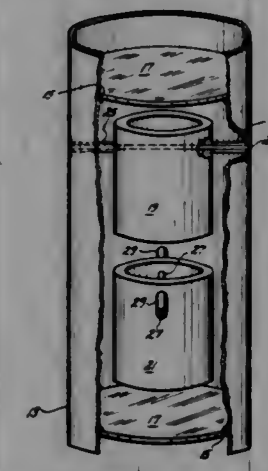
(d) means cooperatively interconnecting said main and auxiliary carriage means to effect selective translation of each carriage means along the beam within predetermined limits.

3,193,930
ORTHODONTIC APPLIANCE
Saul M. Bien, 76 Union Ave., Lynbrook, N.Y.
Filed Mar. 15, 1963, Ser. No. 266,157
4 Claims. (Cl. 32—14)



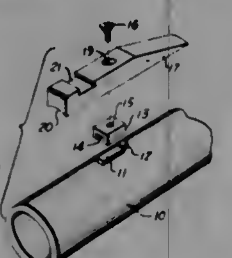
3. In an orthodontic system, the combination of a tooth band, a bracket having a base portion attached to said tooth band, and an arch wire connected to said bracket by tie means, the improvement comprising the bracket having substantially flat, diverging, oblique, and intersecting first and second inner walls terminating in first and second wing portions respectively, said wing portions angularly and divergingly extending away from said first and second inner walls respectively and substantially flat, diverging and oblique first and second outer walls which intersect with first and second wing portions respectively, said arch wire being at least in abutment with one of said inner walls.

3,193,931
PARACHUTE SPOTTING DEVICE
John H. Morrell, 48 Newton Heights, Leominster, Mass.
Filed June 3, 1964, Ser. No. 372,425
5 Claims. (Cl. 33—46.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An apparatus for determining true vertical direction comprising an elongated tubular casing member, an upper sight cup pivotably mounted in the upper portion of said casing member, a lower sight cup pivotably mounted in the lower portion of said casing member, said lower cup being positioned so as to pivot in a direction perpendicular to said upper sight cup, said upper and lower sight cups being in axial alignment with one another and with said casing member when said apparatus points in true vertical direction, deviation from true vertical causing said upper and lower sight cups to pivot out of alignment with one another thereby indicating that said tubular casing member is not positioned in the true vertical direction.

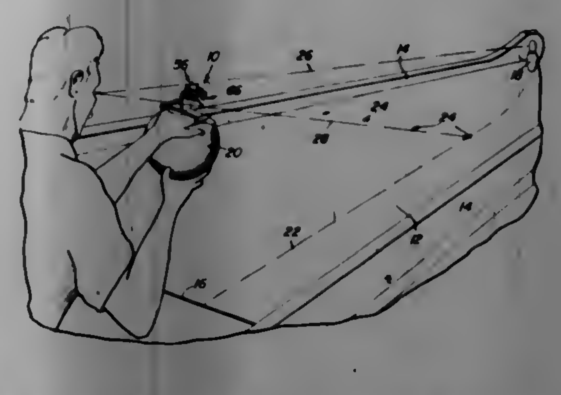
3,193,932
GUN SIGHT ATTACHMENT
Roger C. Johnson, 1114 Robin Road, Muscatine, Iowa
Filed Feb. 10, 1964, Ser. No. 343,562
11 Claims. (Cl. 33—47)



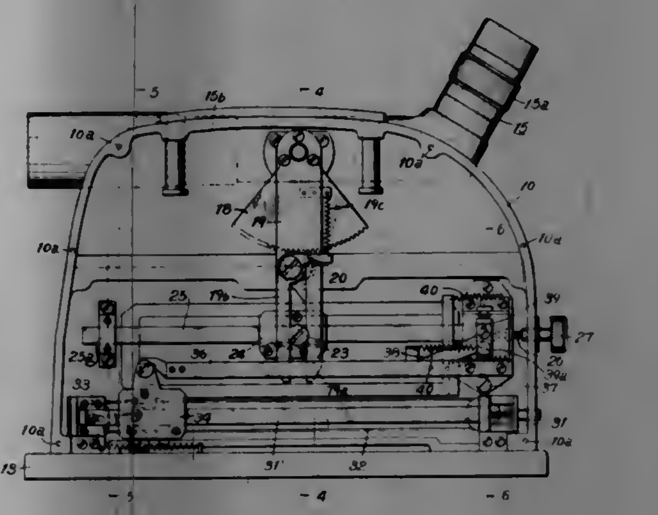
1. In a firearm, in combination, a barrel, a block secured to said barrel, an insert member having a longitudinal channel adapted to engage said block for rigid attachment thereto, detachable and interengaging means between said member and block, a sight base having a recess for receiving said insert member, and fastening means for securing said sight base to said member.

3,193,933
HAND-MOUNTED BOWLER'S SIGHTING DEVICE
Louis O. Frey, Mendham, N.J.
(480 Woodhill Road, Wayne, Pa.)
Filed Oct. 15, 1963, Ser. No. 316,403
7 Claims. (Cl. 33—64)

1. A sighting device for bowlers comprising a base, means for securing said base upon the back of a bowler's hand, a pair of indicators mounted upon said base for relative adjustment with respect to each other, said indicators being so positioned relative to each other that when one indicator is located in the line of sight from the bowler to the target bowling pin, the other indicator will be located in the line of sight from the bowler to a predetermined position upon the bowling alley upon the proper path of travel of the bowling ball to said target bowling pin.

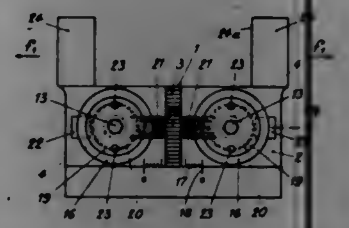


3,193,934
ALIDADE
Saburo Uchida, 39 Komachi, Kamakura, Japan
Filed Nov. 9, 1962, Ser. No. 236,642
3 Claims. (Cl. 33—67)



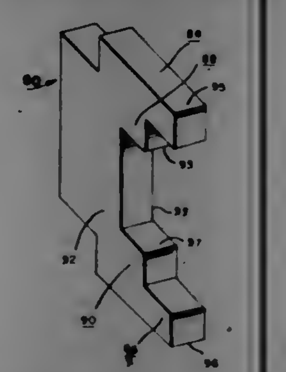
2. Alidade assembly, comprising a housing; a telescope turnably mounted on said housing; a first lever rigidly connected with said telescope for turning in a vertical plane and in unison therewith; a first manual control for initiating the unitary movement of said telescope and said lever; a guide means formed in the shape of a linear bar and mounted slidably in said housing and arranged in a horizontal plane; a fine adjusting means for precise positioning of said guide means; a first slide slidably mounted on said guide means with a considerable frictional resistance and kept in sliding contact with the lower end of said first lever; a second slide slidable on a horizontal guide bar and controlled in its position upon manual control of a range knob; a second lever pivotally mounted in said housing for pivotal movement in a vertical plane upon movement of said second slide; a motion transmitting mechanism for transmitting any movement of the second lever in one direction to said guide means and thence to said telescope through said first slide and said first lever; means for indicating the selected position of the second slide for providing a corresponding direct range reading; and a parallel motion mechanism for plotting said range information on a drawing paper on the plane table with which said alidade cooperates.

3,193,935
ADJUSTABLE LINEAR-DIMENSION GAUGE
Clement Eugene Jouanny, 33 rue Robert Lindet,
Paris, France
Filed Oct. 29, 1962, Ser. No. 233,631
Claims priority, application France, Mar. 12, 1962,
890,710, Patent 1,324,965
4 Claims. (Cl. 33—143)



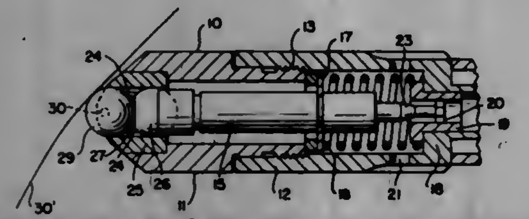
1. An adjustable linear-dimension gauge comprising a stationary jaw, at least one movable jaw, means for guiding said jaws for movement relative to each other, said stationary jaw having a bore therein, a spindle rotatably mounted within said bore, said movable jaw having an orifice therein, said orifice being of a size greater than said spindle to allow for the movement of the movable jaw relative to said spindle, the ends of said spindle projecting from the jaws, a plate rigidly mounted upon one end of said spindle, means rotatable with said plate and spindle and cooperating with said movable jaw for moving the same relative to said stationary jaw, an adjustable nut provided on the other end of said spindle, a bearing washer located on said spindle between said nut and said stationary jaw, a spring washer clamped between said nut and said bearing washer, and a bearing bush made of anti-friction metal surrounding said spindle, said bush being provided with an exposed flange, said bearing washer being rotatable with said spindle and being pressed against said flange by said spring washer.

3,193,936
GEAR GAGE
Ernst Schnitzer, Warwick, R.I., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 25, 1963, Ser. No. 276,139
2 Claims. (Cl. 33—16[illegible])
(Granted under Title 35, U.S. Code (1952), sec. 266)



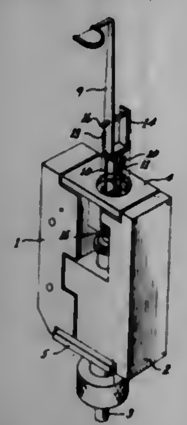
1. A not-go gage comprising a flat base having a recess therethrough forming a pair of spaced arms having opposed parallel inner surfaces,
- the width of said surfaces corresponding to the chordal width of the gap between adjacent teeth on a first gear at the intersection points of the pitch and with the surfaces of the teeth defining said gap,
- said surfaces being separated so that one of said arms enters a gap between one pair of adjacent teeth while the end of the other arm enters the gap between substantially diametrically opposed adjacent teeth,
- said base having a second recess forming a second pair of spaced arms with a second pair of opposed parallel inner surfaces,
- the width of said second pair of surfaces corresponding to the chordal gap between adjacent teeth of a second gear of smaller diameter than said first gear at the intersection points of the pitch circle and the surfaces of said adjacent teeth defining said gap,
- said second pair of surfaces being separated so that one of said second pair of arms enters a gap between one pair of adjacent teeth on said second gear while the end of the other member enters the gap between substantially diametrically opposed adjacent teeth thereon.

3,193,937
GAGING DEVICE
Willis Fay Aller, Dayton, Ohio, assignor to The Sheffield Corporation, Dayton, Ohio, a corporation of Delaware
Filed Jan. 19, 1961, Ser. No. 83,675
3 Claims. (Cl. 33—169)



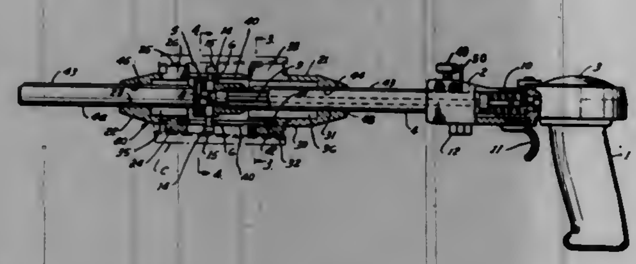
1. A gage head of the character described comprising a body, a plunger slidably guided in the body, gaging means operated by said plunger, a freely rotatable ball at one end of the body and projecting thereform to act as a contact stylus, said ball being operatively engaged with one end of the plunger, the end of the body in which the ball is situated having a substantially wedged shape with the sides of the wedge lying substantially tangent to the ball, the apex of said wedge extending outward beyond the major ball diameter and including retaining means extending toward the ball surface within its major diameter at opposite sides thereof providing the sole retention against outward movement of said ball, guide means in the wedge-shaped end of the body including a cooperating cylindrical housing to prevent movement of said ball transverse to gaging movement and spring means in said body for urging the plunger toward the ball to normally hold the ball in its outer position against the ball retaining means.

3,193,938
GAGING DEVICE
Willis Fay Aller, Dayton, Ohio, assignor to The Sheffield Corporation, Dayton, Ohio, a corporation of Delaware
Filed Jan. 28, 1963, Ser. No. 254,224
6 Claims. (Cl. 33—172)



1. A gage comprising,
- a supporting member,
- a supported member having a work contacting portion,
- parallel flexible arms fixed to the supporting member and supported member and providing rectilinear motion of the supported member in a direction generally transverse to said parallel arms,
- an indicator,
- flexible mounting means extending between the indicator and the members and attached at their end portions to the members and indicator respectively and said mounting means normally extending parallel to one another and flexing in a direction transverse to the direction of motion of the supported member and at least one of said members having a plurality of such flexible mounting means connected thereto and to the indicator and spaced apart a substantial distance in a direction transverse to the direction of flexing, and the flexible mounting means of one of the members being closely spaced from the flexible mounting means of the other member in the direction of flexing, so that the flexing of the mounting means produces a swinging movement of the indicator,
- and a compensating spring attached to a spring attach point on the supporting member and to the indicator and applying its force while in a reference position on a vector parallel to the mounting means in their normal positions and acting toward the attach point on the supporting member, and deflectable through an angle having its apex at the spring attach point with movement of the indicator, whereby as the angle increases to a side from the reference position the force aiding movement of the indicator increases.

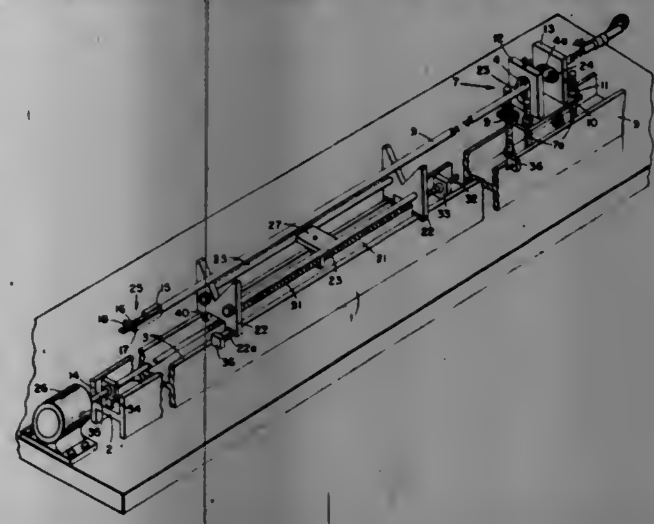
3,193,939
TAPER GAUGE FOR GAUGING WALLS OF TAPERED PASSAGES
James A. Scott, Pittsburgh, Pa., and Donald M. Satava, Wickliffe, Ohio; said Satava assignor to The Pipe Machinery Company, Wickliffe, Ohio, a corporation of Ohio; said Scott assignor to United States Steel Corporation, a corporation of New Jersey
Filed Nov. 1, 1962, Ser. No. 234,754
11 Claims. (Cl. 33—174)



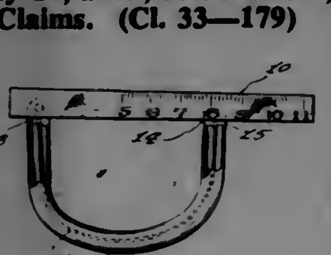
9. A self-centering internal taper gauge comprising an elongated support, a gauging head carried by the support, gauging elements mounted in the head in circumferentially spaced relation to each other about a common axis for movement toward and away from said axis to extended and retracted positions, means for moving the elements outwardly to gauging positions, gauge indicating means carried by the support and operated by movement of said elements to said positions, for indicating gauge, characterized by first and second aligning members having wall engaging, external aligning surfaces of circular cross section, respectively, said members being mounted on said support, with the aligning surfaces coaxial with each other and surrounding the support, for movement relative to each other endwise of the support while the surfaces remain in coaxial relation, the aligning surface of the first member being of greater diameter than the aligning surface of the second member, and means connected to the members yieldably urging the members relatively away from each other endwise of the support.

3,193,940
STRAIN GAUGE PROFILOMETER
Lonnie W. Jenkins, Huntsville, Ala., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Nov. 7, 1962, Ser. No. 236,174
10 Claims. (Cl. 33—174)

1. A profilometer for tracing the profile of a longitudinally perforated solid propellant motor comprising an elongate beam disposed parallel to the longitudinal axis of said perforation, a cart slideably mounted on said beam for movement therealong, means carried by said cart for attachment of said propellant motor thereto, means for slideably moving said cart along said beam, a cantilever tube, means adjustably connected to said beam for movement normal thereto, means adjustably mounting said cantilever tube adjacent one of its ends relative to said adjustably connected means for adjusting said cantilever tube to a position parallel to the longitudinal axis of said beam, said tube extending from said one end toward and into said motor perforation, a flexible contact means affixed to the distal end of said tube, and means fixed to said contact means for generating a signal which corresponds in amplitude to the movement of said contact means.



3,193,941
RING SIZE INDICATOR
Samuel Hoffman, 524 Hinsdale St., Brooklyn, N.Y.
Filed May 14, 1962, Ser. No. 194,362
2 Claims. (Cl. 33—179)

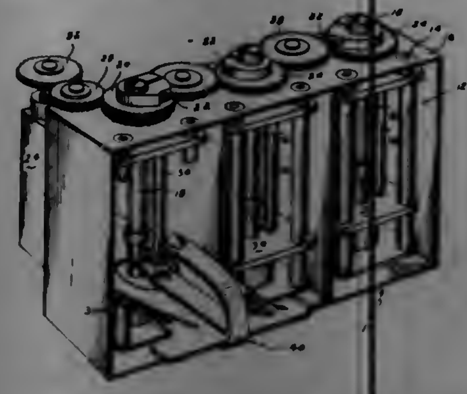


1. A ring size indicator comprising a bar, a hollow loop secured at a front end of said bar, the second end of said loop adapted to move along the other end of said bar, a spring in said loop, one end of said spring secured to said first end of said loop, and the other end secured to said other end of said loop, and indicia means along said bar adapted to indicate a ring size when a finger is engaged in said loop.

3,193,942
ALIGNMENT GAUGE
Lawrence J. Cates, R.R. 2, Prior Lake, Minn.
Filed Mar. 3, 1964, Ser. No. 349,189
6 Claims. (Cl. 33—180)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An alignment gauge for setting and checking in a tuner circuit of a power amplifier of a radio transmitter or the like, the angular mechanical alignment of the inductance rod laterally extending from and parallel with the tuning shaft of the tuner in relationship to the stator plate, said alignment gauge comprising in superimposed fixed relationship: a first member forwardly terminating in terminal ends for locating against the edge of said stator plate, a second member joined to said first member and forwardly terminating in a forked end superimposed over the terminal ends of said first member for

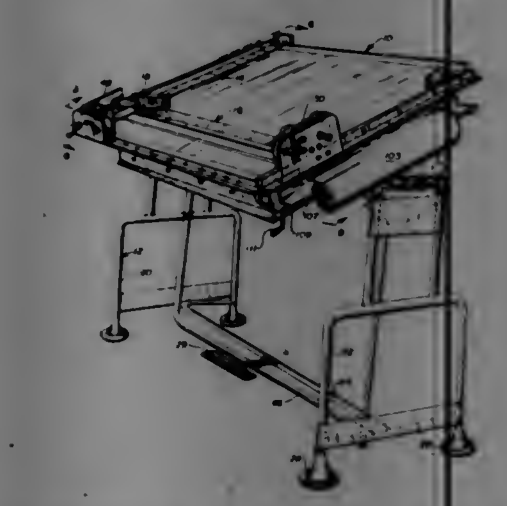
laterally straddle engaging said shaft, and a third member joined to said first and second members and forwardly terminating in a forked end superimposed over and rearwardly displaced from the forked end of said second member for laterally straddle engaging said inductance rod when said inductance rod is in proper angular relationship to said stator plate.



3,193,943

AUTOMATIC UNIVERSAL DRAFTING AND LAYOUT TABLE

Lawrence F. Moore, Sr., 8372 S[illegible]nsbury Ave., Panorama City, Calif.
Filed Jan. 17, 1961, Ser. No. 83,347
11 Claims. (Cl. 33—1[illegible]4.5)



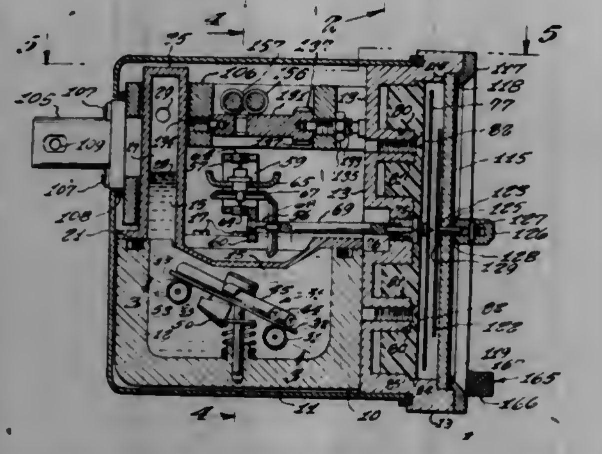
1. A graphic arts table comprising: a table top to provide a working surface; at least two pairs of parallel gear racks, the racks in each pair being positioned at opposing sides of said table top adjacent said working surface; at least two pairs of gear means, the gear means in each pair being associated in pairs with a pair of said racks; at least two rotative shafts, each interconnecting a pair of gear means; at least two guide bars each extending parallel to one of said shafts and mounted relative to said gear means whereby to simultaneously pass transversely across said table top and a tool holder means supported on said guide bars at the juncture thereof to be variously moved over said working surface.

3,193,944

MAGNETIC COMPASS FOR AIRCRAFT

John L. Marrotte, 84—60 259th St., Floral Park, Queens, N.Y.
Filed Aug. 24, 1962, Ser. No. 219,193
6 Claims. (Cl. 33—2[illegible])

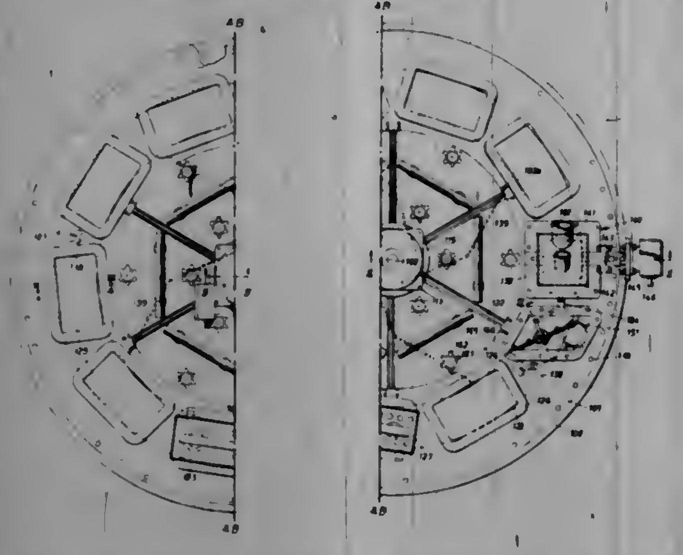
4. A damped magnet unit for use in a magnetic compass, comprising: a bowl member; a removable cover member for said bowl member; said cover member and bowl member together defining a gastight main chamber; a damping liquid contained within said main chamber; a magnet member within said main chamber and immersed in said liquid, said magnet member being formed of solid elements unaffected by increases in the pressure of said damping liquid; substantially frictionless bearing means in said main chamber supporting said magnet member for rotation about a normally vertical axis; and hydrokinetic damping means carried by said magnet member and immersed in said liquid, said damping means comprising a plurality of asymmetrically operative damping elements each of which opposes rotation of said magnet member only during movement thereof and to a greater extent for one direction of rotation than for the opposite direction, said damping elements being oppositely oriented to oppose rotation collectively to the substantially same extent in either direction.



3,193,945

TURNTABLE-TYPE DRIER FOR GRANULAR MATERIAL

Geoffrey Richard Plumb, Hartburn, Stockton-on-Tees, and Timothy J. Hadfield, Hale, Altrincham, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Mar. 16, 1962, Ser. No. 180,260
Claims priority, application Great Britain, Mar. 28, 1961, 11,293/61
1 Claim. (Cl. 34—185)

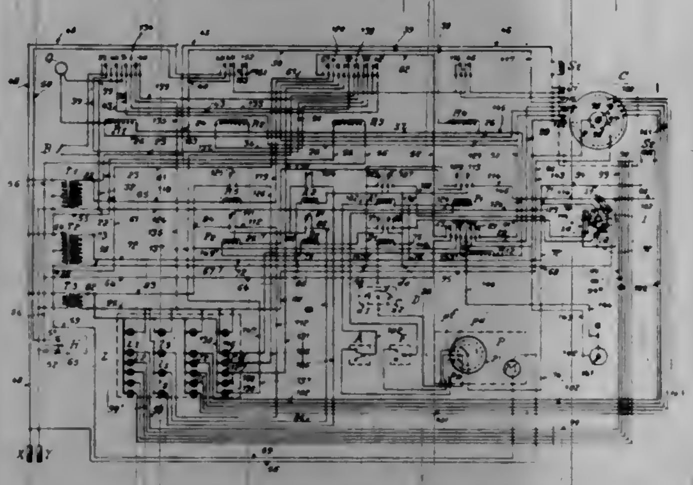


A drier for drying powdered, granular or gelatinous material in solid or slurry form, said drier comprising a rotatable turntable, means for feeding material to be dried to said table at a first position, means for removing dried material from the table at a second position angularly spaced from said first position, a sealed casing enveloping the table, a series of windows of heat transmitting material in the upper part of the casing, said windows being spaced about the circumference of said table between said first and second positions, infra red heaters disposed above the casing and positioned to direct heat through the windows for drying material on the table, a roller rotatable about its axis and disposed between the table and the feeding means so as to distribute material fed to the table, and scrapers provided between the casing and the faces and side edges of the table whereby dried material is diverted to the means for removing it.

3,193,946

VEHICLE-DRIVING GAMES

Francois Patuano, 10 Ave. de Fabron, Nice, France
Filed Oct. 29, 1962, Ser. No. 233,643
Claims priority, application France Apr. 13, 1962
5 Claims. (Cl. 35—11)

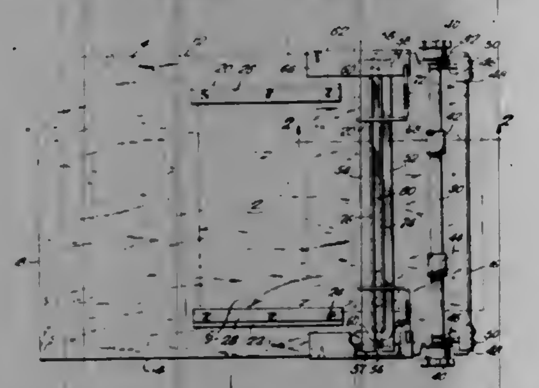


1. A vehicle driving game comprising in combination a screen, means for projecting a film of a moving scene to be travelled by said vehicle onto said screen, a movably mounted silhouette of the vehicle disposed to intercept a path of projection of said projector means on said screen, a driver's seat having control means for displacing the silhouette of the vehicle transversely to the scene and other control means for braking and accelerating the progression of said film, a fixed disc having pairs of contact studs disposed in a circle thereon in relative positions corresponding to parts of the scene in which certain driving maneuvers must be made, a rotary slide cooperating with said studs, means for driving said slide in synchronization with the unreeling of the film, electrical error circuits wherein said pairs of studs form breaks in said circuits and said rotary slide is effective to close said breaks, other electrical means responsive to the condition of said error circuits indicating to the driver that a necessary maneuver has not been made, and normally closed switch means in said error circuits in series with said pairs of studs, said switch means being responsive to the manipulation of said control means to prevent the closing of one of said electrical error circuits.

3,193,947

WRITING AID FOR THE BLIND

Madison H. Dean, P.O. Box 165, Morrilton, Ark.
Filed Mar. 26, 1962, Ser. No. 182,498
7 Claims. (Cl. 35—38)

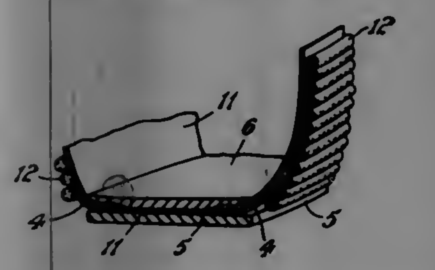


1. A writing aid comprising a support member having a flat top surface, the support member having means to guide a sheet of paper along a pedetermined line of travel, a spacer bar having a regular polygon cross-sectional configuration extending transversely relative to the line of travel of the paper, the spacer bar having reduced end portions defining laterally extending rod portions, laterally spaced retaining means relative to the line of travel of the paper disposed on the support member for receiving the end portions of the laterally extending rod portions of the spaced bar and restricting the longitudinal movement thereof relative to the line of travel of the paper, friction means disposed on at least a portion of the outside surfaces of the spacer bar, means disposed on the support member for biasing the spacer bar toward the top surface of the support member, means disposed on the rod portions of spacer bar for rotating the bar, laterally spaced means relative to the line of travel of the paper yieldingly disposed on the top surface of the support member defining the transverse limits of a writing space and longitudinally spaced means relative to the line of travel of the paper yieldingly disposed on the top surface of the support member defining the longitudinal limits of the writing space.

3,193,948

FOOTWEAR

Mary Appleby Roberts, Kings Heath, Birmingham, England, assignor to Dunlop Rubber Company Limited, London, England, a British company
Filed Apr. 22, 1963, Ser. No. 274,572
Claims priority, application Great Britain, May 9, 1962, 17,761/62
2 Claims. (Cl. 36—2.5)



1. Footwear comprising a fabric underlayer shaped according to the shape of a foot and defining a toe portion, a heel portion, a bottom portion, an upper portion adjoining said bottom portion, and a cavity to permit entry of a foot therein; an inner sole affixed to the inner surface of said underlayer over said bottom portion; a reinforcement piece extending around the outer surface of said underlayer and overlying a part of said bottom portion and a part of said upper portion of the underlayer; an outsole and heel affixed to the outer surface of said underlayer over said bottom portion and over part of said reinforcement piece; and a continuous strip of thick textile yarn laid upon the outer surface of said upper portion and overlying part of said reinforcement piece and generally helically wound about said upper portion with adjacent transversing portions being individually adhesively secured to said upper portion in an abutting relationship, and successively traversing said upper portion from one side of said toe portion, around said heel portion, to the other side of said toe portion, where it is bent back to extend around said heel portion in the opposite sense.

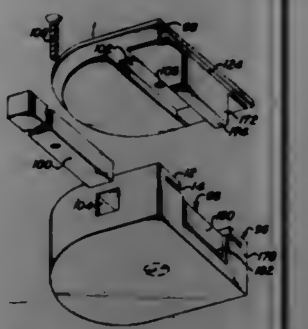
3,193,949

REPLACEABLE HEEL FOR SHOES

Anthony Cortina, 56 Huntington St., New London, Conn.
Original application Aug. 21, 1963, Ser. No. 303,962. Divided and this application Oct. 15, 1964, Ser. No. 404,084
2 Claims. (Cl. 36—42)

1. A readily removable heel structure comprising a heel shaped retaining plate having plane sides rounded at the rear, spacing means for mounting said plate below the heel area of a shoe body, said retaining plate having side and rear edges extending outwardly of said spacing

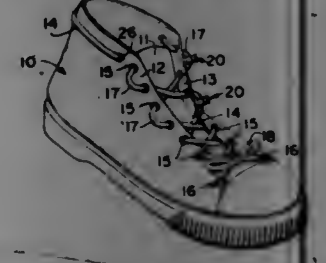
means for support of a heel thereon, said plate having a deep channel press formed therein, with the channel opening downward thereof, a heel having a flange disposed inward around the edge of its upper surface cooperative with the spaced edges of the retaining plate for sliding securement of said heel on said plate with the flange of said heel adapted to be retained between the plate and



shoe body, said heel having a deep channel formed inwardly from a vertical side toward the center thereof with its channel opening upward and aligned with the said channel formed in said plate, a fastening plug, said channels being aligned together to house and retain the fastening plug in sliding fit therein and securing said heel in engaged position of said flange upon said retaining plate.

3,193,950
FASTENING MEANS FOR SHOE LACES

Shu-Lien Liou, Tsushan-tsen, Nantao-Hsien, Taiwan (Formosa), China (195 Chungking N. Road, Sec. 3, Taipei, Taiwan, Republic of China)
Filed Mar. 26, 1963, Ser. No. 268,082
1 Claim. (Cl. 36—50)

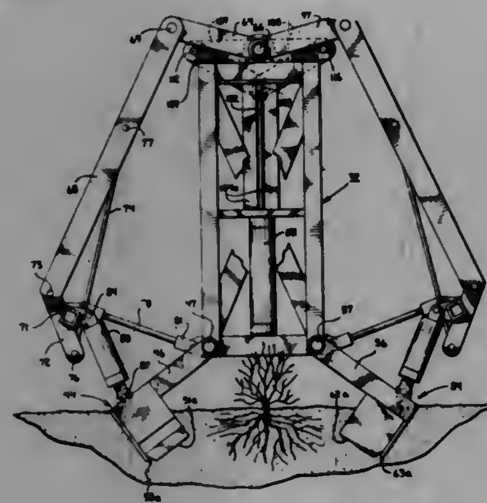


Apparatus for fastening a shoe having a pair of spaced generally parallel flaps connected by a shoe lace having opposed loops, said apparatus comprising a clip having a thin relatively small body, an integral tubular eye at one end of said body, said eye extending entirely across said body and being formed on a transverse arc, said eye being slidably mounted on one loop of one of said flaps without cutting the same, an integral hook at the opposite end of said body, said hook including a bight portion and a tang, said bight portion extending entirely across said body and being formed on a transverse arc, said bight portion being of a size to selectively receive an opposed loop on the other flap without cutting the same, said tang overlying said body and having a portion extending toward said body and terminating in an upwardly curved portion to facilitate insertion of the shoe lace, said hook and said eye being substantially in the same plane when in use, whereby said flaps will be in close generally parallel position and the shoe laces will be tight when the apparatus is connecting opposed loops of the shoe lace and will provide sufficient slack to remove the shoe from the foot of the wearer when the hook is detached from one of the loops.

3,193,951
GRUBBING MACHINE

Orville C. Beeson, R.R. 1, Summitville, Ind.
Filed May 29, 1963, Ser. No. 284,027
4 Claims. (Cl. 37—2)

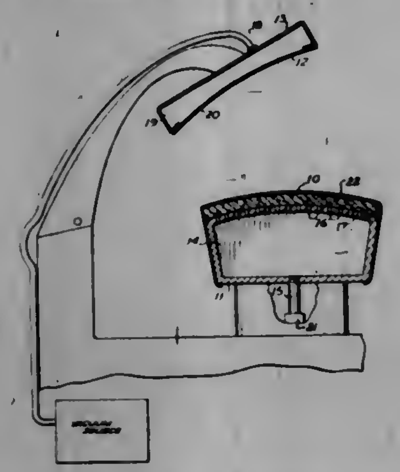
1. A machine comprising:
a frame;
a pair of cantilever shafts projecting rearwardly from said frame and spaced apart to permit receipt of a shrub or the like between said shafts;
a pair of cutting members spaced apart to permit receipt of a shrub or the like therebetween, each cutting member being pivotally mounted to one of said shafts, whereby said cutting members are swingably mounted to said frame for movement in arcs to and from a meeting position;
servo means connected to said frame and said cutting members to drive said cutting members to said meeting position;



each of said cutting members having blades lying in side-by-side engaging relation to corresponding blades of the other of asid cutting members when said cutting members are in meeting position, whereby said cutting members are adapted to cut off a shrub during movement to said meeting position,
two of the blades of each cutting member lying in spaced parallel planes perpendicular to the axes of said arcs, said two blades of each cutting member being sharpened such that the cutting edges thereof move in planes immediately adjacent the planes of movement of cutting edges of the other cutting member.

3,193,952
METHOD FOR PRESSING GARMENTS

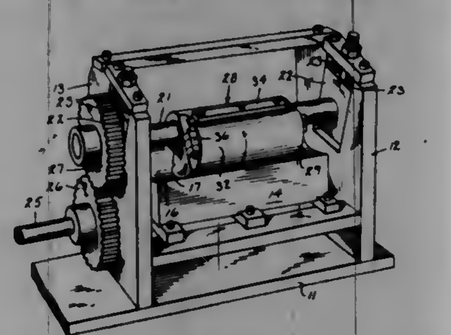
George Schlemon, 3060 Pharr Court NW., Atlanta, Ga.
Filed Feb. 4, 1963, Ser. No. 259,769
5 Claims. (Cl. 38—15)



1. A method for pressing a garment with a garment press having an upper buck and a lower buck, said method comprising, in combination, the steps of firstly placing the garment in pressing position on the lower buck, secondly exerting light mechanical pressure on the garment with the upper buck, thirdly passing steam into the garment through the lower buck only while simultaneously applying a vacuum to the garment through the upper buck, fourthly discontinuing the passage of steam into the garment through the lower buck while continuing the application of a vacuum to the garment through the upper buck, fifthly while passing dry air into the garment through the lower buck, sixthly discontinuing the application of a vacuum to the garment through the upper buck and the passage of dry air into the garment through the lower buck, seventhly discontinuing the light mechanical pressure exerted on the garment by the upper buck, and finally removing the garment from the lower buck.

3,193,953
FABRIC IRONING DEVICES

Herbert E. Nicol, Milwaukee, Wis., assignor to Pratt Manufacturing Corp., Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 15, 1964, Ser. No. 359,843
9 Claims. (Cl. 38—56)

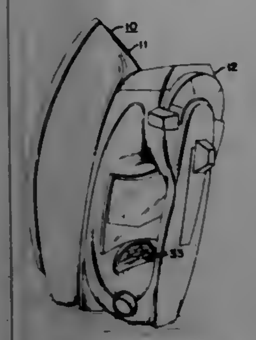


1. In an ironing device of the type having a shoe with a concave ironing surface, having an ironing member with a segmental curved ironing surface, said surface having a lead edge, and said device having means rotatably supporting said ironing member with its curved ironing surface in cooperating position with respect to the concave ironing surface of the shoe and sufficiently close thereto to iron work which is engaged between said cooperating ironing surfaces, the improvement comprising said concave surface of the shoe having a lead-in portion which is positioned to be in converging tangential relationship with said cylindrical surface of the ironing member, deflecting means including a blade extending axially of the ironing member and supported for sliding movement and having an outer deflecting end movable to and from a position where it protrudes beyond said curved surface of the ironing member, said deflecting end being in trailing relationship with respect to the lead edge of the curved surface of the ironing member, resilient means normally urging said deflecting end of the blade outwardly beyond the curved ironing surface of the ironing member whereby said deflecting means causes deflection of an overhanging end of work into a position against said tangential lead-in portion of the concavity of the shoe, with the leading edge of the work trailing with respect to the leading edge of the curved surface of the ironing member whereby the entire area of the work is ironed between the cooperating ironing surfaces of the ironing member and shoe concavity after it has been pulled into the concavity of the shoe by the action of the blade.

3,193,954
LEVEL INDICATOR FOR AN ELECTRIC IRON

Russell O. Robison, New Haven Township, Huron County, Plymouth, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 29, 1963, Ser. No. 284,234
2 Claims. (Cl. 38—77)

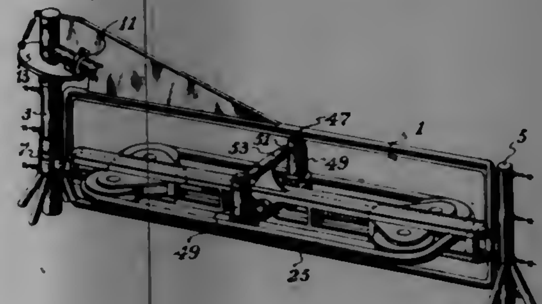
1. An electric iron comprising,
a reservoir for containing liquid,
shell structure defining a housing for said reservoir and concealing said reservoir from the user,
means for resting the iron in an upended position with a rear portion of said reservoir downwardly disposed,
means defining a chamber disposed adjacent said shell structure and having an opening into said rear portion of said reservoir,
a translucent wall in said chamber having a plurality of graduating marks inscribed and aligned thereon,
said translucent wall being disposed at an acute angle to the vertical with the iron positioned on said resting means,



a float member in said chamber, and
a separator screen disposed in said opening between said chamber and said portion of said reservoir for maintaining said float member in said chamber,
whereby the location of said float means relative to said graduating marks, as viewed through said translucent wall with the iron positioned on said resting means, provides a rapid indication of the liquid level in said reservoir.

3,193,955
GATE

William A. Pitts, 1620 S. Cincinnati Place, Tulsa, Okla.
Filed June 5, 1963, Ser. No. 285,698
6 Claims. (Cl. 39—84)



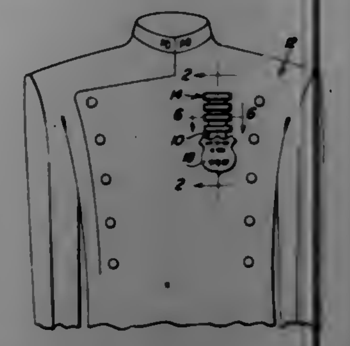
1. A horizontally swingable gate having a retractable latch, means for retracting the latch comprising an elongated flexible member extending along one side of the gate for contact with a vehicle, whereby the vehicle contacts and tensions the member and causes the member to retract the latch to open the gate, the flexible member being disposed in a loop having a pair of legs, the bight of the loop serving to retract the latch, and means interconnecting both ends of the loop for conjoint movements so that both legs of the loop are deflected about the same amount upon contact between a vehicle and one leg of the loop, the flexible member being endless and being reeved about pulleys.

3,193,956
DEVICE FOR PROPERLY MOUNTING AWARD BARS ON UNIFORMS

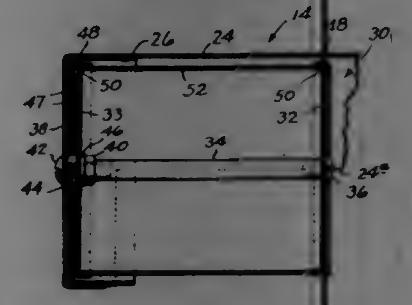
Edward Przybysiski, Staten Island, N.Y.
(230 73rd St., Brooklyn, N.Y.)
Filed Mar. 28, 1963, Ser. No. 268,692
3 Claims. (Cl. 40—1.5)

1. For use in combination with a badge having a pair of rearwardly projecting vertically aligned mounting lugs engaged through a pair of vertically aligned openings in a uniform front, a mounting plate positionable between the badge and uniform front, said plate being vertically elongated and including a pair of vertically aligned aper-

tures therethrough adjacent the lower end and along the vertical center line thereof for the reception of the badge lugs therethrough, thereby enabling mounting the plate on the uniform front in a manner so as to project vertically above the badge, said mounting plate including at least one horizontally orientated award bar mounting means located adjacent the upper end of the plate.



3,193,957
LAMP DEVICE
Wilbur C. Wade, 16572 SE. Mill St., Portland, Oreg.
Filed Dec. 18, 1961, Ser. No. 160,160
1 Claim. (Cl. 40—77)



In a lamp device

an elongated, substantially cylindrical shade having an opening extending along one side thereof,

a closure member joined to each end of the shade closing off the end,

an indicator cylinder concentrically disposed within the shade with an outer end of the cylinder adjacent one end of the shade and an inner end of the cylinder inwardly in the shade and intermediate its two ends,

lamp mounting means within the shade mounted on the closure member closing off the end of the shade opposite its said one end, for supporting a lamp, with such lamp positioned substantially axially centrally of the shade, between said inner end of the indicator cylinder and said opposite end of the shade,

said indicator cylinder comprising a light pervious section of material with markings thereon extending circumferentialy about the cylinder, inner and outer end members upon which said material is mounted adjacent inner and outer ends of the cylinder, respectively, and a shaft extending along the axis of the indicator cylinder interconnecting the end members having an inner end terminating at the inner end member of the cylinder and an outer end adjacent said one end of the shade,

means mounting said cylinder only within said shade only through its outer end whereby the inner end of the cylinder is suspended by its outer end, said means including means journaling the outer end of said shaft in the closure member closing off said one end of the shade,

a cover cap concentric with said shade outwardly of the cover member closing off said one shade end, aligned axially with said shaft,

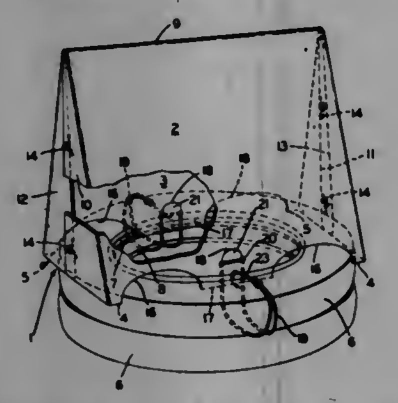
means connecting the cover cap and shaft whereby the cover cap when turned turns the shaft and with the shaft said cylinder,

a ring between the outer end of the cylinder and the closure member at said one end of the shade and between said closure member and the inside of said cover cap, providing friction tending to hold the cylinder from turning, and

an aperture in the shade element registerable with selected ones of the markings on the light pervious section,

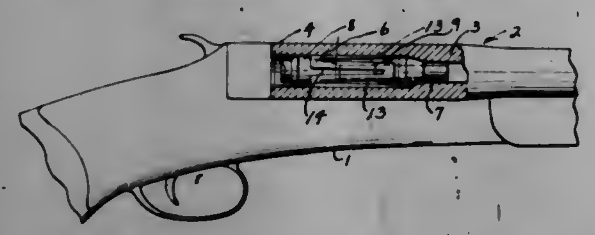
said inner end member of the cylinder having means whereby light from a lamp passes therethrough and into the inside of the cylinder.

3,193,958
SIGN CONSTRUCTION
Guy L. Huey, Massillon, Ohio, assignor to The Massillon-Cleveland-Akron Sign Company, Massillon, Ohio, a corporation of Ohio
Filed Aug. 2, 1963, Ser. No. 299,617
1 Claim. (Cl. 40—125)



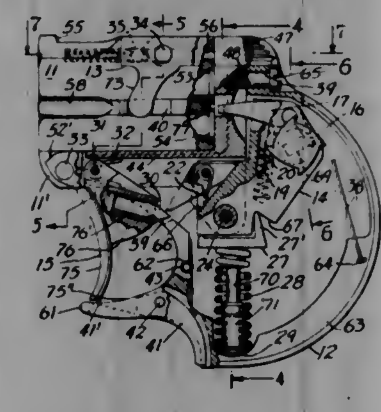
A sign construction for mounting on the side of an automobile tire, including a pair of sheet-like paperboard signs having lower spaced ends engageable on a side of a tire, each end having a central depending portion extending into a tire center, the pair of sheet-like signs extending upwardly from their respective lower ends and having converging upper ends forming an apex, an elongated member on each central depending portion and having opposite end portions extending into a tire and between the beads thereof, and at least one spacer rod extending between and perpendicular to the members and holding the members in spaced apart relation with the opposite end portions disposed between the beads.

3,193,959
SAFETY CHAMBER PLUG FOR FIREARMS
William E. Jaycox, Bel Air, Md., assignor to Henry Packard White, doing business as H. P. White Laboratory, Bel Air, Md.
Filed Mar. 26, 1963, Ser. No. 268,002
9 Claims. (Cl. 42—1)



1. A safety device for fire arms, comprising a plug unit insertable into the firing chamber of such fire arm from the breech end thereof and arranged to be wholly received within said chamber when the breech thereof is closed, said unit including an expansible cylindrical sleeve circumferentially expansible into tight engagement with the interior of said chamber, said sleeve having a central longitudinal bore therethrough, each end of said bore being outwardly flared in a conical configuration, means within said chamber to resist forward movement of said plug unit and means coacting with said sleeve to so expand the same when said plug unit engages said resistance means, said coacting means comprising core means including a stem portion longer than said sleeve and extending through the bore thereof, a cone element integral with said stem portion at one end thereof and cooperable with one end conical configuration of said sleeve bore to expand said sleeve circumferentially, a second cone element slidably received on said stem portion and similarly cooperable with the other end conical configuration of said sleeve bore, one of said cone elements having a cylindrical portion of a maximum diameter larger than the maximum cylindrical diameter of said sleeve in relaxed condition, the maximum diameter of the cylindrical portion of said last mentioned cone element being larger than the minimum diameter and smaller than the maximum diameter of a firing chamber into which said unit is to be inserted.

3,193,960
POCKET PISTOL
Frederick F. Stevens, Jr., Lane's Pond Road, Northford, Conn.
Filed June 7, 1963, Ser. No. 286,254
10 Claims. (Cl. 42—8)



1. In a pistol of the character defined, the combination comprising a barrel block having two superimposed bores for the support of two cartridges therein, a hammer unit pivotally movable relative to said barrel block about a first axis and toward and away from a striking position relative to such cartridges, a striker pivotally supported on said hammer unit for movement about a second axis parallel to and spaced from said first axis and between two firing positions at which such two cartridges are respectively and independently fired as said hammer unit is moved to its striking position, a ratchet supported in said hammer unit for rotation about a third axis parallel to and spaced from both said first and second axes and including a set of ratchet teeth and a cam engageable by said striker, and a fixed pawl engageable with one tooth of said ratchet to index said ratchet to a new index position relative to said hammer unit as said hammer unit is moved away from said striking position, said cam being so shaped that as said ratchet is moved to successive index positions by said pawl said cam alternately moves said striker between its two firing positions.

3,193,961
SINGLE TRIGGER MECHANISM
Domenico Linarello, Brooklyn, N.Y., assignor to Abercrombie & Fitch Company, New York, N.Y., a corporation of New York
Filed Dec. 27, 1963, Ser. No. 333,993
1 Claim. (Cl. 42—42)

In a double barrel gun, a single trigger mechanism comprising

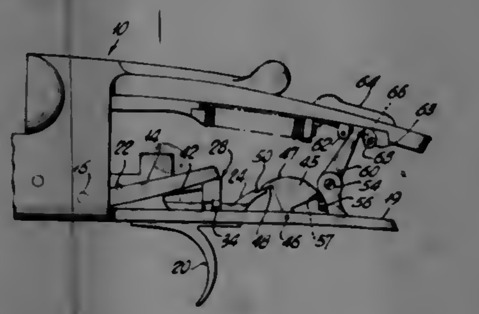
first and second sear bars,

a trigger bar pivotally mounted at one end of a base member and having a trigger thereon for actuating said mechanism, said trigger bar having an extension on the free end thereof,

a selector lever carried on said trigger bar for cooperating with one of said sear bars when said trigger is actuated a first time to fire one of said barrels,

means for urging said selector lever into a position to cooperate with the other of said sear bars when said trigger is released after firing said one barrel to enable firing the other of said barrels when said trigger is later actuated,

a movable member located adjacent said extension on the free end of said trigger bar for cooperation therewith, said movable member having an arcuate top surface opposite the point of pivotal support thereof, said movable member being pivotally mounted on an axis, said axis having a fixed relationship with respect to said base member, a lip on said movable member extending generally beyond the front portion thereof, said lip having a surface which comprises a portion of said arcuate surface,



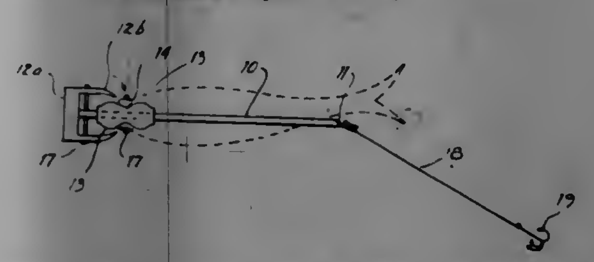
a spring for maintaining said movable member in a normal position,

said movable member being actuated against the force of said spring by the recoil action from the firing of said one barrel to a position where said lip engages the underside of said extension, to thereby prevent accidental firing of said other barrel immediately after the firing of said one barrel,

and a safety mechanism, said mechanism including said movable member, said spring, manual actuating means and a mechanical link between said movable member and said actuating means,

said movable member being in said normal position when said actuating means is in the OFF position, and said movable member being moved against the force of said spring into a position where said lip overlies said extension on said trigger bar when said actuating means is moved to the ON position, to thereby prevent firing of said barrels.

3,193,962
HERRING LEADER INSERTER
Reginald Simpson, 136 W. 3rd Ave., North Vancouver, British Columbia, Canada
Filed Feb. 13, 1964, Ser. No. 344,596
4 Claims. (Cl. 43—4)

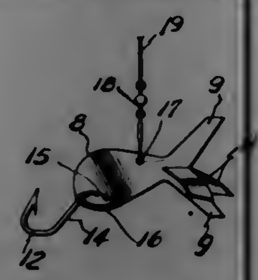


1. A device for inserting the leader of a fish hook through the body of a minnow comprising a piercer adapted to be inserted through the mouth of the minnow and out through the body, a tubular member slidably mounted on said piercer for insertion in the mouth of the minnow, means for clamping the mouth of the minnow and tubular member together, a hook at one end of said piercer for engaging the leader of the fish hook, a finger grip at the opposite end of said piercer for inserting and withdrawing said piercer and means for securing

the leader in fixed engagement with said tubular member after the leader is drawn through said tubular member upon withdrawal of said piercer.

3,193,963
ARTIFICIAL FISHING LURES

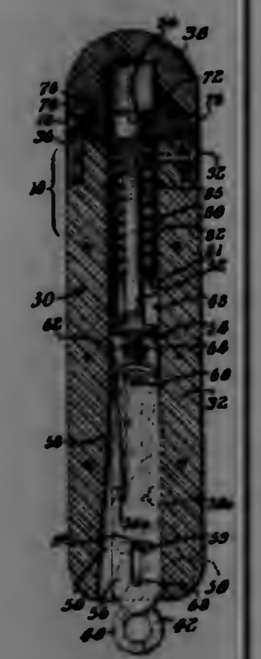
Donald G. Roedel, 303 S. Barclay St., Bay City, Mich.
Filed June 20, 1963, Ser. No. 289,293
1 Claim. (Cl. 43—42.39)



An artificial lure comprising; a body formed of a relatively thin longitudinally bowed stamping, the rear end of which terminates in a pair of vertical angularly disposed, diverging wing sections simulating a fish tail; a second pair of wing sections secured to and disposed horizontally on said body equidistant between said vertical wings; a fishhook secured to and projecting forwardly beyond the front end of the bowed body; means intermediate the ends of the body for attaching a fishline; and a weight on the front end of said stamping to both secure said hook and balance said lure on said line in edgewise horizontal position in the water.

3,193,964
OUTRIGGER FISHING LINE GUIDE

Tim Hurst, 1411 Hunting Park Ave., Philadelphia, Pa.
Filed Mar. 9, 1964, Ser. No. 350,216
8 Claims. (Cl. 43—43.12)

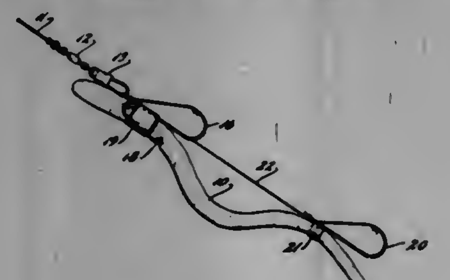


1. An outrigger fishing guide designed to release the fishing line when a predetermined tension is placed on the line, said guide comprising

- a body member and cap mounted on one end of the member for independent rotary movement thereon, said body member having a bore therein and tapered slots extending from the bore to the distal end of said member,
- a pair of hook members mounted for axial and partial radial movement in the bore and slots for movement to open and closed positions and having opposingly curved hooks located outside the distal end of the body member, said hooks supporting the fishing line therebetween when in the closed position, means uring the hooks apart to an open position when the hook members are pulled axially toward the distal end of the body member to free the line, and
- spring biased means mounted in the bore of the body member, said means being connected to the hook members at one end and threadedly engage in the cap to continually urge the hook members axially into the body members to maintain the hooks in closed position whereby upon rotating the cap relative the body member the tension on the hook members is selectively controlled.

3,193,965
FISHING WORM HARNESS

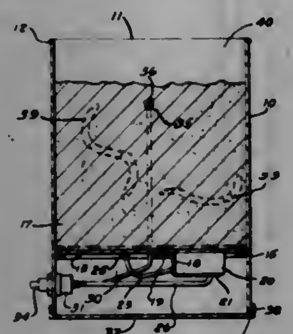
Ernst S. Jacobsen, 8200 S. Orange Blossom Trail, Orlando, Fla.
Filed Apr. 9, 1964, Ser. No. 358,423
2 Claims. (Cl. 43—44.4)



1. A harness for attachment to a fishing line for holding a fishing worm, said harness comprising an expandable and contractable spring clip having a pair of U-shaped wire members with a pair of legs spaced substantially corresponding to the diameter of a worm to be held and a second pair of legs in close proximity, a sleeve slideable onto said spring clip and into engagement with all four legs for contracting the same into contact with a worm, and a hook fixed to said spring clip.

3,193,966
BAIT CONTAINER

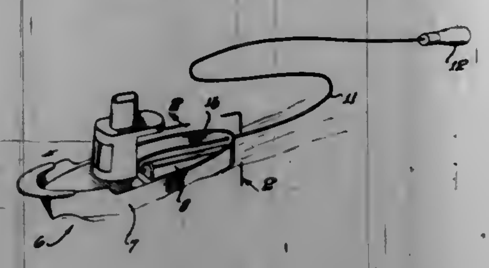
Joel N. Lawson, 2705 S. 52nd St., and Marvin M. Lawson, 1723 S. 23rd St., both of Kansas City, Kans.
Filed Dec. 20, 1963, Ser. No. 332,207
5 Claims. (Cl. 43—55)



1. A container for a body of electrically conductive material adapted for the embedment of live bait therein comprising a cylindrical metal body portion, a transverse metal wall mounted in said body portion between the ends thereof to divide said body portion into an upper chamber and a lower chamber, a compressible electrical insulating member U-shaped in cross section extending around and embracing the peripheral edge of said transverse wall clamped between said transverse wall and said cylindrical body portion to insulate said transverse wall and said body portion from each other, said upper chamber being adapted to contain said material for embedment of said bait, a source of low voltage direct current in said lower chamber and means for momentarily connecting the terminals of said source with said body portion and said transverse wall including switching means biased toward normally open position.

3,193,967
TOY BOAT PROPULSION MEANS

Jan Okonski, 1234 E. Borchard Ave., Santa Ana, Calif.
Filed June 20, 1962, Ser. No. 203,808
2 Claims. (Cl. 46—95)

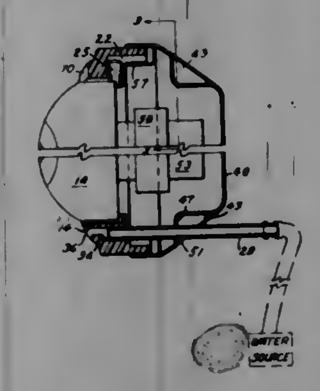


1. A toy boat adapted to float in the water, said boat comprising:

- a hull having a predetermined water line;
- means forming a rigid pump chamber in said boat;
- means forming a discharge port through which water in said pump chamber may be directed out thereof rearwardly with respect to said boat substantially parallel to said water line, said discharge port being located below said water line;
- means forming a flexible diaphragm chamber within said pump chamber forming means;
- hand operated means supplying varying pressure; and a long relatively flexible tube communicating with said diaphragm chamber the pressure of said last mentioned means, whereby operation of said varying pressure means from a point remote from said boat causes said diaphragm chamber to expand and contract causing water to be intermittently expelled from the pump chamber through said discharge port and said boat is propelled along the surface of the water.

3,193,968
TEAR DUCT DEVICE FOR SLEEPING DOLL EYE

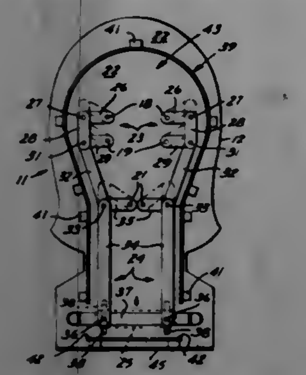
Harry Brudney, New York, N.Y., assignor, by mesne assignments, to Jacoby-Bender, Inc., Woodside, N.Y., a corporation of New York
Filed Apr. 4, 1962, Ser. No. 185,159
5 Claims. (Cl. 46—135)



2. A tearing doll eye comprising a front shell having an eye aperture and a bore longitudinally extending through said shell at the side of said eye aperture, and closely adjacent thereto, said bore having a widened opening at the exterior surface of said shell and having a restricted passageway through which liquid must pass before emerging from said opening, whereby passage of liquid is controlled to slowly form a drop of increasing size at said opening whereby the increased opening of said bore effects an area for forming a large tear drop while being fed liquid through said bore.

3,193,969
CONTROLLABLY CHANGEABLE-EXPRESSION FACE-SIMULATING DEVICE

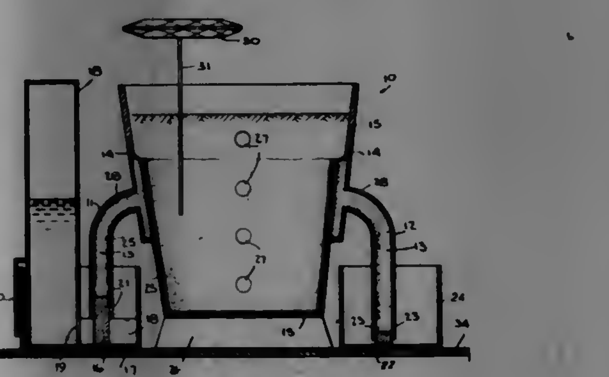
Alexander Rosenfeld, 3345 Blair Drive, Los Angeles, Calif.
Filed Aug. 12, 1963, Ser. No. 301,262
3 Claims. (Cl. 46—135)



1. A controllably changeable-expression face-simulating device, comprising: a face-simulating member simulating the frontal appearance of a face; a plurality of different spaced facial element-simulating members movably mounted in different vertically and horizontally spaced positions in front of a front surface of said face-simulating member corresponding in location to the location of similar real facial elements of a real face for mechanically coupled and correlated movement of each of said facial-element-simulating members in a facial expression-changing manner with respect to said face-simulating member; and operating means provided with coupling means effectively coupling said operating means with respect to all of said movably mounted facial element-simulating members for said mechanically coupled and correlated movement of each of said facial element-simulating members in response to movement of said coupling means and said operating means, said operating means and coupling means being positioned behind the face-simulating member and being provided with a frontally positioned and projecting manually graspable operating member positioned in a conveniently manually accessible location; said facial element-simulating members comprising a pair of laterally spaced normally substantially laterally horizontally directed members provided with rearwardly directed pivot pins extending through the face-simulating member to the rear surface thereof and there being connected to corresponding portions of said coupling means for pivotal rotation around said pivot pins, said pair of laterally spaced members simulating in appearance portions of the eye region of a face.

3,193,970
PLANT CONTAINER

Evert S. Green, 14 Kenneth Ave., Bellmore, N.Y.
Filed July 2, 1963, Ser. No. 292,786
7 Claims. (Cl. 47—38.1)



1. A plant container comprising:

- a soil and plant containing portion,
- a feed line having an upper end and a lower end; said upper end being in communication with said soil con-

taining portion, said feed line containing sand enabling water to flow by capillary means to said soil and plant containing portion from said lower end of said feed line,

a feed cap surrounding said lower end of said feed line, said cap containing sand in contact with the lower end of said feed line, said cap having a bonded sand layer along its inside and outside walls whereby a reservoir of water may be placed around said cap so that water will flow into said cap by capillary action and through said sand in said cap to said lower end of said feed line,

a drain line having an upper end and a lower end, said upper end being in communication with said soil containing portion at a position opposite from said feed line, said drain line containing sand enabling water to flow by capillary means from said soil and plant containing portion through said drain line to said lower end of said drain line, and

a drain cap surrounding said lower end of said feed line, said drain cap containing sand in contact with said lower end of said feed line, said drain cap having a bonded sand layer on its inside and outside walls whereby water may flow by capillary action from said lower end of said feed line through said sand in said drain cap and along said bonded sand layer on said feed cap to a receptacle outside of said drain cap, the rim of said drain cap being lower than the rim of said feed cap.

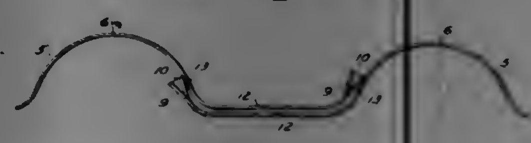
3,193,971

CONCRETE FORMS

James M. Galloway, Bethlehem, Pa., assignor, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware

Filed Apr. 20, 1961, Ser. No. 104,407

2 Claims. (Cl. 50—23[illegible])



1. A rectangular metal sheet having longitudinal corrugations parallel to a pair of opposite side edges, the outermost corrugation along each of said pair of side edges defining the terminal side portion of the sheet, each outermost corrugation having an upwardly and outwardly inclined outer side wall terminating as one of said side edges, a bottom wall extending transversely of said side edge as a continuation of the lower portion of the outer side wall to define the base of said respective outermost corrugation and an upwardly and inwardly inclined inner side wall extending as a continuation of said respective bottom wall and to a position at least above a plane containing said side edges, the terminal portion of each outer side wall defining said side edge being deformed alternately along the extent of said side edge and transversely inwardly and outwardly beyond projected continuations of the faces defining the portion of the respective outer side wall immediately below said deformed terminal portion for providing contiguous transverse venting and spacing corrugations, the transverse cross section of each of the outermost corrugations at that portion of said inner side wall in the vicinity of said plane being substantially constant along a straight path for substantially the length of the respective outermost corrugation and defining a surface of said inner side wall free of transverse corrugations, and the distance between the outermost surfaces of each of said outermost corrugations intersected by said plane being at least as large as the distance between the innermost surfaces of the other of said outermost corrugations intersected by said plane for providing venting space between the outer, inner and bottom walls when the outermost corrugations of adjacent sheets are nested.

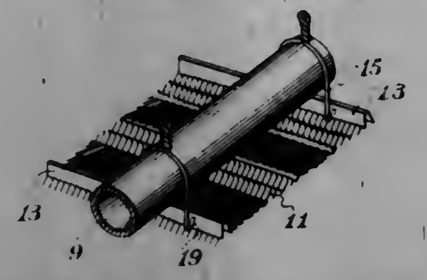
3,193,972

CONCRETE FLOORING

Kenneth J. Grove, 1020 E. 33rd Place, Tulsa, Okla.

Filed Mar. 20, 1961, Ser. No. 97,084

3 Claims. (Cl. 50—307)



1. Concrete flooring comprising a plurality of elongated horizontal parallel main support members, horizontal open-work metal lath spaced below the support members, a plurality of parallel ribs integral with and extending upwardly from the plane of the metal lath and disposed transversely of and bearing against the underside of the main support members, the ribs comprising downwardly opening channels, hangers supporting the metal lath from the main support members and maintaining the ribs in contact with the main support members, each hanger being a single piece of wire straddling a main support member and having a hook at each end that extends downwardly through the openings of the metal lath and hooks under an edge of a said rib and terminates upwardly within the channel of the rib, each hanger having an upwardly extending loop above the associated main support member that is twisted to tighten the ribs against the main support members, and a quantity of concrete resting on the metal lath and surrounding the main support members on all sides and surrounding the twisted loops, the gravel of the concrete being larger than the openings of the metal lath.

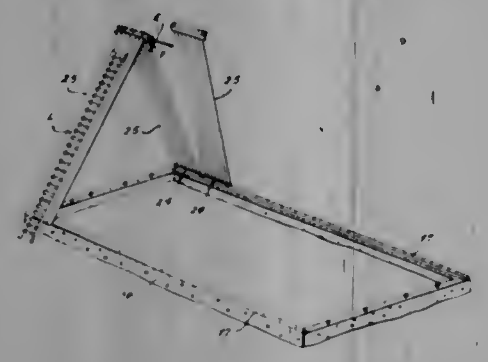
3,193,973

METHOD OF BUILDING ERECTION

Robert E. Lee and Junior William Reuscher, St. Louis County, Mo., and Richard A. Klinkman, New Baden, Ill., assignors to Granite City Steel Company, Granite City, Ill., a corporation of Delaware

Filed Feb. 24, 1961, Ser. No. 91,448

2 Claims. (Cl. 50—531)



1. A method of erecting the opposite side sheets for a slant-sided building structure which includes hingedly interconnecting the adjacent ends of a first pair of opposed, self-supporting side sheets, raising the hingedly connected ends of the first pair of side sheets into the position of use, temporarily attaching an elongated erection member to the hingedly interconnected adjacent ends of the first pair of side sheets such that the erection member projects outwardly in space with a portion of its length free, utilizing the self-supporting character of the first pair of side sheets and the free length of the erection member to support the next pair of opposed, self-supporting side sheets, placing the said next pair of side sheets with raised ends supported on the erection member and interconnecting such raised ends to fix the same in position of use, and progressively moving the elongated erection member to a new temporary attachment at the interconnected ends of the last raised set of opposed side sheets until the slant-sided building structure is complete.

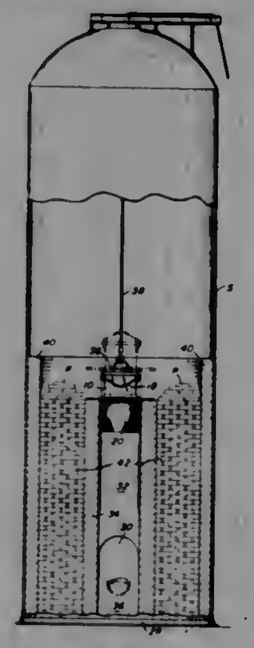
3,193,974

METHOD OF BUILDING TUBULAR MASONRY CONSTRUCTION

Guy A. Nelson, Valparaiso, and Casimer J. Kosiecki, East Gary, Ind., assignors to United States Steel Corporation, a corporation of New Jersey

Filed Apr. 17, 1962, Ser. No. 188,126

1 Claim. (Cl. 50—536)



A method of building a blast-furnace stove comprising the steps of first laying up a substantially annular inner wall up to a first predetermined level forming a tubular chamber defined by said inner wall, then laying up to said first predetermined level an outer wall spaced from and concentric with said inner wall, then filling the space between said inner and outer walls with checker brick, then supporting on top of said inner wall a platform having a center opening therethrough and an upstanding wall surrounding said center opening and a depending open end tubular form fitting inside said chamber defined by said inner wall, then hoisting brick through said form and said platform, then laying up said outer wall to a second predetermined level, then raising said platform above said first predetermined level a distance less than the height of said tubular form, then suspending said platform in said raised position, then laying up said inner wall around said form to a level short of said platform and above said first predetermined level, then lowering said platform to rest on top of said inner wall, and then laying checker brick up to said second predetermined level in the space between said walls.

3,193,975

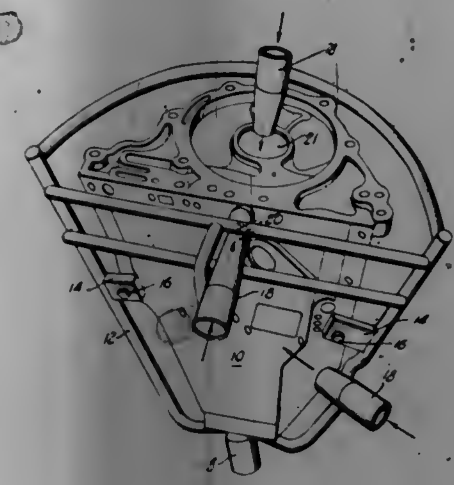
SPOT BLAST APPARATUS

Robert G. Millhiser, 440 Marquette Drive, Detroit 14, Mich.

Filed May 1, 1961, Ser. No. 106,931

2 Claims. (Cl. 51—8)

1. A jig for use in surface treatment of manufactured parts by liquid blasting which comprises a frame adapted to fit around said part, fingers secured to and extending inwardly from said frame adapted to be secured to said part to hold said frame in fixed precise relation thereto, and blast guides on said frame having an open cylindrical inlet tube portion and a conical funnel outlet portion for gathering at least a portion of a blast and directing it through the funnel portion in a concentrated blast, said funnel portion forming an acute angle with the internal axis of said blast guide.



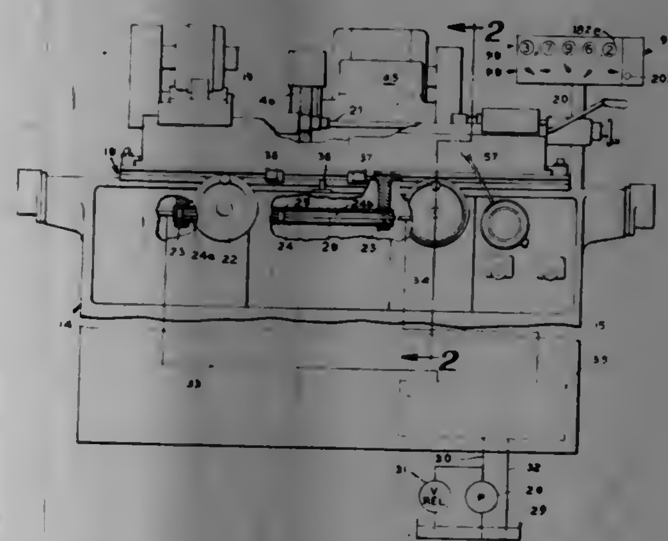
3,193,976

MACHINE TOOL FEED SYSTEM

Harry E. Luebkemann, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed July 23, 1962, Ser. No. 211,605

8 Claims. (Cl. 51—165)



1. In a grinding machine, the combination comprising:

(a) a wheelhead having a nut therein,

(b) a feed screw threadedly received in said nut,

(c) a reversible feed motor connected to the feed screw to move the screw axially without rotation through a predetermined feed cycle,

(d) a two speed handwheel operable to effect fast and slow relative rotation between the feed screw and the nut for movement of the wheelhead on the screw.

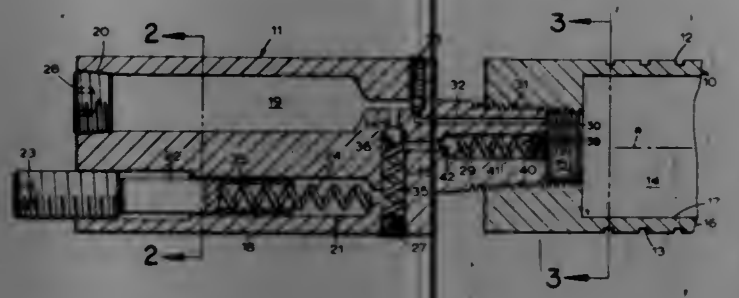
(e) a readout unit settable to a workpiece size indicating reading corresponding to any given position of the wheelhead on the screw.

(f) a pulse generator operable in response to relative rotation between the nut and screw to produce pulses proportional in quantity to the extent of movement of the wheelhead on the screw and indicative of the direction of said movement,

(g) a reversible electronic counter operable in response to pulses produced by the pulse generator to change said reading as the wheelhead is moved from a given position on the screw in accordance with the direction and extent of wheelhead movement on the screw.

3,193,977
EXPANDABLE TOOL WITH FLUID PRESSURE APPLICATOR

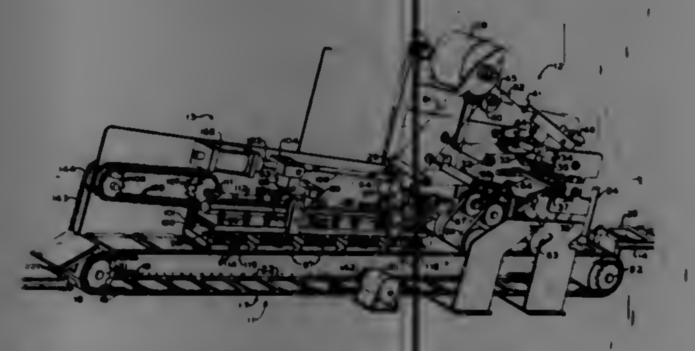
Henry N. Martin, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed May 31, 1963, Ser. No. 284,422
2 Claims. (Cl. 51—397)



1. A self contained tool comprising:
(a) a tool bar having an internal fluid chamber extending substantially the length of the tool bar, said chamber having an opening at one end of the tool bar. said tool bar having a continuous external operating surface expandable in response to a change in pressure in the chamber to change the effective size of the tool bar, and
(b) a pressure applicator connected to the tool bar at said opening and having a chamber to receive hydraulic fluid, said applicator having a piston to apply pressure through fluid in the applicator to fluid in the fluid chamber of the tool bar.

3,193,978
HEAT SEALING THERMOPLASTIC PACKAGES

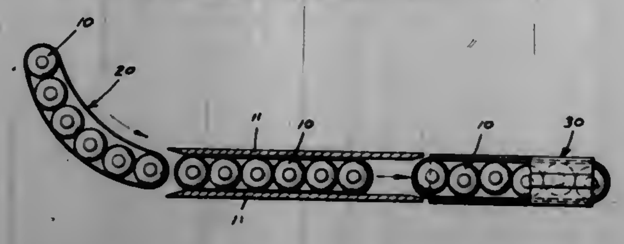
Julius Bader, Mountainside, N.J., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 22, 1962, Ser. No. 167,685
10 Claims. (Cl. 53—14)



4. A method for sealing packages which comprises:
passing a file of packages to be sealed through a sealing zone;
passing a cover sheet continuously through a cover preparing zone;
in said cover preparing zone rotating a knife to form a pair of closely spaced, longitudinal slits in said sheet at regular longitudinally spaced intervals;
heating a tear strip and applying said strip to said sheet longitudinally thereof extending between said pairs of slits;
cutting said sheet and said applied tear strip at said pairs of slits thereby forming individual package covers each having a tear strip and a starting tab formed by said slits; and
applying said covers to said packages and sealing thereto.

3,193,979
METHOD FOR PACKAGING GENERALLY CYLINDRICAL ARTICLES

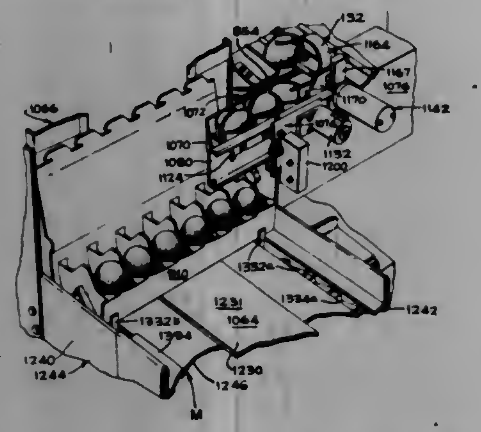
Franz Dollheimer, Valdosta, Ga., assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed July 5, 1961, Ser. No. 121,891
1 Claim. (Cl. 53—27)



A method of packaging at least three generally cylindrical articles, which comprises, moving said articles in contiguous relationship along a continuous path having a first arcuate section and a second straight section, transversely encircling said articles with an endless band while they are disposed in said arcuate section, said band being tensioned as said articles are moved into said straight section, and moving said articles from said straight section and simultaneously telescoping a closely fitting tubular member about said articles to thereby maintain them in a straight line formation.

3,193,980
ARTICLE TRANSFER MECHANISM

Harold J. Mumma, Riverside, Calif., assignor to FMC Corporation, San Jose, Calif., a corporation of Delaware
Original application June 1, 1953, Ser. No. 358,621, now Patent No. 2,993,592, dated July 25, 1961. Divided and this application July 13, 1961, Ser. No. 123,724
15 Claims. (Cl. 53—55)

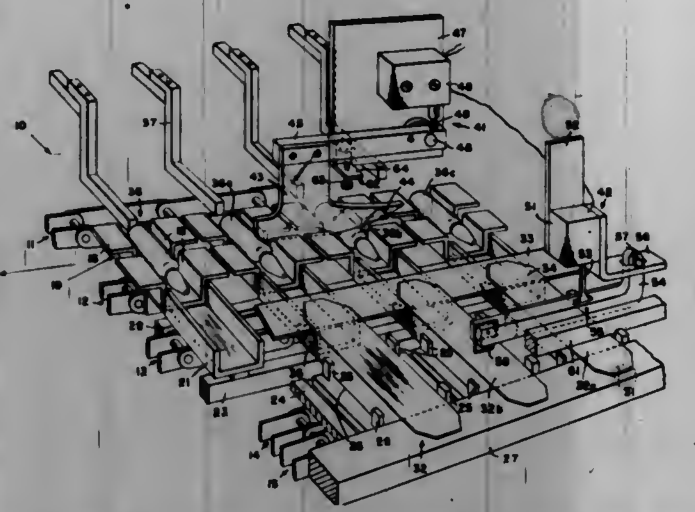


1. An egg transfer mechanism for depositing eggs into containers comprising a carriage having a row of egg receiving pockets, means mounting said carriage for movement from an egg receiving position adjacent a supply line to a discharging position above the upper end of a container, means operable upon deposit of eggs into all the pockets of the carriage to move the carriage to said discharging position, and means operable upon discharge of the eggs from said carriage to effect return movement of the carriage to said receiving position.

3,193,981
CARTON LOADING MECHANISM

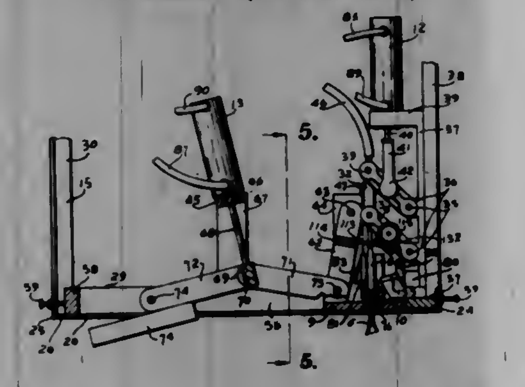
Alten E. Whitecar, Westville, N.J., assignor to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 8, 1962, Ser. No. 228,925
3 Claims. (Cl. 53—65)

1. In combination with packaging mechanism having conveyor means having receptacles for receiving and guiding articles to be placed in cartons, and members for receiving cartons aligned with said receptacles, the improvement comprising means for sensing the absence of an article in any receptacle, and means operatively connected to said sensing means for the mutilation of cartons aligned with empty receptacles, said sensing means comprising a sensing member mounted for downward and upward movement in response to the absence and presence respectively of articles in the receptacles and an electrical switch, said movement operating said switch, and the means for the mutilation of cartons comprising a solenoid electrically connected to said switch for operation thereby, a knife and means for connecting said knife to said solenoid for the downward and upward movement of said knife in and out respectively of the path of the cartons.



3,193,982
APPARATUS FOR EVACUATING AND SEALING BAGS

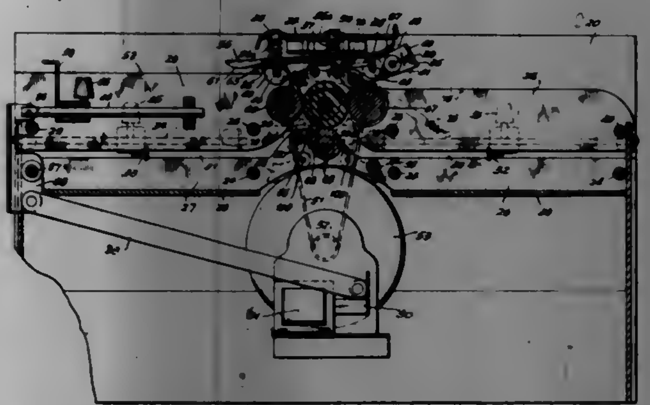
Leonard E. Herzmark, Johnson County, Kans., and Edgar M. Lieberman, Jackson County, Mo., assignors to Dura-Lee Corporation, Kansas City, Kans., a corporation of Missouri
Filed Apr. 12, 1961, Ser. No. 102,569
11 Claims. (Cl. 53—112)



1. A suction system for operating bag evacuating and heat sealing apparatus having sealing jaws and an evacuating nozzle to remove air from an article containing bag before sealing comprising, an evacuating nozzle adapted to extend through an unsealed margin of a bag, means supporting said nozzle for movement between an evacuating position and a sealing position, sealing jaws, means movably supporting said sealing jaws for movement from a spaced relation to a sealing position wherein said jaws engage a bag therebetween adjacent to and spaced from the nozzle when said nozzle is in sealing position, suction power mechanism operatively connected with said nozzle supporting means and said jaw supporting means for effecting movement of same, a suction source connected with the evacuating nozzle and with said suction power mechanism for actuating said suction power mechanism to effect a subatmospheric pressure therein to move the nozzle supporting means and bag to sealing position only when an unsealed margin of a bag is sleeved over the evacuating nozzle and engaged therewith and said bag collapsed in response to evacuation thereof terminating a source of air to the nozzle and thereafter to move jaw supporting means and sealing jaws to sealing position, and cooperating means on the nozzle supporting means and jaw supporting means for retaining the sealing jaws in open position until the nozzle is moved.

3,193,983
FOLDER-INSERTER

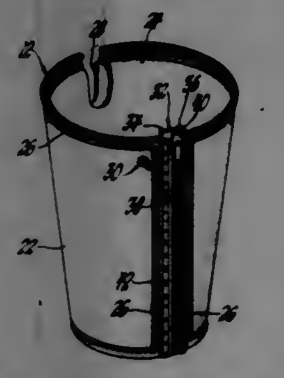
Rogers A. Wells, Stamford, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed July 3, 1962, Ser. No. 207,327
11 Claims. (Cl. 53—117)



6. A machine of the character described comprising:
means for feeding an envelope closed edge foremost with the flap uppermost to a predetermined position of rest;
means, including mechanism for producing at least one transverse fold in the insert material, for advancing insert material from a receiving position to a delivering position in which the material is injected into the throat of the envelope;
means for moving the envelope closed edge trailing to an insert-receiving position from said position of rest;
and stationary camming means engaged by the envelope in moving to said insert-receiving position for maintaining the lower edge of the throat of the envelope in depressed position out of the path of the advancing insert material.

3,193,984
INFLATABLE LEG WRAP

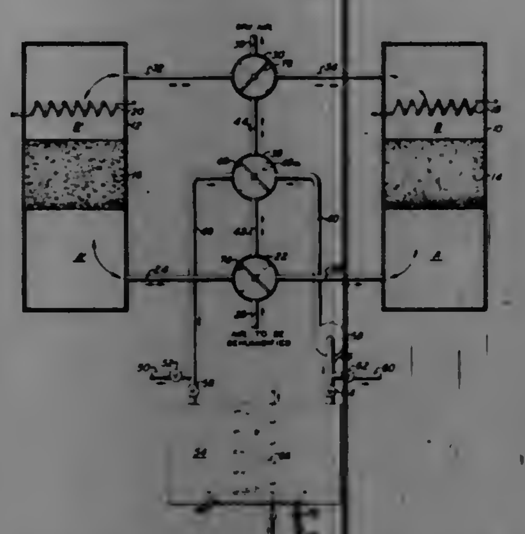
Donald A. Schubert, 420 E. Frank, Birmingham, Mich.
Filed Nov. 4, 1963, Ser. No. 321,102
11 Claims. (Cl. 54—82)



1. A wrap for a load bearing limb of an animal, said limb having tendons connected to bones by tissue, and said wrap comprising:
a first ply of flexible elastic air impervious material;
a second ply of flexible elastic air impervious material joined about its periphery to said first ply to provide an elastic air chamber;
air inflation means in one of said plies and communicating with said chamber;
and means for connecting opposite edges of said wrap around said limb to hold said tendons against said bones resist tearing and separation of said tissues and accumulation of body fluids released thereby.

3,193,985
METHOD AND APPARATUS FOR DEHUMIDIFICATION OF GASES

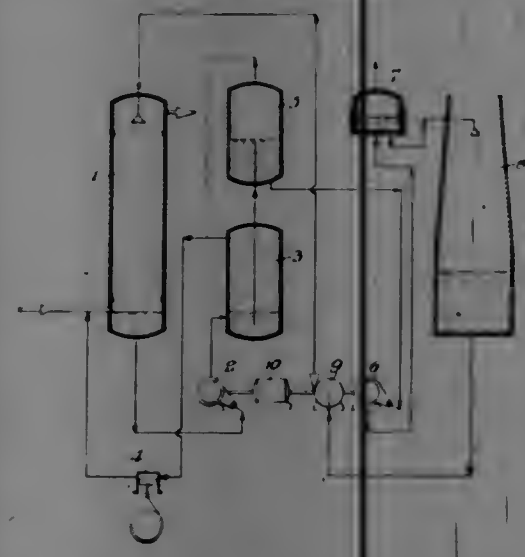
Gert K. A. Siggelin, Falls Church, Va., assignor, by mesne assignments, to Atlantic Research Corporation, a corporation of Virginia
Filed July 11, 1960, Ser. No. 43,268
5 Claims. (Cl. 55—33)



1. The method of regenerating a bed of granular adsorbent material having vapors adsorbed therein by passage of vapor laden gas through the bed, the vapor laden gas normally entering the bed from a first side of the bed and the dried gas leaving from a second opposite side, opposite to said first side, comprising first passing hot moisture containing regenerating gas in a direction reversed with respect to said normal direction of gas passage through said bed in vapor adsorption, the hot regenerating gas entering the said second side and leaving from the said first side in passage through said bed, and then cooling the hot regenerated bed by passing a relatively colder gas containing relatively more moisture than the gas directly passed through said adsorption material in the said normal vapor adsorption direction, the relatively colder regenerating gas entering from the said first side and leaving from the said second side of said bed.

3,193,986
PROCESS FOR THE RECOVERY OF CO_2 OF VERY HIGH PURITY

Fritz Förster, Dortmund, Germany, assignor to Friedrich Uhde G.m.b.H., Dortmund, Germany, a corporation of Germany
Filed Apr. 12, 1961, Ser. No. 102,469
Claims priority, application Germany, Apr. 14, 1960, U 7,070
3 Claims. (Cl. 55—43)



1. A process for the recovery of CO_2 of very high purity, which comprises scrubbing in a scrubbing stage a physical gas containing CO_2 under a pressure of 5–100 atmospheres with a counter-current stream of a scrubbing liquid selected from the group consisting of water and a mixture of water and a chemical which increases the absorptive power, flashing the scrubbing liquid in a first power recovery turbine to a pressure amounting to 20–80% of the pressure prevailing in the scrubbing stage, conducting the scrubbing liquid to a separator stage, separating flash gas from the scrubbing liquid in said separator stage, discharging the flash gas from the separator stage, transferring the scrubbing liquid to at least one intermediate flashing stage positioned above and connected with said separator stage, said intermediate flashing stage being maintained at a pressure differential of from 0.3 to 3 atmospheres below the pressure in said separator stage by the difference of the static liquid head between the separator stage and the flashing stage whereby the scrubbing liquid is transferred to the flashing stage solely by said pressure differential, separating gas from the scrubbing liquid in said intermediate flash stage, discharging the gas from the intermediate flashing stage, transferring the scrubbing liquid to a second power recovery turbine in which the scrubbing liquid is further flashed, conducting the scrubbing liquid to a degasification tank wherein the CO_2 of very high purity is removed, conducting the scrubbing liquid to a degasification tower in which the liquid is freed from the balance of the absorbed gas, and returning the scrubbing liquid to the scrubbing stage by means of a pump, said pump being powered by said first and second power recovery turbines.

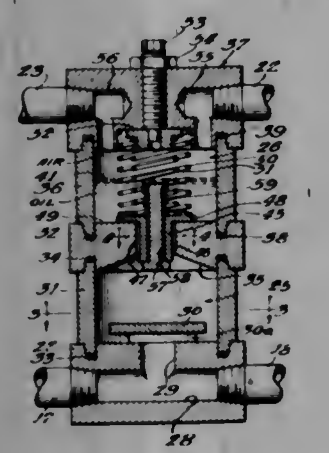
3,193,987
MERCURY VAPOR REMOVAL

Milton Manes, Pittsburgh, and Richard J. Grant, McKees Rocks, Pa., assignors to Pittsburgh Activated Carbon Company, a corporation of Pennsylvania
No Drawing. Filed Feb. 23, 1962, Ser. No. 175,348
8 Claims. (Cl. 55—72)

1. A process of removing mercury from a gas contaminated with the same comprising passing the gas over activated carbon impregnated with a metal which forms an amalgam with mercury.

3,193,988
DEVICE FOR REMOVING A GAS FROM A LIQUID

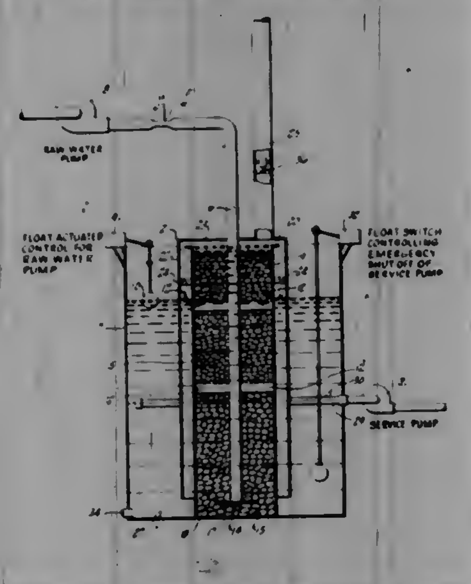
Walter J. Kudlaty, Elmhurst, Ill., assignor to Flick-Reedy Corporation, a corporation of Illinois
Filed Jan. 8, 1962, Ser. No. 164,798
5 Claims. (Cl. 55—160)



1. A device for purging air from hydraulic liquid in a system having means causing air to come out of solution in the hydraulic liquid, comprising: an air-oil tank unit having a lower chamber for connection with the system to receive hydraulic liquid therein, said tank unit having an upper chamber above the lower chamber with means providing a single passage for communication between the chambers and valve means in such passage connecting the chambers, said valve means being mounted respectively at a high area in the lower chamber and a low area in the upper chamber, said valve means having a valve closure resiliently urged closed against pressure in the lower chamber, said valve closure forming the sole gas outlet and being responsive to pressure in the lower chamber in excess of said resilient urge to pass air and liquid from the lower chamber into the upper chamber, said upper chamber having means for passage of the air therefrom, said valve means carrying a member responsive to suction in the lower chamber for passing only liquid into the lower chamber from the upper chamber.

3,193,989
AERATING WATER TREATMENT APPARATUS

Flavius J. Sebeste, Milwaukee, Wis., assignor to Bruner Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Feb. 23, 1962, Ser. No. 175,884
6 Claims. (Cl. 55—164)

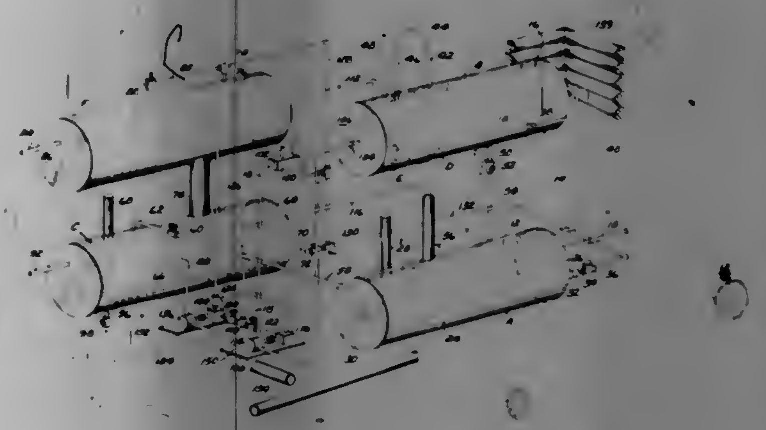


6. Apparatus for removing gas from water comprising:
- (A) an upright vessel having a closed bottom, an inlet near its bottom and an outlet spaced a substantial distance above the inlet;
- (B) a bed of granular material in the vessel extending upwardly a substantial distance from the inlet, so that water flowing upwardly through the vessel from the inlet to the outlet must pass through said bed to be agitated thereby;
- (C) an open-topped retention tank having an outlet near its bottom but spaced thereabove, said retention tank being adapted to hold a quantity of water which may be withdrawn through said outlet and being so located beneath the vessel outlet that water issuing from the vessel outlet can cascade into the retention tank;
- (D) a hood covering the upper portion of the vessel in spaced relation thereto and encompassing the vessel outlet for collecting gas released from cascading water, said hood having a side wall which extends down into the retention tank to be immersed in water therein to cooperate with the water in providing a seal for the hood; and
- (E) means for drawing gas from under the hood to create a subatmospheric pressurse therebeneath.

3,193,990
OIL TREATING APPARATUS FOR SEPARATING OIL, GAS AND WATER

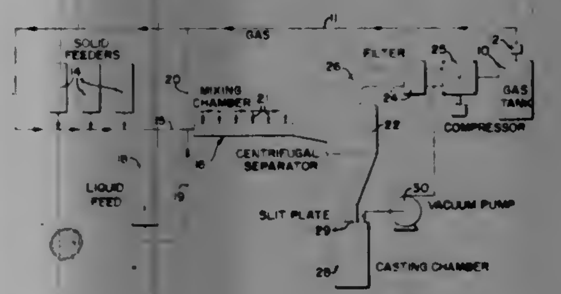
James Bernard Smith, 209 S. Church, Aztec, N. Mex.
Filed Aug. 4, 1961, Ser. No. 129,321
9 Claims. (Cl. 55—175)

7. An apparatus for so separating gas and water from a stream of fluid under pressure that substantially all of said gas may be utilized, comprising: first and second closed vessels; first means for discharging said fluid stream into said second vessel as a spray; second means for permitting discharge of gas from said second vessel at a rate sufficiently rapid that the pressure in said second vessel is lower than the pressure on said fluid stream as it enters said second vessel to cause said gas in said stream to expand and tend to separate therefrom; third gas-operated heater means capable of heating at least a portion of said fluid stream prior to discharge thereof into said second vessel to prevent freezing of said fluid stream as said gas expands in said second vessel and for heating said fluid as it discharges into said first vessel as hereinafter recited to a temperature at which optimum separation of gas from said fluid occurs; fourth means for discharging said fluid from said second vessel into said first vessel; and fifth means for permitting gas to discharge from said first vessel at a sufficiently rapid rate that a first pressure is maintained in said first vessel that is lower than said pressure in said second vessel to permit additional gas to be separated from said fluid while in said first vessel, with said fifth means supplying gas to said third means.



3,193,991
CONTINUOUS MIXING APPARATUS

Joe L. Browning and Albert J. Colli, Indian Head, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 25, 1963, Ser. No. 311,597
11 Claims. (Cl. 55—185)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An apparatus for continuously mixing liquids with pneumatically-conveyed, particulate solids comprising a porous tube,
- means for injecting in one end of said tube a stream of gas having particulate solids entrained therein,
- means disposed in said one end of said tube for introducing liquid into said gas stream,
- and means including a manifold surrounding said tube for applying pressurized gas to the exterior of said tube whereby turbulent flow within said tube is produced by gas flowing into said tube through the pores thereof.

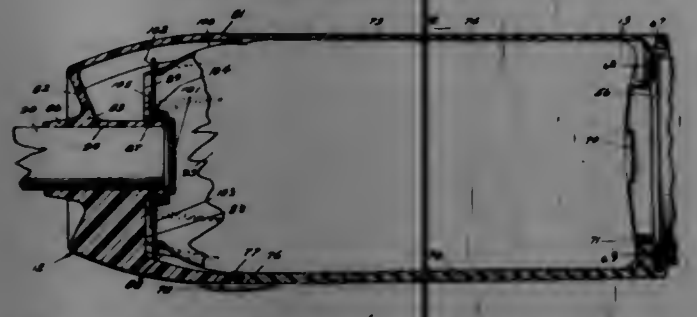
3,193,992

UPRIGHT VACUUM CLEANER

Samuel A. Findley and Robert B. Meyer, Bronson, Mich., assignors to Kingston Products Corporation, Kokomo, Ind., a corporation of Indiana

Filed Dec. 20, 1962, Ser. No. 246,041

3 Claims. (Cl. 55—367)



1. In an upright vacuum cleaner, a casing having an inlet end assembly comprising a cup-shaped member made of plastic and having a thin peripheral wall tapering towards one end,

said one end having a generally cylindrical inlet tube extending axially therethrough concentrically inwardly of said wall,

and plural circumferentially spaced ribs extending radially inwardly from said peripheral wall and engaging said inlet tube,

each rib on the side facing the other end of said inlet end assembly including a radially extending portion axially inwardly of one end of said tube and together with one another forming spaced parts on a common radial plane,

and a collar on said one end of said tube forming a radially outwardly extending circumferentially continuous annular shoulder spaced axially from said plane, thereby to form an annular recess inwardly of the end of said inlet tube,

and a dirt-separating bag having elastic sheet form means forming an inlet opening of lesser diameter than said shoulder,

and a stiff disk carrying said elastic sheet form means and sized to conform to the shape prescribed by said plane, and having an opening larger than said annular shoulder,

said elastic sheet form means snapping on said collar into said recess when said disk is engaged against said ribs.

3,193,993

AIR INLET FILTER FOR A PARENTERAL SOLUTION CONTAINER

Raymond W. Barton, Evansville, Ind., Hermann Heckel, Oxford, Ohio, and Paul Prickett and Edward G. Swenson, Evansville, Ind., assignors, by meme assignments, to Don Baxter, Inc., Glendale, Calif., a corporation of Nevada

Original application Oct. 14, 1960, Ser. No. 62,585, now Patent No. 3,161,310, dated Dec. 15, 1964. Divided and this application Feb. 1, 1963, Ser. No. 261,926

3 Claims. (Cl. 55—385)

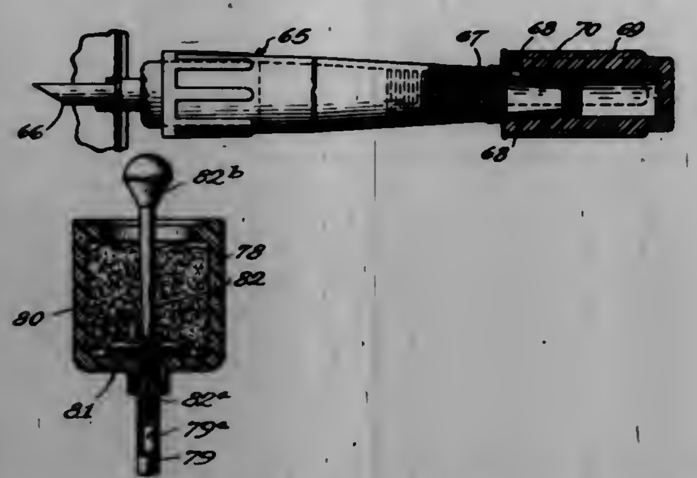
1. An air filter apparatus for administering air into a parenteral liquid container, which air filter apparatus comprises:

an elongated body with a passage between a first partially closed end and a second closed end thereof;

a cannula extending from and connected to the first partially closed end of said elongated body, which cannula has a bore communicating with the passage of the elongated body;

an air permeable filter sealed in and blocking off said open passage of the elongated body at a point remote from the first end;

said elongated body having an air inlet opening in a wall thereof between the air permeable filter and the second closed end, whereby air entering said air inlet opening passes through said air permeable filter prior to entering the bore of said cannula; and



a manually removable cover over the closed end and the air inlet opening and sealingly engaging over said air inlet opening.

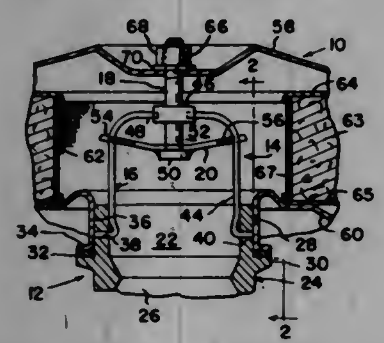
3,193,994

SELF-TIGHTENING AIRCLEANER ATTACHING DEVICE

George W. Buike, Detroit, Mich., assignor to Holley Carburetor Company, Warren, Mich., a corporation of Michigan

Filed Aug. 14, 1961, Ser. No. 131,158

6 Claims. (Cl. 55—507)



1. A carburetor air horn defining air induction passage with an open end having opposite and aligned transverse passage therein, an aircleaner mounted on said carburetor air horn over said air induction passage and aircleaner mounting apparatus positioned in non-obstructing relation to said air induction passage for securing said aircleaner to said carburetor air horn comprising a form substaining, resilient hold-down bracket including an annular bushing, a pair of resilient bail portions each rigidly secured to the annular bushing at one end, having first portions extending from the annular bushing in opposite directions, arcuate transitional portions and portions extending at right angles to said first portions in the same direction and terminating in end portions extending in opposite directions parallel to said first portions and offset therefrom, the terminal portions of said bails extending within the aligned passages in the air induction passage with the bushing supported above the air induction passage, and aircleaner mounting stud having headed and threaded ends, the threaded end of which extends through the bushing and the aircleaner outwardly of the bracket, a nut threadedly engaged with said stud and operable between the stud and aircleaner for urging the aircleaner toward the air horn and a wedge comprising a substantially flat member extending transversely of said stud having an opening therethrough through which the stud extends and having opposite ends which are engageable with the transitional portions of the bail portions of the bracket in response to tightening of the nut on the stud to bias the terminal portions of said bails into the aligned passages.

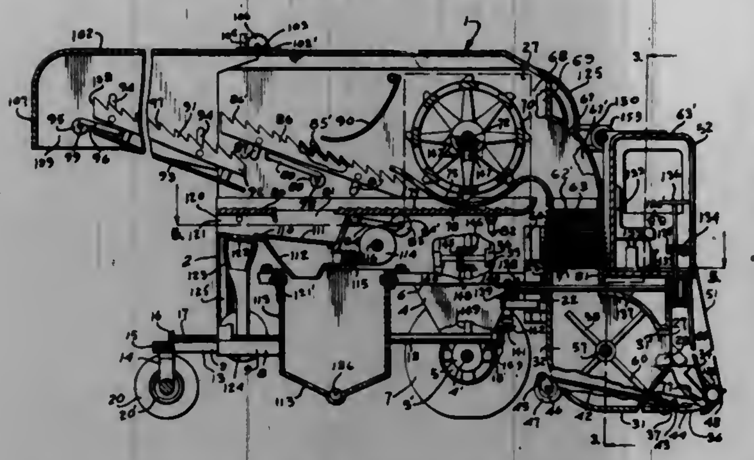
3,193,995

COMBINE

Larkin J. Miller, P.O. Box 365, King City, Mo.

Filed Apr. 12, 1961, Ser. No. 102,476

1 Claim. (Cl. 56—21)



In combination with a grain head harvester-thresher combine having a mobile frame with a forward portion and a rear portion and an engine supported on said frame for propelling and operating said combine; walls supported on said frame and forming an enclosure situated near said forward portion, said enclosure having a forwardly open grain head receiving mouth with a lower portion, a forwardly and transversely extending platform communicating with said mouth at said lower portion having a leading edge, a sickle bar cutter secured adjacent the leading edge of said platform and operably connected to said engine for severing grain heads as said combine moves through a field, a blower pipe, means for supporting said blower pipe on said combine and spaced upwardly and forwardly of said sickle bar cutter permitting grain heads to freely enter therebetween, and means driven by said engine for supplying air to said blower pipe, said blower pipe having means thereon for directing air downwardly and rearwardly toward said cutter whereby standing grain heads are blown rearwardly over said platform prior to cutting, said blower pipe supporting means being pivotally mounted on said combine and adapted to selectively pivotally support said blower pipe in an operating position and a sickle bar adjacent position, said blower pipe having a lip thereon for covering said sickle bar in said latter position for selectively deflecting weeds from said sickle bar.

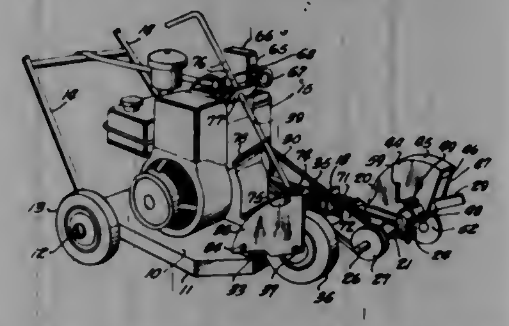
3,193,996

LAWN EDGER AND TRIMMER

Howell H. Wellborn, 3911 Highgrove Drive, Dallas, Tex.

Filed July 12, 1963, Ser. No. 294,483

1 Claim. (Cl. 56—25.4)



In a power driven lawn trimmer and edger having a wheeled base and a motor on said base having a driven pulley, a rotary cutter assembly, a first shaft rotatably supported along and parallel to one side of said base and a bearing sleeve secured to the forward end of said shaft and transversely thereof, the improvements comprising, in combination, a second shaft journalled in said sleeve and having a cutter blade attached to one end, a V-pulley on the opposite end of said second shaft and a V-belt connecting said pulley with the pulley on said motor, a guard having spaced parallel walls providing a housing for said cutter blade and capable of rotative adjustment on said sleeve, an angular bracket detachably secured to one wall of said guard and capable of being secured to the opposite wall thereof, the said bracket being vertically adjustable and having a bolt on its free end, and a flanged guide roller mounted on said bolt for controlling the depth of cut of said blade, means for partially rotating said first shaft whereby to change the plane of rotation of said blade, a vertically adjustable porting wheel mounted for supporting said blade and said roller in inoperative position, an arcuate fender guard on said porting wheel, on the front of said frame and a lever attached at one end to said fender guard for raising said porting wheel to fixed adjusted position whereby said cutter blade is supported at adjusted cutting depths by said guide roller.

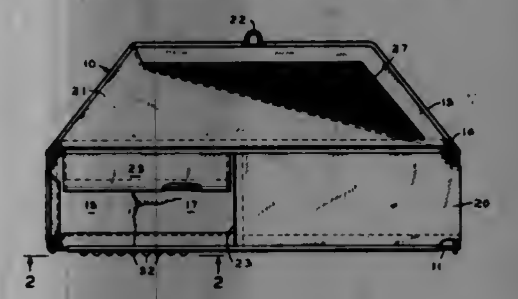
3,193,997

GRASS CATCHER

Stanley F. Allina, St. Louis, Mo., assignor to The Perfection Manufacturing Company, St. Louis, Mo., a corporation of Missouri

Filed Feb. 11, 1963, Ser. No. 257,435

8 Claims. (Cl. 56—202)



1. A grass catcher comprising:

(a) a container having a bottom wall,

(b) said bottom wall being provided with ports disposed so that air with grass clippings from the air discharge opening of a lawn mower passes over such ports, and

(c) guide means on the bottom wall adjacent said ports for directing air below the bottom wall into and through said ports, such air lifting the grass clippings above the bottom wall upon passing over said ports.

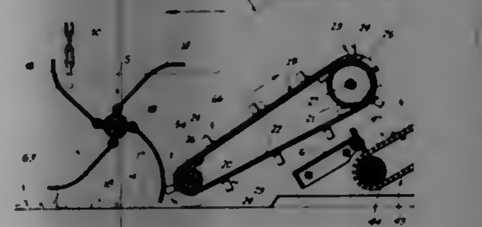
3,193,998

PICK-UP UNIT FOR NUT HARVESTING

Ilo C. Fredriks, Rte. 1, Box 302, Ripon, Calif.

Filed July 29, 1963, Ser. No. 298,082

6 Claims. (Cl. 56—328)

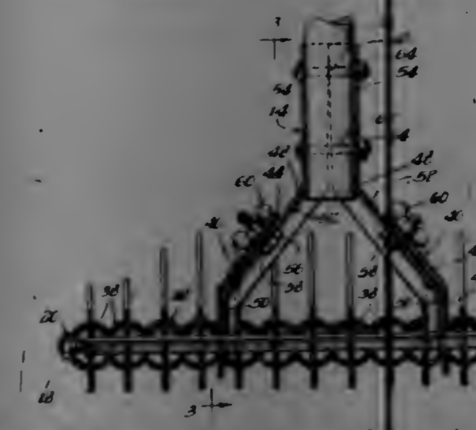


6. A pick-up unit, for nuts or the like, comprising a body adapted for travel along the ground and including a conveyor having an endless belt with an upper run adapted to move in a rearward direction and projecting upwardly and rearwardly from adjacent ground level, and cross cleats projecting from the outer face of the belt at spaced intervals; a rotary sweep mounted ahead of the conveyor, the sweep including a plurality of spaced radiating vanes adapted to engage the ground as the sweep rotates, and means to drive the conveyor and sweep in opposite directions and in coordinated relation so that each cleat and a vane will contact each other as they

start to move upwardly whereby to confine a cluster of swept-up nuts between the vane and belt ahead of said cleat.

3,193,999
HAND RAKE

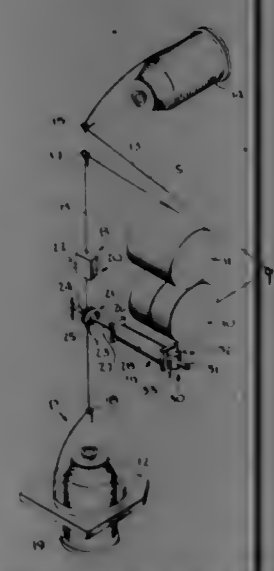
Philip K. Hester, 700 Seahorn St., Gurdon, Ark.
Filed July 16, 1963, Ser. No. 295,378
4 Claims. (Cl. 56—400.16)



1. A self-cleaning rake comprising, in combination, an elongated shaft of non-circular cross-section; a plurality of tines each having a curved outer edge and a non-circular aperture whose configuration and dimensions closely approximate said cross-section of said shaft, said shaft passing through each of said apertures in said tines to non-rotatably mount said tines on said shaft; at least one adjustment plate having a non-circular aperture whose configuration and dimensions closely approximate said cross-section of said shaft, said shaft passing through said non-circular aperture in said adjustment plate to non-rotatably mount it on said shaft between a pair of said tines; at least one connecting bracket having a circular aperture, the diameter of which closely approximates the largest dimension of said shaft, said shaft passing through said aperture of said connecting bracket to rotatably mount it on said shaft closely adjacent said adjustment plate; means for releasably securing said connecting bracket to said adjustment plate in a plurality of selected positions; and a handle having one end fixed to said connecting bracket.

3,194,000
APPARATUS AND METHOD FOR BULKING YARN

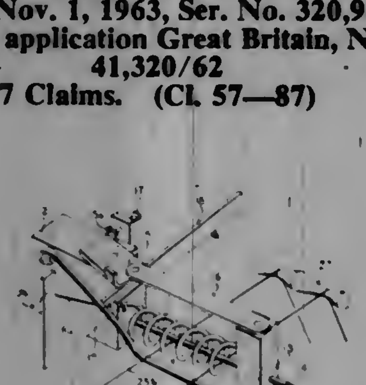
Clare W. Eldridge and Charles W. Long, Rock Hill, S.C., assignors to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
Filed Feb. 2, 1960, Ser. No. 6,129
21 Claims. (Cl. 57—34)



20. The combination of a downtwister for transferring synthetic filament yarn having a basis of organic ester of cellulose from a supply spool to a take-up spool, with saponifying means for subjecting said yarn intermittently to a saponification, with voluminizing means for subjecting said yarn intermittently to a voluminizing operation, with programming means of intermittently different physical structure, with means for sensing the physical structure variations of said programming means, and with means for alternatingly and successively actuating and deactuating said saponifying means and said voluminizing means in accordance with the sensed physical structure variations of said programming means, whereby the receptiveness of said yarn to normal acetate dyes and the voluminosity of said yarn are intermittently changed, said downtwister comprising feed roll means for drawing said yarn from said supply spool and feeding the same to said take-up spool, and downtwisting ring means for guiding the winding of said yarn onto said take-up spool, said saponifying means being located between said supply spool and said feed roll means, and said voluminizing means being located between said feed roll means and said downtwisting ring means, said saponifying means comprising a trough containing a liquid saponifying agent, a transfer roller rotatably mounted above said trough and having its lower portion immersed in said saponifying agent and its uppermost peripheral region located in the path of movement of said yarn from said supply spool to said feed roll means, a rocker shaft positioned adjacent said trough, and a transverse arm carried by said shaft and provided with a yarn-engaging element extending across said path of movement of said yarn adjacent said transfer roller, said voluminizing means comprising a high pressure fluid jet in which said yarn when passing therethrough is adapted to be subjected to the action of a turbulently flowing bulking fluid, and clamping means located intermediate said jet and said downtwisting ring means and adapted when actuated to inhibit movement of said yarn to said downtwisting ring means, said means for actuating and deactuating said saponifying means and said voluminizing means comprising first and second pneumatic motors operatively connected, respectively, with said rocker shaft and said clamping means, and first and second valve means operatively connected with said first and second pneumatic motors, respectively for controlling the flow of operating fluid thereinto, said sensing means being operatively connected to said first and second valve means for actuating the same in accordance with the sensed physical structure variations of said programming means.

3,194,001
TEXTILE YARN SEVERING DEVICES

Philip Forward, Macclesfield, England, assignor to Ernest Scragg & Sons Limited
Filed Nov. 1, 1963, Ser. No. 320,965
Claims priority, application Great Britain, Nov. 1, 1962, 41,320/62
7 Claims. (Cl. 57—87)

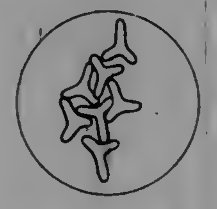


1. Thread severing apparatus comprising, in combination, a coil spring which in its unstressed state has convolutions which press against each other; releasable stretching means operatively connected to said coil spring for stretching the latter into a tensioned condition where

the convolutions of said spring are spaced from each other and for releasably holding said coil spring in said stretched condition, the said releasable stretching means when released freeing said coil spring to contract due to its inherent resiliency to its unstressed state; means for detecting a drop in the tension of a thread and for automatically releasing said stretching means whereby said coil spring will contract to its condition where its convolutions press against each other; and thread guide means positioning the thread at least when a drop in tension thereof is detected between a pair of convolutions of the spring so that when the latter said pair of convolutions thereof will snap against and grip the thread to sever the same.

3,194,002
MULTIFILAMENT YARN OF NON-REGULAR CROSS SECTION

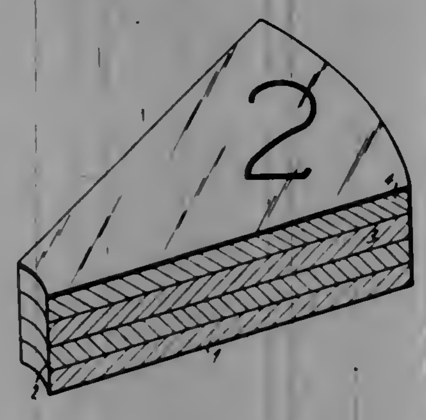
David W. Raynolds and Arthur S. Smith, Kingsport, Tenn., and Frank W. Abernathy, Framingham, Mass., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed July 25, 1962, Ser. No. 212,436
8 Claims. (Cl. 57—140)



1. As a new article of manufacture a rug essentially comprised of yarns of man-made fibers, the rug being particularly characterized in that a substantial portion of said yarns making up the rug are multifilament yarns of at least 80 filaments and of a denier per filament of less than 25 and a total denier of less than 6250, said filaments making up the multifilament yarn having a Y-shaped cross-section, the several filaments being of a sufficiently small size to be flexible but the legs of the Y of the individual filaments being intermeshed with the legs of other individual filaments so that each is reinforced by the other thereby imparting crush resistance to the rug, and the filaments exhibiting a slower apparent rate of soiling..

3,194,003
SOLID STATE ELECTRONIC TIMEPIECE

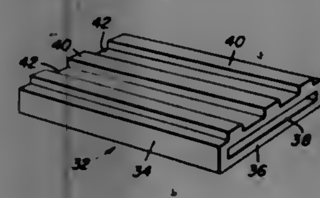
Herbert S. Polin, Geneva, Switzerland, assignor to P. Vogel and Company, Geneva, Switzerland, a corporation of Switzerland
Filed Nov. 13, 1963, Ser. No. 323,503
12 Claims. (Cl. 58—50)



1. A solid state electronic time measuring and display system comprising a prime frequency source, transistorized counter means comprising a plurality of different scale counters connected in series with one another, means coupling the output of said prime frequency source to the input of said counter means, said series connected counters including means for counting minutes comprising at least one counter circuit having a counter section for counting in the scale of A and a further counter section for counting in the scale of B, where A and B are each greater than unity and the product of A and B equals sixty, said series connected counter also including means for counting hours comprising another counter circuit having a counter section for counting in the scale of C and a further counter section for counting in the scale of D, where C and D are each greater than unity and the product of C and D equals twelve, said counter sections respectively having A, B, C, and D electrical outputs selectively energized in sequence in accordance with the count state of their associated counter section, display means comprising a first minutes display section and a second hours display section, each of said first and second display sections including a plurality of elements comprising selectively light emissive means responsive to electrical energization thereof, and switching matrix means interconnecting the outputs of said plurality of counter sections with said plurality of elements to variably energize different ones of said elements in accordance with the different scale minutes and hours outputs of said plurality of counters thereby to obtain a visual time indication display, said matrix means including connections connecting said A outputs to a first preselected array of the display elements in said first minutes display section and connecting said B outputs to a different preselected array of the display elements in said first minutes display section whereby a selected one of the display elements in said first minutes display section is uniquely energized in dependence upon which of said A and B outputs are energized at any particular time, said matrix means also including connections connecting said C outputs to a first preselected array of the display elements in said second hours display section and connecting said D outputs to a different preselected array of the elements in said second hours display section whereby a selected one of the display elements in said second hours display section is uniquely energized in dependence upon which of said C and D outputs are energized at any particular time, thereby to provide a time display in minutes and hours.

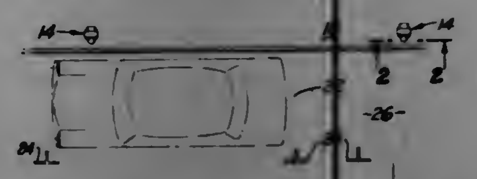
3,194,004
WRIST WATCH PROTECTOR

Frank D. Church, Columbus, Ind., assignor of fifty percent to John C. Glick, Columbus, Ind.
Filed Jan. 25, 1963, Ser. No. 253,923
4 Claims. (Cl. 58—105)



1. In combination, a wrist watch embodying a case having a rigid generally planar back and provided at diametrically opposite marginal edge portions with paired outstanding rigid companion lugs, said lugs being oriented and cooperable and provided with watch positioning strap attaching pintles, a watch spacer and protector of an area in plan generally commensurate with the area of the back of the aforementioned watch case and the face of said spacer being proximal to and confronting said back and being provided with air circulation, heat diminishing, ventilating and condensate control means, said spacer constituting a watch cushioning wrist protecting pad and comprising a resilient sleeve, the bore of said sleeve providing an open-ended passage for a onepiece watch mounting and retaining strap.

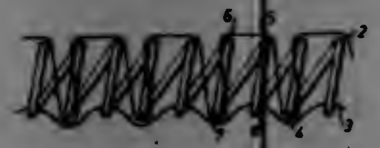
3,194,005
TERMINAL ACTUATOR FOR PARKING METER
James D. Schalow, La Sierra, Calif., assignor to Richard J. Pernosky, Garden Grove, Calif.
Filed Nov. 7, 1962, Ser. No. 236,012
4 Claims. (Cl. 58—142)



1. In a coin operated parking meter having a clockwork mechanism which is operable, upon insertion of a coin, to position an indicator with respect to a dial graduated in units of time so as to indicate the remaining time for which a car may legally remain in a designated parking area, said mechanism being operable to return said indicator to zero upon expiration of the time paid for, a device for returning said indicator to zero when said car is removed from said parking area prior to the expiration of the time paid for, comprising:

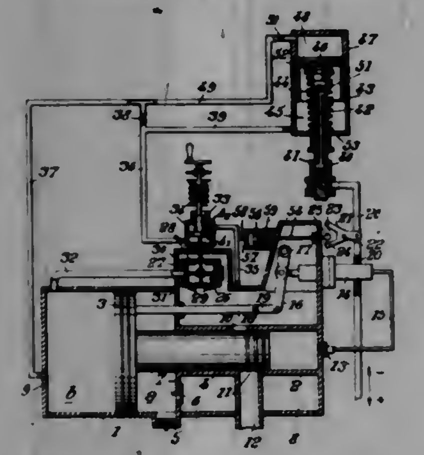
- a pivoted detector having at least one bar magnet mounted thereon which tends to align itself with the lines of force of the earth's magnetic field, said detector being swingable between a first position parallel to the lines of force present when there is a car in said designated parking area and a second position when there is no car in said parking area;
- a housing of non-magnetic material enclosing and supporting said pivoted detector;
- a pair of switch contacts, one of which is mounted on said housing and the other on said pivoted detector, said contacts being open when said detector is at said first position and closed by the detector when the latter is at said second position;
- a motor operatively connected to said indicator to return the same to zero when energized;
- a battery;
- circuit means connecting said battery to said motor, including a normally open relay switch;
- electrical means connected to said pair of switch contacts and operable, when said pair of switch contacts are closed, to energize said relay switch to close the same; and
- an electromagnet positioned adjacent said detector and operable, when energized, to pull said pivoted detector more strongly toward said second position so as to make better electrical contact between said pair of switch contacts, said electromagnet being connected with said circuit means and energized thereby when said detector is moved to said second position.

3,194,006
EXPANSIBLE WRIST BAND
Romain Sinner, Prilly, Switzerland, assignor to Jean-Paul Held, Saint-Blaise, Neuchatel, Switzerland
Filed July 10, 1962, Ser. No. 208,770
3 Claims. (Cl. 59—79)



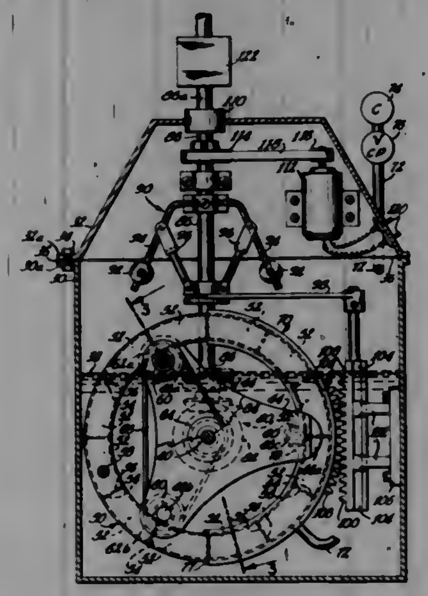
1. An expansible wrist band comprising in combination a wire wound into a flattened rectangular helical coil having a longitudinal axis and forming successive pairs of convolutions each having two major side elements extending transversely of said longitudinal axis and facing opposite directions, a first strip of foldable material looped over the major side elements facing a same direction in the successive pairs of convolutions and wound between any two successive pairs over the major side element facing the other direction in the second convolution of the first of the two successive pairs, and a second strip extending outwardly of the last-mentioned major element facing the other direction of said second convolution of each pair and inwardly of the major element facing said other direction of the first convolution of each pair.

3,194,007
FREE PISTON GAS GENERATORS
Maurice Bouvier, Villeurbanne, and Auguste Moiroux, Lyons, France, assignors to Societe d'Etudes et de Participations, Eau, Gaz, Electricite, Energie S.A., Geneva, Switzerland
Filed July 7, 1964, Ser. No. 380,833
Claims priority, application France, July 25, 1963, 942,695
3 Claims. (Cl. 60—13)



1. A free piston auto-generator which comprises, in combination, a motor unit and a compressor unit, said motor unit including two motor elements, a motor piston and a motor cylinder, one movable in the other to form between them a variable volume fuel combustion chamber, fuel feed means opening into said fuel combustion chamber, means for controlling said fuel feed means, said compressor unit including two compressor elements, a compressor piston and a compressor cylinder, one movable in the other, each of said compressor elements being fixed with respect to one of said motor elements, respectively, a casing fixed with respect to said motor cylinder, for feeding compressed air thereto, said compressor elements forming between them an air compression chamber, check valve means for admitting air from the atmosphere into said air compression chamber on every increase of volume of said air compression chamber, check valve means for delivering compressed air from said air compression chamber to said casing on every reduction of volume of said air compression chamber, said compressor elements forming between them an air cushion chamber the volume of which is reduced on every increase of volume of said fuel combustion chamber, whereby expansion of said air cushion produces every return stroke of said motor piston, a conduit having one end thereof in communication with said air cushion chamber, a stabiliser valve mounted to control the communication between the other end of said conduit and said casing, said stabiliser valve including a cylindrical housing, a hollow slide valve slidable in said casing and having a neutral position therein and check valve means carried by said slide valve arranged to open a unidirectional communication from said casing to said conduit when said slide valve is moved in one direction from said neutral position thereof and a undirectional communication from sad conduit to said casing when said slide valve is moved in the other direction from said neutral position thereof, means operative by a pressure at least substantially proportional to the pressure in said casing for urging said slide valve in said first mentioned direction, means forming a space containing air under pressure supplied from said air cushion chamber, means operative by the pressure in said space for urging said slide valve in said second mentioned direction, variable air leak means in communication with said space and means for controlling said air leak means operative by said means for controlling said fuel feed means, said means for controlling said air leak means being arranged to tend to increase the free cross section of said air leak means when said means for controlling said fuel means is caused to increase the feed of fuel and to tend to reduce said free cross section when the feed of fuel is decreased.

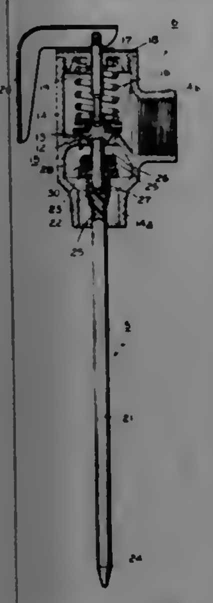
3,194,008
POSITIVE BUOYANCY PRIME MOVER
Emil Baumgartner, 125 Woodfield Road, West Hempstead, N.Y.
Filed Apr. 8, 1963, Ser. No. 271,345
3 Claims. (Cl. 60—22)



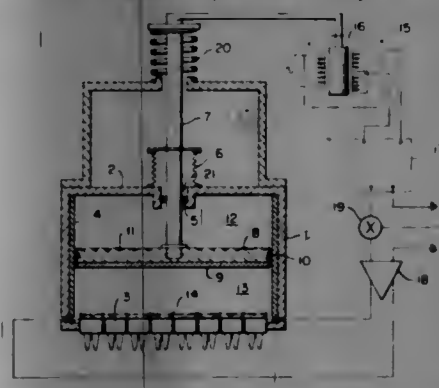
1. A prime mover comprising:
(A) a body of liquid;
(B) a buoyant ring member comprising a plurality of individual compartments sealed from the surrounding environment and having a density less than said liquid whereby the upward flotation of said chambers will cause said ring member to rotate about a substantially horizontal axis;
  (a) said ring member being at least partially submerged in said liquid;
(C) speed control means comprising an angularly adjustable plenum chamber containing a gas, said chamber enveloping a portion of said ring extending from the surface of said liquid to the lowermost portion thereof and maintained fixed relative to said ring during constant speed rotation of said ring,
  (a) said chamber being at least partially submerged in said liquid; and
(D) output means coupled to said ring member whereby, upon rotation of said ring member, a power output is obtained.

3,194,009
THERMAL ACTUATORS
William E. Baker, Wellesley, Mass., assignor to Baker Research and Development Corporation, Waltham, Mass., a corporation of Delaware
Filed Sept. 20, 1963, Ser. No. 310,243
10 Claims. (Cl. 60—23)

1. In a thermally responsive actuator, a support, a body of substantially homogeneous thermally expansible compound mounted on said support for actuating movement in relation to said support in response to temperature-induced dimensional variations in said compound, said body of thermally expansible compound consisting essentially of a substantially dry and flexible cured host component and an uncured guest component distributed substantially uniformly therethrough, said guest component exhibiting expansion and contraction characteristics during transitions through a predetermined range of temperatures which includes the temperatures at which said guest component exists in the liquid phase which are different from the expansion and contraction characteristics of said host component alone, whereby said body of thermally expansible compound undergoes predetermined changes in dimensions upon changes in temperature thereof through said range.



3,194,010
SERVO-MECHANISM
Jean C. Lejon, Paris, France, assignor to Société dite Controle Bailey, a company of France
Filed Aug. 1, 1962, Ser. No. 213,998
4 Claims. (Cl. 60—25)

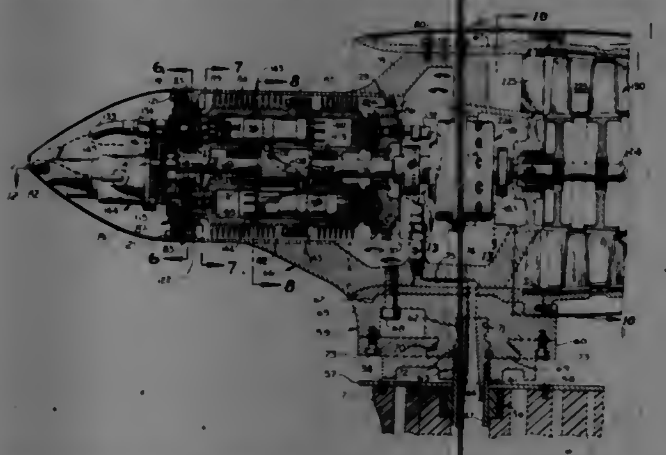


1. In a servo-mechanism operated by the variable pressure of a condensable liquid, in combination, a vertical vapor-tight cylinder having an insulating lining for reducing the thermal exchange between the inner and outer walls of said cylinder, said lining having a low coefficient of friction, a movable piston in said cylinder having a lower insulated face and an upper face indented with a plurality of indentations, said insulation reducing the thermal exchange between said lower and upper faces said piston forming lower and upper chambers within said cylinder, a pool of liquid in each of said chambers producing vapor pressures acting on opposite faces of said piston and means for cooling said pool of liquid in said lower chamber to thereby vary the vapor pressure acting upon the lower face of said piston.

3,194,011
AIRCRAFT WITH NON-COMBUSTION AIR REACTION ENGINE
Paul W. Chaney, 325 Balchewana, Clawson, Mich.
Filed Apr. 23, 1962, Ser. No. 189,443
9 Claims. (Cl. 60—35.5)

8. In an air-driven reaction engine including an air-driven motor having a power shaft with a toothed flywheel, an air started mechanism comprising: a housing;

a drive shaft rotatably and axially movably mounted in said housing; a gear on said drive shaft and adapted to be meshed with said toothed flywheel when said driveshaft is moved axially; an air-driven rotor mounted in said housing and being drivably connected to said drive shaft; a compressed air system for supplying compressed air to said rotor for driving the same; a shut-off valve means operatively mounted in said compressed air system and being normally disposed in an open position to allow air to flow to said rotor; a control valve means operated by said drive shaft, when it is moved axially to move the gear thereon into driving engagement with said flywheel, to direct compressed air against said shut-off valve means to move the shut-off valve means into a closed position to cut-off the flow of compressed air to said rotor; means for normally biasing said drive shaft into the inoperative position when the compressed air system is not supplying compressed air to said rotor and said air-driven reaction engine is stopped, and maintaining the drive shaft in said inoperative position; said air-driven motor including a plurality of double acting pistons disposed in radially spaced apart cylinders about said power shaft in an elongated cylindrical engine block; a spiral groove formed in said power shaft; each of said pistons having a follower



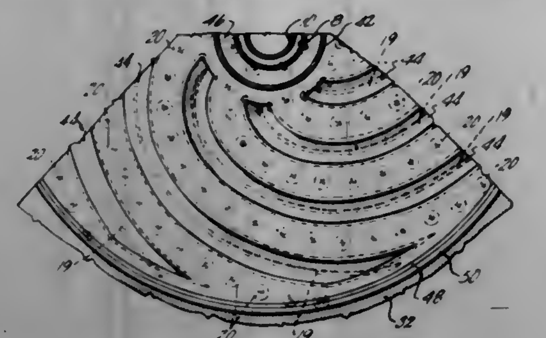
pin adapted to ride in said spiral groove for driving engagement with said power shaft; a plenum chamber mounted on each end of said engine block; conduit means connecting said plenum chambers with said compressed air system; an air passage means connecting the plenum chambers with each end of said piston cylinders for supplying air thereto to move said pistons back and forth in said cylinders; valve means operatively mounted in said air passage means; and, means on each end of each piston for unseating the respective valve means in said air passage means when a piston approaches the same for admitting compressed air to the respective cylinder.

9. The structure as defined in claim 8, including an air compressor comprising: a shaft connected to said air-driven motor by a clutch and transmission means; a plurality of compressor rotor wheels mounted on said last named shaft; each of said rotor wheels being provided with a plurality of radially spaced apart rotor blades; a plurality of stator blades disposed radially about and on each side of the rotor blades on each rotor wheel; and, a housing enclosing the periphery of said rotor and stator blades and being open at the front and rear ends thereof to provide axial flow through the compressor and to form a nozzle and reaction thrust area at the rear outlet end thereof.

3,194,012
INJECTION HEAD FOR ROCKET

Rex A. Horrocks, Marlborough, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Mar. 31, 1961, Ser. No. 99,735
8 Claims. (Cl. 60—35.6)

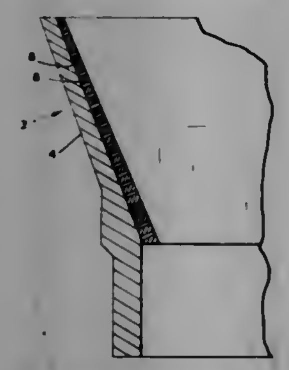
1. An injector head including a main structure having opposite walls and having a chamber therein, openings in one wall thereof for discharge of one propellant from the chamber and passages through said structure between opposite walls for the discharge of another propellant, and a cover plate on the wall of said structure opposite to the wall having the openings, said cover plate having



involute shaped grooves therein extending from adjacent to the center of the cover plate to the periphery thereof, said grooves having lands therebetween engaging with the surface of said structure to define involute shaped passages, said last passages communicating with the first mentioned passages.

3,194,013
ANTI-CHUNKING

Mervyn B. Dagneau, La Mirada, Robert L. Noland, Santa Fe Springs, and Warren C. Travis, Lakewood, Calif., assignors, by mesne assignments, to Haveg Industries, Inc., a wholly owned subsidiary of Hercules Powder Company, New Castle, Del., a corporation of Delaware
Filed June 6, 1961, Ser. No. 115,186
9 Claims. (Cl. 60—35.6)



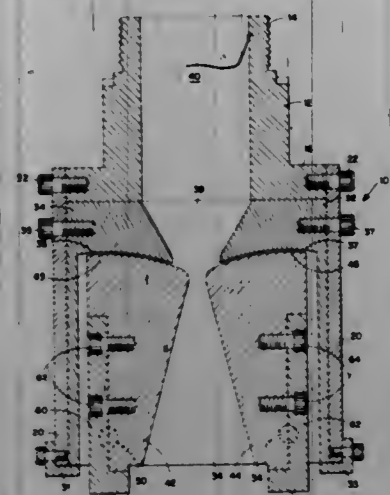
4. A rocket having portions thereof which are subjected to a high velocity gas stream and temperatures in excess of 2000° F., said portions normally having chunking at such temperatures with such a gas stream and comprising a molded structure having a multitude of pores extending a substantial way but not completely therethrough on the side of the insulator which is to be subjected to said high velocity, hot gas stream, whereby said chunking is substantially eliminated, said molded structure comprising a graphite fibrous structure containing a resinous binder.

3,194,014
VARIABLE THRUST AND VARIABLE DIRECTION NOZZLE

Walter B. Wilson, Jr., Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Dec. 19, 1962, Ser. No. 245,940
4 Claims. (Cl. 60—35.55)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a missile having a rocket motor a variable nozzle comprising, means defining a rectangular chamber connected to said rocket motor, two flat side plates mounted one adjacent each of two opposed sides of said chamber, two fixed shrouds mounted one adjacent each of the other two opposed sides, said fixed shrouds defining a converging section of said nozzle, two movable shrouds mounted adjacent said fixed shrouds for pivotal movement with

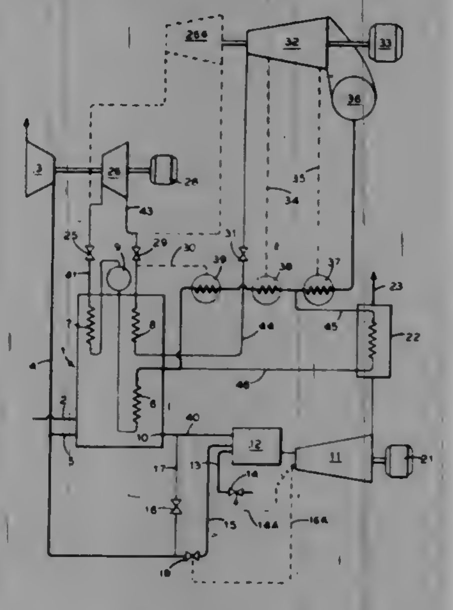
respect thereto, said movable shrouds defining the throat area and diverging portion of said nozzle, means for moving said movable shrouds simultaneously either toward



or away from each other to change the size of the throat area, and means for moving said movable shrouds simultaneously in the same direction to locate the throat area off center to vary the direction of thrust.

3,194,015
COMBINED STEAM AND GAS TURBINE POWER PLANT

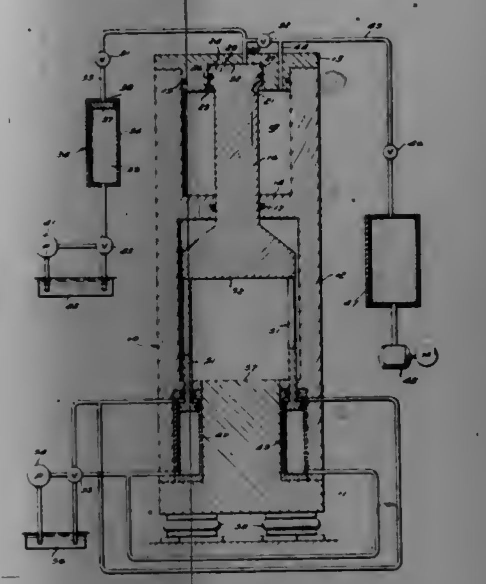
Pierre Henri Pacault, Ville d'Avray, France, assignor to Babcock & Wilcox, Limited, London, England, a company of Great Britain
Filed Nov. 13, 1961, Ser. No. 151,803
Claims priority, application France, Nov. 16, 1960, 844,042
4 Claims. (Cl. 60—39.18)



1. In a binary elastic fluid power plant, a steam generator, fuel firing means for generating heating gases in said generator, a gas turbine receiving gases from said steam generator, a heat exchanger connected for flow of gases from said gas turbine for recovery of some of the residual heat thereof, a steam turbine receiving steam from said steam generator, and an air compressor driven by said steam turbine and operating independently of said gas turbine and supplying high pressure air for combustion to said fuel firing means, said air compressor having an output varying in direct proportion to increases and decreases in steam flow rate to said steam turbine to provide an air flow to said generator at a rate in proportion to the combustion air demands of the fuel being burned so that the rate of generation of heating gases in the generator increases and decreases in proportion to the air compressor output.

3,194,016
TRIGGER FOR HIGH RATE ACTUATORS

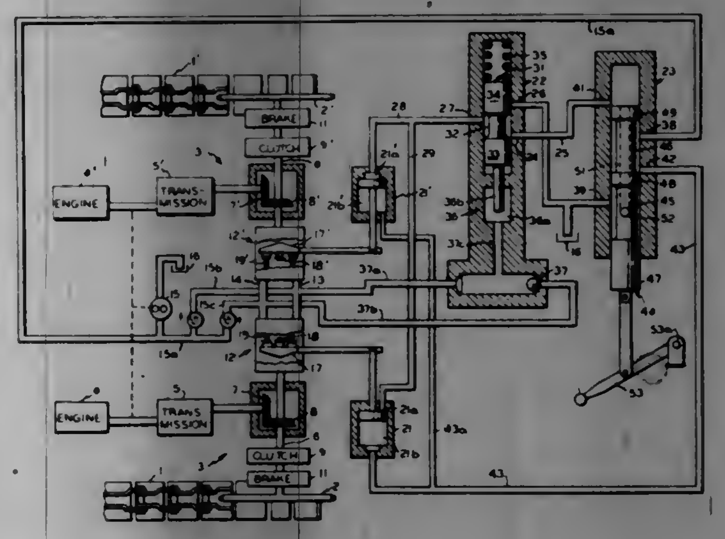
John H. Gavin, 105 Savo Ave., Lancaster, Pa.
Filed Jan. 17, 1964, Ser. No. 338,515
12 Claims. (Cl. 60—51)



1. An actuator comprising a housing, a plunger slidable in said housing between first and second positions cooperating to define a cavity the volume of which is reduced by movement of said plunger to said first position, opposed walls on said housing and plunger proportioned to mate when said plunger is in said first position, seal means cooperating with said mating walls to define at least a portion of a chamber isolated from said cavity when said plunger is in said first position, valved means connected between said chamber and cavity selectively operable to isolate said chamber and cavity and provide communication therebetween, compressible fluid under pressure in said cavity, and means operable to increase the volume of said chamber when said valved means are closed reducing the pressure thereof without releasing the fluid contained therein thereby producing pressure balancing of said plunger.

3,194,017
HYDROSTATIC TRANSMISSION

Charles O. Weisenbach, Watertown, N.Y., assignor to The New York Air Brake Company, a corporation of New Jersey
Filed Dec. 11, 1963, Ser. No. 329,787
6 Claims. (Cl. 60—53)



1. A hydrostatic transmission including
(a) two variable displacement pump-motor units either

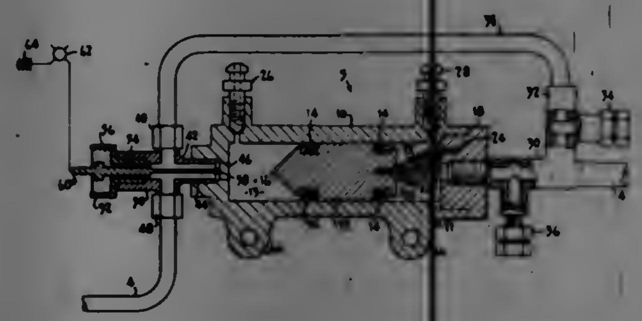
of which may serve as a pump while the other serves as a motor;

(b) a pair of main conduits connecting the two units in a closed transmission circuit; and

(c) control means for varying the displacement of the first unit in inverse relation to its discharge pressure and for causing the second unit to operate at maximum displacement when the first unit is pumping, and for varying the displacement of the second unit in inverse relation to its discharge pressure and for causing the first unit to operate at maximum displacement when the second unit is pumping.

3,194,018
SAFETY MECHANISM FOR HYDRAULIC BRAKES

Dimitri A. Boucouvalas, Corner of Main St. and Milner Road, Moncton, New Brunswick, Canada
Filed June 22, 1964, Ser. No. 377,017
Claims priority, application Greece, July 6, 1963, 24,852
1 Claim. (Cl. 60—54.5)



In a vehicular hydraulic braking system having a master cylinder and primary piston therein and a plurality of wheel cylinders connected to said master cylinder by brake lines, a safety mechanism comprising a casing inserted in each of said brake lines between each wheel cylinder and said master cylinder; each said casing including

(a) a cylindrical bore;

(b) an inlet port and an outlet port concentric with the ends of said bore;

(c) a single secondary piston slidably mounted in said bore in alignment with and between said inlet and outlet ports, said secondary piston including sealing rings thereon and defining inlet and outlet chambers adjacent each end thereof in said bore; said secondary piston being movable by hydraulic fluid in said line and being responsive to, and adapted to simulate movement of, said primary piston and said wheel cylinder;

(d) a first junction on said casing adapted to connect said inlet port and inlet chamber to said master cylinder; and including a closure plug threadably engaging one end of the bore in said casing and being connected to said secondary piston by spring means;

(e) a second junction on said casing adapted to connect said outlet port and outlet chamber to said wheel cylinder;

(f) a by-pass line connecting said first and second junctions;

(g) valve means in said first junction adapted to close said inlet port whereby hydraulic fluid from said master cylinder may be diverted through said by-pass line and second junction for filling said line and said outlet chamber during installation of said casing in said braking system;

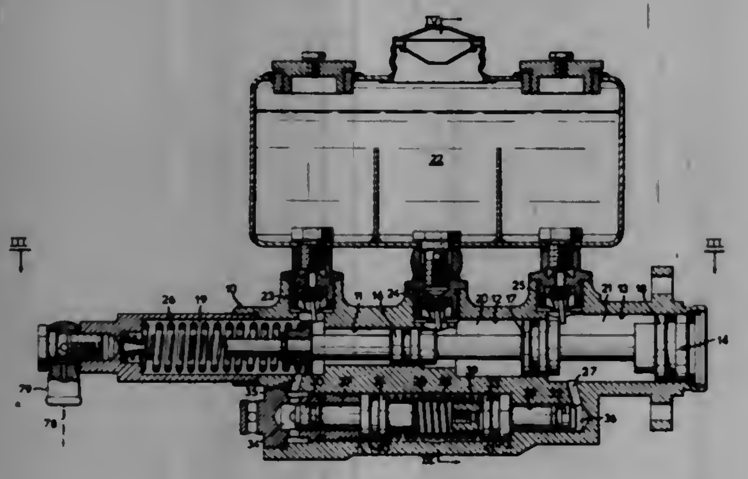
(h) valve means in said first junction for closing said by-pass line;

(i) bleed valves in said outlet and inlet chambers for removing air from said casing; and

(j) a brake wear and failure indicating switch mounted in said second junction remote from said casing and having an actuator concentric with and extending into said outlet port so as to be contacted by one end of said secondary piston, said switch having an associated light for indicating said contact; said secondary piston having a conical forward end adapted to proceed farther into said outlet chamber and into said outlet port in response to increased wear of said braking system so as to effect said switch contact; said secondary piston being further adapted, upon rupture of an associated brake line and a consequent drop of fluid pressure in said outlet chamber, to slide forward in said casing and seal said outlet port.

3,194,019
MASTER CYLINDER FOR HYDRAULIC BRAKES

Pierre André Georges Lepelletier, Chatou, France, assignor to Societe Anonyme Francaise du Ferodo, Paris, France, a corporation of France
Filed Mar. 18, 1964, Ser. No. 352,920
Claims priority, application France, Mar. 26, 1963, 929,236
7 Claims. (Cl. 60—54.6)

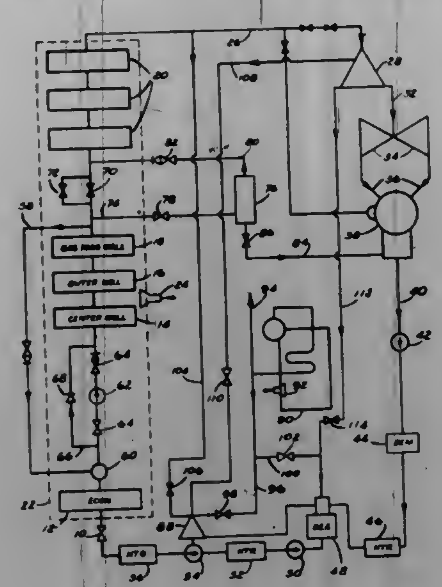


1. A master cylinder for hydraulic brakes of the kind comprising a piston unit which forms on the one hand two primary chambers which drive equal or proportional volumes into two primary conduits leading respectively to two brakes, when the piston unit is depressed in the action of braking, and on the other hand a secondary chamber which is connected to a secondary circuit balancing the reactions of said two brakes, said secondary chamber being reduced in volume by the depression of said piston unit, and further comprising means for selectively controlling the pressure in the secondary chamber of said master cylinder in order to avoid an excessive effort in the operation of depression of said piston unit.

3,194,020
METHOD AND APPARATUS RELATING TO VAPOR GENERATION

Frederick J. Hanzalek, Suffield, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Mar. 25, 1963, Ser. No. 267,511
9 Claims. (Cl. 60—67)

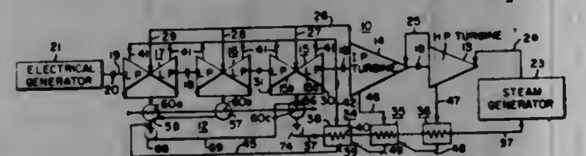
1. A once-through flow vapor generator having a through-flow circuit that includes a plurality of heat exchange sections connected in series flow relation with a recirculating system superimposed on the through-flow system including the region thereof that has the highest rate of heat absorption, said recirculating system being operative during start up of the generator, said generator having a main feed pump, a turbine operative to drive said pump, and an auxiliary vapor generator operatively



connected to supply vapor to said turbine during said startup of the said one-through flow vapor generator.

3,194,021
VAPOR CONDENSING APPARATUS

Charles C. Peake, Media, Pa., and Franklin J. Eubank, Glendora, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 14, 1964, Ser. No. 382,471
11 Claims. (Cl. 60—95)



1. The method of operating a vapor turbine power plant having at least two condensing turbines exhausting to vapor condensing apparatus at different pressures and temperatures,

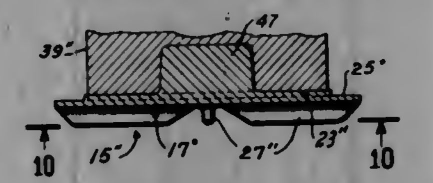
said condensing apparatus having a first pressure and temperature condensing zone communicating with one turbine and a second and higher pressure and temperature condensing zone communicating with the other turbine; comprising

pumping the condensate from the first condensing zone to said second zone, and

spraying the thus pumped condensate into said second zone for reheating.

3,194,022
PILE SHELL BOOT AND MANDREL PLUG POINT ASSEMBLY

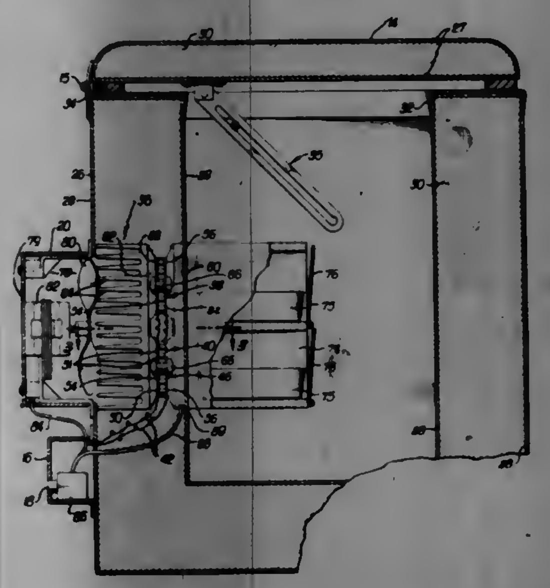
John J. Dougherty, Cedar Grove, N.J.
(262 Rutherford Blvd., Clifton, N.J.)
Filed Apr. 21, 1961, Ser. No. 104,579
1 Claim. (Cl. 61—53)



In combination, a pile boot and driving end of a mandrel body, said boot having a solid, flat, circular plate-like body, a circular enlargement on the top surface of the body of said boot and having its periphery spaced inwardly of the boot body, a post, square in cross-section, upstanding from said body and enlargement and disposed centrally thereof, spaced radial ribs extending downwardly from the bottom surface of the plate-like body having their lower edges disposed in a plane parallel to the under surface of the plate-like body, and a base plate on the driving end of a mandrel body, said base plate having a recess of a shape and dimension fitting snugly about the upstanding post with the lowermost surface of said base plate resting upon the enlargement of the boot.

3,194,023
THERMO-ELECTRIC REFRIGERATOR UNIT

Gustav H. Sudmeier, 2708 Torrance Blvd., Torrance, Calif.
Filed Mar. 20, 1963, Ser. No. 266,757
6 Claims. (Cl. 62—3)



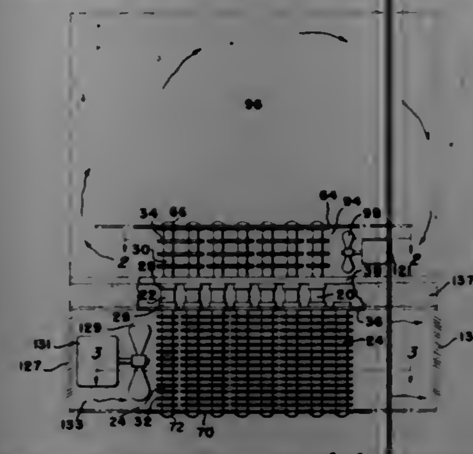
1. A refrigeration unit, comprising: a plurality of thermo-electric cells for receiving electrical energy to produce a temperature differential between a first surface and a second surface whereby said first surface cools and said second surface warms; a first heat-conductive member having plural first faces to engage said second surfaces, said first faces being separated by channels tapering to a bottom therein, said member further including radiating fins remote from said faces; a deformable layer of heat-transfer paste-like material between said first faces and said second surfaces; a second heat-conductive member including a first plate with plural second faces to engage said first surfaces, said second faces being separated by channels tapering to a bottom therein, and a second plate adapted to be affixed to said first plate; a deformable layer of heat-transfer paste-like material between said second faces and said first surfaces; an enclosure means to provide an insulated volume; means for mounting said plurality of thermo-electric cells in said enclosure, including an inner wall of said enclosure held between said first plate and said second plate; and a blower means for directing an airstream into said fins whereby said airstream is divided to flow over said fins.

3,194,024
REFRIGERATING APPARATUS

Arthur T. Bassett, Jr., Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 29, 1964, Ser. No. 363,432
8 Claims. (Cl. 62—3)

1. A thermoelectric array including a group of thermoelectric elements, a metal conductor connected to and extending in opposite directions from each of said group of thermoelectric elements, substantially parallel perforated sheets of electrical insulating material located on said conductors on opposite sides of said thermoelectric elements with each conductor extending through one of the perforations of one of the sheets, transverse substantially parallel

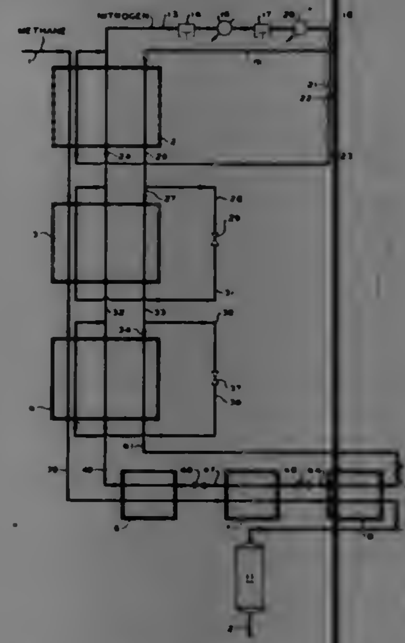
metal fins each bridging only two adjacent conductors located on the outer sides of said sheets arranged to connect



all the thermoelectric elements of the group in an electric series circuit arrangement.

3,194,025
GAS LIQUEFACTIONS BY MULTIPLE EXPANSION REFRIGERATION

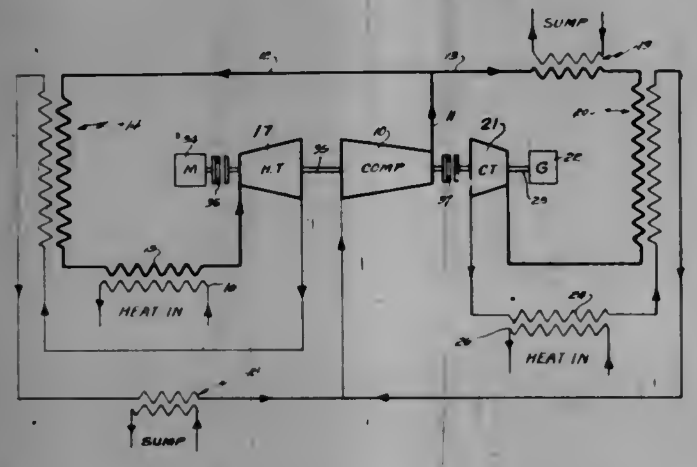
Ugo C. Grossmann, Seuzach, Zurich, Switzerland, assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Jan. 14, 1963, Ser. No. 251,265
4 Claims. (Cl. 62—9)



1. A process for liquefying a gas, which process comprises: successively passing a process stream (1) of said gas through a plurality of first indirect heat exchange zones and thence through a plurality of second indirect heat exchange zones at a constant pressure; successively passing a compressed stream (2) of gaseous refrigerant through said first heat exchange zones in concurrent flow to said process stream (1); successively passing an expanded stream (3) of said refrigerant through said first heat exchange zones in countercurrent flow to said process stream (1); for each of said first heat exchange zones, passing a stream (4) of said refrigerant therethrough in countercurrent flow to said process stream (1), said stream (4) being obtained from said stream (2) at a point immediately upstream of the latter zone, expanded upstream of the latter, and combined with said stream (3) immediately downstream of the latter zone; compressing and cooling the combined streams (3) and (4) withdrawn from the first of said first heat exchange zones to provide said stream (2); expanding said stream (2) withdrawn from the last of said first heat exchange zones and successively passing the resulting expanded stream through said second heat exchange zones from the last to the first thereof in countercurrent flow to said process stream (1) with expansion of the latter expanded stream between each of said second heat exchange zones; employing the latter stream withdrawn from the first of said second heat exchange zones as said stream (3); and withdrawing all of said process stream (1) from the last of said second heat exchange zones as liquefied product.

3,194,026
POWER-REFRIGERATION SYSTEM

James K. La Fleur, Hermosa Beach, Calif., assignor to The La Fleur Corporation, Los Angeles, Calif., a corporation of California
Filed Oct. 24, 1963, Ser. No. 318,564
37 Claims. (Cl. 62—88)



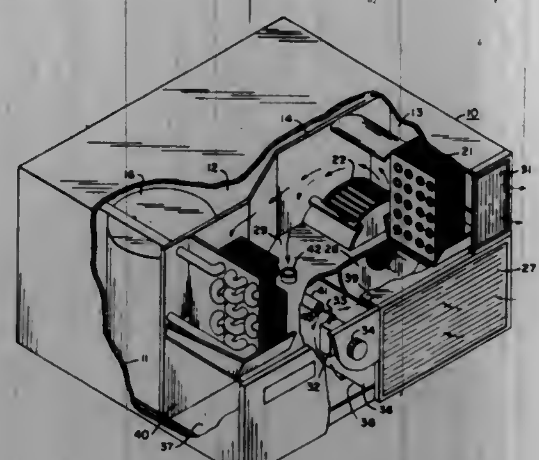
1. A closed cycle power-refrigeration process in which a cryogenic gas is the working medium in both a power cycle and a refrigeration cycle of a system, comprising: establishing a closed system and, in said system, effecting a power cycle by circulating and acting on said gas thru the following seriatum steps, compression, generation in a first regenerator, heating, expansion to accomplish work, degeneration in such regenerator, cooling, and again compressing to complete such power cycle, and in which power cycle such work is used for such compression; and, in such system, effecting a refrigeration cycle by circulating and acting on said gas thru the following seriatum steps, bleeding gas from said power cycle immediately after said compression, cooling, degenerating in a second regenerator, expanding to reduce the temperature of said gas, adding heat from a refrigeration load, generating in such second regenerator, and returning such bled gas to said power cycle for compression.

3,194,027
AIR-CONDITIONER WITH ENCLOSED CONTROL COMPONENTS

Richard H. Prendergast, Columbus, and Anthony H. Kelly, Upper Arlington, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 27, 1963, Ser. No. 261,306
15 Claims. (Cl. 62—180)

1. Apparatus for conditioning the air of an enclosure, including:
a housing having
air inlet means for entry of air to said housing from said enclosure,
air outlet means for discharge of air from said housing into said enclosure, and
duct means connecting said air inlet means with said air outlet means,
conditioning means disposed in said duct means for conditioning air flowing therethrough,
control means responsive to ambient air for controlling said conditioning means,
wall structure in said housing defining a chamber enclosing said control means, and

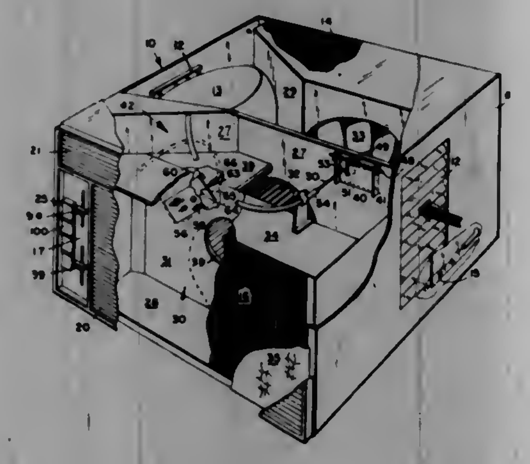
air bypass means connecting said chamber with said duct,



said air bypass means opening into said duct means between said inlet means and said conditioning means,
whereby a portion of air flowing through said duct means is bypassed into said chamber upstream of said conditioning means for influencing said control means.

3,194,028
AIR CONDITIONER CONTROL MECHANISM

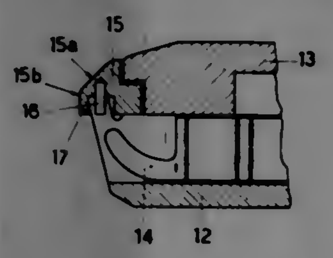
William W. Bell, Jr., Marcellus, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed June 22, 1964, Ser. No. 376,711
11 Claims. (Cl. 62—180)



11. In a room air conditioner, the combination of a compartment with a heat exchange coil therein; means adapted when actuated to supply conditioned medium to the coil; a motor operated fan for circulating room air through the compartment; a vent passage connecting the inlet side of the fan with the outside; a first damper for regulating said vent passage; an exhaust passage connecting the outlet side of the fan with the outside; a second damper for regulating said exhaust passage; means for resiliently holding said first and second dampers in closed position; and means for actuating said first and second dampers including a support member having at least one substantially planar edge, a first operator pivotally secured to said support member between opposite ends thereof for limited lost motion, means for releasably retaining said first operator in selected position, a link connected between one end of said first operator and said first damper whereby movement of said operator in one direction from a damper closed position opens said first damper against said resilient holding means to vent the room, a second link connected between the other end of said operator and said exhaust damper whereby movement of said operator in the opposite direction from said damper closed position opens said second damper against said resilient holding means to exhaust the room, said first operator having an armlike extension with a terminal end outside said support member edge to accommodate manual movement of said first operator, said support member having a first slot-like recess adjacent to and generally parallel with said member edge, and a locating pin on said operator extension closely received in said slot-like recess to confine movement of said operator extension to a direction substantially parallel to said member planar edge; an adjustable temperature control for regulating the conditioning medium supply means and fan motor in response to room temperature conditions; and a second operator pivotally secured to said support member, means securing said second operator to said adjustable temperature contol, an actuating arm secured to said second operator for lost motion in a direction substantially perpendicular to the second operator pivot axis for manipulating said second operator, said actuating arm extending beyond said support member edge to accommodate manual movement of said second operator; a second slot-like recess in said support member colinear with said support member first slot-like recess, and a locating pin on said second operator actuating arm closely received in said second slot-like recess to confine movement of said second operator actuating arm to a direction substantially parallel to said support member planar edge.

3,194,029
YARN CONTROLLING DEVICE FOR CIRCULAR HOSIERY KNITTING MACHINES

Riccardo Tenconi, Varese, Italy, assignor to Marcella Sessa, Varese, Italy
Filed June 26, 1962, Ser. No. 205,324
Claims priority, application Italy, June 27, 1961, 11,878/61, Patent 655,564
6 Claims. (Cl. 66—140)



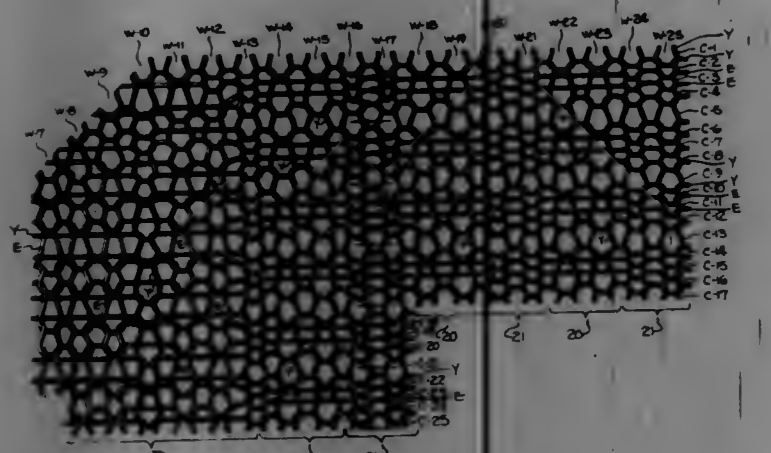
1. In a circular hosiery knitting machine having a rotatable needle cylinder, a dial mounted above the needle cylinder and rotatable with the latter, a stationary dial cap above the dial, yarn guides at a feeding station and yarn clamping and cutting means on the dial cap operative to clamp and sever a yarn when the latter is taken out of action and passed over the dial cap from the related yarn guide; a yarn controlling member mounted on the dial for rotation with the latter, said yarn controlling member having an outer annular surface for contact with a yarn taken out of action and which includes an upper smooth, frusto-conical part inducing the contacted yarn to move onto the top of the dial cap and a lower, substantially cylindrical part of superficial roughness which extends from said upper part of the surface and frictionally urges the contacted yarn to move with said annular surface.

3,194,030
PATTERNED HOSIERY AND METHOD OF KNITTING THE SAME

John W. Keziah, Sr., Graham, N.C., assignor to Alamance Industries, Inc., Burlington, N.C., a corporation of North Carolina
Filed Apr. 19, 1962, Ser. No. 188,756
17 Claims. (Cl. 66—180)

1. A plain knit seamless hose having a leg and foot, at least the major portion of said leg having a main repeated pattern comprising

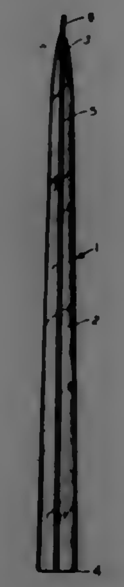
(1) a plurality of alternating and intervening reciprocatorily knit successive courses,
(2) normal stitch loops formed in certain wales of said alternating courses and elongated draw stitches formed in other wales of said alternating courses,



(3) opposite ends of said alternating courses terminating in a common wale,
(4) normal stitch loops formed in said certain wales of said intervening courses and floats formed in said other wales of said intervening courses, and
(5) opposite ends of said intervening courses terminating in a common wale.

3,194,031
TRANSPARENT CANDLE

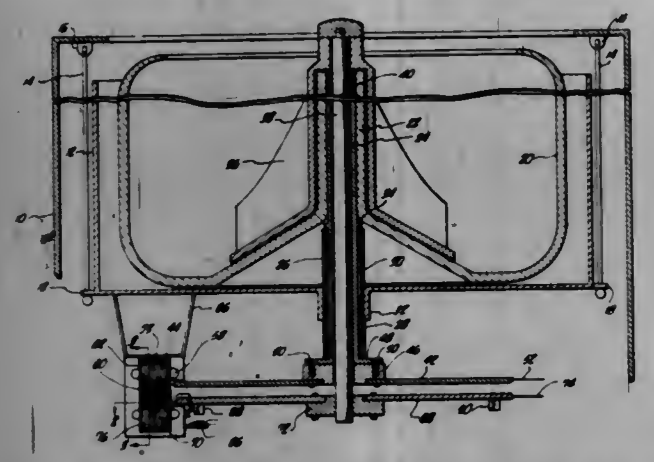
William S. Gorman, Jr., Kansas City, Mo., assignor to Hallmark Cards, Incorporated, Kansas City, Mo., a corporation of Missouri
Filed Aug. 26, 1963, Ser. No. 304,402
4 Claims. (Cl. 67—22)



1. A transparent burnable smoke formation resisting candle comprising, a body having an upper end and a wick extending longitudinally within said body and projecting above said upper end, said body being composed essentially of a hydrocarbon resin characterized as substantially transparent thermoplastic low crystalline low cohesive energy density materials substantially free of unsaturated aromatic rings and double-bonded carbon, said wick being of absorbent material treated by inclusion therewith of a catalyst material characterized as active in promoting the oxidation of carbon in an open flame.

3,194,032
WASHING MACHINE AND ELECTROMAGNETIC DRIVE SYSTEM THEREFOR

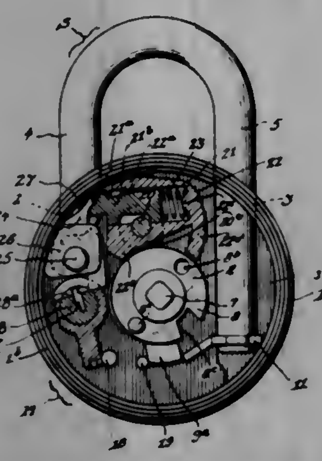
Joe W. von Brimer, Van Nuys, Calif., assignor of one-half to Stephen A. Bollinger, Los Angeles, Calif.
Filed Nov. 5, 1962, Ser. No. 235,352
17 Claims. (Cl. 68—23)



8. In a washing machine having a rotatable spin basket, drive means comprising a large diameter rotor member connected to the spin basket and rotatable therewith, the rotor member having an outer annular portion of thin conductive nonmagnetic material, and magnetic means for generating a moving magnetic field across an elongated air gap when energized from an alternating current source, the thin outer annular portion of said rotor member passing through said air gap.

3,194,033
PADLOCK AND THE LIKE

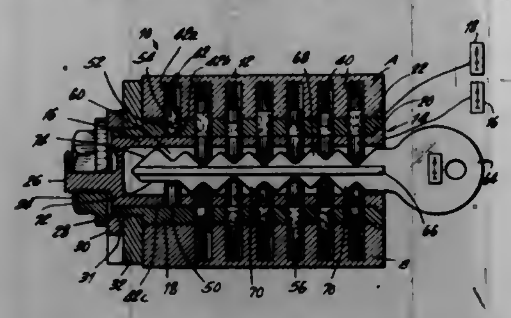
Francis C. Markert and George Q. Eurich, Lancaster, Pa., assignors to Slaymaker Lock Company, a corporation of Pennsylvania
Filed Sept. 3, 1963, Ser. No. 305,969
1 Claim. (Cl. 70—38)



A padlock; comprising a housing having shackle leg receiving openings therein; a shackle arranged so that the legs thereof are slidable in said openings, one of which legs is provided with a notch; a shackle bolt having an end portion adapted to cooperate with said shackle leg notch so as to effect the locking and unlocking of the shackle, said bolt having a body portion; a bolt mounting that is pivotally positioned within said housing and provided with a cavity adapted to slidably accommodate therein the said bolt body portion; spring means arranged within said cavity so as to urge movement of the shackle bolt in one direction; a slidably mounted motion transmitting element for effecting movement of the bolt from a position of engagement of the bolt end with the shackle leg notch to a position of disengagement therefrom; and a key operated cylinder arranged in abutting relation with said motion transmitting element so that a certain cylinder movement will be transmitted to the bolt end portion.

3,194,034
CYLINDER LOCK

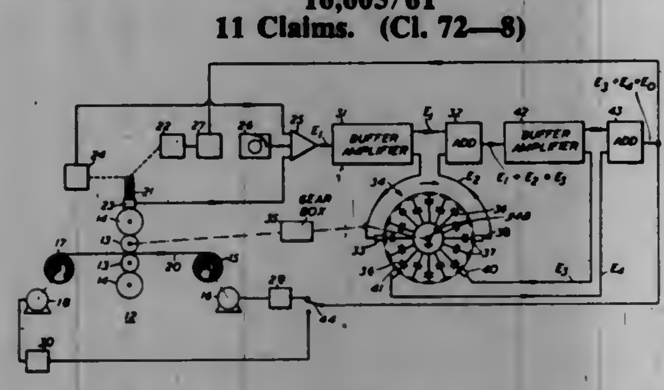
Milton Leiser, 305 E. Mount Eden Ave., New York, N.Y.
Filed Nov. 5, 1962, Ser. No. 235,252
5 Claims. (Cl. 70—358)



5. The combination of a cylinder lock and key, the cylinder lock comprising a cylinder having a central cylindrical cavity and formed with a pair of oppositely directed and aligned longitudinal rows of tumbler bores, a two-part key plug including a plug sleeve received within said cylinder in engagement with the walls of said cavity for axial rotation within said cylinder, and a central key plug having an axial keyway formed therein and received within said plug sleeve for axial rotation therein, said central key plug being rotatable through 180° within said plug sleeve from a locked position to a semi-locked position and said central key plug and plug sleeve being rotatable as a unit through 180° within said cylinder to an unlocked position, said two-part key plug having tumbler bores formed therein in alignment with the tumbler bores of said cylinder, a locking dog secured to said plug sleeve, three-piece tumblers including a first tumbler piece at an inner position, a second tumbler piece at a middle position and a third tumbler piece at an outer position, housed in each of said tumbler bores, and spring means in said tumbler bores biasing said tumblers toward the center of said cylinder lock, the key having two sets of oppositely facing bits engageable with the tumblers in the oppositely directed tumbler bores, the interfaces between the first and second tumbler pieces of said three-piece tumblers being aligned with the edge of said central key plug and said plug sleeve when the key is placed within said central key plug in a first orientation and when said lock is in the locked position and the interfaces of said second and third tumbler pieces being aligned with the edge of said plug sleeve and said cylinder when the key is placed in said central key plug in a second orientation and when said lock is in the semi-locked position.

3,194,035
SYSTEM FOR ELIMINATING CYCLIC VARIATIONS IN ROLLING MILL GAUGE ERRORS

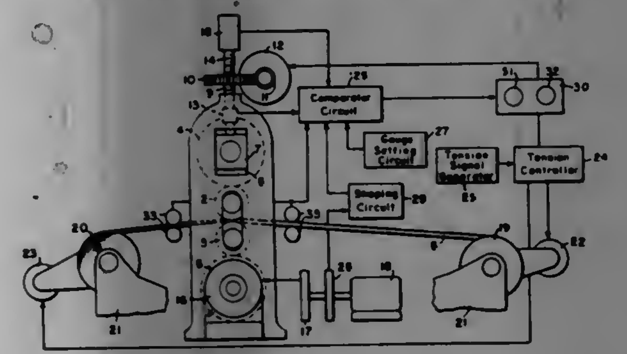
Joseph Peter Smith, Sheffield, England, assignor to Davy and United Instruments Limited, Sheffield, England
Filed May 4, 1962, Ser. No. 192,405
Claims priority, application Great Britain, May 8, 1961, 16,605/61
11 Claims. (Cl. 72—8)



1. A system for producing an improved indication of the discrepancy between the mean thickness of strip leaving a rolling mill and a predetermined thickness, said system comprising means for generating an electric signal in accordance with the instantaneous discrepancy, said signal including components which cyclically vary with the rotation of the rolls of the mill, two electrically conductive paths along which said signal is transmitted, a delay circuit in one of said paths controlled by the mill rolls for relaying the signal transmitted along that path by an odd number of half-periods of rotation of the rolls, and means for adding together the signals transmitted by the two paths.

3,194,036
MATERIAL THICKNESS CONTROL APPARATUS

Kenneth Canfor, Dundas, Ontario, Canada, and Leonard R. Hulls, Gwynedd Valley, Pa., assignors to Canadian Westinghouse Company, Limited, Hamilton, Ontario, Canada
Continuation of application Ser. No. 760,677, Sept. 12, 1958. This application July 9, 1962, Ser. No. 208,207
Claims priority, application Canada, Jan. 2, 1958, 743,033, Patent 607,961
10 Claims. (Cl. 72—11)



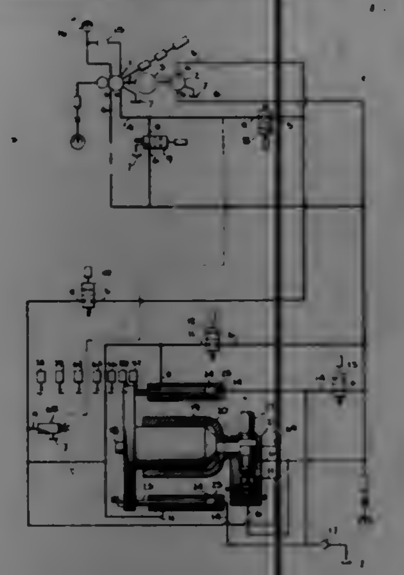
1. In control apparatus for reducing the thickness of material and operative with a thickness reducing member having opposed material engaging surfaces between which a separating force is established by the material passing through the member and means for passing the material to be reduced in thickness under tension through the thickness reducing member, the combination with signal producing means for producing an electric signal representative of the separation setting of the said opposed material engaging surfaces, second signal producing means for producing another electric signal representative of the said separating force, third signal producing means for producing a further electric signal representative of the speed of said material reducing members, fourth signal producing means for producing a still further electric signal representative of a desired output thickness of material from the apparatus and being manually adjustable for adjusting the magnitude of the said still further electric signal, signal combining means for combining the said electric signals to produce an electric error signal, tension adjusting means for adjusting the magnitude of the said tension within predetermined limits in response to the said electric error signal, and separation setting adjusting means for adjusting the separation setting of the said opposed material engaging surfaces in response to the electric error signal.

3,194,037
PNEUMATIC CONTROL SYSTEM

William Livingston Govan, Brighton, N.Y., assignor to Farrel Corporation, a corporation of Connecticut
Filed Nov. 26, 1962, Ser. No. 239,917
23 Claims. (Cl. 72—24)

16. A metal extrusion press including a ram cylinder, a ram, at least one reversible variable delivery pump having pneumatic pump control means for reversing and varying the displacement of said pump, a pneumatic control system including more than one source of pneumatic signal pressure, at least one of which is preset and at least one of which is manually variable, a compensation system for said manually variable source of signal pressure, said compensation system including a transducer and computor for adjusting said pressure in response to changes in the

output pressure of said pump within its operating range for metal extrusion, valving means for connecting and disconnecting each of said sources of pneumatic signal pressure separately to said pump control means, valve control means for sensing the position and operating condition of said ram and automatically controlling said valving means



to connect and disconnect said sources of pneumatic signal pressure from said pump control means in response thereto whereby the action of said ram may be controlled according to said sources including said manually variable and compensation source of pneumatic signal pressure so as to automatically cyle and operate said ram throughout the extrusion press operation.

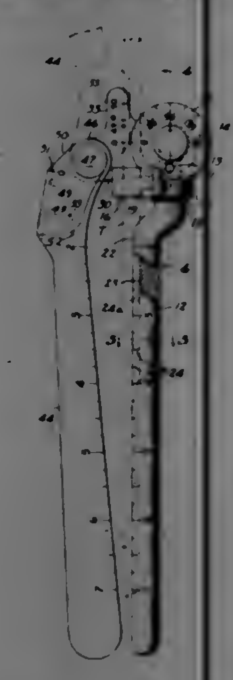
3,194,038

TUBE BENDER

Charles B. Small and Anton J. Jnik, Elyria, Ohio, assignors to The Ridge Tool Company, Elyria, Ohio, a corporation of Ohio

Filed Mar. 21, 1962, Ser. No. 181,327

4 Claims. (Cl. 72—35)



1. A tube bender comprising a mandrel of generally circular configuration having a peripheral tube receiving groove exending from a bend starting point around said mandrel at least 90° and a handle connected to the base thereof, means for holding a tube in said mandrel, a bending shoe for association with said mandrel to bend a tube therein, and a link for connecting said bending shoe to the mandrel, said link being pivotally connected at one end to the mandrel coincident with the axis of said tube receiving groove, stop means on said mandrel for limiting the rotation of said link around said pivot and arranged to stop said link in a predetermined position at said bend starting point for the start of a tube bending operation, said shoe being pivotally connected to the other end of said link, said shoe having a tube engaging seat therein and link engaging means on said shoe for engagement with said link upon a predetermined pivoting of the shoe on the link and to hold said link and shoe in fixed relation to each other when the shoe and link are rotated around the mandrel, said link being provided with a portion arranged to extend along a tube to be bent when in position in the mandrel and handle and having tube locating markings arranged for juxtaposition to a point on the tube for determining the position of the tube in the mandrel for a bend of a predetermined character.

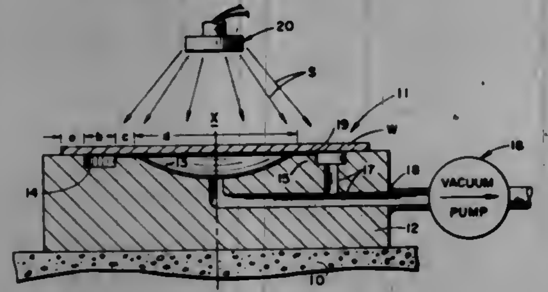
3,194,039

METHOD AND MEANS FOR HOLDING A WORKPIECE DURING THE EXPLOSIVE FORMING THEREOF

Donald E. Krantz, Canoga Park, Calif., assignor to North American Aviation, Inc.

Filed Dec. 18, 1961, Ser. No. 159,865

1 Claim. (Cl. 72—56)



A method of explosively forming a workpiece comprising:

positioning an inner portion of a workpiece to be formed over a die member arranged on a longitudinal axis and having a surface thereon which is constructed and arranged substantially perpendicular to said axis,

providing a die cavity on a first selected portion of the surface of said die member,

forming a substantially circularly shaped groove on second selected portions of the surface of said die member, said groove constructed and arranged adjacent to and spaced radially outward of said die cavity relative to said axis,

arranging said die cavity and said groove so that the workpiece surface area exposed to said groove is at least equal to the workpiece surface area exposed to said die cavity,

impressing a vacuum in said die cavity and said groove, whereby peripheral portions of said workpiece are preheld to prevent a drawing of said portions into said die cavity,

discharging an explosive force onto said workpiece and toward said die cavity,

indenting said peripheral portions of said workpiece with said discharged explosive force to prevent movement of said portions toward said die cavity,

and simultaneously forming said inner portion of said workpiece in conformance with said die cavity with said discharged explosive force.

3,194,040

POWER FLARING TOOL

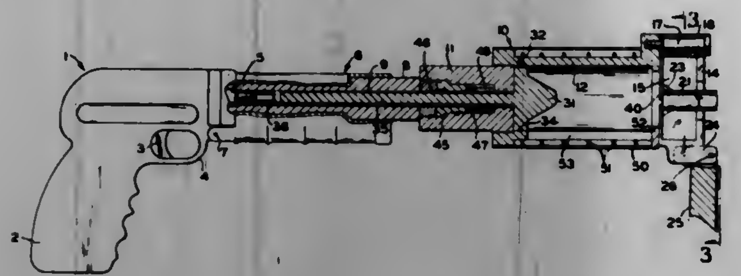
Robert G. Rasmussen, Newbury, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Continuation of application Ser. No. 762,579, Sept. 22, 1958. This application Nov. 19, 1962, Ser. No. 239,397

13 Claims. (Cl. 72—56)

1. A power tube flaring device comprising a gun of the type having a firing chamber, and a retractible

trigger lock barrel assembly; a flaring mechanism mounted on said barrel assembly and provided with a movable flaring head adapted to be propelled in response to the firing of an explosive charge in said chamber, with tube holding means arranged to hold a tube so that its end is struck and flared by said head, an actuator for closing



said tube holding means upon a tube and for retracting said trigger lock barrel assembly by moving said flaring mechanism relative to said gun for firing of said gun, and a tubular body constituting guide means for movement of said flaring head toward a tube held by said tube holding means.

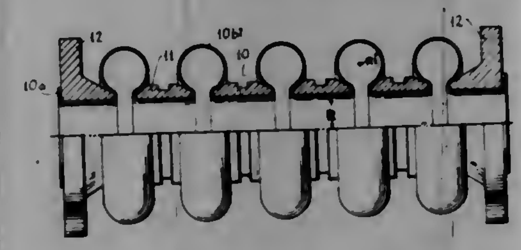
3,194,041

METHOD FOR FORMING CORRUGATED TUBES

Herbert G. Johnson, 17 N. Drexel Ave., Havertown, Pa.

Filed Nov. 7, 1960, Ser. No. 67,563

13 Claims. (Cl. 72—59)



1. The method of forming toroidal corrugations on tubes wherein the toric section is circular for considerably more than 180 degrees, which comprises: confining the tube exteriorly around its circumference at spaced points along its length by die ring elements having flat radial sides; applying fluid pressure within the tube to form a bulge between said axially spaced flat-faced die ring elements; forcing the ends of said bulge axially together while continuing to apply fluid pressure to form a flat-sided corrugation with a crowned periphery; removing said flat-sided die ring elements; restraining the tube at the inner ends of said corrugation against outward radial movement, leaving the outer portion of said corrugation unrestrained against axial expansion; and applying fluid pressure within said corrugation to expand it into a toroidal shape which is approximately circular in section over considerably more than 180 degrees of its outer periphery.

3,194,042

DEVICE FOR SHAPING AND HARDENING PLANE SURFACES

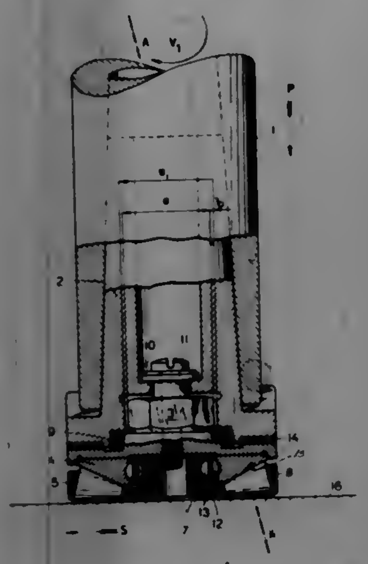
Václav Adam, Semily, Czechoslovakia, assignor to Výzkumný a Zkušební Letecký ústav, Letnany u Praky, Czechoslovakia

Filed Sept. 6, 1963, Ser. No. 307,230

Claims priority, application Czechoslovakia, Oct. 13, 1962, 5,813/62

3 Claims. (Cl. 72—76)

1. A device for shaping and hardening of plane surfaces by rotary forging on a machine provided with a driving spindle, said device comprising a body adapted to be connected to the driving spindle of the machine, a carrier supported by said body for rotational movement therewith and for a limited radial and axial movement relatively to the body, compensating damper means interposed between the body and the carrier, said compensating damper means retaining the carrier in co-axial relationship to the body, a conical cam rigidly secured to the carrier, alternatingly receding and protruding surfaces on the conical part of said conical cam, a set of balls arranged for rolling movement along the inner wall of said conical cam, an inner bearing ring engaging



the set of balls at its outer periphery, a cage rigidly secured to the inner bearing ring for rotation therewith, and a set of working bodies, mounted for rotation in said cage and for a limited radial movement with respect to their axis, said working bodies being in rolling engagement with the receding and protruding surfaces on the conical cam.

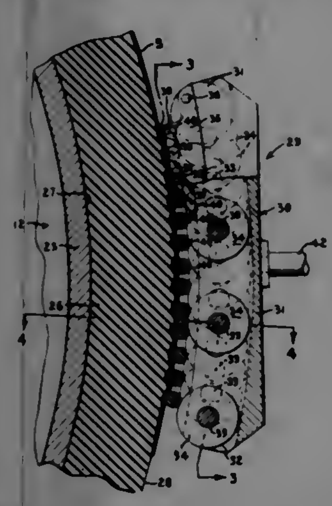
3,194,043

ROTARY MULTIPLE REVERSE FLEXING DEVICE

John Joseph Byrnes, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed May 16, 1963, Ser. No. 280,983

13 Claims. (Cl. 72—163)



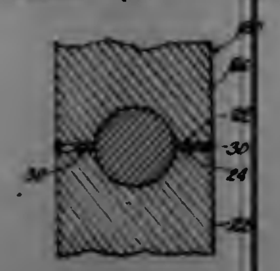
1. A device to accomplish alternate flexing of continuous metal strip in order to produce alternate tension and compression strains in the strip along lines transverse to the direction of strip motion to provide an increase in fabrication properties of severely work hardened sheet metal comprising a plurality of sets of rollers, first means presenting a resilient arcuate surface opposing the sets of rollers, whereby a metal strip traveling between the rollers and said means conform to the contour of the rollers and is thereby subjected to alternating tension and compression strains, second means for introducing the strip between a first of said plurality of sets of rollers and said surface, and third means for withdrawing the strip from between a second of said plurality of sets of rollers and said surface.

3,194,044

ROLLED BARS AND METHOD FOR MANUFACTURING

Natalis H. Polakowski, Wilmette, and Lawrence B. Schmitt, Chicago Heights, Ill., assignors to La Salle Steel Company, Hammond, Ind., a corporation of Delaware

Filed Mar. 14, 1958, Ser. No. 721,547
4 Claims. (Cl. 72—204)



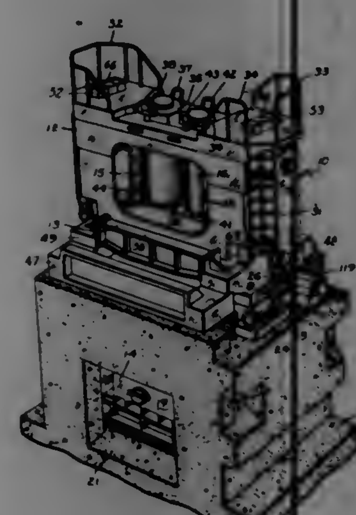
1. The method of rolling metal bars to achieve a reduction in cross-sectional area comprising the steps of engaging the surfaces of the bars with a series of grooved rolls arranged in pairs to engage opposite sides of the bars as the bars are advanced linearly therebetween to effect reduction in the cross-sectional areas of the bars, engaging the opposite surfaces of the elongate bars with a final pair of grooved rolls defining a cross-section therebetween corresponding to the final cross-section of the bar with the lateral edges of the said final pair of grooved rolls having a spaced relationship therebetween which is a minimum at their inner edges and increases from the inner edges outwardly whereby the flash formed by the excess metal displaced by the grooved rolls extends outwardly from the opposite surfaces of the bar with a minimum thickness adjacent the surfaces of the rolled bar and with increasing thicknesses outwardly therefrom, and severing the flash from the bar at the point of minimum thickness adjacent the finished surface of the bar.

3,194,045

ROLLING MILL

William J. Hill, Worcester, Mass., assignor to Morgan Construction Company, Worcester, Mass., a corporation of Massachusetts

Filed Oct. 10, 1960, Ser. No. 61,574
17 Claims. (Cl. 72—238)



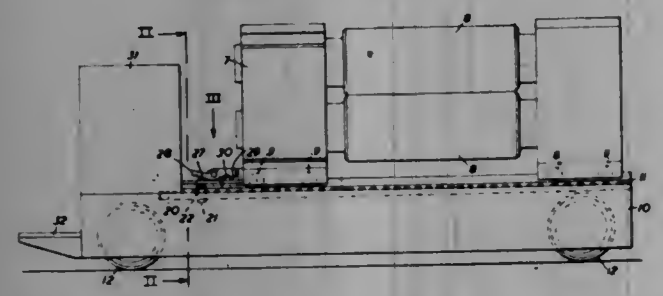
1. A vertical rolling mill, comprising a housing structure having two windows disposed in vertically-spaced parallel relationship, a pair of roll chocks positioned in each window, a pair of guide rails extending through one window and into the other window, one chock of each pair being slidable vertically on each guide rail for movement into and out of the window, a roll journaled in the chocks carried by each guide rail, a drive spindle extending downwardly beneath each roll, a base underlying the housing structure, two posts rigidly attached to and extending upwardly from the base, said posts residing in opposite ends of the housing structure in small windows provided therefor, each post being of generally rectangular horizontal cross-sectional form and having its larger dimension extending transversely of the large windows, each post having a vertical slot extending therethrough longitudinally of the large windows, roll positioning screws mounted in the housing structure and extending through the slots into operative relationship with the chocks, a third chock means detachably joining each third chock to a guide rail, and an intermediate member rotatably carried by each third chock and serving to connect the roll to the spindle.

3,194,046

DEVICE FOR CHANGING ROLLS IN HORIZONTAL ROLLING MILLS

Colin Roy, Dronfield Woodhouse, near Sheffield, and Reginald Dennis Swallow, Todwick, near Sheffield, England, assignors to Davy and United Engineering Company Limited, Sheffield, England

Filed Dec. 26, 1962, Ser. No. 247,176
Claims priority, application Great Britain, Dec. 28, 1961, 46,418/61
3 Claims. (Cl. 72—238)



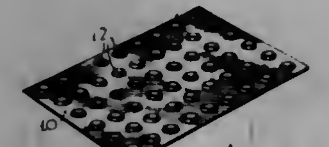
1. In combination with a rolling mill including means for supporting a wheeled roll assembly when passing into and out of the mill, a roll assembly carriage having a wheel-supported platform, on the upper surface of which are tracks alignable with the wheels of said roll assembly when said roll assembly is in the mill and in a position to be removed therefrom, attachment means carried by said carriage movable along the platform and releasably engageable with said roll assembly, and means for driving the attachment means for transferring said roll assembly from the mill onto the roll assembly carriage and vice versa.

3,194,047

METHOD OF MAKING A METAL SANDWICH STRUCTURE PANEL

Walter S. Eggert, Jr., and Harry P. Schane, Philadelphia, Pa., assignors to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Apr. 24, 1962, Ser. No. 189,887
6 Claims. (Cl. 72—349)



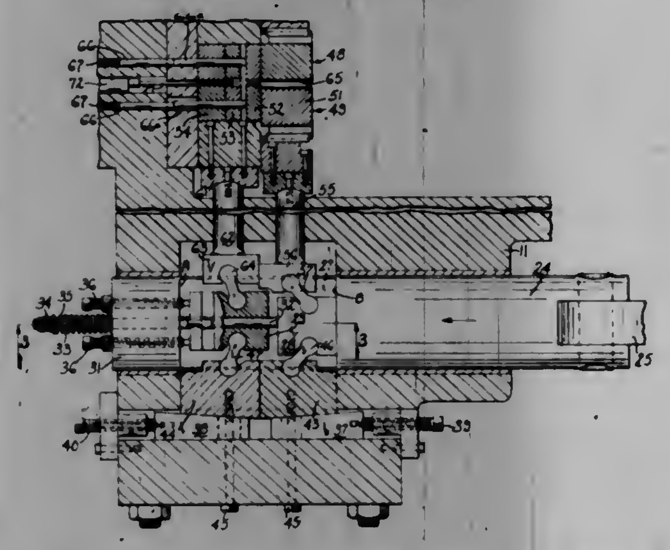
2. The method of making a metal sandwich structure panel from a sheet metal blank, said panel comprising a plurality of longitudinally-spaced laterally-extending rows of spaced dimples, each dimple comprising a flat circular end wall and a tapered side wall, said method comprising the steps of: intermittently feeding said blank through a preforming station and a final forming station; preforming rows of laterally-spaced rounded-end dimple-like shapes, at said preforming station, in successive portions of said blank, each row being preformed by simultaneously cold drawing the metal within laterally-spaced areas to form such shapes and preventing the flow of metal into such areas and thereby prevent dimensional distortion of said blank outside of such areas; and final forming said rows of said rounded-end dimple-like shapes into said dimples at said final forming station by simultaneously holding said blank around said dimple-like shapes of each row as each row passes through said final forming station, and stretching said rounded-end dimple-like shapes to form said dimples.

3,194,048

TOGGLE GRIP MECHANISM

Erwin B. Byam, Wolcott, Conn., assignor to Textron Inc., Providence, R.I.

Filed Jan. 10, 1963, Ser. No. 250,635
15 Claims. (Cl. 72—405)



1. In a header or like machine having a frame, the combination of:

(a) at least one die having a cavity, said die composed of,
  (i) two die halves divided along a plane passing through the axis of the die cavity,
  (ii) a plurality of sections divided along parallel planes perpendicular to the axis of the die cavity,
  at least one die half being slidably mounted in the machine frame,
(b) a first mechanism cooperatively connected to less than all the sections of the slidable die half, said first mechanism adapted to fully close the associated die sections and open said sections a first amount transversely to the axis of said cavity,
(c) a second mechanism cooperatively connected to the remaining sections of the slidable die half, said second mechanism adapted to fully close the associated die sections and open said sections a second amount transversely to the axis of said cavity, the second amount differing from the first amount, and
(d) single means slidably mounted in the frame, for operating both of said first and second mechanisms.

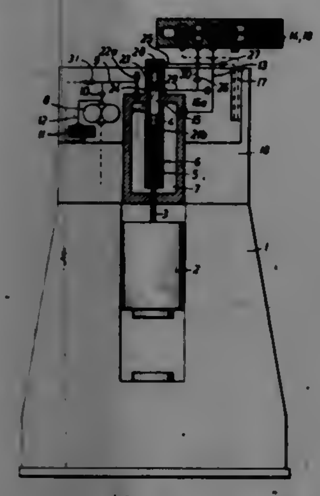
3,194,049

TOP-PRESSURE FORGING HAMMER

Fritz Riemenschneider, Leverkusen, and Harald Hassel, Opladen, Germany, assignors to Eumuco Aktiengesellschaft für Maschinenbau, Leverkusen, Germany

Filed Oct. 19, 1961, Ser. No. 146,208
6 Claims. (Cl. 72—453)

1. A top pressure forging hammer comprising a vertically reciprocating ram having a downwardly forging stroke. a cylinder disposed above said ram, a piston in said cylinder, a piston rod connecting said ram to said piston with said piston having a larger upper face surface than a lower face surface thereof, a hydraulic drive system connected to said cylinder, said hydraulic drive system including a constant delivery pump permanently connected to said cylinder for providing fluid acting on said piston lower face, to maintain a constant upward force on said ram, an oscillatory hydraulic system including a relatively large container completely filled with liquid and in open communication with said cylinder interposed in said hydraulic drive system and receiving hydraulic fluid from said hydraulic drive system, said liquid under pressure acting as a hydraulic spring, valve means for controlling flow of hydraulic fluid from said container to said cylinder for reaction on said upper piston face, and a freely movable control piston mounted in said cylinder above said first mentioned piston for controlling the flow of fluid therethrough as the ram is forced upwardly by the fluid pressure within the container, said oscillatory hydraulic system being connected to said cylinder above said control piston and said control piston having a throttling aperture therethrough, said liquid under pressure acting on the lower surface of said piston in said cylinder for upward movement and on the difference of both piston surfaces for downward movement.

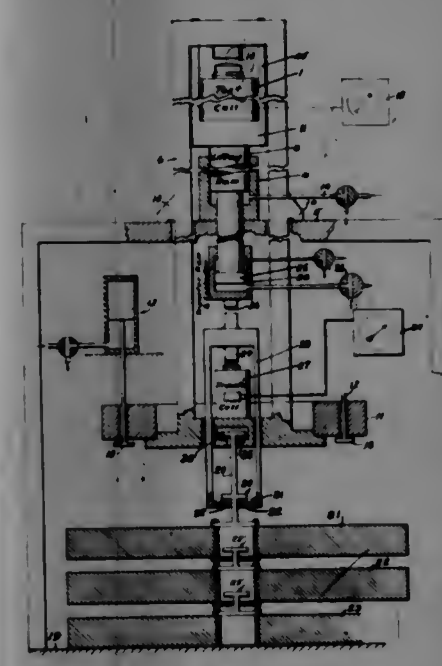


3,194,050

DEAD WEIGHT CALIBRATING DEVICE WITH EXTENDED RANGE

Arthur C. Ruge, Lexington, Mass., assignor to Baldwin-Lima-Hamilton Corporation, a corporation of Pennsylvania

Filed Jan. 27, 1961, Ser. No. 85,392
14 Claims. (Cl. 73—1)



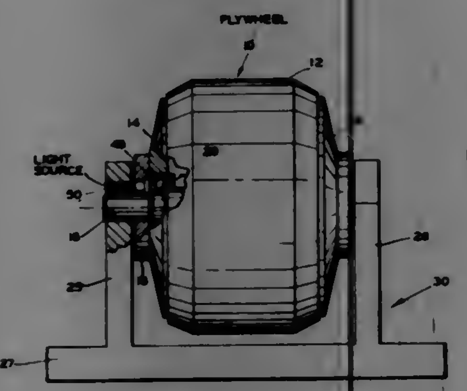
1. A dead weight calibrating device for calibrating the response of a load cell which is to be tested comprising, in combination, means for supporting and orienting a load cell to be tested for response to force acting in a given direction, for indicating the responses of a load cell to be tested to force applied thereto in said direction, a

quantity of dead weight, a base, means reacting against said base for lifting a predetermined amount of said weight directly through a load cell to be tested while it is supported and oriented by said mounting means, and means including said lifting means and an auxiliary load cell and means for indicating responses of the auxiliary load cell for applying a predetermined additional force in series with the auxiliary load cell and a cell to be tested, supported and oriented by said mounting means, the load carried by the auxiliary load cell being free of the dead weight carried by the load cell to be tested, whereby the total force acting on the cell to be tested as indicated by the indicating means therefor extends the calibration range of the load cell to be tested beyond the force capacity provided by the total dead weight employed.

3,194,051
GYRO MOTOR BEARING TESTING DEVICE AND METHOD

Howard S. Schnoll, Oakland, N.J., assignor to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware

Filed Sept. 25, 1962, Ser. No. 226,188
4 Claims. (Cl. 73—9)



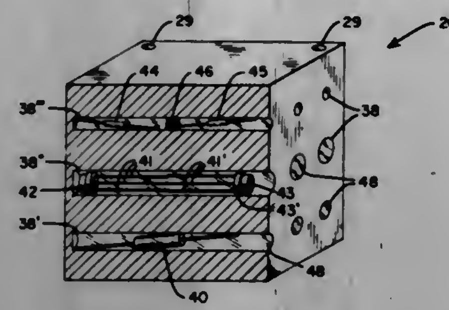
3. A testing device for motor bearings including a shaft forming an inner race having a ramp portion, an outer race mounted in the motor, a plurality of bearings rotatably mounted in the outer race and on the ramp portion of the inner race, and a bearing separator positioned between the outer race and the inner race, the bearing separator having an outer edge coated alternately with a light reflecting material and a light absorbing material, the device comprising a pair of brackets for supporting opposite ends of the shaft, a source of light mounted in one of the brackets and including means for projecting light rays therefrom onto said outer edge of the bearing separator, photoelectric cell means carried by the said one bracket and periodically actuated by reflected rays of light from the coating of light reflecting material at the outer edge of said bearing separator, and means controlled by said photoelectric cell means and actuated by said reflected light rays and for counting the number of revolutions of the bearing separator for indicating the differential speed of the bearing separator in relation to the driven speed of the outer bearing race of the motor.

3,194,052
TESTING METHOD

Rudolf K. Melzer, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 4, 1962, Ser. No. 228,340
13 Claims. (Cl. 73—12)

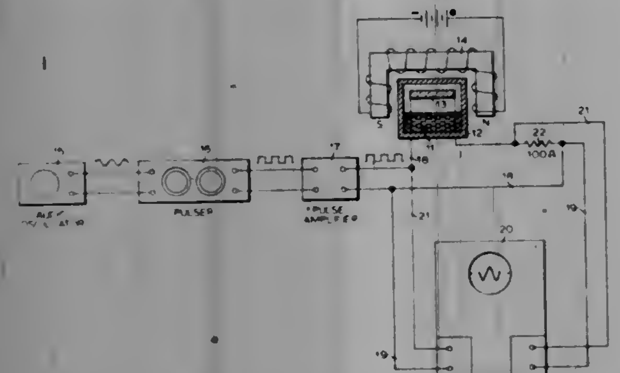
1. The method of mounting a material to be subjected to forces generated by an acceleration-deceleration test procedure, comprising the steps of: at least partially mounting the material to be tested in a frozen medium and thereafter subjecting the material to the generated forces of the acceleration-deceleration test procedure such that the forces are transmitted to the material through the frozen medium.



3,194,053
IDENTIFICATION OF CHEMICAL SUBSTANCES

David C. T. Shang, Cedar Grove, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Sept. 18, 1962, Ser. No. 224,296
5 Claims. (Cl. 73—23)

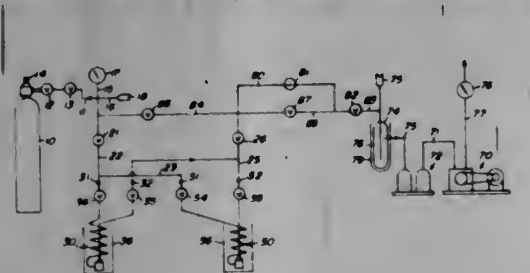


1. The process of identifying an unknown chemical substance comprising the steps of:
- subjecting an oscillistor to the influence of one or more known substances in a controlled environment to produce an output characteristic thereof,
- subjecting an oscillistor to the influence of an unknown substance in a controlled environment to produce an output characteristic thereof; and,
- matching the output characteristic of the oscillistor subject to the unknown substance to the output characteristic of the oscillistor subject to a known substance to identify the unknown substance.

3,194,054
APPARATUS FOR CONCENTRATING TRACE IMPURITIES IN HIGH-PURITY HELIUM

William M. Deaton and Calvin G. Kirkland, both of Amarillo, Tex., assignors to the United States of America as represented by the Secretary of the Interior

Filed Aug. 7, 1961, Ser. No. 129,909
12 Claims. (Cl. 73—25)
(Granted under Title 35, U.S. Code (1952), sec. 266)

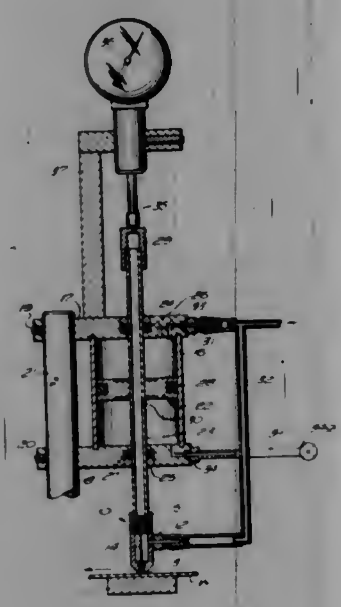


1. A method for determining characteristics of the constituent impurities of a high purity helium gas sample, the steps of passing the sample during a predetermined period of time as a measured volume of helium gas maintained at a pressure of a partial vacuum, through the inside of an enclosure vessel having a relatively small predetermined volume and to the outside of which liquid helium maintained at atmospheric pressure was applied to surround the vessel during the aforesaid period of time and for a time period thereafter during which the step of lowering the pressure in the vessel to a near vacuum is effected by evacuating helium gas from the vessel and measuring the volume of the gas evacuated, and the further steps of sealing the vessel to isolate the contents remaining therein, removing the liquid helium from the outside of said vessel and heating the vessel slowly to ambient temperature, and thereafter opening the vessel to remove the total contents therefrom to a mass spectrometer wherein the pressure in the vessel is measured, and the constituent components of the contents are identified and related to each other in accordance with their mole-percent of the total contents.

3,194,055
WORK DIMENSION AND POSITION DETECTING, INDICATING AND CONTROLLING METHOD AND APPARATUS

Max Knobel, 663 Beacon St., Boston, Mass.

Filed May 6, 1963, Ser. No. 278,379
8 Claims. (Cl. 73—37.5)

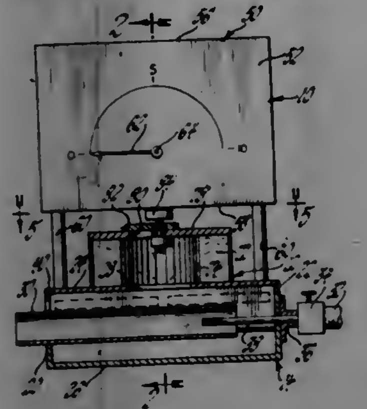


1. Work dimension and position indicating apparatus comprising: a pneumatic cylinder containing intermediate its ends a piston defining two chambers therein, said piston having a stem extending out from an end of said cylinder; air gage means positionable operatively adjacent the work and mounted for movement with said piston stem, said air gage means including at least one gaging nozzle; means for supplying air under pressure to said nozzle; means for communicating work-responsive back pressure at said nozzle to one of said chambers; means for supplying to the other of said chambers air under pressure constantly proportioned to the air pressure supplied to said nozzle; means for operatively relating said piston to a nozzle position indicating gage; whereby said nozzle is bodily positionable at a determined distance from said work and dimensional and positional variations of the work relative to the nozzle are communicated to said piston and are adapted to be indicated at said gage; and means for supplying air under relatively greater pressure to the nozzle-communicating chamber for retracting said air gage means from the work.

3,194,056
PERMEABILITY TESTING METHOD AND APPARATUS

Evan L. Hopkins and Lee K. Irwin, Emporia, Kans., assignors to Hopkins Manufacturing Corporation, Incorporated, Emporia, Kans., a corporation of Kansas

Filed Jan. 26, 1962, Ser. No. 168,924
16 Claims. (Cl. 73—38)

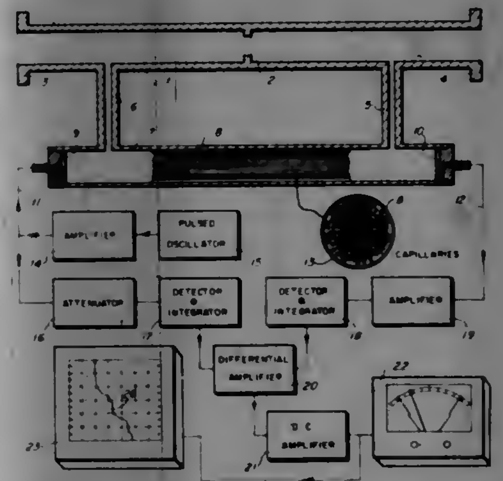


6. An apparatus for testing the fluid permeability of an element comprising means for passing a flow of fluid under a substantially constant pressure from one side of a reference element to the other side thereof, means for determining the pressure on the other side of said reference element as a result of said flow, said first-named means being operable to pass a flow of fluid under said constant pressure from one side of a test element to the other side thereof, said second-named means being operable to determine the pressure on the other side of said test element as a result of said last-named flow, means for comparing said pressures resulting from said first and second-named flows, and means for supplying a metered flow of fluid from said one side to said other side of said test element without passing therethrough until said pressure comparing means indicates that the pressure on said other side of said test element substantially equals the pressure on said other side of said reference element, whereby the amount of said metered flow of fluid indicates the fluid permeability of said test element relative to said reference element.

3,194,057
ULTRASONIC VISCOSIMETER

Joseph D. Richard, 3569 Loquat Ave., Miami, Fla.

Filed Oct. 15, 1962, Ser. No. 230,364
5 Claims. (Cl. 73—55)

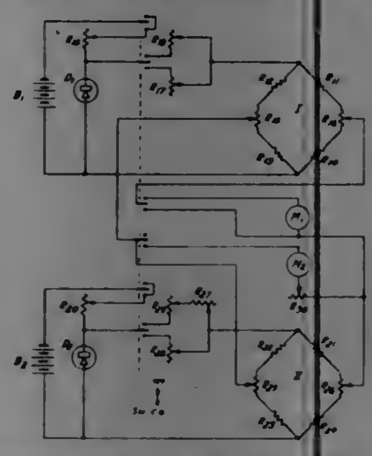


1. Apparatus for determining the viscosity of a fluid comprising: an elongated absorption chamber adapted to accommodate the inflow of a viscous fluid at one end and a corresponding outflow at the other end; a porous solid material within the central portion of the said chamber; means for transmitting a beam of ultrasonic energy along the major axis of the said chamber so as to pass through the said porous solid; means for receiving at least a por-

tion of the ultrasonic energy after having traversed the said porous solid; means for measuring the absorption of the said ultrasonic energy caused by viscous interaction between the surface of the said porous solid and the said viscous fluid; and means for indicating the viscosity of the said fluid as a function of the said measured absorption.

3,194,058
WEIGHT AND BALANCE DETERMINATION

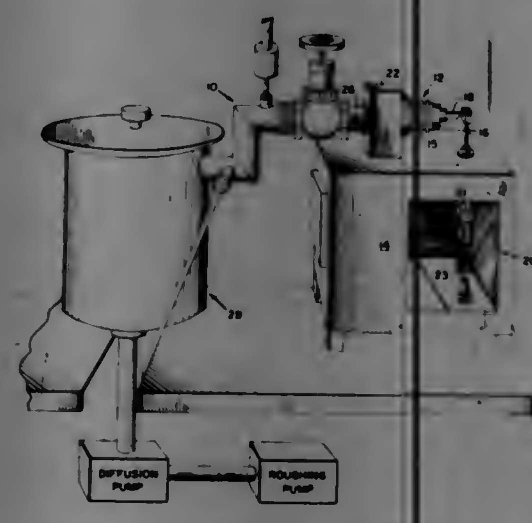
Haig Kurkjian, R.D. 1, Malvern, Pa.
Filed Sept. 18, 1962, Ser. No. 224,401
7 Claims. (Cl. 73—6[illegible])



1. In an electrical weight-and-balance indicator for a vehicle supported on a pair of supporting structures, a first bridge circuit each of whose arms is responsive to the load on a first supporting structure, and a second bridge circuit each of whose arms is responsive to the load on a second supporting structure; means for applying across each bridge a potential proportional to the distances of the respective supporting structures from a given intermediate location in line with them, whereupon each of the bridge outputs represents the moment of the portion of the load upon the associated supporting structure at its distance from the given location, and means for subtracting the two outputs to indicate the distance and direction of the center of gravity, under load, from the given location.

3,194,059
VACUUM FATIGUE APPARATUS

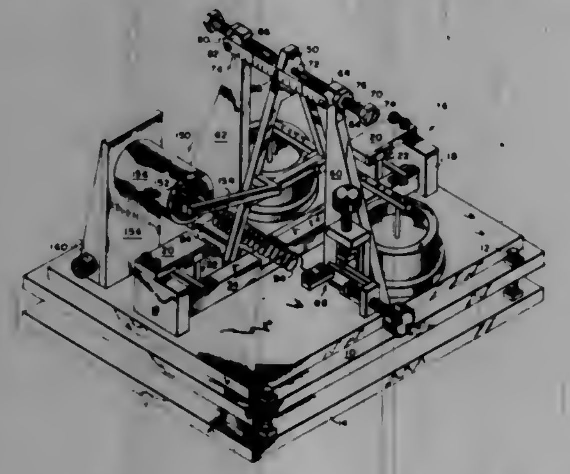
Bernard Steverding, Huntsville, Ala., and Donald L. Turpen, Fayetteville, Tenn., assignors to the United States of America as represented by the Secretary of the Army
Filed Sept. 19, 1961, Ser. No. 139,320
2 Claims. (Cl. 73—67.3)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Apparatus for fatigue testing a specimen in a vacuum environment comprising: a flexible casing forming a chamber for enclosing a specimen therein; a pair of support means respectively secured to opposite ends of said casing for support of said specimen therein, one of said support means extending out of said casing and forming a fixed support for the end of said casing attached thereto, the second support means extending through the end of the casing to which it is secured, said one of said support means including a block having said casing secured thereto and a beam extending from said block and into said chamber for support of the specimen at one end thereof, said block provided with an aperture extending therethrough in communication with said chamber, a vacuum producing device connected in communication with said aperture for evacuation of air from said chamber; the second of said support means including an arm extending into said casing for support of said specimen at the other end thereof, said arm provided with a threaded portion intermediate the ends thereof, an internally threaded member disposed for threaded engagement with said intermediate portion of said arm to secure said casing thereon, a rod having one end thereof pivotally secured to said arm, a vibration producing device connected to the other end of said rod to transmit periodic stresses to said specimen responsive to actuation of said vibration producing device.

3,194,060
SEISMIC DISPLACEMENT TRANSDUCER

Thomas L. Greenwood, Huntsville, Ala., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Jan. 30, 1962, Ser. No. 169,977
1 Claim. (Cl. 73—71.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)

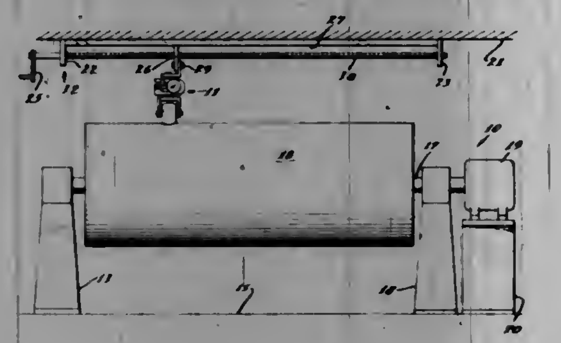


A seismic displacement transducer for measuring low frequencies induced in building structures, comprising

- (A) a base member having
  - (1) a sub-base,
  - (2) adjustable means spacing said sub-base from said base to permit precise leveling of said base,
- (B) a displaceable mass in the form of an inverted pendulum of essentially triangular shape,
- (C) means operative to establish a horizontal axis about which said mass may have limited motion, said means comprising
  - (1) a pair of pivot arm support elements, each said element comprising a support element base member rigidly attached to said base member, and a suspension element attached and at right angles to said support element base member,
  - (2) a pendulum extension attached to one side of said triangular-shaped pendulum at substantially the base thereof,
  - (3) leaf spring members forming a cross-flexure support means between each said pivot arm support element and the ends of said pendulum extension,
- (D) spring means adjustably attached between said pendulum and said base member thereby permitting said pendulum to be of minimum length, said spring means bisecting and acting across the horizontal axis of said pendulum when said pendulum is at rest,
- (E) a crosshead adjusting means secured to said transducer base member and operative to vary the tension exerted by said spring and the direction of force of said spring, said means comprising
  - (1) a vertically movable screw adjustment means operatively attached to said spring means and serving to vary the direction of said spring force, and
  - (2) a horizontally movable screw adjustment means operatively attached to said vertical screw adjustment means serving to vary the tension exerted by said spring,
- (F) means integrally secured to said pendulum and said base and operative to damp the pendulum motion, and
- (G) displacement responsive means comprising a differential transformer and means suitable for connecting said displacement responsive means to a recording means.

3,194,061
INSTRUMENT FOR MEASURING HARDNESS OF THE SURFACE OF A RESILIENT ROLL

Alan R. Sorenson and Carl M. Westbrook, Beloit, Wis., and Carl B. Dahl, Rockton, Ill., assignors to Beloit Corporation, a corporation of Wisconsin
Filed July 20, 1961, Ser. No. 125,412
3 Claims. (Cl. 73—81)

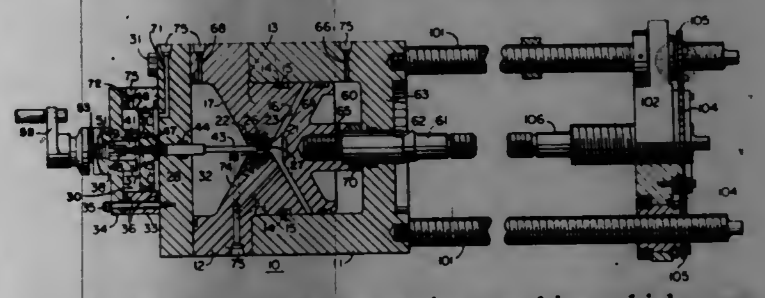


1. An apparatus for determining the existence and location of relatively hard spots in a resilient layer of material on a cylindrical roll having substantially the resiliency of rubber comprising,

- a pair of horizontally spaced end bearings positioned for rotatably supporting the roll for rotation about the roll axis,
- a rotatable testing wheel having a sufficiently small width to sink into said surface layer, with force applied thereto,
- a carriage supporting the wheel for rotation about an axis substantially parallel to said roll axis,
- a traversing guide extending accurately parallel to said roll axis for the length of the roll and supporting said carriage for movement along the roll at a uniform distance from the roll axis,
- a strong spring having a first portion mounted on the carriage biasing the wheel toward the roll,
  - said spring having sufficient strength to force the wheel into said surface layer to deform the surface thereof,
  - said spring having a second portion supporting said wheel,
- means adjustably mounting the first portion of the spring on the carriage so that the position of the first part can be adjusted and the biasing force changed for obtaining sufficient force on the wheel to depress said layer,
- and means for measuring the relative change in distance between said first and second spring portions to measure change in resiliency of the layer on the roll as a function of radial change in wheel position relative to the roll axis.

3,194,062
TENSION-COMPRESSION TESTING MACHINE

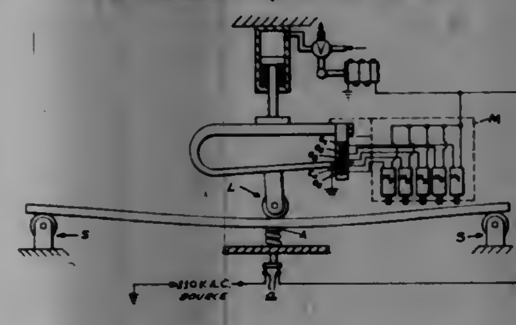
Joseph M. Krafft, Alexandria, Va., and John C. Hahn, Washington, D.C., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 25, 1962, Ser. No. 233,166
4 Claims. (Cl. 73—93)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A tensile-compression testing machine which comprises a housing, a hydraulic fluid reservoir in said housing, a piston chamber below said reservoir, a centrally located passage between said reservoir and said piston chamber, a valve seat and a valve secured in said passage, fluid operated control means connected with said valve to control passage of hydraulic fluid through the passage between said valve and valve seat, a piston in said piston chamber, said piston chamber having a centrally located aperture through the bottom thereof, a weigh-bar piston rod slidably passing through the aperture in the bottom of said housing and secured to said piston within said piston chamber, means for admitting a gas into said reservoir above said hydraulic fluid and into said piston chamber below said piston and means for securing test specimen holding means below said housing.

3,194,063
NON-DESTRUCTIVE STRENGTH TEST OF STRUCTURAL LUMBER

Herbert B. McKean, Lewiston, Idaho, assignor to Potlatch Forests, Inc., Lewiston, Idaho, a corporation of Delaware
Filed Mar. 1, 1962, Ser. No. 176,646
8 Claims. (Cl. 73—100)



1. The method of grading, by a non-destructive test, a series of boards of a particular wood species produced as structural lumber and having a rectangular cross section comprising:

- bending each board of the series, one after another between supports, without impact, in a direction perpendicular to a flat face of the board by physically applying to the board a force of magnitude such as to produce within the board a fiber stress less than the maximum fiber stress which the material of the board is capable of sustaining without deviation from proportionability of stress to strain;
- deriving the stress to which the board is subjected by relating the applied force to the board dimensions;
- measuring the deflection sustained by the board under such stress and deriving the strain sustained by the

board by relating the deflection to the distance between supports;

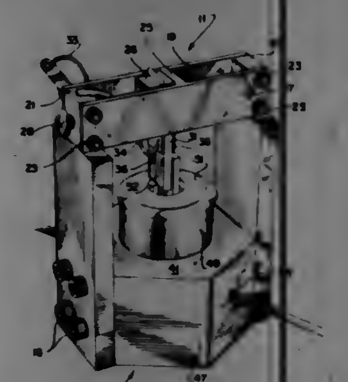
releasing the applied force, the time of application of said force being insufficient to effect residual deformation of the board after removal of the applied force;

and mechanically grading the individual boards of the series so bent according to the modulus of elasticity of each individual board as indicated by its measured stress and strain and further according to a predetermined relationship for its species between ultimate strength and said modulus of elasticity.

3,194,064

SINUSOIDAL SHEAR GENERATOR

Duane O. Miles, Sunnyvale, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed Nov. 2, 1961, Ser. No. 149,573
7 Claims. (Cl. 73—1[illegible]1)

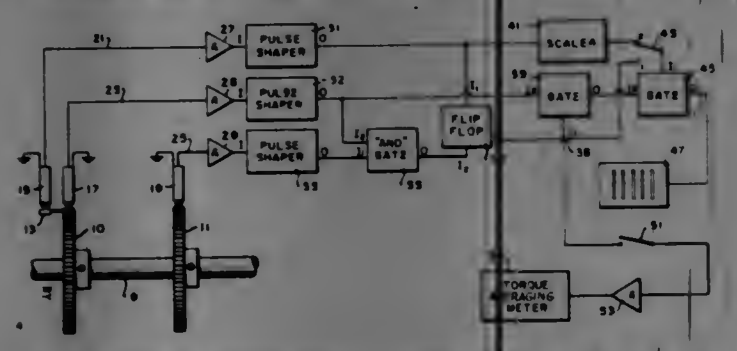


1. A device for measuring the shear rigidity and shear viscosity of a substance comprising a first member having a first plane surface, a second member having a second plane surface, said second member providing a voltage output proportional to the force applied to said second plane surface, said first plane surface being oppositely disposed and spaced from said second plane surface, the substance to be investigated being disposed in the space forced between and in intimate contact with said first and second plane surfaces, means for applying an oscillating motion to said first member and in the direction of said first plane of said first member thereby applying a shear force to said substance to be investigated, whereby the force transmitted through the material being investigated to said second plane surface is a function of the complex shear modulus of the material being investigated and the voltage output of said second member being proportional to the shear viscosity and shear rigidity of the material being investigated.

3,194,065

DIGITAL VERNIER TORQUEMETER

Meredith W. Wilson, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy
Filed Apr. 4, 1961, Ser. No. 100,766
19 Claims. (Cl. 73—136)
(Granted under Title 35, U.S. Code (1952), sec. 266)

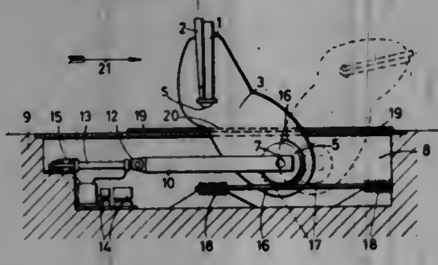


3. A vernier torquemeter comprising; a shaft with a plurality of axially spaced apart pulse producing means mounted thereon, one of said pulse producing means being a keying means, electronic means coupled to the remaining pulse producing means for determining a coincidence of pulses, means coupled to said electronic means and to the pulse producing means responsive to the sequential time relationship between the keying pulse and the point of coincidence of pulses for producing an output which indicates the torque on the shaft.

3,194,066

BURST EFFECT TESTING TARGET

Kuno Schwab, Gerhard Schmausser, and Erich Konrad, Zweibrucken, and Joachim Hoffmann, Frankfurt am Main, Germany, assignors to Dinglerwerke Aktiengesellschaft, Zweibrucken, Germany
Filed Mar. 23, 1962, Ser. No. 181,961
7 Claims. (Cl. 73—167)

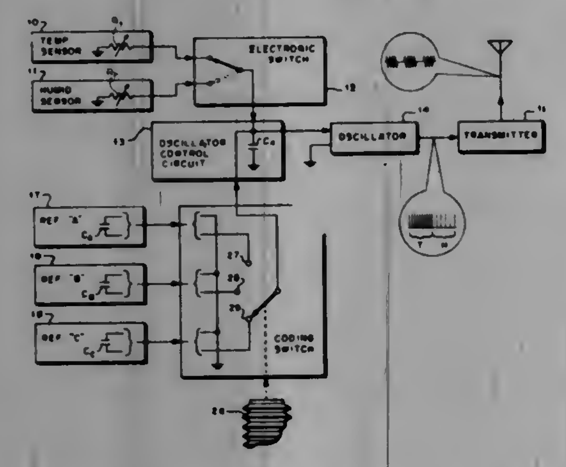


1. A testing target including an armor plate, comprising pivotal mounting means for said plate, hydraulic means for movably positioning said mounting means at a selected angle and for normally maintaining the same at the selected angle, damping means connected to said hydraulic means whereby said hydraulic means act as a shock absorber, means for permitting said plate mounting means, under the impact of a projectile, to pivot and to slide in the direction of fire, and resilient means connected to said plate mounting means to retard said pivoting and sliding movements.

3,194,067

METEOROLOGICAL ROCKETSONDE

Salvatore J. Grillo, Willow Grove, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 29, 1961, Ser. No. 141,915
6 Claims. (Cl. 73—170)
(Granted under Title 35, U.S. Code (1952), sec. 266)

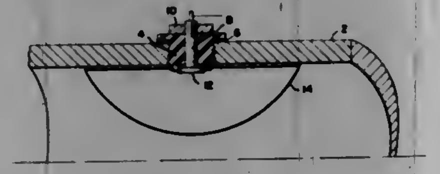


5. A radiosonde for use with a rocket comprising: first electrical transducer means having analog output signals proportional to two separate and distinct atmospheric conditions, switch means connected to said first tranducer means for alternately conducting said analog signals to the output thereof whereby said two atmospheric conditions are continuously monitored irrespective of radiosonde altitude, second electrical transducer means having a sequentially permutated output of discrete signals indicative of another atmospheric condition, oscillator means connected to receive the output signals from said switch means and said second transducer means and to continuously modify said cyclical analog and discrete signals with each other producing thereby a pulse rate proportional to said received signals, and means for transmitting a radio frequency in accordance with said pulse rate.

3,194,068

MAGNETIC FLOWMETER

Elmer D. Mannherz, Southampton, and John J. McDermott, Lansdale, Pa., assignors to Fischer & Porter Company, Warminster, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1961, Ser. No. 92,268
5 Claims. (Cl. 73—194)

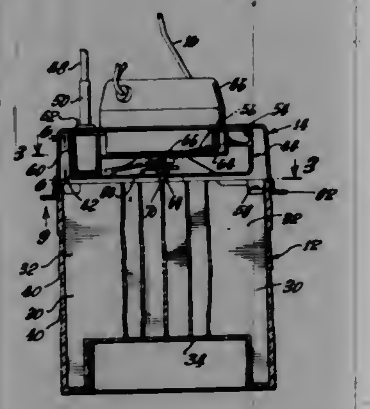


1. A flowmeter comprising an electrically conductive conduit for flowing liquid having an uninsulated inner surface, electromagnetic means providing a magnetic field transverse to said conduit, means supplying current to said electromagnetic means, electrodes insulated from said conduit, exposed to liquid flowing through said conduit, and located on a line extending transversely through said field to pick up signals generated by flow of liquid through said field, means connected to said electrodes for measuring said signals, and a member individual to at least one of said electrodes providing electrical insulation through a region of such substantial extent surrounding the last mentioned electrode and adjacent to the inner surface of said conduit as to make negligible leakage between said electrode and the inner surface of the conduit, said member being unconnected to said conduit except in the immediate vicinity of its electrode.

3,194,069

URINOMETER

James H. Scott, Los Angeles, Calif., assignor to William B. Carrigan, Santa Ana, Calif.
Filed Dec. 26, 1962, Ser. No. 246,983
11 Claims. (Cl. 73—219)

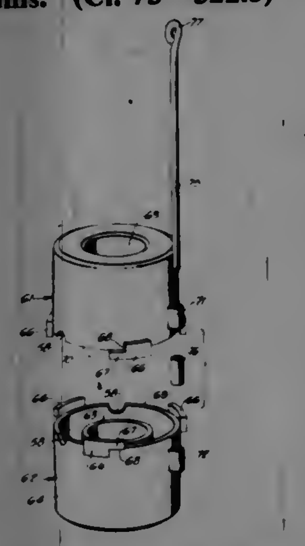


11. In a urinometer, the combination of:
(a) an upright container having a substantially vertical axis;
(b) partitions in said container and dividing same into compartments of equal angular extents angularly spaced about said axis;
(c) a urine receptacle above said compartments;
(d) said receptacle having a bottom wall sloping downwardly to a circumferentially-narrow drainage opening spaced from said axis;
(e) means for relatively rotating said receptacle and said container about said axis so as to sequentially position said drainage opening above and in gravity communication with said compartments to discharge urine from said receptacle into said compartments in sequence;
(f) said partitions having knife edges at their upper ends to provide a sharp cutoff of gravity flow of urine from said drainage opening into each of said compartments in response to relative rotation of said receptacle and said container;
(g) said means for relatively rotating said receptacle and said container operating at a constant, predetermined speed so as to maintain said drainage opening above and in communication with said compartments in sequence throughout equal, predetermined time intervals; and
(h) means for delivering urine from a patient to said receptacle.

3,194,070

FLOAT CONSTRUCTION

Richard W. Grant, Inglewood, Calif., assignor to Zila Manufacturing Corporation, Gardena, Calif., a corporation of California
Filed Apr. 29, 1963, Ser. No. 276,558
6 Claims. (Cl. 73—322.5)



6. In a float, the combination of: a pair of duplicate half sections, each section comprising inner and outer walls joined at one end by a bottom wall, the outer walls of said sections meeting in end-to-end contact, the inner walls defining a central axial opening, the half sections when so connected having an annular interior space, means on the float between said half sections providing an opening for liquid into said interior space, each section having substantially identical lug means on the outer walls thereof, the lug means being engageable through relative rotary movement of the sections about a common longitudinal axis, each section having a substantially identical apertured boss thereon, a float-actuated rod extending through aligned apertures on said bosses, and means interposed between said bosses frictionally restraining movement of the rod with respect to said half sections.

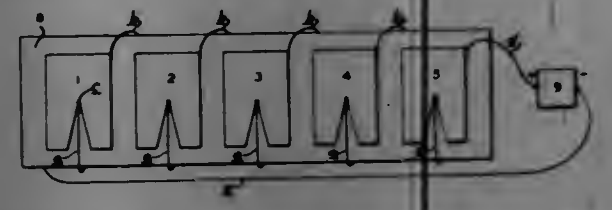
3,194,071

HEAT FLOW METER

Nathaniel E. Hager, Jr., Manheim Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Mar. 14, 1962, Ser. No. 179,561
5 Claims. (Cl. 73—341)

1. A heat flow meter comprised of
(1) a uniformly thin core of insulating material between whose major surfaces heat is transmitted everywhere at the same rate per unit area,
(2) a plurality of substantially identical metal platelets of a metal having a thermal conductivity greater than 500 B.t.u.-inches/hr.-ft.^{2}-° F. arranged on the opposite major surfaces of said core and wire leads

of a metal, which develops a thermoelectric E.M.F. in junction with a platelet, connecting in pairs platelets on opposite surfaces in the central region thereof and extending therebetween in non-electrical contact to form a plurality of differential thermocouples, the distance from the center of said platelets to the nearest edges thereof being equal to or greater than three times the thickness of the core,

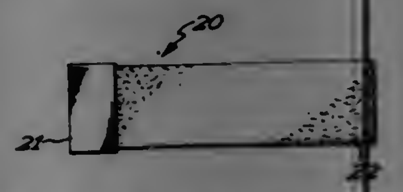


(3) wire leads connecting said differential thermocouples in series and forming a thermopile in which the E.M.F.'s generated by said differential thermocouples are additive, said wire leads being of a metal which develops an E.M.F. in junction with said platelets which is less than 2% of the E.M.F. developed by the differential thermocouple lead in junction with a platelet, and,

(4) means for measuring the E.M.F. generated by said thermopile connected in series therewith.

3,194,072
CONDITION RESPONSIVE DEVICES

John L. Vaala, St. Louis Park, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Feb. 2, 1962, Ser. No. 170,694
6 Claims. (Cl. 73—35)

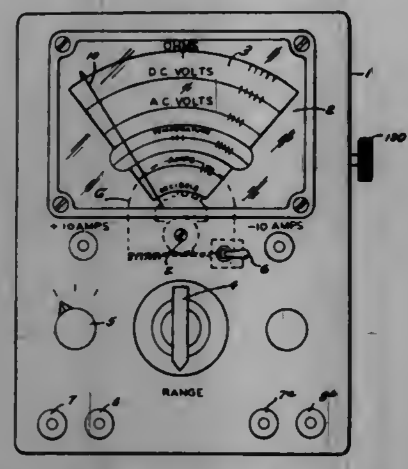


1. In a device for indicating the extent of exposure to a temperature exceeding a certain minimum said device including a porous matrix medium impregnated with an aqueous electrolyte substance in contact with a metal member above hydrogen in the E.M.F. series near one end thereof, and wherein the indication is provided by the detection of ions migrating along said porous matrix, said ions being generated at a metal-electrolyte interface, the rate of generation of said ions being dependent on the rate of migration of the water of said electrolyte substance to said metal-electrolyte interface, the improvement which comprises including within said electrolyte substance a water miscible organic water binding substance having at least two hydroxyl groups capable of retarding the rate at which said water may diffuse to said metal-electrolyte interface.

3,194,073
MULTIMETER METERING APPARATUS

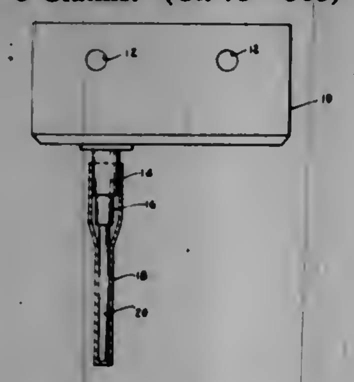
Emil S. Wieszeck, Box 175, Salem, N.H.
Filed June 2, 1961, Ser. No. 114,552
5 Claims. (Cl. 73—35)

1. In a multimeter having a plurality of concentrically arranged indicating scales including a temperature measuring scale and an electric measuring scale, and an indicator arm movable across said scales and having a plurality of metering circuits for measuring electric values, and a galvanometer with a coil for actuating the indicator arm, a thermocouple, a temperature measuring circuit for receiving electrical signals from the thermocouple and conducting said signals to the coil of the galvanometer, a resistor for the temperature measuring circuit, switch means for connecting the resistor with the galvanometer coil, said galvanometer, temperature measuring circuit and resistor being responsive to a thermocouple induced current input of relatively low voltage characteristics to produce an independent deflection of the said indicator arm across a range of temperature values on the temperature measuring scale and through an arc of travel which corresponds in magnitude substantially to the arc of travel of the indicator arm which can be induced by any one of the current inputs of the electrical metering circuits, and said temperature measuring circuit including a constantan wire branch and a copper wire branch and means for selectively utilizing the constantan wire branch when measuring a thermocouple signal thereby to avoid transmission of thermal effects to the copper conductor portions of the circuit.



3,194,074
THERMALLY-OPERATED CONTROL MEANS

Maynard E. Anderson and John Chapa, Birmingham, and Melvin W. Polkinghorn, Livonia, Mich., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 16, 1961, Ser. No. 152,723
8 Claims. (Cl. 73—363)



1. In combination, a thermally responsive power means, including a support structure having a negligible coefficient of thermal expansion, and a thermal element carried by said support structure; said thermal element being formed of a material comprising the compound

$$Mn_{2-x}Cr_xSb_{1-y}In_y$$

where $0.025 \leqq x \leqq 0.20$ and $0 \leqq y \leqq 0.05$.

3,194,075
APPARATUS FOR MEASUREMENT OF GRAVITY AT SEA

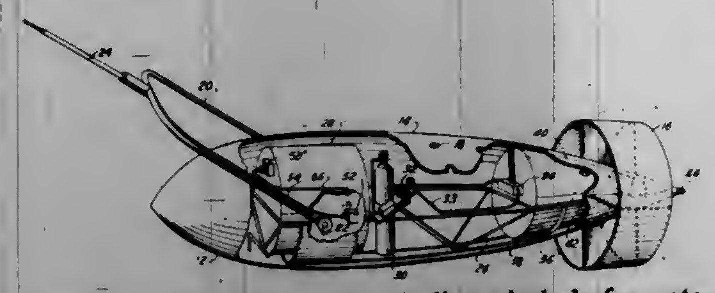
Paul V. Hodge and David T. Barry, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Sept. 6, 1963, Ser. No. 307,261
6 Claims. (Cl. 73—382)

1. An apparatus for measuring the force of gravity over a region of the earth which is submerged beneath water, comprising:

(a) a body adapted to be submerged and towed in water in a condition of hydrodynamic stability;

(b) a gravity sensing device having a gravity sensitive element; and

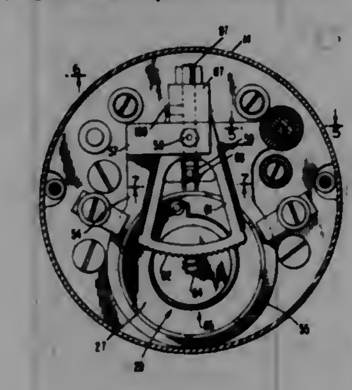
(c) supporting means for supporting said device within said body,



(d) said supporting means including gimbals for rotation of said device in each of two mutually perpendicular vertical planes, and said supporting means being located within said body near the center of moment thereof to prevent any substantial rotation of said gravity sensitive element about said center of moment when said body rotates thereabout.

3,194,076
PRESSURE DETECTING INSTRUMENT

Raymond F. Gillen, Montrose, Pa., assignor to The Bendix Corporation, South Montrose, Pa., a corporation of Delaware
Filed Oct. 14, 1960, Ser. No. 62,787
7 Claims. (Cl. 73—397)

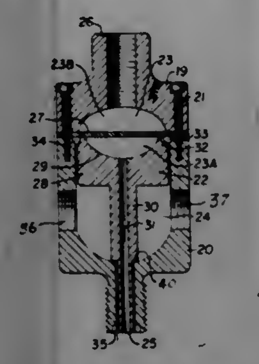


5. A measuring instrument having a measuring member mounted for reverse angular movement about a first axis in a plane generally normal to said axis, means responsive to the phenomenon being measured for exerting displacing force upon such measuring member, means driven by the measuring member for indicating the amount and direction of displacement of the measuring member, the indicating means comprising oscillatable means and support means for pivotally suporting said oscillatable means, means mounting the support means for angular adjustment about a second axis parallel to and spaced from the pivotal axis of said oscillatable means to provide initial adjustment of the indicating means, mechanism for drivingly connecting the measuring member and the indicating means comprising a driving pin cooperable with a slot in said oscillatable means, said pin extending generally parallel to the plane of movement and transversely to the direction of movement of the measuring member and being connected to the measuring member to move therewith, and means for adjusting the pin toward and away from the pivotal axis of the oscillatable means.

3,194,077
MOUNTING DEVICE FOR PRESSURE GAUGE

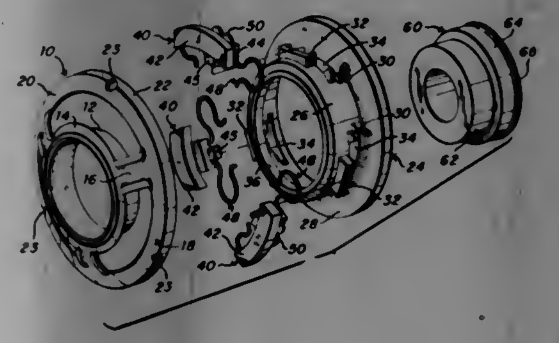
Lloyd H. Butterfield, Saskatoon, Saskatchewan, Canada, assignor of one-half to John Harold Stewart, Calgary, Alberta, Canada
Filed Aug. 30, 1962, Ser. No. 220,514
5 Claims. (Cl. 73—420)

1. A gauge mounting device for use in preventing freezing of fluid in said gauge comprising a housing having a central cavity and including a pair of detachably secured together portions, a member disposed within one of said portions separating said cavity into first and second fluid confining non-communicating chambers, each of said chambers having an inlet and an outlet, a flexible diaphragm interposed between said housing portions separating said first chamber into separate fluid confining portions, said inlet and outlet of said first chamber being in communication respectively with a separate one of said chamber portions and adapted to be connected respectively to a fluid pressure system and a gauge, the latter indicating the pressure in said system and said inlet and outlet of said second chamber being adapted to be connected to a circulating fluid heating medium thereby to heat said second chamber and thus prevent freezing of fluid therein.



3,194,078
CENTRIFUGAL ACTUATOR APPARATUS

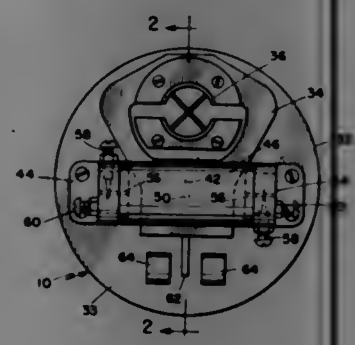
Everett P. Larsh, 124 E. Monument Ave., Dayton, Ohio
Filed July 3, 1963, Ser. No. 292,621
12 Claims. (Cl. 73—538)



1. In control apparatus,
a rotor,
a plurality of actuator members engaging the rotor and pivotal with respect thereto,
an engagement member encompasing the rotor and axially movable with respect to the rotor, the engagement member being provided with a plurality of abutment portions,
each actuator member including substantially coplanar resilient means engaging the engagement member and urging axial movement of the engagement member in a direction from the rotor,
means limiting axial movement of the engagement member in a direction from the rotor,
each actuator member including a weight member, each weight member having an engagement portion which is in engagement with an abutment portion of the engagement member, the engagement portion of each weight member being spaced from the plane of the resilient means of its respective actuator member,
each weight member being movable in a direction outwardly from the axis of rotation of the rotor, the engagement portion of each weight member moving toward the rotor with outward movement of the weight member,
centrifugal forces caused by rotation of the rotor causing movement of each weight member in a direction from

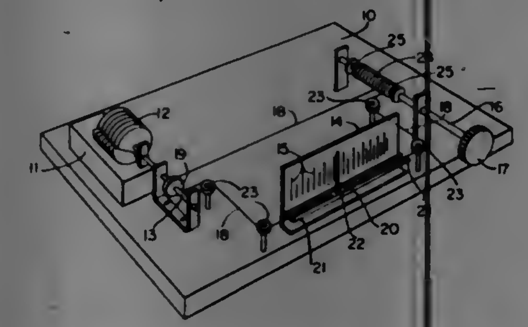
the axis of rotation of the rotor, such movement of each weight member causing the engagement portion thereof to apply a force to an abutment portion of the engagement member to move the engagement member axially toward the rotor.

3,194,079
GIMBAL-LESS RATE GYRO
Paul E. Humphrey, 7665 Central, Lemon Grove, Calif.
Filed May 27, 1963, Ser. No. 283,382
2 Claims. (Cl. 74—5.6)



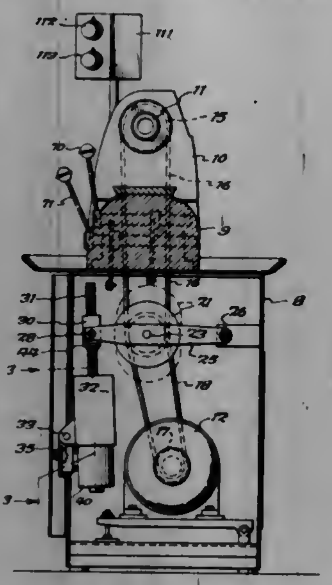
1. A rate gyro, comprising:
a rotor;
a self-aligning bearing axially mounted within said rotor;
a frame on which said bearing is supported;
drive means internally connected to said rotor for rotation thereof;
said rotor having an axially extended portion;
a self-centering pick-off arm pivotally mounted on said frame;
a pin fixed in said pick-off arm;
said extended portion having an internal bearing ring engaging said pin and being rotatable thereon;
and means to detect motion of said pick-off arm about a neutral position.

3,194,080
DRIVE SYSTEM
Thor F. Olson, Villa Park, Ill., assignor to Admiral Corporation, Chicago, Ill., a corporation of Delaware
Filed Aug. 25, 1964, Ser. No. 391,910
9 Claims. (Cl. 74—10.7)



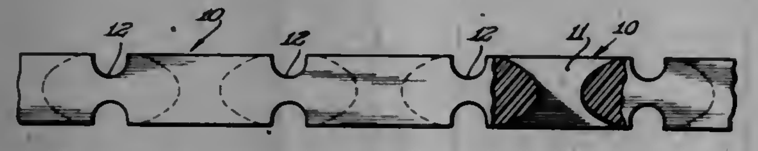
1. A drive system comprising: driven means having a first and a second terminal position and a continuum of positions intermediate said first and second terminal positions; driving means including a drive shaft with a threaded segment intermediate a pair of smooth segments; and belt means coupled between said driven means and said driving means, the frictional force between said belt means and said threaded segment being substantially greater than the frictional force between said belt means and said smooth segments, said belt means engaging one or the other of said smooth segments when said driven means is at said first or said second terminal position and engaging said threaded segment when said driven means traverses said continuum of positions.

3,194,081
SELECTIVE SPEED CHANGER FOR VARIABLE SPEED DRIVE
Hubert J. Parsons, Horseheads, N.Y., and Marshall E. Evans, Millerton, Pa., assignors to Hardinge Brothers, Inc., Elmira, N.Y.
Filed Nov. 17, 1961, Ser. No. 153,038
5 Claims. (Cl. 74—230.17)



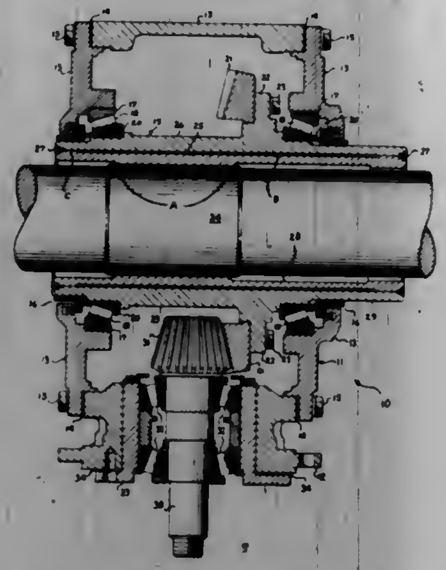
2. In a variable speed V-belt transmission of the type including driving and driven pulleys and an intermediate pulley assembly connected by belts with said driving and driven pulleys and adjustable toward and from the same to vary the speed of the driven pulley, that improvement which includes actuating means for moving said pulley assembly into the desired position for obtaining the desired speed of said driven pulley, a control member connected with and movable with said pulley assembly and comprising a rod movable in unison with said pulley assembly and having an actuating portion thereon, a plurality of speed switches arranged along the path of movement of said rod and each having a part formed to be moved by said actuating portion into a circuit-interrupting position, manually adjustable means for connecting one of said speed switches corresponding to the speed desired in a circuit, said circuit also controlling movement of said actuating means and being interrupted when said connected speed switch is moved into open circuit position by said actuating portion, to stop further movement of said actuating means, said actuating means being an electric motor receiving electric current through a speed switch, a screw shaft rotated by said motor and connected with said pulley assembly for raising and lowering the same and with said control member, said motor and screw shaft being stopped when the speed switch connected in circuit with said motor is moved into open circuit position by said actuating portion of said rod.

3,194,082
DRIVE BELTS
Thomas H. Mollenkamp, 46 Braeland Ave., Newton Center, Mass.
Filed July 16, 1963, Ser. No. 295,325
10 Claims. (Cl. 74—231)



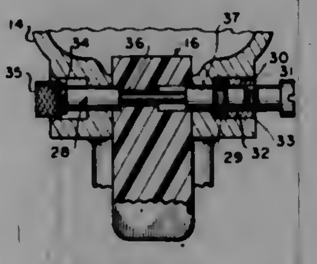
1. A flexible drive element comprising an endless loop composed of a synthetic resinous material having integral hinge properties, said loop having spaced areas of reduced thickness providing integral hinges in said areas, said reduced area portions being molecularly oriented to provide substantial tensile strength in said areas.

3,194,083
HOLLOW POWER TRANSMISSION MEMBERS
Amos D. Ballard, Erie, Pa., assignor to General Electric Company, a corporation of New York
Filed May 11, 1964, Ser. No. 366,573
5 Claims. (Cl. 74—431)



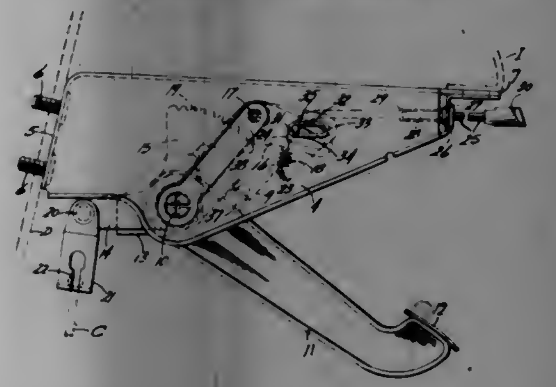
4. A hollow power transmitting member comprising: first and second concentrically arranged hollow shaft members secured together to define a composite hollow shaft member having an inner cylindrical surface and an outer cylindrical surface, at least a portion of said first hollow shaft member having an outside diameter substantially smaller than the inside diameter of said second shaft to define a space between said concentrically arranged hollow shafts extending along a major portion of their length; means associated with the outer surface of said second hollow shaft member for receiving a ring gear; means defining bearing fit areas near each end of said second hollow shaft member; and means associated with said first hollow shaft member defining a region intermediate the ends thereof having a diameter smaller than the inside diameter of said first hollow shaft member and adapted for intereference engagement with another shaft.

3,194,084
TRIGGER LOCKING MEANS FOR HAND-PORTABLE POWER-OPERATED DEVICE
Arthur H. Filander, Baltimore, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Jan. 21, 1963, Ser. No. 252,760
2 Claims. (Cl. 74—527)



1. In a hand-portable power-operated device, the combination of:
(a) a housing;
(b) a trigger slidable in said housing;
(c) said trigger normally having an "off" position in which the device is de-energized and further having an alternate "on" position, retracted with respect to said housing, and in which the device is energized;
(d) a slotted aperture formed in said trigger;
(e) a stop formed intermediate the extremities of said aperture, and said aperture having forward and rearward portions on respective sides of said stop;
(f) a locking member slidable in said housing and passing transversely through said aperture in said trigger, said locking member normally having an "unlocked" position and alternately having a "locked" position with respect to said trigger; and said locking member requiring a deliberate manual effort for movement from its "unlocked" position to its "locked" position, and vice-versa;
(g) said locking member having an intermediate portion of reduced cross-section normally received within said rearward portion of said slotted aperture in said trigger in the "unlocked" position of said locking member, whereby said stop in said aperture moves freely past said intermediate portion when said trigger is moved into its "on" position, and whereby said intermediate portion of said locking pin is received within said forward portion of said aperture in the "on" position of said trigger; and
(h) said locking member further having a second portion adjacent said intermediate portion, said second portion having an increased cross-section over said intermediate portion and being adapted to abut against a respective end of said stop, when said pin is moved into its "locked" position, to thereafter prevent further movement of said trigger, and to thereby lock said trigger in either of its positions.

3,194,085
FOOT-OPERATED, HAND-RELEASED PARKING BRAKE
Joseph R. Kirk, Rockford, Ill., assignor to Atwood Vacuum Machine Company, Rockford, Ill., a corporation of Illinois
Filed Feb. 13, 1963, Ser. No. 258,352
7 Claims. (Cl. 74—540)

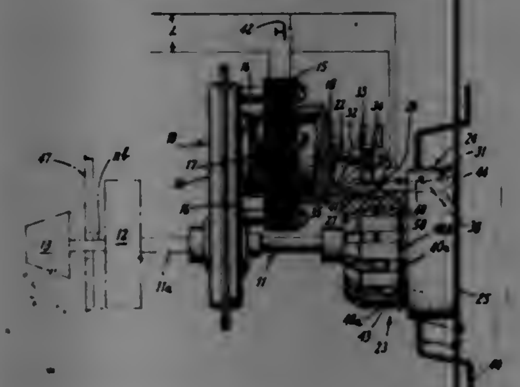


1. In combination in a foot-operated hand-released brake mechanism, a fixed elongated supporting bracket having a front end and a rear end, a brake operating pedal pivotally mounted on said bracket in parallel relationship thereto, a brake connected ratchet also movably mounted on said bracket in parallel relationship thereto and connected with said pedal to move with it in the application of the brake, a flat pawl pivotally mounted on and parallel to said bracket and engaging said ratchet to maintain the brake in applied position, spring means normally urging said pawl toward locking engagement with said ratchet, said pawl having an elongated cam slot provided therein in a lengthwise direction with respect to said bracket, said bracket having an elongated guide slot provided therein in acute angular intersecting relationship to the slot in said pawl, a manually operable rod supported for endwise reciprocation fore and aft relative to said bracket substantially parallel thereto and having a cross-portion extending through the aforesaid slots so as to be guided for straight line movement endwise of the guide slot while moving endwise also of the cam slot in said pawl to disengage said pawl from said ratchet by cam action in endwise movement of said rod, said cam slot having a widened end permitting oscillation of said pawl for locking engagement with said ratchet freely relative to the

cross-portion of said rod only in one extreme position of the rod, and spring means normally urging said manually operable rod in one direction to locate its cross-portion in that end of the guide slot corresponding to the widened end of said cam slot.

3,194,086
POSITIONING MECHANISM

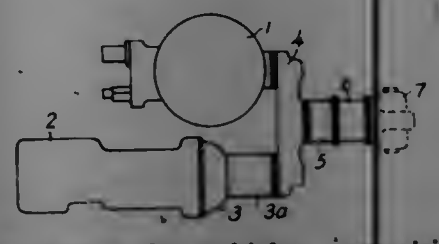
Joseph E. Laschenski, Philadelphia, Pa., assignor, by mesne assignments, to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed July 13, 1961, Ser. No. 1[illegible]3,766
3 Claims. (Cl. 74—568)



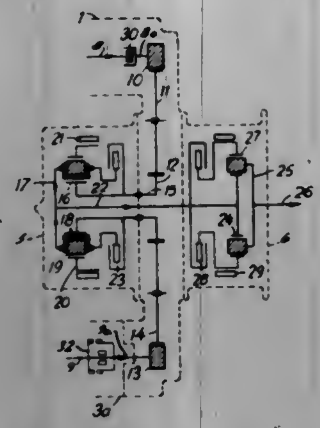
1. Controlling mechanism for a switch, comprising: rotatable wheel means including a cylindrical portion having a plurality of generally parallel keyways in peripheral surface portions thereof and extending parallel to the axis of said wheel means, and an axially extending recessed portion disposed at one end of said cylindrical portion; and switch controlling key means disposed within each of said keyways and slidable therein between positions for engaging and disengaging such switch means, ends of said key means extending into said recessed portion and comprising tab portions accessible within said recessed portion and providing for adjustable positioning of said key means, each said key means including a step portion and each said keyway including a mating step portion, said step portions being disposed and adapted for interengagement when a key means is in one of its pair of positions whereby removal thereof is normally prevented, each said key means further being removable and insertable with respect to a keyway by pivoting of the tab portion thereof toward the axis of said wheel means, whereby to disengage said step portions, then by sliding said key means relative to said keyway.

3,194,087
DRIVE SYSTEM FOR VEHICLES

Sven-Olof Kronogård, Goteborg, Sweden, assignor to Ab Volvo, Goteborg, Sweden, a corporation of Sweden
Filed Mar. 26, 1962, Ser. No. 182,224
Claims priority, application Sweden, Apr. 28, 1961, 4,483/61
7 Claims. (Cl. 74—661)

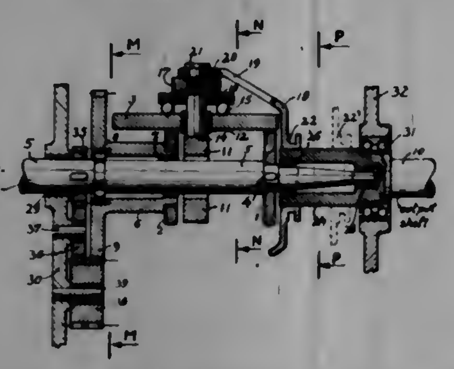


1. A drive system for vehicles, comprising in combination a pair of engines each having an output shaft, one of said engines being an internal combustion engine of piston type, a hydrodynamic transmission having input and output shafts, the input shaft of said transmission being connected to the output shaft of said internal combustion engine, the other engine being a gas turbine, a collecting gear having two input and one output shafts, disengageable clutch means comprising free-wheel devices connecting the output shaft of said hydrodynamic transmission and the output shaft of said turbine, respectively, to the input shafts of said collecting gear, a main output shaft connectible to a load, and gear means including disengageable clutch means connecting the output shaft of said collecting gear to said main output shaft.



3,194,088
VARIABLE RATIO TRANSMISSION

Richard T. Erban, 145—38 Bayside Ave., Flushing 54, N.Y.
Filed Feb. 11, 1963, Ser. No. 257,597
17 Claims. (Cl. 74—691)



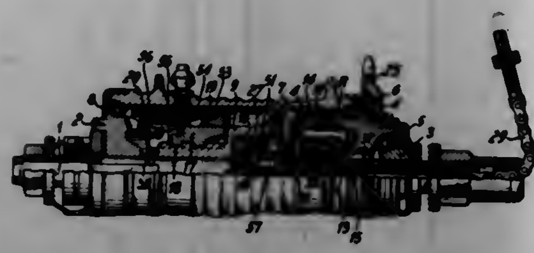
1. A variable ratio transmission comprising two coaxially aligned wheels having peripheral race ways of substantially identical diameters axially spaced from each other, at least one disc mounted rotatable about an axis perpendicular and radial with respect to the geometric axis of said wheels, said disc having a plane surface contacting tangentially said race ways, means adapted to impose pressure upon the contacts between said plane disc surface and said race ways, an axially slidable carrier supporting said perpendicular axis rotatable about said geometric axis of said wheels, means for shifting said carrier and said disc axially with respect to said wheels, a driving shaft and a driven shaft, power transmitting means between both of said wheels and one of said shafts arranged to cause rotation of said wheels with a predetermined relation of speed with respect to each other and means adapted to transmit power between said axially slidable carrier and the other shaft.

3,194,089
DUAL-SPEED WHEEL HUB

Hans Joachim Schwerdhöfer, Schweinfurt (Main), Germany, assignor to Fichtel & Sachs A.G., Schweinfurt (Main), Germany, a corporation of Germany
Filed May 24, 1962, Ser. No. 197,381
Claims priority, application Germany, May 27, 1961, F 34,039
12 Claims. (Cl. 74—750)

1. In a dual-speed hub for a bicycle and the like, in combination:
(a) a shaft having an axis;
(b) drive sprocket means rotatable about said axis;

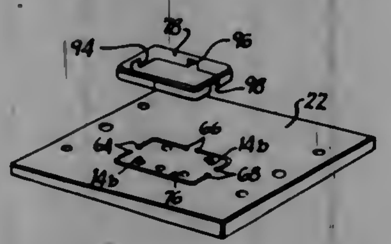
(c) planetary gearing including
  (1) sun wheel means fixed on said shaft;
  (2) ring gear means coaxial with said sun wheel means; and
  (3) planet wheel means in simultaneous engagement with said sun wheel means and said ring gear means;



(d) a planet wheel carrier secured to said sprocket means for joint rotation and rotatably carrying said planet wheel means;
(e) coupling means axially movable on said shaft for alternative driving engagement with said planet wheel carrier and with said ring gear means;
(f) freewheeling clutch means operatively connected to said coupling means for selective joint rotation with said planet wheel carrier and said ring gear means respectively; and
(g) hub shell means rotatable about said axis and in one-way driving engagement with said clutch means.

3,194,090
STEEL RULE DIES

Charles E. Becker, Columbus, Ohio, assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 10, 1961, Ser. No. 144,090
5 Claims. (Cl. 76—107)

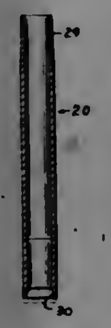


1. A method of making a cutting die for blanking a part out of sheet metal comprising forming a metallic male punch having the shape of the part to be blanked; mounting the punch on one member of a punch press having a pair of opposite members; mounting a relatively soft easily compressible support member on the other member of the punch press; actuating the press to impress the shape of the punch on the support member; forming a discontinuous opening in the support member immediately adjacent and around the outside of the impressed shape; forming a cutting blade in the shape of said opening; forming slots in said blade at the points of the discontinuity of said opening; inserting the blade in the opening with the slots in registry with the points of discontinuity and with a portion of the blade extending from the support member towards the punch; and providing a support for the blade on the surface of the support member remote from the punch.

3,194,091
HOLLOW DRILLS

Cyril H. T. Woodward, 160 Howard Ave., Rochelle Park, N.J.
Filed July 23, 1963, Ser. No. 297,000
3 Claims. (Cl. 76—108)

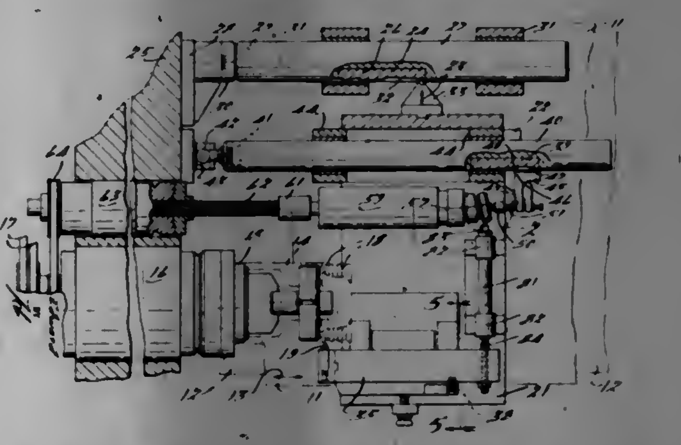
1. In a hollow drill assembly having a shank and a drill member removably mounted in a socket of the shank, the drill assembly being designed for use in a socketed drill spindle, the process of forming the removable drill portion comprising the steps of:
(1) cutting a length of tubing of selected outside and inside diameters from a length of tubing of such sizes;
(2) inserting the tubing into a tapering die adapted to engage and swage an end portion when forced into said die, the portion thus tapered providing a like tapered portion on the internal bore of the tube;



(3) treating the tube to produce desirable wear properties;
(4) grinding the entire length of the exterior of the tube including the swaged portion to produce a tube having a relatively constant preselected diameter;
(5) forming an external taper on the end of the tube opposite the internally tapered tube end; and
(6) internally chamfering the internally tapered end to form a cutting edge at the exterior diameter portion of the tube.

3,194,092
ELLIPSE GENERATING TURNING MACHINE

Edward C. Piotrowski, Wolverine Lake, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 27, 1963, Ser. No. 333,857
11 Claims. (Cl. 82—14)



1. In a multiple form turning machine, a workpiece spindle, a bed, a table mounted for traverse movement on said bed parallel to the workpiece spindle, a cross slide on said table mounted for feed movement perpendicular to the workpiece spindle, a tool mounted on said cross slide for movement with respect to the cross slide perpendicular to the work piece spindle, a stationary diameter control cam, a cam follower on said cross slide engageable with said diameter control cam, the diameter control cam controlling said feed movement of the cross slide in response to traverse movement of the table, an ellipse generating ring rotatably mounted on said cross slide on an axis parallel to the workpiece spindle and having a surface of revolution, means for rotating the ellipse generating ring in timed relation with said workpiece spindle, means for rockably adjusting said ellipse generating ring on an axis perpendicular to its rotational axis, and motion transmitting means connecting said ellipse generating ring with said tool.

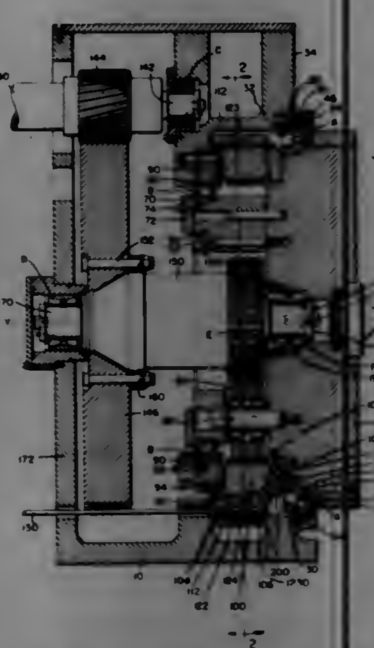
3,194,093

ROLL LATHE FACE PLATE MOUNTING

Jack N. Binns, 4886 Oaklawn Drive, Cincinnati 27, Ohio, Carl E. Clutter, Mason, Ohio, and Roger Heaton, Amelia, Ohio; said Clutter and said Heaton assignors to said Jack N. Binns

Filed May 9, 1962, Ser. No. 1[illegible]4,748

16 Claims. (Cl. 82—28)



1. In a roll lathe, a headstock, a face plate, a drive shaft, means rotatably supporting the face plate, externally thereof, on the headstock, means rotatably supporting one end of the drive shaft on the headstock, and other means rotatably supporting the other end of said drive shaft on the face plate.

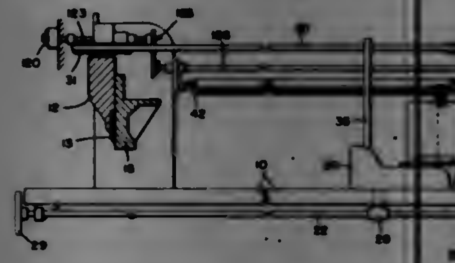
3,194,094

CUTTING MACHINE HAVING MAGNETIC STORAGE MECHANISM FOR CONTROL OF WORK FEED MEANS

John F. Blaha, Cleveland, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Feb. 11, 1963, Ser. No. [illegible]57,694

3 Claims. (Cl. 83—71)



3. In a paper cutter having a power operated knife, a table for supporting piles of material to be cut by said knife, and a power operated back gage movable over said table toward and away from said knife to position a pile for cutting; the improvement comprising selectively operable and reversible drive means for said back gage for effecting controlled movement thereof, a memory device in the form of a tube, mounted to extend along the path of movement of said back gage and having a surface thereon capable of storing a plurality of magnetically created marks indicating desired positions of said back gage, a position control reading/recording head movable with said back gage and positioned to scan along said tube and selectively to record reference marks thereon and to read the reference marks therefrom for producing control signals, a direction control reading/recording head also mounted to move with said aforementioned head along said tube on a different path and selectively to create direction control marks along said different path and to read direction control marks therefrom, control circuitry connected to receive signals from each of said heads and including a drive reversing circuit operable in response to a signal from said direction control head during movement of the back gage toward the knife to reverse said drive means and simultaneously to make ineffective control signals from said position control head whereby said back gage is then operated in a reverse direction to move away from the knife, and said reverse control circuit including means responsive to a subsequent signal from said direction control head to again reverse said drive means and thereby to cause said back gage to move forward toward said knife and simultaneously to restore the control of said drive means to said circuits responsive to said position control head.

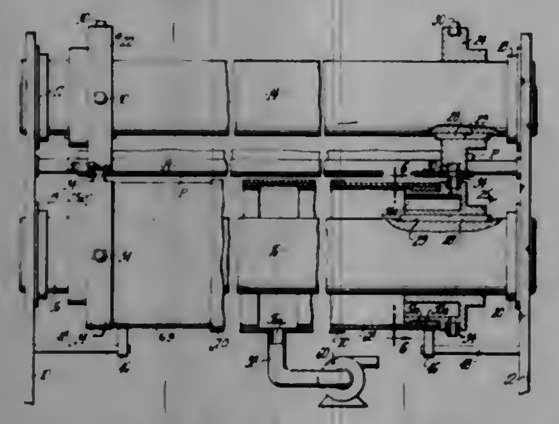
3,194,095

PUNCH CONFETTI REMOVER

Lloyd P. Buck, 4861 E. 60th Place, Maywood, Calif., and Robert H. Hess, 14610 Terryknoll Drive, Whittier, Calif.

Filed Dec. 31, 1962, Ser. No. 248,431

1 Claim. (Cl. 83—100)



The combination of (a) a rotary shaft, (b) a pair of female punch dies coaxially mounted on said shaft and having means for longitudinally adjustable spacing therealong for joint rotation therewith, each die being formed with a circle of radially directed, die openings in inner, terminal communication with a chamber of the die having a lateral, axially-inward facing, generally annular outlet adjacent the shaft, and (c) a stationary, generally coaxial, segmented tubular collector unit disposed about the shaft between said dies with its outer ends in terminal abutment with the respective dies and radially outward from said annular die chamber outlets so as thus to provide a closed chamber between both dies, said collector unit comprising an outer, terminal segment adjacent each die and provided with axially extensible means for attachment of the segments to a fixed support, and the inner adjacent ends of said segments being provided with tubular coupling means and having outlet means for connection of a suction line thereto for continuous withdrawal of punch confetti as formed by and drawn into the female dies, whereby the collector unit can be telescopically retracted and extended to accommodate different axial spacings of the pair of dies along the shaft.

3,194,096

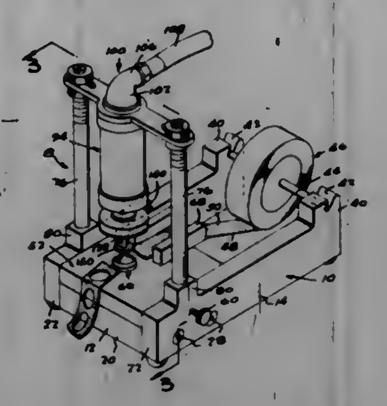
MACHINE FOR CUTTING SHEET MATERIALS

Ralph L. Comet, Nutley, N.J., assignor to Mask-O-Matic, Inc., Paterson, N.J., a corporation of New Jersey

Filed Sept. 28, 1962, Ser. No. 227,647

1 Claim. (Cl. 83—103)

A machine of the character described, said machine comprising a support carrying a fixed die, a punch assembly mounted on said support, said punch assembly including a plunger shaft mounted for reciprocation toward and away from said die and being aligned therewith, means operable to effect said reciprocation, an anvil mounted on that end of said plunger shaft proximate said die and aligned therewith, a plunger rod mounted for reciprocation in said end of said plunger shaft and having limited movement relative thereto, said plunger rod having an end normally extending transversely through said anvil toward said die for contact with an object to be punched from a strip of material disposed between said die and said anvil as said anvil is moved to effect contact with said material and subsequent severance of said object, and means on said plunger rod cooperating with means on said plunger shaft to move said plunger rod together with said object away from said strip of material subsequent to movement of said anvil out of contact with said strip.



3,194,097

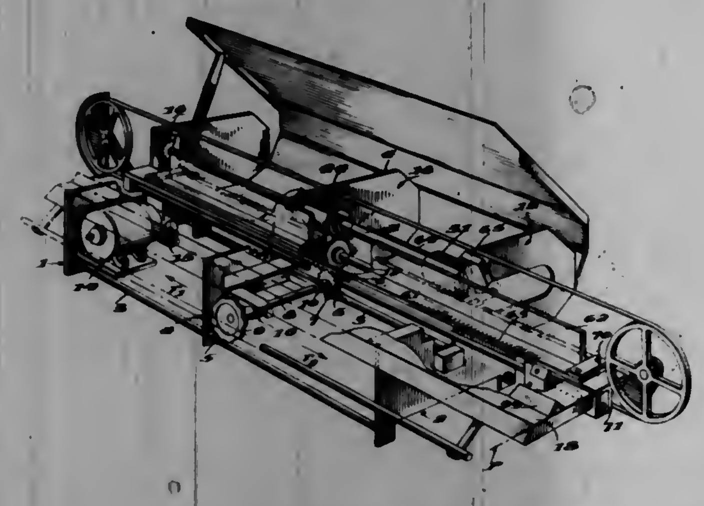
PAPER CUTTING MACHINE

André Joannes and Lucienne Joannes nee Fournier, both of 15 rue Demarquay, Paris, France

Filed Apr. 29, 1960, Ser. No. 25,710

Claims priority, application France, Apr. 30, 1959, 793,651, Patent 1,233,122

6 Claims. (Cl. 83—105)



1. In a machine for cutting flexible sheets along prescribed lines, the combination comprising a pair of circumferential cutters rotatable about spaced parallel axes and having their peripheries cooperating at a cutting area, a feed roller mounted coaxially with and adjacent to one cutter for rotation therewith, another roller mounted above, substantially coaxially with and adjacent to the other cutter and freely rotatable relative thereto, the other roller being freely displaceable both axially, transversely with respect to the common plane of said parallel axes, and towards and away from said first roller and normally engageable with first roller along a common generatrix generally aligned with said cutting area, means biasing said other roller into engagement with said first roller, and means for rotating said cutters and feed roller, whereby a sheet inserted between said rollers will be fed thereby and cut by said cutters while permitting controlled shifting of said sheet between said rollers to align the cut with a prescribed line on the sheet.

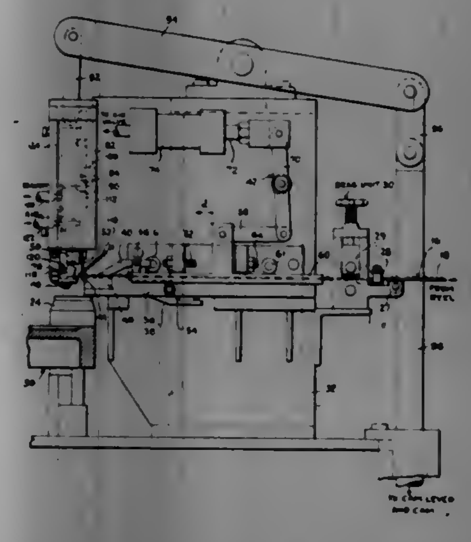
3,194,098

SEVERING APPARATUS HAVING TRANSFER MEANS OPERABLE TO ENGAGE THE LEADING END OF THE WORKPIECE BEFORE SEVERANCE

Henry B. Kimball, Mountain Lakes, Henry P. Hasell, Bloomfield, and Clair M. Rively, Rockaway, N.J., assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 843,277, Sept. 29, 1959. This application Nov. 8, 1962, Ser. No. 236,376

6 Claims. (Cl. 83—150)



1. Apparatus for feeding articles to a fabricating machine, the articles being presented to said apparatus as a continuous strip comprising such articles connected to each other, and said continuous strip entirely spaced from said fabricating machine, said apparatus comprising,

(a) continuous strip guiding and feeding means having a delivery end and operable to guide and feed articles comprising said continuous strip toward and past such delivery end at a predetermined rate and with a stop-and-go motion,

(b) movable support means positioned proximate to said delivery end and operable to support the leading article of said continuous strip when such leading article is moved by said feeding means past said delivery end,

(c) transfer means having vacum-producing means connected thereto and operable first to move to a position proximate to said movable support means to retain by suction the leading article of said continuous strip as supported on said movable support means,

(d) severing means movable to position adjacent to said delivery end to sever from said continuous strip the leading article as retained by said transfer means,

(e) said transfer means then operable to move toward said fabricating machine first to force said movable support means from its path of movement and then to deliver in proper orientation with respect to said fabricating machine the now-severed article, and

(f) actuating means for actuating in the foregoing work sequence said guiding and feeding means, said transfer means, and said severing means.

3,194,099

PUNCH PRESS HAVING CAM MEANS DIRECTLY DRIVING ROTARY WORK-FEED MEANS

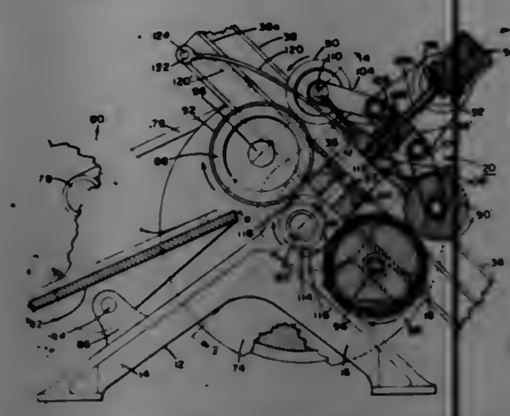
Herman Palter, 3849 E. Antisdale Road, South Euclid, Ohio

Filed Sept. 11, 1961, Ser. No. 137,467

6 Claims. (Cl. 83—156)

1. A punch press comprising: guide means defining a planar path of travel for a work piece through the press; a punching station extending transversely of the path of travel and including a punching die below said path and

a linear series of punches mounted above the path of travel for reciprocatory movement normal to the plane thereof; a primary actuating shaft rotatably mounted below said path and drivingly connected to reciprocate said punches in unison; irreversible work piece feed wheel means located ahead of and following said punching station as regards the direction of work piece travel; and continuously operating cam means mounted on and rotatable with said shaft to selectively directly engage and operate said feed wheel means to advance a work piece in a series of substantially uniform increments past said punching station.



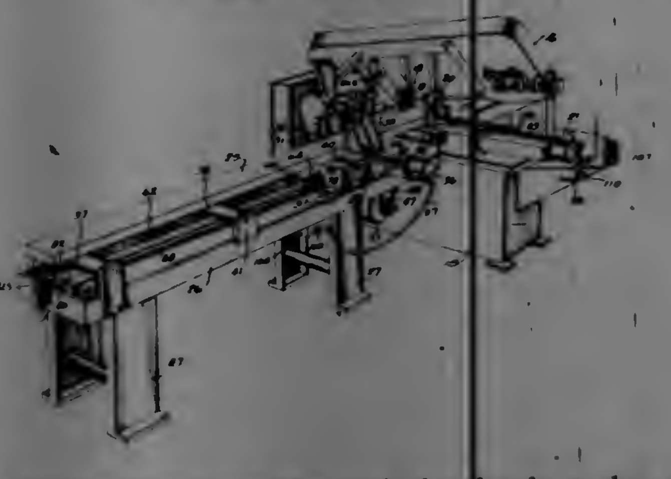
3,194,100

CONVEYORS FOR FEEDING WORKPIECES TO A CUTOFF TOOL

Otto H. Fehlberg, Racine, Wis., assignor to Peerless Machine Company, Oshkosh, Wis., a corporation of Delaware

Filed Oct. 16, 1961, Ser. No. 145,315

4 Claims. (Cl. 83—247)



1. The combination with a tool of a shuttle stroke conveyor for feeding workpieces to the tool in progressive increments, means for adjusting the stroke of the conveyor including gauge means for measuring the length of said stroke, a first positive stop to arrest conveyor movement at the end of its forward stroke, a second positive stop to arrest conveyor movement at the end of its rearward stroke and means to lock the workpiece against movement during said rearward stroke, said conveyor comprising an elongated feed table, a workpiece carrier movable longitudinally thereon and means for reciprocating said carrier along the table, said gauge means comprising a graduated rod extending along the table and with respect to which the carrier is movable, an adjustable stop on the rod having means for accurately fixing it to the rod, complementary stop means on the carrier, support bearings for said rod in which said rod is axially shiftable, said rod having a lost motion connection with said second positive stop, said means for reciprocating said carrier having control means including a switch, and means for actuating said switch in response to rod movement within the range of said lost motion connection.

3. The combination with a tool and a fixed vise for holding a workpiece during tool operations thereon, of a shuttle stroke conveyor for feeding a workpiece to the tool in progressive increments, said conveyor comprising a movable carriage having a vise movable therewith, means for alternately clamping said vises on said workpiece to hold the workpiece in the fixed vise and release it from the movable vise during a tool operation and during the retractive stroke of the conveyor and to hold the workpiece in the movable vise and release it from the fixed vise between tool operations and during the advance stroke of the conveyor, said means including means to interlock said vises for positive clamping of the workpiece by one or the other of said vises at all times, the means for clamping said vises comprising fluid motors for the respective vises, said interlock means comprising means to release the pressure in the motor for one vise responsive to the buildup of fluid pressure in the motor for the other vise.

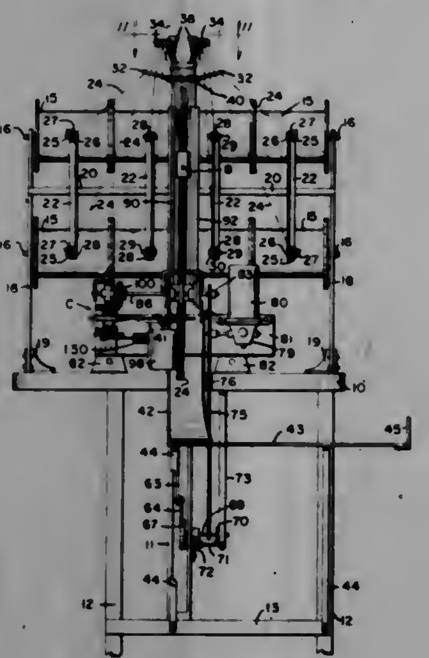
3,194,101

STRING CUTTER HAVING RECIPROCATING GRIPPER MEANS TO FEED STRINGS TO THE CUTTER

Raymond W. Bush, 5595 N. Federal Blvd., Denver 21, Colo., and Frank E. Hilliker, 1170 Independence, Lakewood, Colo.

Filed Feb. 15, 1962, Ser. No. 173,589

4 Claims. (Cl. 83—277)



1. A machine for dispensing and cutting string and the like, including supply means from which said string is dispensed; a support mounted adjacent said supply means; a bobbin mounted for reciprocal movement along said support; pressure means adapted to engage said bobbin during movement along said support in one direction only, so that said bobbin grips said string to move said string in increments; reciprocating cutter means adapted to move across said string to cut said string into lengths; drive means operatively connected to said bobbin, said pressure means, said clamping means and said cutter means for operating them in synchronism, to dispense string in increments and cut said string into segments correspoding to said increments; fixed clamping means adjacent the path of movement of said cutter; a movable clamp adapted to hold said string against said clamping means; a rotatable shaft; a cam mounted on said shaft for rotation therewith; a lever pivoted intermediate its ends; resilient means connected adjacent one end of said lever to urge the other end of said lever into engagement with said cam; a lip on said one end of said lever; and an arm pivoted intermediate its ends, said clamp being mounted on one end of said arm and the other end having a notch engaged by said lip, so that said clamp may be moved out of engagement with said string and said lever moved off said cam.

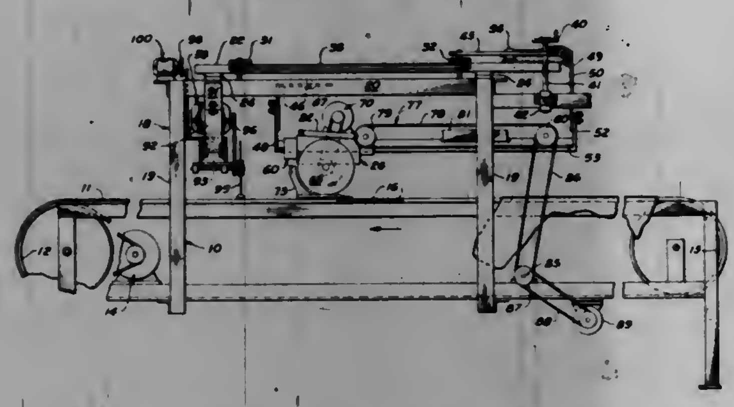
3,194,102

LEATHER CROPPING FROM HIDES

Claude C. Jarnagin, Newport, Tenn., assignor to Swift & Company, Chicago, Ill., a corporation of Illinois

Original application Mar. 28, 1963, Ser. No. 268,799. Divided and this application July 16, 1964, Ser. No. 394,094

8 Claims. (Cl. 83—408)



1. An apparatus for cropping hides, said apparatus comprising: conveying means trained to move in a given direction; a pair of cutting means positioned above said conveying means parallel and opposite one another at opposite sides of said conveying means; movable means connected to each of said cutting means, said movable means being disposed above said conveying means to transport said cutting means in a direction generally opposite said given direction; and pivotable mounting means supporting said cutting means and said movable means above said conveying means, said pivotable mounting means adapted to turn in a plane parallel to said conveying means.

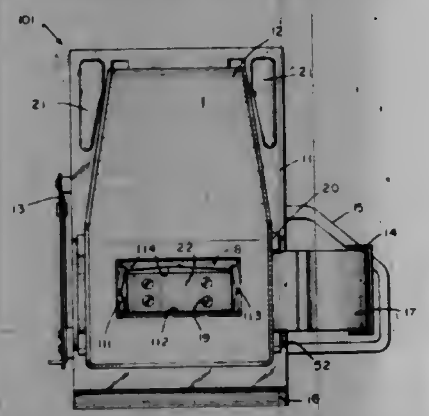
3,194,103

SHEAR CONSTRUCTION HAVING FLEXIBLE, PROGRESSIVELY CUTTING BLADES

Louis Gilman, 138 Albemarle Road, Newtonville, Mass.

Filed Apr. 4, 1962, Ser. No. 185,139

6 Claims. (Cl. 83—589)



1. A shear construction for cutting portions of a sheet comprising,

means having a peripheral edge forming a backing for a sheet,

blade forming means comprising a plurality of blades extending in a plurality of planes including at least one set of substantially opposite, parallel blades,

means enabling each blade to flex separately,

said blade forming means having cutting edges adapted to move over arcs,

said arcs extending toward said peripheral edge, and

means for moving said blade forming means towards said backing means whereby successive portions of said cutting edge will be engaged by said peripheral edge in a shearing action.

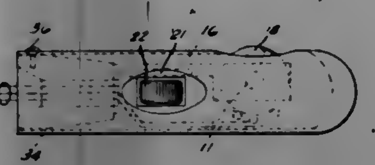
3,194,104

PLAYING BAR FOR ELECTRIC STRINGED MUSICAL INSTRUMENTS

Orville Rhodes, 13345 Calcutta St., Sylmar, Calif., and Leo Krebs, 4138 Lankershim Blvd., North Hollywood, Calif.

Filed June 29, 1964, Ser. No. 378,894

7 Claims. (Cl. 84—319)



1. A fret bar for playing an electric stringed musical instrument comprising:

a housing having milled out areas;

a volume control potentiometer mounted in one of said milled out areas;

a tone control potentiometer mounted in another of said milled out areas;

electrical connecting wires connected with said volume and said tone control potentiometers and exiting from said housing to be connected with external devices;

a first control knob on said volume control potentiometer mounted fixedly thereon for rotation of said potentiometer, said control knob projecting from said housing so as to be manipulable with one finger of a player holding the fret bar in his hand; and

a second control knob on said tone control potentiometer, said second control knob fixedly mounted on said tone control potentiometer for rotation thereof and projecting from said housing so as to be manipulable by another finger of the player holding the bar in his hand, whereby while playing the guitar and sliding the fret bar along the strings on the fret board thereof the tone and volume may be adjusted by merely rotating said first and said second control knobs.

3,194,105

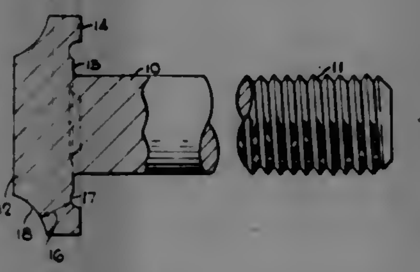
THREADED FASTENER WITH TENSION INDICATING MEANS

Peter J. Gill, Codsall, England, assignor to G.K.N. Group Services Limited, Smethwick, England, a British company

Filed May 16, 1961, Ser. No. 110,589

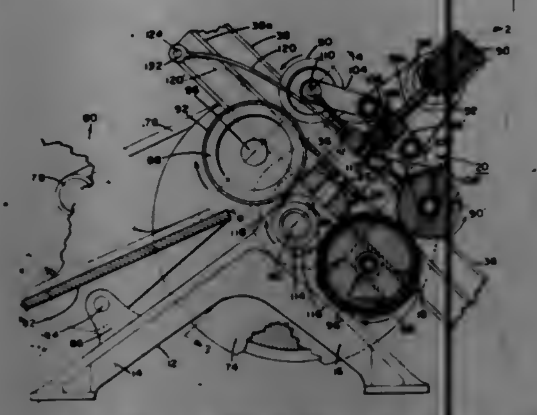
Claims priority, application Great Britain, May 26, 1960, 18,598/60

5 Claims. (Cl. 85—62)



1. A steel bolt, for use in a high strength bolted connection, having a shank with a head at one end and having on the underneath face of the head, which face is in engagement with a flat abutment in the connection, first and second radially extending flat surfaces which are spaced apart axially, said second surface comprising a polygonal recess surrounding the shank and concentric with the axis of the bolt and said first surface comprising a number of projections outside the area of said recess and angularly spaced apart around the axis of the bolt so as to provide gaps between adjacent projections visible

a linear series of punches mounted above the path of travel for reciprocatory movement normal to the plane thereof; a primary actuating shaft rotatably mounted below said path and drivingly connected to reciprocate said punches in unison; irreversible work piece feed wheel means lo-



cated ahead of and following said punching station as regards the direction of work piece travel; and continuously operating cam means mounted on and rotatable with said shaft to selectively directly engage and operate said feed wheel means to advance a work piece in a series of substantially uniform increments past said punching station.

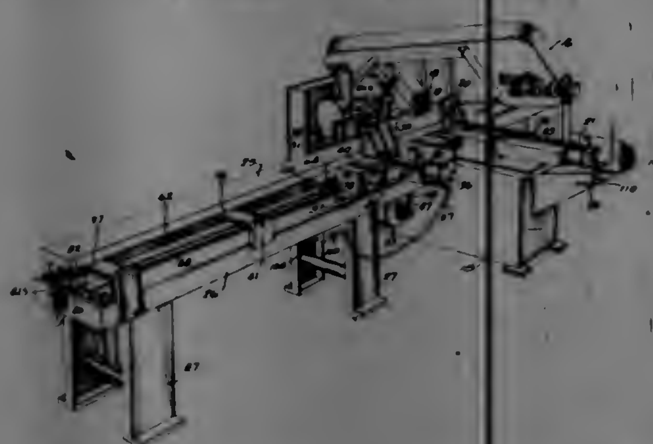
3,194,100

CONVEYORS FOR FEEDING WORKPIECES TO A CUTOFF TOOL

Otto H. Fehlberg, Racine, Wis., assignor to Peerless Machine Company, Oshkosh, Wis., a corporation of Delaware

Filed Oct. 16, 1961, Ser. No. 145,315

4 Claims. (Cl. 83—247)



1. The combination with a tool of a shuttle stroke conveyor for feeding workpieces to the tool in progressive increments, means for adjusting the stroke of the conveyor including gauge means for measuring the length of said stroke, a first positive stop to arrest conveyor movement at the end of its forward stroke, a second positive stop to arrest conveyor movement at the end of its rearward stroke and means to lock the workpiece against movement during said rearward stroke, said conveyor comprising an elongated feed table, a workpiece carrier movable longitudinally thereon and means for reciprocating said carrier along the table, said gauge means comprising a graduated rod extending along the table and

a shuttle stroke conveyor for feeding a workpiece to the tool in progressive increments, said conveyor comprising a movable carriage having a vise movable therewith, means for alternately clamping said vises on said workpiece to hold the workpiece in the fixed vise and release it from the movable vise during a tool operation and during the retractive stroke of the conveyor and to hold the workpiece in the movable vise and release it from the fixed vise between tool operations and during the advance stroke of the conveyor, said means including means to interlock said vises for positive clamping of the workpiece by one or the other of said vises at all times, the means for clamping said vises comprising fluid motors for the respective vises, said interlock means comprising means to release the pressure in the motor for one vise responsive to the buildup of fluid pressure in the motor for the other vise.

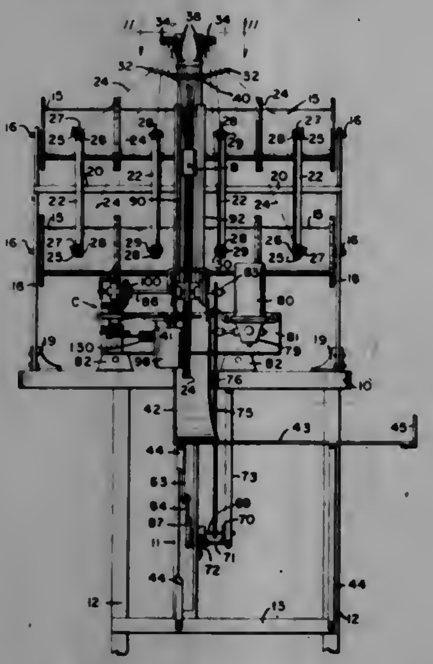
3,194,101

STRING CUTTER HAVING RECIPROCATING GRIPPER MEANS TO FEED STRINGS TO THE CUTTER

Raymond W. Bush, 5595 N. Federal Blvd., Denver 21, Colo., and Frank E. Hilliker, 1170 Independence, Lakewood, Colo.

Filed Feb. 15, 1962, Ser. No. 173,589

4 Claims. (Cl. 83—277)

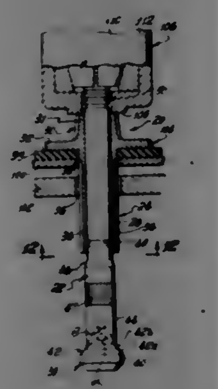


1. A machine for dispensing and cutting string and the like, including supply means from which said string is dispensed; a support mounted adjacent said supply means; a bobbin mounted for reciprocal movement along said support; pressure means adapted to engage said bobbin during movement along said support in one direction only, so that said bobbin grips said string to move said string in increments; reciprocating cutter means adapted to move across said string to cut said string into lengths; drive means operatively connected to said bobbin, said pressure means, said clamping means and said cutter means for operating them in synchronism, to dispense

on the sides of the head, when same is in engagement with the abutment, the underneath face of the head having a groove adjacent each projection, between the projection and the said second surface, each groove being concave in cross-section and generated by straight lines tangential to a circle centred on the bolt axis, the cross-sections of the head, in planes containing the bolt axis, between said first surface and the upper surface of the bolt head, and between said second surface and the upper surface of the bolt head being solid and devoid of any interruption, the exterior of the head, adjacent each groove having an inwardly concave surface, generated by straight lines tangential to a circle centred on the bolt axis, said straight lines which generate a concave surface and the groove adjacent thereto being parallel to each other, thereby forming a reduced cross-section of the bolt head between each groove and its adjacent inwardly concave surface, and the axial distance between said first and second surfaces being sufficient to permit plastic deformation at the reduced cross-section between each said groove and its adjacent inwardly concave surface on the exterior of the bolt head.

3,194,106
BLIND RIVET ASSEMBLY

Alexander Carusi, Downey, and Robert F. Kolec, Whittier, Calif., assignors to Olympic Screw & Rivet Corporation, Downey, Calif., a corporation of California
Original application Oct. 31, 1957, Ser. No. 693,749, now Patent No. 3,009,177, dated Nov. 21, 1961. Divided and this application July 7, 1961, Ser. No. 122,437
2 Claims. (Cl. 85—72)



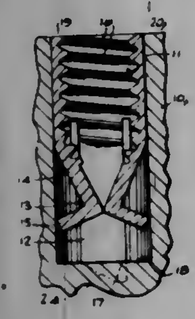
1. In a blind rivet assembly, the combination of:

(A) a tubular rivet capable of permanent deformation and including
  (a) a sleeve provided at one end thereof with a head having a transverse annular shoulder which faces the other end of said sleeve,
  (b) the exterior surface of said sleeve being provided therein with circumferentially spaced, longitudinal, closed fissures extending from said other end of said sleeve toward said head,
  (c) each of said fissures having side walls in contact,
  (d) the depth of said fissures being not more than about one-half the thickness of said sleeve, and
  (e) said sleeve being splittable from said other end thereof toward said head along said fissures; and

(B) a pin extending through said tubular rivet and including
  (a) grippable means at one end of said pin and adjacent said head of said tubular rivet,
  (b) a breakneck of reduced cross sectional area intermediate the ends of said pin,
  (c) expanding and splitting means, at the other end of said pin and adjacent said other end of said sleeve, for expanding said tubular rivet and for splitting said sleeve from said other end thereof toward said head of said tubular rivet along said fissures, in response to axial movement of said pin relative to said tubular rivet in a direction to draw said expanding and splitting means into said tubular rivet through said other end of said sleeve,
  (d) said expanding and splitting means being of circular cross section and including an enlarged shank terminating in a generally frusto-conical head diverging from said shank toward said other end of said pin,
  (e) said generally frusto-conical head including adjacent said shank a first frusto-conical annular surface having an acute included angle of between about 56° and about 60°, and
  (f) said generally frusto-conical head including adjacent said first frusto-conical annular surface a second frusto-conical annular surface having an obtuse included angle of between about 90° and about 94°

3,194,107
INTERNALLY THREADED INSERT WITH ROTATION PREVENTING MEANS

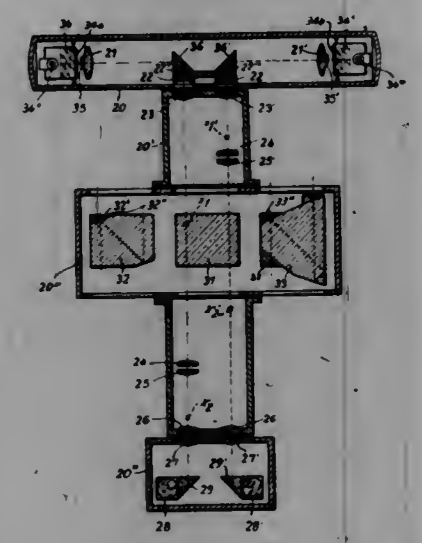
Alfred George Ballard, Birmingham, England, assignor to G.K.N. Screws & Fasteners Limited, Birmingham, England, a British company
Filed May 31, 1963, Ser. No. 284,564
Claims priority, application Great Britain, June 5, 1962, 21,586/62
1 Claim. (Cl. 85—85)



An anchorage sleeve device comprising, in combination, a substantially cylindrical sleeve having an internal thread and a screw adapted to have threaded engagement therewith, said sleeve having a plurality of circumferentially spaced slots extending longitudinally from one end of the sleeve to a position intermediate the ends thereof, such slots providing therebetween a number of separate legs having a uniform wall thickness, some of said legs being deformed inwardly towards the axis of the sleeve, each deformed leg having its free extremity bent outwardly away from said axis, and formed with a point, the remainder of said legs being straight, parallel to the axis of the sleeve, with their external surfaces defining a continuation of the external surface of the unslotted portion of the sleeve, and extending beyond the extremities of said deformed legs, the extremity of each straight leg being cut away to provide an inclined edge which is inclined in the same direction of inclination as the thread with respect to the axis of the sleeve, the opposite edge of each of said straight legs being straight throughout its length, said internal thread being formed so that it extends from the end of the sleeve remote from the legs and terminates at a position on said legs spaced away from the extremities thereof, the major diameter of said internal thread being greater than the internal diameter of the unthreaded portion of the sleeve defined by said straight legs and said screw having a threaded shank of axial length greater than the threaded length of the sleeve.

3,194,108
OPTICAL RANGE FINDER WITH MARKER IMAGE MEANS AND MOVABLE REFLECTOR SYSTEM FOR COINCIDENCE OR STEREOSCOPIC TYPE RANGE FINDING

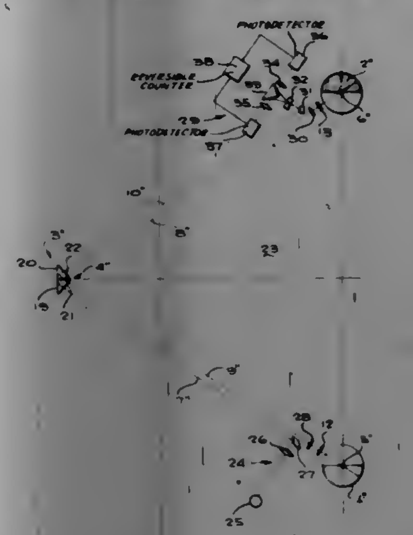
Norbert Günther, Aalen, Wurttemberg, Germany, assignor to Carl Zeiss, Oberkochen, Wurttemberg, Germany
Filed Apr. 27, 1960, Ser. No. 25,158
Claims priority, application Germany, Apr. 29, 1959, Z 7,290
4 Claims. (Cl. 88—2.7)



1. A range finder comprising a longitudinal housing, two telescope objectives mounted symmetrically to an imaginary axis and a fixed distance apart in the end portions of said housing, an adjustably mounted reflecting prism arranged in front of each objective lens for reflecting the beams of light entering said housing into said objective lenses, said prisms each having a semi-reflecting surface on the face adjacent its respective objective, a tube extending transversely of said housing between the ends thereof, a pair of oculars in the end of said tube arranged in spaced apart relation for binocular use, a marker on each objective lens, two fixed reflecting prisms arranged between said objective lenses to deflect the rays from the objectives into the transverse tube in the form of two light beams having parallel axes, each light beam directed to a respective ocular, a semi-transparent reflector adjacent one side surface of each of said fixed reflecting prisms, each semi-transparent reflector cooperating with its respective objective and marker to form a collimated marker image which is reflected by the semi-transparent surface of the respective adjustably mounted reflecting prisms, a reflecting system arranged in the rear of said fixed reflecting prisms including an inclined full reflector element in one of said light beams and an inclined semi-transparent reflector element in the other of said light beams, said elements being mounted for movement into and out of their respective light beams to enable the range finder to be used optionally as a binocular stereoscopic type or a monocular coincidence type, said inclined full reflector element, when in operative position, reflecting one of said light beams to the inclined semi-reflector element in operative position in the other light beam, whereby both of said light beams are combined and directed toward one of said oculars, and means for adjusting at least one of said adjustably mounted reflecting prisms for bringing the images of said markers appearing in one of said oculars into registration, when the reflecting system is in operative position for monocular coincidence type use.

3,194,109
INTERFEROMETRIC DEVICE FOR DETERMINING DEVIATIONS FROM PLANAR MOTION

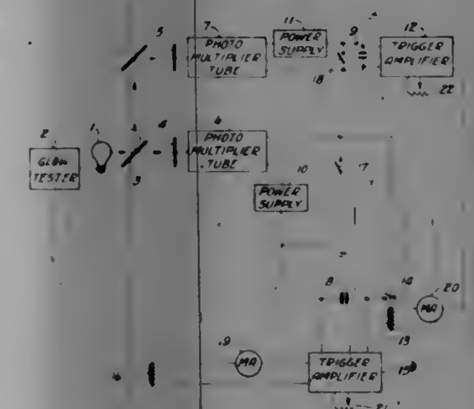
Kent E. Erickson, 2811 N. Howard St., Baltimore, Md.
Filed Sept. 11, 1961, Ser. No. 137,335
11 Claims. (Cl. 88—14)



1. A system for determining at least lateral deviations of a member from planar motion comprising a beamsplitter mounted on said member with its plane substantially parallel to the plane of movement of said member, means for moving the member along said plane of movement, a beam of light directed at said beamsplitter to provide a reflected and a transmitted beam, a first and a second stationary reflective element disposed in the paths of the reflected and the transmitted beams respectively at initially substantially equal optical distances from said beamsplitter, said reflective elements being arranged to cause said latter beams to be reflected parallel to themselves at all positions of said beamsplitter over the limits of operation of said system, thereby to produce a single beam which is a composite of the beams reflected from said reflective elements, and means for detecting changes in the light intensity due to interference in said composite beam as an indication of the deviation of the member from planar motion.

3,194,110
METHOD OF DETECTING OXYGEN CONTAMINANT IN SEALED ENVELOPES

Henry J. Eppig, Cleveland Heights, and Gordon J. Kennedy, Cleveland, Ohio, assignors to General Electric Company, a corporation of New York
Filed Dec. 28, 1961, Ser. No. 162,880
4 Claims. (Cl. 88—14)



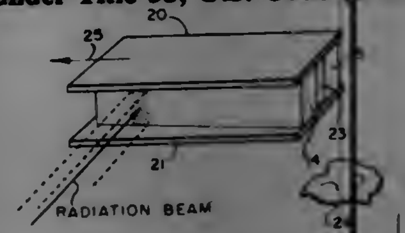
1. The method of detecting the presence of contaminating oxygen in a sealed transparent envelope containing sources of traces of cyanogen radical (CN) and another excitable gas which comprises producing a glow discharge in the envelope to form excited cyanogen radical molecules and excited molecules of said other gas, and measuring the ratio of the spectral intensity of the cyanogen radical molecules at a given wavelength to the spec-

tral intensity of the molecules of said other gas at another given wavelength to obtain a signal indicative of the oxygen content in said envelope by virtue of suppression of the emission produced by the cyanogen radical molecules by ionized oxygen.

3,194,111
VARIABLE SPACE INFRARED LIQUID MICROCELL

Raymond A. Saunders, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Jan. 25, 1962, Ser. No. 168,852
1 Claim. (Cl. 88—14)
(Granted under Title 35, U.S. Code (1952), sec. 266)

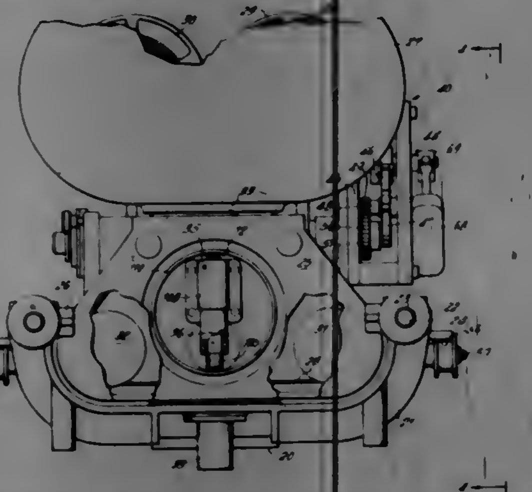


A variable spaced liquid microcell for providing a wide range of absorption intensity measurements while requiring a minimum quantity of fluid sample comprising a pair of alkali-halide crystal transparent windows, said windows being transparent to electromagnetic radiation and positioned with the edge of one window adjoining the edge of the other window to form a V-shaped structure, side plate means sealed to respective pairs of diverging edges of said structure for providing a fluid tight seal thereat, said windows and said side plates defining a V-shaped cavity with said windows open at its point of greatest cross-sectional area, wherein said opening is of such dimension that said minimum quantity of fluid sample will enter by capillary action, and deformable sealing means for sealing off the cavity defined by said windows and said plate means whereby varying absorption intensities of any fluid confined within said cavity may be obtained by movement of said microcell in a direction longitudinal of said windows across the path of a radiation beam.

3,194,112
PHOTOGRAPHIC CAMERA AND PROJECTION DEVICE

Frank G. Back, 55 Sea Cliff Ave., Glen Cove, N.Y.

Filed Jan. 16, 1962, Ser. No. 166,492
13 Claims. (Cl. 88—[illegible]4)

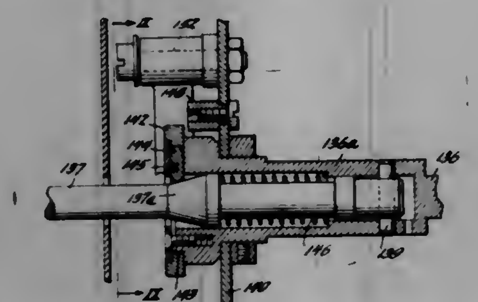


1. A combined photographic camera and projection device comprising a base support, a housing slidably carried by the base support, an objective in the base support beneath the housing, means to intermittently feed a supply of photographic film through the housing above the objective, means to intermittently hold the film in intimate contact with the last element of the objective, means to direct light through the film while in contact with the objective and means to move the housing with respect to the base to bring successive areas of the film into register with the objective.

3,194,113
OPTICAL VIEWING APPARATUS WITH A PROJECTION SCREEN

Jean A. Knus, Zurich, Switzerland, assignor to Alos AG, Zurich, Switzerland

Filed Oct. 5, 1962, Ser. No. 228,715
Claims priority, application Germany, Oct. 5, 1961, A 17,308
2 Claims. (Cl. 88—24)

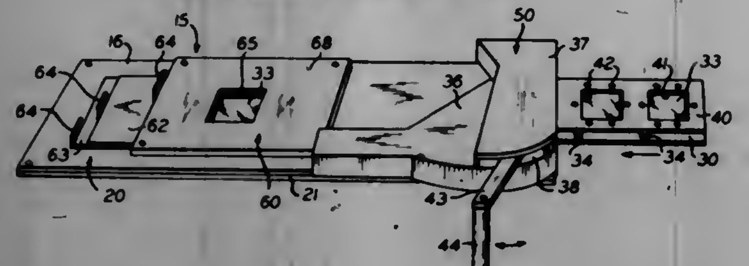


1. Optical viewing apparatus with a projection screen for imaging a photographic recording on a film, said film having frames of a plurality of meters arranged side-by-side in rows and one above another, particularly for calculating telephone charges, said viewing apparatus comprising a shiftable mask of material, by means of which any one row or column of frames can be made quite distinct on the screen, an adjustable holder to be actuated from outside the apparatus so that the mask is exchangeably mounted thereon, said holder being guided for rectilinear movement and provided with a rack in mesh with a gearwheel rotatable by a knob outside the apparatus, a shaft connecting the knob and gearwheel, a notched disk on the shaft with which a spring-loaded catch cooperates, the pitch of the notches corresponding to the pitch of the rows or columns, said disk having teeth on its inner periphery of a pitch several times finer than those of the notches and is releasably coupled to the shaft through at least one driving cog engaging said teeth, and said shaft comprising an axially fixed partly hollow piece and an endpiece axially movable therein which is connected for rotation to the first-named piece and carries a knob and has a tapered portion which, upon axial movement, causes engagement of said driving cog with or disengagement from the teeth of the notched disk.

3,194,114
NEGATIVE MANIPULATING MEANS FOR PHOTOGRAPHIC COPYING APPARATUS

Walter L. Weinberg, 3 Laurel Drive, New Hyde Park, N.Y.

Filed Dec. 26, 1962, Ser. No. 247,024
11 Claims. (Cl. 88—24)

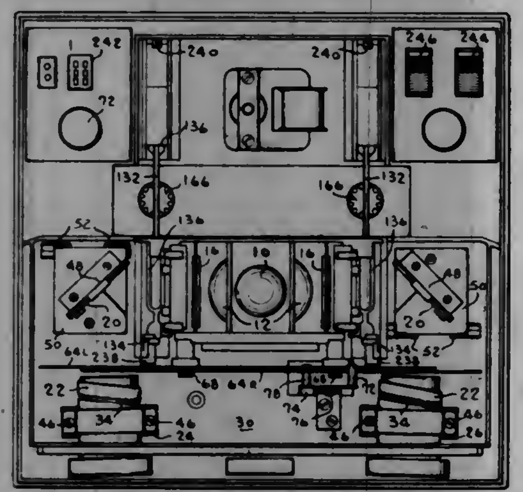


1. For use in photographic copying apparatus: negative manipulating means comprising, in combination, a slide guide including a substantially flat base constructed and arranged for mounting upon photographic copying apparatus, said base having an aperture therethrough for centering on the optical axis of the apparatus; a relatively elongated and substantially flat slide disengageably mounted in said slide guide for movement longitudinally of such base across such optical axis, said slide being formed with plural substantially identical apertures therethrough spaced uniformly longitudinally thereof; each slide aperture being alignable in substantially congruent registering relation with said slide guide aperture by relative longitudinal movement of said slide; negative positioning means around the periphery of each slide aperture; positioning abutment means along said slide at longitudinal spacings equal to the center-to-center spacings of said slide apertures; releasable stop means on said slide guide engageable with a positioning abutment means each time a slide aperture is congruently registered with the slide guide aperture; and reciprocable operating means on said slide guide engageable successively with said positioning abutment means to advance said slide longitudinally of said slide guide to position successive slide apertures in such congruent registry with said slide guide aperture.

3,194,115
DUAL SLIDE PROJECTOR WITH A SINGLE MAGAZINE

Harry L. Giwosky, Milwaukee, Wis., assignor to Realist, Inc., Menomonee Falls, Wis., a corporation of Delaware

Filed July 26, 1962, Ser. No. 212,683
20 Claims. (Cl. 88—28)

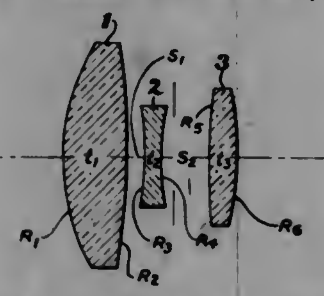


16. A slide projector comprising, a housing containing a light source emitting two beams in opposite directions, a slide stage in each beam, a mirror for reflecting each beam to result in two generally parallel beams, a slide magazine containing the slides for both stages and positioned parallel to the oppositely directed beams, and a changer for each stage and operative to transport slides between the magazine and the stage associated therewith.

3,194,116
TRIPLET OBJECTIVE HAVING A NEGATIVE ELEMENT FORMED OF A COPOLYMER OF ACRYLONITRILE AND STYRENE

Fred E. Altman, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Dec. 22, 1961, Ser. No. 161,676
11 Claims. (Cl. 88—57)

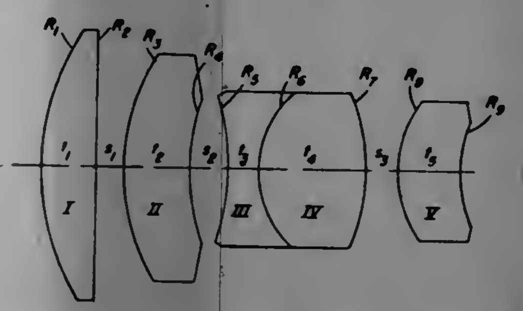


1. A triplet lens comprising two positive elements of methylmethacrylate and, spaced and aligned between the positive elements, a negative element formed of a copolymer of acrylonitrile and styrene having an index of refraction N_D about 1.56 and an index of dispersion V about 37.

3,194,117
LARGE APERTURE PROJECTION LENS

Wesley H. Van Graafeiland, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 13, 1962, Ser. No. 237,403
6 Claims. (Cl. 88—57)



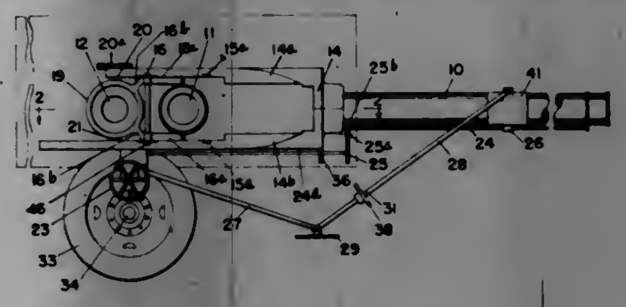
1. An objective comprising five elements numbered from the long conjugate side, having radii of curvatures R_1 to R_9, thicknesses t_1 to t_5 and spacings S_1 to S_3 all with subscripts numbered from the long conjugate side, within the following ranges, where F is the equivalent focal length of the objective, the third and fourth elements being cemented together,

$$.9F<+R_1<1.2F$$
$$8.0F<+R_2\leq\text{infinity}$$
$$.5F<+R_3<1.5F$$
$$.5F<+R_4<2.0F$$
$$.8F<-R_5<2.0F$$
$$.25F<+R_6<.45F$$
$$.5F<-R_7<1.0F$$
$$.35F<+R_8<.6F$$
$$.2F<+R_9<\text{infinity}$$
$$.15F<t_1<.5F$$
$$.01F<S_1<.2F$$
$$.05F<t_2<.5F$$
$$.07F<S_2<.4F$$
$$.01F<t_3<.5F$$
$$.2F<t_4<.6F$$
$$.01F<S_3<.4F$$
$$.05F<t_5<.5F$$

3,194,118
RECOILLESS GUN FOR SIMULTANEOUSLY SEPARATELY LOADING PROPELLANT AND PROJECTILE

C Walton Musser, Palos Verdes Estates, Calif., and Robert W. Markgraf, Roslyn, Pa., assignors to the United States of America as represented by the Secretary of the Army

Filed Jan. 28, 1963, Ser. No. 254,513
4 Claims. (Cl. 89—1.7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A recoilless gun including in combination; a barrel;

a support member having a forward open end and at least one rearwardly extending leg; said barrel mounted to and communicating with said support member forward end;

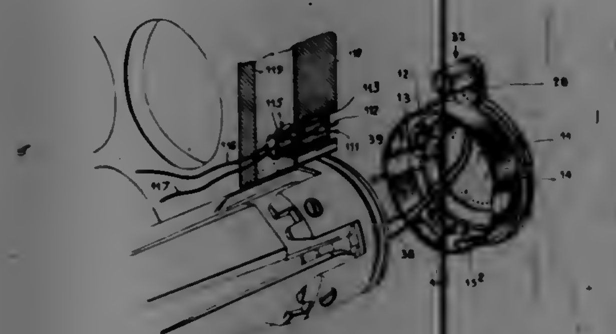
a propellant chamber in axial alignment with said barrel and having a forward open end and a rearward restricted open end;

an open ended projectile chamber disposed between, axially aligned with, and abutting said propellant chamber and said barrel, said projectile chamber pivotally connected with said propellant chamber; and

means for substantially simultaneously moving both chambers longitudinally rearwardly and rotatably away from said barrel and rotatably away from each other, said means including a first pin fixed to said propellant chamber, a first longitudinal slot in said leg adapted to pivotally and slidably receive said first pin, a second pin fixed to the forward end portion of said projectile chamber, a second slot in said leg adapted to pivotally and slidably receive said second pin and further adapted to guide said second pin longitudinally rearwardly and angularly away from said barrel, a third pin pivotally interconnecting said chambers to each other, a third slot in said leg adapted to pivotally and slidably receive said third pin and further adapted to guide said third pin longitudinally rearwardly and transversely away from said barrel, and drive means integral with said propellant chamber for imparting a force to said first pin to urge same longitudinally rearwardly in said first slot thence to rotate said first pin in said first slot whereupon said projectile chamber, substantially simultaneously with the movement of said propellant chamber, slides longitudinally rearwardly and angularly away from said barrel and pivotally away from said propellant chamber.

3,194,119
CLOSING DEVICES FOR ROCKET BOMB NOZZLE

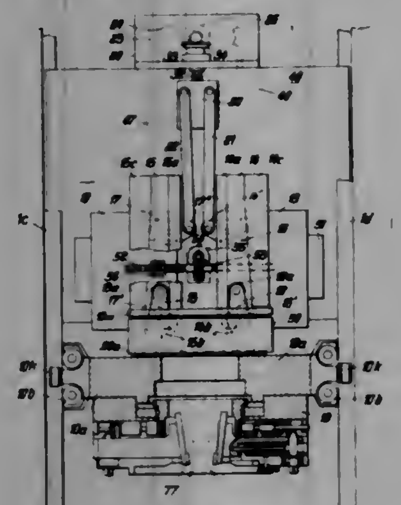
Roger Aimé Robert, Le Vesinet, France, and Pierre Paul Matge, deceased, late of Cachan, France, by Louise Rosemonde Paulette Matge, Helene Suzanne Madeleine Matge, and Jean-Pierre Louis Matge, heirs, all of Cachan, France, assignors to Louise Rosemonde Paulette Jacquot, heir of Pierre Paul Matge, deceased
Filed May 6, 1963, Ser. No. 279,677
Claims priority, application France, July 17, 1962, 904,218
5 Claims. (Cl. 89—1.7)



1. For placing over the rear opening of the nozzle of an electrically actuated rocket bomb adapted for being contained in a guide tube; a device for closing said opening comprising a one-piece dish of electrically insulating material including a generally hollow cylindrical body with a generally plane annular bottom having an inner and an outer surface, said bottom defining a central opening for the cylindrical body, a radially projecting rib on the body integral therewith and constituting a stop for limiting the depth of penetration of the dish in the guide tube while immobilizing the body and rocket bomb in the tube with respect to forward movement prior to firing, a substantially continuous metallic cover on the outer surface of the bottom of the cup, said metallic cover including a rim portion engageably covering the rib to secure the cover and the dish together, said cylindrical body having an inner and an outer surface, metallic sheet means in electrical contact with said metallic cover and extending through said bottom to contact and cover a portion of the inner surface of said body and a portion of the outer surface of said body such that the sheet means covering the portion of the outer surface of the body can be in contact with the guide tube when the device is inserted therein, and the conducting means incorporated in said body for conducting electric current adapted to fire the rocket bomb and being protected from stray radiation by said metallic cover.

3,194,120
SPLINE SHAFT PLANER

Friedrich Striepe, Friedrichshafen, Germany, assignor to Zahnradfabrik Friedrichshafen Aktiengesellschaft, Friedrichshafen, Germany
Filed Apr. 24, 1963, Ser. No. 275,385
Claims priority, application Germany, Apr. 25, 1962, Z 9,375
19 Claims. (Cl. 90—2)

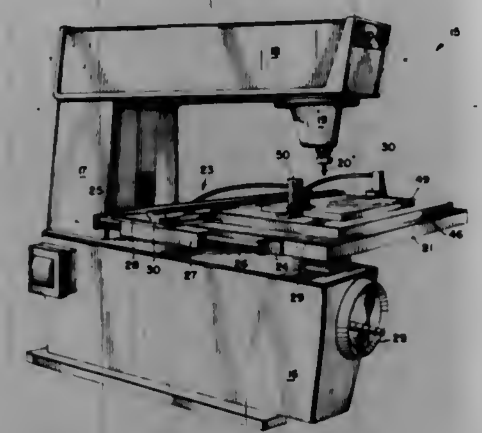


1. In a machine of the class described, a cutter head, cutter holders carried thereby, template means and means connecting said template means with said cutter holders to move said holders transversely of the direction of movement of said cutter head during the course of cutting, said template means comprising a pair of coplanar templates having oppositely oriented cut control edges to be followed, each of said templates being carried by a parallel linkage pivoted to a respective support plate, and means for adjustably mounting said plates to initially space said templates with respect to each other, said linkage support plates for said templates being disposed so that said templates may be translated thereby, after a cutting movement of said head, into position for controlling said holders for succeeding cutting movement with progressively decreasing the shaving thickness.

19. A method of cutting a slot in a workpiece having a curved terminal portion which comprises moving a cutting tool in said workpiece to cut a linear slot in a series of successive cuts, moving said tool to cut a greater depth with each cut but with progressively decreasing depth increment with each cut, moving said tool in a direction outwardly of said slot along a curved path at the end of each cutting traverse and progressively shortening each traverse to thus cut a series of arcs joining each other end to end to form a composite curved terminal portion for said slot.

3,194,121
POWER OPERATED WORKPIECE AND PATTERN HOLDING FIXTURE FOR ROUTER MACHINES

Ray E. Colonius, Palatine, and Charles R. Onsrud, Chicago, Ill., assignors to Onsrud Machine Works, Inc., Niles, Ill., a corporation of Illinois
Filed Nov. 15, 1963, Ser. No. 324,054
12 Claims. (Cl. 90—13.2)



1. In combination with a router machine having a cutter element, a fixture having a program mechanism for horizontally moving a workpiece under power along a path prescribed by a guide means in a pattern, said fixture comprising:

(a) first and second reversible power units positioned to urge said workpiece in linear directions normal to each other,

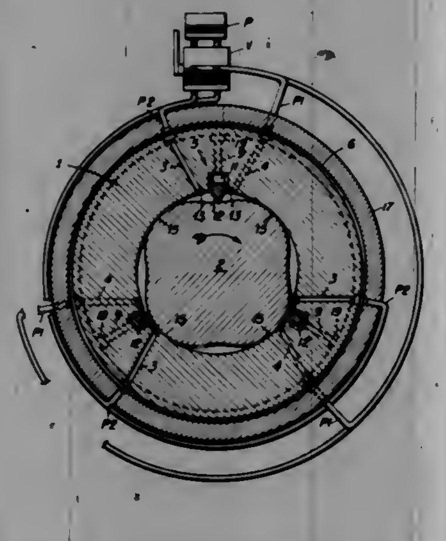
(b) a multi-stage program mechanism positioned to energize alternately each of said power units in predetermined sequential order,

(c) and a sensing means cooperative with said guide means and connected to actuate said program mechanism at predetermined positions,

whereby said workpiece is moved under power relative to said cutter element in accordance with said path prescribed by said guide means in said pattern.

3,194,122
HYDRAULIC CAM MOTOR VANE SWITCHING SYSTEM

William R. Kee, Oak Park, Mich., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Original application Dec. 14, 1962, Ser. No. 244,846. Divided and this application May 27, 1964, Ser. No. 387,248
1 Claim. (Cl. 91—104)



In a hydraulic power converter the combination comprising

a rotor member;

said rotor member having a plurality of cam lobes and dwell portions on the outer periphery thereof;

said rotor member being rotatable in either a clockwise or counter-clockwise direction alternatively as desired;

a stator member enclosing said rotor member in such a manner as to form pressurizable chambers spaced around the circumference of said rotor member by virtue of the cooperative relationship thereof with the dwell portions of said rotor surface;

said stator member having radially disposed vane chambers located therein circumferentially spaced around the inner portion of said stator member and opening toward said rotor member;

pressure passages within said stator member;

said pressure passages being located adjacent the sides of each of said vane chambers and communicating with each of said pressurizable chambers and being spaced around said rotor thereby to provide pressure entry and exhaust pressure passages from a source of hydraulic fluid to said pressurizable chambers;

vane members slidably disposed within said vane chambers;

each of said vane members having a portion configured to engage said rotor member to divide each of said pressurized chambers into two portions and a portion within each of said vane chambers disposed to receive pressurized fluid from said pressure passages for biasing said vane member toward said rotor member;

the first portion of each of said pressurizable chambers forming a chamber for reception of fluid under high pressure when said rotor is rotating in a clockwise direction and forming a chamber for exhausting less highly pressurized fluid when said rotor is rotating in a counter-clockwise direction;

the second portion of each of said pressurizable chambers forming a chamber for exhausting fluid under less than high pressure when said rotor is rotating in a clockwise direction and a chamber for receiving fluid under high pressure when said rotor is rotating in a counter-clockwise direction;

additional passages in said stator in fluid communication with each side of said vane chambers providing fluid communication of biasing fluid for flow onto the top of said vane members in said vane chambers for biasing said vane members against said rotor with fluid from said first passages, said passages opening into either of said first or second portions of said pressurizable chamber correlative with the direction of rotation of said rotor whereby said vane is caused to assume a position providing a sealing relationship with a portion of the wall of the vane chamber on the low pressure side thereof, thereby further effecting a sealing relationship between said vanes and the rotor;

an annular groove in said stator disposed in fluid communication with said first mentioned passages, a source and exhaust for pressurized fluid and the respective pressurized chambers located radially outward from said vane members;

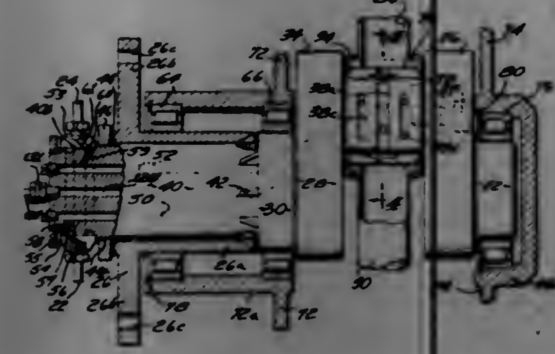
means including an O ring disposed for movement in said annular groove for selectively applying fluid under high pressure through said pressure passages in either said first or said second portions of said chambers to thereby change the direction of rotation of said rotor;

switching means operably connected to said power converter and cooperative with said O ring in a manner to apply the pressure relationship of hydraulic fluid under pressure to the same preselected pressurizable chamber and into the respective chambers associated therewith to maintain pressure on the top of said vanes when said rotor is changed from one direction of rotation to the opposite direction of rotation.

3,194,123

FLUID PRESSURE MOTOR

John H. Feaster, 703 Eastwood Ave., Santa Ana, Calif.
Filed May 25, 1962, Ser. No. 197,721
8 Claims. (Cl. 91—176)

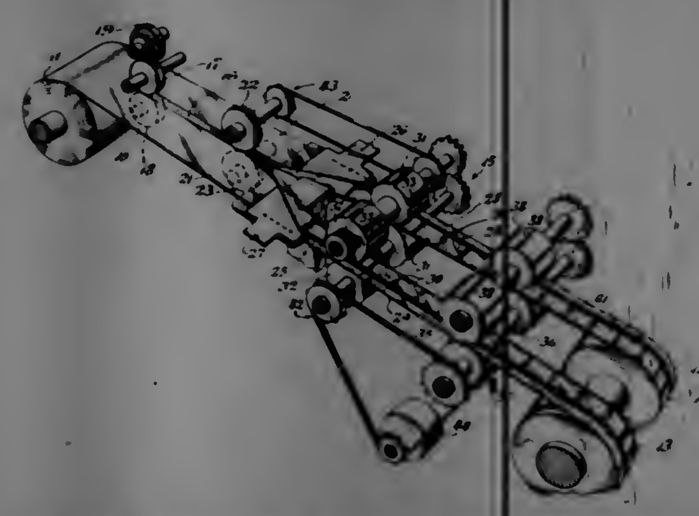


1. A fluid pressure motor comprising in combination, a drive member mounted for rotation about a given axis, a plurality of generally radially disposed fluid pressure responsive actuators each of which comprises a pair of relatively rectilinearly movable actuator members one of which is pivotably connected to said drive member, a source of fluid pressure for said actuators comprising a relatively stationary distributor member having inlet and outlet fluid passageways and a valve member rotatably mounted on said distributor member and formed with valve ports for cooperation with the passageways in said distributor member, and means connecting the other actuator member of each of said pairs to said valve member, the axis of rotation of said valve member on said distributor member being offset from the axis of rotation of said drive member whereby relative rectilinearly movement of said actuator members develops a component force urging said drive member in a given direction of rotation, said last mentioned means permitting each said other actuator member to have a predetermined limited range of movement relative to said valve member, said movement being sufficient to accommodate the swinging of each said other actuator member relative to the valve member resulting during rotation of the drive member because of the offset of the axis of the valve member from the given axis.

3,194,124

METHOD OF FORMING TEAR-OFF BAG SUPPLY

Harold Warp, Chicago, Ill., assignor to Flex-O-Glass, Inc., a corporation of Illinois
Filed Nov. 17, 1961, Ser. No. 153,006
5 Claims. (Cl. 93—35)

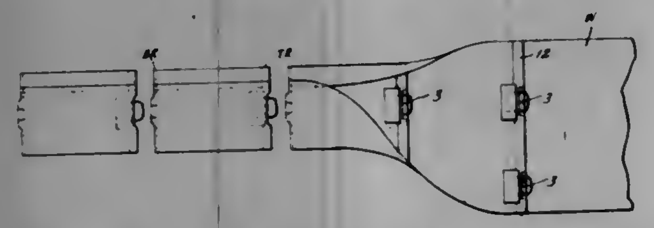


1. The method of forming a supply of plastic bags wherein the bags are arranged for facilitated individual dispensing, comprising the steps of: placing a marking band at the longitudinal centerline of an elongated sheet of plastic material; cutting the elongated sheet along the longitudinal centerline to form a pair of ribbons having confronting first edges and outer second edges, each of said first edges including a portion of said marking band; folding each ribbon along a line extending longitudinally thereof and closely spaced from the longitudinal centerline of the ribbon to define a pair of facially juxtaposed portions with said first edges transposed from said longitudinal centerline of the sheet to outwardly beyond said centerline of the ribbon; joining the ribbon portions along a plurality of transversely extending lines spaced longitudinally of the ribbon to define a series of bags opening toward one edge of the ribbon; and providing means in the ribbon at said lines for facilitating tearing of the ribbon transversely thereacross with the portions of the ribbon adjacent the tear remaining joined to define the sides of bags successively dispensed from the supply.

3,194,125

METHOD OF MAKING PAPER BAGS HAVING RE-INFORCED MOUTH PORTIONS

John S. Davis, Irvington, N.Y., assignor to Equitable Paper Bag Co. Inc., Long Island City, N.Y., a corporation of New York
Filed June 13, 1962, Ser. No. 202,271
2 Claims. (Cl. 93—35)

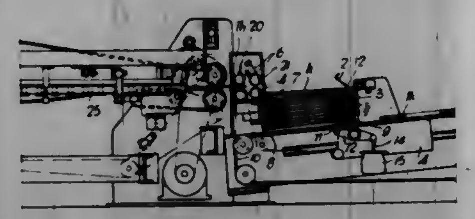


1. The method of making shopping bags which comprises advancing a web of bag material longitudinally, adhesively applying a reinforcing strip to the web as a second ply over a limited area of the advancing web, said area being substantially less than the length of the bag blanks to be formed, making first successive transverse cuts through the web and reinforcing strip and across a portion and only a portion of the width of the advancing web with the cuts spaced lengthwise of the web for a distance substantially equal to the length of the bags that are to be made from the web, the cuts including end portions extending in directions having longitudinal components and with each cut within the longitudinal limits of the reinforcing strip, and then applying handles to the advancing web, applying patches to the web over the ends of the handles to secure the handles to the web and with both sides of the handles located within the transverse limits of the cuts, the patches being located so that the upper portion of each patch overlaps at least a part of the lower portion of the reinforcing strip but terminates below the cuts, tubing the web with a longitudinal seam, and thereafter severing the tube into individual bag blanks by cutting through the web and reinforcing strip transversely of the length of the advancing web and beyond both ends of the transverse cuts and at locations that intersect the end portions of said transverse cuts having longitudinal components, whereby the portions of the strip severed from one another by said cutting through form double-ply edges at the top and bottom of the bag blank.

3,194,126

METHOD AND MECHANISM FOR ALIGNING GLUED CARTON BLANKS

Olof Einar Larsson, Orebro, Sweden, assignor to Sunds Verkstader Aktiebolag, Sundsvall, Sweden, a corporation of Sweden
Filed Apr. 22, 1963, Ser. No. 274,598
Claims priority, application Sweden, Apr. 25, 1962, 4,589/62
9 Claims. (Cl. 93—36)

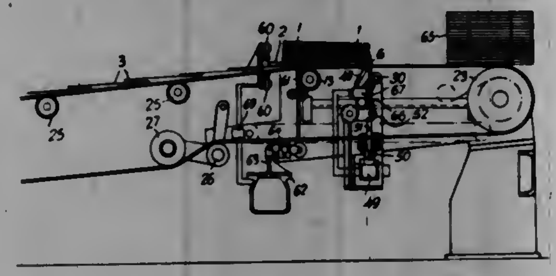


1. A mechanism for squaring up carton blanks and similar relatively stiff blanks having fold or crease lines, said blanks being continuously advanced one after the other in a machine while passing a folding device in which the side parts of the blanks are folded in toward the central part thereof and glued together during which operation an undesired distortion of the edges of the side parts relative to the edges of the central part tends to occur, which mechanism comprises a fixed stop member toward which the blanks are fed; a profiled rotary roller located at a distance from the stop member equalling the length of a blank, said roller being adapted to clutch the trailing edges of a blank and to move said edges forward along an arc so as to force the leading edge of the blank against the stop member to square-up the blank, said roller upon continued rotation delivering the blanks to a stack.

3,194,127

DEVICE FOR STACKING CARTON BLANKS AND THE LIKE

Olof Einar Larsson, Orebro, Sweden, assignor to Sunds Verkstader Aktiebolag, Sundsvall, Sweden, a corporation of Sweden
Filed Jan. 15, 1963, Ser. No. 251,528
Claims priority, application Sweden, Jan. 18, 1962, 555/62
10 Claims. (Cl. 93—93)



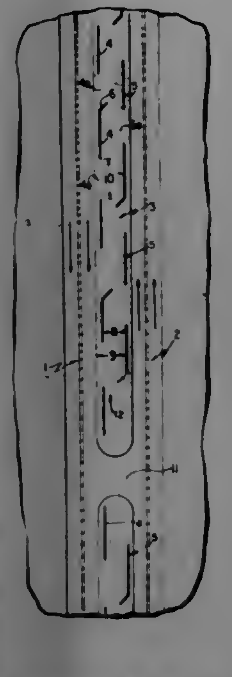
1. A device for stacking carton blanks and similar stiff blanks in a carton manufacturing machine comprising conveyor means for advancing the carton blanks in one direction; an abutment vertically movable between an upper position and a lower position and adapted when in upper position to limit the advance of the lowermost blank so as to build up at a stacking place a stack from below, one blank entering the stack lifting the other blanks comprised in the stack; an operating device for said abutment; a counting apparatus registering the number of carton blanks fed to the stack, said counting apparatus cooperating with said operating device to transmit to said operating device, after a predetermined number of blanks in the stack has been reached, an impulse effective for moving said abutment to said lower position thereby releasing the stack to advance past said abutment; and means for resetting said abutment at said upper position immediately upon release of the stack, said resetting means exerting a force on the abutment which force is smaller than the weight of the departing stack.

3,194,128

NOVEL ROADWAY

Hans Lechner, R.D., Skillman, N.J.
Filed Oct. 5, 1962, Ser. No. 228,551
2 Claims. (Cl. 94—1.5)

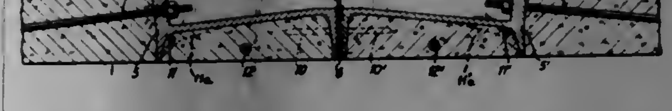
1. A highway median barrier for separating multiple lanes of traffic going in opposite directions and for providing space for parking disabled vehicles, which comprises a median strip between adjacent lanes carrying opposing traffic, said median strip having mounted thereon two substantially parallel rows of intermittent barriers with spaces between the intermittent barriers, said spaces being large enough to accommodate at least one vehicle therein for parking between adjacent aligned sections of said intermittent barriers, the intermittent barriers of the two rows being staggered so that the spaces between the intermittent barriers of one row are opposite intermittent barriers in the other row.



3,194,129

JOINT CONSTRUCTION FOR RUNWAY SLABS OF PRESTRESSED CONCRETE

Ulrich Finsterwalder, Munich, Obermenzing, Germany, assignor to Dyckerhoff & Widmann Kommanditgesellschaft, Munich, Germany
Filed Aug. 24, 1961, Ser. No. 133,671
Claims priority, application Germany, Aug. 27, 1960, D 34,118
3 Claims. (Cl. 94—8)



1. A joint construction for runway slabs, particularly for airport runways of prestressed concrete having runway sections with proximate end portions defining a gap therebetween and including a plurality of structural casings of cast steel or the like disposed along the ends of said sections and coextensive therewith, said casings being arranged in opposed cooperating pairs, with each said casing having a substantially vertically disposed front end wall extending proximate and substantially parallel to the front end wall of the opposite casing of said pair with a space therebetween corresponding to the width of said gap, the front end wall of each said casing having an upper flange extending laterally away from the gap and terminating in a lip extending upwardly to the level of the wearing surface of the slab and defining an upwardly opening recess proximate the top of and on both sides of said joint and coextensive therewith, a bridging platform in said recess, each said casing being provided with at least one upwardly opening box shaped projection extending rearwardly from the front end wall and away from the joint and terminating in a substantially vertically disposed rear end wall spaced from said front end wall, said projection of each of said pair of casings defining an upwardly

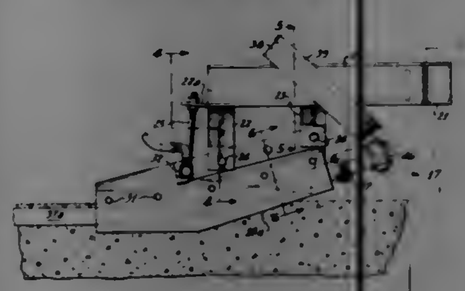
opening trough extending transversely across said pavement joint and at least one longitudinal tension member anchored to said rear end wall of each said casing.

3,194,130
APPARATUS FOR FORMING A WEAKENED ZONE IN PAVEMENTS

Ronald M. Guntert, Stockton, Calif., assignor to Guntert & Zimmerman Const. Div., Inc., Stockton, Calif., a corporation of California

Filed Jan. 10, 1961, Ser. No. 81,789

4 Claims. (Cl. 94—45)



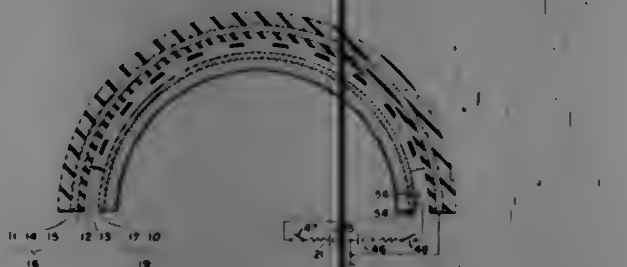
1. In combination with apparatus for forming pavement, including means for compacting freshly poured cementitious material, the improvement of a strip-inserting device mounted rearwardly of said paving apparatus and adapted to be advanced therewith, said device comprising means including a pair of spaced plates defining a slotted guide, said guide being adapted to be positioned in the pathway of freshly poured but compacted and relatively rigid cementitious material for forming a groove therein, said guide being longitudinally aligned in the direction of advancement and having a relatively thin and forwardly inclined leading edge extending from the bottom of the guide to a point above the level of freshly compacted concrete, means for supplying and feeding a divider strip through said slotted guide including a supply of divider strip material, and a reciprocating vibrating means mounted upon said guide for imparting vibration thereto in a direction substantially transverse of the direction of advancement.

3,194,131
DOCUMENT COPIERS

Gene H. Robinson, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Oct. 9, 1962, Ser. No. 229,425

4 Claims. (Cl. 95—1.7)



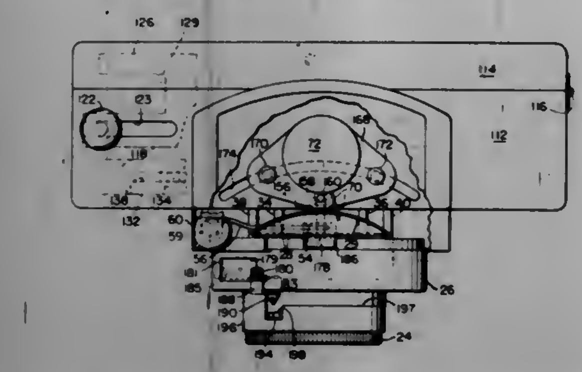
4. A method of electrostatically charging one surface of a non-photoconductive, insulating plate to prepare it to support an electrically conductive document by electrostatic forces comprising the steps of electrostatically charging alternate increments of relatively small area arranged in a substantially uniform pattern on said insulating plate with electrical charges of one polarity and electrostatically charging the remaining alternate increments of said pattern with electrical charges of the opposite polarity, and placing said electrically conductive document in contiguous face-to-face relationship with said electrostatically charged plate whereby the possibility of shock hazard is reduced.

3,194,132
AUTOMATIC EXPOSURE CONTROL APPARATUS

Hubert Nerwin, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed May 11, 1961, Ser. No. 109,294

28 Claims. (Cl. 95—10)



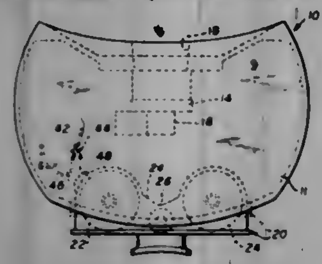
3. In a camera, the combination comprising: an exposure meter including a photocell adapted to be illuminated by field light, and an electrical measuring instrument electrically connected to said cell, said instrument having a pointer angularly movable about a pivot as a nonlogarithmic function of field brightness; a pointer sensing member having a curved surface with a sensing edge; a manually operable camera actuating member; means coupling said actuating member to said sensing member for yieldably moving said sensing member in a predetermined path, in response to operation of said actuating member, to engage said sensing edge with said pointer, the shape of the curved surface of said sensing member being such that it intersects, at substantially equally-spaced points, the respective different positions assumed by said pointer in response to successive geometrically progressing values of field brightness, thereby compensating substantially for the nonlogarithmic relation between field brightness and angular movement of said pointer; at least one exposure regulating device; and means coupling said sensing member to said exposure regulating device for adjusting the latter as a function of the extent of movement of said sensing member.

3,194,133
AUTOMATIC IRIS CONTROL BY CAMERA FILM MAGAZINE

Bernard S. Benson, Malibu, Calif., assignor, by mesne assignments, to Bank of America National Trust and Savings Association

Filed June 27, 1962, Ser. No. 205,594

3 Claims. (Cl. 95—10)



1. A camera including a housing having a space therein, light-responsive means in the housing for determining proper exposure of a film in the camera, the light-responsive means including different electric circuits for changing the operation of said light-responsive means and including also a plurality of switches in the circuits and at spaced locations at one side of said space in the housing, a group of film magazines that fit into the housing and into the back of said space within the housing and that are selectively inserted in the housing to change the film in the camera, each film magazine having film spool housings at opposite sides thereof and a rearwardly recessed front wall between the housings and with an exposure slot therein for exposing a film that is drawn across the back of said recessed front wall, and an abutment surface on the film spool housing on one side of each of the magazines, location of the abutment surfaces of the different magazines corresponding with the location of different ones of the spaced switches, which switches close the circuits that adjust the camera for the particular film speeds of the films in the different magazines.

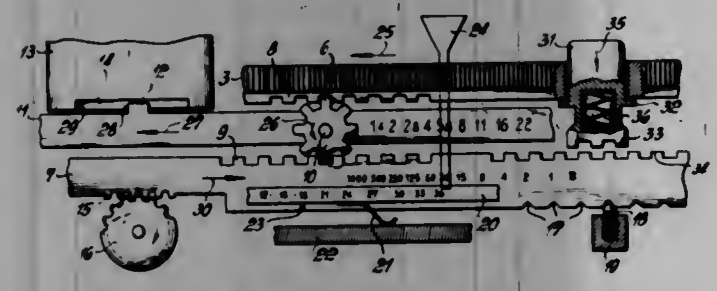
3,194,134
PHOTOGRAPHIC CAMERA WITH ELECTRICAL EXPOSURE METER

Walter Swarofsky and Fritz Renneberg, Braunschweig, Germany, assignors to Voigtländer A.G., Braunschweig, Germany, a corporation of Germany

Filed Sept. 13, 1962, Ser. No. 223,461

Claims priority, application Germany, Sept. 30, 1961, V 21,393

10 Claims. (Cl. 95—10)



1. For use in a photographic camera of the type equipped with an exposure meter having a photo-resistance cell, connected in a bridge circuit including a voltage divider resistance having an adjustable tap, and having a moving coil instrument of the null balance type connected across the bridge circuit and to the adjustable tap, the resistance of the cell being influenced by the setting of an objective diaphragm: the combination comprising an externally accessible manually adjustable setting device; an adjustable diaphragm aperture setter; an adjustable shutter time setter; differential gearing interconnecting said setting device, said diaphragm aperture setter, and said shutter time setter for interdependent operation of said diaphragm aperture setter and said shutter time setter by said setting device; means releasably retaining said shutter time setter in adjusted position; means positively limiting the range of movement of said diaphragm aperture setter; whereby, upon adjustment of said setting device, said diaphragm setter will be adjusted within its limited range of movement and, at either end of said range, said diaphragm aperture setter will remain stationary so that adjustment of said setting device will effect movement of said shutter time setter; a mounting means for such adjustable tap; and means adjustably coupling said mounting means to said shutter time setter for conjoint movement with the latter.

3,194,135
AUTOMATIC EXPOSURE CONTROL MECHANISM FOR PHOTOGRAPHIC CAMERAS

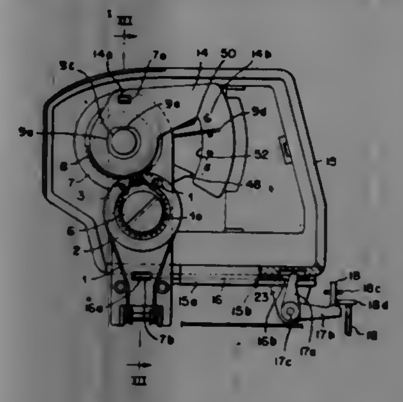
Paul Härter and Helmut Ettischer, Ruit, Kreis Esslingen, Germany, assignors to Eastman Kodak Company, Rochester, N.Y.

Filed Sept. 27, 1962, Ser. No. 226,699

Claims priority, application Germany, Nov. 2, 1961, K 39,608

4 Claims. (Cl. 95—10)

1. In a photographic camera having an exposure control system including a movably mounted measuring instrument with a pointer deflectable as a function of scene brightness, said camera being adapted to have attached thereto any of a plurality of interchangeable lens assemblies having respective lenses with different maximum apertures, means to compensate said exposure control system for the maximum aperture of the lens in any of said lens assemblies that is attached to said camera, said compensating means comprising, in combination: means defining a surface irregularity on each of said lens assemblies; a sensing member in said camera; means yieldably maintaining said sensing member in engagement with the surface irregularity of any of said lens assemblies that is attached to said camera; means coupling said sensing member to said instrument for positioning the latter as a function of the maximum aperture of the lens in said attached lens assembly; a pair of individually movable limit members cooperating with said pointer to limit its deflection in opposite directions; spring means urging said limit members toward each other in directions tending to reduce the range of deflection of said pointer; and respective means coupled to said instrument for limiting movement of each of said limit members toward the other, whereby movement of said instrument in either direction permits a compensating movement of one of said limit means by said spring means.

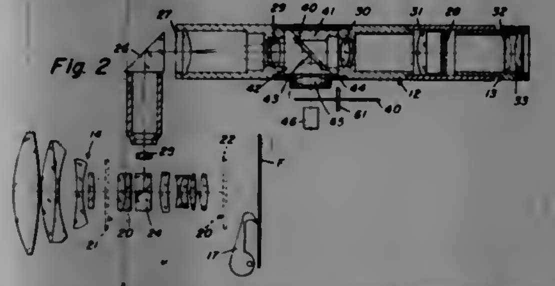


3,194,136
CINE CAMERA WITH REFLEX FINDER

Carl Ort, Stuttgart-Bad Cannstatt, Germany, assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 15, 1962, Ser. No. 237,832

7 Claims. (Cl. 95—10)



1. In a camera having a taking lens system arranged along an optical axis for focusing an image of a viewed scene onto a photosensitive material, a reflex finder system, and a photoelectric exposure control system for regulating the exposure of said photosensitive material, said control system comprising an electric measuring instrument, a photocell energizable by scene light for energizing said measuring instrument, and a movable diaphragm member responsive to energization of said measuring instrument for establishing an exposure opening as a function of scene brightness; the combination comprising:

means disposed in cooperation with said lens system for directing part of said scene light into said finder system; and

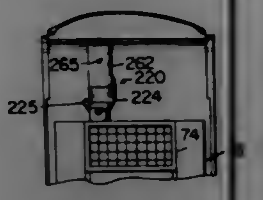
a reflector disposed in cooperation with said finder system and provided with a central aperture, said reflector being positioned to direct part of said scene light in said finder system to said photocell and said aperture being located to pass part of said scene light in said finder system to the rest of said finder system.

3,194,137
CAMERA APPARATUS FOR EXPOSING AND PROCESSING PHOTOGRAPHIC FILM

Edwin H. Land, Cambridge, Richard J. Chen, Brockton, John W. Lothrop, Westwood, and Richard R. Wareham, Marblehead, Mass., assignors to Polaroid Corporation, Cambridge, Mass, a corporation of Delaware

Filed Apr. 10, 1961, Ser. No. 102,047

6 Claims. (Cl. 95—11)



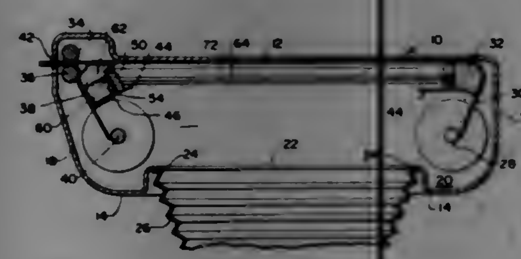
1. In a photographic camera including a housing and exposure means within said housing adapted to operation with a flashgun, the combination of flashgun means comprising a generally rectangular recess formed in one side of said camera housing, a mounting element hingedly attached to said housing within and adjacent to one extremity of said recess for permitting pivotal movement of said element in a given plane, a socket rotatably attached to said mounting element for accepting and establishing electrical contact with a flashlamp, and a generally hood-shaped reflector having an open face releasably mounted on said socket, the aforesaid hinged attachment of said mounting element permitting said flashlamp, when mounted in said socket, to be pivotally moved in said given plane in-and-out of said recess to various angular positions including a maximum upright position substantially at 90° to said side of the camera housing and to another position completely retracted within said recess so as to lie substantially parallel to said side of the housing, and the aforesaid rotatable attachment of said socket permitting said flashlamp, socket and reflector to be rotated as a unit in a plane normal to said given plane, whereby said open face of the reflector may be so disposed as to permit the projection of light rays in a plurality of predetermined directions with respect to the optical axis of the camera lens for selective purposes of direct illumination and bounce flash illumination.

3,194,138
PHOTOGRAPHIC APPARATUS

Edwin H. Land, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Dec. 4, 1962, Ser. No. 242,271

9 Claims. (Cl. 95—13)



1. In photographic apparatus for exposing successive areas of a photosensitive image-recording sheet, means for treating said areas of said image-recording sheet with a processing liquid comprising, in combination:

a liquid applicator including a member having two surfaces disposed in adjacent face-to-face relation and defining a capillary interspace between said surfaces; said surfaces and said capillary interspace defined thereby terminating in an edge defined by edge portions of said member;

a reservoir for said processing liquid constructed to maintain the liquid contents of said reservoir substantially at ambient pressure;

said member being positioned with the end of said capillary interspace opposite said edge immersed in said liquid within said reservoir;

means for supporting said member within said apparatus with said edge portions thereof defining said edge of said interspace in contact with said image-recording sheet and moving said member and said sheet relative to one another to apply said liquid to said sheet from said capillary interspace;

the last-named means including means for moving said applicator and said reservoir from a first to a second position to apply said liquid to said sheet; and

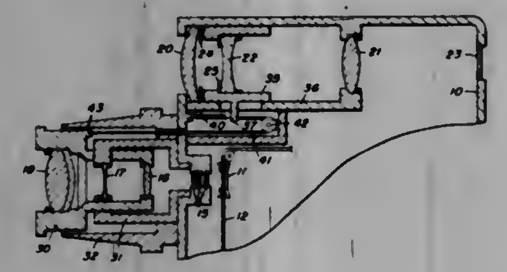
means for engaging said edge portions of said member at said first position for closing said capillary interspace against the flow of said liquid.

3,194,139
ZOOM CAMERA SYSTEM

David L. Babcock, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Mar. 5, 1962, Ser. No. 177,630

6 Claims. (Cl. 95—45)



1. A zoom camera system comprising in combination,

a camera housing,

film plane defining means mounted in the housing,

an objective mounted on the housing for focusing an image on said film plane with part of the objective axially movable for zooming, the effective component of said part being of one sign,

a viewfinder mounted on the housing with its optic axis substantially parallel to that of the objective, and with a field of view approximately the same as said objective,

said viewfinder having a zoom component with opposite sign to said effective component, axially movable between two fixed components having the same sign as said effective component, in which system opposite and approximately equal movements of said zoom component and said effective component produce approximately equal changes in field of the objective and the viewfinder,

a rounded member mounted in the housing,

a substantially inextensible, flexible line around said member and connecting said zoom component to said effective component to pull the zoom component rearwardly axially as the effective component moves forwardly axially, one end of said line being so connected to the effective component that said end moves linearly in the same direction as the effective component, and a returning means for returning the zoom component forwardly as the effective component is moved rearwardly.

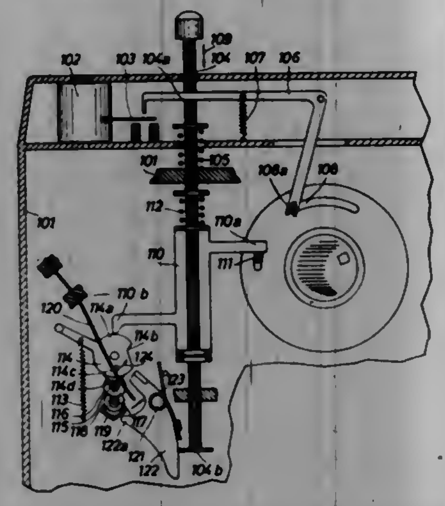
3,194,140
SELF-TIMER ARRANGEMENTS, PARTICULARLY FOR AUTOMATIC CAMERAS

Alfred Winkler, Wilfried Hofmann, Dieter Maas, and Heinrich Stierstorfer, Munich, Germany, assignors to Agfa Aktiengesellschaft, Leverkusen-Bayerwerk, a corporation of Germany

Filed June 20, 1962, Ser. No. 203,799

Claims priority, application Germany, Sept. 22, 1961, A 38,388

4 Claims. (Cl. 95—53.6)



4. In a camera capable of being automatically set according to the lighting conditions, in combination, a shutter; shutter release means; spring means urging said shutter release means to a shutter-releasing position; manually operable means holding said shutter release means in a rest position in opposition to said spring means, said manually operable means when actuated by the operator releasing said shutter release means to said spring means to be moved thereby to said shutter-releasing position; means for automatically setting the exposure time of said shutter according to the lighting conditions when released by said shutter release means; and self-timer means movable, at the option of the operator, between an inoperative position where it does not influence the operation of the camera and an operative position where, after actuation of said manually operable means, said self-timer means delays movement of said shutter release means to said shutter-releasing position thereof by said spring means for a given period of time, said manually operable means being in the form of an elongated, axially shiftable rod, and said shutter release means having at least a portion which surrounds said rod and is axially slidable therealong.

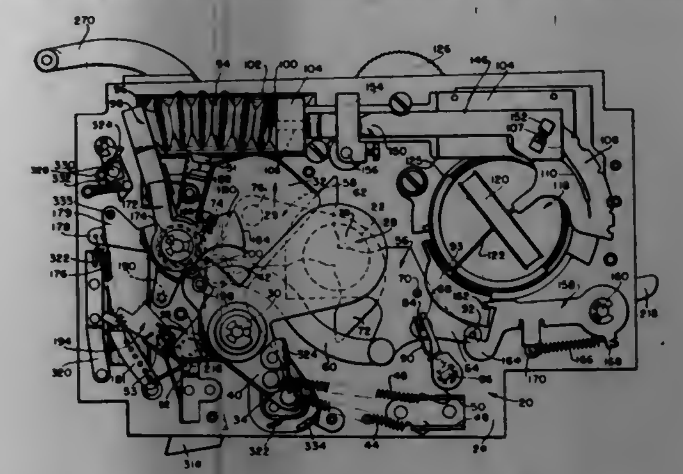
3,194,141
PHOTOGRAPHIC SHUTTER APPARATUS

Milton S. Dietz, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Sept. 8, 1960, Ser. No. 54,765

3 Claims. (Cl. 95—54)

1. A photographic exposure control mechanism comprising, in combination: means defining an exposure aperture, shutter means movable from a set position to a rest position with respect to said aperture to effect exposures therethrough; first biasing means tending to move said shutter means toward said rest position; a movable member adapted, when in a first position, to engage a portion of said shutter means and retain the latter in said set position; a pneumatic device having a movable portion; an arm having a first portion attached to said movable portion for movement therewith, and a second portion adapted to engage said movable member and move the latter away from said first position in response to movement of said movable portion in a first direction, whereby said movable member is moved in frictional contact with said shutter means until the latter is released from said set position; and second biasing means tending to move said arm and said movable member in opposite directions, whereby when said movable portion is moving in said first direction, oscillations of said pneumatic device which tend to move said movable portion in a second direction are damped by said second biasing means and said frictional contact between said movable member and said shutter means.

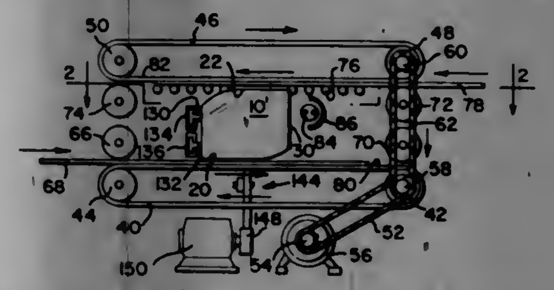


3,194,142
OPTICAL IMAGE TRANSFER DEVICE

David G. Black, Jr., North Scituate, R.I., assignor to Mosaic Fabrications, Inc., Southbridge, Mass., a corporation of Massachusetts

Filed Sept. 26, 1963, Ser. No. 311,876

1 Claim. (Cl. 95—75)



In a copy reproducing device, a transfer member comprising a plurality of light-transmitting plates in parallel arrangement with a material of lower index of refraction than said plates between opposed surfaces of said plates and coextensive therewith, spaced parallel light-receiving and light-emitting surfaces in normal arrangement to the planes of said opposed surfaces, means for supporting an object to be copied in the optical path of the light-receiving surface of said image transfer member, means for supporting an image-receiving member in the optical path of the image-emitting surface of said image transfer member, means for causing relative opposite movement between the object to be copied and the image receiving member, and means for reciprocating said transfer member in a direction normal to the plane of said plates with an amplitude equal to at least the maximum thickness of any of the said plates.

3,194,143
FLUID PRESSURE OPERATED VALVE

James H. Wood, Marietta, Ga., assignor to Lockheed Aircraft Corporation, Los Angeles, Calif.

Filed Apr. 29, 1963, Ser. No. 276,611

5 Claims. (Cl. 98—1.5)

1. A control pressure operated valve for controlling the fluid pressure in a pressurized enclosure equal to or greater than the pressure ambient to the enclosure comprising:

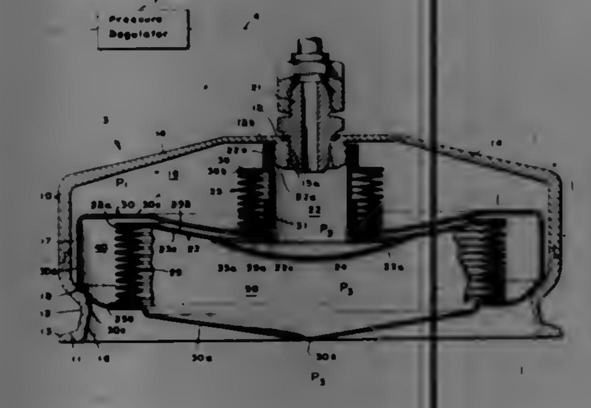
a valve housing open to the fluid pressure in the enclosure and having an opening in communication with the pressure ambient to the enclosure;

a valve seat in said housing;

a hollow and movable valve element located within said housing and having a first wall portion and a second wall portion, said valve element closing said housing opening in communication with the pressure ambient to the enclosure when located on said valve seat;

a first metallic bellows interconecting the first wall portion of said valve element with said housing and of sufficient length to normally bias said valve element onto said valve seat;

a second metallic bellows interconnecting the second wall portion of said valve element with said housing and of sufficient length to normally bias said valve element onto said valve seat;



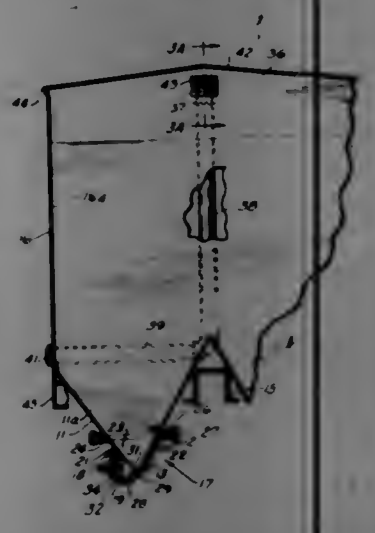
said second bellows located within said valve element and arranged to define a first and second chamber within sail valve element, said first chamber defined between the first and second bellows and including a part of the interior of said first wall portion of said valve element, said second chamber defined between said second bellows and a part of the interior of said second wall portion of said valve element;

an opening in said second wall portion of said valve element communicating said second chamber with said pressure ambient to the enclosure, and

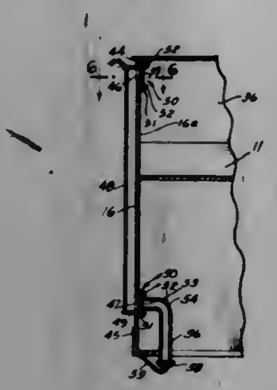
means communicating a control pressure to said first chamber, said control pressure cooperating with said first and second bellows, said pressure ambient to the enclosure and the enclosed pressure to open and close said valve element.

3,194,144
VENT STRUCTURE FOR PNEUMATICALLY DISCHARGED HOPPER CAR

Frank A. Vander Linden, Chicago, Ill., and Richard J. Green, Butler, Pa., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Mar. 19, 1962, Ser. No. 180,796
2 Claims. (Cl. 98—6)

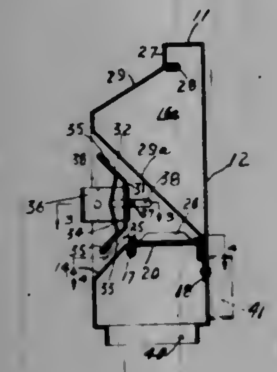


1. A covered hopper car including opposing sides, said sides each comprising a side sill and a vertically spaced side plate, a side wall fixed between said side sill and side plate, vertical side stakes fixed to and spaced lengthwise of said side wall, and a hopper formed between said opposing sides; the improvement comprising a channel member fixed to the outer face of one of said side walls, said channel member being fixed to said one wall so as to form a vertically extending conduit passage, first opening means formed along the upper portion of said one wall for providing communication with said conduit passage and the upper portion of said hopper, second opening means formed along the lower portion of said one wall, and air inlet means including an open ended angular elbow conduit fixed to the inner face of said one wall and in alignment with said second opening, said elbow conduit including a downwardly depending portion extending below said side sill, and detachable cap means for covering the opening at said downwardly depending portion.



3,194,145
AIR DISTRIBUTOR

Andrew J. Robertson, Jr., 3713 Forest Road SW., Jefferson Hills, Roanoke, Va.
Filed July 31, 1963, Ser. No. 299,009
5 Claims. (Cl. 98—40)

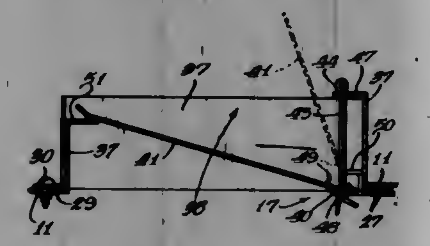


1. A baseboard forced air distributor comprising an elongated duct for receiving and discharging air under pressure, said duct having side and end walls, one of said side walls having upper and lower portions converging inwardly of said distributor and at an angle to one another to define an angular discharge opening, said end walls each having a transverse slot formed therein within said discharge opening and positioned substantially medially of said opening, a damper-deflector member positioned in said duct within said discharge opening, said damper-deflector member having oppositely extending deflecting flanges arrangeable in a parallel relationship with said upper and lower angularly disposed side wall portions; said damper-deflector member having a journal at each end extending into one of the slots and being pivotably adjustable in said opening to adjust the discharge flow of

air therefrom to one side or the other of the pivotal axis of said damper-deflector, or in both directions simultaneously, said damper-deflector member being transversely slidably adjustable in said opening to move the flanges of said damper-deflector with respect to said respective side wall portions to control the volume of flow therethrough and direct said flow to one side or the other of said pivotal axis, or in both directions, or to shut off the flow through said discharge opening.

3,194,146
DAMPER DEVICE AND HOOD INCLUDING DAMPER

Kenneth S. Jenson, Wisconsin Rapids, Wis., assignor to Preway, Inc., a corporation of Wisconsin
Filed Nov. 5, 1962, Ser. No. 235,424
3 Claims. (Cl. 98—115)



1. A ventilating hood having a blower for drawing air into the hood and discharging the air therefrom through either roof or wall duct work, said hood comprising a casing having a top wall and a back wall with an air exhaust opening in each of said walls, a blower housing fastened to the casing and having an air inlet port and walls defining an air exhaust passage leading from said inlet port to both said exhaust openings, a cover for one of said openings, a frame members defining a damper passage therethrough and having a bearing portion within said damper passage, a damper plate having a bearing portion, guide means mounting and supporting said damper plate thereon in said damper passage with the damper plate bearing portion opposing the frame bearing portion for pivoting the damper plate between a closed position blocking said damper passage and an open position unblocking said passage, said guide means mounting said damper plate thereon additionally for guided sliding movement of said damper plate away from and toward said frame at said bearing portions, stop plate means on said frame member adjacent said guide means and projecting into said damper passage for stopping the guided sliding movement of said damper plate on said guide means at a position with said damper plate in contact with said stop plate means and with said damper plate bearing portion away from said frame bearing portion a distance insufficient to open said damper passage, said stop means being of an extent blocking flow around said damper plate with said damper plate in the away position and in contact with said stop plate means, abutment means on the opposite side of said frame from said guide means in said damper passage offset from said bearing surfaces for stopping the pivotal movement of said damper plate at said closed position with said damper plate aslant, and means for releasably securing said frame and cover across either of said exhaust openings, said cover and frame being interchangeable across each of said openings.

3,194,147
APPARATUS FOR BREWING COFFEE

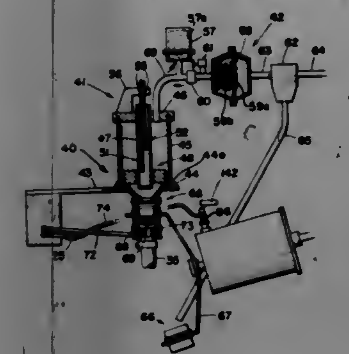
John James Cowley, Toronto, Ontario, Canada, assignor to Veko Industries Limited, Toronto, Ontario, Canada
Filed Sept. 11, 1962, Ser. No. 222,814
3 Claims. (Cl. 99—283)

1. A coffee brewing device comprising:

(a) a pressure-tight brewing chamber having a vertical position;

(b) a pressure booster including a spring loaded diaphragm connected to the upper end of said brewing chamber by passage means, whereby water flowing into said booster will compress said spring;

(c) a float mounted for reciprocal movement within said brewing chamber and responsive to liquid level therein;



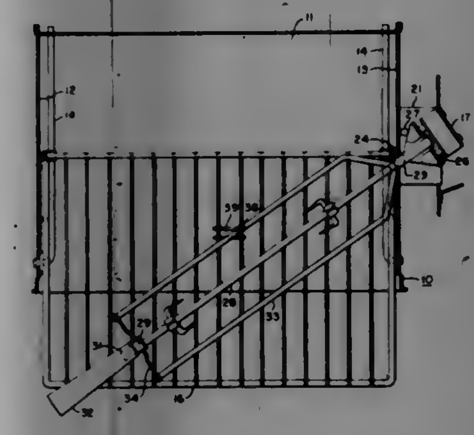
(d) switch means operable by said float at predetermined intervals;

(e) a coffee brewing cup removably secured to said brewing chamber; and

(f) a hot water supply including valve means to flow said hot water through said cup into said chamber to brew coffee, said spring loaded diaphragm absorbing pressural energy upon said inflow and releasing energy upon flow reversal by said valve means responsive to said switching means.

3,194,148
ROTISSERIE APPARATUS

Raymond D. Schibley, Ashland, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 29, 1963, Ser. No. 284,237
4 Claims. (Cl. 99—421)



1. An oven enclosure having a pair of spaced side walls and a front opening

a rotatable spit member disposed between said side walls,

spit rotating means adjacent one of said side walls having one end of said spit received in axially interfitting engagement therewith for supporting and rotating said spit about its longitudinal axis,

a rack slidably supported between said side walls for movement through said front opening,

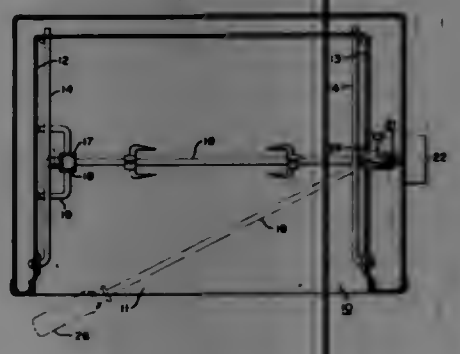
support means disposed on said rack and engaging the opposite end of said spit member adjacent the other of said side walls, and

means interengaging said rack and said support means

for pivoting said support means on said rack when said rack is moved through said opening,
said rotating means being pivotably supported and said support means being pivotably engaged adjacent said one side wall for turning about a common, substantially vertical axis,
such that said opposite end of said spit member is movable from a position within said enclosure to a position adjacent said front opening while said spit member is in supported engagement with said rotating means when said rack is moved from said enclosure through said front opening.

3,194,149
ROTISSERIE APPARATUS

Raymond D. Schibley, Ashland, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed July 24, 1963, Ser. No. 297,347
7 Claims. (Cl. 99—421)

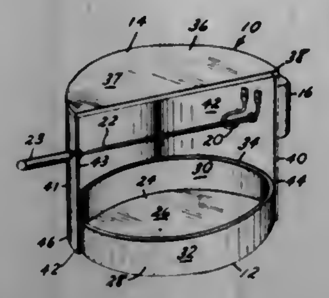


1. A drive assembly for a barbecue spit comprising
a shaft,
means for rotating said shaft,
a bearing member journaled on said shaft,
a collet pivotably mounted on said bearing member for receiving a barbecue spit, and
means interconnecting said collet and said bearing member for rotatably interlocking said collet with said shaft when said collet is in axial alignment with said shaft,
said means being effective to disengage said collet from said shaft when said collet is moved from axial alignment with said shaft thereby causing said collet to be uneffected by rotation of said shaft.

3,194,150
ROTISSERIE CONSTRUCTION

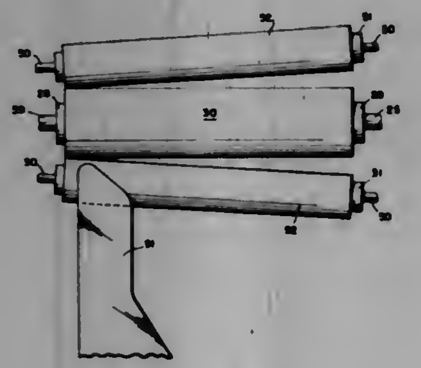
Arnold Goldstein, 3363 Trexler Blvd., Allentown, Pa.
Filed July 29, 1963, Ser. No. 298,017
4 Claims. (Cl. 99—421)

1. In combination:
(a) a rotisserie hood member having a side wall with an inner and outer surface, said side wall defiining openings;
(b) rotary means secured to the outer surface of said side wall of said hood member and having polygonal-shaped socket means communicating with one of said openings;
(c) spit means passing through another of said openings and received within said socket; and
(d) a support for said spit means mounted on said side wall, said support having a first flattened end portion secured to said side wall, a tubular straight portion depending from said first flattened end portion, an elbow section having an elbow joint depending from said tubular straight portion, a saddle loop portion depending from said elbow section, and a tubular straight extension and rounded portion depending from said saddle loop portion, and a second flattened end portion depending from said rounded portion and secured to said side wall.



3,194,151
CALENDER AND METHOD OF THREADING SAME

Benjamin J. H. Nelson, 5121 Dogwood, Everett, Wash.
Original application Dec. 4, 1961, Ser. No. 156,827. Divided and this application July 1, 1963, Ser. No. 292,804
6 Claims. (Cl. 100—35)

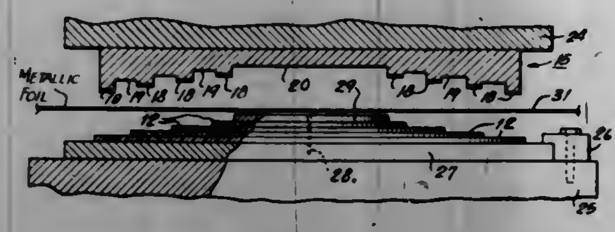


1. A method for threading paper into a calender having a master roll and at least one auxiliary roll positioned around the master roll, said method comprising:
(a) skewing the auxiliary roll with respect to the master roll so that one end of the auxiliary roll is in nipping engagement with the master roll and the other end of such auxiliary roll is separated substantially from said master roll, and
(b) posifively driving said master roll, with said master roll in turn frictionally driving the auxiliary roll by virtue of the nipping engagement of the said one end of the said auxiliary roll with the master roll, and then
(c) threading the paper between the skewed rolls.

3,194,152
METHOD OF SIMULTANEOUSLY EMBOSSING ARTICLES OF DIFFERENT DIMENSIONS

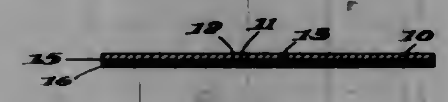
Mark Rubinoff, 60 E. 9th St., New York, N.Y.
Filed June 16, 1964, Ser. No. 375,588
4 Claims. (Cl. 101—32)

1. The method of concurrently embossing the exposed peripheral edge surface portion of each of a concentric convex stack of sheet materials which comprises the steps of placing upon a planar rigid make-up surface a concentric stack of sheet materials having progressively smaller sizes from a lowermost sheet to an uppermost sheet to leave the peripheral edge surface portion of each larger size sheet exposed by the adjacent smaller size sheet, placing on said stack a planar hold-down weight member of size smaller than that of said uppermost sheet to leave a peripheral edge portion thereof exposed, and bringing into surface deforming pressure engagement with said stack an embossing plate having a central chamber to receive said weight member and concavely stepped concentric surfaces corresponding in size and configuration to the exposed edge portion of individual ones of said sheet materials and lying in individual planes normal to the axis of concentricity and which are spaced by the approximate thickness of said sheet material and have surface engravings to provide in relief thereon concentric designs for impression into the peripheral edge surface portions of said sheet materials.



3,194,153
PRE-CUT STENCILS CAPABLE OF DEFINING THREE DISTINCT STENCIL AREAS

Norman R. Rogerson, 38 Bowdoin St., Houlton, Maine
Filed Mar. 19, 1962, Ser. No. 180,723
8 Claims. (Cl. 101—128.1)

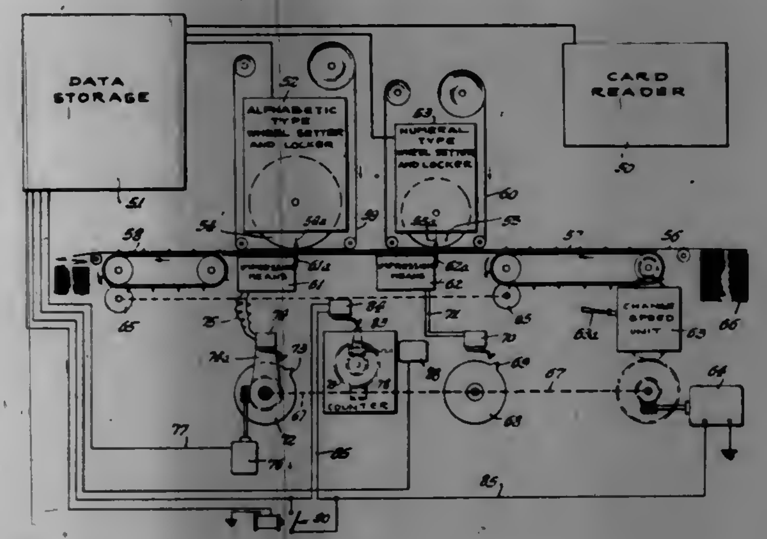


6. A pre-cut stencil for use with air blast and other decorative procedures comprising, a sheet of stencil material having properties to resist the effects of the air blast and other decorative procedures, double substantially continuous cuts into one surface of the stencil sheet along a desired stencil outline with the cuts spaced from one another along the desired outline by predetermined amounts to form three separate and distinct stencil areas, one or more of which may be selectively removed independently of the others, a layer of adhesive secured to the other surface of said stencil sheet, and a removable protective layer of sheet material secured to the exposed surface of the layer of adhesive.

3,194,154
PUNCH CARD CONTROLLED WEB FEEDING AND PRINTING APPARATUS

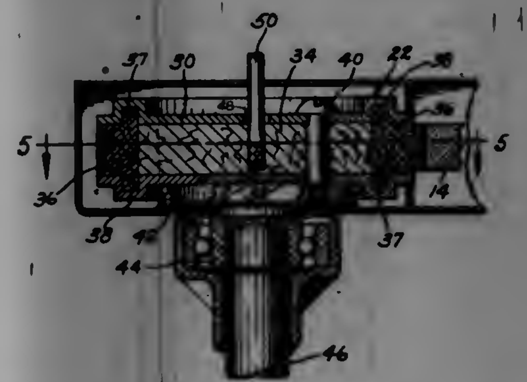
Earnest R. McKeag, Ridgewood, N.J., assignor to Autographic Business Forms, Inc., South Hackensack, N.J., a corporation of New Jersey
Filed July 3, 1961, Ser. No. 125,029
13 Claims. (Cl. 101—288)

1. Apparatus for printing a plurality of groups of items each having indicia common to all the groups and also unique indicia of a different kind for each group in relatively small quantities for each group, said items being joined to form a continuous strip, said apparatus comprising: means for continuously feeding said continuous strip to a printing position and beyond, means for receiving a plurality of punch cards and for sensing therefrom data determinative of the unique indicia of one group of items and data determinative of the number of items of said group from one of said cards, printing means including a plurality of individually settable non-traveling type carrying elements and including means responsive to the indicia determinative data from said sensing means for setting up said type elements to indicate a line of unique indicia to be printed, impression means for causing momentary printing contact between said non-traveling type elements and said continuously moving strip, power means responsive to operation of said sensing means for causing operation of said feeding means and said impression means to print consecutively a plurality of items of said one group, on succeeding portions of said strip, with said indicia unique to said one group in predetermined relation with said common indicia, and means responsive to the number determinative data from said sensing means and responsive to operation of said power means for predetermining the number of items of said group to be printed, and for interrupting the operation of said power means after said predetermined number of items has been printed, said sensing means being operative, upon interruption of said power means to sense another of said punch cards having data determinative of the unique indicia of another group of items and data determinative of the number of items of said other group for causing another setting of said type carrying elements and another setting of said predetermining and interrupting means, and for causing resumption of operation of said power means to print a predetermined number of items of said other group.



3,194,155
FOUNTAIN INK ROLLER AND INK SUPPLY

Daniel H. Davis, Jr., Dearborn, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Aug. 19, 1963, Ser. No. 303,110
4 Claims. (Cl. 101—366)



1. An inking apparatus comprising a pair of like rigid discs spaced apart in vertical broadside relationship, a circular pad of wick material, means for clamping said pad flat between and by said discs concentrically therewith, said discs having outer margins thereof extending beyond the periphery of said pad to provide a circumferential channel with said periphery, inwardly facing oppositely disposed annular channels in said margins at the periphery of said pad, a ring of wick material clamped by and between said disc margins, said ring of wick material having oppositely directed flanges retained respectively in said annular channels and having a lesser capillary attraction characteristic than said pad, a vertical

driving shaft having its axis concentric with said discs, means on the upper end of said shaft for affixing said shaft; to the underside of the lower one of said discs, said pad having a cavity opening through the upper face thereof concentric with the axis of said shaft, a stationary ink supplying tube extending downwardly through said upper disc and having its end embedded within said cavity and small metering apertures in said embedded end for supplying ink to said pad by wiping action.

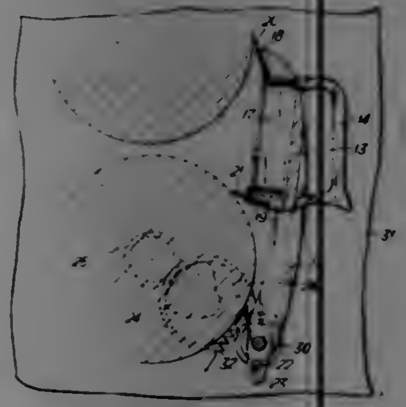
3,194,156
CLEANING SCRAPERS FOR TWIN CYLINDER STENCIL DUPLICATORS

Henry John Picking, Tottenham, London, England, assignor to Gestetner Limited, London, England, a British company

Filed July 8, 1963, Ser. No. 293,523

Claims priority, application Great Britain, July 11, 1962, 26,687/62

1 Claim. (Cl. 101—425)



In a rotary duplicator comprising side members, two cylinders mounted between said side members, surfaces on said cylinders and means for rotating said cylinders about parallel axes and in the same direction, an apparatus for cleaning said cylinder surfaces, such apparatus including a holder, a shaft in said holder, journal means on said side members for receiving said shaft for pivotally mounting said holder, a pair of parallel spaced apart jaws secured to said holder, means defining in each said jaw a card receiving slot parallel to said axes, a strip of card held in each said slot and extending beyond one end of said slot and two cleaning edge portions, one on each said card, operatively positioned by said slot defining means to be pressed against said twin cylinders simultaneously at an angle between 20° and 30° to said cylinder surfaces so as to be in shaving relation therewith, means defining a chamber between said jaws said chamber serving as a container for unused strips of card, spring means uring said holder towards said twin cylinders, support means associated with said journal means, cam follower means connected to said support means, a lug on said shaft engaged in said support means and a cam operatively connected to said rotating means to move periodically said cam follower, support means, lug and holder whereby said cleaning edges are moved from said cylinder surfaces.

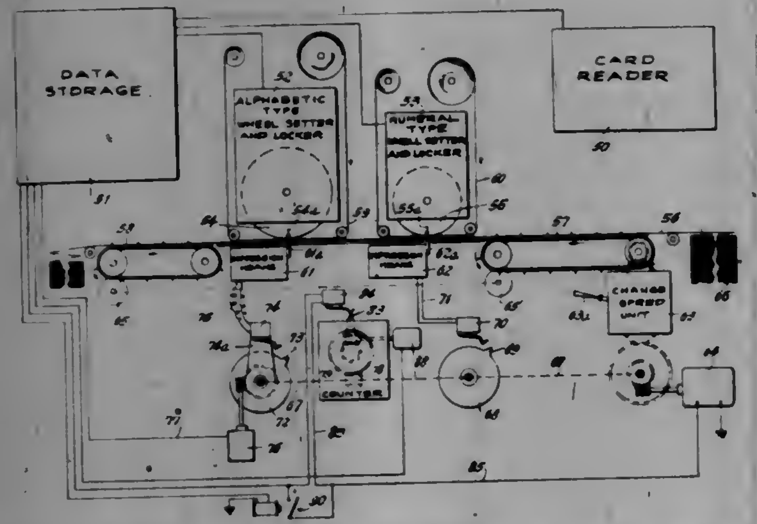
3,194,157
METHOD OF PRINTING WORKPIECES

Earnest R. McKeag, Ridgewood, N.J., assignor to Autographic Business Forms, Inc., Hackensack, N.J., a corporation of New Jersey

Filed Dec. 19, 1962, Ser. No. 245,825

6 Claims. (Cl. 101—426)

1. A method of printing a plurality of lines of indicia on discrete items which are joined together to form a continuous strip, each line having a predetermined desired location on said items which is spaced longitudinally of the strip from the other lines, the lines being printed at a respective plurality of serially arranged printing positions which are spaced apart longitudinally of the strip a distance in excess of the distance between the desired locations of the lines of indicia, comprising the steps of continuously advancing the continuous strip past the printing positions at a constant rate of speed to bring the desired location of the trailing line of indicia on a given item to the first of the printing positions at a given instant, printing at that instant the trailing line of indicia on that item at that printing position while the strip as a whole is advancing at said constant rate of speed, continuing the advancement of the strip past the printing positions to bring the desired location of the adjacent advanced line of indicia on that item to the next of the printing positions at a subsequent instant, and to dispose the printed trailing line of indicia intermediate said first and said next printing positions, printing at the subsequent instant the adjacent advanced line of indicia on that item at said next printing position while the strip is advancing at said constant rate of speed whereby both printed lines of indicia on that item are spaced longitudinally of the strip a distance less than the distance between said first and said next printing positions, continuing said advancement of the strip and said printing of the lines of indicia as the location of each adjacent advanced line of indicia reaches the next succeeding one of the printing positions until the leading line of indicia is printed at the last one of the printing positions before the location of the trailing line of indicia of the next succeeding item on the strip reaches the first one of the printing positions, continuing said advancement of the strip and said printing of the items in said manner until a plurality of said items has been printed, and interrupting the advancement of the strip after printing a leading line of indicia at said last of the printing positions whereby when the advancement of the strip is interrupted, any given preceding item is completely printed and the next adjacent succeeding item is completely unprinted.

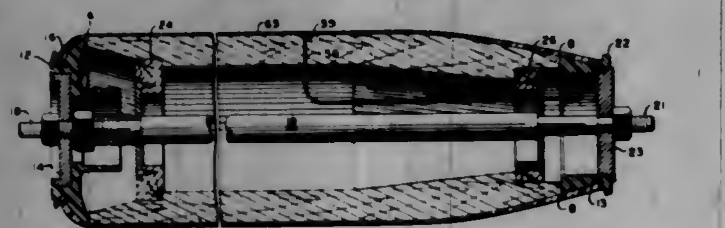

DATA STORAGE
CARD READER
ALPHABETIC TYPE WHEEL SETTER AND LOCKER
NUMERAL TYPE WHEEL SETTER AND LOCKER
COUNTER
CHANGE SPEED UNIT
52
53
57
58
67
72
85
90

3,194,158
EXPLOSIVE WEAPON CASING AND METHOD OF MAKING SAME

James T. Paul, Jr., Wilmington, Del., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Mar. 26, 1958, Ser. No. 724,216

11 Claims. (Cl. 102—10)



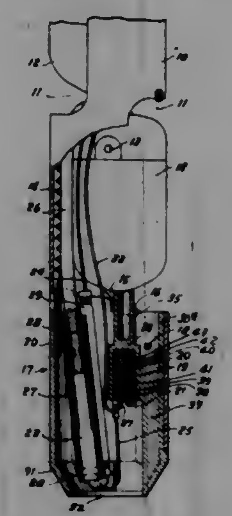
7. A non-magnetic substantially hollow weapon casing comprising; a thin hollow inner core composed of a cured glass reinforced resin, a plurality of reinforcing members composed of a glass filament reinforced resin and disposed in contact with the interior surface of said core and secured thereto, and a relatively thick outer portion composed of glass filaments and a mixture of high explosive and a resin wound about and bonded to said core.

3,194,159
WELL PERFORATING ASSEMBLY

Ernest L. Gillingham, Fort Worth, and Jack O. Grunwald, Arlington, Tex., assignors to Jet Research Center, Inc., Arlington, Tex., a corporation of Texas

Filed Nov. 20, 1962, Ser. No. 238,889

6 Claims. (Cl. 102—20)



1. A well perforating assembly comprising:
(a) a carrier;
(b) a shaped explosive charge unit having a frangible case;
(c) means pivotally mounting said unit on said carrier in a first position, said unit being pivotable in said mounting means to a second position;
(d) means biasing said unit to pivot from said first position to said second position;
(e) detent means on said unit adjacent to said frangible case;
(f) a frangible cantilever stop member having its supported end fixed to said carrier at a point remote from said frangible case and its unsupported end projecting into engagement with said detent means to restrain said unit from pivoting to said second position; and
(g) an explosive squib located adjacent the supported end of said stop member and adapted upon detonation to sever the unsupported end of said stop member from the supported end of said stop member to permit said unit to pivot to said second position.

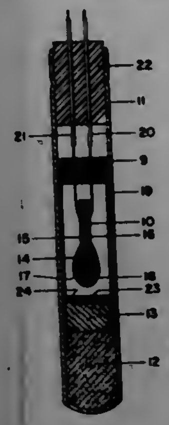
3,194,160
PROTECTIVE PLUG AND STATIC-RESISTANT DETONATOR MADE THEREWITH

Matthew L. Spillane, Tamaqua, and George J. Heimberger, Lehighton, Pa., assignors to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware

Filed Feb. 6, 1962, Ser. No. 171,421

2 Claims. (Cl. 102—28)

1. In an electric detonator having in combination a metallic shell having one open end, a detonating charge disposed in one end of said shell, a heat sensitive ignition composition positioned within said shell and in firing relation with said detonating charge, and a bridge wire of high electrical resistance positioned across a pair of leg wires and in heat exhange relation to said ignition composition, the improvement which comprises a semi-conductive protective plug comprised of greater than 70% by weight of powdered aluminum in a matrix of polyethylene positioned in intimate contact with the leg wires, the distance between the said plug and the said detonator shell being less than the distance between either of said leg wires and said shell.



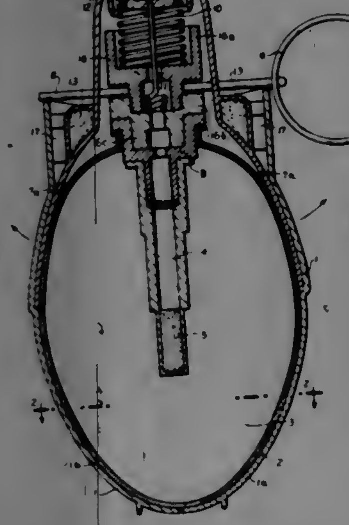
3,194,161
HAND GRENADE

Franz Becker, Bonn, Germany, and Leonhard Jans, Venlo, Netherlands, assignors to Dynamit Nobel Aktiengesellschaft, Troisdorf, Bezirk Cologne, Germany, a German corporation

Filed Dec. 13, 1963, Ser. No. 330,488

Claims priority, application Germany, Dec. 18, 1962, D 40,531

8 Claims. (Cl. 102—64)

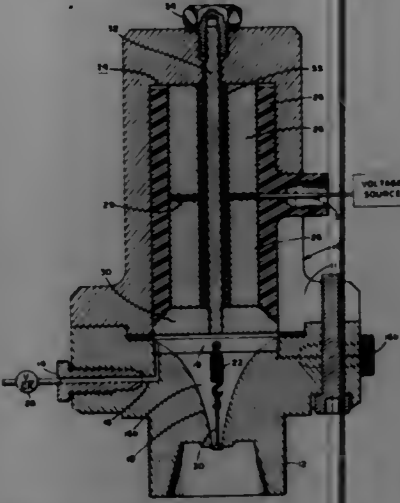


1. A hand grenade comprising:
(a) an outer casing deformable by a manual manipulation of the grenade,
(b) a throw-off cap mounted on one end of the casing,
(c) means biasing the cap, urging it off the casing,
(d) removable retainer means for holding the cap mounted on the casing against the force of the biasing means,
(e) a plurality of arms articulated to the throw-off cap and extending from the cap about the casing to adjacent the other end of the casing and for being clutched in a hand holding the grenade, said arms forming a protective covering for said outer casing, resistant to deformation by manual manipulation of the grenade,
(f) leaf springs connected to the throw-off cap urging the arms away from the casing, and
(g) removable retainer means holding the arms about the casing in opposition to the force of the said springs,

whereby, upon release of the first-mentioned and second-mentioned retainer means and release of the grenade from the hand, said springs and the biasing means cooperate to eject the throw-off cap and the arms from the casing.

3,194,162
PIEZOELECTRIC FUEL INJECTOR

Alfred L. W. Williams, Cleveland, Ohio, assignor to Clevite Corporation, a corporation of Ohio
Filed Nov. 15, 1962, Ser. No. 237,815
8 Claims. (Cl. 103—1)



1. A fuel pump suitable for use as a fuel injector for an internal combustion engine comprising, in combination:

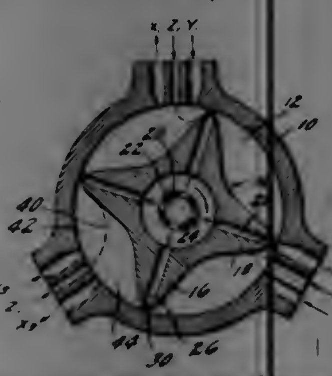
a housing having a fuel inlet connectable to a fluid fuel source and a fuel outlet and a chamber therebetween; piezoelectric means disposed in operative relation to said housing and more particularly to said chamber, said means being piezoelectrically responsive to expand and contract along a predetermined axis upon excitation thereof;

means, including a check vale, and a piston in operative relation with said piezoelectric means and disposed proximate to said chamber, said means being effective to sequentially interrupt fluid communication between said fluid inlet and fluid outlet and pressurize fluid within the chamber;

and valve means affixed to said fuel outlet for normally closing said outlet, but to permit fluid passage therethrough in response to a predetermined pressure within said chamber.

3,194,163
FLUID PUMP

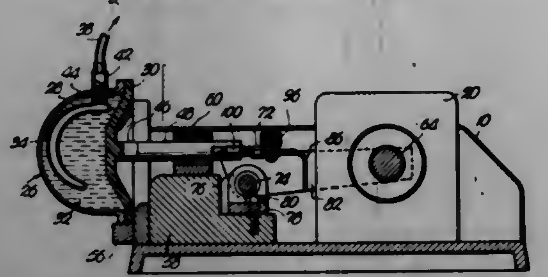
John G. Lee, Farmington, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Dec. 6, 1962, Ser. No. 242,693
11 Claims. (Cl. 103—1)



1. A fluid pump comprising a stationary casing means, a member being rotatable relative to said casing means and having an outer surface, said casing means and said member forming at least one working chamber, inlet and outlet passages in said casing means for admitting and exhausting the fluid to be pumped, and fluid injection means for forming a fluid wall and dividing said chamber into sections having different pressure levels during operation including auxiliary passage means in the wall of said casing for injecting relatively high energy fluid which flows between said casing means and intercepts the outer surface of said member.

3,194,164
FLUID PUMP

Abraham Arthur Fink, 1320 Pembroke Lane, Topeka, Kans., and John J. Sandmeyer, Topeka, Kans.; said Sandmeyer assignor to said Fink
Filed Apr. 26, 1963, Ser. No. 275,833
4 Claims. (Cl. 103—44)



1. In a pump:

a rigid shell and a flexible diaphragm extending across the edge of the shell forming a hollow body adapted to contain a substantially incompressible liquid;

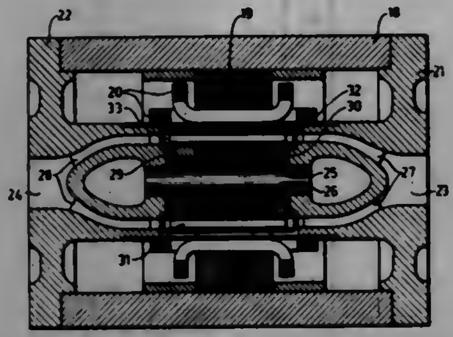
a flexible bag in said body provided with an inlet conduit and an outlet conduit extending through the shell to the exterior thereof, there being a check valve in each of said conduits, said liquid completely filling the body exteriorly of the bag;

a reciprocable member connected with said diaphragm and extending away from said body; and

means operably coupled with said member for reciprocating the latter to flex the diaphragm against and away from said liquid to collapse and expand the bag, whereby to pump a fluid into and out of the latter.

3,194,165
ELECTRIC MOTOR PUMP

Nils Sörlin, 35 Dobelnsgatan, Stockholm Va., Sweden
Filed Feb. 28, 1962, Ser. No. 176,254
6 Claims. (Cl. 103—87)



1. In a combination axial flow fluid pump and squirrel-cage electric motor in which one rotor serves as both the pumping rotor and the motor rotor, the combination which comprises a casing having electric motor winding therein and a central axial passage disposed within said winding, one end of said passage forming an inlet and the other end thereof forming an outlet for fluid to be pumped, a rotor rotatably disposed within said passage and having a cylindrical central iron core portion cooperating with said winding to form said motor, a plurality of separated bars on the outer surface of said core portion forming both a motor armature and pumping vanes and defining therebetween pumping channels along said rotor for axial flow pumping of fluid when said motor is running.

3,194,166
PUMPING PLANTS

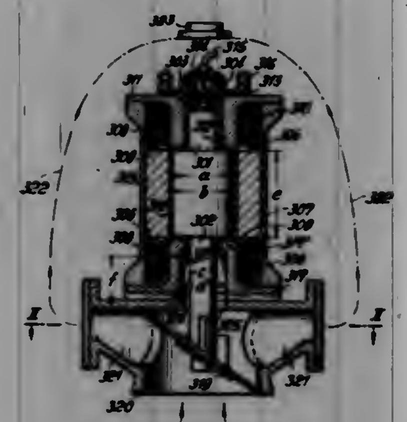
Georg Neidl, Matschils, Triesen, Furstentum, Liechtenstein
Filed Mar. 21, 1963, Ser. No. 267,390
Claims priority, application Germany, Mar. 23, 1962, N 21,366
4 Claims. (Cl. 103—87)

1. A totally submersible pumping plant comprising first housing means centered on a vertical axis;

an electromotor in said first housing means having a downwardly extending vertical shaft journaled coaxially therein and carrying an armature received with peripheral clearance in said first housing means;

an impeller cantilever mounted at a lower extremity of said shaft for rotation about said axis thereby;

second housing means surrounding said impeller and forming a downwardly open pumping chamber therearound, said second housing means being formed with at least one generally radial outlet communicating with said chamber;

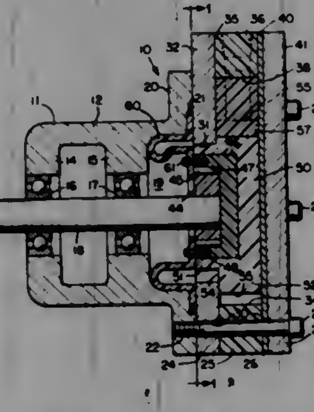


means forming an air compartment interconnecting said clearance and said chamber, said compartment constituting substantially the sole fluid communication with said clearance;

and bearing means interposed between said first housing means and said shaft at the junction between said compartment and said clearance, the air-enclosing volumes of said clearance and said compartment being so selected that, upon submersion of said pumping plant in an upright condition, the air within said clearance and said compartment is compressed and prevents entry of liquid into said first housing means through said compressor beyond said bearing means.

3,194,167
PUMP

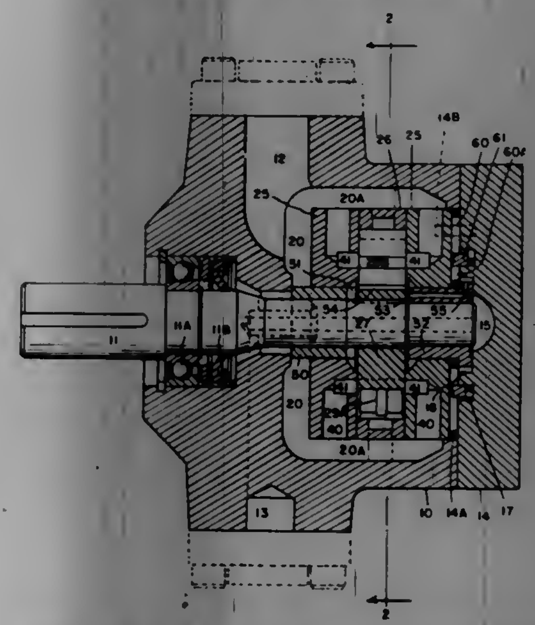
Lawrence F. Wilson, Caledonia, N.Y., assignor to Lapp Insulator Company, Inc., a corporation of New York
Filed Jan. 22, 1964, Ser. No. 341,829
25 Claims. (Cl. 103—132)



1. In a rotary piston pump having a housing formed to provide a generally cylindrical pump chamber in communication with inlet and outlet openings and a generally cylindrical impeller of smaller diameter than said chamber that is driven by an eccentric drive in a revolving motion within said chamber to force fluid from said inlet to said outlet, the improvement comprising: formation of said impeller as a plurality of eccentric members at least two of which are rotatable relative to each other; and a fluid-impervious web of flexible material connecting an inner one of said impeller members to said housing in fluid-tight fashion, said web preventing escape of said fluid from said chamber and substantially preventing rotational motion of said inner impeller member relative to said housing, an outer one of said impeller members being rotatable a small amount relative to said housing.

3,194,168
FLUID PUMPS

Oscar E. Rosaen, Grosse Pointe Farms, Mich., assignor, by mesne assignments, to Borje Rosaen, Ann Arbor, Mich.
Filed Oct. 6, 1958, Ser. No. 765,606
4 Claims. (Cl. 103—136)

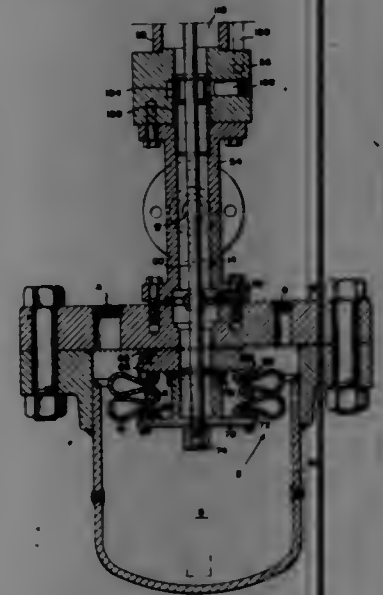


1. A fluid pump of the vane type comprising a housing having an inlet and an outlet both located at one end thereof, a pump unit within said housing having a disc-like rotor provided with radially extending slots in its periphery, vanes slidably carried therein, a cam ring surrounding said rotor and contacting the ends of said vanes, the inner periphery of said ring determining the radial position of said vanes and forming with said rotor alternate pumping chambers and idle zones, and a pair of substantially identical cheek plates fixed to said ring and enclosing said rotor, fluid inlet and outlet passages through said cam ring to said pumping chambers and located at the beginning and end respectively of each pumping chamber, each cheek plate being provided with diametrically oppositely disposed radial inlet passages and associated channels registering with the inner ends of said slots for subjecting the inner end of said vanes to inlet pressure fluid and also provided with diametrically oppositely disposed outlet passages for receiving the fluid discharged from said pumping chambers through said outlets in said cam rings, the outlet passages of either one of said cheek plates being capable of registering with the said outlet located at one end of said housing, means for retaining said pump unit fixed with reference to said housing, a drive shaft extending through and journaled in said one end of said housing and passing through said cheek plates and rotor and splined to the latter for rotating the same within the pump unit, said housing having a detachable closure plate located at the other end thereof affording access to said pump unit so that said unit may be readily axially removed from said drive shaft, reversed and replaced thereon to thus provide for the rotation of said rotor in either direction.

3,194,169
PUMPS

Lindsay H. Browne, Weston, Conn., assignor to De Laval Turbine Inc., Trenton, N.J., a corporation of Delaware
Filed Sept. 26, 1963, Ser. No. 311,798
1 Claim. (Cl. 103—152)

A pump comprising a chamber having at least one opening for the inflow and outflow of pumped fluid; a pulsator within said chamber provided by a flexible, expansible member comprising a plurality of alternately inwardly and outwardly extending rounded annular folds, said expansible member being mounted, at one end, to a boundary of said chamber and closed at its other end by a rigid member, said pulsator separating said chamber into an outer region surrounding the pulsator for the reception of pumped fluid and an inner region for the reception of driving fluid; means controlling the flow of driving fluid into and out of said inner region thereby effecting expansion and permitting contraction of said pulsator; and



means engaging and preventing radial expansion of at least one of said inwardly extending folds, the last means comprising an inextensible toroidal member having an axial cross-section which is substantially circular in the region of engagement with said inwardly extending fold, the radius of curvature of the circular portion of said cross-section being substantially greater than the thickness of the wall of said expansible member, said toroidal member being supported between adjacent pairs of outwardly extending folds, whereby the pulsator variably embraces said toroidal member during its expansion and contraction without substantial frictional sliding relative thereto.

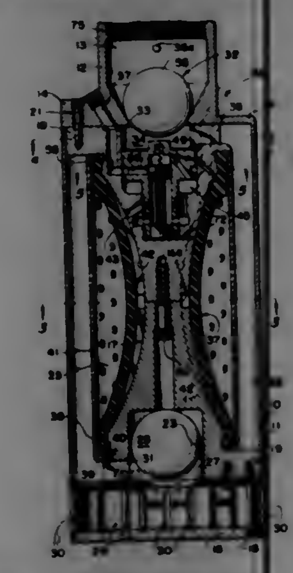
3,194,170

DIAPHRAGM PUMP

Otmar M. Ulbing, Lisle, N.Y., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Feb. 25, 1964, Ser. No. 347,297

14 Claims. (Cl. 103—152)



1. A diaphragm pump comprising
(a) a housing having an inlet port at one end to receive the fluid to be pumped and an outlet port at the opposite end to discharge the pumped fluid,
(b) a supporting core disposed within said housing to define a working chamber,
(c) a tubular flexible diaphragm superimposed over the supporting core and secured at longitudinally spaced points,
(d) inlet passage means in said supporting core and said housing for communicating a source of actuating fluid with the interior of the tubular diaphragm to effect the expansion of the diaphragm in said working chamber and thereby force the fluid in the latter through said outlet port,
(e) exhaust passage means in said supporting core and said housing for discharging the actuating fluid from the interior of the diaphragm to permit the latter to contract, and
(f) fluid-actuated valve control means in said supporting core for providing alternate flow of actuating fluid through said inlet passage means and said exhaust passage means to provide alternate expansion and contraction of said diaphragm.

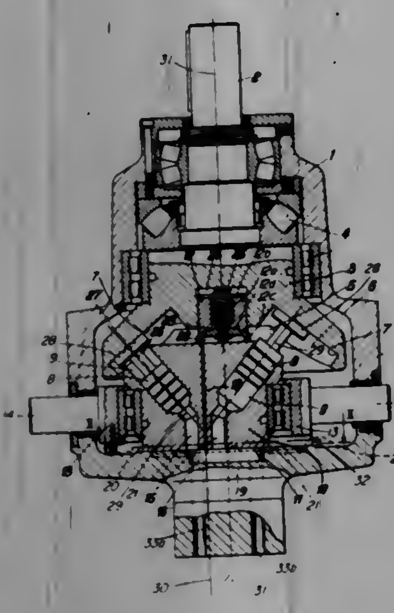
3,194,171

FLUID DRIVE MEANS

Wolfgang Ohligs, Rheydt-Giesenkirchen, Germany, assignor to Mannesmann-Meer Aktiengesellschaft, Monchen-Gladbach, Germany, a German company

Filed Nov. 14, 1962, Ser. No. 237,597

7 Claims. (Cl. 103—161)



1. A fluid drive means suitable for use as a fluid motor and as a fluid pump, comprising a housing and a block each having a central axis, said housing having a central cavity with inner walls, said cavity and walls defining in general the frustrum of a pyramid, said block being positioned adjacent to said cavity and having a plurality of cylinders formed therein, each of said cylinders having a longitudinal axis substantially perpendicular to the inner wall of said cavity, a piston in each of said cylinders, each of said pistons having a head with a flat bearing surface adapted to contact the inner wall of said cavity associated with it, the axes of said housing and said block being offset with respect to one another, a casing enclosing said housing and said block, means comprising a drive shaft mounted in said casing and secured to said housing, for rotating said housing and said block about their central axes, a control surface in said casing, said surface having a plurality of ports separated by a bridge, and adjusting means for causing relative movement between said housing and said block in a direction perpendicular to their central axes, said block being rotatably mounted in said adjusting means and movable along said bridge by said adjusting means.

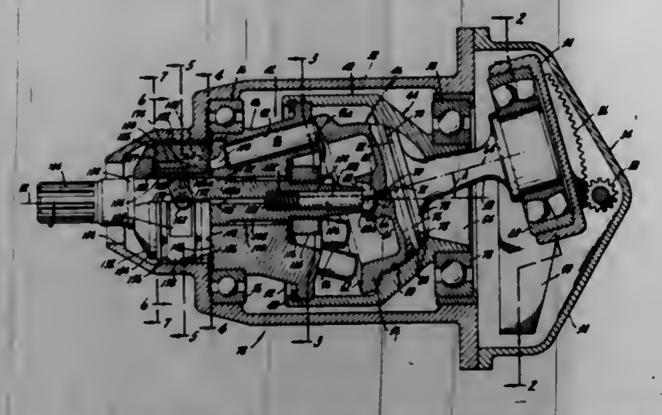
3,194,172

PUMP

Henry Schottler, 8008 Country Club Lane, North Riverside, Ill.

Filed Apr. 19, 1962, Ser. No. 188,777

16 Claims. (Cl. 103—162)



1. A swash plate fluid device comprising a casing having rotatably mounted therein a cylinder block assembly, a rotatable swash plate assembly and a rotatable thrust member, said cylinder block assembly having a plurality of pistons reciprocably mounted therein, said swash plate assembly cooperating with said pistons for reciprocating said pistons, said thrust member having a concave, segmental spherical surface which cooperates with a convex spherical surface of said swash plate assembly, the thrust load of said piston against said swash plate assembly being transmitted from said surface of said swash plate assembly to said surface of said thrust member, means connecting said thrust member and said cylinder block assembly whereby said thrust load is transmitted directly from said thrust member to said cylinder block assembly.

3,194,173

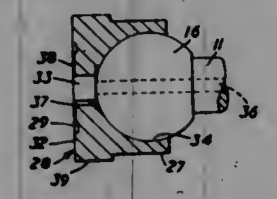
HYDRAULIC APPARATUS

Oswald Thoma, Charlton Kings, Cheltenham, England, assignor to Dowty Hydraulic Units Limited, Ashchurch, England, a company of Great Britain, and Unipat A.G., Glarus, Switzerland, a company of Switzerland

Filed Jan. 31, 1963, Ser. No. 255,255

Claims priority, application Great Britain, Mar. 7, 1962, 8,811/62

3 Claims. (Cl. 103—162)



1. A slipper bearing assembly comprising a wear member and a hydraulically balanced slipper movable relatively to the wear member, each having a surface for seating with slight clearance on the complemental surface of the other by generation hydraulically of the parting thrust in the leakage path between the complemental surfaces to oppose a mechanical thrust urging the slipper on to the wear plate member's surface, said slipper including a circular recess within the slipper's surface which defines with the wear member's surface a pressure chamber and divides the slipper's surface into inner and outer portions, a port opening centrally into the inner portion of the slipper's surface and adapted for connection to a source of hydraulic liquid at pressure, the radially outer portions of the complemental surfaces communicating with a low pressure region to induce outward flow through the leakage path, and at least two restrictor grooves in the inner portion of the slipper surface which, with the wear member's surface, define passages extending from the port to the circular recess, the cross sectional area of each restrictor groove being considerably smaller than the cross sectional area of the circular recess whereby liquid flowing from the port through the restrictor groove to the circular recess loses pressure to establish within the circular recess a pressure lower than the pressure within the port whose value will vary inversely with the small clearance in the leakage path between the wear member's surface and the slipper's surface.

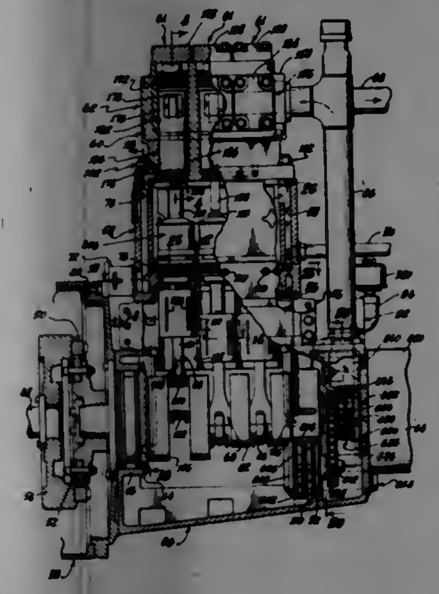
3,194,174

HIGH SPEED TRIPLEX PUMP

Clarence J. Coberly, San Marino, and Francis Barton Brown and Carter P. Williams, La Crescenta, Calif., assignors to Kobe, Inc., Huntington Park, Calif., a corporation of California

Original application Feb. 1, 1960, Ser. No. 5,840, now Patent No. 3,077,836, dated Feb. 19, 1963. Divided and this application Sept. 4, 1962, Ser. No. 221,186

6 Claims. (Cl. 103—204)



3. In combination:
(a) a housing providing a cylinder;
(b) a plunger susceptible to random sidewise movement reciprocable in said cylinder;
(c) there being an annular clearance between said plunger and said cylinder;
(d) said plunger having a stem projecting axially therefrom and also susceptible to random sidewise movement;
(e) sealing means engaging said stem;
(f) yieldable, resilient mounting means connecting said sealing means to said housing and permitting random sidewise movement of said sealing means relative to said housing in response to random sidewise movement of said plunger and said stem;
(g) hydrodynamic means for centering said plunger in said cylinder in response to random sidewise movement of said plunger and said stem; and
(h) said hydrodynamic centering means including means for injecting fluid under pressure into said annular clearance at circumferentially spaced points.

3,194,175

FLUID-OPERATED GAS LIFT APPARATUS

Willis C. Carlisle and John H. McCarvell, Houston, Tex., assignors to Macco Oil Tool Co., Inc., Houston, Tex.

Filed Oct. 30, 1963, Ser. No. 320,953

3 Claims. (Cl. 103—232)

1. A gas lift apparatus mounted in a tubing string prior to positioning in a well casing, comprising:
(a) a tubing string,
(b) a tubular mandrel having an upper head with an eccentrically positioned longitudinal opening therethrough,
(c) means connecting said upper head to said tubing string,

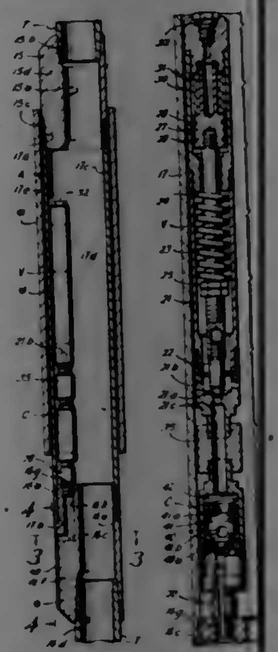
(d) said tubular mandrel also having a lower head with an eccentrically positioned longitudinal opening therethrough,

(e) means connecting said lower head to said tubing string,

(f) said tubular mandrel including an intermediate tubular body having a longitudinal bore which is larger than said openings in said upper and lower heads,

(g) said longitudinal openings in said upper and lower heads being of substantially the same size as the bore of the tubing string and in longitudinal alignment therewith,

(h) said longitudinal bore of said intermediate tubular



body having a portion thereof in alignment with said longitudinal openings in said upper and lower heads but also having an offset portion thereof which is out of alignment with said longitudinal openings,

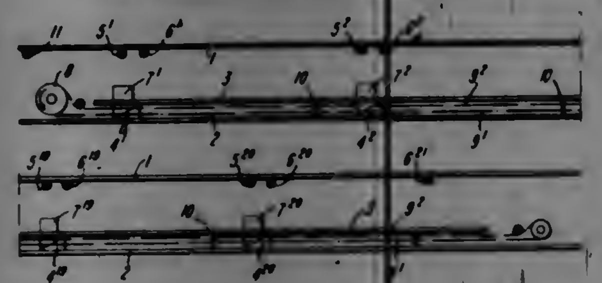
(i) a fluid-operated gas lift valve in said offset portion of said intermediate tubular body, said gas lift valve being of a length substantially equal to the length of the offset portion,

(j) means securing said gas lift valve to said lower head of said mandrel, and

(k) said lower head having fluid passage means establishing fluid communication from the area exteriorly of said mandrel to said valve so that gas may flow through said valve into said mandrel upon an opening of said valve by said head of liquid.

3,194,176
ARRANGEMENT FOR MECHANIZING THE ASSEMBLING OF TRAINS IN A TRAIN-ASSEMBLING TRACK OF A MARSHALLING YARD

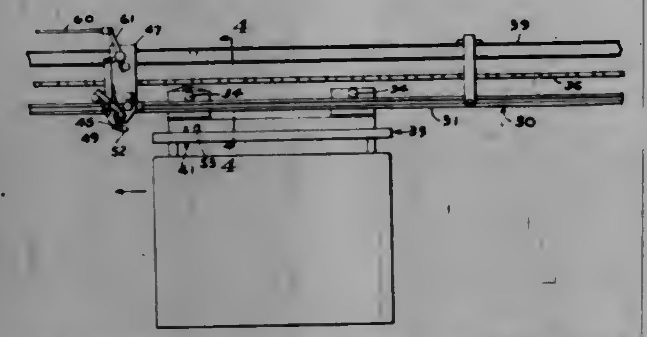
Ernst Garbers, 8 Walderseestrasse, Hamburg-Othmarschen, Germany
Filed Oct. 28, 1960, Ser. No. 65,683
Claims priority, application Germany, Apr. 27, 1960, G 29,550; May 11, 1960, G 29,658
6 Claims. (Cl. 104—26)



1. An arrangement for automatically assembling railroad trains in a train-assembling track of a railroad marshalling yard; said arrangement comprising railroad car driving means for moving individual cars over a prescribed length of track; said driving means comprising an endless power transmission means extending over several of said sections of track and having a pulling strand and a return strand; said endless transmission means lying adjacent one of the two rails of said sections of track; each of said sections of track being of the length of one of said cars being assembled; power source means for driving said endless power transmission means; a plurality of carriers distributed substantially uniformly over said sections of track; a guide rail adjacent said one rail of said sections of track; said carriers being supported for movement between said one rail and said guide rail; each of said carriers including a spring-loaded transport arm pivotally mounted thereon; trip means mounted on each section of said trackway for releasing said pivoted arm upon the passage of a railroad car wheel; means causing said released arm to rise and to engage the recently passed wheel; reversibly operable means mounted on each of said carriers to selectively lock said carrier to said pulling strand and to said return strand; said trip means also operating said reversibly operable means to lock said carrier to said pulling strand when said means is actuated; spaced means situated at each of said track sections for causing said reversibly operable means to reverse, releasing said pulling strand and locking said carrier to said return strand; and means for rendering said power source means operable for a preselected period of time after the passage of a railroad car into the first of said sections of track, said sections of track being so arranged that a carrier and the trip and spaced means are each located in each section of track so that the carrier of the first section of track moves a railroad car until it is released from its pulling strand by said spaced means and the carrier at the next adjacent section of track moves the same railroad car over its section of track, a single railroad car being moved into its final position by several of said carriers in succession.

3,194,177
CONVEYOR CONTROL SYSTEM

Leonard J. Bishop, Birmingham, Mich., assignor to Mechanical Handling Systems Inc., Detroit, Mich., a corporation of Michigan
Filed Aug. 27, 1962, Ser. No. 219,626
40 Claims. (Cl. 104—88)



1. In a conveyor wherein a carrier unit is moved along a path, a control system for selectively producing a responsive signal when the carrier unit moves past a reader station, which comprises

at least one signal member on said carrier unit, said signal member being movable into and out of signalling position,

a control mechanism having a least one sensing member movably mounted thereon,

said signal member being adapted to contact said sensing member when a non-responsive signal is desired and adapted not to contact said sensing member when a responsive signal is desired as the carrier unit moves along the path,

said control mechanism including an operating member engageable by said carrier unit as the carrier unit moves past the reader station,

each said carrier unit having an actuator thereon adapted to engage said operating member on said control mechanism as the carrier unit moves past the reader station,

a mechanical linkage adapted to be actuated by said operating member for producing a responsive signal,

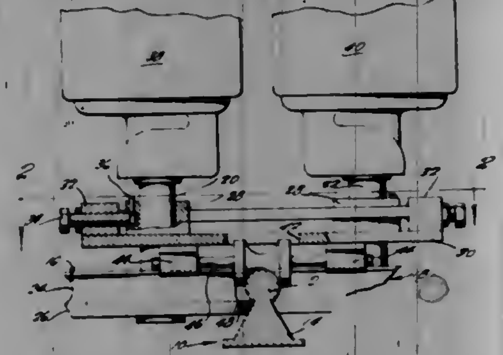
said linkage being normally conditioned so that when the operating member is operated, a responsive signal is produced,

means mechanically connected to said sensing member for moving the linkage into inoperative position when the signal member on the carrier unit engages the sensing member so that a responsive signal is not produced when the operating member is operated by said actuator on said carrier unit,

and means responsive to the engagement of the sensing member by a signal member for moving the sensing member out of the path of the signalling member as the carrier unit moves along the path.

3,194,178
WHEEL ASSEMBLY FOR A MONORAIL

Martin E. Weston, Box 146, Klamath, Calif.
Filed Sept. 13, 1963, Ser. No. 308,788
4 Claims. (Cl. 104—119)



1. In combination with a rail having a head supported upon a web, a wheel assembly comprising a frame, a pair of wheels arranged in opposed relation one on each side of the head of said rail, a third wheel having its axis displaced from and parallel with a plane formed by the axes of the pair of wheels, each of said wheels having a portion rollingly bearing against said rail head, each of said pair of wheels having another portion rollingly engaging a part of said web of said rail, and means supporting each wheel on said frame for free rotation.

3,194,179
MONORAIL SYSTEM

Lester G. Scherer, 13111 Ventura Blvd., Studio City, Calif.
Filed Aug. 9, 1963, Ser. No. 301,071
11 Claims. (Cl. 104—121)

1. In a monorail car system including:

track supporting means having an upper portion and a lower portion;

first rail means mounted on said upper portion of said track supporting means at one side thereof and extending upward therefrom to provide a surface facing inwardly toward a vertical plane passing through said track supporting means;

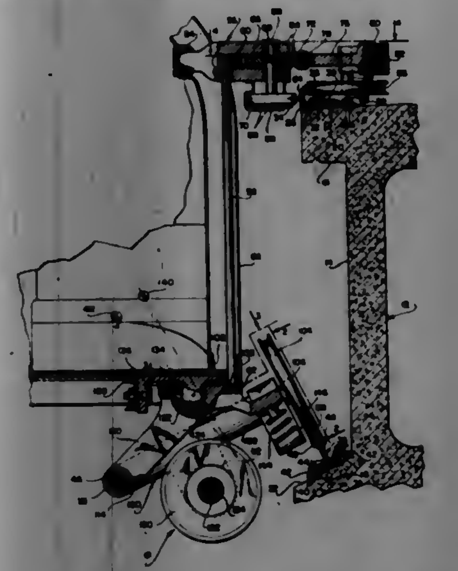
second rail means carried by the lower portion of said track supporting means and located on the exterior surface of said one side, the combination therewith:

a car adapted to travel along said one side of said track supporting means;

first wheel means mounted substantially perpendicular to said surface of said first rail means for engagement therewith and being located at the side of said car in order to hold said side of said car adjacent said upper portion of said track supporting means;

axes means pivotally connected to the lower portion of said car and extending transversely of said second rail means for up and down movement relative thereto;

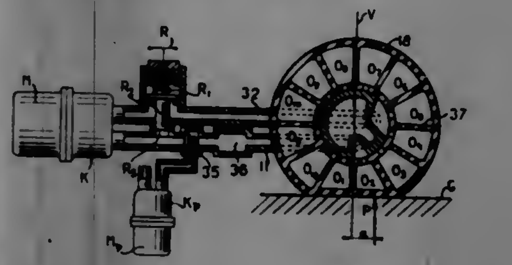
second wheel means mounted on said axes means and engaging said second rail means; and



spring means acting between said car and said axes means for positioning said second wheel means about the pivot of said axes means; the resultant of the forces exerted by said second wheel means on said second rail means being substantially normal to said axes means regardless of the position of the center of gravity of said car.

3,194,180
METHOD OF DRIVING A WHEELED VEHICLE, AND VEHICULAR DRIVING WHEEL

Julius Mackerle, Prague, Czechoslovakia, assignor to Ustav pro vyzkum motorovych vozidel, Prague, Czechoslovakia
Filed Nov. 15, 1962, Ser. No. 237,924
Claims priority, application Czechoslovakia, June 6, 1961, 3,503/61; Nov. 21, 1961, 6,877/61
8 Claims. (Cl. 105—63)



1. In a drive arrangement for a wheeled vehicle, in combination:

(a) a vehicle body;

(b) wheel means rotatable on said body about a horizontally extending axis;

(c) a plurality of pneumatic chambers circumferentially distributed about said axis, said chambers having respective wall members mounted on said wheel means, and respective other wall members spaced from the corresponding mounted wall members in a radially outward direction and radially movable relative to the some responsive to gas pressure in the respective chambers;

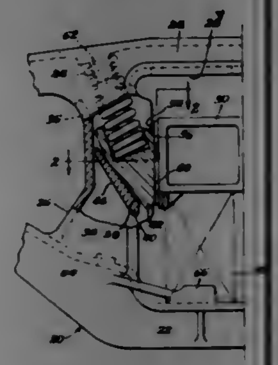
(d) Compressor means having intake means and discharge means for circulating a gas under pressure;

(e) control valve means interposed between said compressor means and said plurality of chambers for sequentially admitting said gas under pressure from said discharge means to each chamber at a predetermined angular position of said chamber during rotation of said wheel means, and for venting said gas from said chamber to said intake means at another angular position of said chamber; and

(f) a substantially rigid ring member of circular cross section having an internal annular face, said other wall members engaging said internal face.

3,194,181
SNUBBED RAILWAY CAR TRUCK

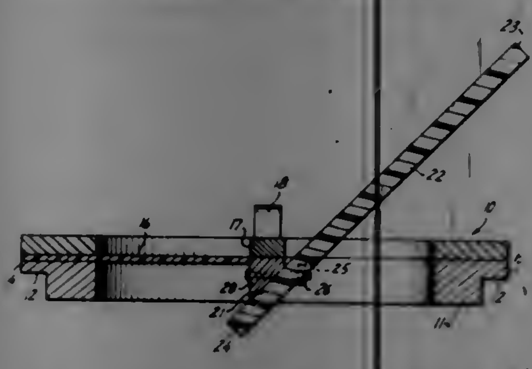
Carl E. Tack, Elmhurst, Ill., and Albert F. Seelig, Jr., St. Louis, Mo., assignors to Amsted Industries Incorporated, Chicago, Ill., a corporation of New Jersey
Original application Feb. 29, 1960, Ser. No. 11,597, now Patent No. 3,079,873, dated Mar. 5, 1963. Divided and this application Aug. 3, 1962, Ser. No. 214,737
7 Claims. (Cl. 105—197)



7. In a snubbed railway car truck, a side frame having tension and compression members interconnected by spaced columns to define a bolster opening, each column having spaced side walls and an end wall, a bolster resiliently supported within said opening, a removable insert rigidly mounted on a column against movement in any direction relative thereto and formed with a wedge wall having opposing first and second flat surfaces and two parallel, triangular side walls extending from opposite sides of said first surface, the side walls of said insert being in juxtaposition to the side walls of said column so as to hold said first surface inclined toward said bolster opening, a compression spring seated on one of said members, and a friction shoe biased by said spring between said first surface and the side of said bolster.

3,194,182
DEFLECTOR DEVICE

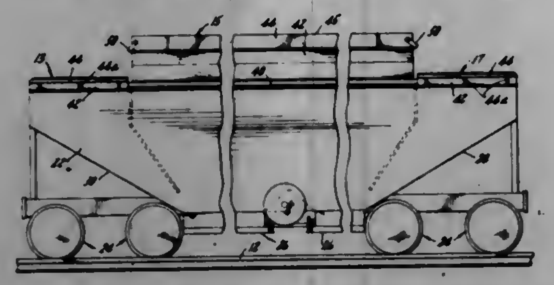
Francis W. Flood, 931 Lindale Ave., Drexel Hill, Pa.
Filed Aug. 7, 1964, Ser. No. 388,134
2 Claims. (Cl. 105—358)



1. A deflector device for deflecting fumes from a tank opening comprising set-back bottom ring adapted to seat in said tank opening and having a diametrical bridge portion; a top ring of like diameter as said bottom ring and having a diametrical bridge portion adapted to be positioned over the bottom bridge portion; a suitably apertured transparent semi-disc disposed between said top and bottom rings on one side of said bridge portions; a flat transparent deflector plate disposed adjacent to and on the other side of bridge portions and means for securing said deflector plate to said bridge portions.

3,194,183
VEHICLE HATCH COVER

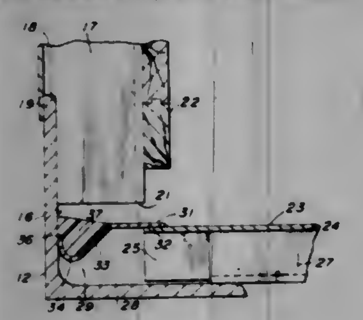
Frederick W. Schwartz, Jr., Clarendon Hills, and Earl A. Phillips, La Grange Park, Ill., assignors to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey
Filed Oct. 24, 1962, Ser. No. 232,704
1 Claim. (Cl. 105—377)



A hopper car including a main body, said main body having a longitudinally extending hatch opening in the top thereof, said hopper car including, in combination, partitions mounted within said main body to divide said main body into a large center compartment having smaller end compartments adjacent the ends thereof, said hatch opening including a center hatch opening portion for said center compartment and an end hatch opening portion for each end compartment, and a hatch cover assembly having two end sections and a center section, means pivotally connecting each of said sections to said hopper car, said center section being adapted to cover said center hatch opening portion and each of said end sections being adapted to cover one of said end hatch opening portions, means connected to said center section and adapted to cooperate with an overhead opening and closing mechanism to pivot said center section to an open or closed position, releasable means connecting said end sections to said center section whereby when said releasable means are in their unconnected position said center section may be pivoted independently of the end sections and when said releasable means are in their connected position either one or both of said end sections may be pivoted in response to pivoting said center section.

3,194,184
METAL FLOOR END CLOSURE MEANS

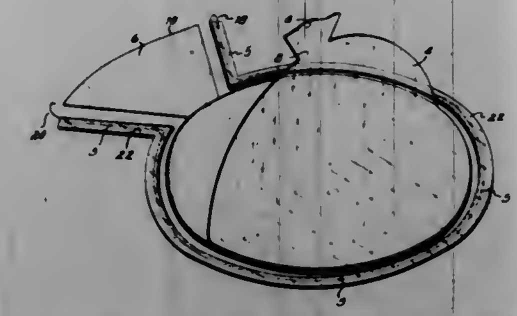
Millard M. Murray, La Porte, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 335,074
6 Claims. (Cl. 105—422)



1. In a railway house car construction comprising the combination of a side sill including a lengthwise extending angle having a horizontal leg and a vertical leg, a metal flooring supported on and fixed to said horizontal leg and having the longitudinal end thereof spaced from said vertical leg, and end closure means for sealing the space between the longitudinal end of said metal flooring and said vertical leg comprising means including a horizontal web supported along the marginal edge of said longitudinal ends and fastened thereto, said horizontal web partially spanning said space, a portion depending downwardly from said horizontal web and into said space, and caulking contacting adjacent walls of said downwardly depending portion and said vertical leg of said sill to provide a seal therebetween.

3,194,185
PIE DOUGH ROLLING AND MIXING BAG

Giuseppina Spinosa, Cincinnati, Ohio, assignor of one-half to Milena C. Lodico
Filed July 26, 1962, Ser. No. 212,520
3 Claims. (Cl. 107—54)

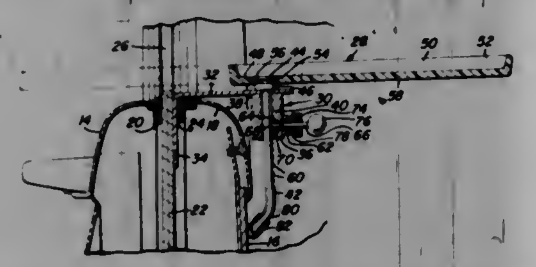


1. The method of preparing pastry dough for baking which consists of,

placing the dough ingredients within a flat flexible bag,
mixing said ingredients within said bag,
rolling said dough within said bag into a sheet of the same general shape as that of said bag, and
removing said bag to expose the shaped sheet of dough.

3,194,186
DRIVE-IN FOOD TRAY

Russell Brown and Ruth Brown, both of Rte. 4, Eureka Springs, Ark.
Filed Jan. 22, 1964, Ser. No. 339,464
6 Claims. (Cl. 108—46)

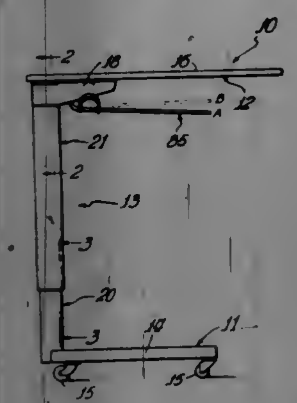


1. A drive-in food tray comprising a support frame including a generally horizontally disposed elongated support flange including a downturned end portion on one end adapted to engage one upstanding side surface of a vehicle body adjacent the upper end thereof with said horizontally disposed flange extending across and resting upon the upper end of said body portion, a depending upright sleeve carried by the other end portion of said support flange defining an upstanding bore extending therethrough, a generally horizontally disposed tray member, an upstanding shank portion rotatably journaled from said tray member at its upper end and having its lower end portion slidably received through said bore, and coacting detent means carried by said shank portion and said sleeve for releasably retaining said shank portion in adjusted longitudinally shifted positions relative to said sleeve, said bore and shank portions being non-circular in cross-section whereby said shank portion is maintained against rotation in said bore, said shank portion including bumper means on the lower end thereof directed laterally outwardly of the side thereof to which one end of said support flange projects and adapted for abutting engagement with the opposite upstanding side surface of said body portion.

3,194,187
OVERBED TABLE

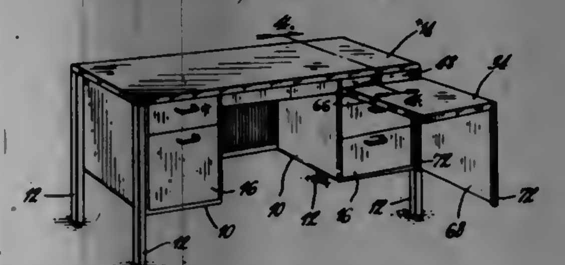
Martin M. Linder, Villa Park, and Fred Pruim, Chicago, Ill., assignors to Borg-Warner Corporation, a corporation of Illinois
Filed Jan. 13, 1964, Ser. No. 337,266
2 Claims. (Cl. 108—146)

1. A vertically adjustable overbed table comprising a base having a vertical tubular extension, a top having a vertical tubular extension telescopically movably mounted over said tubular base extension, means for urging said top upwardly to partially support the weight of said top, a vertical rack rigidly secured to said bottom tubular extension, a gear rotatably mounted on said top extension in meshing engagement with said rack for rotation by said rack when said top is telescopically moved relative to said base extension, a toothed lock member slidably mounted on said top and normally in meshed locking engagement with said gear for preventing rotation of said gear and movement of said top relative to said base extension rack, and a substantially horizontal lever pivotally connected to said table top and drivingly connected with said lock for releasing said lock when said lever is pivoted upwardly to allow direct vertical adjusting movement of said top.



3,194,188
SHELF STRUCTURE

Earl F. Hamilton, Donald L. Moore, and Ralph B. Lay, Columbus, Ind., assignors to Hamilton Cosco, Inc., Columbus, Ind., a corporation of Indiana
Filed Feb. 11, 1963, Ser. No. 257,679
14 Claims. (Cl. 108—152)



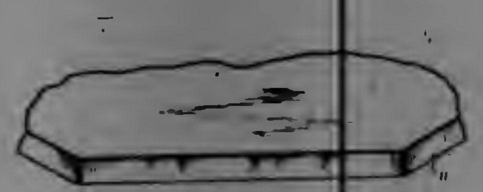
1. A shelf structure for a desk, cabinet, or the like, comprising
- (a) a frame having a bight at one of its ends interconnecting a pair of generally parallel arms adapted to be removably carried in a pair of supporting channels in a desk, cabinet, or the like,
- (b) a shelf mounted on said frame in parallelism with said arms and overlaying said bight and the ends of said arms adjacent said bight,
- (c) said shelf having a depending peripheral border skirt,
- (d) a transversely extending plate abutting said shelf skirt along the transverse shelf edge overlaying said frame arms,
- (e) said plate projecting above and below the plane of said shelf and rigidly connected to said shelf and frame arms intermediate the length of said arms, and
- (f) locking means mounted on said plate for releasably locking said shelf structure on said desk, cabinet, or the like.

3,194,189
KNOCK-DOWN FURNITURE CONSTRUCTION

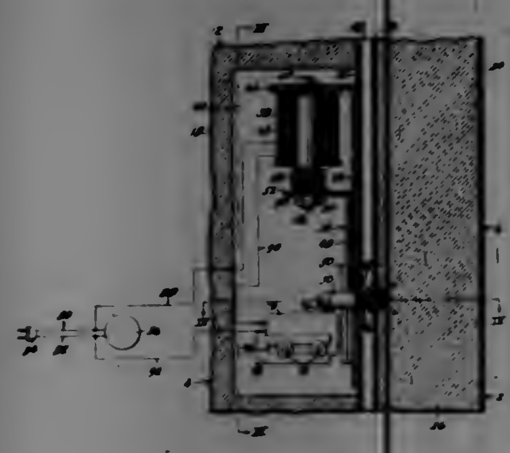
Robert E. Bailey, 343 N. Prospect St., Washington, N.J.
Filed Dec. 11, 1962, Ser. No. 243,852
6 Claims. (Cl. 108—158)

1. An improved knock-down pedestal type base structure comprising a pedestal adapted to support a furniture

piece, said pedestal having a bore extending longitudinally therein, a plurality of separate leg members for supporting said pedestal, fastening means for detachably connecting said plurality of leg members to said pedestal, said fastening means including a pair of spaced apart clamping plates for securing therebetween one end of said leg members, an elongated rod extending through said clamping plates and through the bore of said pedestal, and means for drawing together said clamping plates onto said leg members and said pedestal said clamping plates to firmly secure the same together in the assembled position of said base structure, said clamping plates having a laterally bent flange portion about the peripheral edge portion thereof, and each of said leg members clamped therebetween having a groove for receiving said flange portions in the assembled position of said base structure.



3,194,190
SAFETY LOCK FOR REFRIGERATORS
James F. Harger, 12001 Alberta St., Sugar Creek, Mo.
Filed Oct. 24, 1963, Ser. No. 318,730
2 Claims. (Cl. 10[illegible]63.5)



1. In combination with an electric refrigerator having a door movable between open and closed positions relative to a body portion having hollow walls, a safety lock comprising:

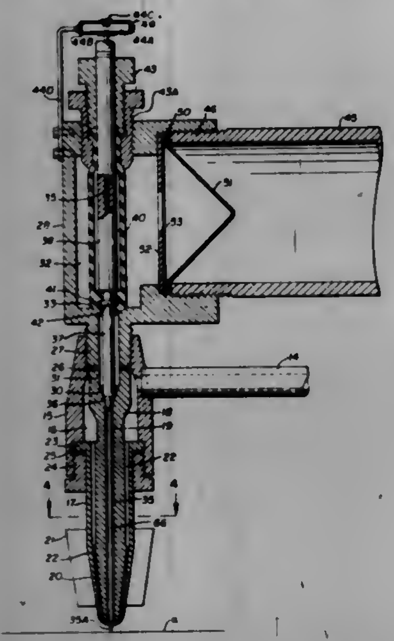
(a) a rod-like stud affixed to said door and operable to enter and project through a hole provided therefor in said body portion, into the interior of a wall of said body portion, as said door approaches its closed position,

(b) a latch plate mounted within said hollow body portion wall for movement at right angles to the axis of said hole between an operative position wherein it obstructs said hole to prevent the entry of said stud and thereby prevent closure of said door, and an inoperative position wherein it does not obstruct said hole,

(c) resilient means biasing said latch plate toward its operative position, and

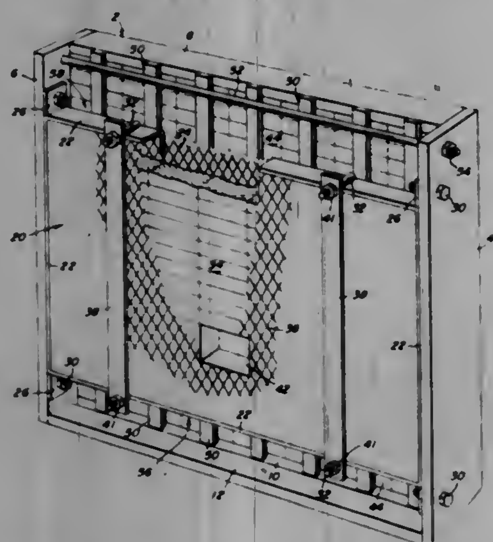
(d) electrical latch retaining means operable when energized to retain said latch plate in its inoperative position against the pressure of said resilient biasing means, said latch retaining means being connected across said main electric supply wires whereby to be energized thereby.

3,194,191
POWDER FEED WELDING TORCH
Elwin A. Hawk, Sr., East Rochester, Ohio, assignor to John Hydock, Canton, Ohio
Filed Nov. 18, 1963, Ser. No. 325,522
14 Claims. (Cl. 110—22)



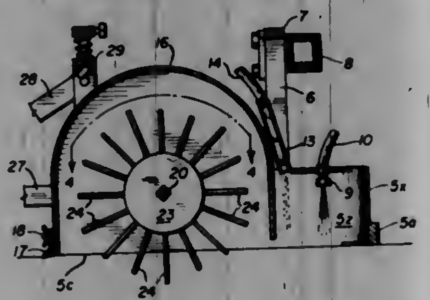
1. Welding torch construction including a burner having a tip, an axial passageway extending through said burner and said tip, at least one gas passageway in said tip spaced radially from said axial passageway, means supplying gas to said radially spaced passageway, means supplying powdered welding material to said axial passageway, a needle movable in said axial passageway having a valving element normally internally closing said axial passageway, and manually operated means for axially moving said needle to open and close said axial passageway to provide controlled gravity feed of the powdered welding material and to agitate the powdered welding material therein.

3,194,192
FURNACE DOOR
Crawford B. Murton, 1906 Brushcliff Road, Pittsburgh 21, Pa.
Filed Nov. 27, 1961, Ser. No. 155,046
3 Claims. (Cl. 110—173)



1. A furnace door having a hot face and a cold face, said door comprising an outside frame having two generally vertical sides connected at their top by a generally horizontal member at the hot face and at their bottom by a generally horizontal member at the hot face so as to provide an opening at the hot face, a plurality of metal clad refractory bricks in said opening, means fastening said metal clad bricks together, means holding said assembly of said metal clad bricks in said opening, an inside frame extending between and fastened to said outside frame at the cold face, said inside frame having two generally vertical sides connected by top and bottom members so as to provide an opening, insulating bricks in said last named opening, a plate on the side of said insulating bricks adjacent said metal clad bricks, a plate on the side of said insulating bricks adjacent said cold face, means holding said insulating bricks and plates in assembled relationship in said inner frame in spaced relationship with said metal clad refractory bricks to provide a vertical opening, the bottom member of said inside frame being spaced from said bottom member of said outside frame at the cold face so as to provide an opening therebetween whereby air will pass through said last named opening and said vertical opening to remove heat from the metal clad refractory bricks.

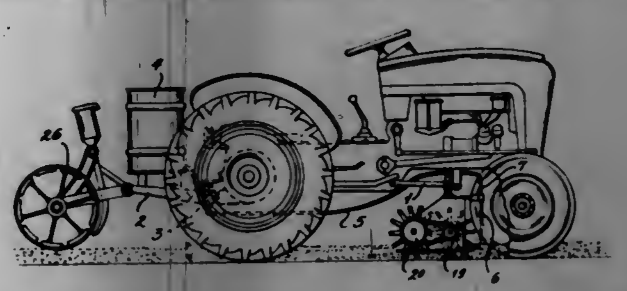
3,194,193
SYSTEM AND APPARATUS FOR PREPARING SOIL FOR ROW CROP PLANTING
George E. Walters, Denver, Colo., assignor to The Great Western Sugar Company, Denver, Colo., a corporation of New Jersey
Filed Feb. 13, 1963, Ser. No. 258,264
14 Claims. (Cl. 111—6)



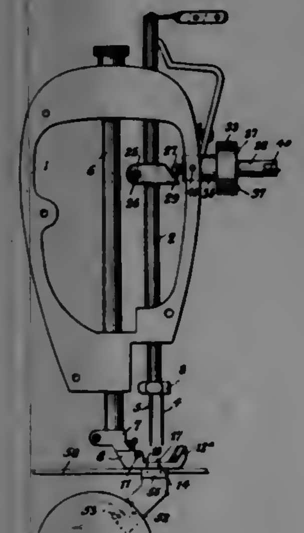
8. A system for preparing soil for row crop planting, comprising means for moving a plurality of chemical herbicide applicators simultaneously along and in continuous contact with a plurality of predetermined crop rows of a field to be planted, means associated with each applicator for shielding the interior portion thereof from wind currents, means for distributing a chemical herbicide in uniformly spread increments in the forward end of the shielded interior and in a quantity regulated to the rate of movement along the row, means at the forward end of each applicator for moving loose material laterally from the row and for leveling the row in advance of herbicide distribution, said shielding means limiting the spread herbicide pattern to a predetermined width on each row, means for subjecting the uniformly spread herbicide to lengthwise and lateral agitation in soil penetrating movement along and throughout the pattern within the interior portion so as to distribute it substantially uniformly to a predetermined depth below the surface of the pattern, and means for firming the agitated soil and distributed herbicide in the pattern immediately following the agitation means.

3,194,194
SPRAY APPLYING AND SOIL MIXING APPARATUS
David M. Phelps, Little Rock, Ark., assignor to Adkins-Phelps Company, North Little Rock, Ark., a corporation of Arkansas
Filed Jan. 20, 1964, Ser. No. 338,930
7 Claims. (Cl. 111—6)

1. Apparatus for applying pesticides to and incorporating them in soil comprising, a carriage having a side wall, an applicator on the front of the carriage for spraying pesticide onto the surface of the soil, a plurality of gangs of soil agitators behind said applicator for working the soil to a predetermined depth and incorporating the pesticide therein, each gang comprising a plurality of tangs mounted for rotation on a shaft, the shafts for the respective gangs being substantially parallel, means mechanically interconnecting the shaft of one gang with the shaft of the other gang to cause the leading gang to rotate at greater speed than the trailing gang, said side wall forming a barrier between said means and said agitators, and soil riding skids mounted on said carriage at each side thereof for controlling the depth to which said tangs penetrate the soil.



3,194,195
THREAD SLACK MECHANISM FOR SEWING MACHINES
Irvin R. Kremer, Schuylkill Haven, and William E. Delker, Pottsville, Pa., assignors to Phillips-Van Heusen Corporation, New York, N.Y., a corporation of New York
Filed Nov. 23, 1962, Ser. No. 239,703
4 Claims. (Cl. 112—154)



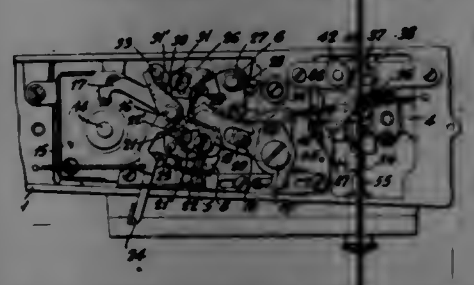
1. A sewing machine having a presser foot provided with an opening extending through it, a needle bar, a needle carried by said needle bar and movable through said opening during the stitching operation, at least one pin inserted in the presser foot and disposed substantially at right angles to the direction of movement of the needle, said pin having an end portion extending into the opening and projecting partly across the same whereby upper loops formed in the thread insertable by the needle will be extended over said end portion of the pin, at least one movable pin operable below the material being sewed for engagement with the lower thread loops, both of the above-described pins being effective to provide for slight upper and lower loop slackness in both threads of the stitching, and means for intermittently relieving tension in the thread supplied to the needle during the forming of the loops, said means comprising a cam mounted on the needle bar, a follower having a first part and second part, a member supporting the follower, a resilient means engaging the follower and the support member for biasing the first part of the follower into engagement with the cam, thread guides positioned on the second part of the follower opposed from the first part for guiding the thread outwardly when the follower is caused to move in the same

direction to thereby place the thread under tension and to relax the tension when the follower is caused to move inwardly.

3,194,196

DECORATIVE-STITCHING VARYING MECHANISM IN ZIGZAG SEWING MACHINES

Tamotsu Kojima, Kobe, Japan, assignor to
Yoshio Doi, Osaka, Japan
Filed Feb. 25, 1963, Ser. No. 260,473
Claims priority, application Japan, Feb. 26, 1962,
37/9,205
5 Claims. (Cl. 112—158)



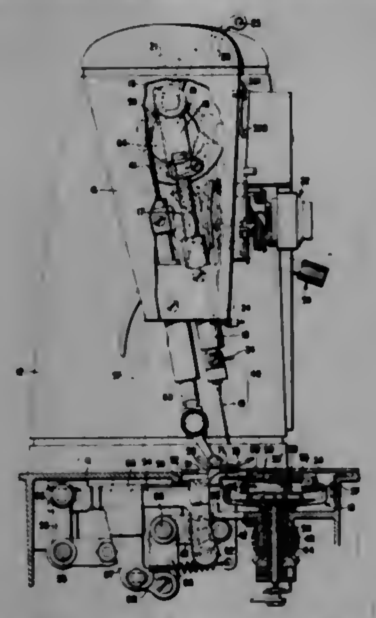
1. A zigzag stitch sewing machine comprising a bed plate, work feeding means mounted in said bed plate, an arm overhanging said bed plate, a vertically reciprocating and horizontally oscillating needle bar carried by said arm, a drive shaft rotatably mounted in said arm, means connecting said drive shaft to said needle bar to reciprocate the same, means connecting said drive shaft and said feeding means for selectively driving said feeding means in forward or reverse direction, a cam driven by said drive shaft, needle bar oscillating means actuated by said cam, means to vary the amplitude and means to shift the field of oscillation of said needle bar, a second cam driven by said drive shaft, a lever pivotally mounted intermediate the length thereof, a cam follower on one end of said lever engaging said second cam, control means connecting the opposite end of said lever and said means to vary the amplitude of oscillation, a second control means connecting said lever and said means to shift the field of oscillation, and a third control means connecting said second control means and said feeding drive means, whereby upon rotation of said second cam said lever will operate to simultaneously and continuously vary the amplitude of oscillation, shift the field of oscillation and alternate the direction of feed.

3,194,197

CHAIN STITCH DEVICE FOR LOCK STITCH SEWING MACHINES

Stanley J. Ketterer, Morris Plains, Michael F. Ivanko, Rockaway, Joseph J. Dolney, Denville, and William B. Strait, East Paterson, N.J., assignors to The Singer Company, Elizabeth, N.J., a corporation of New Jersey
Filed Aug. 7, 1963, Ser. No. 300,560
9 Claims. (Cl. 112—168)

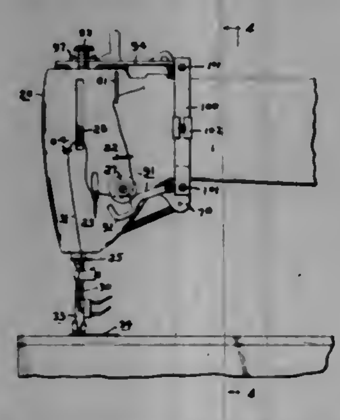
1. In a sewing machine having lock stitch forming instrumentalities including a frame having a work support formed with a needle aperture, a thread carrying eye-pointed needle supported above the work support for endwise reciprocation through said needle aperture, a circularly moving loop taker disposed below said work support, means for driving said needle and loop taker in timed relation for the seizure of a loop of thread from the eye of the needle by said loop taker during each stroke of the needle downwardly through said needle aperture and the release of said seized loop by the loop taker during each succeeding upward stroke of the needle, a needle thread take-up mechanism effective alternately to draw tight and to slacken said needle thread, a bobbin supporting case journaled in said loop taker, stop means sustained on said frame for constraining said bobbin supporting case from circular movement with said loop taker and, a linear work feeding mechanism effective to advance work fabric on said work support in one direction from said needle aperture between each needle penetration thereof, means for sewing chain stitches using thread carried by said needle comprising a thread loop engaging finger carried beneath said work support and having a free extremity extending in a direction away from said work support substantially parallel to said path of endwise needle reciprocation and arranged at that side of said path of needle reciprocation which is opposite the direction of advancement of work fabric by said work feeding mechanism, means shiftably supporting said thread loop engaging finger relatively to said frame for movement substantially along the line of work feed of said work feeding mechanism, said thread loop engaging finger being formed with an opening extending substantially parallel to the line of work feed of said work feeding mechanism, thread directing means carried by said bobbin supporting case and formed with a projection adapted to be embraced by said opening in said thread loop engaging finger, means operated by said work feeding mechanism for shifting said thread loop engaging finger into embracing relationship with said projection during each release of said thread loop by said loop taker, a thread stripping element disposed between said thread loop engaging finger and the path of endwise reciprocation of said needle, and means for reciprocating said stripping element in timed relation with said endwise reciprocation of said needle and toward the free end of said thread loop engaging finger as said needle penetrates said needle aperture.



3,194,198

THREAD SEVERING MECHANISM

Joseph Chudner, Brooklyn, N.Y., assignor to American Safety Table Company, Inc., Reading, Pa., a corporation of Pennsylvania
Filed Dec. 27, 1962, Ser. No. 247,625
18 Claims. (Cl. 112—252)

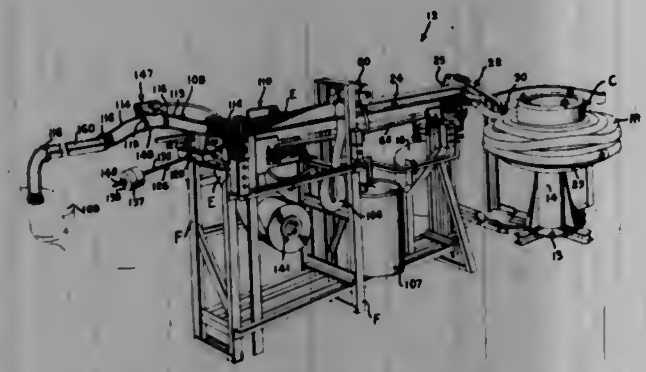


1. A thread trimming device for severing the needle thread of a sewing machine which includes a reciprocating needle having an eye therein through which said thread extends, comprising in combination, an electrically energizable heat generating element, sewing machine presser foot means for supporting said element in operative position in closely spaced relationship to the upper surface of an article being stitched, means for coupling said element to a source of electrical energization, means for clamping the needle thread at a point along its length between the needle eye and the said heat generating element including actuatable means carried by said presser foot for shifting the needle thread first into clamped engagement with a clamping element and then into engagement with said electrically energizable heat generating element, whereby the needle thread may be severed at a point between the article being stitched and the point at which it is clamped.

3,194,199

CAN END UNPACKAGING SYSTEM

Charles T. Walter, Lemont, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 28, 1963, Ser. No. 268,635
25 Claims. (Cl. 113—113)

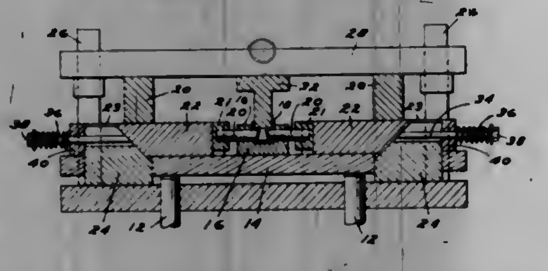


1. A can end unpackaging apparatus comprising means for feeding a plurality of can ends arranged in face-to-face relationship and encased in an elongated, tubular, flexible member, means for regulating the feeding means, a conveyor mechanism adapted to transport said encased can ends along a predetermined path, means for progressively severing the flexible member as the encased can ends are conveyed along the predetermined path, and means for engaging edges of the can ends and contactingly guiding the plurality of can ends beyond the severing means in face-to-face relationship toward an output end of the conveyor.

3,194,200

PROCESS OF MANUFACTURING ROCKER ARM

Axel V. Brogren, Southfield, Mich., assignor to Parsons Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 19, 1962, Ser. No. 231,791
3 Claims. (Cl. 113—116)

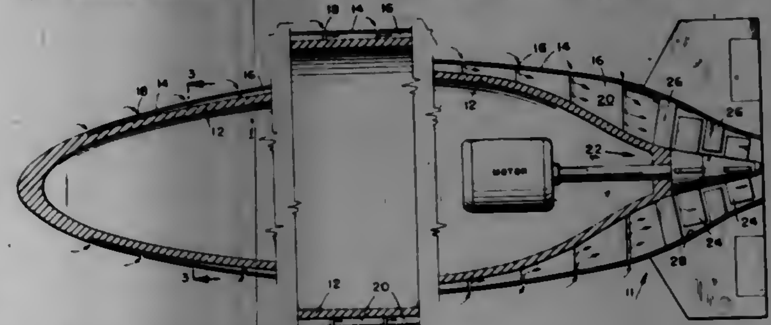


1. That process of forming a rocker arm comprising shaping a piece of sheet metal into a channel shape having opposed side walls extending upwardly from the bottom of the channel shape and so shaping the same as to deform the bottom of the channel downwardly into a trough extending transversely of the channel and spaced between the opposite ends thereof and so shaping said trough that it constitutes in cross section substantially a semi-circle, positioning a supporting die having an upwardly concave substantially semi-circular in cross section bottom end die face which is complementary with the semi-circular cross sectional shape of said trough between the side walls of the channel shape superposing said trough and supporting said side walls against piercing pressure from the outside inwardly, and so positioning said die that the semi-circular bottom end face thereof forms substantially a circular continuation of the inner semi-circular contour of the trough, advancing a piercing punch which is circular in cross section through each side wall of the channel shape from the outside inwardly and at opposite ends of the trough forming a circular aperture in each side wall of the channel shape and wherein said two apertures are disposed in axial alignment and with the bottom substantially semi-circular portion of each aperture registering with the arcuate planar continuation of the major portion of the semi-circular contour of the side wall bottom of the trough and with the upper semi-circular portion of each aperture registering with the cross sectional shape of the bottom end face of the supporting die that is positioned between the side walls.

3,194,201

UNDERWATER MISSILE

Thomas G. Lang, Arcadia, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Feb. 13, 1961, Ser. No. 89,075
2 Claims. (Cl. 114—20)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A torpedo comprising;
(a) an elongated hull,
(b) the major portion of the length of said hull being of water penetrable material adapted to permit flow of water from the boundary layer through said hull into a space therewithin,
(c) a pump adapted to discharge a jet of water rearwardly from the torpedo, said jet providing the sole source of thrust for propelling same,
(d) said pump communicating with said space for providing suction to produce said flow,
(e) a major portion of the power applied to the pump being utilized for propulsion of the torpedo and a minor portion for producing said suction,
(f) whereby as said material tends to clog with foreign matter, said pump tends to maintain said flow substantially constant without substantial decrease in the propulsion effect of said jet.

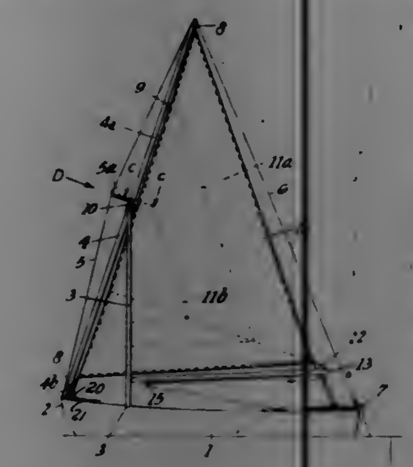
3,194,202

RIG FOR SAILING VESSELS

Philip Keith Saunders, Ridgefield, Conn., assignor of one-half to George Kettner Bennett, Bronxville, N.Y.
Filed Mar. 13, 1964, Ser. No. 351,618
Claims priority, application Great Britain, May 15, 1963,
19,350/63
2 Claims. (Cl. 114—102)

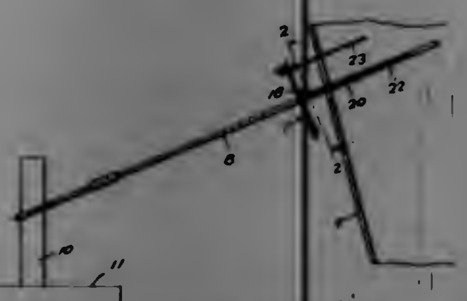
1. A lateen rigged sailing vessel comprising a bipod mast, a braced structure secured to the hull of the vessel supporting the mast, a yard having upper and lower ends, means pivotally connecting the lower end of the yard to the bow of the hull forward of the mast, means pivotally connecting the yard intermediate the upper and lower ends

thereof to the top of the mast, a stay, swivel means connecting the stay to the upper and lower ends of the yard for suspension rearward of the yard, gracing means for maintaining the yard substantially straight when the yard is under load including at least one wire extending forward of the yard between its upper and lower ends, a strut supporting the wire and a backstay pivotally connected



to the upper end of the yard and to the stern of the hull, a sail attached at its leading edge to the stay, means operably coupled to the stay for rotating the stay for furling the sail thereon, a sleeve mounted on the yard in proximity to the wire supporting strut, and rearwardly extending curved jaws carried by the sleeve for enclosing the stay and preventing the stay from sagging to leeward when the sail is filled.

3,194,203
RAT GUARD
Stuart R. Thornton, 3700 26th St., San Francisco, Calif.
Filed Oct. 16, 1964, Ser. No. 404,261
4 Claims. (Cl. 114—221)



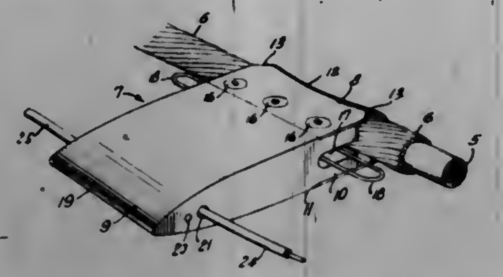
1. A rat guard comprising a substantially circular disc of spring metal having a substantially central opening adapted to receive a hawser and a slit extending substantially radially from a part of said opening through a part of the periphery of the disc, a portion of the disc disposed along one side of the slit having an extension forming a flap overlying said slit and a portion of the disc disposed along the other side of the slit from said opening to the periphery of the disc, and said first mentioned portion and flap being sprung away from said last mentioned portion for spreading the slit to enable the hawser to be positioned in engagement with said opening or out of engagement with the disc.

3,194,204
TOWING CABLE WITH FAIRINGS
Donald A. Nichols, Niantic, and Robert W. Pierce, New London, Conn., assignors to the United States of America as represented by the Secretary of the Navy
Filed Feb. 1, 1963, Ser. No. 256,205
14 Claims. (Cl. 114—235)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A sectional fairing unit for tow cables which comprises:

(a) a tail piece of a material floatable in water,

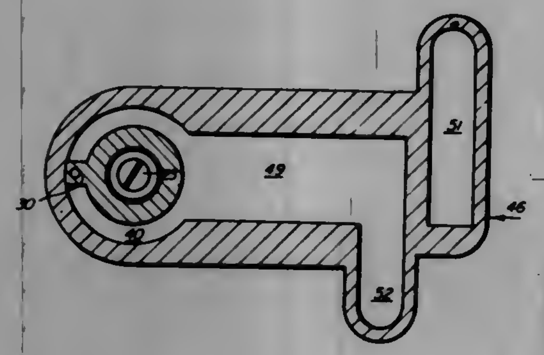
(b) a nose piece of channel shape having the leading edge of said tail piece received in its channel and leaving a passage in the channel between the tail piece and nose piece through which a tow cable may pass and by which the tail piece is pivotally confined to the tow cable,



(c) coupling means passing between the side walls of the nose piece and through the part of said tail piece received in said nose piece for detachably confining said tail piece to said nose piece, and

(d) a closed link confined to one end of the tail piece by said coupling means and extending endwise from the tail piece for loose coupling to an adjacent tail piece.

3,194,205
PROPULSION SYSTEM FOR SMALL BOATS
John R. Mattson, 1491 Ripley Ave., and Roy D. Mattson, 415 Minnesota Ave., both of St. Paul, Minn.
Filed Jan. 31, 1963, Ser. No. 255,262
4 Claims. (Cl. 115—12)



1. A hydraulic propulsion system for small open boats comprising:

(a) a cylindrically shaped mounting column,

(b) means adapted to be secured to the interior bottom portion of a boat at the keel region of the boat and journalling said column for steering rotation on a normally vertical axis with said column extending downwardly through the bottom below the keel of said boat,

(c) a drive shaft axially extending through, and journalled for rotary movement in said column,

(d) an impeller mounted on the bottom end of said shaft,

(e) a housing for said impeller having water intake and exhaust port means and being adapted to convert horizontal rotational movements of said impeller into laterally exerted hydraulic thrust,

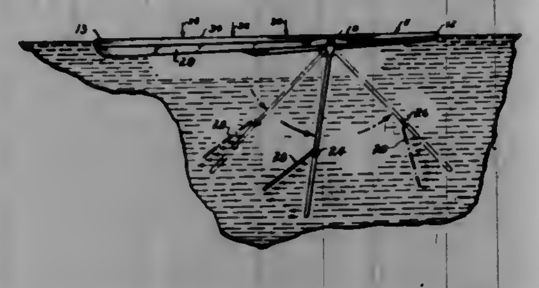
(f) said housing being rigidly secured to the bottom of said column for common rotation therewith,

(g) an internal combustion engine mounted on the top of said column below the high water line on the exterior of said boat,

(h) exhaust passage means communicating with said internal combustion engine and a port defined by said column below the bottom of said boat,

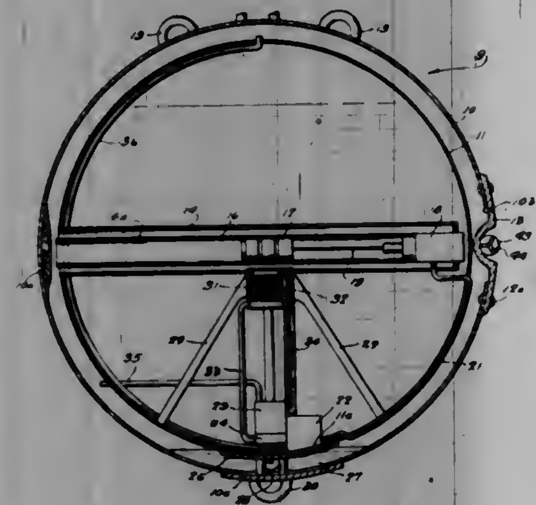
(i) and means positively preventing passage of water through said exhaust passage means to said engine when said engine is in disuse or removed and when said boat is resting in said water under said high water line condition.

3,194,206
AQUATIC DEVICE
Robert B. Anderson, P.O. Box 888, Main Post Office, Miami, Fla.
Filed Dec. 20, 1963, Ser. No. 332,141
9 Claims. (Cl. 115—28)



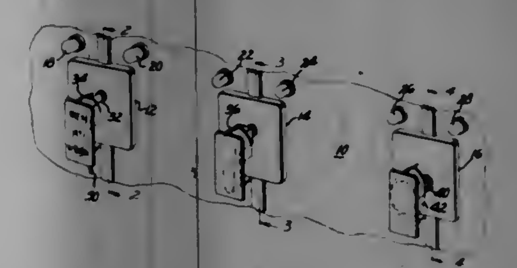
1. In combination with a waterway transportation device of the class having a buoyant weight-bearing member operated upon the fluid displacement principle of Archimedes and a propulsion device operating upon the reaction principle of Newton's second law wherein the device comprises a first transverse bar carried by the member, a frame extending below the main plane of the buoyant member including a first arm fastened adjacent one end of said bar and a second arm fastened adjacent the other end of said bar, said frame being pivotal together with respect to the member for fore and aft movement of the frame, a second transverse bar connected adjacent each end thereof to one of the arms and in spaced relation with respect to the first bar, and a flap member supported by the second transverse bar and freely rotatable with respect to the second bar from a position aligned with the arms to a position at an angle diverging with respect to the arms.

3,194,207
UNDERWATER SOUND SOURCES
Brian B. Dunne, San Diego, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed May 8, 1961, Ser. No. 108,553
6 Claims. (Cl. 116—27)



1. A submersible watertight device for producing intense underwater sound pulses, which comprises an outer watertight vessel, a vibratable diaphragm forming at least a portion of said outer vessel, an inner vessel mounted in concentric spaced relation within said outer vessel, an acceleratable mass mounted within said inner vessel for movement relative thereto, a reactor mounted within said inner vessel, circulating means communicating with said reactor for supplying a water coolant to said reactor during the operation thereof so that said reactor effects the production of a supply of steam, means connected to said reactor for generating pneumatic power from the supply of steam produced by said operating reactor to periodically accelerate said mass into engagement with said diaphragm whereby periodic intense low frequency sound waves are produced, means connected to said pneumatic power generating means for returning said mass to an initial position within said vessel subsequent to each periodic acceleration thereof into engagement with said diaphragm, and means mounted on said outer vessel and driven by a portion of the power derived from the supply of steam for selectively orienting the submersible device during production of said intense low frequency sound waves.

3,194,208
SAFETY ATTACHMENT FOR CONTROL HANDLES
Roy G. Kramer, 1342 Signal Drive, Pomona, Calif.
Filed Sept. 23, 1963, Ser. No. 310,602
4 Claims. (Cl. 116—114)

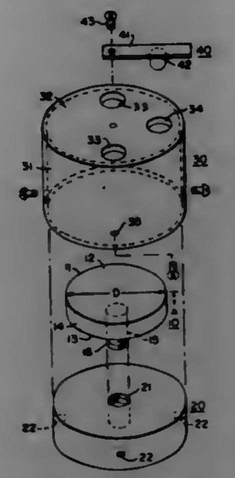


1. A safety attachment adapted for use on control handles of different configurations to warn operators of the status of equipment controlled by the handles, said safety attachment comprising, a face portion covering the main body of the control handle, an upper suspension portion having an upwardly tapering generally curved suspension bracket adapted to engage the upper portion of a control handle, said suspension bracket having laterally and downwardly extending wing portions spaced apart a distance greater than the transverse dimension of a handle, and a transverse retaining flange on the suspension portion to engage a shoulder of the upper portion of the control handle to assist in retaining the safety attachment on the handle, whereby free loose movement of the safety attachment relative to the handle is allowed, whereby upon the grasping of the handle by an operator, the free loose movement of the attachment relative to the control handle provides a warning to the operator that the safety attachment is being grasped and not the control handle alone, thereby giving notice and warning to the operator.

3,194,209
ULTRASONIC GENERATOR
Arthur Nelkin, Pittsburgh, Robert A. Lester, Pitcairn, Robert H. Whittaker, Export, and John H. Thompson, Pittsburgh, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Jan. 31, 1962, Ser. No. 170,157
5 Claims. (Cl. 116—137)

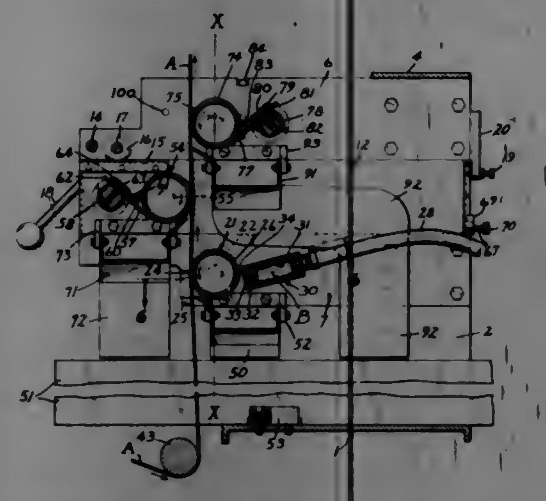
1. A mechanical resonator comprising, a vibrating plate resonant in a flexural mode with a plurality of nodal diameters, said plate having a pair of parallel planar major surfaces with peripheral edge surfaces extending perpendicular to the planes of said major surfaces, a cylindrical pin extending outwardly from one of said major surfaces and being concentric with said peripheral surfaces, said

pin being integral with said plate, and means for applying energy to said plate to actuate said plate into resonant



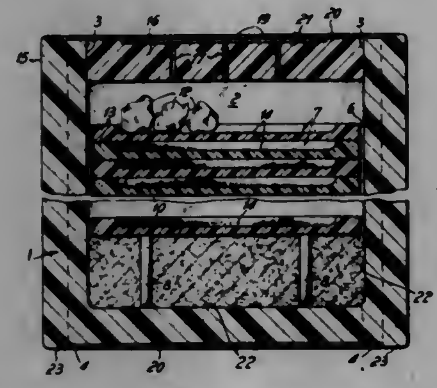
vibration in a flexural mode with a plurality of nodal diameters.

3,194,210
APPARATUS FOR COATING WIRE WITH VISCOUS MATERIAL
Edward H. Harris, Minneapolis, Minn., assignor to Acrometal Products, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Aug. 16, 1961, Ser. No. 131,880
5 Claims. (Cl. 118—104)



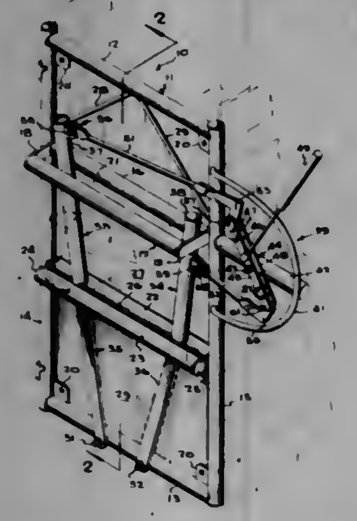
1. In an apparatus for coating wire with liquid material, an applicator roll and first and second wiping rolls journalled on spaced parallel axes and so disposed relative to each other to have substantially tangential engagement with a wire to be coated and traveling in a substantially straight path transversely of said rolls and in a direction from said applicator roll toward said wiping rolls in succession, said applicator roll having circumferential grooving for generally tangential reception of said wire to be coated, means for introducing coating liquid to said grooving remote from the area of engagement thereof with said wire, said first and second wiping rolls being displaced from each other and from said applicator roll in the direction of travel of said wire, said wiping rolls being disposed at opposite sides of the path of travel of said wire whereby to tangentially engage diametrically opposite sides of the wire, means for imparting rotation to said applicator roll and wiping rolls in a direction wherein the wire engaging portions of said rolls rotate in a direction opposite the direction of travel of the wire, a pair of doctor blades each operatively associated with a different one of said wiping rolls, the plane of each of said doctor blades being substantially tangent to its respective wiping roll, each of said doctor blades having an operative side adjacent one edge thereof engaging its respective wiping roll at the line of tangential contact between the plane of the blade and the cylindrical surface of its respective wiping rolls, pivot means mounting said doctor blades for swinging movements toward and away from tangential engagement with their respective wiping rolls, said doctor blades being mounted on said pivot means for adjustment of said edges thereof in the direction of the plane of said blades toward and away from said line of tangential contact.

3,194,211
TRANSPORT AND COOLING CONTAINER FOR LIVING FISH ROE AND/OR FRY
Heinz Stanek, Rosenstrasse 18, Starnberg, Germany
Filed Oct. 8, 1963, Ser. No. 314,808
Claims priority, application Germany, Oct. 9, 1962, S 19,820
7 Claims. (Cl. 119—3)



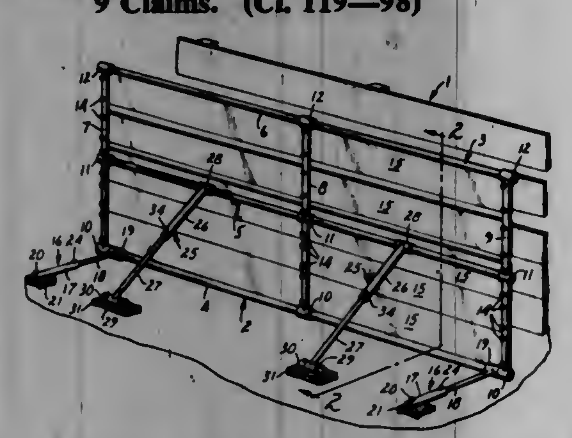
1. A transport and cooling container for living marine life such as fish roe and/or fry comprising
(a) a boxlike container made of heat-insulating material and including side walls, a bottom, and a lid,
(b) a stack of flat frames within said container, said frames having side walls made of heat-insulating material and offering flush outer faces, said outer faces and the inner faces of said container side walls defining, with said frames in stacked condition, an all-around free space, each of said frames being formed for holding fish fry and having a bottom made of heat-insulating material and being spacedly provided with apertures, each of said frames when stacked forming an all-around heat-insulated chamber, and
(c) a support for said stack to hold the lowermost frame of said stack a distance away from said container bottom, said stack being of such a height that there will be a free space between the uppermost frame of said stack and the lid when placed upon the container.

3,194,212
CATTLE GATE
Raymond L. Sauer, Glenburnie Farms, Trevilians, Va.
Filed Feb. 27, 1964, Ser. No. 347,740
3 Claims. (Cl. 119—98)



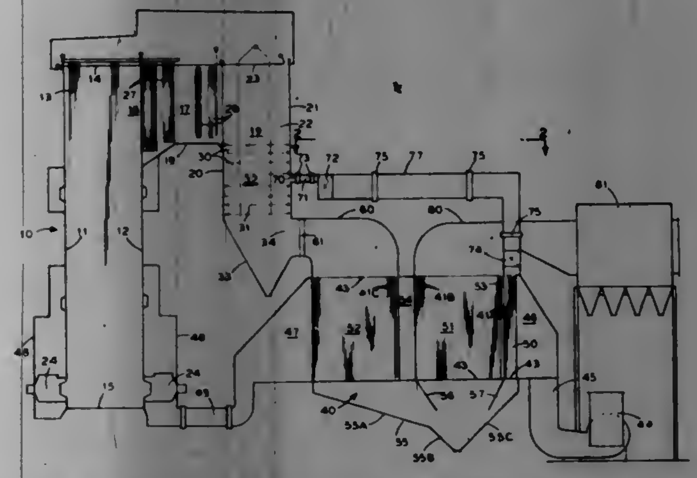
1. A gate for use with an animal chute including an outer framework of an upper horizontal member, a lower horizontal member, a pair of vertically upstanding side members, the improvement comprising an upper guide bar means having a pair of spaced horizontally disposed parallel guide bars affixed between the side members, one of the upper guide bars being spaced from the other upper guide bar in a direction perpendicular to a vertical plane passing through the outer framework, lower guide bar means having a pair of spaced horizontally disposed parallel guide bars affixed between the side members, one of the lower guide bars being spaced from the other lower guide bar in a direction perpendicular to a vertical plane passing through the outer framework, the lower guide bar means being located between the lower horizontal member and the upper guide bar means, the upper and lower guide bar means defining a space therebetween adapted to receive the head of an animal, a pair of co-acting stanchion bars pivotally connected to the lower horizontal member and extending upwardly and lying between the guide bars of each parallel pair of the upper and lower guide bar means, a stanchion adjusting linkage including an arcuately shaped guard rail extending sidewardly of one of the vertically upstanding side members, a cross bar lying in a horizontal plane and extending from the last mentioned side member and terminating at the mid point of the guard rail, a pivot pin extending outwardly from the mid point of the cross bar, a crank arm pivotally connected at its mid point to the pivot pin and having a plurality of apertures along the longitudinal axis thereof, a pair of off-set linkage arms operatively interconnecting the upper portions of the stanchion bars with pre-selected apertures of the crank arm, whereby when the crank arm is moved from the open position to the closed position the linkage arms pivotally move the stanchion bars together to entrap the head of an animal therebetween and when the longitudinal axis of the crank arm passes the horizontal plane of the cross bar the stanchion bars are in a locked position.

3,194,213
ADJUSTABLE LIVESTOCK RUNWAY
Lawrence D. Soukup, Wagner, S. Dak.
Filed May 5, 1964, Ser. No. 365,113
9 Claims. (Cl. 119—98)



8. In an adjustable livestock runway, a movable wall section adapted to be disposed in laterally spaced relation to an opposite cooperating side wall of a chute, said section comprising:
(a) a generally rectangular frame including:
  (1) elongated generally horizontally disposed similar bottom, intermediate and top frame members of circular cross section adapted to extend longitudinally of said chute,
  (2) and a plurality of like elongated generally vertical cross frame members each having parallel transverse tubular portions at its opposite ends for reception of said top and bottom frame members and a transverse central tubular portion parallel to said first mentioned tubular portions for reception of said intermediate frame member,
  (3) said cross frame members being disposed in spaced apart parallel relationship longitudinally of said horizontally disposed frame members,
(b) frame mounting means mounting said frame for swinging movements about the generally horizontal axis of said bottom frame member with said bottom frame member disposed adjacent the ground,
(c) and a pair of adjustable braces for supporting and releasably locking said frame in different positions of said swinging movement thereof, each of said braces comprising:
  (1) a tubular member and a cooperating member telescopically slidably received in said tubular member,
  (2) one of said members having an outer end comprising a transverse tubular portion for rotatably receiving a portion of one of said intermediate and top frame members,
  (3) means for pivotally anchoring the other of said members to the ground laterally outwardly of said bottom frame member and on an axis parallel to the axis of swinging movement of said frame,
  (4) and means for releasably locking said brace members in different adjusted positions of said telescoping engagement.

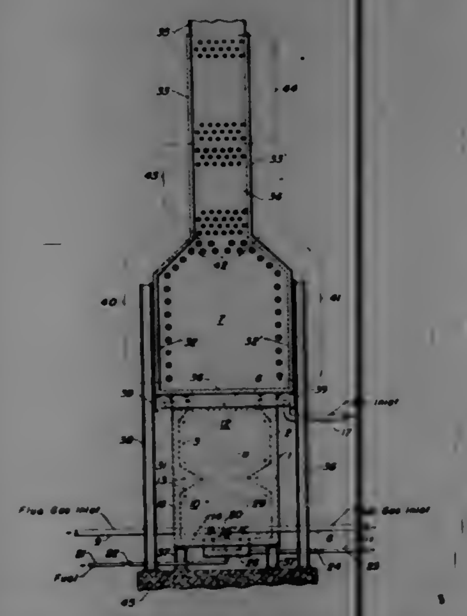
3,194,214
AIR HEATER HAVING BY-PASS TO PREVENT COLD-END CORROSION
Arthur M. Frendberg, Akron, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Mar. 29, 1963, Ser. No. 268,985
3 Claims. (Cl. 122—1)



1. An air heater comprising a plurality of upright gas conducting tubes arranged in horizontally successive rows, each of said tubes being substantially straight and having open upper and lower ends, means forming a passageway containing said tubes and providing an air inlet and an air outlet, means for passing the air to be heated laterally through said passageway and over said tubes in heat transfer contact therewith, said tubes being divided into banks including a first bank adjacent said air inlet, a third bank adjacent said air outlet, and a second bank intermediate said first and third banks, first gas inlet conduit means communicating with the upper ends of the tubes of said third bank, means for directing a first stream of heating gas through said first gas inlet conduit means and into the upper ends of the tubes of said third bank for downward passage therethrough, second gas inlet conduit means communicating with the upper ends of the tubes of said first bank, means for directing a second stream of heating gas through said second gas inlet conduit means and into the upper ends of the tubes of the first bank for downward passage therethrough, means communicating with the lower ends of the tubes of said first and

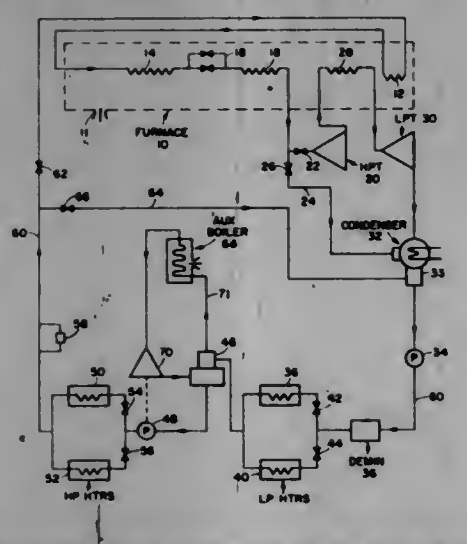
third banks for combining said first and second streams of heating gas and directing them into the lower ends of the tubes of said second bank for upward passage therethrough, and gas outlet conduit means arranged to direct said combined streams of heating gas away from the upper ends of the tubes of the second bank.

3,194,215
CARBON MONOXIDE BURNER APPARATUS
Marion W. Barnes, Glenview, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
Filed Nov. 7, 1962, Ser. No. 236,099
4 Claims. (Cl. 122—235)



4. In combination with a heater chamber for fluids having a lower radiant heating section and an upper convection heating section in vertical alignment, at least one bank of fluid conduits along the wall portions of said radiant heating section, at least one bank of fluid conduits within the upper convection heating section, a flue gas discharge means from the latter section and hot gas inlet passageway means to the bottom of said radiant heating section, the improved heating arrangement having at least one flue gas burner means positioned below and connective with said hot gas inlet passageway means of said heater chamber, with each of said burner means comprising in combination, a vertically positioned cylindrical combustion chamber with refractory lined inner wall portions and having a lower flue gas inlet section, an unobstructed upper gas combustion section with an open upper outlet end connective with said hot gas inlet passageway of said heater chamber, and a restricted diameter gas mixing zone between said flue gas inlet section and said upper combustion section, flue gas inlet port means connecting tangentially with the lower wall portion of said gas inlet section, whereby the inlet stream of gases will swirl centrifugally upwardly through such lower section, axially positioned fuel burner means extending upwardly through the lower end of said gas inlet section suitable for producing a high temperature flame centrally therein, air inlet ports through the lower end of said gas inlet section spaced around said fuel burner means, and an open-ended refractory cylindrical-form checkerwork wall projecting concentrically upwardly in said gas inlet section around said fuel burner means to within a spaced distance of said restricted diameter mixing zone in said combustion chamber, said wall adapted to receive and transmit heat from the fuel burner means and to assist in the heating and mixing of the centrifugally moving flue gas stream with incoming air and with combustion gases from the fuel burner means, a confined shell having peripheral air inlet means through the upper portion thereof spaced around said combustion chamber and forming an annular air passageway in heat exchange relationship with the outer wall of said chamber and additional air passageway from said annular passageway connective with said air inlet ports at the end of said flue gas inlet section.

3,194,216
METHOD AND APPARATUS FOR PREBOILER CLEANUP OF A ONCE-THROUGH STEAM GENERATOR
Hilary A. Grabowski, West Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Mar. 25, 1963, Ser. No. 267,515
4 Claims. (Cl. 122—379)

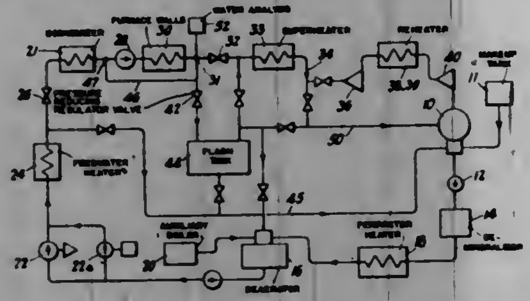


1. In a forced flow once-through steam generator having a fluid circuit, the fluid circuit including a feedwater system through which water flows, said feedwater system including a feedwater line having an inlet and an outlet, feedwater heating means positioned within said feedwater line, a feedwater pump in said feedwater line, means positioned in the feedwater line for removing impurities from the water, a furnace including fuel burning means for creating hot combustion gases, heat exchange means positioned within the furnace for generating steam therein, said heat exchange means having an inlet and an outlet, the outlet of said feedwater line being connected to the heat exchange means inlet, a first shutoff valve positioned in said feedwater line prior to its outlet, a bypass line having an inlet and an outlet, a second shutoff valve positioned in the bypass line, the bypass line inlet being connected to the feedwater line upstream of the first shutoff valve and the bypass line outlet being connected to the feedwater line inlet, whereby when it is desired to clean the fluid circuit the first shutoff valve can be closed and the second shutoff valve opened to permit fluid to be circulated through the feedwater system and said bypass line, and when the water therein reaches a predetermined purity, the first shutoff valve can be opened and the second shutoff valve closed to permit cleaning of the heat exchange means.

3,194,217
BOILER CLEANUP METHOD FOR COMBINED CIRCULATION STEAM GENERATOR
Hilary A. Grabowski, West Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Mar. 25, 1963, Ser. No. 267,588
5 Claims. (Cl. 122—379)

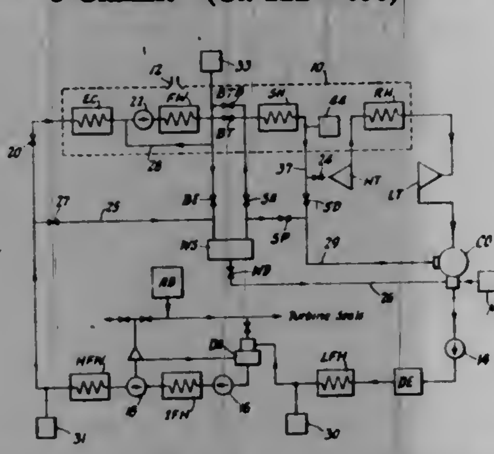
1. The method of removing impurities from the heating surface of a steam generator having a working fluid path including feed pump means, first heating surface located in a relatively high heat absorption zone and second heating surface located in a relatively low heat absorption zone collectively arranged in series in the working fluid flow sense, and recirculating means operatively connected to said fluid path at a first point downstream of said first heating surface, and to a second point upstream thereof but downstream of said feed pump means, and means for supplying heat to said heat absorption zones, comprising the steps of:

(1) passing a predetermined quantity of water through said first heating surface located in said high heat absorption zone at a predetermined velocity while heating said water to a predetermined temperature;



(2) passing a major portion of said water through said recirculating means around said first heating surface in said high heat absorption zone, while maintaining the pressure of said major and recirculated portion substantially constant throughout said recirculating means, thereby stirring up the impurities in said first heating surface and keeping them in suspension;
(3) removing the remaining minor portion of said water with impurities suspended therein from the outlet of said first heating surface;
(4) removing said impurities from said minor portion;
(5) returning said minor portion without said impurities to the inlet of said first heating surface; and
(6) repeating the aforesaid steps until the concentration of impurities in said water has been reduced to a desired value.

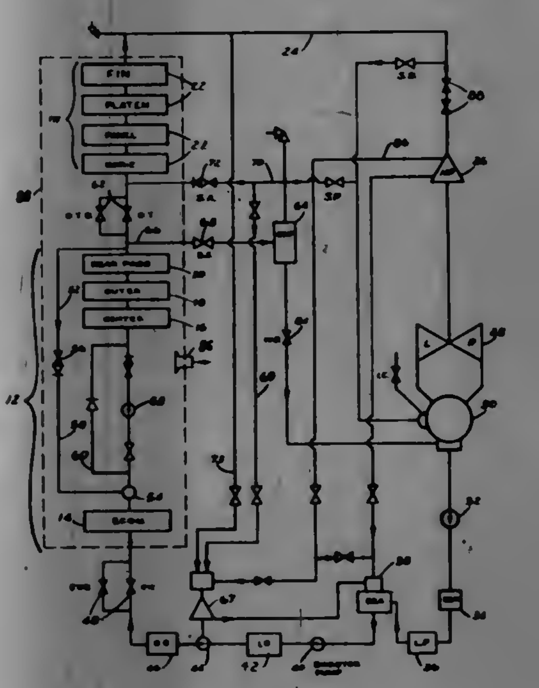
3,194,218
APPARATUS AND METHOD FOR STARTING FORCED FLOW ONCE-THROUGH STEAM GENERATING POWER PLANT
Willburt W. Schroedter, West Hartford, and Edward L. Kochey, Jr., Colebrook, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Mar. 25, 1963, Ser. No. 267,514
3 Claims. (Cl. 122—406)



1. In a method of starting a once-through flow vapor generator including a turbine and having fuel burning means for heating a working fluid, a vapor generating portion comprising fluid carrying tubes, a vapor heating portion. valve means separating said vapor heating portion from said vapor generating portion, means for bypassing said valve means, and throttling means and a separator contained in said bypass means, said separator being located downstream of said throttling means, the steps comprising,

(1) passing a predetermined quantity of working fluid at a given flow rate and relatively high pressure through said fluid carrying tubes to produce a velocity therein sufficient for protecting said tubes against overheating;
(2) taking at said high pressure a major part from said quantity and recirculating said major part around said vapor generating portion by returning said major part from a point directly downstream of said generating portion and upstream of said throttling means and separator to a point upstream of said vapor generating portion, while maintaining said recirculated major part substantially within the pressure and temperature range of said vapor generating portion;
(3) producing from the remaining minor part of said quantity flashed vapor by expanding said minor part through said throttle means to a region of lower pressure;
(4) superheating said flashed vapor by passing it through said vapor heating portion; and
(5) passing said superheated flashed vapor to said turbine for warming up, rolling and synchronizing the same.

3,194,219
VAPOR GENERATING ORGANIZATION AND METHOD
Frederick J. Hanzalek, Suffield, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Mar. 25, 1963, Ser. No. 267,598
9 Claims. (Cl. 122—406)

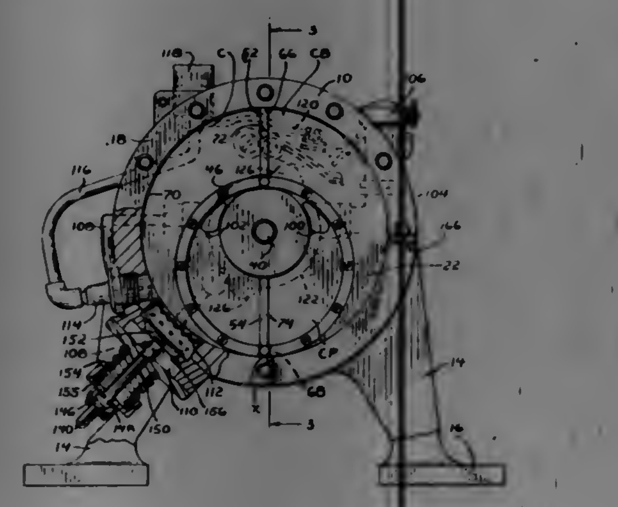


1. A forced once-through flow vapor generator having a through-flow circuit, a recirculating system including pump means superimposed on a predetermined portion of said circuit including the portion having the highest rate of heat absorption during startup and operative to insure adequate flow therethrough for protection of the heat exchange surface, a main feed pump, a turbine drive for said main feed pump, a booster feed pump in series with and upstream of said main feed pump and driven by an electric motor, said booster feed pump being of relatively low head and being insufficient per se to provide sufficient flow through the circuit for protection of the heat exchange surface during startup, a flash tank, means connecting the flash tank with the through-flow circuit and operative to convey fluid from the through-flow circuit to the flash tank and throttle the same so that a portion of it flashes into steam, means for initiating activation of the main feed pump turbine drive for startup consisting of means supplying steam thereto from the

flash tank, whereby startup of the unit may be accomplished by the main feed pump and booster pump, per se, and without a heat source outside the vapor generator.

3,194,220
ROTARY ENGINES

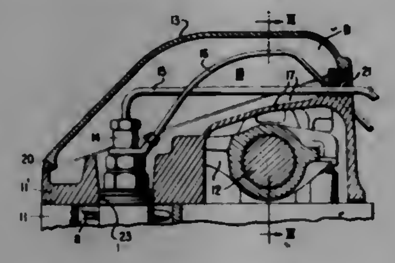
James M. Dowell, 85 High St., Milford, Conn., and Robert F. Roy, West Haven, Conn. (2350 NE. 17th St., Pompano Beach, Fla.)
Filed Aug. 21, 1961, Ser. No. 132,753
12 Claims. (Cl. 123—16)



1. A rotary internal combustion engine comprising: a housing including wall means defining an internal cylindrical compartment having a cylindrical side wall and spaced flat parallel end walls; a cylindrical hub positioned within said compartment and extending coaxially therethrough, said hub consisting of a pair of rotatable cylindrical support rings; a cylindrical ring means and of greater diameter than said hub, said ring means encircling said hub and mounted in said compartment for rotation relative to said housing about a fixed axis therethrough, said fixed axis coinciding with the axis of said ring means and being parallel to and eccentrically disposed relative to said compartment axis, said ring means having line sealing and bearing engagement with said housing at said side wall along the line of intersection of a plane through both said axes with said side wall, and said ring means having line sealing and bearing engagement with said hub along the line of intersection of said plane with said hub, said ring means and said housing thereby cooperating to define a first compression chamber within said ring means and between the end walls of said compartment and the cylindrical surface of said hub and a second combustion chamber between said ring means and said side wall and the end walls of said compartment; an elongated power take-off shaft extending through said housing within said ring means; bearing means in said housing supporting said shaft for rotation; a pair of separate flat axially and radially extending driving vanes one vane attached to each of said support rings, said vanes and support rings disposed for rotation about said compartment axis, said driving vanes being disposed about said shaft in operative driving relationship thereto, said driving vanes extending from said hub through a pair of diametrally opposed spaced axially extending slots formed in said ring means and having their radially outer edges in a close sliding clearance fit with said housing at said side wall, said driving vanes having axially spaced parallel radially extending side edges in a close sliding clearance fit with the portions of said housing which define the end walls of said compartment, all of said shaft, said driving vanes and said ring means being jointly rotatable relative to said housing; inlet and outlet ports for said compression chamber in one of said compartment end walls, said ports being disposed on opposite sides of and closely adjacent to, the sealing engagement between said ring means and said hub, the inlet port being displaced from said sealing engagement in the direction of said ring means rotation; inlet and outlet means for said combustion chamber disposed in the cylindrical side wall of said compartment, said inlet and outlet means being disposed on opposite sides of, and adjacent to, the sealing engagement between said ring means and said housing, said outlet means comprising a plurality of slots through said compartment side wall and extending from a point closely adjacent said sealing engagement a substantial angular extent in a direction opposite the direction of said ring means rotation, said inlet means comprising inlet chamber means in said cylindrical side wall and extending radially outward from the inner surface of said side wall, a fire screen dividing said inlet chamber means from said combustion chamber; a port in the radially outer portion of said inlet chamber means, and fuel control valve means separating said fire screen from said port; conduit means interconnecting said inlet chamber means port and said compression chamber outlet port; means for supplying a gaseous or liquid fuel to the inlet port for said compression chamber; ignition means adjacent said inlet chamber means and arranged to periodically ignite fuel in said combustion chamber; means for timing and controlling the operation of said valve means and said ignition means in response to rotation of said shaft so as to periodically permit flow through said conduit means and said inlet chamber means and into said combustion chamber means and ignite it shortly thereafter.

3,194,221
CYLINDER HEAD CONSTRUCTION

Hans Dinger, Stuttgart, and Ulrich Conrad, Ludwigsburg-Ossweil, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Apr. 22, 1963, Ser. No. 274,617
Claims priority, application Germany, Apr. 25, 1962, D 38,756
15 Claims. (Cl. 123—32)



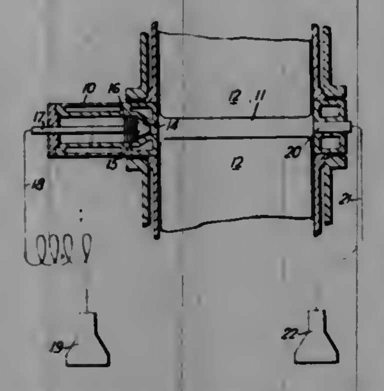
1. An arrangement of the cylinder head structure and of the hood member covering the cylinder head structure in the upward direction thereof, particularly for injection-type internal combustion engines having an injection nozzle body, and in which there are provided, within the space below the hood member for the cylinder head, valve actuating members arranged on the cylinder head and through which space extend fuel line means which lead to the injection nozzle body secured in the cylinder head, comprising:

means for sub-dividing said space into two space portions, each of said space portions including wall parts of said cylinder head and of said hood member to effectively provide a first space portion into which extends the upper part of the injection nozzle body and through which extend the fuel line means, and to provide a second space portion separated from said first-mentioned space portion for accommodating therein said valve actuating members,

and seal means for sealing said first and second space portions with respect to each other.

3,194,222
MECHANISM FOR CONTROLLING THE RATE OF RISE OF PRESSURE AND THE MAXIMUM PRESSURES IN HIGHLY-RATED INTERNAL COMBUSTION ENGINES

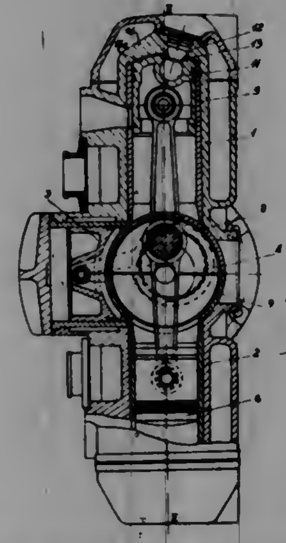
Thomas Walter Falconer Brown, Dumbreck, Wylam, Northumberland, England, assignor to The British Ship Research Association, London, England
Filed May 18, 1964, Ser. No. 368,258
Claims priority, application Great Britain, May 22, 1963, 20,407
5 Claims. (Cl. 123—33)



1. In a mechanism for controlling the rate of rise of pressure and the maximum pressure in a highly-rated internal combustion engine of the reciprocative type having a cylinder including a main combustion chamber and a main fuel valve for controlling the admission of fuel into said combustion chamber, the improvement comprising an auxiliary combustion chamber, an orifice connecting said auxiliary combustion chamber with said main combustion chamber, auxiliary fuel valve means reciprocable in said auxiliary combustion chamber for controlling the volume thereof and for supplying fuel thereto, and means for opening said auxiliary fuel valve means a predetermined time before opening of said main fuel valve.

3,194,223
TWO CYCLE ENGINE

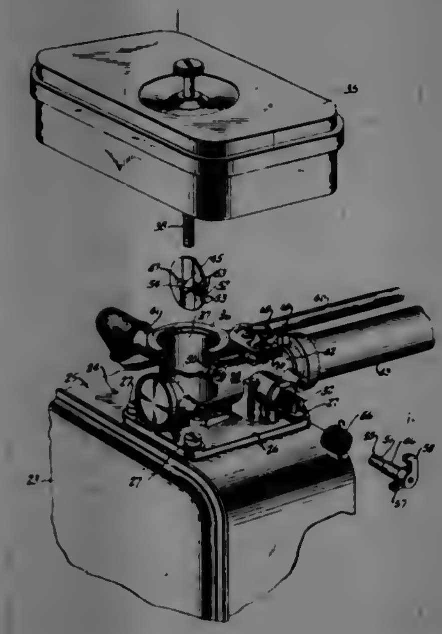
Albrecht W. Mantzel, Oftersheim, Germany, assignor to Inpaco Trust, Vaduz, Liechtenstein
Filed Feb. 21, 1963, Ser. No. 260,271
1 Claim. (Cl. 123—56)



In a two-cycle engine, in combination, a pair of cylinders having each a cylinder head formed with an inner end face; a piston slidable in each cylinder toward and away from said inner end face of the cylinder head of the respective cylinder and each being formed with a spherical combustion chamber and an opening opposite said inner end face of said cylinder head and providing communication between said combustion chamber and the interior of the respective cylinder, said opening in said piston tapering toward said combustion chamber; and a socket member in said cylinder head for receiving an ignition device, said socket member having a mouthpiece tapering towards its free end and projecting beyond said inner end face of said cylinder head into said opening in said piston when the latter is adjacent said cylinder head so as to define between the outer surface of said tapered mouthpiece and said tapered opening a ring-shaped gap the width of which varies in dependence on the position of said piston in the respective cylinder.

3,194,224
AIR COOLED INTERNAL COMBUSTION ENGINE

Leo J. Lechtenberg, Elm Grove, Robert K. Catterson, Brookfield, and Joseph V. Reichenbach, Milwaukee, Wis., assignors to Briggs & Stratton Corporation, Milwaukee, Wis., a corporation of Delaware
Original application June 27, 1962, Ser. No. 205,658, now Patent No. 3,118,433, dated Jan. 21, 1964. Divided and this application Oct. 3, 1963, Ser. No. 313,546
5 Claims. (Cl. 123—119)

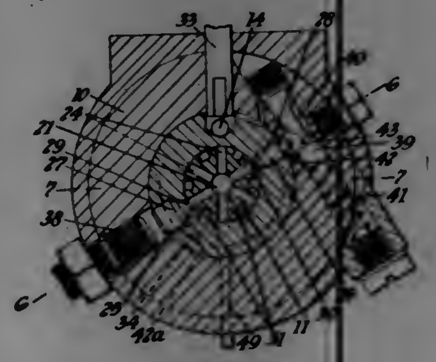


5. In a control for an internal combustion engine having an ignition system and a carburetor having a tubular body defining a mixture passage with an air inlet port, a throttle valve in the mixture passage and a choke valve to control the admission of air into the mixture passage from the air inlet port, the improvement which comprises:

- (A) a shaft journalled in a bore in one side of the carburetor body having its inner end connected to the choke valve to mount and adjust the same as the shaft is turned,
  - (1) the outer end portion of the shaft having an arm projecting radially therefrom to provide means by which the shaft may be turned;
- (B) a spring reacting between the shaft and the carburetor body biasing the same in one direction of rotation to thereby yieldingly urge the choke valve toward its open position;
- (C) a mounting plate fixed to the carburetor body at the side thereof at which said shaft is located and with the plane of the mounting plate substantially parallel to the axis of the shaft;
- (D) a control lever pivoted to said plate to swing about a fixed axis perpendicular to the plate;
- (E) an abutment on the control lever to collide with said arm which projects from the shaft, and thereby turn the shaft in opposition to the spring bias thereon as the lever is swung about its pivotal mounting in one direction beyond a predetermined position;
- (F) means providing a connection between the control lever and the throttle valve through which adjustment of the lever effects adjustment of the throttle valve; and

(G) an ignition grounding switch carried by the mounting plate with a portion thereof projecting through a hole in the plate into the path of a portion of the control lever to be engaged thereby and thereby effect grounding of the ignition system upon movement of the control lever to a predetermined position at which the choke valve is open and the throttle valve closed.

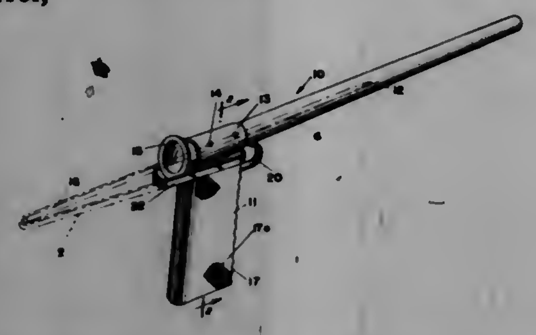
3,194,225
LIQUID FUEL INJECTION PUMPS FOR INTERNAL COMBUSTION ENGINES
Kenneth Albert Walters Kemp, Ealing, Middlesex, England, assignor to C.A.V. Limited, London, England
Filed May 19, 1964, Ser. No. 368,593
Claims priority, application Great Britain, May 24, 1963, 20,770/63
4 Claims. (Cl. 123—139)



1. Liquid fuel pumping apparatus for supplying fuel to an internal combustion engine and comprising, an injection pump arranged to be driven in timed relationship with the engine, said injection pump being arranged during a pumping stroke to deliver fuel to the engine, a feed pump for providing fuel under pressure, valve means for controlling the output pressure of said feed pump in a manner which varies as the speed of the engine, an axially movable shuttle contained within a cylinder, a distributor member arranged to be driven in synchronism with the injection pump, passages in the distributor for directing fuel from said feed pump to opposite ends of said cylinder in turn, thereby causing said shuttle to be moved axially therein, further passages in the distributor arranged so that fuel displaced from one end of said cylinder will pass to the injection pump during a filling stroke thereof, an axially movable stop for limiting the movement of said shuttle away from said one end of the cylinder, the face of said stop against which the shuttle bears being inclined so that as the stop is moved axially the amount by which the shuttle can move away from said one end of the cylinder will be varied, a conduit through which one end of the stop is exposed to the output pressure of the feed pump whereby the axial position of the stop will be dependent upon the output pressure of said feed pump and resilient means for opposing the movement of said stop by the pressure of fuel, whereby as the pressure of fuel delivered by said feed pump varies so the permitted excursion of the shuttle will be varied to vary the amount of fuel which can be delivered to the engine.

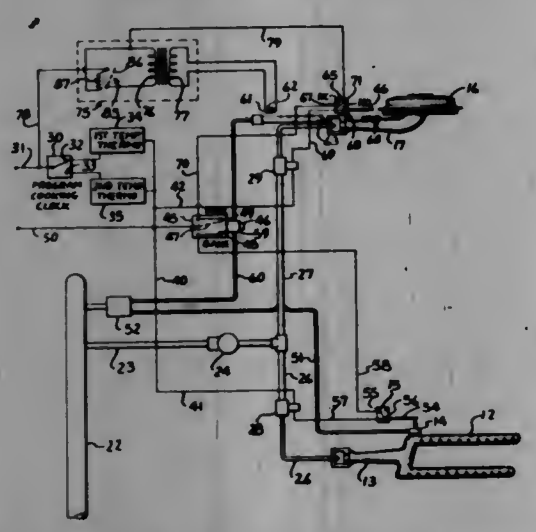
3,194,226
ARROW GUN
Chester D. Hoff, 616 4th Ave. W., Seattle 99, Wash.
Filed Aug. 17, 1962, Ser. No. 217,684
3 Claims. (Cl. 124—22)

1. An arrow gun comprising
a handgrip,
a long barrel open at both ends and secured completely above and along the top of said handgrip,
a single open hook with a longitudinally forwardly extending horizontal shank secured to the forward top portion of the handgrip, and having a monolithic substantially 180° upwardly rebent curved portion directed towards the rear,
the top horizontal end of the curved portion presenting a small vertical clearance with the underside of the barrel,



and an endless elastic band loosely and completely surrounding the top of the handgrip and having its forward portion within the space bounded by the handgrip, the barrel, and the curved portion of the hook,
the rearward band portion, when surrounding the handgrip, adapted to be engaged by the butt end of an arrow having its front end within said barrel,
whereby extension and release of said band propels the arrow through the barrel.

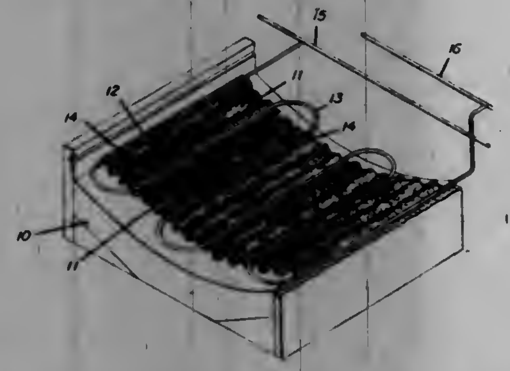
3,194,227
CONTROL SYSTEM FOR OVENS
Herbert Stanley Beach and Robert L. Morris, Kankakee, Ill., assignors, by mesne assignments, to Geo. D. Roper Corporation, Kankakee, Ill., a corporation of Delaware
Filed Sept. 5, 1962, Ser. No. 221,569
7 Claims. (Cl. 126—39)



1. In a single cavity gas oven, the combination comprising, a gas manifold, an oven burner located at the bottom of the cavity and a broiler burner located at the top of the cavity, means including first and second solenoid valves for regulating the supply of gas from the manifold to the respective burners, a pilot supply line coupled to said manifold, a broiler pilot communicating with said supply line, said broiler pilot located adjacent said broiler burner and having an electrical igniting means therefor, first circuit means for said igniting means, selector means having a plurality of operative positions for independently energizing said solenoid valves, other circuit means coupling the selector means in separate series circuits with the respective solenoid valves, said selector means being so constructed and arranged that when it is in one position the first solenoid valve for said oven burner is activated and so that when it is in another position said

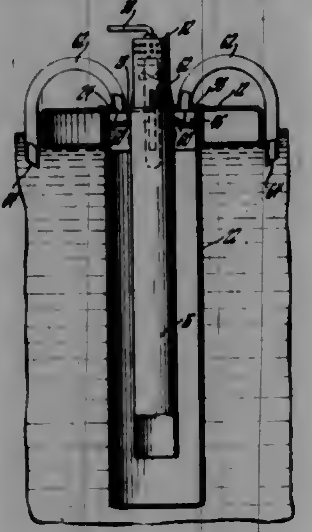
circuit means for said igniting means is activated, a pilot gas valve interposed in said pilot supply line between the manifold and the broiler pilot and coupled to the selector means for operation therewith so that the flow of gas to said broiler pilot is precluded when said selector is in said one position and so that the flow of gas to said broiler pilot is permitted when said selector is in said other position.

3,194,228
SOLAR HEATER
Miguel Amat Bargues, Paseo de Gracia 77, Barcelona, Spain
Filed Feb. 24, 1964, Ser. No. 346,968
Claims priority, application Spain, Feb. 13, 1959, 247,631
10 Claims. (Cl. 126—271)



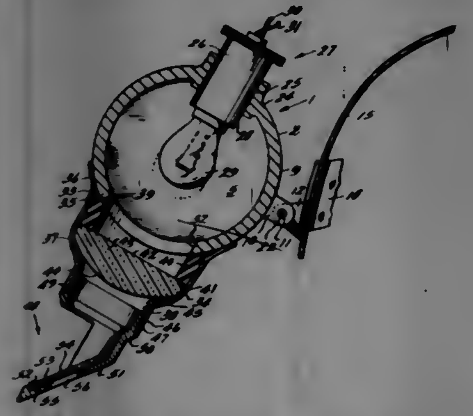
1. A solar heater comprising a housing of insulating material, a corrugated cardboard sheet in said housing forming a heat absorbent support member, a layer of amorphous carbon on the upper surface of said sheet, a bundle of tubes of blackened plastic material with parallel straight portions supported by said sheet, said straight portions lying in the bottom of correspondingly spaced channels in said corrugated cardboard, and means for passing a heat exchange fluid through said tubes.

3,194,229
PORTABLE SUBMERSIBLE SWIMMING POOL HEATER
Donald R. Borgeson, 18301 Riverside Drive, Birmingham, Mich.
Filed June 29, 1962, Ser. No. 206,363
1 Claim. (Cl. 126—360)



A portable submersible heater for swimming pools comprising a buoyant member floatable on the surface of the water in a pool, a first axially extending cylindrical flue member open at its axially opposite ends, one open end of said first flue member being supported on said buoyant member and the other open end thereof adapted to extend below the surface of the water when said buoyant member is disposed in the water, a second axially extending cylindrical flue member having an open end and a closed end axially opposite thereto, said second flue member being spaced from and surrounding said first flue member with said open end thereof supported on said buoyant member and said closed end thereof axially opposite from said other open end of said first flue member, burner means including blower means supported on said buoyant member above the surface of the water and communicating with said one open end of said first flue member to blow hot gases through said first flue member and between the latter and said second flue member to said open end of the latter, and a plurality of spaced exhaust stacks supported on said buoyant member and respectively communicating with said open end of said second flue member, each of said stacks including an exhaust opening extending below the surface of the water with said buoyant member disposed therein.

3,194,230
MEDICAL EXAMINATION LAMP PROVIDED WITH VARIABLE FOCUSING MEANS
Henry A. Springer, 869 Ludlow Ave., Cincinnati, Ohio
Filed Mar. 18, 1963, Ser. No. 265,821
3 Claims. (Cl. 128—23)

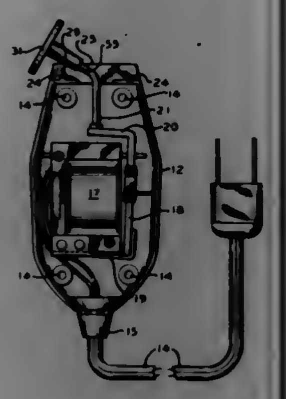


1. In a device of the class described, and comprising a cylindrical tubular casing having front and rear sides, an electric light bulb in said casing, said casing having a circular opening in its rear side and having a hole in its front slide, a holder mounted in said circular opening to close said opening and receiving said bulb inside said casing, a hollow boss having sides and having an open rear end fixed to the outside of said casing and surrounding said hole, the sides of said boss converging inwardly of said boss and outwardly of said casing to form an outlet having walls, a plano-convex lens in said boss, a gasket inside said boss and being between said boss and said casing and between said casing and said lens to close said hole to prevent air escaping from inside said casing, light rays received from said bulb being adapted to pass through said hole, open rear end, lens and outlet, a tube integrally connected with an end of said boss and having sides aligned with the walls of said outlet, said tube adapted to receive a medical accessory, the body of said bulb being spaced from said sidewalls of said casing a distance greater than the distance through said body and transversely thereof.

3,194,231
MASSAGE APPARATUS
Anthony Caracciolo, 108 Finley Ave., Trenton, N.J.
Filed Feb. 13, 1963, Ser. No. 258,336
1 Claim. (Cl. 128—41)

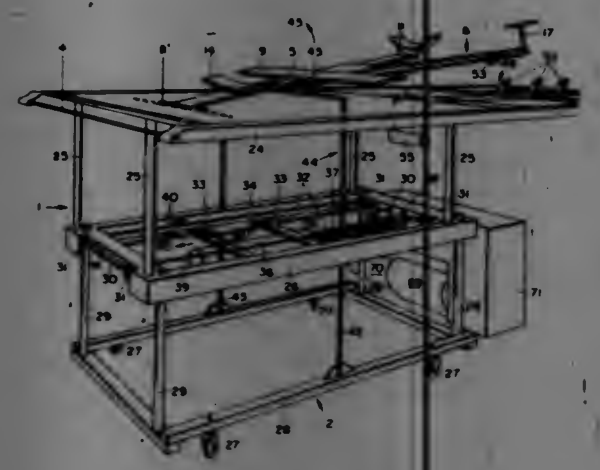
A massage apparatus comprising:
(a) a generally ovoid hollow housing with an aperture at one end, said housing being formed from a pair of complementary shells jointed together;
(b) an electromagnet mounted in the housing;
(c) a magnetically deflectable armature mounted in the housing in cooperative relation with the magnet;
(d) an apertured cap attached to the housing in the aperture, the cap in the housing being provided with

cooperating portions for holding the cap to the housing, and the aperture in the cap being a transverse slot therein dimensioned to pass a stem;
(e) a stem attached to the armature;
(f) an offset, axially movable portion on the end of the stem extending through the apertured cap, the



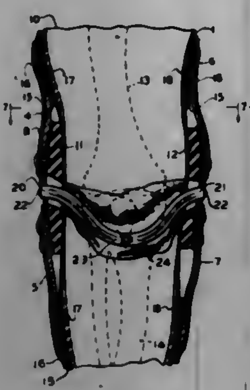
offset portion being oriented at approximately 45° to the portion attached to the armature, the aperture in the cap extending generally parallel to the offset portion of the stem;
(g) a disc;
(h) a socket enlargement on the disc attached to the end of the offset portion of the stem.

3,194,232
SPINAL EXTENSION TABLE
Oskar Rickenbach, Zollikon, near Zurich, Switzerland
Filed July 5, 1961, Ser. No. 121,969
Claims priority, application Switzerland, July 6, 1960, 7,688/60
9 Claims. (Cl. 128—71)



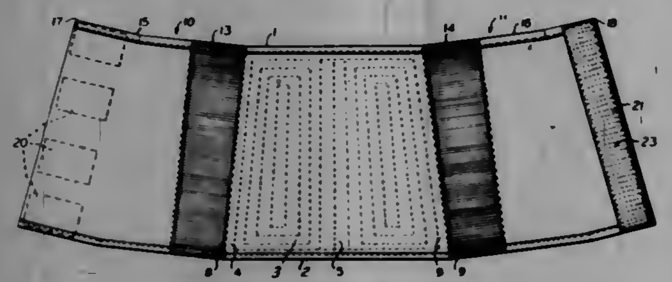
1. A table for extending a patient's spine, comprising a lower base structure, uprights on said base structure, an upper structure slidably mounted on the uprights on said base structure and mounted thereon for vertical sliding movement, traction mechanism on said upper structure, a shaft on one end of said upper structure, a frame extending along said upper structure having one end connected to said shaft and forming a trunk tilter frame pivoted to said shaft, and a support member of inverted U-shaped construction with the limbs thereof attached to the lower structure, the transverse member of said structure connecting the limbs at the top being in engagement with the trunk tilter frame and disposed at the level of said upper structure below said trunk tilter frame when the table is in its working position, traction mechanism on said upper structure, and adjusting mechanism for moving said upper structure on said uprights.

3,194,233
CORRECTIVE AND PROTECTIVE KNEE BRACE
Arthur C. Peckham, 304 Trust Company Bldg., Watertown, N.Y.
Filed Oct. 25, 1961, Ser. No. 147,633
11 Claims. (Cl. 128—80)



11. A corrective and protective knee brace for exerting pressure on opposite sides of the wearer's knee joint, comprising: a pair of oppositely disposed pressure pads adapted to engage the opposite sides of the joint; flexible means comprising a pair of straps the ends of which are secured to said pads, said straps, when the brace is worn, extending around in front of the wearer's knee with one strap above the knee and the other below the knee; pressure means including a pair of curved rigid members each of which is secured at one end to one of said pads, said members being adapted to extend around in back of the wearer's knee in spaced relation thereto when the brace is worn; and means connected to the free ends of said members for releasably securing said ends together for exerting pressure on said pads.

3,194,234
POSTOPERATIVE BINDER
Simon Duckman, 307 Beach 146th St., Neponsit, and John A. Lilla, 23—35 29th Ave., Astoria, N.Y.
Filed Dec. 18, 1963, Ser. No. 331,559
7 Claims. (Cl. 128—95)

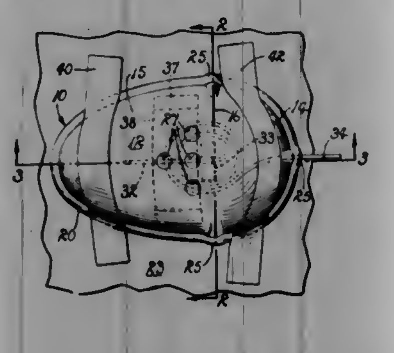


1. A postoperative binder comprising:
(a) a central fabric panel having reinforcement members interposed thereon,
(b) a pair of fabric end panels, spaced apart from said central panel,
(c) a pair of elastic panels each interposed between the central panel and end panels and secured thereto along their respective edges, and
(d) contact bonding means on opposing surfaces of said end panels at the outer extremities thereof remote from said central panel and disposed to fasten the said end panels upon contact to form a postoperative binder.

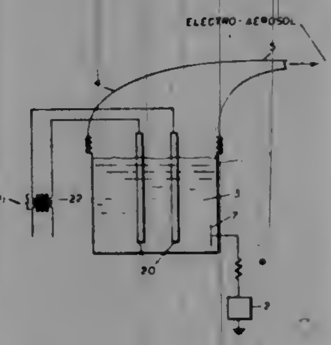
3,194,235
SHIELDING DEVICE FOR INTRAVENOUS FEEDING APPARATUS
Edith A. Cooke, 3636 Lamona St., Fresno, Calif.
Filed Sept. 9, 1963, Ser. No. 307,513
4 Claims. (Cl. 128—132)

1. A shielding device for protecting an infusion needle disposed through a body portion and into a vein of a

patient during intravenous feeding from an infusion tubing connected to such a needle, which comprises a hollow cup of unitary construction having a wall of substantially stiff material, said cup comprising a frustoconical body segment and an integral frustoconical head segment which are oppositely tapered from a common integral base line, said head segment having a more abrupt taper than the taper of said body segment, said body segment having a plurality of apertures therein for ventilation and said wall providing a continuous lower edge defined by the bases of said body segment and said head segment, an integral flange extended from said lower edge defining a substantially planar base for the wall to rest against the body portion of the patient with the wall in spaced covering relation to said needle when said needle is disposed through the body portion and into the vein of the patient, said flange being provided with a plurality of indentations being adapted to receive the infusion tubing therethrough and to hold the tubing in freely axially sliding relation and said indentations being spaced around the base of the cup so that at least one indentation is located in the base of the head segment and at least one indentation is located along the common integral base line of the two segments, and connecting means mounted on said wall to hold the cup on the body portion of the patient.

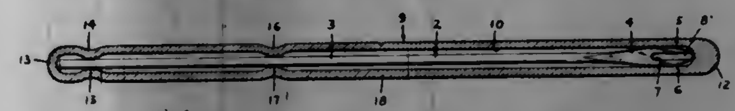


3,194,236
PORTABLE ELECTRO-AEROSOL GENERATOR
Alfred P. Wehner, Dallas, Tex.
(1109 Janwood Circle, Plano, Tex.)
Filed Dec. 26, 1961, Ser. No. 162,077
5 Claims. (Cl. 128—172.1)



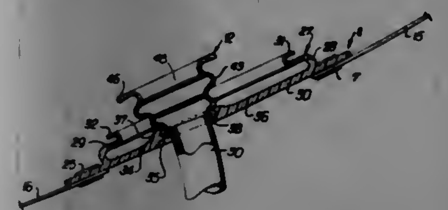
1. An electro-aerosol generator comprising:
(a) an insulated container having a liquid cavity,
(b) a liquid in the cavity of said container capable of receiving a unipolar charge,
(c) a grounded D.C. source of high electrical potential,
(d) means connecting said source with the liquid in said container,
(e) means for supplying sufficient heat to the liquid in said container to vaporize said liquid by boiling, and
(f) directional means for said container adapted to direct charged vapor particles therefrom.

3,194,237
PRONGED VACCINATING AND TESTING NEEDLE
Benjamin A. Rubin, Bala Cynwyd, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 5, 1962, Ser. No. 228,619
6 Claims. (Cl. 128—253)



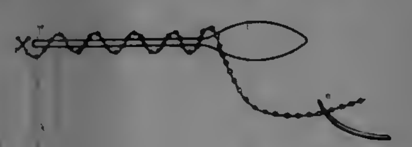
1. A vaccinating and testing needle package comprising:
(1) a steel needle comprising an elongate main shank having at one extremity thereof a pair of prongs defining therebetween a slot of predetermined length, width and depth; said prongs retaining in the slot, a charge of dried material; and
(2) an elongate glass capsule completely and hermetically enclosing said needle and being clampingly attached to said main shank thereof in a first region remote from said one extremity by means of a plurality of constrictions; said capsule having a frangible second region located between said first region and said extremity.

3,194,238
URINARY DEVICE
Lee K. Breece, Jr., San Pedro, Calif., assignor, by mesne assignments, to Resiflex Laboratory, Los Angeles, Calif., a corporation of California
Filed Mar. 1, 1963, Ser. No. 262,084
2 Claims. (Cl. 128—295)



1. A urinary device for a female comprising: a normally upstanding resilient open ended tubular member having an inner end portion laterally and longitudinally resiliently deformable and an outer end portion, said inner end portion having an outwardly directed peripheral lip adapted to be internally received between labia minora for sealingly engaging surfaces surrounding a urethral orifice; and support means connected to the outer end portion of the tubular member and having an ovate flange for engaging external surfaces of the labria majora to retain said tubular member in position with respect to the urethral orifice.

3,194,239
SUTURE PROVIDED WITH RADIOPAQUE FREE METAL
Cornelius J. P. Sullivan, 19 Fanshaw Ave., Yonkers, N.Y.
Filed Jan. 16, 1963, Ser. No. 251,863
6 Claims. (Cl. 128—335.5)

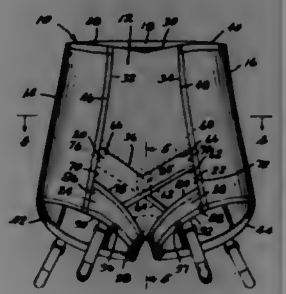


1. A suture material useful in determining the condition of internal scars comprising an absorbable suture component and a non-absorbable radiopaque free metal selected from the group consisting of silver, bismuth, tantalum, and stainless steel intimately associated therewith, whereby said radiopaque free metal will remain in the

body after said absorbable suture component has been absorbed thereby permitting the condition of an internal scar to be determined by X-ray photography.

3,194,240
PANTIE GIRDLE

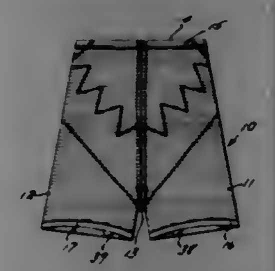
Edgar G. Mayer, Jackson Heights, and Malvin J. Kurtis, Great Neck, N.Y., assignors to Malvin J. Kurtis, Inc., Great Neck, N.Y., a corporation of New York
Filed Oct. 18, 1963, Ser. No. 317,272
2 Claims. (Cl. 128—527)



2. In a pantie girdle construction, a front panel element, a pair of side panel elements connected to said front panel element along front side edges thereof, first and second diagonal tensioning elements in mutually crossed relation, each of said first and second tensioning elements having a top edge, a pair of substantially vertical edges, a bottom interconnecting edge, and a bottom free edge; first and second elongated inner thigh-portion-encircling elements, having front ends connected to the lower portions of the front edges of the side panel elements, said first and second diagonal tensioning elements each having its top edge connected to a lower edge of said front panel element, its substantially vertical edges connected to forward edges of said side panel elements, and its bottom interconnecting edge joined to one of said thigh-portion-encircling elements.

3,194,241
MATERNITY PANTY GIRDLE

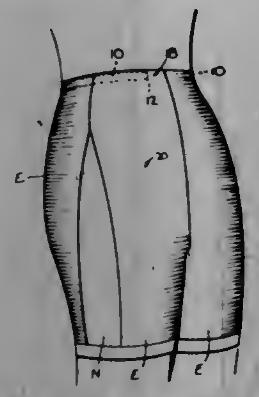
Lester H. Leoffel, West Haven, Conn., assignor to The Berger Brothers Company, New Haven, Conn.
Filed Oct. 25, 1963, Ser. No. 318,874
3 Claims. (Cl. 128—528)



1. In a maternity panty girdle, first and second main panel elements of elastic material interconnected along a medial line, and forming a continuous upper edge, and a pair of lower continuous edges defining leg openings; first and second elongated reinforcing members having a principal axis angularly disposed with respect to said medial line, secured to a forward portion of said first and second main panel elements, respectively, each of said reinforcing members being of elastic material having a principal axis of elongation parallel to said first-mentioned principal axis, each of said reinforcing members including a serrated upper inclined edge, said serrated upper inclined edge having high and low points, the locus of which define a curve on said main panel elements corresponding to the outline of the lower abdomen of a wearer.

3,194,242
ANTI-ROLL STAY FOR WAISTBANDS OF GIRDLES AND LIKE ARTICLES OF APPAREL

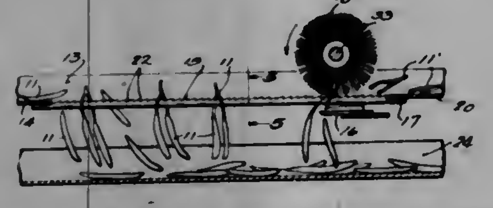
Americo Marchisella, % Rago Foundations, Inc., 18—15 27th Ave., Long Island City, N.Y.
Filed Oct. 11, 1963, Ser. No. 315,498
9 Claims. (Cl. 128—533)



1. In combination with a garment having a constrictive upper margin at the waist, a horizontal circumferential flexible tunnel secured to the garment adjacent its upper margin, a flat continuous solid normally flat thin flexible resilient stay of substantially rectangular transverse cross-section and formed from sheet material, said stay being located in said tunnel and having its length elongated circumferentially of the upper margin of the garment, said length being substantially greater than the height of the stay and said height being substantially greater than the thickness of the stay, said stay having its length extending a substantial distance on either side of the flank toward but terminating short of the front and rear centers of the garment, and means anchoring the stay within the tunnel and in a position spanning the flank area of the garment so that when the garment is donned the stay assumes a substantial curvature around the flank whereby to inhibit the margin from rolling.

3,194,243
SEPARATOR AND CLUSTER BREAKER

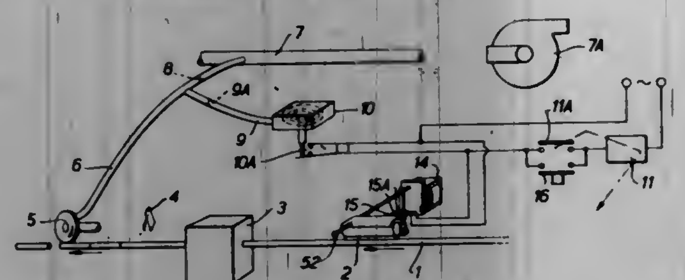
James D. Cota, 324 Orchard St., Gillett, Wis.
Filed July 17, 1963, Ser. No. 295,718
7 Claims. (Cl. 130—30)



1. Apparatus for breaking clusters of products joined by furcated stems to separate the same, comprising, a conveyor for receiving the clusters to be separated and for advancing the same past a severing zone, said conveyor having a perforate section within which the advancing clustered products are suspended through openings by their furcated stems, said perforate section being bounded on its terminal end by an imperforate discharge section, a cutter immediately below said perforate section adjacent the terminal end thereof for severing the depending stem portions of the successive advancing products, a revolvable product stem engaging brush immediately above said perforate section and substantially in the same vertical plane as said cutter and means for revolving said brush in the direction of advancement and at a greater peripheral speed than the speed at which the products are advanced by said conveyor through the cutting zone whereby said brush peripherally coacts with the furcated stems of the successive products to positively advance the same to said cutter and also project the same away from the cutting zone and beyond said terminal end of said perforate conveyor section.

3,194,244
CIGARETTE-MAKING MACHINES

Gordon Francis Wellington Powell, London, England, assignor to Molins Machine Company Limited, London, England, a British company
Filed Dec. 14, 1961, Ser. No. 159,247
Claims priority, application Great Britain, Dec. 22, 1960, 44,070/60
3 Claims. (Cl. 131—21)

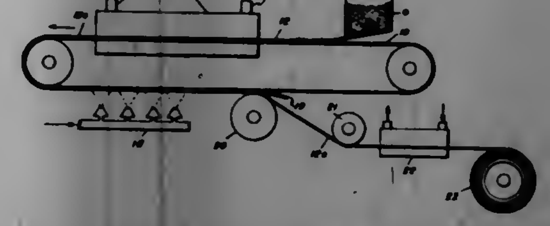


1. In a continuous-rod cigarette-making machine driven by an electric motor to move the rod along a path and having a rod heater movable into and out of contact with the moving rod, a cut-off arranged to cut the moving rod into separate cigarettes, and a suction wheel arranged to engage cigarettes emerging from the cut-off of the machine to impart a modified further movement to them, the improvement constituting means for moving the rod heater away from the cigarette rod should cigarettes fail to emerge from the cut-off and engage the suction wheel because of malfunction of the machine and during shutdown, comprising an electro-magnet with a movable armature, means coupling the armature in operative engagement with the rod heater to move the rod heater in and out of contact with the cigarette rod, a relay having a motor control contact and an electromagnet control contact, means to start the motor and energize said electromagnet by said relay contact, a source of suction, a conduit leading from said suction source to said suction wheel, a diaphragm switch located in a second conduit communicating with the suction conduit, said switch having a set of contacts movable in response to changes in suction in said suction conduit and including means for operating the switch in two contact positions, respectively while cigarettes engage the suction wheel and while suction on the diaphragm is reduced because cigarettes fail to engage said wheel, a circuit including said movable set of contacts on the diaphragm switch for energizing said relay to thereby operate the motor and electromagnet, time-delay switching means coupled for operation by the diaphragm switch to release the electromagnet after a predetermined period, means for moving the heater away from the rod to an extended position beyond the movement afforded by said armature, and time delay switching means coupled to short circuit the contacts of the diaphragm switch and operable by movement of the heater from said extended position back to said rod to hold its contacts closed during a period permitting cigarettes to reach the suction wheel to permit restarting the machine when the diaphragm switch contacts are open whereafter its contacts open to pass control to said diaphragm switch to enable said motor to continue to run.

3,194,245
METHOD OF FORMING A TOBACCO PRODUCT OF INCREASED WET STRENGTH

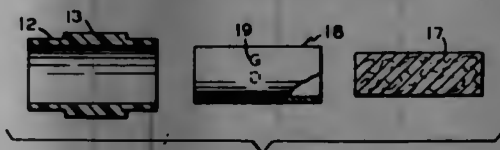
Allan B. Clarke, Midlothian, Va., assignor to Philip Morris Incorporated, New York, N.Y., a corporation of Virginia
Filed Oct. 4, 1962, Ser. No. 230,309
4 Claims. (Cl. 131—140)

1. A method of forming a tobacco sheet material of increased wet strength comprising preparing a slurry of finely reduced tobacco parts in water, the said tobacco parts being present in an amount in the range of 3% to 8% with a substantial proportion reduced to a gelatinous state, casting a film of said slurry on a flat traveling supporting surface, passing the supporting surface and film through a drying zone having an atmosphere in the temperature range of 120° C. to 160° C., heating the film in said drying zone until the temperature of the film reaches the boiling point of water, whereby the free water is removed and thereafter heating said film in said drying zone until the temperature of said film is at least 120° C. and less than 160° C., passing the supporting surface and dried film through a rewetting zone where liquid is applied to wet the film to a moisture content in the range of 20% to 40%, stripping the wetted film from the supporting surface, drying it to below substantially 35% moisture content, and collecting the product.



3,194,246
CIGARETTE HOLDER

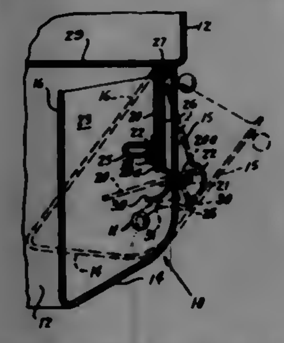
Marco Ivanov Mantchev, Rua 13 de Maio, 466 Caixa Postal 8536, Sao Paulo, Brazil
Filed Sept. 18, 1963, Ser. No. 309,823
2 Claims. (Cl. 131—208)



1. A cigarette holder comprising a transparent casing, a mouthpiece connected to one end of the casing and a tubular cigarette receiving sleeve connected to the other end of the casing, a filter within the casing having a light colored absorbent wrapper surrounding said filter, dark colored indicia means on the outer surface of said absorbent wrapper and visible through said transparent casing, said indicia means being adapted to be rendered imperceptible when said absorbent wrapper becomes saturated with tar passing through said filter.

3,194,247
EXTINGUISHER FOR CAR ASH TRAY

Billy E. Fox, 1924 Woodstock Way, Sacramento, Calif.
Filed Dec. 2, 1964, Ser. No. 415,283
7 Claims. (Cl. 131—237)



1. (1) In combination with a vehicle ash tray pivotally mounted about a fixed horizontal axis in a recess in a vehicle dashboard,
(2) said tray having an open top, a front wall, and a pair of parallel side walls perpendicular to said front wall,
(3) an extinguishing plate within said tray and near said front wall, and pivoted about a transverse horizontal

axis, all points of the latter axis being at a constant perpendicular distance from said front wall and above said horizontal recess axis,

(4) said extinguishing plate being movable to a first vertical position parallel to and adjacent said front wall in closed tray position for crushing out a cigarette butt, and also movable to a second position more remote from said front wall and inclined downwardly and away therefrom to dump the butt,

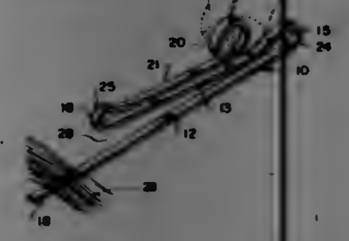
(5) means for moving said plate into the dumping direction upon opening said tray a maximum amount,

(6) stop means projecting from one side of said plate, for limiting the movement thereof in the dumping direction by contact of the stop means with said front wall,

(7) and pendant arm means for pressing against said plate stop means and then against the edge of said plate nearer said front wall, to pivot the plate from the dumping position towards a compressing position in cooperation with the front wall as the tray pivots about said fixed horizontal axis towards a closed position.

3,194,248
HAIRPIN HAVING HANDLE FOR FACILITATING OPENING

Amanda P. Callies, 350 E. 22nd St., North Vancouver, British Columbia, Canada
Filed Oct. 29, 1962, Ser. No. 233,769
5 Claims. (Cl. 132—[illegible])

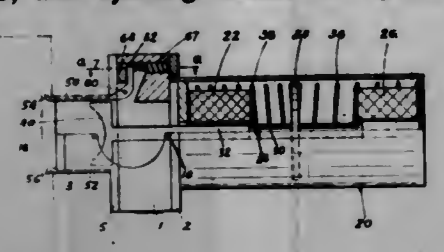


2. A hairpin comprising a single strip of springy material having a first bend forming side by side substantially parallel first and second legs, said first bend resiliently urging said legs towards each other to bring them substantially into contact, the end of the first leg remote from the first bend extending outwardly longitudinally beyond the end of the second leg remote from said first bend, said strip having a second bend at said remote end of the second leg to form a connector extending back substantially parallel to the second leg, and a handle connected to an end of the connector remote from said second bend, and projecting laterally from said legs sufficiently to be gripped by the user's fingers in order that said remote end of the second leg can be pulled away from said remote end of the first leg after the toe has been placed under some hair to form an entrance between the legs for the hair, said legs springing together to grip the hair when the handle is released.

3,194,249
ATTACHMENT FOR COIN-CONTROLLED APPARATUS

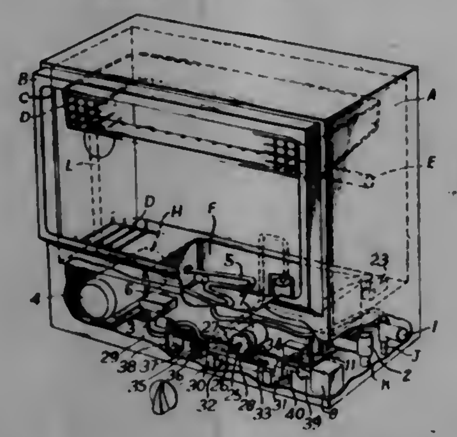
Aharon Lonke, 8 Buel Moshe St., and Henry-Zvi Gillon, 114 Allenby St., both of Tel Aviv, Israel
Filed Sept. 19, 1963, Ser. No. 309,984
6 Claims. (Cl. 133—4)

5. A device of the character described, comprising: a container adapted to contain a plurality of coins, said container having an opening at one side thereof and said coins being individually dispensible through said opening; means for attaching said container to a coin-controlled apparatus with said opening in registration with the coin-receiving opening of the apparatus; said attaching means including a pair of opposed fingers each insertable at one end of the coin-receiving opening, at least one of said fingers being moveable to permit the insertion of said device; and ejecting means for ejecting a coin out of said container and into said coin-controlled apparatus.



3,194,250
CONTROL CIRCUIT FOR A DISHWASHING MACHINE

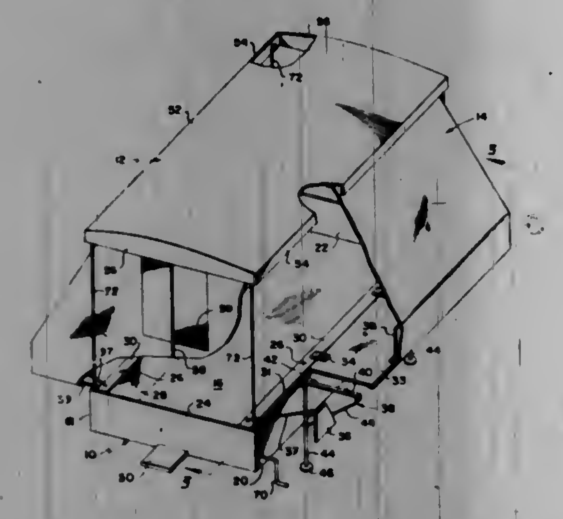
John Michael Devereux Delapena, London, England, assignor to Porlester Limited, Leicestershire, England, a British company
Filed Dec. 3, 1963, Ser. No. 327,697
Claims priority, application Great Britain, Dec. 5, 1962, 46,009/62
4 Claims. (Cl. 134—57)



4. A dish-washing machine comprising a casing for housing articles to be washed and including a sump for holding water, an inlet valve for controlling admission of water to the sump, an outlet valve for controlling the egress of water from the sump, a pump for circulating water within the machine and arranged to be driven by a motor, a heater for heating water in the sump and an electrical control system for automatically controlling the cycle of operation of the machine, adapted to be connected to an electricity supply and comprising, in combination, a first alternative pole switch responsive to the level of water in the sump; a solenoid for operating said water inlet valve, a solenoid, for operating said water outlet valve, a multi-position rotary switch having a plurality of fixed contacts, a common terminal and a movable contact for selectively connecting said fixed contacts to the terminal, one position of the switch providing open circuit, the said rotary switch having a ratchet wheel formed with a plurality of peripheral indentations corresponding to the number of positions of the rotary switch and turnable with the movable contact thereof, an indexing element adapted to engage said indentations, a switch-actuating solenoid having a movable core connected to said indexing element and adapted, when energised, to move the indexing element into engagement with the next adjacent indentation, a thermostat having a plurality of pairs of normally-open switch contacts adapted to close at respectively different temperatures and one of each pair of which is connected to a respective one of said fixed contacts of said rotary switch; said solenoids and switches being connected in circuit with said pump motor and said heater to said electricity supply the arrangement being such that, in operation the multi-position switch is first set manually to a position to select said first pair of thermostat contacts and the machine is thereafter automatically controlled by said control system to automatically execute a washing cycle comprising a first stage in which said water inlet valve is opened and fresh water is admitted to the sump and when the water attains a predetermined level said water-level responsive switch is actuated and the heater and the motor are brought into operation until the temperature within the machine attains the predetermined value at which said first pair of thermostat contacts are actuated, the motor and the heater are switched off and the outlet valve is opened to drain the water from the machine and the multi-position switch is indexed to its next position to select the second pair of thermostat contacts to initiate the next stage of the cycle, in which said outlet valve is closed and said inlet valve is opened and fresh water is admitted to the sump and when the water attains the aforesaid level said water level responsive switch is actuated and the heater and the motor are brought into operation until the temperature within the machine attains the predetermined value at which said second pair of thermostat contacts are actuated the motor and the heater are switched off and the outlet valve is opened to drain the water from the machine and the multi-position switch is indexed to its next position and so on, each pair of thermostat contacts being successively brought into operation until the rotary switch is finally turned to a position to terminate the cycle.

3,194,251
COLLAPSIBLE CAMPING TRAILERS

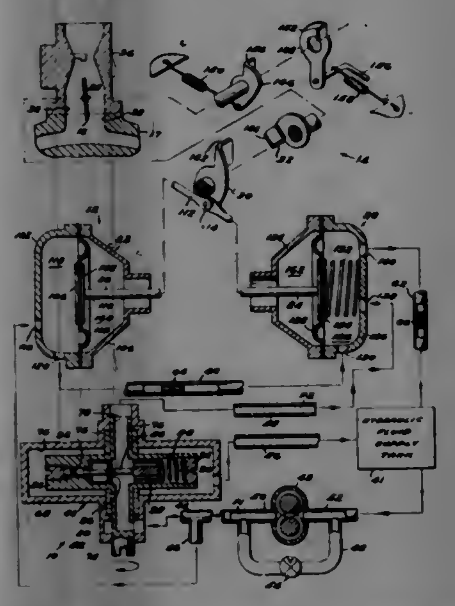
John Pettersen, 12555 116th Ave., North Surrey, British Columbia, Canada
Filed Feb. 26, 1962, Ser. No. 175,405
7 Claims. (Cl. 135—1)



2. A collapsible camping trailer comprising a body structure having a confining wall formed of first and second pairs of opposed walls, a roof structure adapted in a collapsed condition of the trailer to form a top closure for the body structure, a pliant covering secured at opposite edges to the body and roof structures, two pairs of stiffly bendable rods pivotally connected at outer ends to the roof structure, each rod of each pair of rods when the roof structure is collapsed, extending along one wall of said first pair of opposed walls and being inclined downwardly from the roof structure and horizontally inwardly of the body structure, bearing means engaging each rod when the roof structure is collapsed to curve said rod downwardly longitudinally thereof, and means connected to inner ends of the rods of each pair for simultaneously moving said inner ends horizontally towards and away from the second pair of opposed walls respectively to raise and lower the roof structure, whereby because of the curve of the bendable rod the horizontal movement of the inner end thereof at this time results in substantially vertical movement of the outer end of the rod to raise the roof structure.

3,194,252
HYDRAULIC SPEED GOVERNOR WITH MANUAL CONTROL

Ramuald B. Locher, Jr., Madison Heights, and George W. Nicoletti, Jr., Ferndale, Mich., assignors to Holley Carburetor Company, Warren, Mich., a corporation of Michigan
Filed May 22, 1961, Ser. No. 111,623
11 Claims. (Cl. 137—18)



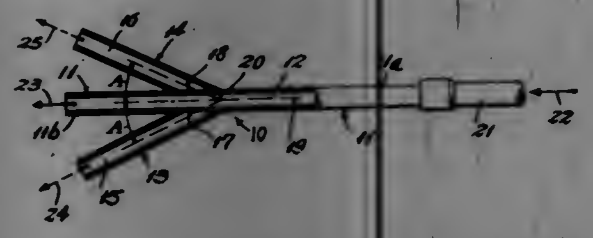
11. A governor for an internal combustion engine or similar device having a speed control member such as a throttle, comprising mechanism for positioning the speed control member at speeds above a predetermined speed, diaphragm actuating means operably associated with said mechanism for adjusting the mechanism in accordance with a difference between hydraulic pressures applied thereto including a pair of housings, each including two parts and having a diaphragm clamped therebetween forming a pressure chamber between the diaphragm and one part of the housing and a piston rod secured to the diaphragm and connected to the mechanism for positioning the speed control member and hydraulic control means operably associated with said diaphragm actuating means for regulating the hydraulic pressure differential applied to the actuating means in accordance with the speed of the device including a hydraulic fluid supply tank and a separate restricted exhaust passage extending between each of said pressure chambers of the diaphragm actuating means and the hydraulic fluid supply tank.

3,194,253
FLUID FLOW CONTROL DEVICE

Robert M. Havee, Stamford, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed June 21, 1962, Ser. No. 204,206
2 Claims. (Cl. 137—81.5)

1. A bistable fluid flow control device having no moving parts; comprising a main body member having a substantially cylindrical main fluid conducting channel formed therethrough;

a pair of divergent branch members secured to said main body member. said branch members each having a channel formed therethrough which communicates with said main conducting channel of said main body member at a substantially common junction point whereby fluid in flowing through the upstream portion of said main fluid conducting channel and arriving at said junction point effectively encounters an array of three substantially cylindrical exhaust paths, namely the two divergent branch channels and the downstream end of said main channel;



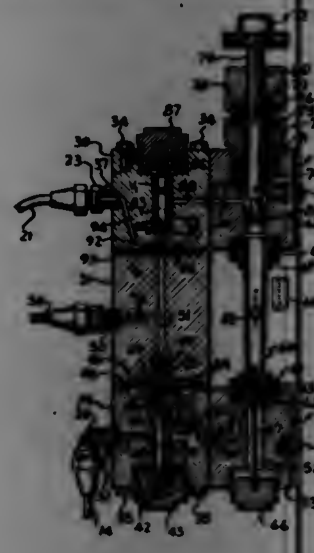
the walls defining each of the cylindrical channels in the region of said junction point being smooth and continuous and having a substantially constant cross sectional area whereby fluid flowing through said main channel is divided into two constituent exhaust streams, one constituent stream always flowing out through said downstream end of said main fluid conducting channel while the other constituent stream simultaneously selectively flows out through only one of said branch channels.

3,194,254
WATER CHLORINATOR

Robert Zmek, Chicago, Ill., assignor to Everson Manufacturing Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 26, 1962, Ser. No. 233,345

4 Claims. (Cl. 137—114)



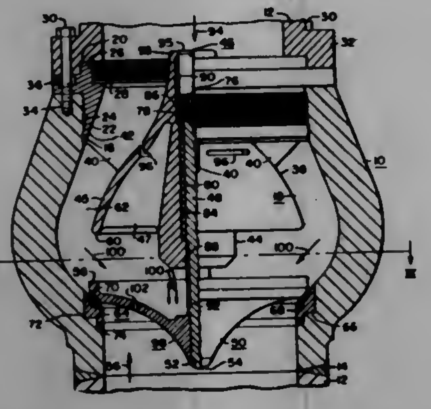
1. A gas supply control unit for a water purification system, said unit comprising a body having means that form a gas-flow path having contiguous portions constructed and arranged so that the gas flows therethrough first under pressure and then under vacuum, a valve in the pressure portion of said path and through which the gas flows for reducing the pressure of the gas to a pressure that is substantially greater than vacuum, a check valve in the vacuum portion of the flow path and through which the gas flows, spring means biasing each valve toward its closed position, pressure-responsive valve-actuating means for opening each valve, said pressure-reducing valve being biased toward its closed position responsive to said gas pressure in its outlet acting on its actuating means, and means forming a water passageway into the body and into communication with each valve actuating means so that water under sufficient water pressure will maintain the valves open and the water pressure will increase the pressure on the discharge side of the pressure-reducing valve in response to decreases in gas pressure on the intake side of that valve.

3,194,255
CHECK VALVE

Howard C. Flaton and John P. Thorel, Monroeville, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 752,342, July 31, 1958. This application July 9, 1962, Ser. No. 208,289

7 Claims. (Cl. 137—220)



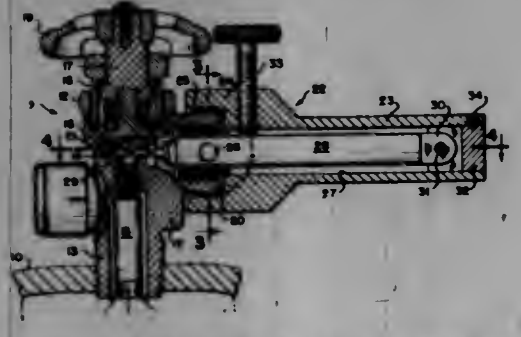
1. A check valve comprising a hollow outer casing having open ends, a streamlined housing secured to an inner wall of said casing, said housing having a flared end portion and a hub member secured to and extending centrally of said housing, said hub having a central longitudinal opening extending therethrough, a stub shaft mounted for longitudinal movement within said hub member, a valve disc secured to said shaft and engageable with the flared portion of said housing at an open position of said valve, said valve disc having a streamlined configuration complementary to said streamlined housing at said open position, said valve disc and said shaft being movable to a closed position of engagement of said valve disc with a valve seat formed in said casing, means coupled to said shaft and to said hub member for biasing said shaft and said valve disc to a preselected position, said means including an overhanging end member secured to the free end of said stub shaft and closely fitting within said opening in said hub member, a lip formed upon said hub member extending inwardly of said hub member opening at a position opposed to said overhanging end member whereby an annular dashpot space is formed between said shaft and the major proportion of said hub member, means including at least one passage coupled to said annular space to permit fluid to exit therefrom, and a compressional spring mounted within said annular space and bearing against said end member and said hub member lip.

3,194,256
VALVE REPAIR DEVICE

Amedlo Gonella, Sagamore, and Albert F. Landry, Buzzards Bay, Mass., assignors to Suburban Propane Gas Corporation, Whippany, N.J., a corporation of New Jersey

Filed Sept. 28, 1961, Ser. No. 141,501

2 Claims. (Cl. 137—315)



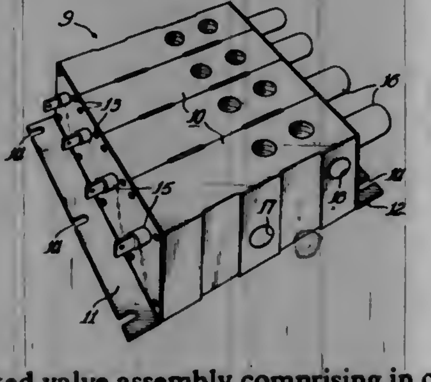
1. The combination with a valve comprising a valve body having an outlet opening and a flow passage to the outlet, a valve seat arranged in the flow passage, a valve member and means operatively associated with the valve body to urge the valve member against the valve seat to close the valve, of a device applicable to the valve body through the outlet opening to facilitate repair of the valve, such device comprising a casing having means thereon for removably securing it to the valve body, said casing having a chamber extending into the casing from one end, a rod-like control member having a tongue at one end and pivotally mounted at its opposite end within the casing, the tongue projecting beyond the casing a sufficient distance to cover the valve seat when the valve is open and when the casing is secured to the valve body, and clamping means on the device acting on the control member to hold the tongue against the valve seat thus to close the flow passage while the valve is being repaired.

3,194,257
STACKED VALVE ASSEMBLY

William T. Stephens, Palatine, Ill., assignor to Borg-Warner Corporation, a corporation of Illinois

Filed Oct. 30, 1963, Ser. No. 320,208

4 Claims. (Cl. 137—343)



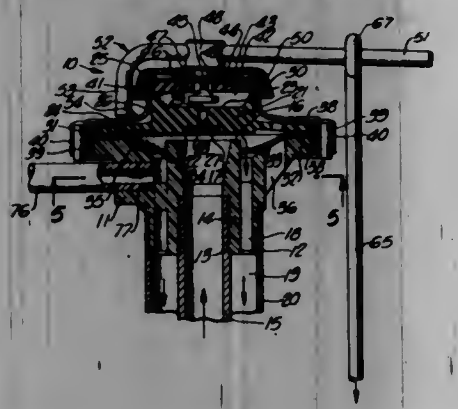
1. A stacked valve assembly comprising in combination:
(a) a group of valve sections assembled in face-to-face alignment,
(b) a pair of mounting brackets,
(c) one each of the said mounting brackets connected to the opposite ends of the said assembled valve sections,
(d) fluid passages in intercommunication between the said valve sections,
(e) and, fluid sealing means at the juncture of said fluid passages.

3,194,258
FLOAT OPERATED VALVE

Richard W. Grant, Inglewood, Calif., assignor to Zila Manufacturing Corporation, Gardena, Calif., a corporation of California

Filed Apr. 29, 1963, Ser. No. 276,557

1 Claim. (Cl. 137—414)



In a float-operated tank-filling valve assembly, the combination of: a valve body having a central passage adapted to receive liquid under pressure, and having an annular seat at one end of said passage, the valve body also having discharge openings and suction openings both positioned radially outwardly of said seat, a piston member having a relatively thick central portion adapted to engage said seat at one end and having a relatively thin annular flange adjacent said end, an annular antisiphon diphragm underlying said annular flange and movable downward to close said suction openings, means acting to clamp the peripheries of said annular flange and said antisiphon diaphragm to the valve body, said means including a metal cap having a cylindrical wall slidably receiving the piston member and co-operating therewith to define a valve chamber, the said piston member also having an aperture connecting said valve chamber to said central passage, means including a float-operated pilot valve operable to control escape of liquid from said valve chamber, said means including a pilot valve disc having a central opening and positioned within said valve chamber and contacting said cylindrical wall, said means also including a movable pilot valve element having a head portion within the valve chamber and acting to control flow out of said valve chamber through said central opening, a portion of the piston member in raised position encircling a portion of said pilot valve element, the pressure in the valve chamber when the pilot valve is closed acting to hold said piston member against said seat, and the pilot valve when open acting to permit escape of liquid from said valve chamber to cause movement of said central portion of the piston member away from said seat and thereby allow flow of liquid from said central passage into said discharge openings.

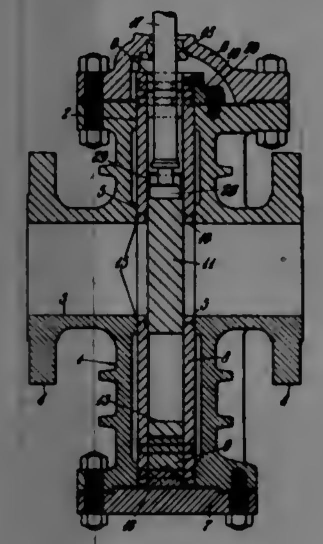
3,194,259
GATE VALVES HAVING REMOVABLE SLIDE AND SEAT UNIT

Ernest Reginald Garrod, Aldeburgh, England, assignor of one-half to Triangle Valve Company Limited, London, England

Filed Dec. 5, 1960, Ser. No. 73,844

Claims priority, application Great Britain, Dec. 4, 1959, 41,305/59

3 Claims. (Cl. 137—454.2)



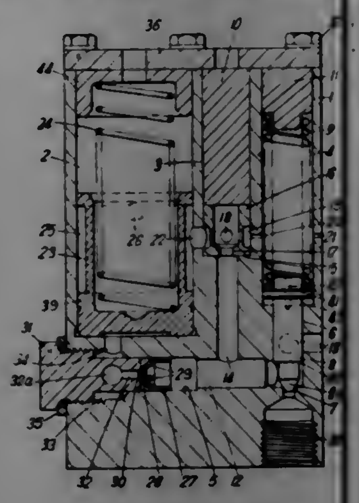
1. A valve comprising a body having a flowway therethrough and a cavity therein intersecting and crossing the flowway, a removable valve cover closing one end of said cavity, an operating member passing through said cover, a pair of plate members located in said cavity and each having a hole disposed in communication with said flowway, means rigidly securing the two plate members together in fixed spaced relationship, a slide mounted between said plate members for sliding movement in close sealing contact with said plate members for opening and closing the flowway, releasable cooperating means on said slide and operating member whereby the slide may be moved for opening and closing the flowway by means of the operating member, and seal ring means in the surfaces of the plate members in contact with the slide and with the valve body.

3,194,260
HYDRAULIC UNLOADING VALVES

William R. Price, Hornchurch, England, assignor to Ford Motor Company, Dearborn, Mich.

Filed July 13, 1962, Ser. No. 209,606

4 Claims. (Cl. 137—469)



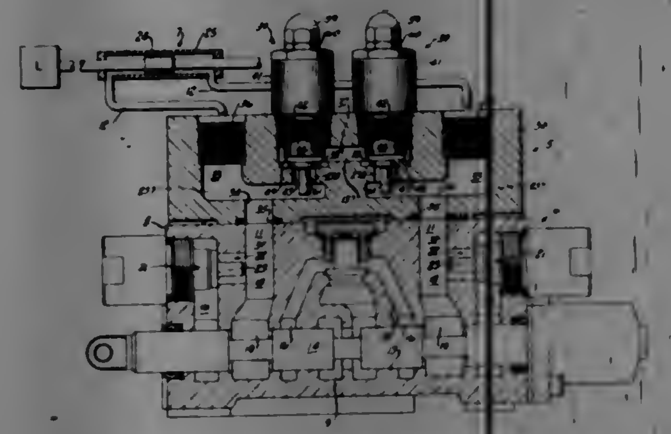
1. A time delay unloading valve, comprising a valve body having a first bore and a valve seat, a valve member slidingly received within the bore, a spring for urging the valve member into closed position against the seat, a pressure relief passage intersecting the first bore and uncovered by movement of the valve member away from the valve seat, a second bore in the valve body, a piston within the second bore, a fluid inlet at one end of the second bore, means for restricting fluid flow through the fluid inlet, a passage connecting the second bore with the first bore adjacent the valve seat, a spring urging the piston towards the fluid inlet end of the second bore, a fluid inlet passage connecting the first bore adjacent the valve seat with the second bore intermediate its length, a fluid outlet in the second bore communicating with the inlet intermediate the length of the second bore when the piston is at the fluid inlet end of the bore and blocked by movement of the piston against its bias, whereby excess pressure against the valve member will raise the valve from its seat, fluid entering the valve in part being released through the second bore and in part entering the second bore through the fluid inlet at the end thereof and raising the piston over an appreciable interval of time until the fluid inlet intermediate the second bore is blocked, whereupon the resulting rise in pressure in the first bore will raise the valve member sufficiently to uncover the pressure relief passage.

3,194,261
CROSS LINE RELIEF MECHANISM FOR REVERSIBLE HYDRAULIC MOTOR

Francis H. Tennis, Milwaukee, Wis., assignor to Hydraulic Unit Specialties Company, Pewaukee, Wis., a corporation of Wisconsin

Filed Oct. 10, 1962, Ser. No. 229,601

3 Claims. (Cl. 137—491)



1. In a hydraulic control instrumentality of the type comprising a body having a pair of line passages each connectable with one side of a reversible hydraulic motor, cross line relief means for transferring hydraulic pressure fluid from either line passage in which an abnormally high pressure develops to the other line passage, comprising:

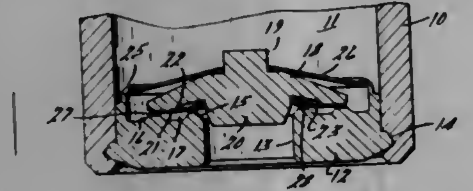
- (A) a transfer passage in the body to communicate the line passages with one another and connecting only therewith;
- (B) annular valve seats in the transfer passage, one for each line passage, spaced from one another along the length of the transfer passage and each defining a connecting passage through which its line passage is communicable with the transfer passage, said valve seats facing in the direction that fluid flows therethrough from the line passages to the transfer passage;
- (C) and a bi-directional valve unit mounted in the body at a location opposite each valve seat, and wholly outside its line passage, said valve units comprising
  - (1) poppet means in each valve unit projecting forwardly therefrom into the transfer passage toward its valve seat for cooperation therewith and to normally block fluid flow through the connecting passage defined thereby,
  - (2) means in each valve unit responsive to pressure of fluid at an abnormally high value in its line passage for effecting rearward actuation of its poppet means to establish relief flow of fluid through its connecting passage to the transfer passage,
  - (3) and means in each valve unit responsive solely to the pressure of such relief fluid in the transfer passage for effecting rearward actuation of its poppet means to enable such relief fluid in the transfer passage to flow through its connecting passage to the associated line passage.

3,194,262
SHOCK ABSORBER BASE VALVE

Leslie M. Hamilton, Muncie, and Wilbur B. Griffin, New Castle, Ind., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Dec. 10, 1963, Ser. No. 329,417

7 Claims. (Cl. 137—493)



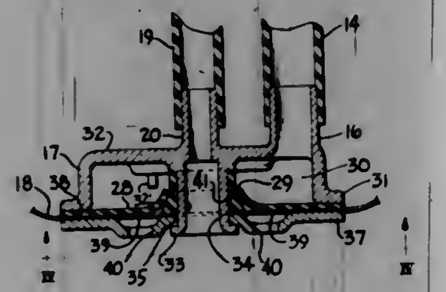
1. In a shock absorber having a compression chamber and a reservoir, base valve means partitioning said compression chamber from said reservoir, said base valve means including a body having a port therethrough leading to said reservoir, the surface of said body on the compression chamber side thereof having an inner valve seat adjacent said port and an outer valve seat remote from said port, inner and outer orifices recessed into said inner and outer seats respectively, a pressure chamber recessed into said surface between said seats, said base valve means including shiftable valve plate means adapted to seat at said inner and outer seats and cover said inner and outer orifices and pressure chamber, said outer valve seat and plate means seated thereat cooperating to separate said compression chamber from said pressure chamber, said inner valve seat and plate means seated thereat cooperating to separate said pressure chamber from said port, said compression chamber and port being in unrestricted communication when said plate means is unseated from said seats, said valve plate means being responsive to the pressure differential between said compression chamber and port to be unseated from said valve seats when the pressure in said compression chamber falls to a predetermined value below the pressure in said port, and to be urged toward said seats to seat thereat by a force proportional to said pressure differential when the pressure in said compression chamber rises to a predetermined value above the pressure in said port, the inner orifice in said inner valve seat being of restricted cross sectional area and connecting said pressure chamber and port, the outer orifice in said outer valve seat connecting said compression chamber and pressure chamber and being comparatively nonrestrictive to fluid flow with respect to said restricted passage so as to communicate the pressure of said compression chamber to said pressure chamber, the portion of said valve plate means covering said inner orifice comprising a flat leaf spring cooperating with said inner orifice to provide a restricted passage for fluid from said pressure chamber to said port, said leaf spring being yieldable from said inner valve seat in response to a predetermined pressure in said pressure chamber to open the communication between said pressure chamber and port.

3,194,263
RESILIENT MATERIAL CHECK VALVE

William C. Riester, Williamsville, N.Y., assignor to Trico Products Corporation, Buffalo, N.Y.

Filed Aug. 27, 1962, Ser. No. 219,465

3 Claims. (Cl. 137—508)



1. A check valve construction comprising a housing, said housing including first and second chambers separated by a diaphragm, said diaphragm being stretchable and of elastomeric material, a first nipple on said housing for effecting communication between a vacuum source and said housing, a second nipple on said housing for effecting communication between said housing and a device adapted to be actuated by vacuum, said first chamber in said housing being in communication with said first nipple, an extension on said second nipple passing through said first chamber and in communication with said second chamber, said extension having a first diameter, a perforation in said diaphragm with an inner edge portion surrounding said extension for selective sealing engagement therewith, said perforation having a second diameter which is less than said first diameter, said diaphragm deflecting in a first direction in response to the vacuum in said first chamber being greater than the vacuum in said second chamber to thereby cause said edge portion of said perforation to move from sealing engagement with said extension to permit communication between said first chamber and said second chamber, said diaphragm deflecting in a second direction in response to the vacuum in said second chamber being greater than the vacuum in said first chamber to cause the edge portion of said perforation to move into sealing engagement with said extension to thereby prevent communication between said first chamber and said second chamber and apertured, relatively rigid wall means adjacent said diaphragm for limiting deflection of said diaphragm in said second directon to assure maintenance of sealing engagement of said diaphragm with said extension.

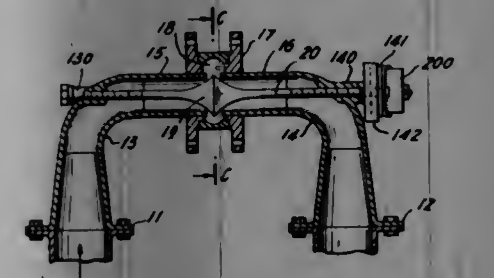
3,194,264
GAS MIXER APPARATUS

Guido Greco, Milan, Italy, assignor to Montecatini, Societa Generale per l'Industria Minèraria e Chimica, Milan, Italy, an Italian corporation

Application Sept. 26, 1956, Ser. No. 612,184, now Patent No. 3,052,288, dated Sept. 4, 1962, which is a division of application Ser. No. 536,510, Sept. 26, 1955, now Patent No. 2,859,103, dated Nov. 4, 1958. Divided and this application Feb. 23, 1962, Ser. No. 175,240

Claims priority, application Italy, Sept. 28, 1954, Patent 525,183

2 Claims. (Cl. 137—556)



1. A gas mixer which comprises means providing a chamber, means in the mixer forming separate inlets for two gases to the chamber, a double-coned valve member in said chamber having a stem portion and two opposed joined gas deflecting and spreading surfaces, each of said opposed surfaces flaring outwardly in a smooth and continuous curve from said stem portion to the outermost diameter of said valve member, said chamber having opposite ends communicating with said inlets extending toward each other from the ends, the chamber being enlarged between said ends and provided with opposed valve seats at each end of the enlargement, the enlarged portion of the valve at the outermost diameter of the valve extending into the enlarged portion of the chamber so that each of the opposed surfaces may engage alternatively with a valve seat, the walls of said chamber being shaped to direct the two gases coaxially toward each other so as to impinge on said respective surfaces and so that the impinging of the gases on said surfaces causes intimate mixing, said valve member being mounted for longitudinal movement toward one valve seat and away from the other at any one time for proportioning the relative amounts of said two gases, said chamber having an outlet communicating with the juncture of said two surfaces for conducting out the gas mixture formed.

3,194,265
HYDRAULIC CONTROL VALVE WITH VOID CONTROL MEANS

Francis H. Tennis, Milwaukee, Wis., assignor to Hydraulic Unit Specialties Company, Town of Pewaukee, County of Waukesha, Wis., a corporation of Wisconsin

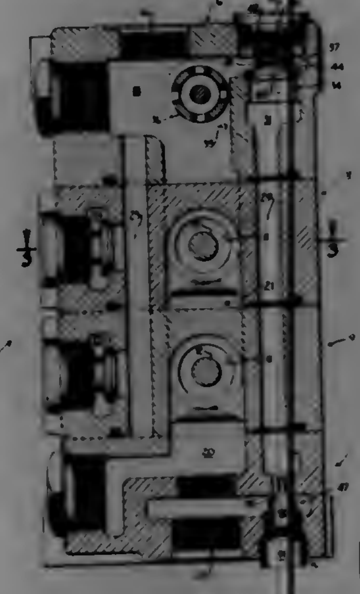
Filed May 2, 1962, Ser. No. 191,868

7 Claims. (Cl. 137—596)

1. A sectional control valve of the type comprising an inlet section having an inlet chamber into which pressure fluid from a source thereof can be introduced, a return fluid manifold communicated with an outlet, and at least one control section confined between the inlet section and the return fluid manifold, of the type in which a spool is slidable to each of a pair of operating positions to communicate either of a pair of service passages in the control section with a supply passage therein that connects with the inlet chamber, while communicating the other service passage with a return passage in the control section, said valve being characterized by the following:

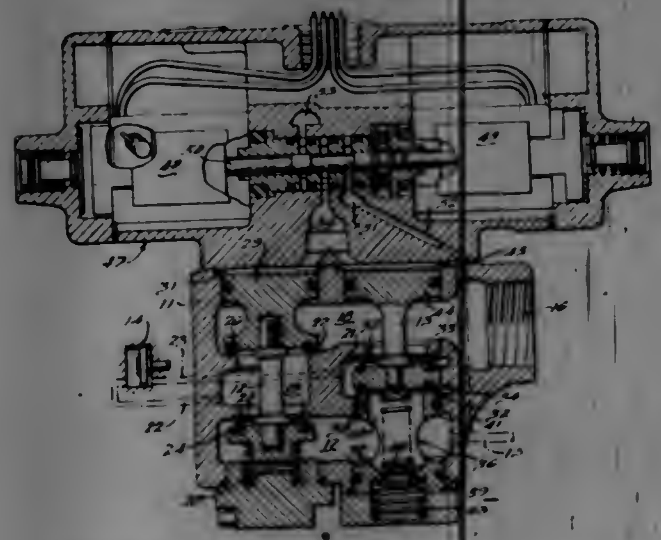
- (A) that all of the return passages are connected to a common exhaust header having one end communicating with the return fluid manifold and which extends through each control section crosswise of the spool therein;

(B) that the other end of the exhaust header is communicable with the inlet chamber through a pressure relief valve which normally blocks communication between the inlet chamber and said exhaust header, but is responsive to pressure of fluid in the inlet chamber in excess of a predetermined value to open and permit flow of fluid therefrom to the exhaust header; and



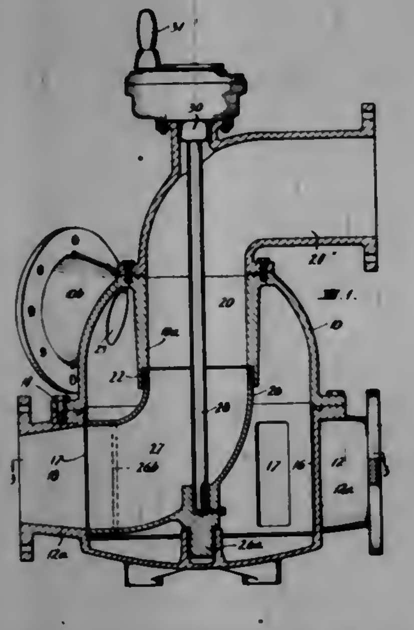
(C) that said other end of the exhaust header is also communicable with the inlet chamber through a void control check valve which cooperates with the pressure relief valve to normally block communication between the inlet chamber and the exhaust header, but is responsive to pressure of fluid in the exhaust header which exceeds that of fluid in the inlet chamber to open and permit such communication so that whenever a control spool is in one of its operating positions and the pressure of return fluid from the service passage then communicated with the exhaust header exceeds the pressure of fluid in the inlet chamber, fluid can flow from said last named service passage to the inlet chamber via the exhaust header for flow to the other service passage along with pressure fluid entering the inlet chamber from a source.

3,194,266
DEVICE FOR PREVENTING MOMENTARY TRANSMISSION OF PRESSURE THROUGH NORMALLY OPEN VALVE
Daniel B. Abbott, Clawson, and Robert J. Kinsler, Harper Woods, Mich., assignors to Ross Operating Valve Company, Detroit, Mich., a corporation of Michigan
Filed Feb. 20, 1963, Ser. No. 259,903
9 Claims. (Cl. 137—5[illegible].16)



1. In combination, a normally open reciprocable valve having a valve element engageable with a seat, a supply chamber and an outlet chamber for said valve, a reciprocable member carrying said seat, means constantly urging said member in a direction to cause said seat to engage said valve element, and pressure differential means responsive to the maintenance of a predetermined pressure in said supply chamber for overcoming said urging means.

3,194,267
ROTARY CONTROL VALVE FOR FILTERS
Douglas Lyon, Syndal, Victoria, and William George Davidson, Burnley, Victoria, Australia, assignors to Filtration & Water Softening Proprietary Limited, Springvale, Victoria, Australia, a company of the State of Victoria
Filed Jan. 29, 1963, Ser. No. 254,768
Claims priority, application Australia, Feb. 2, 1962, 13,987/62
2 Claims. (Cl. 137—625.11)

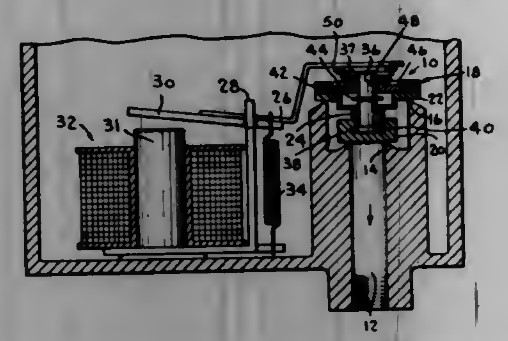


1. A control valve comprising two coaxial body sections forming a cylindrical chamber, means securing said body sections together intermediate the ends of said chamber, one of said body sections having a plurality of angularly spaced ports in the inner periphery thereof, a radial valve member mounted within the chamber for rotation about the axis thereof, means for turning said valve member, said valve member having its radially outer end disposed substantially in brushing engagement with the inner periphery of the chamber, the said valve member being formed with an elbow passage, means connected to said valve member about the inner end of said elbow passage for the inflow or outflow of liquid from or to a position outside the chamber, said elbow passage having its outer end arranged to register with each of said ports in succession when the valve member is turned, laterally projecting side wings on the outer end of the radial valve member and disposed in substantial brushing engagement with the inner periphery of the chamber, said wings having a width such that they cover each port as said elbow passage is moving into and out of register therewith, and the other one of said body sections being formed with a further passage which communicates with the interior of the chamber for the inflow or outflow of liquid thereto or therefrom.

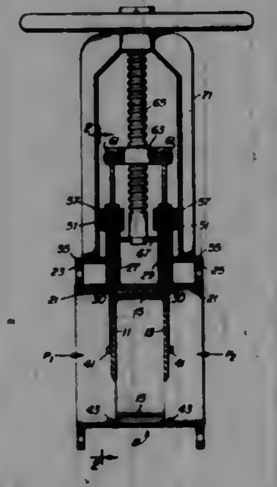
3,194,268
VALVE
Reno L. Vicenzi and John A. Kleinheinz, Riverside, Calif., assignors to Controls Company of America, Schiller Park, Ill., a corporation of Delaware
Filed Jan. 31, 1962, Ser. No. 170,042
9 Claims. (Cl. 137—614.11)

1. A valve for sealing a passageway comprising, in combination, a pair of relatively spaced valve seats in

said passageway, a body portion including first and second relatively spaced resilient valve disks and a flexible membrane sealingly connecting said first and second valve disks, and operating means for moving said body portion toward and away from said valve seats, said operating means including a valve stem in said body portion and connected to and movable jointly with said first valve disk and shoulder means on said valve stem arranged intermediate said first and second disks, and means biasing said shoulder means and said second valve disk into engagement and, when said shoulder means is engaged with said second valve disk, said first and second valve disk being spaced apart a distance less than the distance between said valve seats and arranged so that said second valve disk is the first to engage its valve seat and said valve stem continues to move said second valve disk into engagement with its valve seat independently of movement of said second valve disk.

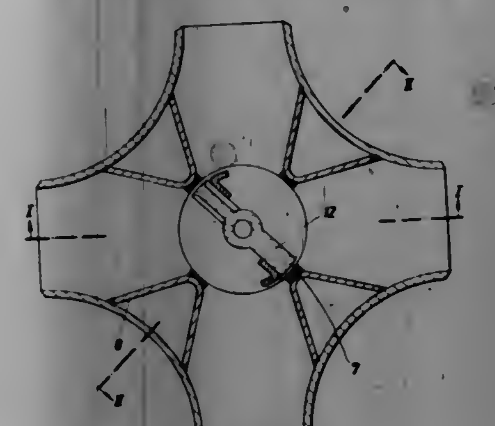


3,194,269
TWO WAY SHUT OFF VALVE
John L. Williams, 17467 NE. West View Road, Oswego, Oreg.
Filed Dec. 19, 1962, Ser. No. 245,901
6 Claims. (Cl. 137—614.11)



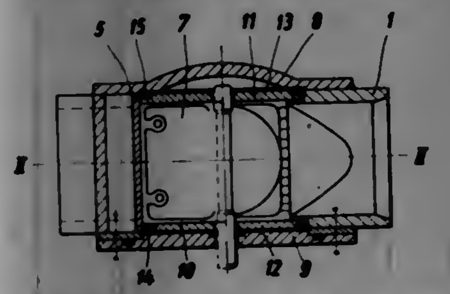
1. A gate valve having
a body which includes a cylindrical member,
said member being formed with parallel circumferential slots,
a pair of parallel laterally spaced gate blades having semicircular end portions projecting through said slots into said member,
a second cylindrical member having an exterior diameter just less than the interior diameter of said first member and slidably fitting into said member to occupy a position between said blades,
said blades being laterally adjustable,
said second cylindrical member having a width greater than the minimum spacing between said blades but less than the maximum spacing between said blades to provide for concurrent engagement of said blades with said second member.

3,194,270
MIXER VALVE
Hans Viessmann, Im Hain, Battenberg (Eder), Germany
Filed Sept. 18, 1962, Ser. No. 224,307
Claims priority, application Germany, Feb. 28, 1962, V 22,112
3 Claims. (Cl. 137—625.43)



1. A mixer valve comprising:
(a) at least three pipe connections having pipes radiused to bulge inwardly at the line of connection connected thereto;
(b) a centrally disposed rotary slide valve having an axis within the intersection of said connections;
(c) two metallic cup-like sections, said sections being welded together along the plane of symmetry extending through the axes of said pipe connections, the radial distance between the innermost walls of the housing and the axis of said rotary slide valve being substantially greater than the diameter of the cylinder circumscribed by the axially parallel edges of said rotary slide valve; and
(d) guide member plates inserted in said sections which are V-shape and project inward from the radial line of connection between said pipes, the legs of said plates being welded to the inner walls of said sections between said connections, the apex of each of said plates extending parallel to said axis of said rotary slide valve, said plates being disposed to serve as a slide fit with said axially parallel edges of said rotary slide valve, whereby said plate legs and said pipe connections define separate compartments.

3,194,271
CHANGE-OVER AND MIXING DEVICE
Hans Viessmann, Im Hain, Battenberg (Eder), Germany
Filed Sept. 18, 1962, Ser. No. 224,352
Claims priority, application Germany, Sept. 19, 1961, V 21,324; Nov. 18, 1961, V 21,619
3 Claims. (Cl. 137—625.43)



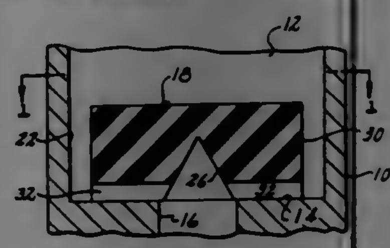
1. A change-over and mixer device comprising a tube cross housing having at least three connections defining valve seating means and interior top and bottom portions, said top and bottom portions being formed with annular flanges, a rotary slide valve centrally mounted within said housing interconnecting the tubes in defined increments, said rotary slide valve comprising a vane having top, bottom and side portions, said side portions coacting with said valve seating means, annular top and bottom covers mounted for relative movement on said top and bottom portions of said vane, and O-ring resilient members inter-

posed between said covers and the top and bottom annular flanges respectively urging said covers against said vane.

3,194,272
FLOW CONTROL DEVICE

Henry W. Kogan, Oak Park, Arthur J. Wisniewski, Hamtramck, and Thaddeus J. Cialek, Madison Heights, Mich., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

Filed Oct. 18, 1962, Ser. No. 231,414
6 Claims. (Cl. 138—43)

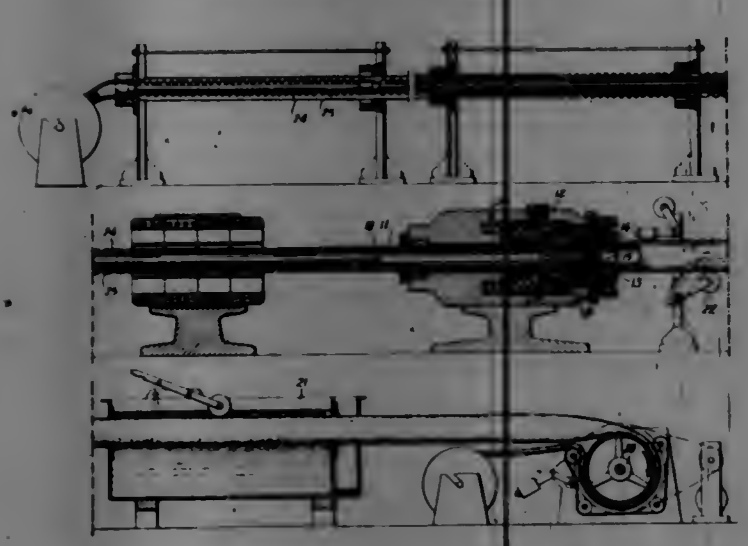


1. In a pressure responsive flow control device: an annular seat facing upstream and defining a central outlet opening; a resilient elastomeric flow control disc having two intersecting grooves of substantial cross sectional area defining four spaced feet, said disc being arranged with four feet engaging said seat; first and second ones of said feet being relatively close together to provide a relatively narrow flow groove portion; third and fourth ones of said feet being relatively close together to provide a relatively narrow flow groove portion; the first and third feet being relatively far apart to provide a wide flow groove portion; and the second and fourth feet being relatively far apart to provide a wide flow groove position; the unsupported disc surface areas between the feet constituting groove roof areas which collapse toward the seat in response to fluid pressure on the disc; the roof areas for the wide groove portions being more easily collapsed onto the seat than the roof areas for the narrow groove portions so that the wide passages variably restrict in a low pressure range and the narrow groove portions variably restrict in a high pressure range.

3,194,273
PLASTIC COATED FABRIC TUBES AND BELTS AND METHOD OF MAKING SAME

Leonce Marie Henri Kraffe de Laubarede, Boulogne sur Seine, France, assignor, by mesne assignments, to S.A. Plastus, Geneva, Switzerland, a societe anonyme under the laws of Switzerland

Filed Feb. 7, 1961, Ser. No. 87,639
Claims priority, application France, Jan. 10, 1958, 755,642, Patent 1,199,289
10 Claims. (Cl. 138—125)



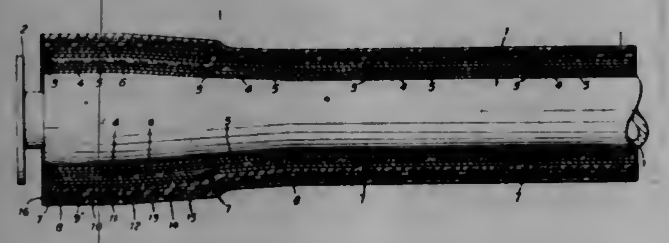
1. The method of making an article which comprises the steps of advancing a tubular fabric while subjecting it to an expanding force which enlarges the interstices in said fabric, forcing a hardenable plastic material through said interstices to fill said enlarged interstices and form a coating on the inner surface of the tubular fabric while said material is in a plastic state, said material being applied to the entire circumference of the tube and forced therethrough into the interior of the tube, and ceasing to apply said expanding force, while permitting said material to harden.

9. A tube composed of a plurality of elastic threads interlaced to define therebetween interstices having a normal size when said threads are free from tension, and a solidified plastic material which coats said tube, said plastic material filling said interstices and keeping them permanently enlarged so that said threads are kept under permanent tension and resiliently grip the material in said interstices.

3,194,274
FLOATABLE HOSE

Arthur Archer Brian Griffiths, Firfwood, Manchester, and Donald Stuart Haughton, Romiley, England, assignors to Dunlop Rubber Company Limited, London, England, a British company

Filed May 14, 1963, Ser. No. 280,330
Claims priority, application Great Britain, May 22, 1962, 19,580/62
3 Claims. (Cl. 138—137)

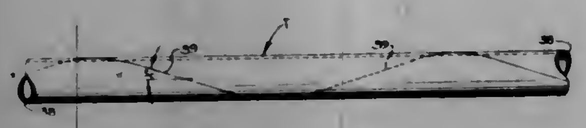


1. Floatable hose comprising an inner hose bore construction, a layer of flexible cellular oil resistant sythetic rubber material surrounding said inner hose bore, separate gas-containing compartments in the layer defined by impervious collars spaced longitudinally along and extending around said inner hose bore., The collar being separated by sections of said flexible cellular material, and an impervious covering secured over said layer.

3,194,275
SPIRALLY WOUND PAPER TUBE

William A. Biggs, Jr., and Charles K. Dunlap, Jr., Hartsville, S.C., assignors to Sonoco Products Company, Hartsville, S. C., a corporation of South Carolina

Filed Jan. 15, 1963, Ser. No. 251,614
3 Claims. (Cl. 138—144)

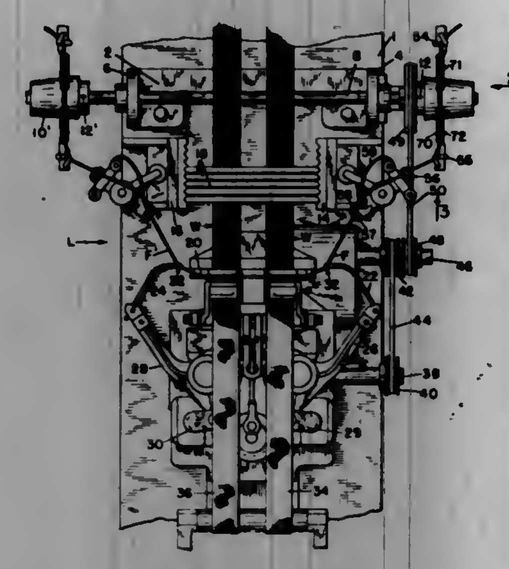


1. A spirally wound paper tube comprising, a plurality of fiber containing paper strips spirally wound in overlapping relationship with adhesive therebetween to form a spiral tube, each of said paper strips having its fibers lying generally in the direction of the longitudinal axis of said strips, said strips being wound at a winding angle of between about 15 to 25 degrees thereby providing a dimensionally stable tube of high beam strength and crush strength.

3,194,276
METERING DEVICE FOR WEFT IN LOOMS

Alexander C. Krukonis, deceased, late of Auburn, Mass., by Myrtle Krukonis, administrator, Auburn, Mass., and Edwin F. Dolbeare, Worcester, Mass., assignors to Crompton & Knowles Corporation, Worcester, Mass.

Filed Sept. 20, 1963, Ser. No. 311,285
2 Claims. (Cl. 139—124)



1. In a loom operating with a weft package from which weft is fed to the loom to be incorporated into a fabric by weft laying means,

(a) weft feeding means between said package and said weft laying means including a generally conical surface having the weft trained therearound and rotatable to feed a selected amount of weft to said weft laying means,

(b) weft tensioning means between the weft feeding means and the weft laying means to receive said amount of weft and to maintain a constant tension on the weft during feeding thereof to said weft laying means,

(c) a second weft tensioning means between said weft feeding means and said package to maintain tension on the weft leading to said feeding means,

(d) drive means for said weft feeding means operating to rotate the latter at a constant rate of speed to effect feeding of selected amount of weft,

(e) guide means to maintain the weft in position on said weft feeding means,

(f) adjustable means including a screw parallel to the axis of the conical surface and means connected to said guide means screw threaded on said screw effective upon turning of the latter to cause the guide means to move parallel to said axis of the conical surface, said movement causing the weft to move along the weft feeding means during loom operation to vary the rate of feed of weft to the loom to vary the width of the fabric,

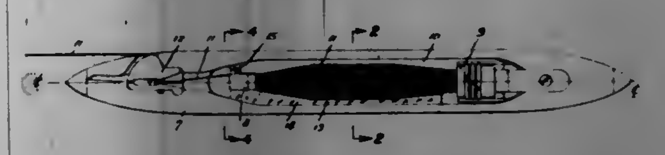
(g) said loom having a flat surface parallel to said screw, and said adjustable means connected to the guide means has a foot engaging the flat surface on each side of a right angle projection of the axis of the screw on said flat surface.

3,194,277
THREAD FEED CONTROL FOR SHUTTLES

Stephen Balut, Wilkes-Barre, Pa., assignor of one-third to Ralph Balut, Dallas, Pa., and Raymond R. Balut, Shavertown, Pa.

Filed Oct. 19, 1961, Ser. No. 146,132
2 Claims. (Cl. 139—213)

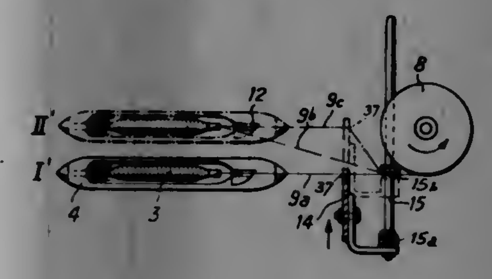
1. The combination with a loom-shuttle having an opening adapted to receive a threaded bobbin, of a removable feed control member in said opening; said removable feed control member comprising a substantially flat and relatively thin strip of flexible and resilient material having substantially parallel longitudinal edges; a threaded bobbin in said opening; said strip being disposed in substantially coterminous parallelism with said threaded bobbin with one of its longitudinal edges removably secured to one of the walls defining said opening; the width of said strip being greater than the distance from the aforementioned wall of said opening to the longitudinal axis of said threaded bobbin; and a covering secured to said strip (and adapted for contact with the threaded area of said threaded bobbin; said covering being substantially coterminous with said strip) throughout its length and breadth and presenting a smooth exterior surface.



3,194,278
YARN GUIDE MEANS FOR BOBBIN CHANGE MECHANISMS

Willy Grob, Langgrutstrasse 112, Zurich, Switzerland

Filed Feb. 18, 1963, Ser. No. 259,047
Claims priority, application Switzerland, Feb. 19, 1962, 1,983/62
4 Claims. (Cl. 139—247)



1. A yarn guiding device for a loom, comprising, in combination, a reciprocable sley; a shuttle movable with said sley between a first position for receiving a pirn and a second position disposed to be picked, said shuttle having yarn receiving means located in a longitudinal axis thereof; means for inserting a pirn having a yarn tail into said shuttle in said first position; retaining means for retaining the yarn tail of the inserted pirn spaced from said shuttle and being disposed in relation to said first position of said shuttle so that the yarn tail extends in the direction of said longitudinal axis in said first position of said shuttle, and at an angle to said axis in said second position of said shuttle; yarn guide means located intermediate said shuttle and said retaining means and being movable in the direction of the movement of said sley between a first position aligned with said shuttle in said first position and a second position aligned with said shuttle in said second position for slidingly engaging the yarn tail and for moving the engaged and retained yarn tail to a position aligned with said longitudinal axis of said shuttle in said second position, operating means for moving said yarn guide means to said second position thereof after said shuttle with a pirn has been moved to said second position thereof so that the yarn tail is aligned with said shuttle at the start of the picking motion and adapted to be inserted into said yarn receiving means; and means connected with said yarn guide means and controlled by said sley for moving said yarn guide means back to said first position.

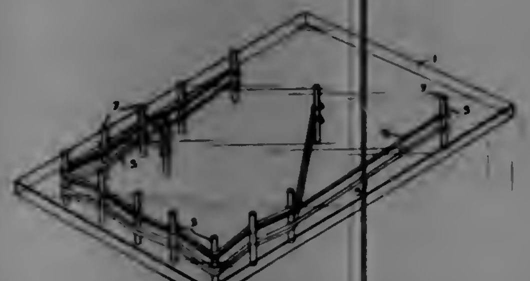
3,194,279

METHOD AND APPARATUS FOR MAKING A HARNESS FOR ELECTRICAL APPARATUS

Gerald Brown, Kenmore, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 10, 1962, Ser. No. 222,524

5 Claims. (Cl. 140—92.1)



2. Apparatus for forming a harness for electrical apparatus, said harness including a plurality of wires, said apparatus including a transparent plate, a plurality of pins extending through said plate at points corresponding to the lengths and disposition of said wires in said harness, and a plurality of wires extending between said pins, each of said last-named wires corresponding in length and disposition on said plate to a wire of said harness, said wires extending between said pins being visible through said plate substantially throughout their lengths.

3,194,280

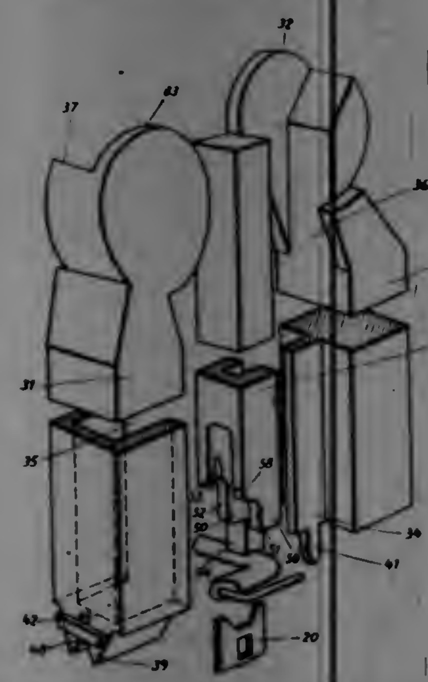
WIRING TOOL

Folke Teodor Mogestad, Pingstvagen 8, Hagersten, Sweden; Anders Ossian Jörgensen, Stavgardsgatan 103, Bromma, Sweden; and Rune Nils Anders Thysk, Langbrovagen 77, Alvsjo, Sweden

Filed Aug. 21, 1962, Ser. No. 218,404

Claims priority, application Sweden, Nov. 10, 1958, 10,396/58

6 Claims. (Cl. 140—93)



1. A tool for applying and securing a wire to a soldering tag comprising, in combination, a pair of plier-like die halves pivotally supported for pivotal movement relative to each other to close the die halves, one of said die halves having a recess, the other one of said die halves having a ridge shaped projection engageable with said recess, said die halves in response to a pivotal movement toward each other defining a channel shaped cavity therebetween, a slide having a channel shaped cross section corresponding to said projection of the respective die half and engaging said projection supported within said cavity for lengthwise reciprocable movement, said cavity being arranged to receive a wire for bending the same therewithin between the die halves in response to a pivotal movement of said die halves toward each other, said slide in response to a downward movement ejecting the bent end portion of the wire outwardly from said cavity, said slide having a projection turning the bent end portion of the wire about an axis perpendicular to the plane of a soldering tag located in front of the cavity opening during an outward movement of the slide in reference to the die halves, and a pair of laterally spaced apart portions on said slide for grasping said bent end portion of the wire to secure said wire to the soldering tag.

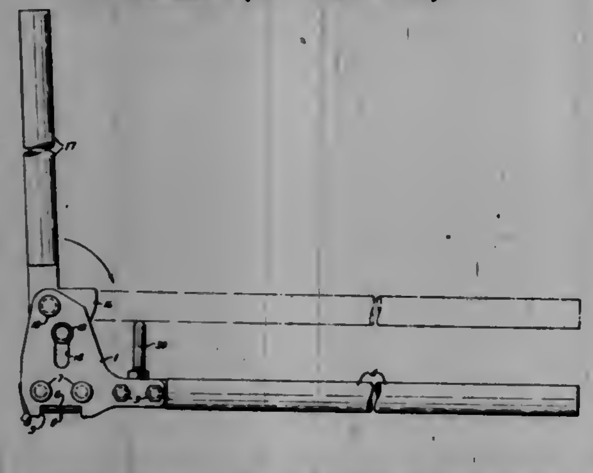
3,194,281

METHOD AND TOOL FOR LOCKING STRAPPING BAND ENDS TOGETHER

Charles W. Frey, Whitehall, Pa., and George A. Zerby, Cleveland, Ohio, assignors to Allegheny Steel Band Co., Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 18, 1962, Ser. No. 245,441

13 Claims. (Cl. 140—93.2)



1. The method of locking overlapping strapping band ends together, comprising squeezing the opposite edges of said overlapping ends toward each other to bow said ends transversely, punching a pair of longitudinally extending superimposed loops out of the bowed band ends from their concave toward their convex side far enough for one of the loops to project through the band opening formed by the other loop, flattening said loops transversely so that the central portion of said projecting loop will be wider than said opening, and releasing said edges of the band.

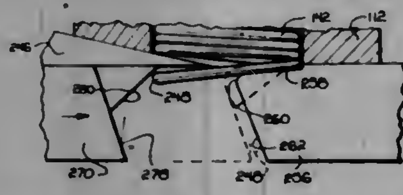
3,194,282

SPRING LOOPING MACHINE

Charles R. Bergevin and John W. Diachenko, Torrington, Conn., assignors to The Torrington Manufacturing Company, Torrington, Conn., a corporation of Connecticut

Filed Oct. 30, 1961, Ser. No. 148,530

12 Claims. (Cl. 140—103)



1. The combination in a spring looping machine of a base assembly including horizontally spaced first and second vertical drive shafts each adapted for connection with a power operating means, similar first and second looping units each adapted to successively loop springs at one end and each comprising a cam operated looping mechanism and cam operated transfer and indexing means for receiving and presenting springs to the looping mechanism, each of said units also comprising horizontally spaced first and second vertical cam shafts carrying cams for operating the looping mechanism and the transfer and indexing means thereof, and said units being selectively connectible with and atop said base assembly with the cam shafts of a connected unit rotated by said drive shafts and said units also being selectively connectible with each other in vertically stacked relationship with their corresponding cam shafts connected for rotation in unison, a cam operated spring inverting mechanism selectively connectible with said looping units and adapted successively to receive springs from the transfer and indexing means of one unit and successively to deliver the same in inverted attitude to the transfer and indexing means of the other unit, and a cam operated escapement device selectively connectible with said looping units adjacent their transfer and indexing means and adapted successively to receive springs and deliver the same to the transfer and indexing means in timed relationship with the operation of the latter, said looping mechanism being operable on springs in a first vertical plane and said inverting mechanism serving to handle springs in a second vertical plane when said looping units are connected in stacked relationship with the inverting mechanism connected with the lower unit and with said escapement mechanism connected with the upper unit, and said transfer and indexing means being adapted to move springs between said two vertical planes for transfer of the same from said upper unit to said lower unit via said inverting mechanism.

3,194,283

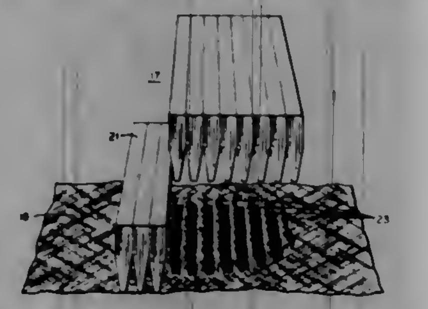
METHOD OF SHAPING WIRE SCREEN

James A. Young, Washington, D.C., and Robert T. Lucas, Alexandria, Va., assignors to the United States of America as represented by the Secretary of the Navy

Original application Sept. 1, 1959, Ser. No. 837,562. Divided and this application Aug. 30, 1960, Ser. No. 53,017

3 Claims. (Cl. 140—107)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The method of shaping a wire screen member of a given mesh comprising positioning a wire screen on a die block having a series of parallel grooves, depressing successive portions of said wire screen with a series of wedge dies by inserting each of said dies successively over said wire screen into an adjacent groove to substantially maintain said given mesh and form thereby a series of parallel corrugations in said wire screen, removing said inserted wedge dies from said series of grooves to expose said corrugations, lapping the end of said corrugations by bending said wire screen from one side of each corrugation to form an end surface, pressing said wire screen together to form a longitudinal crease near the crest of each corrugation, laying said pressed wire screen over the end surface thereof, and flattening said pressed wire screen to form a flat marginal area beyond said corrugations.

3,194,284

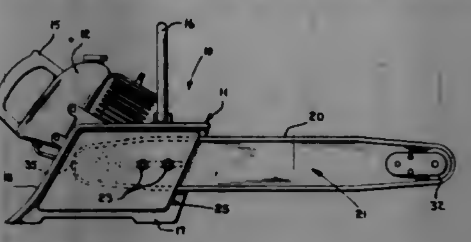
TENSION ADJUSTING MEANS FOR CHAIN SAWS

Charles M. Walker, R.R. 1, Greensburg, Ind.

Filed June 5, 1963, Ser. No. 285,634

4 Claims. (Cl. 143—32)

1. In a chain saw including an endless toothed chain, a frame, a drive sprocket rotatably mounted on said frame and supporting said chain, a pair of spaced threaded studs fixed to said frame, a blade having an elongated slot and received on said studs with the studs projecting through said slot and a guard cover received on said studs, and nuts retaining said cover on said studs, the improvement which comprises a spacer having a thickness greater than the thickness of said blade and received between said frame and cover and spacing said cover from said frame a sufficient distance to permit reciprocation of said blade on said studs, and spring means acting between said cover and blade and urging said blade against said chain.



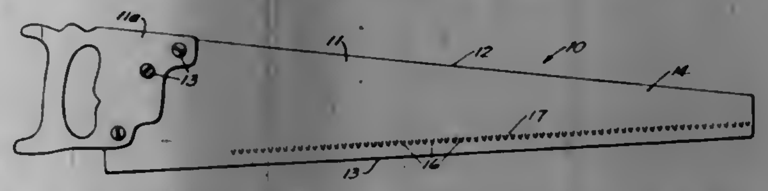
3,194,285

SAW FOR TRIMMING DOORS AND THE LIKE

Juel R. Reinhart and Gerald L. Reinhart, both of Rte. 2, Crookston, Minn.

Filed June 13, 1963, Ser. No. 287,566

5 Claims. (Cl. 145—31)



1. A saw applicable in trimming the edge of a door adjacent the sill and without removing the door,

comprising an elongate flexible blade having handle means thereon, said blade having juxtaposed longitudinally extending edges, and also having a top surface and a smooth and unobstructed bottom surface engageable with the sill of such a door and movable while in engagement with the sill without mutilating and damaging the sill,

said blade having a plurality of teeth in a row disposed between said edges, each of said teeth having a rear portion formed integrally with the blade and having side and front portions formed integrally with said rear portion but separated from the blade and located at a position above said top surface of the blade, each of said teeth extending from said rear portion toward one of said edges and having sharpened edges to engage and trim the edge of such a door when the blade is longitudinally oscillated with said unobstructed bottom surface of the blade engaging and moving along the sill and without damaging the sill.

3,194,286

SCREWDRIVER WITH REGISTERING CHAMBER MAGAZINE HANDLE

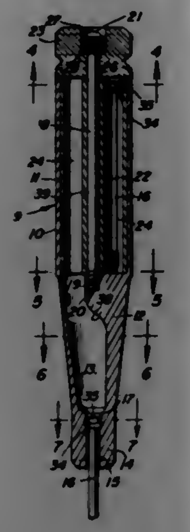
William F. Wagner, Canyon City, Oreg. (301 NW. 4th Ave., John Day, Oreg.)

Filed Mar. 29, 1962, Ser. No. 183,497

3 Claims. (Cl. 145—63)

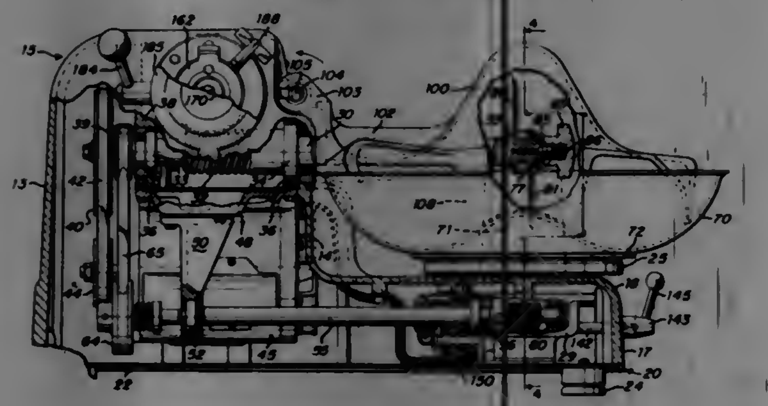
1. A screwdriver comprising a tubular handle having an enlarged longitudinal duct therein, a cylinder, means rotatably mounting the cylinder in the handle, said cylinder having a plurality of chambers therein selectively registerable with a first end of the duct upon rotation of the cylinder, means for actuating the cylinder, bits mounted in the chambers, and a chuck on one end of the handle, said chuck having a bore therein communicating with the opposite end of the duct for slidably receiving the bits by gravity therethrough from the chambers, said bore having a substantially circular cross-section smaller in diameter than said duct, said bore also

having an enlarged upper end, said upper end being square in cross-section and having a smaller cross-sectional area than the duct, said bits being substantially circular in cross-section and selectively receivable through said bore, the upper end portion of each bit being square in cross-section and snugly receivable within the square upper end of the bore in a manner so as to equally engage all four equal length sides of the upper end portion of the bit with the four sides of the upper end of the bore, and releasable means for locking a bit within the chuck bore.



3,194,287
FOOD CUTTING APPARATUS

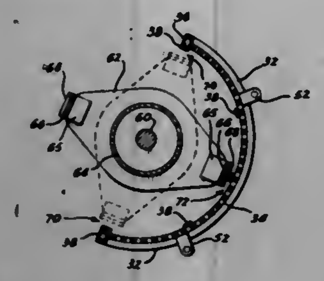
David A. Meeker, Troy, Ohio, assignor to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
Filed Nov. 6, 1963, Ser. No. 321,779
7 Claims. (Cl. 146—67)



1. In a food cutting machine, a housing including a base and front, rear, and side walls forming a power drive section and a lower bowl supporting section at opposite sides of the housing, a main drive shaft mounted cross-wise of said power drive section and having one end extending over said bowl supporting section, a rotatable bowl mounted on said bowl supporting section beneath said shaft, at least one cutter knife fixed to said one end of said shaft and rotatable thereby to cut material contained in said bowl, bearing means in said drive section supporting said main shaft, a power take-off connection from said main shaft intermediate its ends and within said power drive section including an auxiliary shaft extending toward said front wall, a coupling on said auxiliary shaft for selective attachment to food preparation accessories, a drive connection between said main shaft and said bowl supporting section for powered rotation of said bowl when said knife is rotated, a motor removably mounted in said housing in parallel spaced relation to said main shaft, and a power drive connection between said motor and the other end of said main shaft.

3,194,288
ROLLER MILL

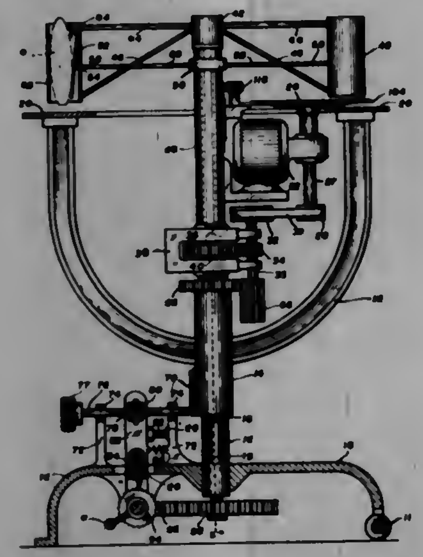
Joe W. Dodgen, Kenneth R. Johnson, and Merton D. Snapp, Humboldt, Iowa, assignors to Dodgen Industries, Inc., Humboldt, Iowa, a corporation of Iowa
Filed Nov. 20, 1963, Ser. No. 325,117
8 Claims. (Cl. 146—79)



1. In a roller mill,
a substantially vertical compartment,
an arcuate perforated screen in said compartment having two opposite edges,
cutting elements disposed on the interior surface of said screen,
a rotor rotatably mounted in said compartment adjacent the inner surface of said screen,
elongated cutting means on said rotor,
said screen and said rotor being of such relative size and being so relatively spaced that the clearance between the cutting path of the cutting means of said rotor and the center portion of said screen is less than that clearance at the edges of said screen.

3,194,289
HIGH PRODUCTION SLICING MACHINE

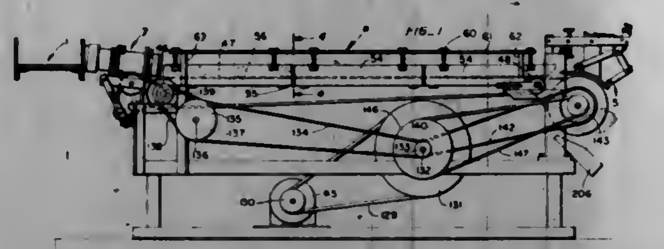
Robert A. Lundell, 200 Byram Shore Road, Byram, Conn.
Filed June 18, 1962, Ser. No. 203,301
12 Claims. (Cl. 146—105)



1. A high production slicing machine comprising a product delivering device, a gauge plate for regulating the thickness of the slice to be cut, a product receiving element spaced therefrom, means rotating said product delivering device and said product receiving element in substantially horizontal, parallel planes and in one direction, means additionally moving said product receiving device in increments in a plane substantially transverse to the path of movement of said product delivering device, and a cutting member interposed between said product delivering device and said product receiving element whereby the product is intermittently moved into the area of said cutting member and released on said gauge plate for cutting engagement with said cutting member to successively slice a predetermined thickness of said product, said slices dropping on said continuously moving product receiving element.

3,194,290
APRICOT PITTER

Etheridge R. McClelland, Hayward, and George E. Kilner, Oakland, Calif., assignors to Filper Corporation, San Ramon, Calif., a corporation of California
Filed Apr. 11, 1963, Ser. No. 272,253
17 Claims. (Cl. 146—238)



1. The method of pitting an apricot that includes the steps of:

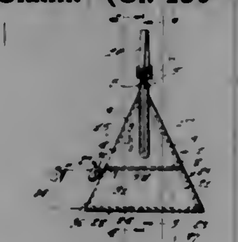
(a) rotating said apricot about an axis that is substantially at a right angle to the plane of its suture;
(b) progressively bisecting the body of said apricot to its pit in said plane commencing at one side of said apricot during said rotation to provide a pair of halves having opposed cut faces;
(c) then gripping the pit at two opposite edges thereof and between said opposed cut faces, and
(d) positively rotating said halves and said pit relative to each other at different rates of speed to separate said pit from said halves.

7. In apricot orienting, bisecting and pitting apparatus that includes a horizontally extending endless conveyor belt having an upper surface adapted to support apricots thereon in a single file extending longitudinally of said belt; means connected with said belt for moving it in one direction longitudinally thereof at a predetermined rate of speed toward a discharge end thereof; an apricot bisecting and pitting means adjacent to said discharge end adapted to receive apricots discharged from said discharge end with their sutures in a vertical plane coincidental with said belt and to remove the pits from such last mentioned apricots, the improvement that comprises:

(a) a pair of corresponding, horizontally elongated, parallel strips in side by side relation equally spaced at opposite sides of said belt;
(b) means yieldably supporting said strips in positions projecting above the level of said belt with one of their flat sides in generally opposed relation but extending convergently upwardly in relation to each other and spaced apart a distance to yieldably engage apricots on said belt at points at opposite sides of said apricots that are spaced above the centers of gravity of said apricots whereby said apricots will be yieldably urged against said belt from said points and will be oriented during the movement of said belt for delivery to said bisecting and pitting means with their sutures in said vertical plane.

3,194,291
HANDBAG WITH DRAWER COMPARTMENT

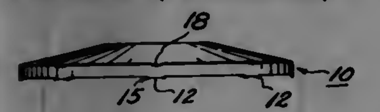
Inga Oakes, 2712½ Franklin St., Bellingham, Wash.
Filed June 17, 1963, Ser. No. 288,110
1 Claim. (Cl. 150—28)



A handbag comprising a bag body having a base bottom portion, a pair of triangular pliable end portions, an intermediate bottom portion vertically spaced from the base bottom portion, and side portions one of which has an open section intermediate the base bottom portion and the intermediate bottom portion; a drawer slidably inserted between the base bottom portion and the intermediate bottom portion through the open section of the side portion and having a bottom as well as end portions and side portions; a wedge-shaped member extended from said intermediate bottom portion into said drawer intermediate the side portions of the drawer; a resilient blade mounted on a side portion of said drawer; and a Z-shaped lever secured to said blade having a hook-shaped extremity; said resilient blade tending to move the hook-shaped extremity of said lever toward said intermediate bottom portion of said bag body so as to engage said wedge-shaped member when said drawer is closed, and said wedge-shaped member being so dimensioned as to engage a side portion of said drawer when the drawer is open for preventing the drawer from sliding entirely out of said bag body.

3,194,292
LOCK WASHER

Francis J. Borowsky, Elkins Park, Pa., assignor to George K. Garrett Company, Division of MSL Industries, Inc., Philadelphia, Pa., a corporation of Minnesota
Filed Dec. 14, 1962, Ser. No. 244,799
2 Claims. (Cl. 151—35)

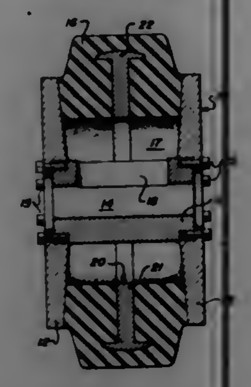


1. A dished resilient stamped sheet-steel lock-washer of uniform wall-thickness, having a generally cylindrical outer periphery and having a plurality of circumferentially distributed wedge-like teeth projecting from the concave face thereof along an outer marginal peripheral zone thereof and confined to such zone and rigid in relation to the body of the washer, each of said teeth having two generally radially disposed side-surfaces generally normal to the concave face of the washer and formed in integral continuation thereof throughout the radial extent thereof without any severance between said side-surfaces and said concave face and having a cylindrical outer end-surface between the outer ends of said side-surfaces which end-surface is an extension of the cylindrical outer periphery of the main body of the lock-washer and having a single inclined surface between said side-surfaces and extending from said end-surface towards and merging into the concave face of the lock-washer, said end-surface and said inclined surface intersecting each other at an acute angle and forming a work-engaging acute-angled edge generally parallel with the outer periphery of lock-washer intermediate said teeth thereof, and depressions along the outer periphery of the lock-washer and the convex face thereof opposite to the corresponding teeth thereof.

3,194,293
SHOCK ABSORBING CASTER WHEEL

Robert J. Kindley, Albuquerque, N. Mex., assignor, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission
Filed Jan. 26, 1965, Ser. No. 429,946
1 Claim. (Cl. 152—327)

A shock absorbing caster wheel comprising the combination of a hub, a pair of spaced apart flanges carried by said hub and projecting laterally therefrom and terminating in peripheral portions spaced radially from said hub, a single centrally apertured rigid disc with a widened rim portion at the outermost extremity thereof spaced intermediate and centrally disposed with respect to said flanges and generally parallel thereto with the inner periphery of the disc spaced radially from said hub and with the major portion comprising about two-thirds of the radial width of said disc exclusive of said rim portion positioned radially inwardly with respect to and overlapped by said peripheral portions of the flanges, and only a minor portion comprising about one-third of the radial width exclusive of said rim portion disposed outwardly of said peripheral portions, the maximum horizontal dimensions of said rim portion being not substantially greater than about one-third the spacing between said flanges, and a rubber-like mass of material spaced from said hub filling the spaces between adjacent faces of said flanges and intermediate disc completely embedding said disc except at its innermost periphery and fixedly secured directly to said faces buttressing said disc against substantial movement away from said parallel disposition and assuring that deformation of the rubber-like material by said disc is in shear and is achieved in the mass portions between the flanges.



3,194,294
STABLE PRE-PREPARED CORD DIP
Gerard E. van Gils, Cuyahoga Falls, Ohio, assignor to The General Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Nov. 21, 1961, Ser. No. 154,064
19 Claims. (Cl. 152—330)

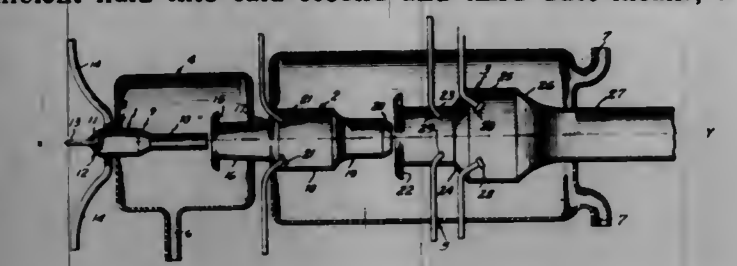
12. A pneumatic rubber tire having a carcass reinforced with nylon cords, said cords being bonded to the rubber portions of said carcass by an adhesive which is applied to the cords prior to building of the tire as an aqueous blend, said blend comprising (1) a latex of a rubbery copolymer of a major amount by weight of a diene hydrocarbon containing conjugated double bonds and a minor amount by weight of a vinyl pyridine, (2) a water-soluble alkaline-catalyzed polyhydric-phenol-aldehyde resole having a molar ratio of formaldehyde to resorcinol between 0.25:1 and 0.75:1, (3) an amount of ammonia sufficient to provide said blend with a pH of at least 9, and (4) an aliphatic water-soluble water-stable formaldehyde-donating compound consisting essentially of carbon, nitrogen, hydrogen and oxygen atoms and having at least one

$$\overset{H}{-N-}$$

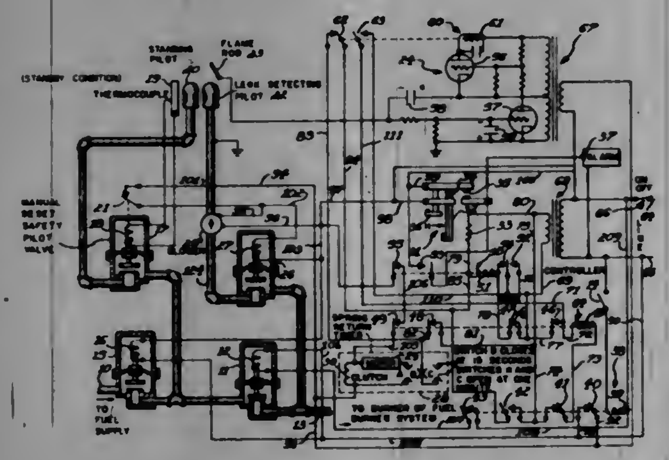
group and at least one methylol group.

3,194,295
HOT GAS GENERATING INSTALLATION
Raymond Hippolyte Firmin Marchal, Paris, and Pierre Servanty, Aulnay-sous-Bois, France, assignors to Societe Nationale d'Etude et de Construction de Moteurs d'Aviation, Paris, France, a company of France
Filed June 7, 1963, Ser. No. 286,375
Claims priority, application France, June 9, 1962, 900,339
2 Claims. (Cl. 158—4)

1. A hot gas generating installation comprising a first, a second and a third intermittent-combustion duct means axially arranged in series, fuel injector means in each of said duct means, each of said duct means having a discharge nozzle, inlet passage means in said second duct means positioned adjacent the discharge nozzle of said first duct means, inlet passage means in said third duct means positioned adjacent the discharge nozzle of said second duct means, said inlet passage means of said second and third duct mean arranged to collect the gases discharged from the discharge nozzles of said first duct means and said second duct means respectively and cooperating therewith to produce an injector effect inducing ambient fluid into said second and third duct means, a gas-tight casing surrounding and enclosing a substantial part of said second and third duct means including the discharge nozzle of said second duct and the inlet passage means of said third duct means, oxygen supply means in said third duct means, and means for supplying combustion-supporting gas under pressure into said gas-tight casing.

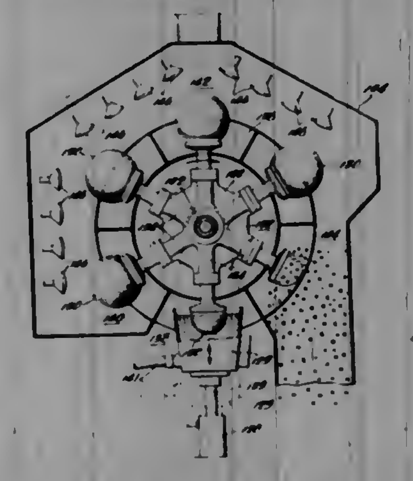


3,194,296
CONTROL APPARATUS
Richard W. Brown, Excelsior, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed July 26, 1963, Ser. No. 297,910
8 Claims. (Cl. 158—122)



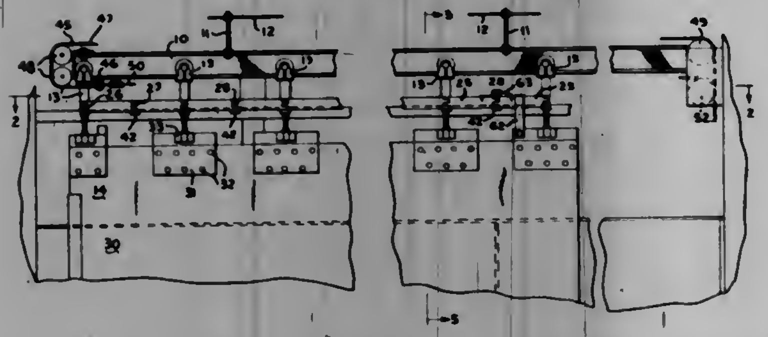
1. Fuel leak detecting apparatus comprising:
a fuel burner unit,
a fuel conduit connected between the fuel burner unit and a source of fuel,
a main fuel valve connected in the fuel conduit and adapted to admit fuel to the fuel burner unit only during periods of a need for operation of the fuel burner unit,
a controller operable to determine the periods of a need for operation of the fuel burner unit,
a first pilot burner having first flame sensing means cooperating therewith to sense the presence or absence of flame,
a safety pilot valve connected between the fuel conduit and said first pilot burner, controlled by said first flame sensing means to allow fuel to flow to said first pilot burner so long as flame is sensed thereat,
a second pilot burner having second flame sensing means cooperating therewith to sense the presence or absence of flame, said second pilot burner being adapted to be mounted in cooperating relation to said first pilot burner so that fuel at said second pilot burner is ignited by flame at said first pilot burner,
means including a further valve adapted to be connected to the fuel conduit at a position downstream from the main valve and to be connected to said second pilot burner to admit fuel at said position downstream to said second pilot burner,
means adapted to be controlled by the controller and by said first flame sensing means to cause said further valve to open only when flame is sensed at said first pilot burner during a period when there is no need for operation of the fuel burner unit,
and means controlled by said second flame sensing means to prevent fuel flow to the fuel burner unit in the event of a fuel leak at the main valve as evidenced by the presence of flame at said second pilot burner.

3,194,297
METHOD AND APPARATUS FOR FILM DRYING OF VISCOUS COMPOSITIONS
Bernard Coe, Cinnaminson Township, Burlington County, N.J., assignor to Alco Chemical Corporation, Philadelphia, Pa., a corporation of Ohio
Filed Sept. 17, 1962, Ser. No. 224,059
27 Claims. (Cl. 159—7)



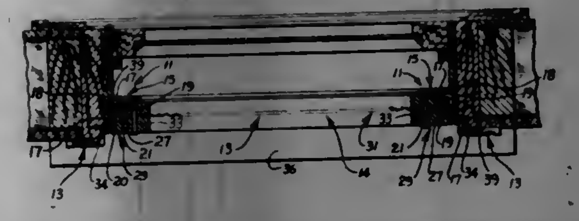
1. A method for drying a viscous fluid composition containing a normally solid material which comprises applying a viscous fluid composition comprising said normally solid material and a volatile liquid to an expandable, resilient supporting surface, expanding said supporting surface to reduce the thickness of said layer of viscous fluid composition, removing volatile liquid to render said material in a substantially dry condition, and separating said substantially dry material from said supporting surface by contracting said surface.

3,194,298
CURTAIN INSTALLATION
Victor Sussin, Elmhurst, Ill., assignor to Brunswick Corporation, a corporation of Delaware
Filed Oct. 8, 1962, Ser. No. 229,075
5 Claims. (Cl. 160—35)



4. In a curtain installation operable between retracted and extended positions: a track having opposite ends; a traversing assembly having opposite ends and including, travelers mounted on said track for movement therealong toward one end of said track in retracting operation and toward the other end of said track in extending operation, and rigid links connecting said travelers in series, each link having one end hinged to a traveler and an opposite end pivoted to a link extending from an adjacent traveler; a flexible curtain; means mounting the curtain on said traversing assembly for folding movement relative to the links; guide means extending along said track and retaining the curtain and said links in substantial alignment when extended; means to deflect said links out of alignment adjacent said one track end during retracting operation to fold in a zig-zag pattern; and means to fold said curtain in a zig-zag pattern different from the zig-zag pattern of the links at said one track end upon retracting operation.

3,194,299
MEANS FOR SEALING THE EDGE OF A PANEL TO FRAME MEANS
Alfonse Butler, 4306 Maycrest Ave., Los Angeles 32, Calif.
Filed July 9, 1962, Ser. No. 208,456
5 Claims. (Cl. 160—40)



1. Edge-sealing means for controllably disengageably sealing the edge of a panel to an effective frame means surrounding an aperture in a wall, comprising: framework means provided with fastening means for fastening said framework means to an effective frame means in a wall surrounding and defining an aperture therein, said framework means including two horizontally spaced, substantially vertically directed, substantially parallel, similar side framework portions, and also including two vertically spaced, substantially horizontally directed, substantially parallel, end framework portions adapted to be connected across said side framework portions at the top and bottom ends thereof to define said framework means in a substantially rectangular, rigid configuration, as seen in front elevation, of a size and shape corresponding to and adapted to engage said frame means in said wall surrounding said aperture defined therein, each of said framework portions comprises a longitudinal member of substantially L-shaped cross-sectional configuration including two perpendicularly related planar thin-sheet wing portions joined together and defining an interconnecting vertex portion, each of said wing portions being provided with coplanar thin-sheet angularly disposed and spaced portions of supporting wall means extending angularly inwardly between said wing portions of said member and lying on the inner side of said vertex portion between said two wing portions whereby to lie in symmetrical angular relationship with respect thereto, said angularly disposed supporting wall means being provided with longitudinal compressible sealing gasket strip means coextensive with and lying along the complete length and width of an outer surface of said supporting wall means for forcible sealing engagement with the complete surface areas of correspondingly angularly shaped and positioned edge portions of a panel adapted to be fastened across said aperture in said wall for effectively closing same, said supporting wall means and said sealing gasket strip means being effectively provided with controllably engageable retention means along the lengths thereof for controllably engaging and retaining said sealing gasket strip means against said complete length and width of said outer surface of said supporting wall means in said position for sealing engagement with said correspondingly angularly shaped and positioned edge portions of said panel, said retention means comprising first and second elements carried, respectively, by a rear surface of said sealing gasket strip means and by a correspondingly positioned part of said supporting wall means contiguous with said first element carried by the rear surface

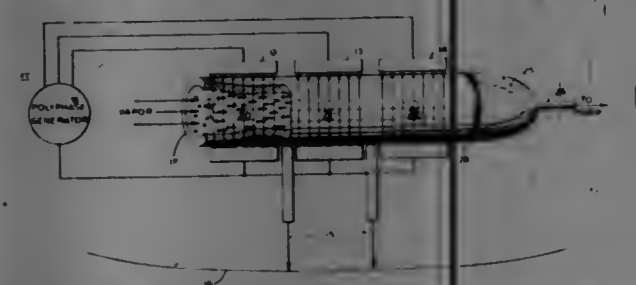
of said sealing gasket strip means, said first element of said retention means comprising an elastomeric effectively headed longitudinal projection carried along the length of the rear surface of said sealing gasket strip means, and said second element of said retention means comprising corresponding receiving slot means carried along the length of each of said supporting wall means and defined between said coplanar thin-sheet angularly disposed and spaced portions of said supporting wall means along the length thereof, said first and second elements being resiliently engaged by forcible and temporary deformation of said elastomeric effectively headed projection during insertion thereof through said slot means into a fully retained relationship with respect to said coplanar thin-sheet angularly disposed and spaced portions of said supporting wall means on each side of said receiving slot means.

3,194,300

METHOD AND MEANS FOR IMPROVING HEAT TRANSFER UNDER ZERO GRAVITY CONDITIONS

Daniel Friedman, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Navy

Filed July 30, 1962, Ser. No. 213,557
5 Claims. (Cl. 165—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



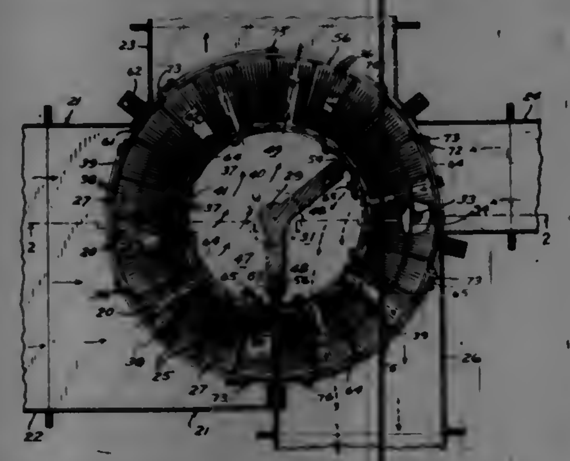
1. The method of providing for heat transfer in a space vehicle under zero gravity conditions comprising the steps of transporting said space vehicle to zero gravity conditions, condensing the vapor of an electrically conductive substance, impressing across the surface where said vapor is condensed a series of magnetic fields varying in time phase consecutively from the point of introduction of said vapor whereby condensed vapor will be forced to move with respect to said lines of magnetic force, and collecting said condensed vapor droplets in liquid form.

3,194,301

RADIAL FLOW ROTARY REGENERATIVE HEATER

Andre Kovats, Livingston, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York

Filed Nov. 27, 1963, Ser. No. 326,401
3 Claims. (Cl. 165—7)



1. A regenerative preheater for the exchange of heat between a first fluid and a second fluid comprising:

a ring-shaped permeable matrix having an inner surface and an outer surface with equally-spaced regenerative elements radially placed between said surfaces so as to form a radial passageway between said elements, said elements being divergently shaped so that the cross-sectional area of the passageway between two contiguous regenerative elements remains approximately constant as the elements radially converge,

enclosing means for preventing the escape of fluid to the outside atmosphere, said enclosing means including radial seals and circumferential seals,

a shaft supporting said matrix,

a partition within the space defined by said inner surface for separating said space into a first compartment and a second compartment,

a first inlet duct defining a cross-sectional area of passageway radially inward for introducing a first fluid through said matrix into said first compartment,

a first outlet duct defining a cross-sectional area of passageway radially outward for removing said first fluid through said matrix from said first compartment,

a second inlet duct defining a cross-sectional area of passageway radially inward for introducing a second fluid through said matrix into said second compartment,

a second outlet duct defining a cross-sectional area of passageway radially outward for removing said second fluid through said matrix from said second compartment, and

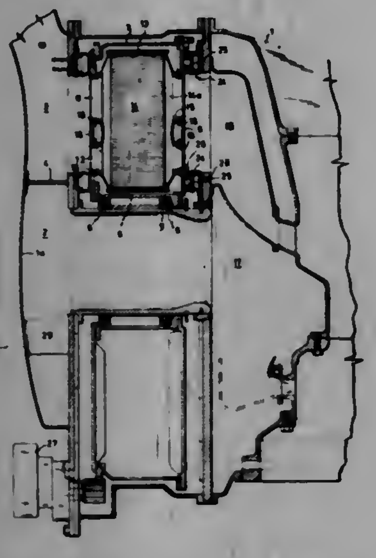
means for continuously rotating said matrix about said supporting shaft so that said matrix passes from the inlet of one fluid to the outlet of the other fluid.

3,194,302

REGENERATIVE HEAT EXCHANGER

Sven-Olof Kronogård, Goteborg, Sweden, assignor to Aktiebolaget Volvo, Goteborg, Sweden, a corporation of Sweden

Filed Sept. 10, 1962, Ser. No. 222,265
Claims priority, application Sweden, Sept. 11, 1961, 9,024
3 Claims. (Cl. 165—9)



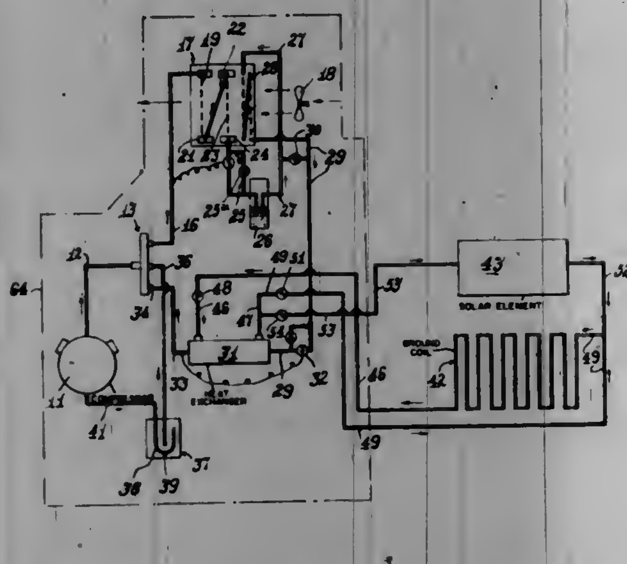
1. A rotary regenerative heat exchanger of the axial flow type, particularly for gas turbine power plants, comprising a stationary housing, an annular heat exchange member mounted for rotation in said housing and having radial end walls, driving means for said heat exchange member, said housing being provided with an inlet and an outlet for a heat emitting elastic fluid and an inlet and an outlet for an elastic fluid to be heated and a cover comprising a distributing chamber and a collecting chamber for the fluid to be heated and the heat emitting fluid, respectively, a plurality of receptacles in said heat exchange member, said receptacles being filled with a heat exchange material and arranged circularly around the axis of rotation of the heat exchange member, sealing means between said radial end walls and said housing, and an inlet duct for said fluid to be heated extending axially through the center of said annular heat exchange member to said distributing chamber, said duct supporting bearings for said rotatable heat exchange member.

3,194,303

HEAT PUMP SYSTEM

John C. Haried, 1616 Kenilworth Place, Aurora, Ill.

Filed May 28, 1962, Ser. No. 198,313
4 Claims. (Cl. 165—29)



1. A heating and cooling apparatus comprising a refrigerant compressor, a fluid temperature modifying device, means connected to said compressor for circulating a refrigerant therebetween, and means for passing a fluid whose temperature is to be modified through same in heat exchange relation therewith, said device comprising at least a first section and a second section, the latter of which is disposed upstream from said first section, the first section comprising a combined evaporator-condenser and said second section comprising liquid refrigerant sub-cooling means, a liquid refrigerant receiver connected intermediate said first and second sections and including means for separating any gas from the liquid refrigerant entering same, said means for circulating a refrigerant comprising a refrigerant fluid heat exchanger connected intermediate the sub-cooling section of said temperature modifying device and said compressor, and a refrigerant flow reversing valve connected intermediate the compressor and each of said first section of the modifying device and said refrigerant fluid heat exchanger.

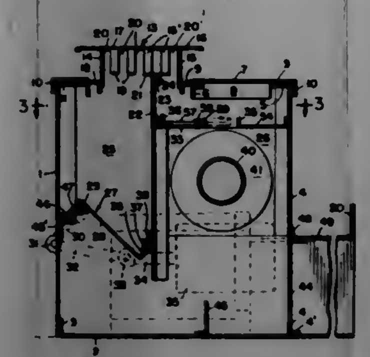
3,194,304

VARIABLE VOLUME TERMINAL UNIT WITH REHEAT

Harold E. Straub, Cedar Falls, and Berwyn B. Johnson, Waterloo, Iowa, assignors to Titus Manufacturing Corportion, Waterloo, Iowa, a corporation of Iowa

Filed Dec. 20, 1961, Ser. No. 161,346
5 Claims. (Cl. 165—34)

1. 'A terminal unit for air conditioning systems comprising walls providing a hollow chamber, a restricted opening in one of the walls of said chamber adapted for supplying air to said chamber, an opening in another of the walls in said chamber through which air is adapted to be discharged, divider wall means extending into said chamber from said last-mentioned opening and dividing said chamber and last-mentioned opening into two air passages, means in one of said passages for heating air passing through said passage, a damper controlling air flow through the other of said passages, and temperature-responsive, power-operated means for opening and closing said damper to regulate the quantity of air passing through said damper-controlled passage, said opening through which said air is adapted to be discharged being provided with a grille composed of spaced, parallel bars having a plurality of air passages therebetween, and said



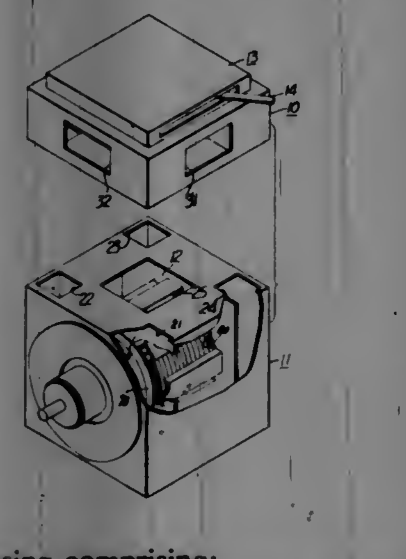
divider wall means and said grille being connected at a position on said grille to provide a substantially lesser air discharge area through said grille from said passage containing said means for heating the air as compared with the discharge area through said grille from said passage containing said damper.

3,194,305

FLUID FLOW CONTROL HOUSING

Robert C. Moore, Wauwatosa, Wis., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed May 14, 1962, Ser. No. 194,434
4 Claims. (Cl. 165—47)



1. An air housing comprising:

a rectangular top wall, a rectangular bottom wall, and a first and second pair of parallel side walls with said pairs perpendicular to each other, said walls intersecting to form a housing chamber;

baffles;

means for movably mounting the baffles within the housing chamber with said baffles movable to a spaced apart first position parallel to the first pair of side walls to divide the housing chamber into a side, center, and side chamber and movable to a spaced apart second position parallel to the second pair of side walls to divide the housing chamber into another side, center, and side chamber;

a first set of four ports located in the bottom wall with each located to communicate with only a side chamber and each adjacent a different corner of the bottom wall; a port centrally located in the bottom wall; and

a second set of four ports each located in a wall to communicate with only a side chamber when the baffles are parallel to one pair of side walls and to communicate with only a center chamber when the baffles are perpendicular to said one pair of side walls.

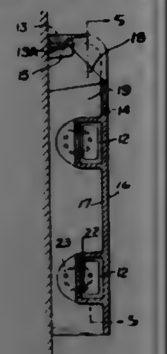
3,194,306

BASEBOARD HEATER

Elden Algernon Wenger, 2101 9th Ave. SE., and Clarence La Verne Wenger, 2032 9th Ave. SE., both of Calgary, Alberta, Canada

Filed Oct. 1, 1962, Ser. No. 227,253

2 Claims. (Cl. 165—56)



1. A baseboard radiator adapted to be suspended from a wall comprising a molded thin wall aluminum member and a plurality of conduits encased in an enlarged rib portion projecting from only the rear face thereof, said conduits having a coefficient of expansion different from that of the thin wall member and being entirely surrounded by aluminum forming the thin wall member except for portions projecting from each end of the latter thereby providing means for securing together a plurality of radiators in end-to-end relationship, the outer surface of said conduits being in intimate relatively high pressural engagement with said molded member to expand and contract therewith, said thin wall member being substantially inverted L-shaped in cross section, having a vertical leg portion with said conduits encased therein and an upper transverse leg portion and an elongated slot at the junction thereof, said thin wall member further including a plurality of spaced substantially parallel fins formed integral therewith and projecting radially therefrom in the direction of the transverse leg portion to form with said wall a plurality of chimney-like columns for the circulation of air therethrough, selected ones of said fins interconnecting said leg portions at a plurality of spaced intervals.

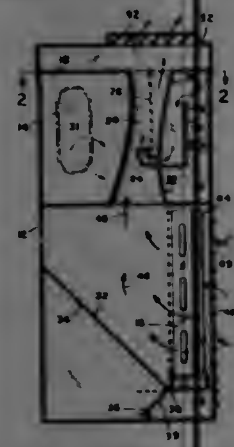
3,194,307

INDUCTION CIRCULATOR

Horace E. Wood, Scotch Plains, N.J., assignor to Worthington Corporation, Harrison, N.J., a corporation of Delaware

Filed July 9, 1962, Ser. No. 208,348

2 Claims. (Cl. 165—123)



1. An induction circulating unit for a positive pressure multi-room air conditioning system comprising:

(a) a casing having spaced inlet and outlet openings therein for the passage of air therethrough,

(b) a plenum having upper and lower walls disposed in said casing below said outlet openings,

(c) said plenum adapted to be connected to a source of conditioned primary air from said multi-room air conditioning system,

(d) heat exchange means disposed in said casing below said plenum and adjacent said inlet openings to allow the passage of secondary air through said heat exchange means,

(e) a plurality of spaced nozzles extending from the lower walls of said plenum to the upper wall thereof, said nozzles having divergent openings at the lower and upper ends thereof with the wall of said nozzles being convergent toward the center thereof,

(f) tube means disposed in each of said nozzles at the convergent portion thereof to comunicate primary air from said plenum to said nozzle, to induce secondary air into said nozzle from below said plenum, to cause mixing of said primary air with said secondary air, and to transmit said mixed primary and secondary air upward through said nozzle and out said outlet openings.

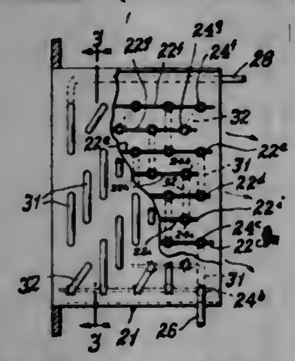
3,194,308

CROSS FLOW HEAT EXCHANGER WITH DUCTS IN PANEL

John C. Haried, 1616 Kenilworth Place, Aurora, Ill.

Filed May 28, 1962, Ser. No. 198,203

3 Claims. (Cl. 165—165)



1. A heat transfer unit comprising a casing defined by spaced-apart top and bottom walls and spaced-apart side walls and having oppositely disposed air inlet and air discharge ends, a plurality of sheets of heat transfer material extending between the casing side walls and spaced from one another throughout their full extent and lying in planes which are substantially parallel to one another, thereby to subdivide the air flow path through the casing into a plurality of lesser parallel paths, means forming a plurality of fluid-flow passageways in each sheet and which are disposed normal to the path of air flow through the casing and have length as to extend between the casing side walls, means disposed externally of the side walls and connecting those passageways of alternate sheets which are contained in planes substantially perpendicular to the air flow path in series with one another and thence in series with the correspondingly disposed passageways of an intermediate sheet and in such manner as to form a continuous fluid-flow passageway which extends progressively through all of said sheets and in a direction opposed to the direction of air flow through said plurality of air flow passages, a fluid inlet connected to that sheet passageway at the air discharge end of the casing which constitutes the beginning of the continuous fluid-flow passageway, and a fluid outlet connected to that sheet passageway at the air inlet side of the casing which constitutes the end of the continuous fluid-flow passageway.

3,194,309

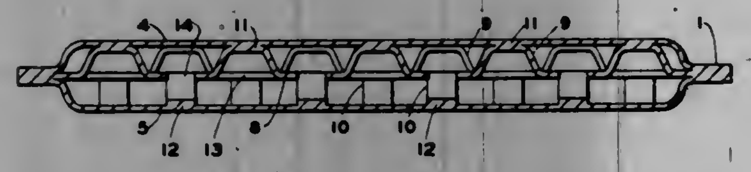
HEAT EXCHANGE STRUCTURE

Richard F. Adams, Alton, Ill., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

Original application July 16, 1954, Ser. No. 443,944, now Patent No. 2,944,328, dated July 12, 1960. Divided and this application Oct. 12, 1959, Ser. No. 848,887

4 Claims. (Cl. 165—170)

1. In a sheet metal unit, a voluminous thin-walled cavity of large expanse defined between substantially superposed planar outer wall members disposed in spaced relationship to each other, and a single inner wall member subdividing said cavity and welded to said outer wall members along spaced marginal portions of the adjacent faces of all said members, said inner wall member being coextensive with said outer wall members between said marginal portions and disposed between and partially lying in a plane in spaced relationship to said outer wall members with said inner wall member having between said marginal portions a first portion, a second portion, and a third portion disposed in different parts of said inner wall member, with all of said first portion comprising a first perforation through said member and a first strip of said inner wall member bowed out therefrom in superposed relationship with said first perforation and extending as a first loop projecting out from one of the opposite faces of said inner wall member with the crest of said first loop integrated with one of said outer wall members adjacent said one face, said second portion being spaced from said first portion and comprising a second perforation through said member and a second strip of said inner wall member bowed out in superposed relationship with said second perforation and extending as a second loop projecting out from the other of said faces with the crest of said second loop integrated with the other of said outer wall members adjacent said other face, and said third portion disposed in the normal plane of said inner wall member in its spaced relationship with said members.



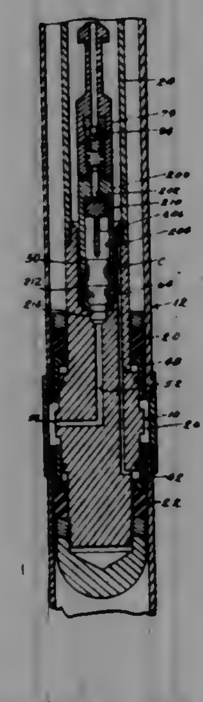
3,194,310

METHOD OF LOCATING LEAKS AND REPAIRING WELL TUBING IN SITU

Glenn L. Loomis, Pasadena, Tex.; Jean Doyle Loomis, independent executrix of Glenn L. Loomis, deceased, assignor to Jean Doyle Loomis, individually

Original application July 2, 1962, Ser. No. 206,631. Divided and this application Mar. 6, 1964, Ser. No. 358,393

3 Claims. (Cl. 166—4)



3. A method of repairing a leak in a section well pipe while the well pipe remains in situ within the well comprising the steps of: establishing spaced barriers within the well pipe on either side of the section well pipe, and at the same time positioning a frangible capsule within the well pipe adjacent the section, the frangible capsule containing a sealant; fracturing the capsule and flowing the sealant into the space between the barriers, and applying pressure on the sealant to force the same into the leak in the section of well pipe.

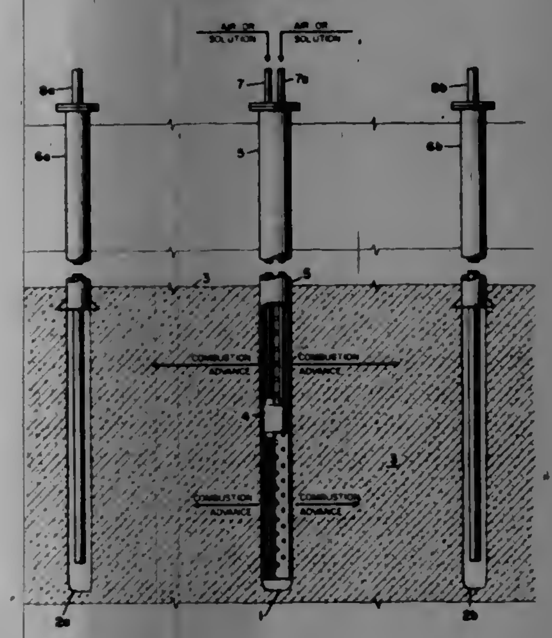
3,194,311

CONTROL OF COMBUSTION IN IN SITU TREATMENTS OF CARBONACEOUS DEPOSITS

Walter C. Sheldon, Englewood, Colo., assignor to Marathon Oil Company, a corporation of Ohio

Filed Dec. 26, 1961, Ser. No. 162,211

10 Claims. (Cl. 166—11)



1. A method for controlling combustion in permeable underground carbonaceous deposits, which comprises introducing a combustion catalyst through an injection well into a selected level throughout a permeable portion of such a deposit betwen said injection well and a production well, directing oxygen-containing gas through said injection well into the portion of said deposit containing the combustion catalyst in a quantity sufficient to initiate zones of spontaneous combustion therein, propagating a combustion front movement from the spontaneous combusion zones by continued introduction of oxygen-containing gas into the selected level of the permeable portion, introducing oxygen-containing gas through a separated passage in said injection well into an adjoining level of the permeable deposit after a predetermined interval for initiating a combustion front movement in said adjoining level substantially simultaneously with the first combustion front movement, and removing evolved products of both frontal movements through the production well.

3,194,312

METHOD OF AND APPARATUS FOR COMPLETING OIL WELLS AND THE LIKE

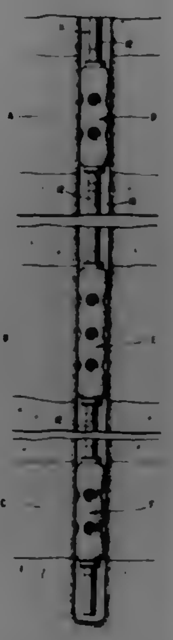
George A. Thomas, Abilene, Tex., assignor, by direct and mesne assignments, of one-third to John R. Hatch, Big Spring, Tex., and two-thirds to David Craven, Philadelphia, Pa.

Filed Feb. 8, 1962, Ser. No. 172,019

16 Claims. (Cl. 166—21)

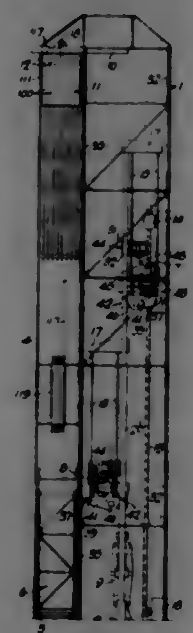
13. In a method of completing a well, the steps of lowering tubular string with a plurality of longitudinally spaced packing jackets attached thereto and spaced radially therefrom into the well, engaging and substantially covering spaced multiple level producing formations in the well exteriorly of the string and around the string

with said packing jacket and while the string is positioned in the well, forcing cement downwardly through the string and then upwardly exteriorly of the string and between the string and said packing jackets covered formations to cement the string above and below and opposite each formation and maintaining each formation covered to protect it from the cement, and then selectively producing fluid from said covered formation through said packing jackets into said string for passage upwardly therein.



3,194,313
EARTH DRILLING RIGS

Hew Dalrymple Fanshawe, Syde, near Cheltenham, England, assignor to F.N.R.D. Limited, London, England, a British company
Filed Aug. 22, 1961, Ser. No. 133,090
Claims priority, application Great Britain, Sept. 24, 1956, 29,153/56; Aug. 9, 1957, 25,259/57
30 Claims. (Cl. 166—77.5)



1. An earth drilling rig for handling a drill pipe string consisting of a plurality of connected drill pipe sections, comprising a plurality of vertically movable pipe string pulling mechanisms, means operable during the vertical movement of said mechanisms for causing said mechanisms to successively engage, pull and release said pipe string, and means carried by at least one of said mechanisms for disconnecting pipe sections from said pipe string while said string is in motion.

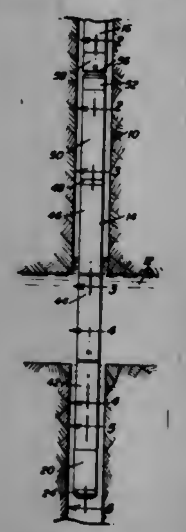
3,194,314
PROCESS OF INHIBITING CORROSION IN OIL PRODUCTION

Hendrik K. van Poollen, Littleton, Colo., assignor to Marathon Oil Company, Findlay, Ohio, a corporation of Ohio
Filed Nov. 13, 1962, Ser. No. 237,376
The portion of the term of the patent subsequent to Jan. 8, 1980, has been disclaimed
6 Claims. (Cl. 166—42)

1. The process of inhibiting corrosion in crude hydrocarbon production comprising injecting a mixture consisting essentially of solid corrosion inhibitor particles suspended in a carrier material, said carrier material being under pressure sufficient to part the subterranean formation from which crude hydrocarbon is to be produced, into a subterranean hydrocarbon fluid bearing formation through a well drilled therein, said particles being only slightly soluble in the formation fluids; and recovering hydrocarbon fluids from the formation.

3,194,315
APPARATUS FOR ISOLATING ZONES IN WELLS

Nolan J. Rogers, Houma, La., assignor of forty-nine percent to Charles D. Golson, Houma, La.
Filed June 26, 1962, Ser. No. 205,261
14 Claims. (Cl. 166—57)

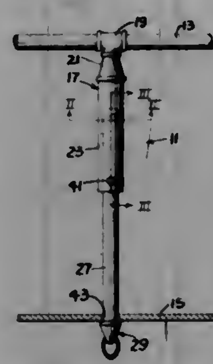


12. An apparatus for temporarily closing a well bore at a selected region comprising a refrigerating device adapted for movement to a selected region in a well bore having a liquid therein, said device including a chamber means for storing a refrigerant under pressure and means defining an expansion chamber for positioning at said selected region, means for delivering refrigerant from said storage to said expansion chamber, control means for controlling refrigerant flow between said chambers, said control means including a control valve operatively interposed between said storage chamber and said delivery means, a fluid pressure operated actuator connected to said control valve, means for applying fluid under actuating pressure to said actuator.

3,194,316
ADJUSTABLE DROP SPRIG FOR A FIRE SPRINKLER SYSTEM

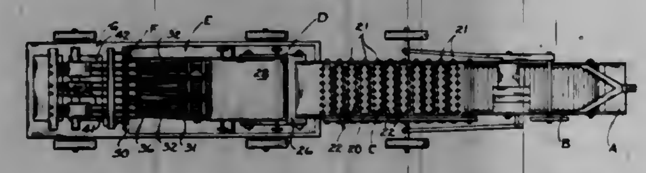
Enoch P. Faulkner, 1556 Raymore Road, and James W. Tuttle, 3039 Lamar Ave., both of Memphis, Tenn.
Filed Sept. 18, 1961, Ser. No. 138,668
8 Claims. (Cl. 169—37)

1. In a fire sprinkler system of the wet system type including a conduit pipe for carrying water and the like and with said pipe being arranged above the ceiling panel of a room of a building, an adjustable drop sprig comprising an upper pipe connected adjacent the upper end thereof to said first mentioned pipe and depending therefrom, said upper pipe being open adjacent the lower end thereof, a lower pipe smaller in diameter than said upper pipe and having its upper end open and telescopically received in the lower end of said upper pipe, a valved sprinkler head connected to said lower pipe adjacent the lower end thereof, said sprinkler head including means responsive to heat for opening said head for passage of water therethrough, said lower pipe being rectilinearly movable relative to said upper pipe to position said sprinkler head at a desired position, said lower pipe having a shoulder adjacent the upper end thereof, sealing means fitted against said shoulder and extending outwardly into sliding contact with the interior of said upper pipe for sealing said upper and lower pipes against flow of water and the like therebetween and for catching sediment and the like, and means cooperating between said lower pipe and said upper pipe for holding said lower pipe at a selected fixed position relative to said upper pipe with said sprinkler head being disposed substantially at the undersurface of said ceiling panel of said room, said sprinkler head being normally in a closed disposition for holding water in the pipes and until said sprinkler head is actuated by a fire to open said sprinkler head.



3,194,317
METHOD AND APPARATUS FOR HAVESTING STRAWBERRY PLANTS

George E. Vautin, Modesto, Calif., assignor to Vautin-Hyde Co., Watsonville, Calif., a corporation of California
Filed Oct. 22, 1962, Ser. No. 231,939
8 Claims. (Cl. 171—1)

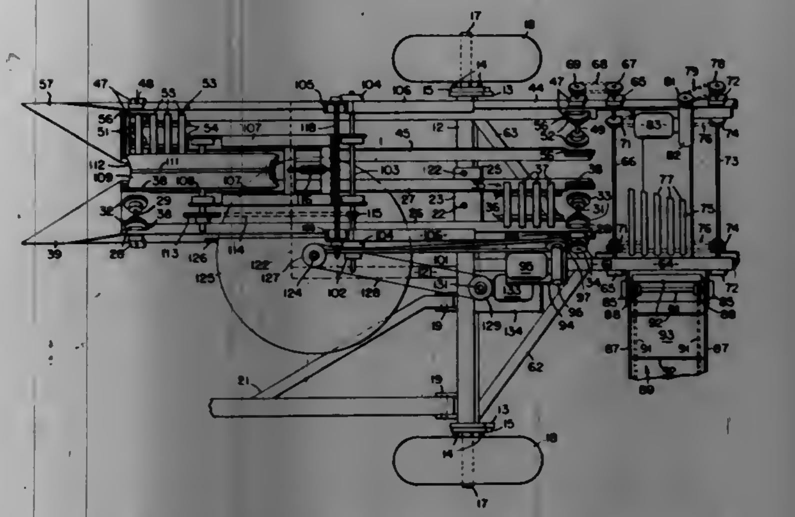


1. A method for harvesting strawberry plants comprising the successive steps of:
- digging out the strawberry plants and severing the runners that connect mother plants to daughter plants,
- orienting the plants to an upright position and putting them in a line,
- elevating each plant in the line until its crown is at a predetermined height, and then
- cutting said plant just above said crown.

3,194,318
CABBAGE HARVESTER

Emanuel F. Boyer, R.D. 2, Barre Center, Albion, N.Y.
Filed Aug. 30, 1963, Ser. No. 305,660
9 Claims. (Cl. 171—18)

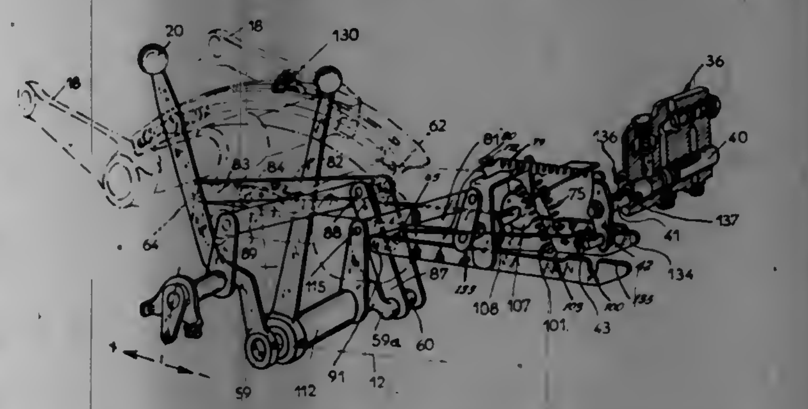
1. A cabbage harvesting machine comprising
- (a) a carriage adapted to be advanced on the ground along a row of cabbage plants,
- (b) means on said carriage for uprooting cabbage plants from a row during the advance of said carriage,
- (c) cutting means on said carriage for trimming the stems from the heads of the uprooted cabbage plants,
- (d) conveyor means mounted on said carriage for transporting uprooted cabbage plants past said cutting means to be trimmed thereby, and for transporting the heads of the plants and leaves severed from the heads toward a discharge point at the rear end of said conveyor means,



- (e) an endless conveyor belt having its upper run positioned beneath the rear end of said conveyor means to receive trimmed heads and leaves discharged off the rear end of said conveyor means, and
- (f) means supporting said conveyor belt on said carriage with one side thereof higher than the other, whereby said upper run of said belt is inclined at an angle to the horizontal to cause the trimmed cabbage heads delivered onto said conveyor belt from said conveyor means to roll by gravity toward and off said other side of said belt, while the leaves are transported by said belt to a discharge point at one end thereof.

3,194,319
SERVO-CONTROL DEVICE FOR RAISING TRACTOR-HAULED EQUIPMENT

Daniel Faure, 17 Rue Paul Cazeneuve, Lyon, France
Filed May 16, 1963, Ser. No. 280,779
Claims priority, application France, May 25, 1962, 898,858
21 Claims. (Cl. 172—9)



1. In a device comprising a power operating feedback servo-control system, responsive to manual and automatic sources of control modulation, for a tractor-borne implement three-point trailing hitch for upward and downward swing between raised transporting and lowered grounded working positions, the combination of a rockshaft journalled in a stationary support and operatively connected to said hitch for raising and lowering same and provided with drive arm means rigid with said rockshaft, a pressure-fluid actuated one-way ram unit including a cylinder defining a fluid-expansible chamber with a reciprocating piston slidably mounted therein, a piston rod pivotally interconnecting said piston with said drive arm means, a source of pressure fluid supply connected through a transmission line to said chamber, a control valve mechanism inserted in said transmission line for

selectively controlling delivery of said pressure fluid to said ram unit to raise said hitch and for exhausting said pressure fluid from said ram unit to lower said hitch, with a valve member shiftable in opposite directions and selectively settable in a fluid locking neutral medial position effective to retain the actual position of said hitch and in either of two active end positions for raising and lowering said hitch on effect of respectively energizing and releasing said ram unit respectively, an adjustable draft load measuring and reflecting arrangement associated at a third attachment point of said hitch with sensitivity adjusting means and shiftable control means progressively movable in opposite directions in proportion to the draft load imposed on said hitch and with double-acting balancing spring means resiliently opposing both forward and rearward tilting of said implement relative to said tractor to determine the extent of displacement of said control means in either direction from a neutral position upon variation of said draft load, a position-responsive valve-actuating first linkage responsive to the position of said implement and positively interconnecting said rock-shaft directly with said valve member, a draft load-responsive valve-actuating second linkage positively interconnecting said control means directly with said valve member, said linkages being separate and operable independently from each other, extending up to and individually reaching said valve member and being exclusively composed of hingedly interconnected rockers and links providing a positively connecting and actuating transmission, and each linkage having an operator-responsive connection with said valve member, whereby in the engaged condition of said connection the respective linkage is positively and operatively connected to said valve member whereas the inoperative disengaged condition of said connection enables movement of said valve member independently of the linkage, a hand lever having an extended range of adjustment, pivoted on said stationary support and formed with at least one crank wrist providing a selectively shiftable fulcrum through which said hand lever is operatively connected to a command-initiating link member of each linkage, said hand lever being adapted to be moved to and to be releasably secured in a selected position setting a predetermined magnitude either of said draft load or of said implement position, the latter being then automatically maintained by the corrective action of the corresponding linkage at a substantially constant value selectively variable through adjustment of said hand lever and independent operator-responsive change-over means controlling said connection of each linkage to selectively condition the device alternatively for controlling said first linkage or said second linkage, said change-over means being adapted to disable either one of said linkages and to simultaneously make the other operative.

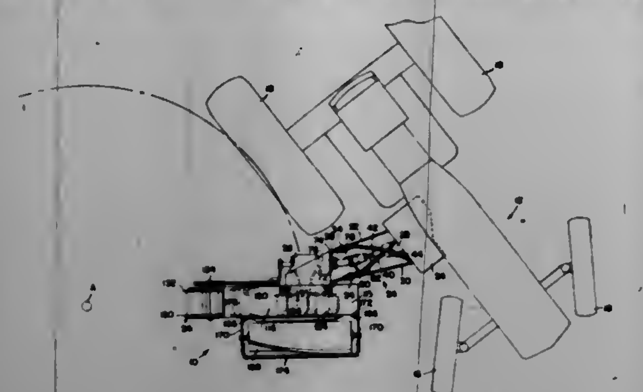
3,194,320
BANKER

Kenneth L. Kirkpatrick, Welland, Ontario, Canada, assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Dec. 28, 1962, Ser. No. [illegible]48,059

7 Claims. (Cl. 172—3[illegible])

1. An earth working apparatus of the class described comprising: a transverse housing having a top wall and front and rear side walls, means to propel said housing generally forwardly, a digging and slinging wheel rotatably mounted within said housing about a substantially horizontal axis, a delivery wheel rotatably mounted in said housing about an axis substantially parallel to said first mentioned axis, means extending through at least one of said side walls and operative to rotatably drive said digging and slinging wheel, whereby rotation of said digging wheel will cause earth to be dug and slung transversely onto said delivery wheel, and means to rotate said delivery wheel whereby rotation of said delivery wheel will cause the earth to be delivered to its point of deposition, said delivery wheel having generally planar longitudinally extending surfaces.

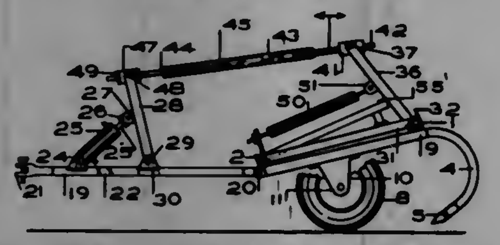


3,194,321
COMBINATION HITCH, DEPTH CONTROL AND SPRING RELEASE FOR ROD WEEDERS

Floyd Arthur Sande, Box 5, Lomond, Alberta, Canada

Filed Mar. 23, 1964, Ser. No. 353,748

3 Claims. (Cl. 172—44)



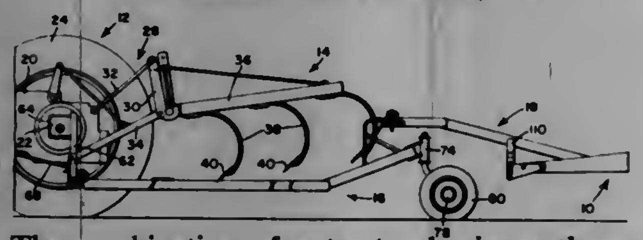
1. A rod weeder having a draft section and a shank carrying frame pivotally attached on its forward side to the draft section to pivot vertically relative thereto, the draft section having uprights mounted thereon and the shank carrying frame having upstanding arms mounted thereon, and including means adjustably connecting and holding said arms and uprights in fixed relation to each other, said shank carrying frame mounted on supporting wheels free to pivot forward and backward thereon; in which said uprights and arms are pivotally mounted respectively on the draft section and shank carrying frame to move forward and backward thereon, means anchored to the draft section and connected to said uprights by which the uprights may be held against pivotal movement, expansion springs attached to the upstanding arms on the shank carrying frame, and means anchoring said springs to said frame tensionable by a backward movement of said arms.

3,194,322
HITCH DEVICE

Harold V. Hansen, Hillsdale, Ill., assignor to Deere & Company, Moline, Ill., a corporation of Delaware

Filed Dec. 13, 1963, Ser. No. 330,439

2 Claims. (Cl. 172—310)



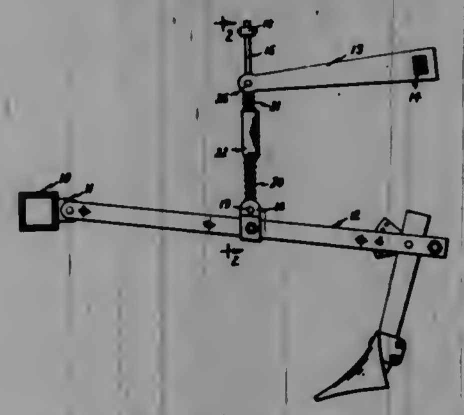
1. The combination of a tractor having a three-point hitch with a ground-working device mounted thereon; a planter having a forwardly extending draft frame; a hitch device interconnecting the tractor and the planter, said hitch device including a longitudinally extending main frame and a planter extension frame swingably interconnecting the draft frame of the planter with the main frame, the main frame having a forward bifurcated portion and a rear portion, a generally transverse rod interconnecting said bifurcated portions and having a portion rotatably securing said main frame to said tractor, castering wheel means supporting a rear portion of said main frame, and an upstanding apertured portion rigidly carried by said rear portion, the planter extension frame including a principal frame member, a generally flat plate interconnecting the rear portion of said principal frame member with a transverse plate on an intermediate portion of the draft frame of the planter, a downwardly extending apertured member interconnecting the intermediate portion of said principal frame with the forward end of the planter draft frame, and a forwardly extending bifurcated portion, said bifurcated portion carrying clevis means swingably secured to the upstanding apertured portion.

3,194,323
ADJUSTABLE SPRING REGULATOR FOR FURROW OPENERS

Clarence Robert Zimmerman, Box 6, Almira, Wash.

Filed Sept. 16, 1963, Ser. No. 309,070

4 Claims. (Cl. 172—500)



1. A depth regulator for a furrow opener movably mounted on a supporting framework and having a pressure spring rod pivotally connected thereto and slidably engaged within a pressure arm also movable mounted on the framework, comprising:

first coiled spring means mounted coaxially about the pressure spring rod in abutment with said furrow opener and extending along said pressure spring rod in the direction of its engagement by the pressure arm;

second coiled spring means mounted coaxially about the pressure spring rod in engagement with said first coiled spring means and said pressure arm, the spring constant of one of said spring means being greater than that of the remaining spring means;

and a coaxial collar threadably engaged with said one of said spring means for longitudinal adjustment relative thereto, said collar extending longitudinally along a portion of the remaining one of said spring means to selectively limit the amount of compression of said remaining one of said spring means prior to compression of said one of said spring means alone.

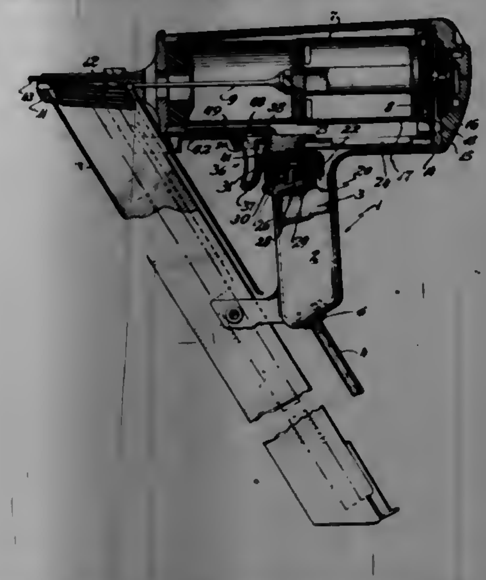
3,194,324
FASTENER DRIVING TOOL

Arthur Langas, Chicago, Ill., assignor to Signode Corporation, a corporation of Delaware

Filed Mar. 13, 1963, Ser. No. 264,902

5 Claims. (Cl. 173—2)

1. In a pneumatic fastening tool having a handle and a head portion disposed adjacent thereto in which is located a fastener driver assembly, means for controlling the operation of said fastener driver assembly including a valve means, a trigger assembly mounted under said handle and positioned to be manipulated toward said handle to operate said valve means, said trigger assembly including a trigger member pivotally connected to said tool, a lever pivotally mounted at one end to said trigger, a stop disposed adjacent the other end of said lever, a safety mechanism for positioning said lever to condition the trigger assembly to operate said valve upon manipulation thereof, said safety mechanism including a portion adapted to engage said other end of said lever to dispose it adjacent said stop when the tool is brought into contact with a surface into which a fastener is to be driven.

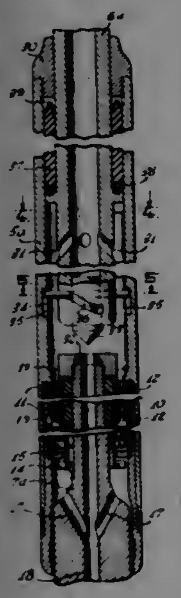


3,194,325
FLUID CONTROL VALVE FOR TURBODRILL

Sabin J. Gianelloni, Jr., P.O. Drawer 1870, Baton Rouge, La.

Original application July 18, 1957, Ser. No..672,722, now Patent No. 2,963,099, dated Dec. 6, 1960. Divided and this application Aug. 1, 1960, Ser. No. 46,602

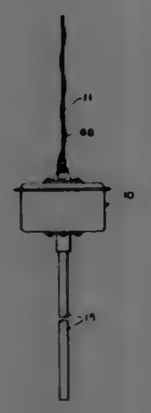
2 Claims. (Cl. 175—26)



1. In a turbodrill,
a drill body,
a tubular drill shaft concentrically mounted in said body,
a bit on said shaft having means to receive mud through said shaft,
turbine means coupled to said body for driving said shaft,
a drill pipe for conducting mud to said drill body, concentrically mounted to said drill body,
passage means within said drill body and drill shaft for conducting mud from said drill pipe to said turbine and to said tubular shaft and bit,
valve means coupled to said drill shaft and drill body cooperating with said passage means for controlling the flow of mud into said tubular shaft so as to bypass said turbine,
said drill body and said drill pipe being mounted for limited relative rotation,

said valve means being responsive to a change in rotation of said drill body relative to said drill pipe,
said turbine means responsive to the torque developed by the bit in the formation being drilled for rotating said drill body relative to said drill pipe.

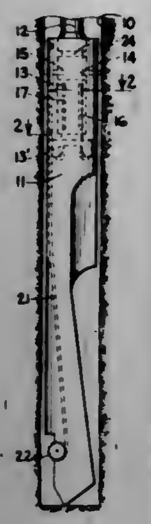
3,194,326
SONIC TOOL FOR OCEAN FLOOR CORING
Albert G. Bodine, Jr., Los Angeles, Calif.
(7877 Woodley Ave., Van Nuys, Calif.)
Filed Aug. 28, 1962, Ser. No. 219,906
2 Claims. (Cl. 175—56)



1. In a coring tool for obtaining a core from earthen formation from an underwater location, the combination of:
a vertically oriented elastic stem, at least the lower portion of which comprises a core tube,
a unitary power unit structure at the upper end of said stem,
a sonic frequency elastic wave generator in said power unit acoustically coupled to said stem and operable at a longitudinal resonant frequency of said stem so as to establish a longitudinal elastic standing wave vibration in said stem,
motor means in said power unit structure drivingly connected to said wave generator,
and a cable suspension system with tension control supporting said power unit structure and said stem under water in a vertically hanging position, with the core tube portion of said stem acoustically coupled to said underwater earthen formation with an acoustic coupling bias whereby said formation has sonic energy transmitted therethrough as it flows as a core into said core tube.

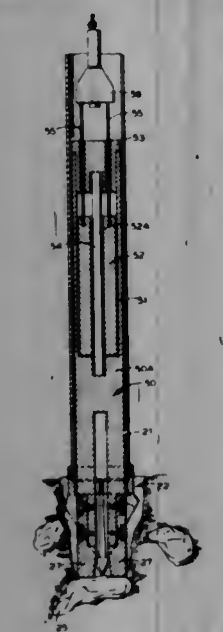
3,194,327
METHOD AND APPARATUS FOR DEFLECTION DRILLING
Wayne A. Smithson, 2865 Torito Road, Montecito, Calif.
Filed Mar. 1, 1963, Ser. No. 262,051
8 Claims. (Cl. 175—61)

1. A method of deflection drilling with a whipstock, including the steps of: lowering said whipstock on the end of a drill bit body connected to a pipe string; orienting the position of said whipstock by rotating said pipe string to rotate said whipstock so that said deflection drilling will extend in a pre-determined direction; releasing said whipstock from said drill bit body; urging said drill bit body through said whipstock to drill a deflected hole while said whipstock is stationary; circulating drilling fluid through said drill bit body during the drilling of said deflected hole; pulling up on said drill bit body to re-engage said whipstock; locking said whipstock to said drill bit body for rotation and longitudinal movement therewith; diverting said drilling fluid to pass through said whipstock; and rotating and lowering said whipstock by said drill pipe string to ream out said deflected hole throughout substantially its entire length with said whipstock functioning as a drill bit.



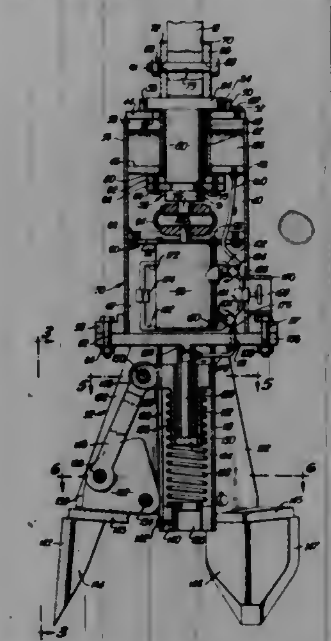
2. An apparatus for use with a drill bit body and drill bit on the end of a drill pipe string, comprising, in combination: a whipstock tool having cutting wheel means adjacent to its lower end; means for locking said whipstock tool to said drill bit body; means for releasing said whipstock tool from said drill bit body so that drilling may proceed to form a deflected hole with said whipstock tool in a stationary position to guide said drill bit body; and means for relocking said whipstock tool to said drill bit body so that said cutting wheel means on said whipstock tool can be used as a drilling tool to ream out said deflected hole throughout substantially the entire length of said deflected hole, said whipstock tool including a drilling fluid passage and said drill bit body including fluid flow control means for diverting drilling fluid into said fluid passage when said whipstock tool is locked to said drill bit body and for directing fluid out said drill bit when said drill bit body is free of said whipstock.

3,194,328
PILE DRIVING HAMMER AND BOULDER BREAKER, ROCK SEATING TOOL
Vincent J. Fiore, New York, N.Y., assignor to Foundation Specialties, Inc., New York, N.Y., a corporation
Filed Oct. 15, 1962, Ser. No. 230,367
18 Claims. (Cl. 175—92)



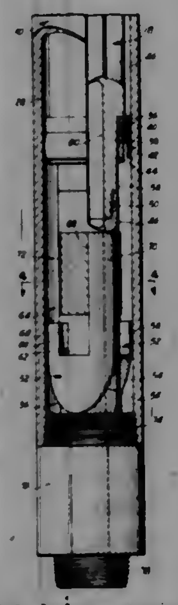
18. In combination, an open end pile comprising a shell fitted with a fin type driving shoe and an anchoring pin located in the bottom of said shell for pinning the pile to rock so as to prohibit lateral displacement of said pile, said pin comprising a head portion and a plurality of depending leg portions, said leg portions being adapted to extend beyond the end of the pile and into a hole drilled into said rock.

3,194,329
HYDRAULIC GRAB BUCKET
Richard A. Wallers, Balboa Island, Calif., assignor to Calweld, Inc., Los Angeles, Calif., a corporation of California
Filed June 11, 1964, Ser. No. 375,975
10 Claims. (Cl. 175—316)



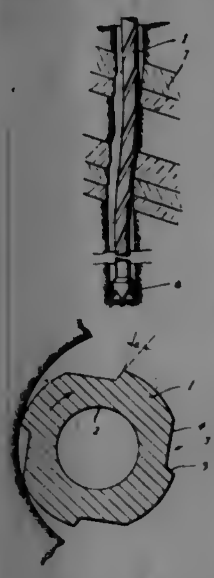
8. A hydraulic grab bucket comprising a shell, a drive shaft means rotatably mounted in the shell and adapted to be rotated by power means external of said shell, hydraulic pump means mounted in said shell, said hydraulic pump means being operatively connected to said drive shaft means, a plurality of jaws pivotally carried by said shell whereby said jaws are movable between an open position and a closed position, hydraulic ram means interconnecting said shell and said jaws whereby said jaws may be pivotally moved, and fluid conduit means connecting said hydraulic pump means and said hydraulic ram means.

3,194,330
TELESCOPING DRILL JOINT
Cecil Ware, William B. Charleville, and Franklin L. Le Bus, Sr., Longview, Tex., assignors, by mesne assignments, to Bowen Tools, Inc., a corporation of Texas
Filed Sept. 24, 1962, Ser. No. 225,556
10 Claims. (Cl. 175—321)



1. A telescopic drill joint comprising a pair of telescopically arranged drive bodies interposed in a drill string, means provided on one of said bodies to permit independent rotation thereof with respect to the other of said drive bodies in a telescopically collapsed position therebetween, spline means cooperating between the drive bodies for locking the bodies in a telescopically collapsed position, said spline means comprising lug means carried by one of said bodies and passageway means provided on the other of said bodies for receiving the lug means therein, said passageway means including an offset portion for receiving the lugs in the telescopically collapsed position of the drive bodies, said spline means responsive to rotational and vertical movement of one of said drive bodies with respect to the other of said drive bodies to release the locking engagement therebetween and permit free reciprocation of the said one drive body with respect to the other throughout an extended length of engagement between the two drive bodies, and means cooperating between the drive bodies to provide a drive connection therebetween in combination with a reciprocal action of said one drive body in the released position of the spline means and throughout the said extended length of engagement whereby vertical movement of one drive body is independent of the other drive body.

3,194,331
DRILL COLLAR WITH HELICAL GROOVES
Edward P. Arnold, % Arnold Pipe Rental Company, P.O. Box 4014, Corpus Christi, Tex.
Filed May 22, 1964, Ser. No. 369,558
2 Claims. (Cl. 175—323)

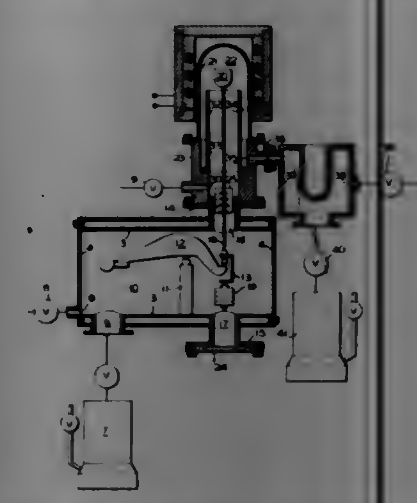


1. An integral elongate tubular member having means at opposite ends for connection in a rotary drill string and at least one helical groove in its outer peripheral surface, which is of V-shape in section transversely of the member, the leg of the V-shape which is located at the leading edge of the groove during drill string rotation in the normal drilling direction being on the order of about thirteen percent as long as the other leg and projecting inwardly of said peripheral surface at an angle of less than forty degrees to a radial line at said leading edge of the groove.

3,194,332
BALANCE WITH GAS-TIGHT HOUSING
Hans Georg Wiedemann, Stafa, Switzerland, assignor to Mepag, A.G., Zurich, Switzerland, a corporation of Switzerland
Filed Dec. 7, 1964, Ser. No. 416,557
Claims priority, application Switzerland, Feb. 19, 1964, 1,985/64
5 Claims. (Cl. 177—241)

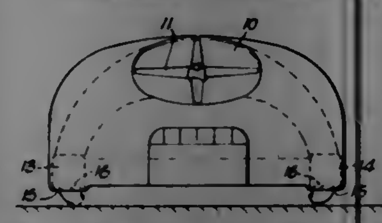
1. A balance with a gas-tight housing comprising a balance beam fulcrumed inside said housing, a bell-shaped

member detachably connected to said housing, a tube protruding into said bell-shaped member and providing a communication between the interior of said gas-tight housing and the interior of said bell-shaped member, a gas outlet leading out from the annular space formed by



said tube and said bell-shaped member, a hanger attachment pivoted on one arm of said balance beam and protruding through said tube into said bell-shaped member, and a specimen bowl located inside said bell-shaped member but outside said tube and fastened to a protruding part of said hanger attachment.

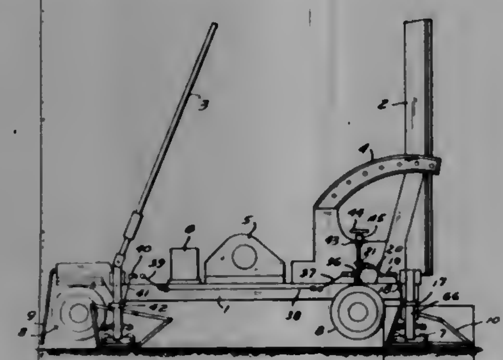
3,194,333
GROUND EFFECT MACHINES WITH SUPPLY AND RECOVERY PORTS IN A COMMON DUCT
Christopher Sydney Cockerell, Lymington, England, assignor to Hovercraft Development Limited, London, England, a British company
Filed Apr. 3, 1961, Ser. No. 100,134
Claims priority, application Great Britain, Apr. 5, 1960, 12,095/60
11 Claims. (Cl. 180—7)



1. A vehicle of the type described comprising a duct positioned round at least part of the periphery of the bottom of the vehicle, the longitudinal axis of the duct being substantially parallel to the periphery of the vehicle, supply and recovery ports formed in the wall of the duct and extending along said duct parallel to the longitudinal axis thereof, means for causing a flow of energised fluid through the duct in a direction parallel to its longitudinal axis, ejection means in the supply port whereby when a flow of fluid occurs through the duct in a direction parallel to said longitudinal axis at least part of the fluid is ejected through the supply port to form a curtain, and induction means in the recovery port whereby at least part of the fluid forming the curtain is induced through the recovery port into the duct to rejoin the fluid flowing axially through said duct.

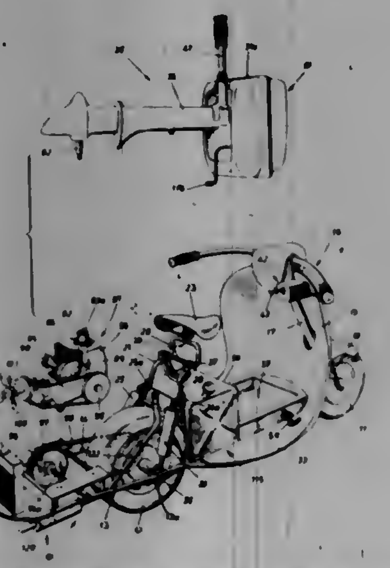
3,194,334
PILE DRIVER WITH STEERABLE SELF-LAYING TRACKS
Heinz Stamnas, Hamburg-Grossflottbek, Germany (Strandredder 1, Lubeck-Travemunde, Germany)
Filed Nov. 15, 1962, Ser. No. 237,996
Claims priority, application Germany, Dec. 8, 1961, St 18,659
5 Claims. (Cl. 180—9)

1. A support and traveling arrangement for a pile driver or the like comprising, in combination, a substantially horizontally extending frame; a plurality of arm means arranged spaced from each other on said frame and projecting respectively beyond side edges thereof; shaft means carried by each of said arm means in the region of a free end thereof and projecting downwardly therefrom substantially normal thereto; wheel means carried by said shaft means at the lower ends of the latter; drive means operatively connected to said wheel means for driving the same in a selected direction; track means for each of said wheel means and each comprising a plurality of rigid track sections hingedly connected at the ends thereof to each other to form an endless track, one



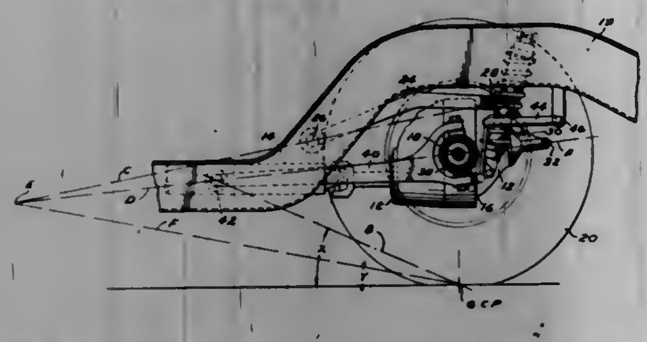
of said sections being arranged between the wheel means and the ground on which the pile driver is adapted to travel and the section leading said one section in direction of travel of said wheel means being adapted to be laid on the ground in front of said one section with the remaining sections extending upwardly and around said wheel means; and means laterally projecting from said shaft means for engaging during travel of said wheel means the upwardly extending section leading the section on the ground for pivoting said upwardly extending section toward the ground so that said sections of said endless track are placed one by one on the ground ahead of said wheel means during travel of the latter.

3,194,335
VEHICLE DRIVEN BY OUTBOARD MOTOR
Ronald Yue, alias Yu Chia Lu, 3388 Bathurst St., Toronto, Ontario, Canada
Filed Dec. 26, 1962, Ser. No. 246,957
3 Claims. (Cl. 180—33)



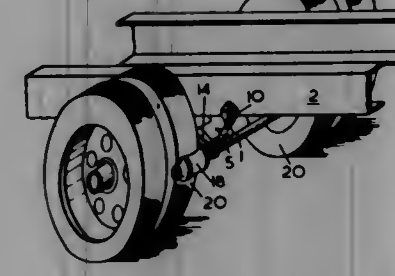
1. A motor scooter vehicle comprising, in combination, a scooter frame having a pair of wheels rotatably mounted thereon in substantially co-planar alignment and means connected to one of said wheels for steering said scooter for guided land travel, a prime mover of the marine outboard motor type having throttle and gear shift controls, means for removably securing said prime mover substantially in a horizontal position to said frame, power transmitting means secured to said frame for connecting said prime mover to one of said scooter wheels, and means for connecting the outboard motor throttle and gear shift controls to controls carried by the scooter frame.

3,194,336
VEHICLE REAR SUSPENSION
Raymond R. McHenry, Westport, Conn., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 21, 1961, Ser. No. 153,887
10 Claims. (Cl. 180—73)



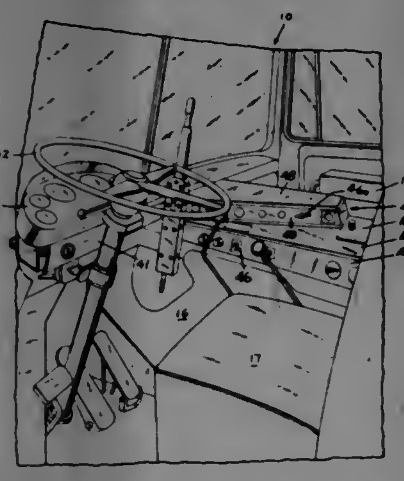
9. A vehicle suspension system having sprung and unsprung components, suspension means interconnecting said components, said unsprung components including a pair of driving wheels and rigid axle housing means interconnecting said wheels, brake structure connected to rotate with said driving wheels, brake reaction means adapted to engage said brake structure and rotatably mounted on said axle housing means, said suspension means including an arm pivotally connected to said sprung components at one end and secured to a support element of said brake reaction means at its other end.

3,194,337
MOTOR VEHICLE TRANSMISSION WITH MEANS TO PREVENT DIFFERENTIAL ROTATION OF WHEELS
Theodore D. Parks, Guildford, Surrey, England, assignor to Dennis Brothers Limited, Guildford, England
Filed Oct. 23, 1963, Ser. No. 318,429
Claims priority, application Great Britain, Oct. 24, 1962, 40,226/62
7 Claims. (Cl. 180—74)



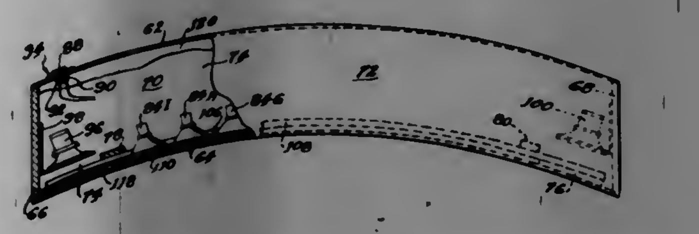
1. In a motor vehicle having a pair of laterally-spaced wheels driven through a differential gear drive positioned between them, an additional drive mechanism movable into and out of an operative position in which it positively couples one of the wheels of the pair to the other, the mechanism comprising a pair of laterally-spaced rollers to be positioned one at each side of the chassis of the vehicle for rotation about a common axis parallel with the common axis of the wheels, a rotatable shaft interconnecting said rollers and a pair of links pivotally mounted on each side of said chassis nad carrying said shaft, at least one of said links being adjustable in length whereby the shaft and the rollers are movable bodily into and out of positions in which they will each engage a peripheral portion of the adjacent wheels of said pair thereby to effect a direct drive through said rollers and said shaft from one to the other of said pair of wheels, so that when one wheel slips the rollers may be engaged with each of the wheels to drive the slipping wheel.

3,194,338
INSTRUMENT PANELS FOR VEHICLES
Ralph G. Rutman, Allentown, and Donald M. Logan, Emmaus, Pa., assignors to Mack Trucks, Inc., Plainfield, N.J., a corportion of New York
Original application Feb. 2, 1962, Ser. No. 170,571, now Patent No. 3,146,847, dated Sept. 1, 1964. Divided and this application Dec. 10, 1963, Ser. No. 329,453
4 Claims. (Cl. 180—90)



1. In a vehicle having a frame, an engine mounted in said frame and a driver's cab mounted on said frame having a raised tunnel in the floor thereof overlying said engine; the combination therewith of a low, elongated console mounted on and extending lengthwise of said tunnel, an instrument panel mounted on one side of said console facing said driver, and operating elements and dials mounted on said panel visible and accessible to said driver.

3,194,339
LOUDSPEAKER SYSTEM
Robert J. Pawlowski, Niles, Mich., assignor to Electro-Voice, Incorporated, Buchanan, Mich., a corporation of Indiana
Filed June 8, 1962, Ser. No. 201,165
6 Claims. (Cl. 181—31)

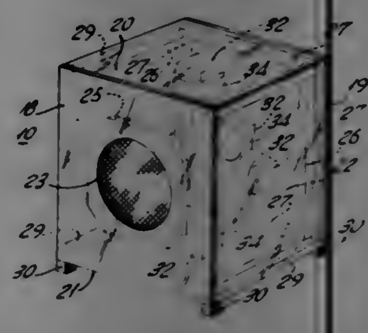


1. In a loudspeaker system for reproducing a continuous range of frequencies in the audible range having an elongated enclosure with an elongated wall, a plurality of loudspeakers mounted and sealed on the wall of the enclosure in a line parallel to the axis of elongation of the enclosure, said enclosure having opening means confronting each of the loudspeakers, each loudspeaker having a diaphragm confronting the opening means and acoustically sealed on the enclosure, said loudspeakers being electrically connected to respond in phase to an electrical signal and forming a line source of acoustical radiation, the construction wherein the enclosure includes two ports in said wall located on opposite ends of the line of loudspeakers along the axis of elongation of the enclosure, said enclosure and ports resonating at a frequency at the low end of the frequency response range of the loud-

speaker system and the ports being spaced from each other by a distance of approximately a half wave length at said frequency of resonance.

3,194,340
SPEAKER ENCLOSURE SYSTEM

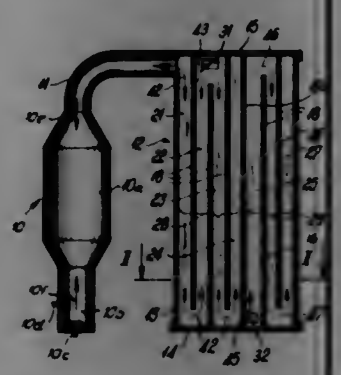
Zennosuke Kuwayama, 3 2-chome, Kanda-Awaji-cho, Chiyoda-ku, Tokyo, Japan
Filed May 15, 1964, Ser. No. 367,773
3 Claims. (Cl. 181—[illegible]1)



1. A speaker unit comprising an enclosure member of substantially rectangular prismatic configuration and having a predetermined resonant frequency and delineated by opposite resonant front and rear, top and bottom and side rectangular walls, said front wall having an aperture formed therein, an electrically energized speaker element mounted on said front wall in registry with said aperture, and weight members substantially centrally mounted on said top, bottom, side and rear walls, said weight supporting walls having resonant frequencies at least fifty cycles per second less than said predetermined resonant frequency.

3,194,341
SOUND ABSORBER WITH PARTITIONS FORMING MEANDERING CHANNELS CONNECTED TO RESONANCE DUCT

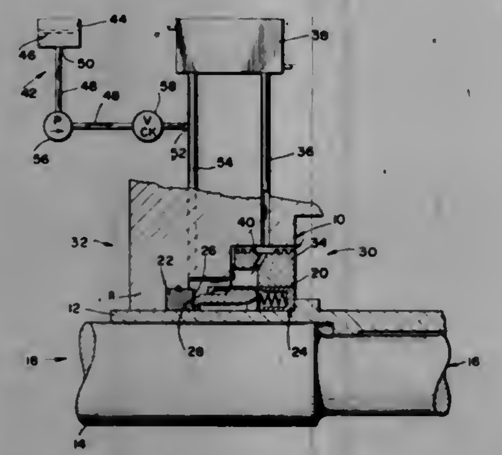
Franz Haag, Plochingen (Neckar), Germany, assignor to Junkers & Co. G.m.b.H., Wernau (Neckar), Germany
Filed Jan. 20, 1964, Ser. No. 339,015
Claims priority, application Germany, Jan. 21, 1963, J 23,028
19 Claims. (Cl. 181—50)



1. In a fuel burning apparatus, in combination, a duct arranged to convey sound waves and gaseous products of combustion which develop when the apparatus is in use; take-off means; and a sound absorber disposed between said duct and said take-off means and comprising a hollow housing and a hollow partition provided in and dividing the interior of said housing into a pair of spaces one of which communicates with said take-off means, said partition defining a pair of elongated channels one of which communicates with the other of said spaces and with said duct and the other of which communicates with each of said spaces so that products of combustion travelling from said duct to said take-off means pass through said one channel, said other space, said other channel and said one space.

3,194,342
METHOD FOR LUBRICATING MECHANICAL SEAL

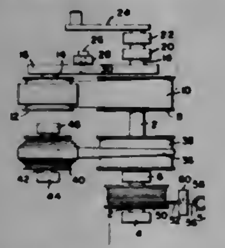
George H. Heim, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Original application Apr. 18, 1963, Ser. No. 273,956. Divided and this application July 22, 1964, Ser. No. 389,235
3 Claims. (Cl. 184—1)



2. A method for lubricating the seal faces of a mechanical seal comprising the steps of:
(a) supplying lubricating fluid to said seal faces,
(b) cooling said lubricating fluid,
(c) adding a filming agent to said lubricating fluld, and
(d) controlling the percentage of said filming agent in said lubricating fluid.

3,194,343
SPRING MOTOR

Norman E. Sindlinger, Medford Lakes, N.J., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed May 4, 1964, Ser. No. 364,619
18 Claims. (Cl. 185—10)

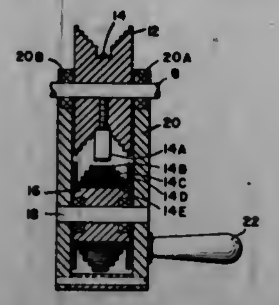


1. In combination a spring motor comprising a storage drum and a tightly coiled non-cumulative force ribbon spring coiled on said drum,
output means connected to the spring,
a second spring motor connected to the output means,
said spring motors having substantially equal but opposite gradients to produce a substantially constant force,
means to vary the force exerted by one of said motors independent of any change in the force exerted by the other spring motor and independent of any movement of the output means to change the substantially constant force to a new value.

3,194,344
SPRING MOTOR

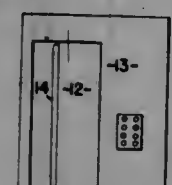
Norman E. Sindlinger, Medford Lakes, N.J., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed May 4, 1964, Ser. No. 364,620
16 Claims. (Cl. 185—39)

1. In combination a spring motor comprising an output drum, a storage drum, said drums having spaced substantially parallel axes, and a tightly coiled non-cumulative force ribbon spring connecting said drums and tending to uncoil from the output drum and to coil onto the storage drum, said spring having a plurality of portions of different widths, output means connected to the output drum and means to transfer portions of the spring from one of said drums to the other of said drums without movement of the output means.



3,194,345
SAFE EDGE RETRACTION MECHANISM

John Kozak, Toledo, Ohio, assignor to Toledo Scale Corporation, Toledo, Ohio, a corporation of Ohio
Filed Dec. 26, 1962, Ser. No. 247,069
7 Claims. (Cl. 187—51)

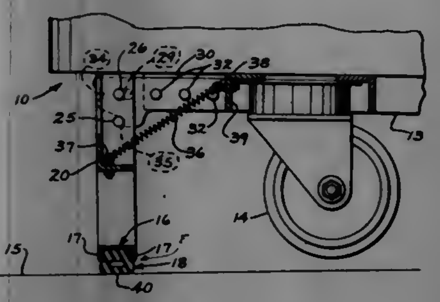


1. In an elevator, the combination comprising a car having an opening adapted to be closed by a rectilinearly movable power actuated door having a front margin and a safe edge coextensive with said front margin, a link joining said safe edge with said door, a pivot between said link and said door, a safe edge retraction spider spaced away from said link and positioned along said front margin of said door for rotation about an axis parallel to that of said pivot, a first leg of said retraction spider pivotally connected to said safe edge, a second leg of said spider carrying an abutment member, a driver bracket having a driven arm and a driving arm rotatably mounted on said spider, said driving arm having a projection for engagement with the abutment member of said spider, driving means including a cable having fixed ends and a bight carried by and transversely movable with said door, selectively positioned abutment means carried by said bight engageable with said driven arm of said rotatably mounted driver bracket prior to said door assuming at least one of its terminal positions whereby said first leg of said safe edge retraction spider is pivoted in a direction to retract said safe edge.

3,194,346
BUMPER FLOOR LOCK FOR WHEELED VEHICLES

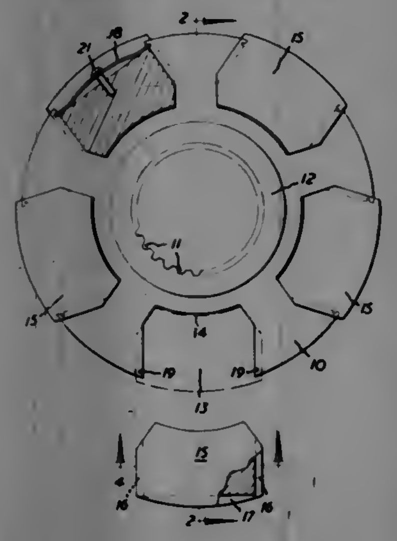
Blair E. Stentz and James E. Vaught, Murfreesboro, Tenn., assignors to United Service Equipment Co., Inc., Palmer, Mass., a corporation of Delaware
Filed Aug. 9, 1963, Ser. No. 301,128
3 Claims. (Cl. 188—5)

1. A bumper floor lock for use on a wheeled vehicle having a vehicle body and a set of wheels for supporting said body on a surface, said bumper floor lock comprising a laterally extending, horizontal bumper bar, a connecting structure fastened at a first end to said bumper bar, means for pivotally mounting a second end of said connecting structure for rotation between a first position and a second position around an axis parallel to said bumper bar, said axis being so positioned relative to said body and the length of said connecting structure being such that said bumper bar protrudes horizontally beyond said vehicle body when in said first position, and the distance from said axis to the outer edge of said bumper bar being greater than the distance from said axis to said surface, whereby at least one of said wheels is elevated from said surface when said bumper bar is rotated downwardly into said second position and into engagement with said surface, said pivotally mounting means comprising a hinge plate extending from said vehicle body and defining on its outer edge an engaging recess and a spaced apart stop, said second end of said connecting structure being pivotally mounted to said hinge plate and having an engaging member which is releasably seated in said engaging recess when said bumper bar is in said first position and is adjacent said stop when said bumper bar is in said second position, and releasable means for biasing said bumper bar and said connecting structure in either of said first and second positions.



3,194,347
DISC FOR DISC BRAKES

Kenneth John Hall, Solihull, England, assignor to Girling Limited, Birmingham, England, a British company
Filed Sept. 20, 1963, Ser. No. 310,212
Claims priority, application Great Britain, Sept. 27, 1962, 36,671/62
3 Claims. (Cl. 188—18)

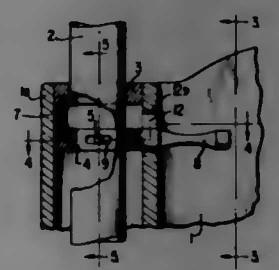


1. A brake disc of the type in which a rotatable disc carrying pads of friction material are carried by a rotatable axial shaft and adapted to be brought into engagement with relatively stationary surfaces on opposite sides of the disc to apply the brakes comprising a substantially flat disc, a plurality of angularly spaced notches open at their outer end on the periphery of the disc, said notches have circumferentially spaced substantially radially extending sides, a block of consumable friction material of greater axial thickness than said disc mounted in each of said notches, each of said blocks having a circumferential outer edge part and side edges corresponding to the sides of said notches, each of said side edges being provided with a substantially radially extending groove, each groove receiving a side of the notch in which said block is mounted, and a peripherally disposed releasable clip cooperating with said circumferential outer edge part

of each of said blocks and extending between and engaging the sides of said notches adjacent their radial outer ends for preventing movement of said blocks away from said notches, said blocks being removable from and insertable into the notchess upon removal of said clip.

3,194,348
RAIL BRAKE FOR DRAFTING MACHINES AND THE LIKE

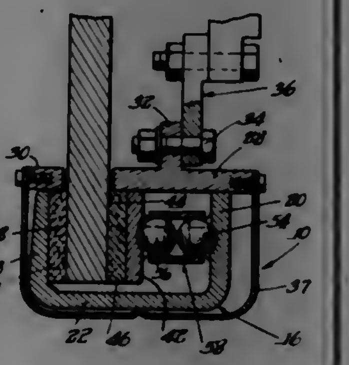
Gordon R. Snurr, Franklin, Pa., assignor to Glideline Corporation, Waynesboro, Pa., a corporation of Pennsylvania
Original application July 23, 1959, Ser. No. 828,984, now Patent No. 3,131,478, dated May 5, 1964. Divided and this application May 8, 1963, Ser. No. 278,909
6 Claims. (Cl. 188—67)



1. A rail brake for a rail comprising, a housing having interior walls disposed adjacent the rail, a pair of pivotal guide means extending from the interior walls of said housing, a lock ring encircling the rail, said lock ring engaged by said pair of pivotal guide means whereby said lock ring is adapted to pivot longitudinally of the rail and rotate laterally, means connected with said lock ring for pivoting and resiliently maintaining said lock ring in engagement with the rail to securely lock the housing to the rail, means connected between said lock ring and said housing for pivoting said lock ring out of engagement with the rail and laterally rotating said lock ring on said pair of pivoted guide means to connect said ring to said housing for maintaining the lock ring in a disengaged position.

3,194,349
WEDGE OPERATED SPOT BRAKE

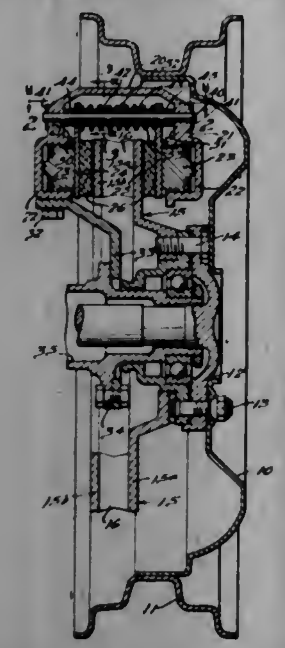
Osborn A. Kershner and Ronald C. Price, St. Joseph, Mich., assignors, by mesne assignments, to Lambert Brake Corporation, St. Joseph, Mich., a corporation of Michigan
Filed Mar. 6, 1963, Ser. No. 263,235
2 Claims. (Cl. 188—73)



1. A brake unit for controlling a rotatably mounted disc comprising the frame structure adapted to be fixedly mounted adjacent a predetermined peripheral portion of said disc and including a housing having top, bottom and end walls with the peripheral portion of the disc extending into the housing, a generally U-shaped member disposed within said housing and having opposed end portions at opposite sides of the disc and a bight portion bodily shiftably supported by the bottom wall of the housing and with said end portions confined by the end walls of the housing for rectilinear movement of the U-shaped member therein, a shoe member disposed between said first end portion and said disc, said shoe member and said first end portion having opposed elongated converging cam surfaces, wedge means disposed between and engaging said cam surfaces and shiftable in a straight line and generally parallel to said disc for relatively spreading said first end portion and said shoe member and thereby clamping said disc between said shoe member and said second end portion for energizing the brake unit, a fluid pressure cylinder fixed to said frame structure adjacent one end of said wedge means and aligned with said wedge means, a piston operable in said cylinder, said piston having an end abutting said wedge means for pushing the wedge means from a retracted position toward an extended position for energizing the brake unit, an elongated mechanically operable element connected with said wedge means at the end thereof opposite from the end aligned with said piston and selectively operable for pulling said wedge means from said retracted position toward said extended position, spring means surrounding said element and operatively connected between said element and said frame structure for yieldably biasing said wedge means toward the retracted position, and one-way shiftable stop means responsive to movement of said piston for limiting return movement of the wedge means toward the retracted position in accordance with wear of the brake unit.

3,194,350
AUTOMATIC ADJUSTER FOR DISK BRAKES

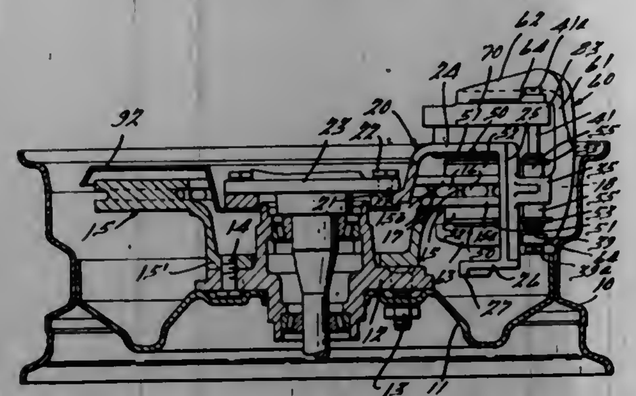
Peter J. Soltis, Detroit, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed May 21, 1963, Ser. No. 282,007
7 Claims. (Cl. 188—73)



1. A disk brake comprising a rotatable disk, a nonrotatable housing straddling the periphery of said disk, a pair of opposed movable brake shoes, means carried by said housing for moving said brake shoes toward said disk, a rod extending between the sides of said housing, a pair of sleeves slidably mounted on said rod and frictionally engaging said brake shoes, and a spring surrounding said sleeves and normally urging said sleeves and brake shoes away from one another with the outer ends of the sleeves abutting said housing, each brake shoe and its sleeve being movable as a unit upon application of the brake until the adjacent ends of said sleeves abut whereupon said brake shoes may move relative to said sleeves to assume a new position with respect thereto to effect automatic adjustment of the retracted distance between said brake shoes and disk.

3,194,351
FRICTION PAD RETAINING MEANS FOR SPOT TYPE DISK BRAKES

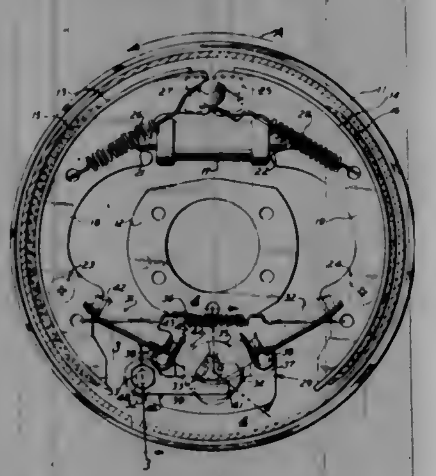
Harvey C. Swift, Birmingham, Mich., assignor to Kelsey-Hayes Company, Romulus, Mich., a corporation of Delaware
Filed Dec. 11, 1963, Ser. No. 329,756
2 Claims. (Cl. 188—73)



1. A disk brake for a vehicle wheel having a stationary axle part comprising, a brake disk rotatable with the wheel, a stationary torque arm secured to said axle part, circumferentially spaced elongated anchor pins rigidly secured to said torque member, each anchor pin comprising a bushing and adjustable threaded members secured to the ends of said bushing so as to be removable therefrom, brake shoe mounting portions on said bushings, a pair of brake shoes having apertured portions slidably engaging said bushings for movement toward and from opposite sides of said brake disk, a substantially C-shaped yoke member having apertured portions slidably mounted on said anchor pins for movement longitudinally thereof, one end of said yoke member being engageable with one of said brake shoes, and a brake actuating piston associated with said yoke member and engageable with the other brake shoe to move the same into braking engagement with said brake disk, the reaction of said piston moving said yoke member on said anchor pins to move the first mentioned brake shoe into braking engagement with said brake disk.

3,194,352
BALANCED SHOE BRAKE

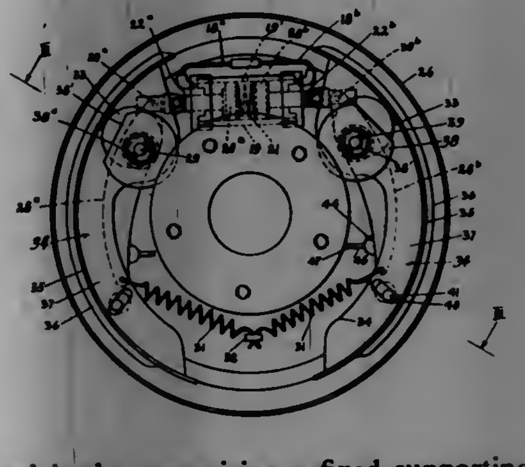
John V. Barnes, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Nov. 8, 1961, Ser. No. 150,992
10 Claims. (Cl. 188—78)



1. A duo servo brake assembly having a rotatable drum, a pair of brake shoes, force applying means interposed between said shoes contiguous to one end thereof for causing said shoes to move into frictional engagement with said drum, and force proportioning means interposed between the other end of said shoes for limiting the amount of servo force transmitted between said shoes, said force proportioning means comprising a first link in pivotal engagement with one of said shoes, a second link in pivotal engagement with the other of said shoes, means pivotally connected to each of said links, and reaction means operative to define a linear path of movement for said last named means.

3,194,353
FAIL-SAFE HYDRAULIC PRESSURE BRAKE APPARATUS FOR MOTOR VEHICLES

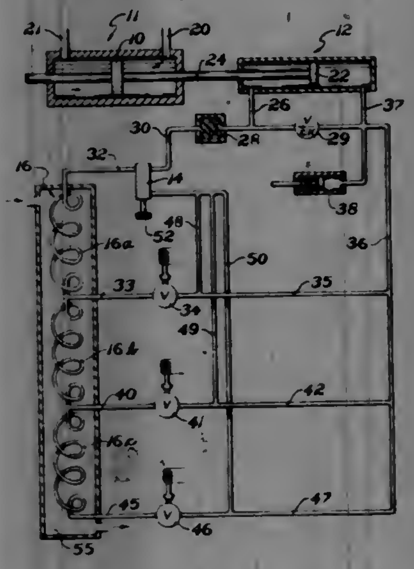
Richard M. Rick, 119 Brownsville Road, Pittsburgh, Pa.
Filed Oct. 2, 1962, Ser. No. 227,800
5 Claims. (Cl. 188—78)



3. A wheel brake comprising a fixed supporting plate, a rotary brake drum with a brake drum flange, a brake shoe inside the drum having a curved braking surface confronting the inside of the drum flange, said shoe having a web portion with an opening therein, a cam fitted in the opening, a lever on which the cam is fixed, a fluid pressure piston and cylinder on the supporting plate for moving the lever in one direction, said brake shoe web also having a slot therein diagonal to the radius of curvature of the shoe and spaced from said cam, and a pin on the supporting plate engaged in said slot for guiding the movement of the shoe toward and away from the brake drum flange.

3,194,354
SPEED CONTROL MECHANISM

Neil V. Smith, La Canada, Calif., assignor to International Basic Economy Corporation, New York, N.Y., a corporation of New York
Filed Oct. 15, 1963, Ser. No. 316,317
7 Claims. (Cl. 188—97)



1. A speed control mechanism for an impositively driven member, said mechanism comprising:

(1) a fluid flow resistance tube having a preselected length and having an inlet and an outlet for the passage of a fluid-medium through the tube,

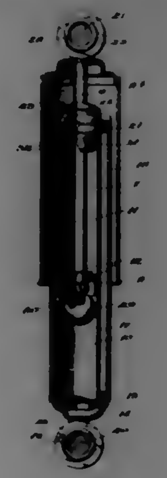
- (a) the size of the opening through said tube being selected such that the flow of the particular fluid communicated thereto remains laminar throughout the length of the tube,

(2) means for displacing a fluid medium to the inlet of and through said tube to said outlet in response to the movement of a driven member with which the control mechanism is associated, and

(3) means for adjustably regulating and thereafter maintaining constant the pressure difference between the fluid at said inlet and the fluid at said outlet to control the flow rate of the fluid through said tube.

3,194,355
HYDRAULIC SHOCK ABSORBER WITH INITIAL IMPACT DAMPING

James R. Jeromson, Jr., Willoughby Hills, Ohio, assignor to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Oct. 2, 1963, Ser. No. 313,254
3 Claims. (Cl. 188—100)



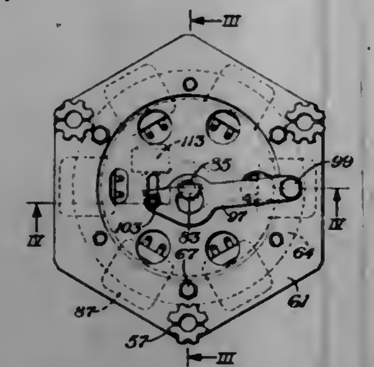
1. In a direct acting hydraulic shock absorber comprising a tubular cylinder having a bore closed by a foot valve at one end, means defining a reservoir contiguous to the cylinder and with which the cylinder bore communicates through said foot valve, a closure bearing closing the opposite end of the cylinder bore, a piston reciprocably operable in the cylinder bore and having a piston rod extending through said closure bearing, the piston dividing the cylinder bore into a compression chamber between the piston and the foot valve and a rebound chamber between the piston and the closure bearing, both of said chambers being filled with hydraulic fluid and the piston having metering orifice means therethrough for shock damping displacement of hydraulic fluid between said chambers through the orifice means in the reciprocations of the piston within the cylinder, the improvement comprising:

- a substantially spherical free floating mass in said compression chamber between said foot valve and said piston and in uninterrupted alignment with said orifice means,
- said mass being of bulk compressible elastomeric material a substantial part of the volume of which comprises gas-filled, small, unconnected, discrete and independently acting, generally bubble-like cells,
- said mass being of a diameter only slightly less than the diameter of said cylinder bore,

whereby shock waves created by pressure surges of a magnitude greater than can be accommodated by the orifice means will be absorbed by bulk compression of said mass and continued compression movement of the piston is reflected in rapidly increasing spring rate resistance to compression of said mass and damping otherwise proceeding by displacement of hydraulic fluid through said orifice means and said foot valve.

3,194,356
LATCH DEVICES FOR ELECTROMAGNETIC BRAKE MECHANISM

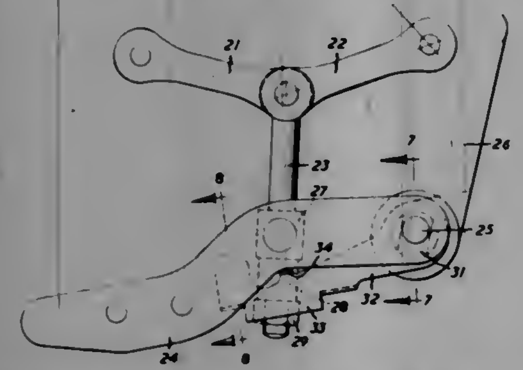
Robert G. LeTourneau, P.O. Box 2307, Longview, Tex.
Filed Sept. 24, 1962, Ser. No. 225,777
4 Claims. (Cl. 188—171)



1. In combination with an electromagnetic friction brake having disposed in juxtaposed co-axial relation a stationary plate, a rotatable friction disk, a non-rotatable friction disk, and a pressure plate, with said friction disks and said pressure plate being movable in the co-axial directions, said stationary plate having fixed thereto a plurality of electromagnets which move said pressure plate away from said friction disks when energized, and a plurality of springs engaging said stationary plate and said pressure plate to urge said pressure plate toward said disks when said electromagnets are de-energized; a brake lock-out latch device comprising, a spindle integrally fixed to said pressure plate and projecting into an aperture in said stationary plate, said spindle having fixed on the free end thereof a cap having lateral dimensions larger than those of said spindle; a latch bar pivotally connected adjacent one end to said stationary plate and having therein a slot adapted to loosely receive in one region thereof said spindle, said slot being shaped to pass said cap therethrough in the other region thereof, remotely actuated powered means for pivoting said latch bar into the position for receiving said spindle within said one slot region while said electromagnets are energized so as to maintain said brake disks in disengagement while said electromagnets are de-energized, and remotely actuated powered means for pivoting said latch bar into position to pass said cap through said slot when said electromagnets are momentarily energized.

3,194,357
MEANS FOR ADJUSTING VEHICLE BRAKES

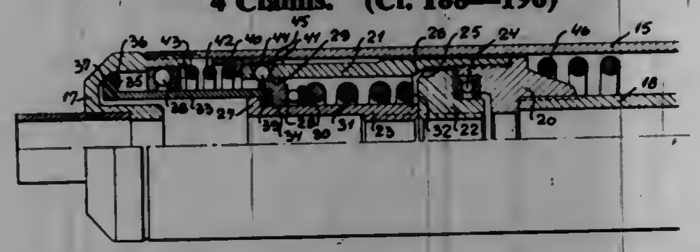
Alfred Yardley, Blackheath, England, assignor to Girling Limited, Tyseley, England, a British company
Filed Feb. 25, 1963, Ser. No. 260,558
11 Claims. (Cl. 188—196)



1. Brake actuating mechanism including a first part connected to a brake, a second part adapted to be connected to manually controlled brake operating means, and an operative connection between said first and second parts whereby movement of said second part is transmitted to said first part to operate said brakes, said operative connection including an eccentric member and a bearing member rotatably supporting said eccentric member, means connecting one of said members to the second part of said brake actuating mechanism, support means independent of said second part carrying the other of said members, and means connected to said eccentric member for rotating the same with respect to said bearing member to effect relative movement of said second part with respect to said first part by an amount determined by the eccentricity of said eccentric member.

3,194,358
SLACK ADJUSTER

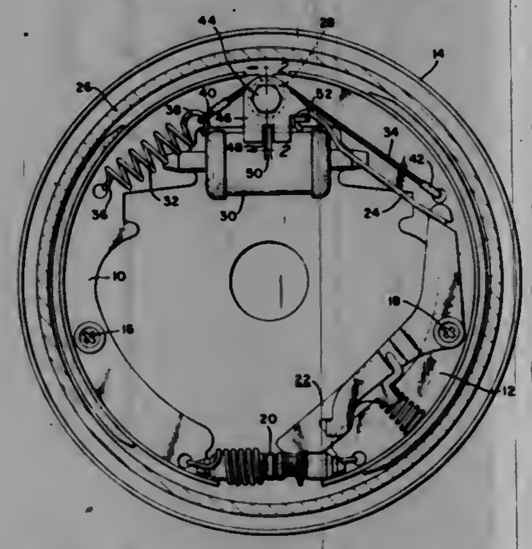
Ake J. Brandt, Park Forest, Ill., assignor to American SAB Company, Inc., Chicago, Ill.
Filed Jan. 9, 1964, Ser. No. 336,666
4 Claims. (Cl. 188—196)



1. An automatic slack adjuster for brakes, comprising an elongated housing, a front rod apart extending into said housing from the front end thereof, a rear rod part extending into said housing from the rear end thereof and being constructed with a steep screw thread, a locking nut and a feeding nut on said screw thread, said locking nut being forwardly rotationally engageable and rearwardly clutchably engageable with said front rod part, said feeding nut being forwardly clutchably engageable with said locking nut and rearwardly rotationally engageable with said front rod part, a coupling member slidably mounted on said feeding nut, a biasing spring urging said coupling member rearwardly relative to said feeding nut, ball means engageable between said coupling member and said front rod part, means for releasing said ball means from such engagement upon forward displacement of said front rod part relative to said housing, a feeding member rearwardly clutchably engageable with said housing and with said feeding nut and forwardly rotationally engageable with said housing, a biasing spring urging said housing forwards relative to said first rod part, and an external reference stop forwardly engageable by said housing.

3,194,359
BRAKE SHOE RETRACTING MECHANISM

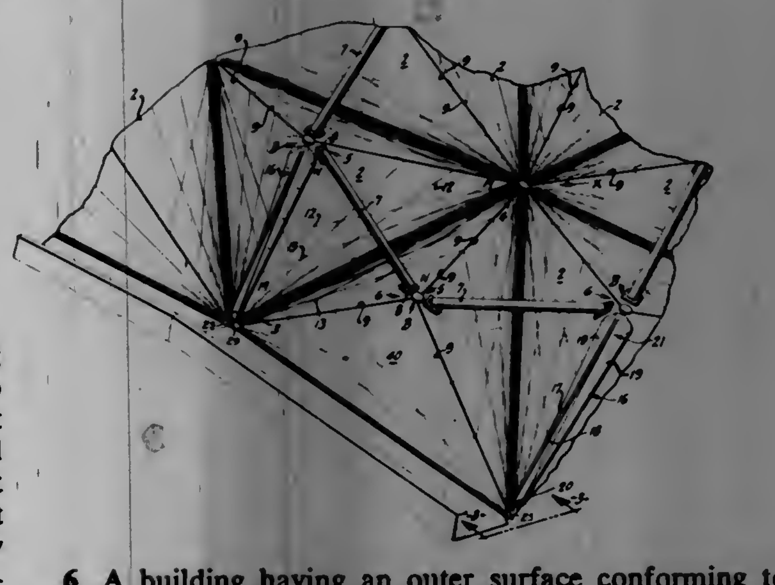
Larry L. Richards, South Lyon, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 6, 1963, Ser. No. 263,221
7 Claims. (Cl. 188—216)



4. A duo-servo brake shoe retracting mechanism comprising a single retractor spring and an axially flexible fixed length cable member capable of transmitting only tension forces attached in series at adjacent ends thereof and having the opposite ends adapted to be secured to the shoes of a duo-servo brake assembly.

3,194,360
STRUCTURE

Donald L. Richter, Mount Prospect, Ill., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif., a corporation of Delaware
Filed Mar. 16, 1962, Ser. No. 180,169
7 Claims. (Cl. 189—2)



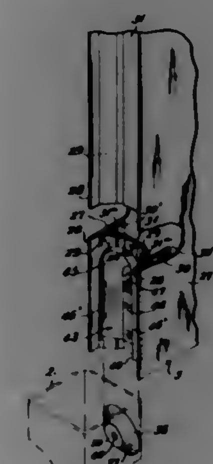
6. A building having an outer surface conforming to the contour of a sphere comprising a plurality of panel members of diamond shape, body portions of which serve as a covering for the building and flange portions of which have downturned edges united to form a framework for the building, each of said panel members being bowed such that two opposing corners thereof are displaced upwardly from the normal plane of rest of a panel member, said displaced corners being united by a strut to brace said panel members and the joined flanged portions of the panel members being disposed along the arcs of great circles, means disposed at spaced intervals along the perimeter of the base of said building anchoring the same to a series of ground piers, said means comprising flanged columns, the flanges of each of said flanged columns overlying and being affixed to a pair of contiguous panel members adjacent the contiguous sides of the panel members of said pair of panel members, the upper extremity of each of the flanged columns terminating adjacent a point where certain tips of a group of panel members converge to form a reaction point and the lower extremity of each of the flanged columns being anchored to a pier to form a continuation of the arc of the great circle formed by portions of certain of the panel members.

3,194,361
PARTITION STRUCTURES

George T. Thurman, Wickliffe, Ohio, assignor to The Mills Company, Cleveland, Ohio, a corporation of Ohio
Filed June 29, 1960, Ser. No. 39,607
2 Claims. (Cl. 189—34)

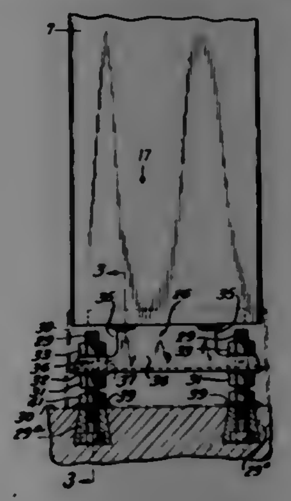
1. In a partition of the character described, at least two vertical post members, a panel member between said post members, said panel member comprising two spaced vertically postiioned sheet-like wall members each having their opposite vertical edges bent inwardly and towards each other to form channels in the vertical ends of said panel member and to provide a pair of spaced vertical flanges along said vertical end of said panel member adjacent to said post members, vertical frame members between said wall members and behind said inwardly bent edges of said wall members, pairs of cooperating

locking elements, means mounting one element of each of said pairs of cooperating locking elements in one of said channels in said vertical ends of said panel member and clamping said inwardly bent edges of said wall members between said locking elements and said vertical frame member adjacent thereto, means mounting the cooperating elements of said pairs of said locking elements on said posts adjacent thereto, one of said locking elements of each of said pairs of cooperating locking elements having an outwardly facing undercut channel with an arcuate-shaped closed end and an open end and being engageable and releasable with its cooperating locking element which is saucer-shaped in response to movement of said panel member in downwardly and upwardly directions respectively, said closed ends of said channels in said locking elements serving to limit movement of said panel member in said downwardly direction and to engage said saucer-shaped cooperating locking elements to hold said members fixedly together with said vertical flanges on the ends of said panel member in engagement with said post members adjacent thereto.



3,194,362
PARTITION STRUCTURES

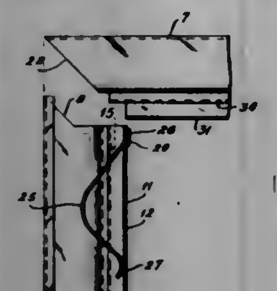
Steve M. Wargo, Mentor, Ohio, assignor to The Mills Company, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 5, 1962, Ser. No. 1[illegible]1,005
4 Claims. (Cl. 189—3[illegible])



1. In a partition structure, a metal frame member comprising a bottom portion and vertical flanges extending upwardly therefrom and secured to said partition, said bottom portion having a plurality of openings therein for receiving upwardly extending studs anchored in a supporting surface, said vertical flanges having portions of reduced length to facilitate the positioning and adjustment of fastening elements disposed on said upwardly extending studs.

3,194,363
DOOR FRAMES

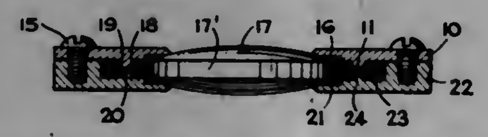
Julius A. Steffan, 2633 Endicott, Overland, Mo., and Joseph L. Williams, 485 E. Adams, Kirkwood, Mo.; Marie M. Steffan, administratrix of said Julius A. Steffan, deceased
Filed Jan. 31, 1962, Ser. No. 170,040
1 Claim. (Cl. 189—46)



In a door finish frame in which header and jamb members are mounted on, inboard of and in embracing relation to a fixed frame, the improvement comprising mitered complementary bearing surfaces on the meeting ends of a jamb and header member, a semi-elliptical spring with its center section forming a smooth bearing surface contiguous the fixed frame and having a dog-leg at its upper end, said jamb member having near its said meeting end a slot, through which said dog-leg extends releasably to hold said spring, and stop-guide means on said jamb member near said meeting end but below said slot.

3,194,364
VACUUM SEAL

Frederick L. Kolm, Encino, Calif., assignor to Spectrolab, a corporation of California
Filed June 27, 1963, Ser No. 291,041
6 Claims. (Cl. 189—64)

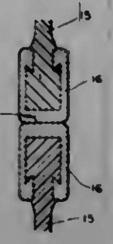


1. A vacuum seal for supporting the periphery of an object in sealing relationship, comprising, in combination: first and second clamping rings; an annular expandable sealing member having an inner surface adapted to surround the periphery of said object and opposite surfaces adapted to be sandwiched between said clamping rings, the inner openings of said rings and annular sealing member being coaxial and the outside diameter of said sealing member being greater than the inside diameters of said clamping rings; and means cooperating with said clamping rings to exert a squeezing pressure normal to the plane of said rings on said opposite surfaces of said annular sealing member to cause radially inwardly directed movement of said inner surface in a plane between said clamping rings to thereby exert a radial pressure against the periphery of said object over 360 degrees.

3.194,365
BAGGAGE

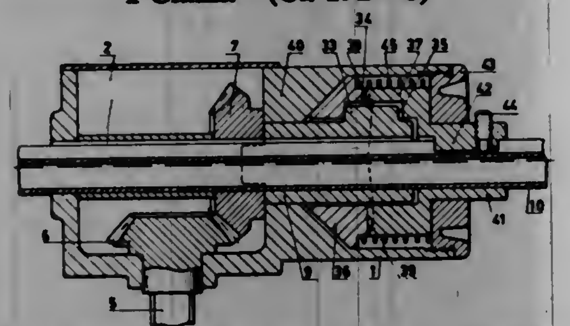
James M. Herring, Jr., Rosemont, Pa., assignor to The Budd Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Nov. 28, 1962, Ser. No. 240,597
1 Claim. (Cl. 190—49)

In a valise, the combination of: a pair of case sections, at least one of said case sections comprising a sheet member and a reinforcing U-shaped strip bonded to its edge, said U-shaped strip including a closed bottom wall and a pair of spaced apart continuous upstanding side walls to define a cavity therebetween, each of said side walls having at its upper end a first portion extending inwardly toward the opposite side wall of said pair and parallel to said bottom wall, and a second portion extending downwardly toward said bottom wall, said second portions of the side walls being in opposed relationship one to another to define a throat to receive the edge of said sheet member therein, each said second portion having a planar surface extending from its free end and inclined toward the top portion of the side wall of which the same forms a part, said edge of said sheet member having an enlarged portion filling said cavity and extending between said planar surfaces and their respective said side walls.



3,194,366
SELF-BRAKING DRIVING DEVICE FOR AN OPERATING SHAFT

Erich Emil Hensel, The Hague, Netherlands, assignor to Hunter Douglas International (Quebec) Limited, Montreal, Quebec, Canada, a corporation of Canada
Filed June 11, 1962, Ser. No. 201,475
Claims priority, application Netherlands, June 9, 1961, 265,739
1 Claim. (Cl. 192—8)

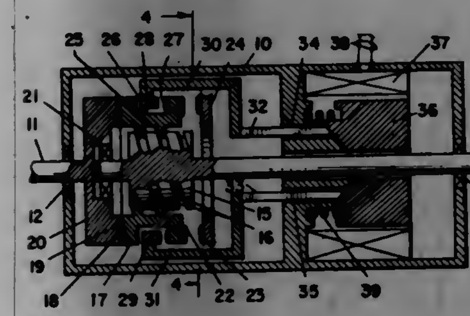


A self-braking driving device for a Venetian blind, a rolling-shutter, and the like, comprising an operating shaft and a driving means, said shaft being drivingly connected to said driving means, said device comprising a housing and a braking means within said housing, said braking means comprising two co-operating parts mounted on said operating shaft, a braking surface on one of said parts and a braking surface on said housing, said surfaces co-operating with each other, the other of said parts being non-rotatably mounted relative to said shaft, said one of said co-operating parts being rotatable only over a small angle relative to said shaft and relative to said other part, a tubular member mounted on said shaft and rotatably mounted on said housing, said member being drivingly coupled to said driving means and having at least one projection, recesses in both said co-operating parts, said projection extending into said recesses and said recesses providing a certain amount of clearance between said projection and said co-operating parts, said clearance allowing for a certain amount of lost motion between said projection and said co-operating parts, mutually engaging cam faces on said co-operating parts, said cam faces including elevations and depressions.

3,194,367
CLUTCH AND BRAKE

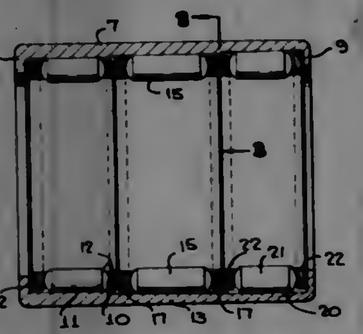
Carl E. Winter, 10514 Kinnard Ave., Los Angeles, Calif.
Filed Apr. 16, 1963, Ser. No. 273,371
2 Claims. (Cl. 192—18)

1. A clutch apparatus comprising, in combination: a casing; an input shaft extending into one end of said casing; an output shaft in axial alignment with said input shaft extending from the opposite end of said casing, said output shaft terminating within said casing in an enlarged diameter portion having spiral threads thereon; a clutch collar threaded to said enlarged diameter portion and including a first clutch surface facing in an axial direction towards said input shaft, said input shaft terminating in said casing in an annular clutch member having a second clutch surface juxtaposed said first clutch surface, said clutch collar including an annular channel circumscribed about its mid-portion and having opposed walls; finger means receivable in said channel; solenoid means for moving said finger means against one of said walls to urge said clutch collar into engagement with said clutch member upon energization of said solenoid means; spring means for moving said finger means against the opposite of said one of said walls to move said clutch collar out of engagement with said clutch member, the direction of said spiral threads being such that rotation of said input shaft tends to thread said clutch collar in a direction into tighter engagement with said clutch member when in clutching engagement therewith; and a brake surface secured within said casing in a position to engage the opposite end of said clutch collar when said clutch collar is moved away from said clutch member whereby said output shaft is braked against rotation by said brake surface through the medium of said clutch collar and said spiral threads.



3,194,368
UNITARY ASSEMBLY OF OVERRUNNING CLUTCH AND BEARING

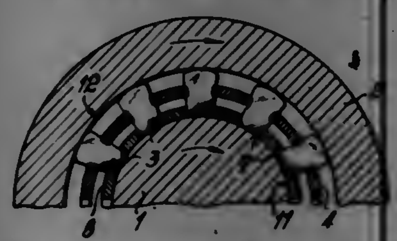
Carl F. Benson, Torrington, and John H. Cowles, Forestville, Conn., assignors to The Torrington Company, Torrington, Conn., a corporation of Maine
Filed May 6, 1963, Ser. No. 278,140
3 Claims. (Cl. 192—45)



1. An overrunning roller clutch particularly adapted for mounting on a one-piece single diameter inner race, said roller clutch comprising a homogeneous thin metal outer shell having a cylindrical outer surface configuration and radially inwardly directed end flanges at the opposite ends thereof, said shell having an inner surface defining a first outer raceway adjacent one end flange and a second outer raceway axially spaced from said first outer raceway and being disposed adjacent the other of said end flanges, each of said outer raceways being of a cylindrical configuration and said second raceway being of a greater diameter than said first raceway, said shell inner surface also including an intermediate portion having clutch cams, said intermediate portion having an over-all inner diameter which is greater than the diameter of said first raceway and less than the diameter of said second

raceway, a retainer within said intermediate portion and each outer raceway, and a series of rolling bearing elements in each retainer, all of said rolling bearing elements having a radially innermost surface disposed in a single cylindrical pattern.

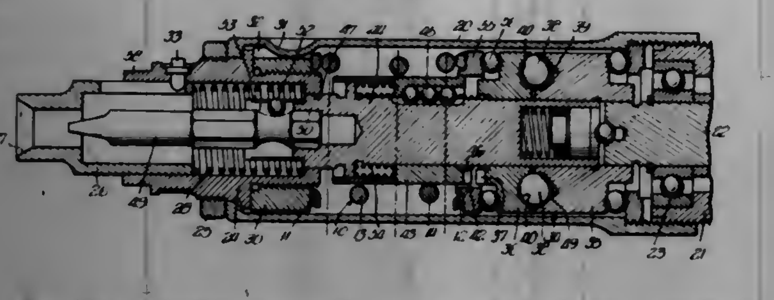
3,194,369
DOUBLE ACTING OVERRUNNING CLUTCH
Wolfgang Witte, Schweinfurt (Main), Germany, assignor to Fichtel & Sachs A.G., Schweinfurt (Main), Germany, a corporation of Germany
Filed May 17, 1963, Ser. No. 2[illegible]1,111
Claims priority, application Germany, May 18, 1962, F 36,836
13 Claims. (Cl. 192—45.[illegible])



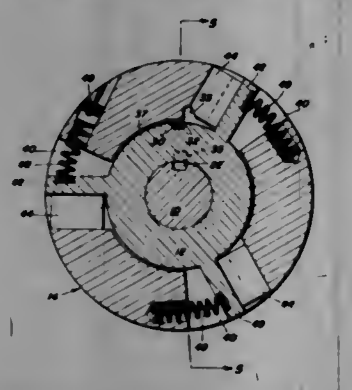
1. In a clutch of the type described, in combination:
(a) a support;
(b) a driving clutch member;
(c) a driven clutch member,
  (1) said clutch members being mounted on said support for rotation about a common axis, and
  (2) having respective annular faces about said axis, said faces being radially spaced from each other;
(d) a plurality of coupling members interposed between said faces, each coupling member being pivotable about a pivot axis extending in the direction of said common axis between an inoperative position in which said coupling member permits free rotation of said clutch members relative to each other about said common axis, and two locking positions angularly spaced from said inoperative position in opposite directions, said coupling members when in said locking positions connecting said clutch members for joint rotation in a respective direction;
(e) resilient means permanently urging each coupling member toward one of said faces and away from the other face;
(f) control means mounted on said support for rotation about said common axis and engaging a portion of each coupling member spaced from the respective pivot axis for actuating movement of said coupling members between said positions thereof; and
(g) brake means mounted on said support and engaging said control means for retarding said rotation of the control means.

3,194,370
ROTARY DRIVING TOOL WITH VARIABLE PITCH SPRING
Rowland C. Bennett, Palatine, Ill., assignor to Skil Corporation, Chicago, Ill., a corporation of Delaware
Filed July 25, 1962, Ser. No. 2[illegible]2,296
4 Claims. (Cl. 192—56)

1. In a rotary driving tool characterized by a sleeve-like casing, by a spindle therein having a driver supporting means at its forward end, by a driven clutch member connectable to said spindle for rotatably driving same, by a rotatable power-receiving clutch member, by completely disengageable camming means normally directly interconnecting said clutch members and tending to separate said driven clutch member from said power-receiving clutch member at a predetermined torque value, and by torque value adjusting means, the improvement which comprises, a compression coil spring within said casing characterized by a series of coils with one or more coils at one end thereof having a greater pitch than the pitch of one or more coils at the opposite end thereof whereby said coils at said one end are adapted particularly for heavy driving conditions and said coils at said opposite end are adapted particularly for light driving conditions, said spring urging said driven clutch member into driving engagement with said power-receiving clutch member and resisting separation by said camming means until a predetermined torque value is exceeded, the degree of compression of said spring and thus said predetermined torque value being adjustable by said torque value adjusting means through a relatively wide range due to the variable pitch characteristics of said spring.



3,194,371
MAGNETIC TORSIONAL OVERLOAD CLUTCH
Jacob Rabinow, Bethesda, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Apr. 29, 1963, Ser. No. 276,309
9 Claims. (Cl. 192—56)

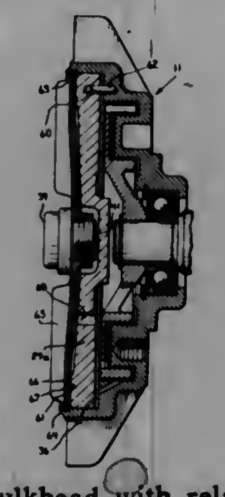


1. A free running overload clutch comprising a first rotary member, a second rotary member, and a third rotary member, said members arranged to transmit torque, torque responsive means coupling said second and third members and responsive to torque overload to allow relative rotation between said second and third members, said torque responsive means including a magnet and an armature attached to said second and said third members and arranged to break away from each other upon clutch overload, and resilient means acting between said second and said third members in a direction which aids said magnet and opposes separation of said armature and magnet, and coupling means coupling said first member to said second member and responsive to said relative rotation due to torque overload for decoupling said first and second member and thereby permit said first member to rotate free of said second member.

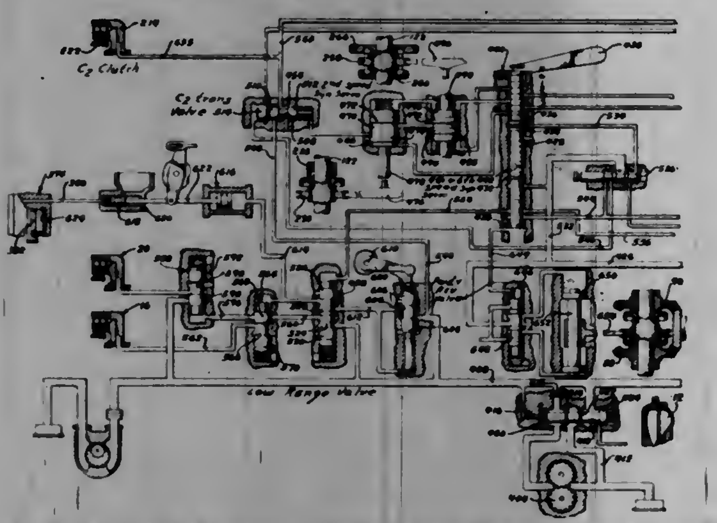
3,194,372
VARIABLE VOLUME COUPLING MECHANISM
Thomas J. Weir, Indianapolis, Ind., assignor to Schwitzer Corporation, Indianapolis, Ind., a corporation of Indiana
Filed Mar. 6, 1963, Ser. No. 263,154
2 Claims. (Cl. 192—58)

1. A drive coupling comprising: a generally cup-shaped driven member and a drive disc mounted within

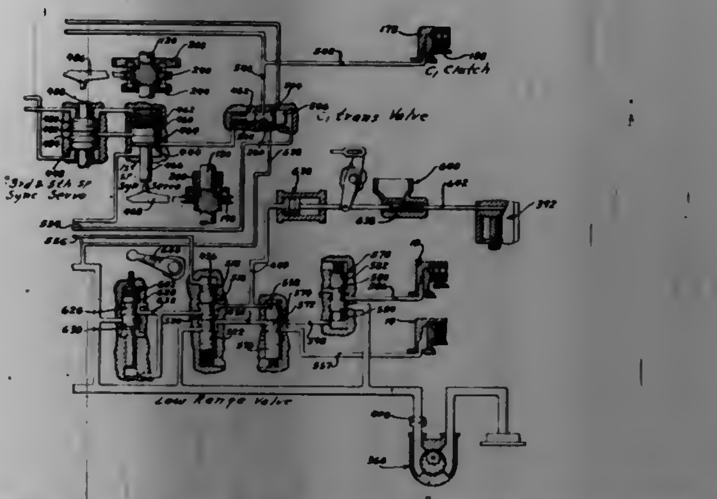
and concentrically of said driven member for relative rotation therebetween; a closure plate closing the end of said driven member; a bulkhead moveable within said driven member toward and away from said drive disc and dividing said driven member into a chamber remote from said drive disc and a drive chamber enclosing said drive disc; fluid in said drive chamber; a temperature responsive element mounted exteriorly of said closure plate and operably connected to said bulkhead so as to shift said bulkhead with relation to said drive disc in response to temperature changes to thereby vary the volume of and hence the dynamic fluid level within said drive chamber thereby varying the fluid shear driving relationship between said driven member and drive disc, and an aperture in said bulkhead for permitting the dynamic fluid level to equalize within said remote chamber and said drive chamber to thereby balance the fluid pressures on opposite sides of said bulkhead.



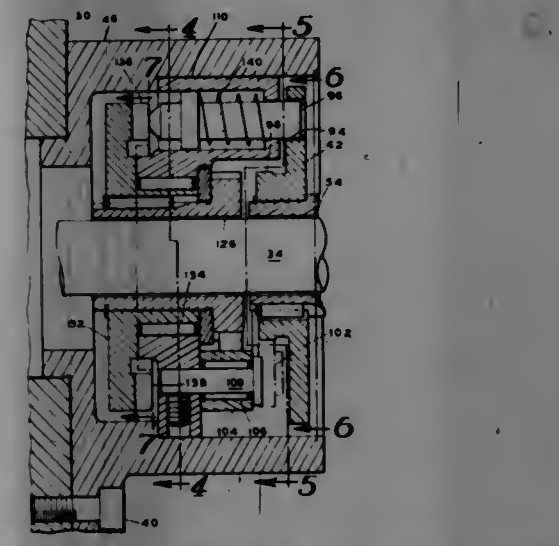
3,194,373
CONTROL SYSTEM FOR A MULTIPLE SPEED POWER TRANSMISSION
Glen L. Bowen, Detroit, Robert W. Lemon, Farmington, and Julius A. Clauss, Jr., Beverly Hills, Mich., assignors to Jered Industries, Inc., Birmingham, Mich., a corporation of Michigan
Original application Oct. 29, 1958, Ser. No. 770,502, now Patent No. 3,050,164, dated Aug. 21, 1962. Divided and this application Aug. 20, 1962, Ser. No. 217,864
6 Claims. (Cl. 192—87)



1. In a control system for a power transmission mechanism having engageable and releasable torque transmitting devices, separate fluid pressure operated servos adapted to actuate each device, a fluid pressure source, conduit structure including separate portions extending respectively from said source to each of said servos, first valve means disposed in and partly defining the conduit structure portion for one of said servos for distributing pressure to said one servo and exhausting the same, a signal pressure passage communicating with said first valve means and with a high pressure region of said conduit structure, second valve means disposed in and partly defining said signal pressure passage, said second valve means having movable portions connected to movable parts of another of said servos, the first valve means responding to a change in pressure in said other servo with a delayed action as pressure in said signal pressure is controlled upon movement of said other servo between two positions corresponding respectively to engaged and released positions of its associated torque transmitting device.



3,194,374
MACHINE TOOL SLIDE RETRACTION MECHANISM
Charles Herfurth, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed June 5, 1963, Ser. No. 286,146
7 Claims. (Cl. 192—143)



1. In a machine tool having a reciprocally movable slide and a drive shaft operatively connected to the slide for movement thereof when rotated, a retraction mechanism to produce reversible movement of said slide through a predetermined distance comprising in combination:
(a) a reversibly operable rotary motor having an output shaft,
(b) a speed reducer mechanism connected to said output shaft and the slide drive shaft for rotation of the slide drive shaft at a rate reduced from the speed of said output shaft,
(c) a revolution counting mechanism including
  (1) an annular and unidirectionally rotatable cam having an actuating lobe extending therefrom, and
  (2) a ratchet mechanism responsive to a revolution of the output shaft in either direction to rotate said cam from one to another of a series of predetermined angular positions whereby said actu-

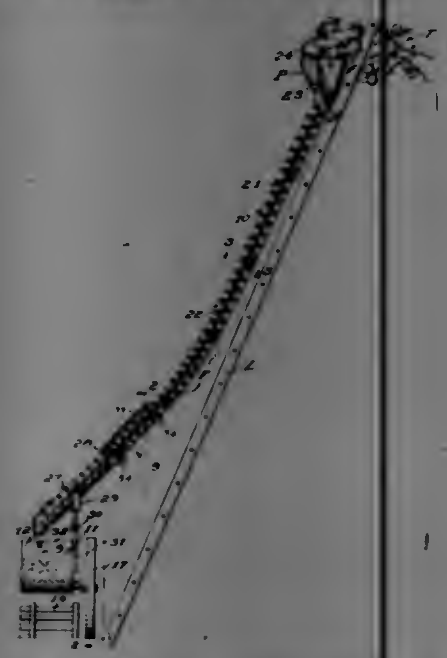
ating lobe is cyclicly moved to and from an effective position, and

(d) a positive stop engaged by said actuating lobe in the effective position and shifted thereby to an extended position wherein said positive stop prevents continued rotation of the output shaft without reversal of the direction of rotation thereof to limit the extent of slide movement to the predetermined distance.

3,194,375

FRUIT GATHERING DEVICE

Russell J. Callow, Sr., 3102 Marion Drive, Ocala, Fla.
Filed Oct. 4, 1962, Ser. No. 22[illegible],308
4 Claims. (Cl. 193—7)

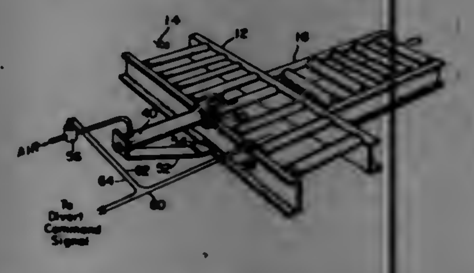


1. A fruit gathering device comprising a fruit receiving hopper, a fruit dispensing means and a chute formed of coiled wire interposed between the fruit receiving hopper and the fruit dispensing means, the convolutions of the coiled wire forming the chute being permanently attached by strands of material to limit the expansion between said convolutions forming the chute whereby fruit is delivered one to the other through the chute.

3,194,376

LINEAR MOTION DIVERTER MECHANISM FOR CONVEYORS

Bernard C. Holben, Dublin Ohio, assignor to Industrial Nucleonics Corporation, a corporation of Ohio
Original application Apr. 20, 1961, Serial No. 104,291, now Patent No. 3,110,383, dated Nov. 12, 1963. Divided and this application Aug. 26, 1963, Serial No. 304,491.
3 Claims. (Cl. 193—36)

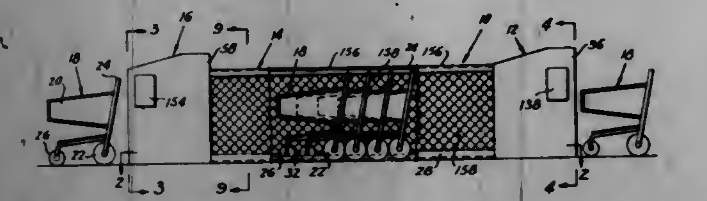


1. In a conveyor system wherein a main conveyor bearing articles to be distributed is intersected from one side by a branch conveyor, an article diverter mounted above said main conveyor on the side thereof opposite said branch conveyor, said diverter comprising a pneumatic piston and cylinder driving device having a push rod which carries on the end thereof an article-engaging member with a spherically shaped surface for contacting said articles, and means connected to said diverter for delivering compressed air thereto for actuating the same.

3,194,377

GROCERY CART STORAGE AND DISPENSER DEVICE

Jack Tillar Fischbach, 3831 Beech Ave., and Kenneth B. Harrison, 3103 Keswick Road, both of Baltimore, Md.
Continuation of application Ser. No. 833,304, Aug. 12, 1959. This application Feb. 14, 1963, Ser. No. 259,481
8 Claims. (Cl. 194—4)

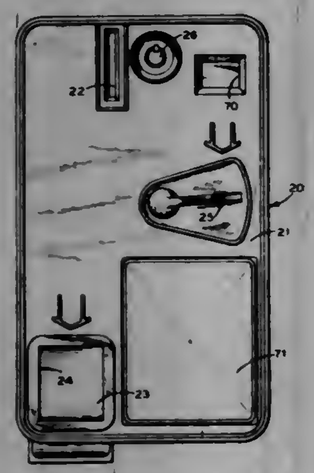


7. In a grocery cart storage and dispensing apparatus having housing means for receiving and nesting a plurality of grocery carts, a dispensing disc rotatably mounted at one end of the housing, and coin operated means for operating said dispensing disc for ejecting a grocery cart.

3,194,378

MULTIPLE COIN METER

Harry Greenwald, Whitestone, N.Y., assignor of one-third each to Louis Wolff and Harry Silberglait, both of Brooklyn, N.Y.
Filed June 6, 1962, Ser. No. 200,395
8 Claims. (Cl. 194—9)

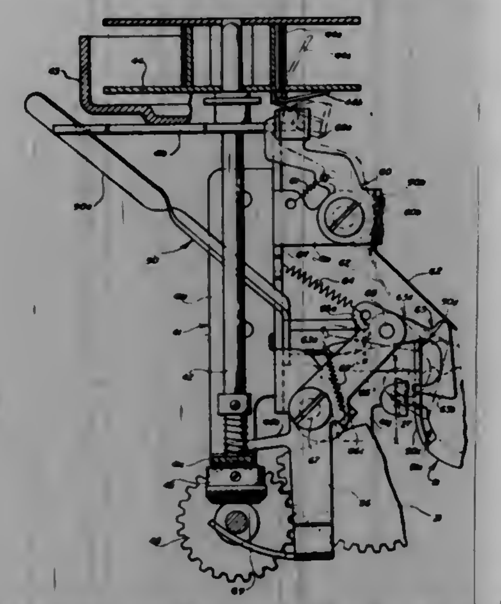


1. A compact totalizing multiple coin meter comprising a front plate having a single coin slot sized for receiving coins of different denomination; separator means connected to the front plate adjacent said slot for distinguishing the denomination of said coins; a coin rejecting means disposed adjacent to said front plate for each denomination, said separator means directing coins of like denomination to one rejecting means, and like coins of another denomination to another rejecting means, each said rejecting means including means for distinguishing between acceptable and non-acceptable coins of said coin denominations, a trip switch associated with each of said rejecting means, said trip switches each including an actuating trip feeler disposed in position to be actuated by an acceptable coin passing through its respective rejecting means, and one of the switches having a trip feeler having opposed ends, said one switch being arranged to be actuated at least two times by the same coin, the said trip feeler of said one of the switches including means for pivotally connecting said trip feeler of said one switch intermediate its opposed ends, and laterally bent end portions formed at each of said opposed ends, said bent end portions being disposed to extend in the path of a coin whereby the bent end portions are directly and successively actuated by the same coin passing through the associated rejecting means whereby each actuation of said trip feeler by said coin imparts an impulse upon engagement of said coin with each bent end portion whereby the total of said impulses indicates the denomination of said coin.

3,194,379

RIBBON FEED MECHANISM

Ludwick Szeluga, Wapping, Conn., assignor to Royal McBee Corporation, New York, N.Y., a corporation of New York
Filed Apr. 5, 1963, Ser. No. 271,001
8 Claims. (Cl. 197—151)

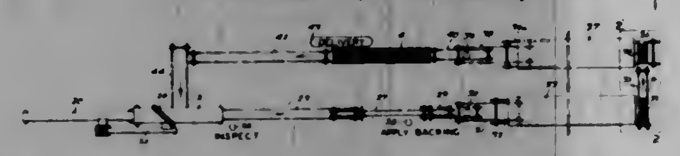


1. In a power driven typewriter having a power roll,
a plurality of actuatable key sub-levers and a universal bar adapted to be operated by an actuated sub-lever, the combination of,
mechanism for feeding fabric ribbon,
mechanism for feeding carbon ribbon,
a common drive shaft,
means to selectively couple said shaft to said mechanisms for operating one or the other of them,
and means driven by said power roll and responsive to operation of said universal bar for driving said common drive shaft.

3,194,380

BOARD TRANSFER APPARATUS

Wayne C. Watson, Ambler, Pa., assignor to American Olean Tile Company, Inc., Lansdale, Pa., a corporation of New York
Filed Jan. 15, 1963, Ser. No. 251,510
7 Claims. (Cl. 198—21)

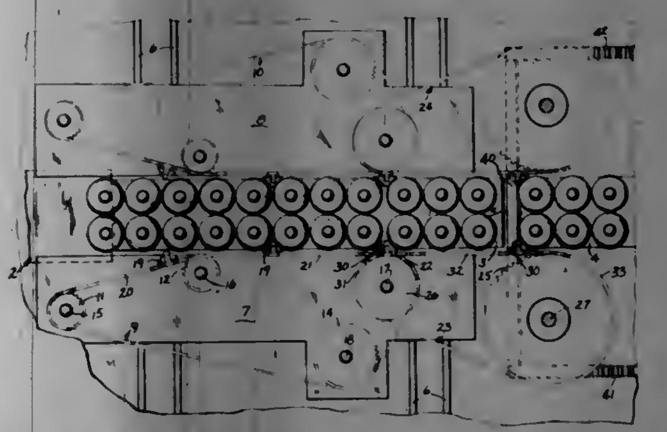


1. Board transfer apparatus for tile assembly boards which have a considerably greater dimension in length than width, comprising in combination, a narrow feedout belt conveyor for feeding out tile-filled boards endwise in spaced-apart relationship, a second narrow conveyor belt for taking boards from said feed-out conveyor and moving them endwise thereon in spaced-apart relationship, the tiles being rearranged and having a wet adhesive backing sheet applied thereto while on said second narrow conveyor, a wide oven belt conveyor for moving boards sidewise in closely-spaced relationship from the second narrow conveyor through an oven to dry the adhesive, an elevator turntable for raising boards from said second narrow conveyor and turning and depositing them on said wide oven conveyor, a wide return cooling belt conveyor for passing dried boards sidewise in closely-spaced relationship through a cooling chamber, a narrow crossover belt conveyor for moving boards endwise in spaced-apart relationship from said oven conveyor to said cooling conveyor, a narrow return belt conveyor for moving boards endwise in spaced-apart relationship from said wide return cooling conveyor, an elevator turntable for raising boards from said wide cooling conveyor and turning and depositing them on said narrow return conveyor, a roller table conveyor for taking boards from said narrow return conveyor and allowing them to move into end-to-end relationship at a delivery station, a narrow second return belt conveyor for taking empty boards from said roller table conveyor, and a return cross conveyor for taking empty boards from said second return conveyor and returning them sidewise in spaced-apart relationship to said feed-out conveyor.

3,194,381

APPARATUS FOR GROUPING ARTICLES INTO PACKAGE UNITS

Earle C. Sherman, Monroe, La., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Oct. 1, 1962, Ser. No. 227,505
6 Claims. (Cl. 198—34)



1. Apparatus for separating continuously moving rows of objects into package groups comprising, first conveyor means continuously moving rows of objects forward onto a stationary plate, a pair of laterally spaced selector means driven at a speed at least as fast as said first conveyor means, each of said selector means having first lug means mounted thereon, said first pair of selector means being operative to engage a group of said objects at spaced diametrically opposed intervals and to propel said group along said stationary plate toward speed-up means, a pair of laterally spaced speed-up means, each of said speed-up means having second lug means mounted thereon, the lug means on each of said speed-up means being spaced a greater distance apart than the lug means on each of said selector means, said selector means and said speed-up means being mounted for movement in continuous paths intersecting at a common point to effect a transfer of said group from said first lug means to said second lug means, means driving said pair of speed-up means at a greater speed than said pair of selector means to accelerate said groups of objects, the difference in speed and the spacing of the lugs of said pair of speed-up means being effective to separate said rows of objects into spaced package groups each containing a predetermined number of units.

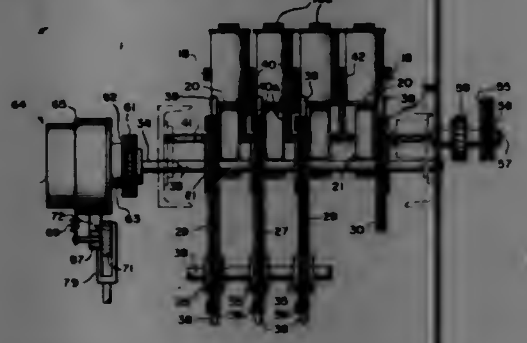
3,194,382

ARTICLE GROUPER AND SPACER

Biagio J. Nigrelli, Northbrook, Wendell E. Standley, Lake Forest, and Richard B. Wittmann and James I. Wittmann, Chicago, Ill., assignors to Johns-Nigrelli-Johns, Inc., Skokie, Ill., a corporation of Illinois
Filed June 24, 1963, Ser. No. 289,874
2 Claims. (Cl. 198—34)

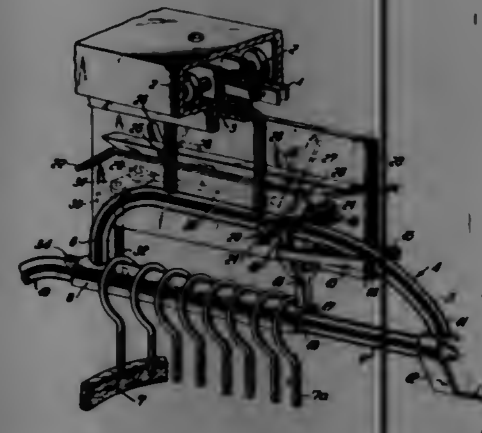
1. A machine for metering a predetermined number of uniform size, upright chimed articles of generally cylindrical form, such as chimed cans, to constitute a segregated group, such machine comprising a narrow, endless belt conveyor upon which a row of abutted, successively related, chimed articles may be conveyed with provision for the belt to slip beneath the articles, means for continuously driving the belt, said belt being narrower than the diameter of the articles, whereby the articles will

project outwardly of the belt at least along one side thereof, guide means for the articles disposed along the opposite side of the belt, a metering device comprising an endless member arranged to operate on the side of the belt opposite the guide means, said metering device having a plurality of equi-spaced, article-engaging elements carried on said endless member below the level of the article supporting belt and having free end portions projecting upward into the path of the articles so that certain of the articles in the conveyed row may be engaged by said elements, the spacing of said elements being less than the overall length of the article group to be segregated, whereby the leading element is adapted to engage a portion of the leading article of a group at a point located rearwardly of such article's foremost surface, and whereby the trailing element is adapted to travel in close juxtaposition to a portion of the trailing article located forwardly of such article's rearmost surface to avoid having such trailing element engage the leading article in a succeeding article group even though certain chimes of the articles in the group to be segregated may be resting one upon the other, and means for operating the metering device intermittently to effect spacing between successive article groups on the supporting conveyor belt.



3,194,383
ARRANGEMENT FOR CONVEYING CLOTHING SUSPENDED FROM HANGERS

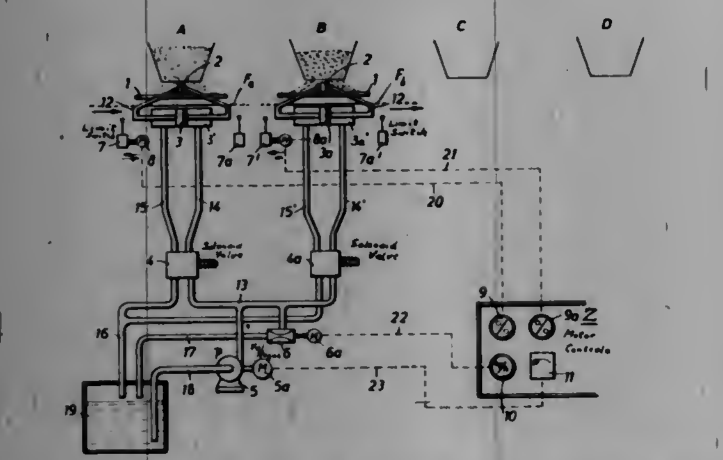
Erich Kuwertz, Kaiserslautern, Pfalz, Germany, assignor to G. M. Pfaff AG, Kaiserslautern, Pfalz, Germany
Filed Mar. 21, 1963, Ser. No. 266,884
Claims priority, application Germany, Mar. 24, 1962, P 29,046
4 Claims. (Cl. 198—38)



1. System for conveying clothing apparel or the like disposed on hangers discharged automatically at preselectable receiving stations, said system comprising a stationary receiving bar at a receiving station, conveyor means, a material carrier having a bail and a carrier element adapted to encompass said receiving bar along one side thereof and having one end connected to said bail and one free end spaced from said bail to define a passageway, conveyor connecting means linking said carrier element with said conveyor to be moved thereby, means including a locking member and stripping means adapted to move hangers on said receiving bar, operative to open and close said passage, stationary means operative to actuate said locking member and stripping means adapted to move hangers on said receiving bar.

3,194,384
APPARATUS FOR MIXING A PLURALITY OF DIFFERENT POURABLE PARTICULATE MATERIALS

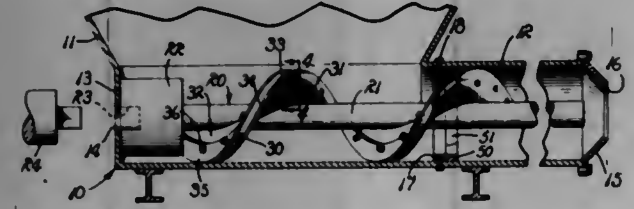
Albert Beul, Offheim, near Limburg, Germany, assignor to Limburger Eisengiesserei und Maschinenfabrik Theodor Ohl K.G., Limburg (Lahn), Germany
Filed Sept. 15, 1964, Ser. No. 396,536
12 Claims. (Cl. 198—53)



1. Apparatus for mixing a plurality of different pourable particulate solid materials with controllable dosage of the different ingredients of the resulting mixture, comprising, in combination, a plurality of supply means for dispensing pourable particulate solid materials, each comprising a support plate means on which said material accumulates and wiper means reciprocatingly movable across the surface of said plate means for pushing, depending upon the length of the stroke of said wiper means, a corresponding amount of said accumulated material from said plate means; conveyor means arranged underneath each of said plate means, respectively, for receiving any material pushed by said wiper means from the respective plate means and for delivering such material to a delivery point common to all of said supply means so as to produce there a mixture of said materials; a plurality of individually controllable and adjustable drive means, each operatively connected with a different one of said wiper means, respectively, for reciprocatingly moving the latter with variable stroke over the respective plate means; and remote control means for adjusting the length of the stroke of each individual one of said drive means independently from the other drive means, whereby the dosage of the ingredients of a mixture of said materials can be adjusted to any desired percentage ratio therebetween.

3,194,385
SCREW-TYPE CONVEYOR WITH RESILIENT BEARING MEANS

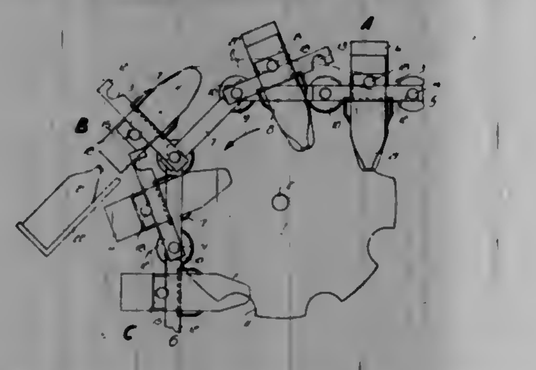
Anthony Barnese, Fresno, Calif.
(5233 Lindsey, Apt. 1, Pico Rivera, Calif.)
Filed Jan. 15, 1962, Ser. No. 166,173
5 Claims. (Cl. 198—64)



1. A screw-type conveyor comprising a frame; material receiving means mounted thereon; means defining a cylindrical surface generated about an axis and providing an axial passageway in communication with said material receiving means; an auger having a periphery adapted to be received within said passageway; means mounting the auger for rotation about said axis with said periphery spaced at a predetermined interval from said cylindrical surface; inflatable resilient bearing and sealing means carried by said auger at its periphery, and when inflated bridging said interval and being in engagement with said cylindrical surface; and means in fluid communication with said bearing and sealing means to inflate the same.

3,194,386
BUCKET DISCHARGE DEVICE

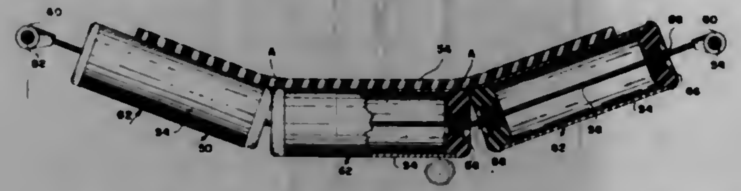
Fermín Espada Kywi, Paseo Turull 1, Barcelona, Spain
Filed July 29, 1963, Ser. No. 298,047
3 Claims. (Cl. 198—147)



1. Article conveying and discharging mechanism comprising a pair of endless chains, each chain having a plurality of links pivotally connected together on axles, a support roller rotatably mounted on each axle, a plate pivotally mounted at one end to each axle, each plate having a notch adjacent the other end engageable with the next adjacent axle, an angle member fixed to each of said plates of each chain and having portions extending inwardly toward each other, a box connecting the inwardly extending portion of one angle member with the inwardly extending portion of the angle member of the other chain, a plurality of article-holding baskets carried by each of said boxes, a rod extending outwardly from each angle member, sprocket means engageable with said support roller to drive said chains and alter the direction of movement thereof, cam guide means located adjacent to said sprocket means, and said guide means receiving said rods, whereby movement of said rods through said guide means will tilt said plates about their pivoted ends as the chains travel over said sprocket means to discharge articles from said baskets.

3,194,387
TROUGHING IDLER ROLLER ASSEMBLY FOR BELT CONVEYORS

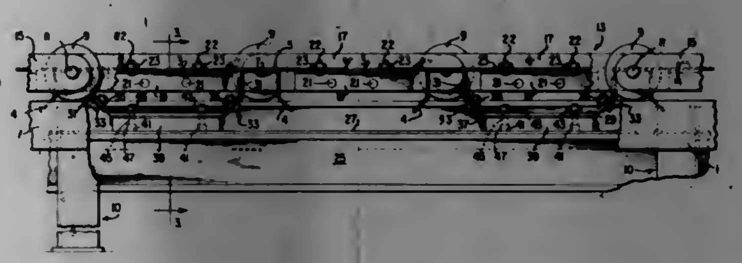
William N. Poundstone, Morgantown, W. Va., assignor to Christopher Coal Company, Osage, W. Va., a corporation of West Virginia
Original application Feb. 16, 1960, Ser. No. 9,077, now Patent No. 3,082,860, dated Mar. 26, 1963. Divided and this application Dec. 20, 1961, Ser. No. 160,774
2 Claims. (Cl. 198—192)



1. A troughing idler roller assembly comprising a shaft member transversely spanning a pair of longitudinally extending, spaced flexible side frame members, said shaft member having end portions secured to each of said side frame members, said shaft member being formed of flexible material for deepening of said idler roller trough by movement of said side frame members toward each other, a plurality of roller members rotatably supported in end to end relation by said shaft member and axially fixed relative to said shaft member, said roller members including rigid cylindrical tubes supported for rotation relative to said shaft member by resilient, deformable bearing carriers, said bearing carriers forming end walls for said roller members, said bearing carriers of adjacent roller members arranged to abut each other upon movement of said side frame members toward each other to thereby limit the depth of said idler roller trough by inhibiting the movement of said side frame members toward each other at a minimum distance from each other.

3,194;388
ENDLESS CONVEYOR WITH SUPPORT

Henry L. Wulff, Baton Rouge, La., assignor to Copolymer Rubber and Chemical Corporation, a corporation of Louisiana
Filed May 8, 1961, Ser. No. 108,471
8 Claims. (Cl. 198—195)



1. A conveyor belt having horizontal upper and lower runs and comprising an endless series of sections articulately interconnected about parallel horizontal axes that are spaced apart lengthwise of the belt with each of the sections disposed between a pair of adjacent axes, each of a plurality of the sections having a material supporting portion and a pair of brackets that depend downwardly when the associated section is in the upper run of the conveyor, one bracket being disposed adjacent each of the axes which are at either end of the section, and a U-shaped supporting frame carried by the downwardly depending pair of brackets, the supporting frame extending between the brackets and being disposed between the side edges of the conveyor belt and beneath the material supporting portion of the associated section when it is in the upper run of the conveyor, the U-shaped supporting frame being arranged in a generally upright manner with the legs extending upward from the portion thereof intermediate the legs, the legs being attached to the downwardly depending pair of brackets and the said portion intermediate the legs being spaced below the material supporting portion of the associated conveyor section when it is the upper run of the conveyor, and a supporting shoe carried by the supporting frame, the shoe being disposed between the side edges of the conveyor belt and beneath the said portion intermediate the legs of the supporting frame when the associated conveyor section is in the upper run of the conveyor,

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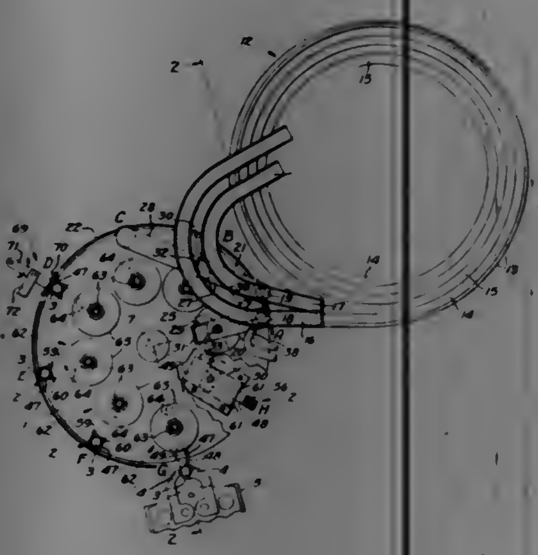
3,194,389
LAMP BULB FEEDING MECHANISM

Edward F. Grgetic, Richmond Heights, Ohio, assignor to General Electric Company, a corporation of New York
Filed Oct. 16, 1963, Ser. No. 316,632
7 Claims. (Cl. 198—209)

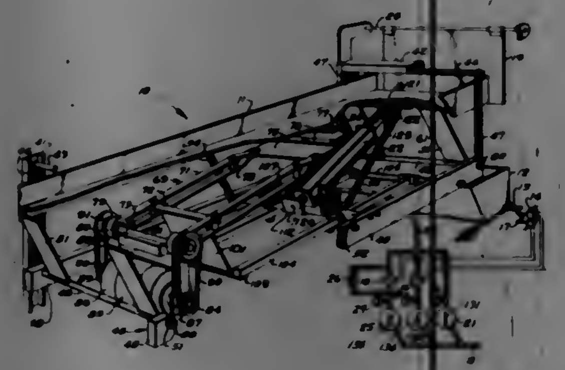
1. Lamp bulb feeding apparatus comprising a turret provided around its periphery with a plurality of bulb-supporting heads, each of said heads comprising a slide mounted for horizontal sliding movement on said turret in a direction radially thereof, a bulb-supporting lever pivotally mounted on said slide for pivotal movement in a vertical plane parallel to the said direction of sliding movement of said slide, said lever extending generally radially outward of the turret from its pivot axis and

adapted to support a bulb on its outer end, said lever being pivotable between a substantially horizontal bulb-supporting position and a downwardly tilted bulb disengaged position, spring means biasing said lever to its said horizontal bulb-supporting pivoted position, thrust receiving means on said lever located below the pivot axis thereof for application of an actuation force thereto



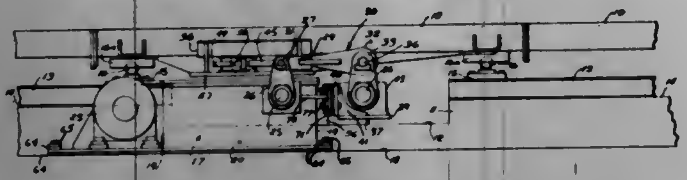
in the direction of and acting to produce sliding movement of the slide on said turret, and cooperating friction means on said slide and turret exerting a frictional force on the slide opposing sliding movement thereto relative to the turret, said frictional force being greater than the minimum actuation force required against said thrust receiving means to pivot the lever against the force of said spring means.

3,194,390
FLUID PRESSURE CONTROLLED VIBRATING CONVEYOR
Kenneth M. Allen and Chester H. Harper, Newberg, Oreg., assignors to Allen-Harper, Inc., Newberg, Oreg., a corporation of Oregon
Filed Oct. 29, 1962, Ser. No. 233,702
14 Claims. (Cl. 198—220)



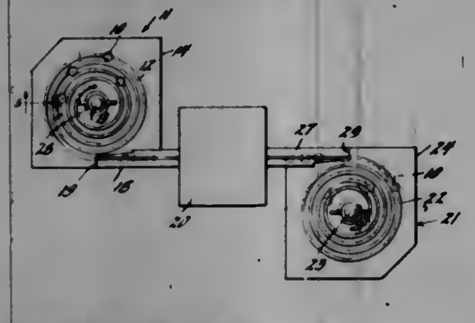
1. In a vibrating conveyor, a floating conveyor trough,
a connecting rod connected to the trough in a generally horizontally extending position,
an eccentric rotor,
means mounting the rotor rotatably on the connecting rod,
a motor,
means pivotally suspending the motor from the connecting rod in a position in which the motor is spaced vertically from the rotor,
and means connecting the motor drivingly to the rotor.

3,194,391
IMPACT ABSORBING SHAKER CONVEYOR DRIVE
Loy D. Hagenbook, Chicago, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed Nov. 23, 1962, Ser. No. 239,449
11 Claims. (Cl. 198—220)



1. In a shaker conveyor drive unit:
a base,
a shaker conveyor trough mounted for reciprocable movement along said base,
a thrust reaction member secured to said base and extending upwardly therefrom,
a drive housing, shiftable support means for said drive housing on said base supporting said drive housing for shiftable movement relative said base,
at least one rocker arm journalled in said housing and reciprocably driven to produce a shaker drive action,
a drive connection from said rocker arm to said shaker conveyor trough including a resilient connecting member connecting said rocker arm to said shaker conveyor trough,
and a resilient connection between the drive housing and the thrust reaction member effective to absorb thrust reaction between the drive housing and the thrust reaction member while enabling the housing to shift on the base and thereby maintain the housing relatively free of driving strains.

3,194,392
VIBRATORY FEEDER AND STORAGE DEVICE
Richard W. Manderbach, Bethlehem, Pa., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 27, 1963, Ser. No. 268,410
8 Claims. (Cl. 198—220)



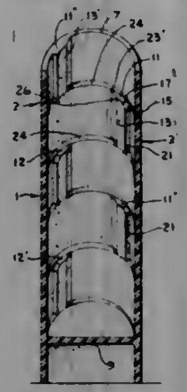
1. In an article feed device,
a flat plate having a planar spiral passageway terminating at a first end near the center of the plate and terminating at the other end in a vertical edge of the plate,
said passageway extending partially through the cross-section of the plate opening into the bottom face thereof, and having a keyway for supporting and orienting articles in a depending manner through the opening,
a vertical support shaft attached to one face of the plate, and
means for imparting helical oscillatory forces to said shaft wherein a downward force component is accompanied by a rotative component of force in a direction opposite to the direction that the planar spiral unfolds from the center of the plate to suspend momentarily the articles, and a reverse motion of an upward force component accompanied by a rotative component in the direction that the planar spiral

unfolds from the center whereupon the suspended articles drop into the passageway in an advanced position.

3,194,393

VERTICAL COIN COUNTING TUBE

Robert T. Allen, 132 Pineview Terrace, Plainfield, N.J.
Filed Dec. 18, 1962, Ser. No. 245,464
2 Claims. (Cl. 206—.83)



1. A coin counting tube, comprising,

a vertical layer of hollow, parallel slightly ovate cylindrical sections, including top and bottom sections disposed in forwardly- and downwardly-slanted and superimposed relation to each other, the height of each section being such that the loss in thickness of the coins therein is less than the thickness of a run-of-the-mill coin,

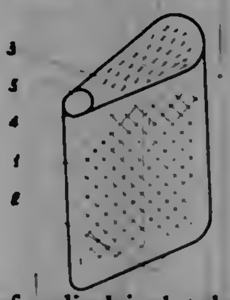
a flat coin bottom for the bottom section, similarly slanted in said tube and to the same degree,

a downwardly-slanted ledge and projection thereunder protruding inwardly from the upper inner back boundary of each section, said ledge and projection being disposed in staggered and image relation to the next succeeding ledge between the back and side centers in a manner such that extra coins of an upper section will fall thereon and be tilted in a direction opposite to that of the coins in the lower section, said ledge in each section being flush with the upper edge of its section.

3,194,394

CASES FOR CONTAINING CIGARETTES AND CIGARS

Morris Fischer, 11 bis Rue Meyerbeer, Nice, France
Filed Dec. 19, 1961, Ser. No. 160,543
Claims priority, application Switzerland, Nov. 16, 1961, 13,345/61
7 Claims. (Cl. 206—41.2)

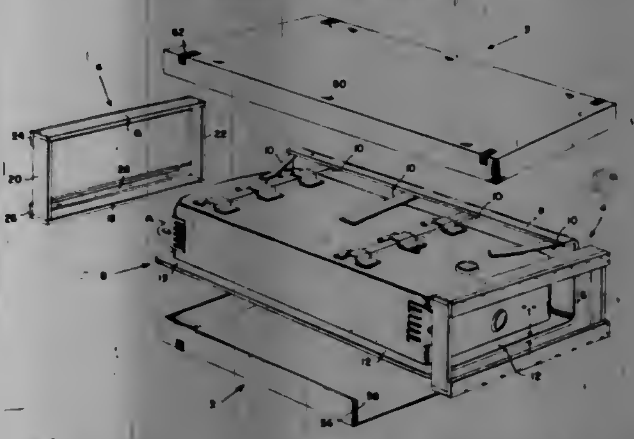


1. A package of cylindrical tobacco products of uniform size which may be dispensed therefrom one at a time, said package comprising: a continuous lateral wall having two spaced-apart sections defining a space, a storage portion of which has a width such that at least two rows of said tobacco products are stored therein in parallel, generally coextensive relationship; first and second end walls disposed transversely of said tobacco products and joined to said lateral wall, one of said end walls having a dispensing aperture of a size slightly larger than the diameter of one of said tobacco products so as to permit only one of said tobacco products to pass therethrough at a time, said space having a dispensing portion of a width and breadth such that only one of said tobacco products is contained therein, said aperture being in alignment with and communicating with said dispensing portion, said space further having an intermediate portion immediately adjacent and continuous with said dispensing portion and said storage portion, said intermediate portion having a plurality of tobacco products therein only one of which is in contact with the tobacco product in said dispensing portion, the width of said intermediate portion at the location of the tobacco product therein being less than twice the diameter of the tobacco product so that tobacco products in said intermediate portion must assume a staggered arrangement whereby, upon removal of a tobacco product through said dispensing aperture, only one tobacco product tends to pass from said intermediate portion to said dispensing portion thereby avoiding wedging of the tobacco products in said intermediate portion.

3,194,395

SHIPPING ENCLOSURES

Doyle M. Weaver, South Gate, and Kenneth Atchison, Garden Grove, Calif., assignors to The Flintkote Company, New York, N.Y., a corporation of Massachusetts
Filed July 15, 1963, Ser. No. 295,089
3 Claims. (Cl. 206—46)



1. A package comprising, in combination, a large plumbing fixture; a pair of rigid rectangular frames directly fitted upon the ends only of said fixture; and a pair of covers each of which comprises a rectangular main wall having a plurality of inwardly extending finger-like tabs adjacent the side edges thereof, a pair of perpendicularly extending two-ply side walls attached to said main wall and being formed by folding a panel over itself into overlapped relation with the free edge of said panel being engaged by said tabs to maintain said side walls in a position perpendicular to said main wall, a pair of perpendicularly extending end walls attached to said main wall, and a pair of locking flaps attached to the side edges of each of said end walls, said locking flaps being perpendicular to said end walls and being located between the plys of said side walls to maintain said side walls in a position perpendicular to said main wall; the main panels of said covers overlying opposite faces of said fixtures, and the inwardly directed corners of said covers receiving and engaging the corners of said frames.

3,194,396

BUFFER STRIP

Donald E. Mock, Covina, Calif., assignor to Anjac Plastics, Inc., El Monte, Calif., a corporation of California
Filed Mar. 13, 1963, Ser. No. 264,932
1 Claim. (Cl. 206—60)

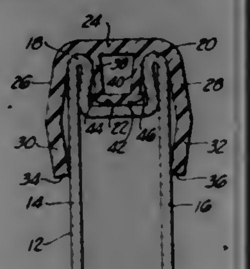
The combination of a buffer strip and building hardware;

said building hardware having first and second sides, said first and second sides each terminating at an edge, said first and second sides being substantially planar adjacent said edges, a channel formed in said building hardware between the edges thereof, said channel having a channel bottom, said channel bottom being positioned between said sides and away from said edges;

said buffer strip being made of elastomeric material, said buffer strip comprising:

a substantially planar end wall, said end wall having first and second edges and first and second sides, said second side of said end wall having substantially planar form between said first and second edges;

first and second side walls integrally formed with said end wall on said first side at said first and second edges of said end wall, said first and second side walls extending away from said first side of said end wall so that when said buffer strip is installed upon said edge of said building hardware, said first and second side walls are elastically deformed to extend angularly away from each other for a first distance from said end wall, said first and second side walls extending angularly toward each other from said first distance to the extremities of said first and second side walls so as to resiliently engage said building hardware adjacent said extremities and so as to



define a structure having a generally U-shaped cross section;

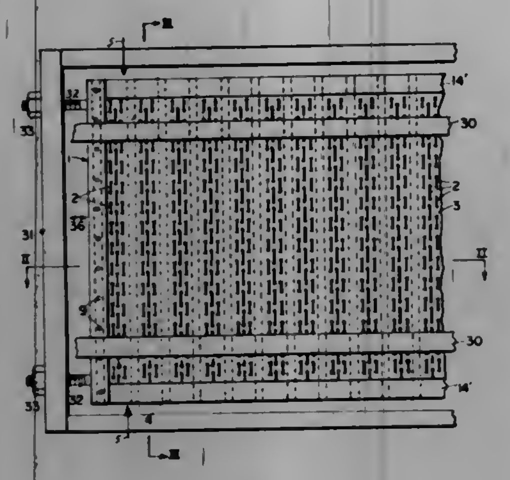
first and second webs integrally formed on said first side of said end wall, said first and second webs being positioned away from said first and second side walls and extending away from said end wall between said first and second side walls, said first and second webs extending into said channel in said building hardware between said edges thereof and extending toward said channel bottom, a cap integrally formed with said first and second webs, said cap extending from said first web to said second web, and extending past said webs to define retaining corners, said retaining corners resiliently engaging within the interior of said channel so as to retain said buffer strip on said building hardware; said end wall, said first and second webs and said cap thus defining a hollow space to permit flexure of said webs and said cap so that said first and second side walls and said retaining corners resiliently engage said building hardware to retain said buffer strip in position on said hardware while said end wall protects said edges of said hardware and said first and second side walls protect said sides of said hardware.

3,194,397
ADJUSTABLE SIEVES

Günter Taege, Mulheim (Ruhr), Germany, assignor to H. G. Schauenburg Verwaltung und Finanzierung G.m.b.H., Mulheim (Ruhr), Germany, a company of Germany

Filed May 24, 1962, Ser. No. 197,494
Claims priority, application Germany, May 27, 1961, Sch 29,772; Jan. 19, 1962, Sch 30,854
6 Claims. (Cl. 209—[illegible]94)

1. A riddle comprising a supporting frame; a sieve spanning said frame, said sieve having a planar array of codirectionally extending parallel elongated generally rigid spaced elements forming a plurailty of elongated throughgoing slots, and resilient means interconnecting laterally adjacent ones of said elements; and tensioning means including said frame for stretching said resilient means, thereby adjusting the widths of said slots, said array having a receiving surface for a substance to be separated, said tensioning means including a tightening member for stretching said sieve in a direction generally transverse to

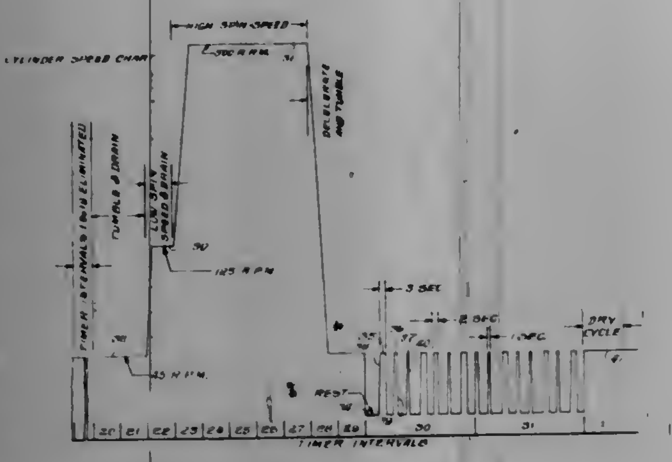


the major dimension of said slots, said resilient means being constituted by at least one planar strip of an elastomeric material inherently elastically stretchable in its plane extending parallel to said surface and bonded to said elements.

3,194,398
METHOD OF BREAKING ADHESION OF WET CLOTHES TO THE WALLS OF A ROTARY EXTRACTOR

Rhine G. Fecho, Baroda, Mich., assignor to Whirlpool Corporation, a corporation of Delaware

Filed June 7, 1961, Ser. No. 115,459
2 Claims. (Cl. 210—78)

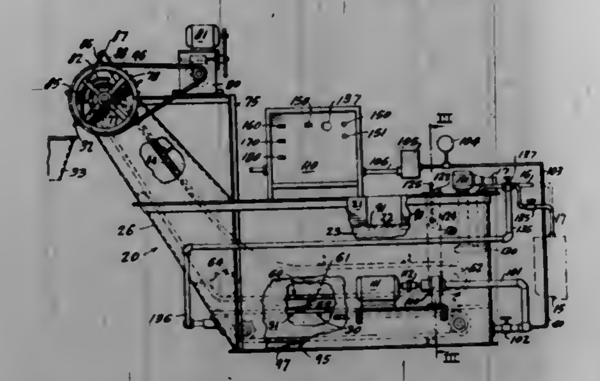


1. The method of breaking the adhesion of a wet clothes load to the walls of a high speed rotary fluid extractor containing said load following high speed extraction of fluid from said clothes load, comprising: bringing said extractor substantially to a stop subsequent to said high speed extraction; accelerating said extractor to a speed of a plurality of revolutions per minute and substantially less than said high speed; maintaining said speed for a period of a fraction of a minute; again bringing said extractor substantially to a stop to complete the first breaking cycle of acceleration, speed maintenance and deceleration; and repeating said cycles for a series of cycles in which each succeeding period of said speed maintained is of shorter duration.

3,194,399
SUCTION FILTER APPARATUS

Harold H. Harms, Toledo, Ohio, assignor to Henry Manufacturing Co., Inc., Bowling Green, Ohio, a corporation of Ohio

Filed May 17, 1961, Ser. No. 110,790
28 Claims. (Cl. 210—104)



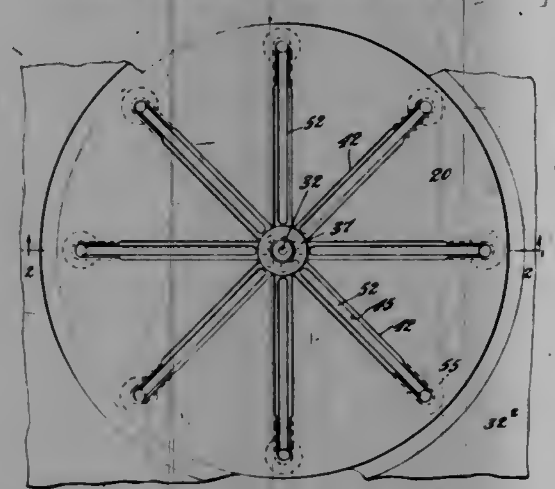
1. An apparatus for separating particles from a liquid, comprising:

a filtering means having a filter screen,
suction means to force said liquid through said screen,
a reservoir for clean liquid removed from said filtering means,
duct means for clean liquid between said filtering means and said reservoir,
means for removing clean liquid from said reservoir,
means to clean intermittently a part of said screen,
means to stop said suction means for forcing liquid through said screen before and during the cleaning of said screen, and
means connected to said duct means for controlling the operation of said cleaning means and said stopping means by the flow of liquid from said filtering means through said duct means and to said reservoir.

3,194,400
CENTRIFUGAL SOLVENT EXTRACTION

John F. Herndon, Park Chester Hills, West Chester, Pa., assignor to Malvern Institute for Psychiatric and Alcoholic Studies, Malvern, Pa., a non-profit corporation of Pennsylvania

Filed Dec. 21, 1960, Ser. No. 77,422
11 Claims. (Cl. 210—203)

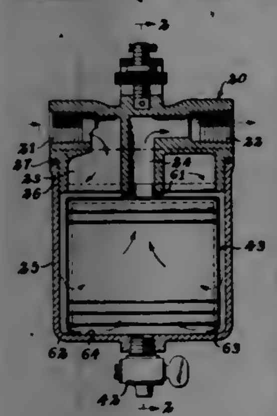


1. In a device for liquid chromatography, rotating means having a substantially vertical axis of rotation and a plurality of substantially radially outwardly extending channels, said rotating means being statically balanced about the vertical axis, each said channel having parallel longitudinally extending side walls, a bottom for support of separating medium, and an open top which permits evaporation, an elongated strip of separating medium resting on the bottom of each said channel and extending across said channel, and each said strip engaging said walls of the channel and coextending with said channel, and means for supplying a developing liquid to the separating medium in each channel at radially inner portions of said strips for flow to occur radially outwardly along said strips and between said walls of said channels in response to rotation of said rotating means.

3,194,401
FUEL FILTER

Oscar H. Banker, % Bay Products Development Co., P.O. Box 9732, Bay Village, Ohio

Filed Oct. 6, 1961, Ser. No. 146,071
7 Claims. (Cl. 210—444)

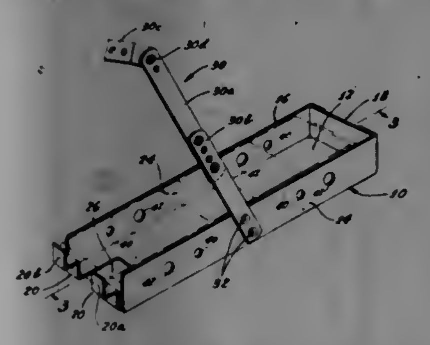


1. A filter assembly comprising a housing having inlet and outlet openings, a first chamber open to atmosphere and communicating with the inlet opening, and a second chamber open to atmosphere and connected to the outlet opening, said second chamber including a vertically disposed opening, a filter element closing the vertically disposed opening to the inlet chamber, said filter element comprising a pair of sections of pleated porous material extending upwardly from a common connecting section of porous material, a rigid closure member embracing the sides and top of the pleated sections and extending to opposite sides of the common connecting section, means effecting a fluid-tight seal between the filter element and closure member, said closure member having an opening in communication with the vertically disposed opening in the second chamber, means for effecting a seal between the closure member and housing around the opening in the said second chamber, and a bowl enclosing the filter element and removably secured to the housing, a portion of said housing extending into the bowl and said portion displacing substantially the same volume of fluid as is contained in said first and second chambers.

3,194,402
DISPENSER FOR CIGARETTE PACKAGES, OR THE LIKE

Jack Katz, 6630 W. Colgate Ave., Los Angeles, Calif.

Filed June 22, 1964, Ser. No. 376,684
2 Claims. (Cl. 211—49)

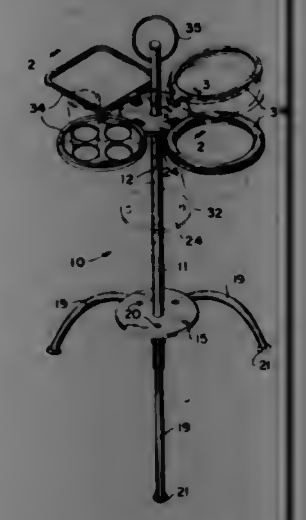


1. A dispenser assembly for packages of cigarettes, and the like, said packages having a rectangular configuration and said dispenser assembly including: a body portion having a rectangular configuration and comprising a bottom wall, a rear wall, side walls and a front wall, and intended to hold two layers of the rectangular packages of cigarettes, and the like; mounting bracket means attached to said body portion for mounting said

dispenser at an inclination towards said front wall; the forward edge of said bottom wall adjacent said front wall having a notch formed therein to permit the manual grasping of the forward package in the lower layer in said body portion; and said front wall being in the form of two transversely-spaced strips disposed on opposite sides of said notch and having a stepped configuration, said strips extending upwardly and outwardly from the forward end of said body portion to permit the forward package of the top layer to be removed and to permit the top layer of packages in said body portion to be displaced forwardly with respect to the bottom layer in staggered relationship therewith until all the packages in the top layer have been removed.

3,194,403
HOLDER ON UPRIGHT SUPPORT OF DETACHABLE ROTATABLE TRAYS

Maurice Joseph Van Horn, Jr., Rte. 2, Box 236, Church Road, Reisterstown, Md.
Filed Oct. 31, 1963, Ser. No. 320,570
3 Claims. (Cl. 211—78)

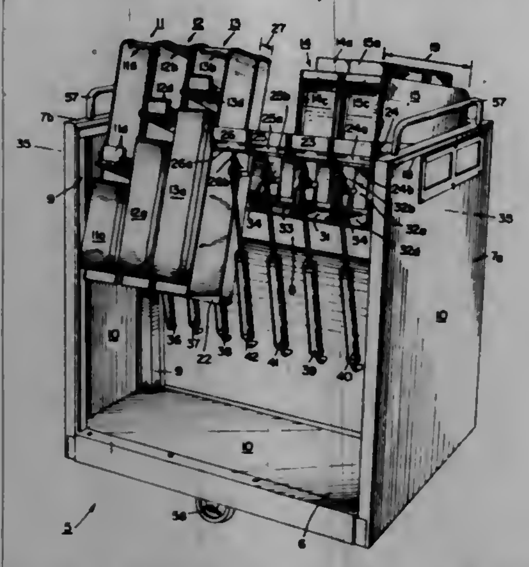


1. A readily portable device for direct application to the intermediate portion of an upright post without the necessity of longitudinal movement thereon, said device comprising a mounting plate having a central opening and a sleeve in said opening of a size to accommodate a post about which it is to be mounted, said mounting plate and sleeve being longitudinally split and composed of multiple separable parts and split collars disposed above and below said sleeve and means securing each of said collars in place, said collars having recesses in which the ends of said sleeve are received and having shoulders at the ends of said sleeve whereby said collars provide endwise and lateral bearing surfaces for said sleeve so that said mounting plate can be rotated about and the wear be primarily on said collars.

3,194,404
STACKING EQUIPMENT

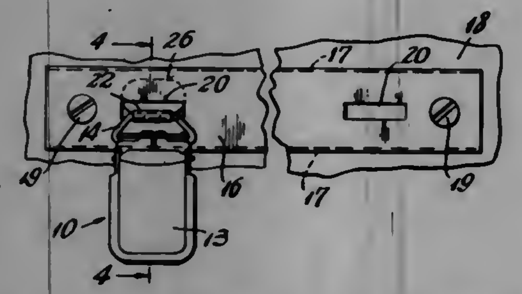
David M. Wright, Shrewsbury, and Norman A. Hedstrom, Worcester, Mass., assignors to Barry Wright Corporation, Watertown, Mass., a corporation of Massachusetts
Filed July 3, 1962, Ser. No. 207,192
15 Claims. (Cl. 211—41)

1. Card-stacking apparatus for supporting a plurality of elongated card trays in preferred positions for stacking and removal, comprising a framework, a plurality of elongated card trays, a plurality of racks each including means releasably locking one of said card trays thereon, means supporting said racks in side-by-side relationship on said framework for independent pivotal movements about an axis, means for releasably locking each of said racks to said framework in first angular orientations about said axis wherein said racks position said trays locked thereon substantially horizontally, and stop means limiting angular movements of said racks between said first angular orientations and second angular orientations wherein said racks position said trays locked thereon substantially vertically, whereby cards may be readily stacked in and removed from said trays when said racks position said trays substantially vertically and horizontally, respectively.



3,194,405
DISPLAY MEANS

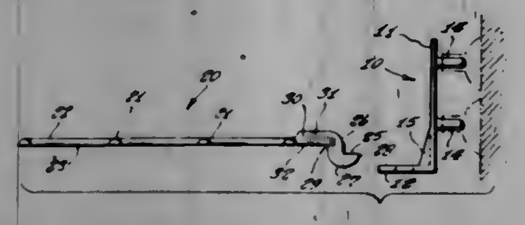
Gabriel S. Hawie, Bridgeport, Conn., assignor to The Hawie Manufacturing Company, Bridgeport, Conn., a corporation of Connecticut
Filed Mar. 9, 1964, Ser. No. 350,198
5 Claims. (Cl. 211—89)



1. In an article-suspending means comprising an elongate sheet metal support having a plurality of spaced holes thereon arranged in a row and article-engaging means having releasable means for attachment to an article to be suspended and a mounting loop: the improvement comprising mounting means having a barrel portion encircling a portion of said mounting loop and a lug having a horizontal neck portion and laterally and vertically extending wing portions, the latter having a height substantially greater than the narrowest dimension of the hole so as to engage the inner surface of the support adjacent the top marginal edge of the hole when the neck portion is in engagement with the bottom edge of the hole.

3,194,406
HANGER

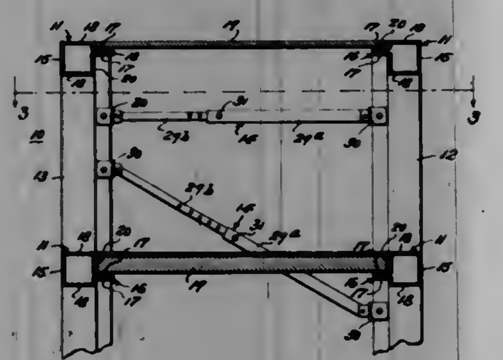
Samuel Simeti, 41 Ave. I, Farmingdale, N.Y., and John Vitkevich, 59 Gridley St., West Islip, N.Y.
Filed Dec. 4, 1963, Ser. No. 328,080
1 Claim. (Cl. 211—100)



A two piece upwardly foldable bathroom hanger for drying hosiery comprising an L-shaped plate having a relatively long vertical plate integral with a relatively short horizontal plate, said horizontal plate having a square aperture centrally disposed therein and in suitable space relationship to the vertical plate, means for securing said vertical plate to a vertical wall and an integral pinnate removable arm having a central rib having a plurality of opposed lateral fingers and an offset hook portion, said hook portion being adapted to be rotatably disposed within a limit of ninety degrees of rotation in said square aperture, said hook portion having a front toe, said toe being integral at the top thereof to a flat first top wall, said top wall being integral to a perpendicular wall, said perpendicular wall being integral curvingly to a second flat top wall parallel and off-set to said first top wall and adapted to engage said vertical wall of said L-shaped plate, said toe being integral at the bottom thereof to a semi-circular wall, a heel wall integral to said semicircular wall in opposed relationship to said toe, said heel wall being parallel to said perpendicular wall, and a bottom flat wall disposed beneath and parallel to said second flat top wall of said hook portion, whereby in storage said second flat top wall of said hook portion is adapted to be disposed in planar contact to said vertical wall of said L-shaped plate with said pinnate fingers disposed in space relationship thereto.

3,194,407
CONVERTIBLE STORAGE RACK

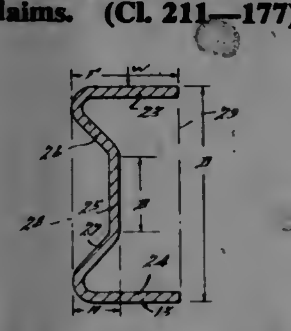
Thomas N. D'Altrui, 685 U.S. Highway 1, Elizabeth, N.J.
Filed Dec. 10, 1963, Ser. No. 329,551
4 Claims. (Cl. 211—148)



1. In a warehouse storage rack the combination of:
a vertical post;
an invertible horizontal shelf beam having a cross-sectional shape when in fixed load-supporting position substantially resembling the letter T in recumbent posture lying on one side and comprising an elongated body portion of rectangular cross-section forming the cross-arms of the T and having a pair of flat faces lying in parallel horizontal planes and adapted to be inverted selectively into upwardly presented load-supporting positions;
a longitudinal rib portion projecting at right-angles to one side of said body portion in vertically spaced relation to said load-supporting faces of the latter to form the stem of the T in a manner to provide a pair of flat faces lying in horizontal planes and adapted to be upwardly presented selectively with corresponding load-supporting faces of the upper body portion to constitute decking-supporting faces with vertical co-planar limiting faces of the body portion above and below said decking-supporting faces for edge-wise abutment by the decking;
and means provided on said port and shelf beam to support one end of the latter or the former in a selected fixed operative position;
the rib portion of the shelf beam being unequally spaced from the respective load-supporting faces of the body portion thereof in such a manner that decking of different thicknesses may be selectively supported by said rib portion flush with the corresponding upwardly presented load-supporting face of said body portion.

3,194,408
ADJUSTABLE STORAGE RACK AND BEAM CONSTRUCTIONS THEREFOR

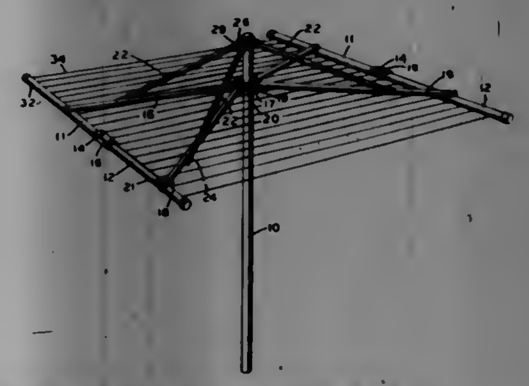
John C. Kimpton, Livonia, Mich., assignor to Palmer-Shile Company, Detroit, Mich., a corporation of Michigan
Filed Oct. 9, 1962, Ser. No. 229,385
11 Claims. (Cl. 211—177)



4. A beam comprising first and second spaced parallel flat flanges, a web comprising a central web portion perpendicular to and between said flanges and spaced therefrom, said central web portion being spaced a substantial lateral distance from both pairs of corresponding flange edges, a first inclined web portion connecting one edge of said central web portion with one edge of said first flange, and a second inclined web portion connecting the other edge of said central web portion with the corresponding edge of said second flange.

3,194,409
FOLDING CLOTHES DRIER

Stephen P. Midouhas, 241 Cedar St., Bristol, Pa.
Filed Dec. 13, 1961, Ser. No. 159,128
3 Claims. (Cl. 211—178)

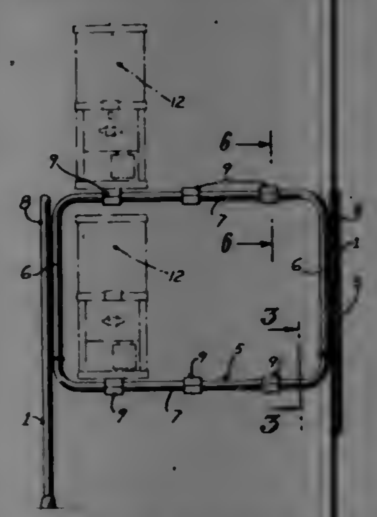


1. A folding clothes drier comprising:
(a) a supporting center post,
(b) a pair of line carrying arms normally supported in equally spaced relation to the center post and lines extending between said arms,
(c) each of said line arms being formed in two tubular sections pivotally joined together at their inner ends,
(e) a channel receiving the meeting ends of the two sections with pivot pins passing through opposed walls of the channel for effecting the pivotal joining,
(f) a connecting wall between said opposed walls which normally lies on the side of said arm sections opposite the center post so as to cause the outer ends of said arm sections to move generally toward the post during folding action, spring means between the line arm sections urging the sections toward folded position,
(g) a slidable collar on the post and having four radially extending brackets carried thereby,
(h) radial arms pivotally connected at one end thereof to said brackets and at their other ends to each line arm midway between its ends,

- (i) a similar collar fixed at the upper end of the center post,
- (j) links pivotally connected at one end thereof to said collar and at their other ends to the radial arms between their ends,
- (k) the pivots in the channels being inclined outwardly and upwardly when its line arms are in extended position,
- (l) said channels and the meeting ends of the arm sections moving upwardly and inwardly as their outer ends move downwardly and inwardly to folded position when the sliding collar is lowered.

3,194,410
STAND FOR VENDING MACHINES

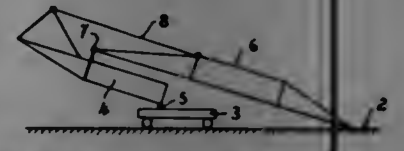
Harold T. Probasco, 6531 Noble Ave., Van Nuys, Calif.
Filed Nov. 1, 1963, Ser. No. 320,807
2 Claims. (Cl. 211—182)



1. A stand for vending machines, comprising:
- (a) a pair of end frames, each including an upper end forming an open loop and downwardly diverging legs;
- (b) a pair of supporting frames, each of rectangular shape to form upper and lower sides and vertical ends;
- (c) means pivotally connecting the ends of said supporting frames to the open loops of said end frames;
- (d) a set of complementary, vending machine mounting clamp bars disposed along the upper and lower sides of said supporting frames, said clamp bars being adapted to permit limited pivotal movement of said supporting frames between a position disposing said vending machines in vertical relation and a position disposing said vending machines in stepped relation;
- (e) and means for securing said supporting frames in a fixed position.

3,194,411
PIVOTING TOWER CRANE

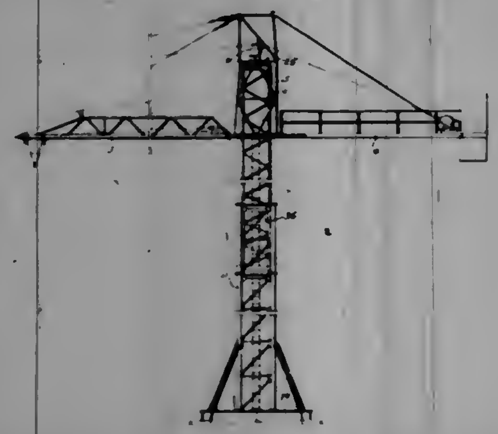
Pierre Durand, Lyon, France, assignor to Etablissements Weitz S.A.-Sociétés: Les Fils de Jules Weitz-Chantiers & Ateliers de Construction de Lyon-Weitz Reunies, Lyon, France, a corporation of France
Filed July 22, 1963, Ser. No. 296,650
Claims priority, application France, July 30, 1962, 42,789, Patent 1,338,439
4 Claims. (Cl. 212—46)



1. A pivoting tower crane comprising a support, a mast mounted for vertical swinging movement on and relative to the support about a first horizontal axis, a jib mounted for vertical swinging movement on and relative to the mast about a second horizontal axis, the mast and jib being positionable in a lowered position in which the mast is swung down and the jib is swung down on and overlies the mast, the mast in said lowered position extending from said first axis in one direction, the jib in said lowered position extending from said second axis in the opposite direction from the mast, said second axis and the center of gravity of said mast and jib in said lowered position being disposed on opposite sides of the vertical plane that includes said first axis, and means acting between the mast and the jib to swing the jib upwardly relative to the mast.

3,194,412
MULTIPLE MAST SECTION TOWER CRANE

Norman Edward Kerridge, Saltford, near Bristol, England, assignor to Stothert & Pitt, Limited, Bath, England, a company of the United Kingdom
Filed July 26, 1963, Ser. No. 297,795
Claims priority, application Great Britain, July 31, 1962, 29,467/62, 29,468/62, 29,469/62, 29,470/62
3 Claims. (Cl. 212—46)



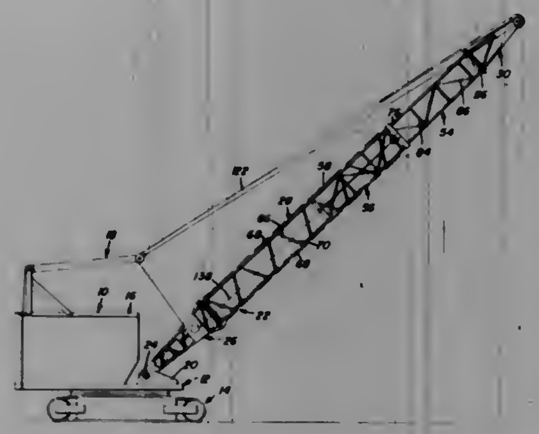
1. A tower crane having a tower built up from a number of sections arranged end-to-end and having a superstructure for mounting a jib, which superstructure when the tower is erected, surrounds the upper end of the tower, means for supporting said superstructure on the upper end of said tower for slewing movements, said superstructure comprising a substantially rectangular cage having three sides of which two opposed sides define a lateral opening to permit, during erection, the introduction of the uppermost tower section into said cage and further comprising a detachable fourth side for partly closing said opening while leaving a reduced part of said opening still open to permit introduction of one or more further tower sections one after another into said cage, guide means carried by said three sides of the superstructure cage and the fourth detachable side, enabling the superstructure cage, when completed by the attachment thereto of the fourth side, to serve as a guide during raising of the uppermost tower section, and to permit the sideways introduction of the said further sections beneath the uppermost tower section; and the tower having power operated means including a single drive motor for raising the tower within the superstructure, for hoisting the superstructure up the tower and for imparting slewing movement to the superstructure relative to the tower.

3,194,413
EXTENDABLE BOOM

Louis J. Landry, 210 Darbonne St., Sulphur, La.
Filed Oct. 8, 1962, Ser. No. 229,081
7 Claims. (Cl. 212—55)

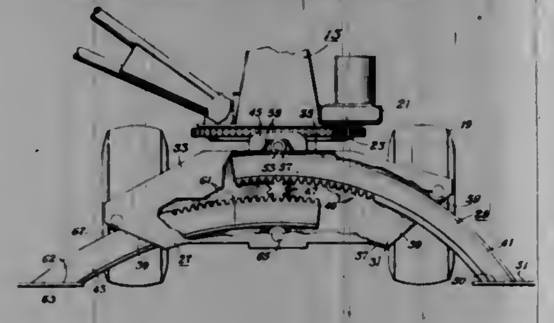
1. In combination, a mounting frame, an upstanding boom pivotally secured at its lower end to said frame for movement about a horizontal axis, said boom including upper inner and lower outer sections mounted together for relative movement between extended and retracted positions, a gantry assembly supported from

said frame and elevated above the lower end of said lower section, a first cable supporting said boom and having one end operatively connected to reversible winding means carried by said lower section and the other end connected to said upper section, means reeving said first cable between said winding means, said gantry, and the upper end of said upper section, a second lift cable having one end operatively connected to said winding means and the other end connected to the lower end of said upper section, means reeving said second cable between said winding means, the upper end of said lower section, and the lower end of said upper section, said winding means including means for inversely winding and unwinding said first and second cables at rates enabling the angle of said boom to be maintained substantially constant during extension and retraction of said boom, said reversible winding means being spaced toward the upper end of said boom from its axis of rotation relative to said frame, and said gantry being spaced above said axis a distance greater than the distance between said axis and said winding means.



3,194,414
STABILIZER APPARATUS

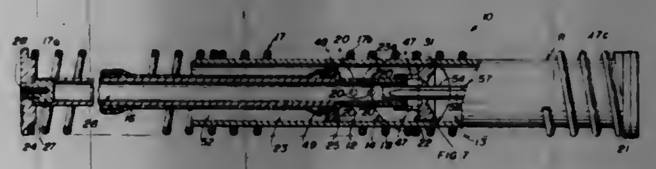
Robert G. LeTourneau, P.O. Box 2307, Longview, Tex.
Filed Nov. 26, 1963, Ser. No. 325,971
6 Claims. (Cl. 212—145)



1. In combination with a vehicle having a main frame, a vehicular stabilizer apparatus comprising:
- (a) a powered gear reduction mounted on said frame and having an output pinion disposed to rotate about an axis;
- (b) a first arcuate stabilizer arm having on one edge a plurality of rack teeth coactive with said pinion, said arm being movable laterally with respect to said frame when said pinion rotates;
- (c) a first guide roller mounted on said frame adjacent said pinion and coacting with the edge of said first stabilizer arm that is opposite said rack teeth; said first guide roller maintaining said rack teeth in coactive engagement with said pinion;
- (d) a second guide roller journally mounted to said frame and spaced apart from said first guide roller, said second guide roller being disposed to maintain contact with an arcuate edge of said first stabilizer arm as the same moves laterally in response to the rotation of said pinion;
- (e) a second arcuate stabilizer arm having on one edge a plurality of rack teeth coactive with said pinion, said arm being movably laterally with respect to said frame, when said pinion rotates, and oppositely in direction to the lateral movement of said first stabilizer arm;
- (f) a third guide roller mounted on said frame adjacent said pinion and coactive with the edge of said second stabilizer arm that is opposite the rack teeth thereon, said third guide roller maintaining said rack teeth in coactive engagement with said pinion; and
- (g) a fourth guide roller journally mounted to said frame and spaced apart from said third guide roller, said fourth guide roller being disposed to maintain contact with an arcuate edge surface of said second stabilizer arm as the same moves laterally in response to rotational movement of said pinion.

3,194,415
LONG TRAVEL HYDRAULIC CUSHION DEVICE

Robert A. Rasmussen, Portage, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Filed Dec. 18, 1963, Ser. No. 331,501
6 Claims. (Cl. 213—43)



1. A hydraulic cushion device comprising a hydraulic fluid-filled cylinder having a closed end and an open end, a piston head assembly reciprocable within said cylinder from a neutral position between said open end and said closed end of said cylinder and a contracted position adjacent said closed end, said piston head assembly defining a high pressure chamber adjacent the closed end of said cylinder and a low pressure chamber adjacent the open end of said cylinder, a tubular piston rod fastened at one end to said piston head assembly, said tubular piston rod having the other of said ends extending outwardly of said open end of said cylinder, an expandable hydraulic fluid receiving reservoir communicating with said low pressure chamber and connected between said cylinder and said piston rod for closing-off said open end of said cylinder, spring means for returning said piston head assembly from said contracted position to said neutral position, said piston head assembly including an orifice plate fixed to said one end of said tubular piston rod and having an orifice axially aligned with the bore of said tubular piston rod, a metering pin fixed to said closed end of said cylinder and projecting through said orifice to provide a gradually diminishing effective orifice area as said piston head assembly moves toward said contracted position, said piston head assembly further including a slide head longitudinally slidable mounted on said one end of said tubular piston rod for movement between a position abutting said orifice plate member when said piston head assembly moves toward said contracted position and a position extended from said orifice plate when said piston head moves to said neutral position, said slide head having fluid passage means by-passing said orifice in said orifice member when said slide head is in said extended position to provide direct hydraulic fluid communication between said low pressure and high pressure chambers.

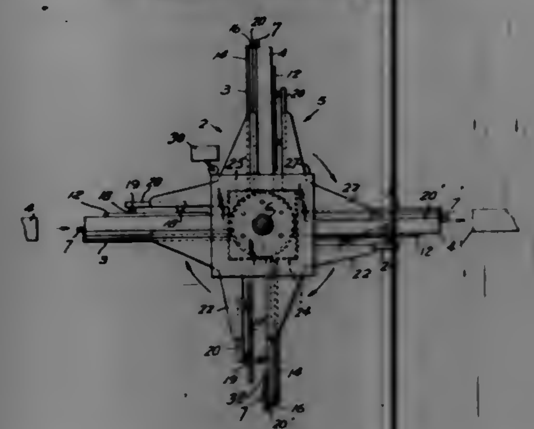
3,194,416

ROTARY POSITIONING DEVICE

Orlan M. Arnold, Grosse Pointe Park, and Emil Umbricht, Northville, Mich., assignors to Ajem Laboratories, Inc., Livonia, Mich.

Filed Feb. 7, 1962, Ser. No. 171,662

9 Claims. (Cl. 214—1)



1. In an apparatus for treatment of heavy castings and like articles by means of a fluid medium having transfer means, a device for turning from a processing line to an advantageous angle at least one of the articles being treated, said device comprising article carrier means adapted to carry such articles during tipping previously received from and thereafter delivered to said transfer means, means for supporting said article carrier means at an angle to the axis of rotation, which axis is at an angle to the processing line, drive means for actuating said device rotationally to turn such articles carried therein, holding means for securing said articles in said carrier means, respectively, to prevent them from sliding longitudinally along said carrier means, means for releasing said holding means to facilitate removal of said articles from said carrier means, and means for controlling the sequence of operation of the rotation cycle.

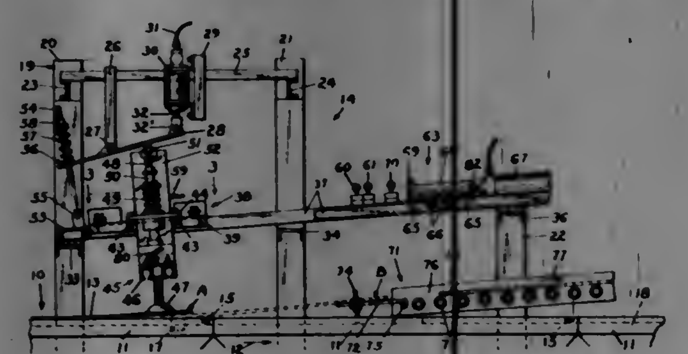
3,194,417

METHOD AND APPARATUS FOR TRANSFERRING SHEETS FROM A FIRST CONVEYOR TO A SECOND CONVEYOR

James M. Dunsmore, Harry C. Reinschussel, and Walter L. Miller, Toledo, Ohio, assignors to Libbey-Owens-Ford Glass Company, Toledo, Ohio, a corporation of Ohio

Continuation of application Ser. No. 13,512, Mar. 8, 1960. This application Aug. 3, 1964, Ser. No. 388,980

15 Claims. (Cl. 214—1)



1. In sheet transfer apparatus of the character described, a first conveyor moving forwardly along a predetermined path and carrying a sheet therealong, a second conveyor mounted above the path of travel of the first conveyor and inclining forwardly and upwardly in the direction of movement of said first conveyor, a transfer carriage mounted above said first conveyor for movement along a path inclined forwardly and upwardly from said first conveyor to overlie an initial portion of said second conveyor, and means carried by said transfer carriage for engaging the lead end of the sheet on said first conveyor to move said transfer carriage and lead end of the sheet forwardly and upwardly along said inclined path in response to continued forward movement of said sheet along said first conveyor and deposit said lead end upon said initial portion of said second conveyor.

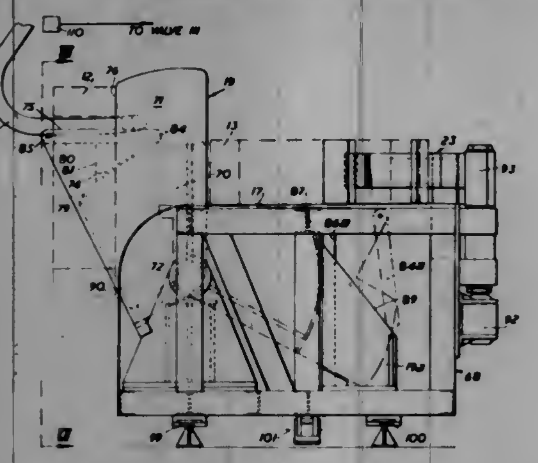
3,194,418

COIL HANDLING APPARATUS

Thomas Edward Howles, Bradway Bank, Sheffield, England, and Benjamin Bell, Newcastle, New South Wales, Australia, assignors to Davy and United Engineering Company Limited, Darnall Works, Yorkshire, England, a British company

Filed Nov. 19, 1962, Ser. No. 249,304

11 Claims. (Cl. 214—8)



1. A take-off mechanism for removing a ring-like element from a carrying member on which the element is suspended and which is arranged to traverse a predetermined path, comprising a platform located under said path and having an opening therein, and a pair of arms pivotally mounted together for movement between an operative position, in which said arms project above said platform and straddle said path, through said opening to a retracted position below the platform surface, each arm having a first portion which, in said operative position of the arm, projects above said path, a second portion which projects backwardly with respect to the direction of movement of said carrying member and is arranged to be brought within the element on movement of said carrying member, and a third portion, which, when the arm is in said operative position, extends downwardly and forwardly from the rear extremity of said second portion, the arrangement being such that, on movement of said arms from said operative to said retracted position, the element is engaged, and lifted off said carrying member by said first and second portions and said third portion engages and supports the element adjacent its lowermost part so that the element is turned from a vertical attitude to a horizontal attitude and deposited on said platform in the horizontal attitude.

3,194,419

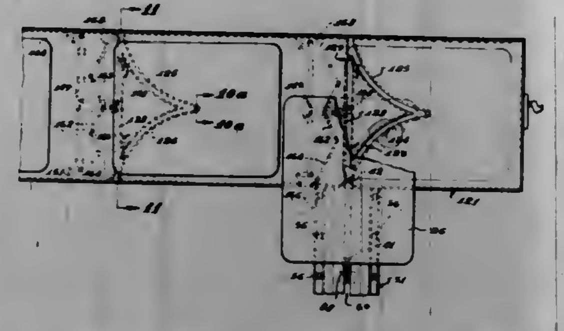
TRANSPORT SYSTEM FOR SHIPPING CONTAINERS

Charles Chorna, 746 S. Central Ave., Los Angeles 21, Calif.

Filed Apr. 22, 1963, Ser. No. 274,659

3 Claims. (Cl. 214—38)

1. A long haul carrier for a transportation system comprising: a railway car having a substantially flat top supporting surface with a plurality of container unit supporting stations spaced longitudinally therealong, each of said container unit stations comprising a transverse straight guide slot and a second guide slot divergent away from the straight slot for receiving spaced guide pins depending from a container unit; switching means at the junction of said straight and divergent guide slots, movement of a first container unit guide pin into the divergent slot causing operation of the switching means to switch the subsequent guide pin into the straight slot whereby said container units are received with their axes at substantially right angles to the axis of the railway car and are turned as an incident to their movement onto the top of the car into a mounted position where the axes of the units and the car are coincident; stationary latching means at the end of said inclined guide means for receiving and holding one of said container unit guide pins; and manually manipulatable locking means for engaging the other guide pin on the container unit when it is in its central position.



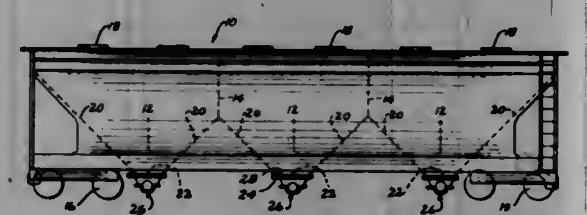
3,194,420

HOPPER STRUCTURE

Willard E. Kemp, Bridgeton, and William J. Barbier, Overland, Mo., assignors to ACF Industries Incorporated, New York, N.Y., a corporation of New Jersey

Filed Apr. 30, 1964, Ser. No. 363,870

16 Claims. (Cl. 214—83.28)



1. An outlet structure adapted to be secured beneath a hopper structure comprising a pair of oppositely facing side walls sloping downwardly toward each other in a generally smooth relation and having spaced lower portions at least one of which terminates in a lip, a pair of end walls connecting the sloping side walls for forming a generally trough shaped outlet structure, and a conduit structure extending between and below the spaced lower portions of said side walls to form a depressed trough bottom extending generally the length of the outlet structure in which lading is removed pneumatically from the outlet structure, said conduit structure including an elongate metering tube between the spaced lower portions of the side walls and rotatable in one direction from closed to at least two separate open positions for selectively discharging particles pneumatically from the outlet structure, said lip being closely spaced from the adjacent metering tube and forming a sealing edge generally parallel to the adjacent surface of the metering tube and extending longitudinally in a direction generally parallel to the rotational axis of said metering tube, said conduit structure being cut back adjacent said lip to define an increased clearance immediately below said lip whereby a restriction is provided between the sealing edge and adjacent metering tube, said metering tube having a generally longitudinally extending slot to permit entry of lading from the outlet structure into the conduit structure when the slot is positioned between said spaced lower portions, and a longitudinal edge defining a portion of said slot disposed generally adjacent said lip during pneumatic unloading and extending for at least a substantial portion of the length of said conduit structure, said longitudinal edge having a major portion thereof extending longitudinally at an angle to the longitudinal axis of the sealing edge so that upon rotation of said metering tube in one direction when said longitudinal edge is disposed generally adjacent said sealing edge a progressively increasing portion of the longitudinal edge clears the sealing edge to provide a progressively increasing slot area, the rotation of the metering tube in an opposite direction effecting a camming action against any lading at the restriction formed between the sealing edge and the longitudinal edge thereby to minimize binding of the metering tube thereat, said slot and longitudinal edge exposing during the unloading operation an open area between the lower portions having a length longitudinally of the metering tube which is substantially less at the first of said separate open positions than the other of said open positions thereby to minimize binding of the metering tube upon movement thereof in said one direction from closed position, the open position first reached from the closed position upon movement of the metering tube in said one direction having said open area of said lesser length as measured longitudinally of the metering tube.

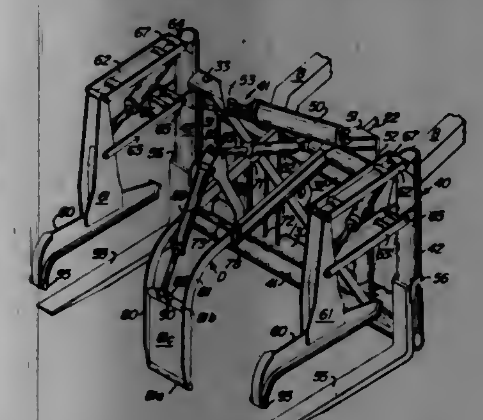
3,194,421

SIDE SWING CARRIAGE WITH CENTER HOLD DOWN CLAMP

Le Grand H. Lull, 5501 Woodlawn Blvd., Minneapolis 17, Minn.

Filed Apr. 25, 1963, Ser. No. 275,575

9 Claims. (Cl. 214—147)



1. In a carriage for loaders of the type having a forwardly extending boom including a laterally fixed frame secured to the front end of said boom, continuous pivot means carried at one side of and extending above and below said fixed frame, a load engaging frame mounted on said pivot means in surrounding relation to said fixed frame, actuating means for imparting side swinging movements to said load engaging frame, the combination of a forwardly extending centrally positioned clamping member support structure mounted on said load engaging frame above said fixed frame and below said actuating means, an upstanding link structure pivoted at its lower end to the forward end of said support structure, a forwardly extending clamping member pivoted at its rear end to the forward end of said support structure, first hydraulic means connected to said upstanding link structure and to said clamping member for pivoting said clamping member relative to said support structure, and second hydraulic means connected to said upstanding link structure and to said load engaging frame above said fixed frame and below said actuating means for pivoting said link structure relative to said support structure.

3,194,422

MULTI-DRUM CARRIER DEVICE

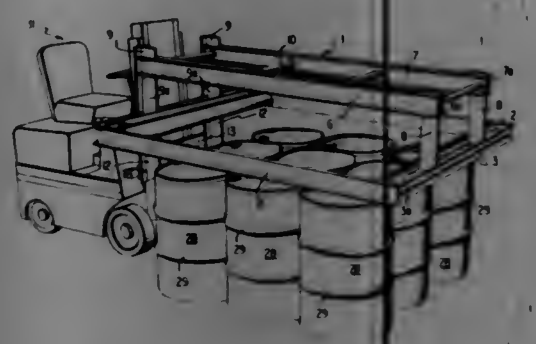
Robert Cross Shinn, Jr., 87 Water St., Mount Holly, N.J.

Filed Nov. 14, 1963, Ser. No. 323,793

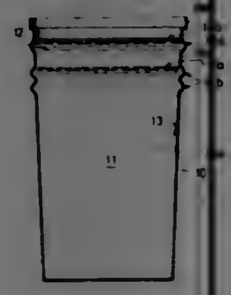
8 Claims. (Cl. 214—653)

1. A multi-drum carrier device of the character described, comprising a frame assembly adapted to be placed around a plurality of drums, means for raising and low-

ering the frame assembly, said frame assembly including a pair of parallel, longitudinally extending members, a pair of transversely extending members secured to corresponding ends of said parallel members, a transversely extending pusher bar slidably mounted on said parallel members, means carried by said frame assembly for sliding said pusher bar toward one of said transversely extending members, longitudinally extending means parallel to and positioned above said first pair of members, and vertically extending means connected between said longitudinally extending means and said first pair of members and mounted on the transversely extending members for maintaining the longitudinally extending means at a predetermined position above said first pair of longitudinally extending members, whereby when the frame assembly is placed around the drums to be carried the longitudinally extending means abuts the upper surfaces of the drums, to thereby properly position the pusher bar with respect to the drums, whereupon actuation of the pusher bar, the drums are clamped between the pusher bar and one of the transversely extending members.

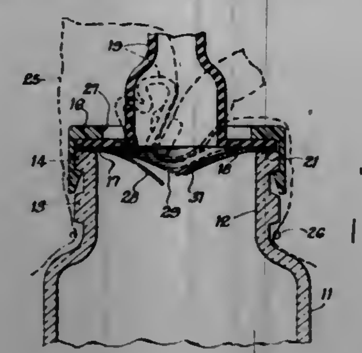


3,194,423
PORTION RECEPTACLES FOR YOGHURT MILK AND THE LIKE
Lazare Mailoff, Josefinenstrasse 7a, Sigmaringen, Hohenzollern, Germany
Filed Dec. 5, 1963, Ser. No. 328,414
Claims priority, application Germany, Dec. 7, 1962, M 55,051
3 Claims. (Cl. 215—1)



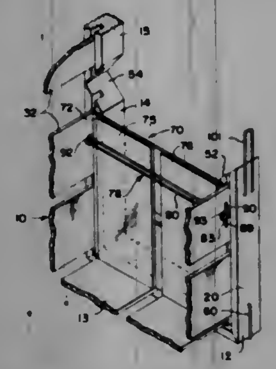
1. Portion receptacle for yoghurt milk or the like milk products having in the prepared state a pudding-like consistency comprising a container having an upper open rim adapted to receive a closure member thereon, said container having a bottom portion and a side wall extending from the bottom portion to the rim, said side wall having at least one groove therein near the upper part of the side wall which governs the upper surface filling of yoghurt which flows into the groove spaced from the rim of the container to tend to prevent separation of the yoghurt by agitation of the receptacle, the groove forming a rib projecting outwardly from the side wall of the container and the width of the groove approximating the depth of the groove.

3,194,424
DISPOSABLE INFANT FEEDING PACKAGE
Arthur C. Barr, 111 King St., Madison 3, Wis.
Filed Feb. 26, 1964, Ser. No. 347,492
10 Claims. (Cl. 215—11)



1. In combination, a bottle, a nursing nipple having an upstanding central portion and a bottom laterally extending peripheral flange dimensioned for overlying the top margin of the bottle mouth, a disk-shaped sealing member having a peripheral margin underlying the aforesaid peripheral flange and having a central weakened portion readily rupturable by pressure applied thereagainst by pressing downwardly on the nipple, said weakened portion before assembly of the combination being covered with a leak-proof coating readily rupturable simultaneously with the rupturing of said weakened portion, a bottle cap having a top wall with a central aperture surrounding said upstanding nipple portion, and cooperating means on the bottle and cap for locking the cap in position to press said peripheral portions of the nipple and member in sealing engagement with the bottle mouth.

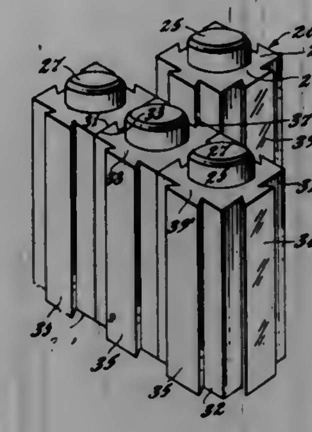
3,194,425
COLLAPSIBLE CONTAINER
John W. Muirhead, 2299 Middle Bench Road, R.R. 1, Penticton, British Columbia, Canada
Filed May 7, 1962, Ser. No. 192,735
3 Claims. (Cl. 217—47)



1. A collapsible container including a plurality of identical walls; each wall comprising end battens having grooves in inner surfaces and extending longitudinally thereof, at least one intermediate batten between and parallel with the end battens and having grooves in opposite surfaces and extending longitudinally thereof, and a plurality of co-extensive slats of identical dimensions lying in a common plane and extending between the battens and secured in the grooves thereof; the battens of said walls being aligned, the number of intermediate battens and slats having been selected from stock to produce a container of desired length, flexible hinge means interconnecting adjacent ends of the end and intermediate battens whereby said walls may be swung from a flat collapsed condition to positions angularly arranged relative to each other to form a container having bottom and side walls, end walls removably mounted in the container at the end battens of the walls thereof, and securing means removably retaining each of the end walls against the adjacent end batten, said securing means

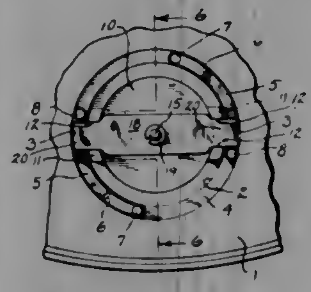
comprising an elastic band with clips on ends thereof, said clips being adapted to be moved through holes in slats of opposed container walls immediately inside an end wall.

3,194,426
LATERALLY INTERLOCKED CONTAINERS
Lynn E. Brown, Jr., 146 Beecher Ave., Cheltenham, Pa.
Filed Dec. 12, 1963, Ser. No. 330,033
2 Claims. (Cl. 220—23.4)



1. In closed containers adapted to interlock in abutting relationship with one another, a container having four longitudinally extending sides, a top with an opening therein and a bottom thereon forming a container having a rectangular cross section, an outwardly extending longitudinal projection along the entire length of two sides of the container, said projections being wider in cross section at their outer edges, a longitudinally extending indentation along the entire length of the remaining two sides of the container, said indentations extending inwardly from the outer surface of the sides of the container, open at either end and adapted to slidably mate from either direction with the extending projection of any other container.

3,194,427
CLOSURE
Howard G. Mullett and Robert J. Booker, Milwaukee, Wis., assignors to Bradley Washfountain Co., Milwaukee, Wis., a corporation of Wisconsin
Filed May 31, 1963, Ser. No. 284,624
8 Claims. (Cl. 220—25)

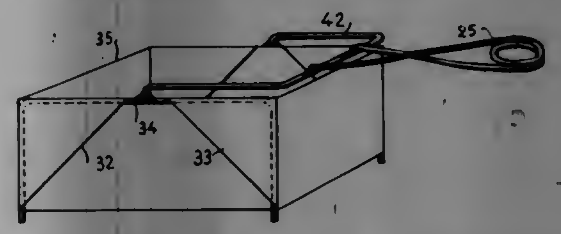


1. In a closure, the combination with a wall having an aperture therethrough of a rotatable cap disposed on one side of the wall and engageable therewith; a locking bar connected to the cap and disposed on the opposite side of the wall; means to hold the bar and cap against relative rotation and to allow the bar and cap to move toward and away from one another; bias means to urge the bar and cap together; ramp means interposed between opposite side of the wall and the bar and adapted to cause a camming engagement therebetween which moves the bar away from the cap as the cap is rotated; and lock means separate from the ramp means to move the bar and cap toward one another.

3,194,428
COATED BLACK PLATE CONTAINERS
John E. Dereich, Pittsburgh, Pa., assignor to Neville Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania
No Drawing. Filed Jan. 29, 1962, Ser. No. 169,632
7 Claims. (Cl. 220—64)

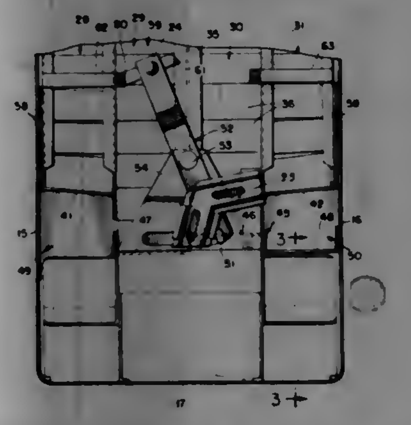
1. A metal storage container resistant to the effects of foods and beverages wherein said metal comprises a black plate substrate having fused directly to the interior thereof a thin coating of a copolymer of tetrafluoroethylene and hexafluoropropylene.

3,194,429
COOKING UTENSILS
Bernard Bouet, 65 Rue La Boetie, Paris, France
Filed Mar. 9, 1962, Ser. No. 178,780
Claims priority, application France, Mar. 9, 1961, 855,042
5 Claims. (Cl. 220—85)



1. A cooking utensil comprising, in combination, a collapsible container constituted by a single sheet of pliable heat-resisting material having longitudinal and transverse fold lines to form a bottom, two side walls and two double end walls integral with said side walls, said two double end walls having mutually facing corners formed along diagonal fold lines in the collapsed condition of the container to constitute, in a folded condition of the container, four inner and four outer pockets of triangular contour having free edges which are upwardly inclined each from one of the four corners of said bottom wall, respectively, to the top edge of said side side walls, and a carrier frame engageable in said outer pockets for supporting the container in the folded condition thereof.

3,194,430
DISPENSING MACHINE FOR ARTICLES
Charles L. Casey, Riverside, Ill., assignor to Reliable Engineering Co., Chicago, Ill., a corporation of Illinois
Filed Nov. 20, 1963, Ser. No. 324,919
3 Claims. (Cl. 221—11)



1. A dispensing machine for articles comprising, a cabinet having front, back, side, top and bottom panels, a pair of horizontally spaced openings in said front panel through which articles are to be dispensed, a magazine in said cabinet having guideways for holding four juxtaposed vertical stacks of articles including two center stacks and two outer stacks, said magazine being defined by a central vertical partition separating said center stacks and outer chutes having inner and outer walls receiving said outer stacks, the inner walls of said outer chutes co-

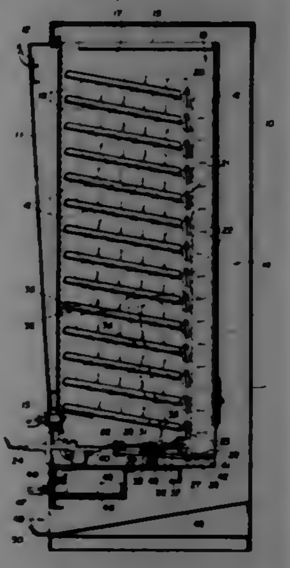
acting with the partion to define the guideways for the center stacks, fixed bottom walls supporting the lowermost article of the outer stacks above the lowermost article of the center stacks, means below said center stacks supporting the center stacks and for alternately ejecting the lowermost article of one center stack through one opening and the lowermost article of the other center stack through the other of said openings, and means pivotally mounting the outer chutes at the upper ends of the inner walls thereof to the top panel of the cabinet, whereby the outer chutes swing inwardly to feed the inner stacks of the center guideways upon depletion of articles in the center stacks below said fixed bottom walls.

3,194,431
APPARATUS FOR VENDING CYLINDRICAL ARTICLES

Alex James Garvin, Scarborough, Ontario, Canada, assignor to Superpack Vending (Curacao), N.A., Willemstad, Curacao, Netherlands Antilles, a corporation of Curacao

Filed June 7, 1962, Ser. No. 200,737

6 Claims. (Cl. 221—1[illegible])



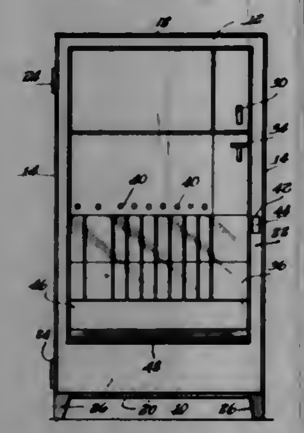
6. A device for vending cylindrical articles comprising:
- (a) a hopper having opposed side walls spaced apart a distance greater than the length of a said object and being open at the front and back thereof for filling and emptying thereof;
- (b) a lockable casing for securing said hopper;
- (c) pairs of struck out shelf members located in opposition to one another in said side walls and extending at least partially into said hopper, said members being angled downwardly from front to back of said hopper and being in spaced parallel relation to adjacent said pairs separated by a distance greater than the diameter of said articles for supporting said articles thereon;
- (d) slots extending through said side walls at an inclination between the vertical and said downwardly angled shelf members;
- (e) a plurality of horizontal rod members, one for each said shelf, said rod members positioned across said hopper adjacent the lower back end of respective said shelf members and passing through slots defined by said opposed side walls, said slots being oriented to guide said rod members from an upper front position in registration with respective articles on said shelf members, downwardly to a lower back position out of registration with said articles, whereby upon said rod members being in said lower position said articles will roll from said respective shelf members to form a stack between said hopper and said casing, and upon said rod members being moved to said upper position said rod members will move said respective articles on said shelf members away from said stack, thereby to maintain a limited degree of spacing therebetween;
- (f) interconnection bars adjacent said slots exteriorly of said side walls, said bars linking said rods for movement as a unitary gate;
- (g) coin slide means operable to deliver a said article;
- (h) levers coupled to said interconnecting bars and pivoting about a point remote therefrom on said side walls;
- (i) further slots formed in said side walls alongside said coin slide;
- (j) a cross bar connected to said coin slide and extending through said further slots;
- (k) link members connected to said levers intermediate their ends and to said cross bar, thus transmitting movement of said coin slide to said lever;
- (l) bearing plates attached to said side walls adjacent said coin slide for supporting the same during operation;
- (m) bearings attached to said coin slide for contacting said bearing plates;
- (n) and a delivery member on said coin slide for engaging a said article and moving the same from said hopper on operation of said coin slide.

3,194,432
VENDING MACHINE

Charles T. Breitenstein, Chicago, and Norbert A. Gecewicz, Franklin Park, Ill., assignors to Automatic Canteen Company of America, Chicago, Ill., a corporation of Delaware

Filed Oct. 25, 1963, Ser. No. 318,974

17 Claims. (Cl. 221—82)



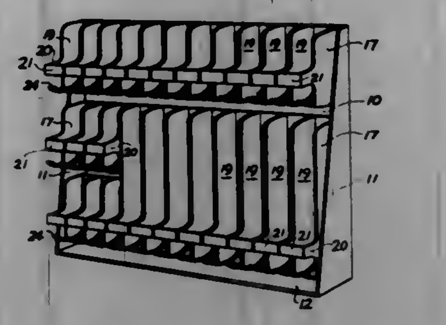
1. A vending machine having a lockable main housing within which are stored a plurality of articles of merchandise to be dispensed therefrom in response to a selection thereof, means for storing said articles in a plurality of magazines, each of said magazines comprising an endless belt conveyor disposed in an oblong path, spaced-apart, article-bearing shelves extending outwardly from each conveyor in both the forward and rear direction, means driving a conveyor in response to selection thereof, a step corresponding to the distance between adjacent shelves to emit one article from the bank on each selection, a dispensing device adjacent each of said conveyors at the bottom front thereof for discharging an article received from a conveyor in response to a selection, individual overhead mounting structure for each of said magazines, each said mounting structure being individually extensible to advance its magazine out of said machine, and being retractable to enclose said magazines within said housing, and a latch mechanism cooperatively engaging all of said magazines, said mechanism being movable to a lock position latching all the magazines in the machine retracted within said housing, said mechanism being releasable to a release position to allow the advance of one or more magazines out of said machine.

3,194,433
MULTIPLE BIN DISPENSING RACK FOR CIGARETTE PACKAGES

Simon Heselov, 415 Gypsy Lane, Youngstown, Ohio

Filed June 27, 1963, Ser. No. 290,990

1 Claim. (Cl. 221—92)



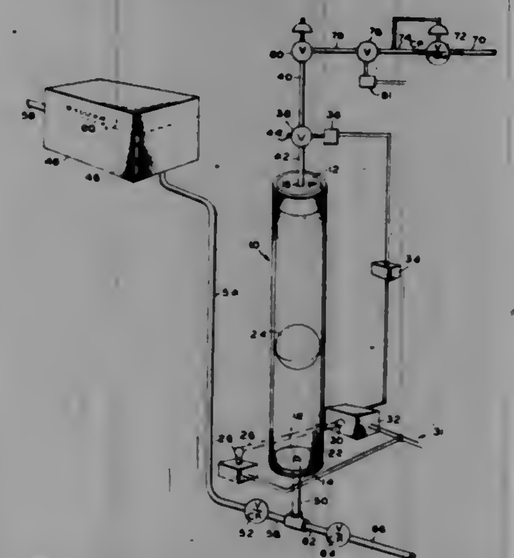
A multiple bin dispensing rack for cigarette packages including a vertically disposed main panel having a flat front with a plurality of apertures therein, a plurality of spaced pairs of projecting U-shaped barckets formed in parallel rows on the flat front of said main panel, a horizontally disposed bottom and vertically disposed sides on said main panel and a plurality of vertically positioned removably disposed individual open front bins positioned on said flat front of said main panel in spaced relation thereto, each of said plurality of individual open front bins having horizontally spaced vertically standing flat back portions, downturned projecting hooks on said flat back portions of said bins of a size for registry with said projecting U-shaped brackets, each of said plurality of individual open front bins having horizontally spaced, vertically standing side portions and forwardly, outwardly and upwardly curving extensions on the lower ends of said spaced back portions defining spaced bottom sections, the forward ends of which extend beyond said side portions, each of said individual open front bins having forward extensions on its side portions interconnected with an integral horizontal strip-like front portion.

3,194,434
SUPPLYING METERED QUANTITIES OF LIQUID

Austin E. Evanson, 1033 N. 11th St., Corvallis, Oreg.

Filed Jan. 17, 1963, Ser. No. 252,150

11 Claims. (Cl. 222—1)



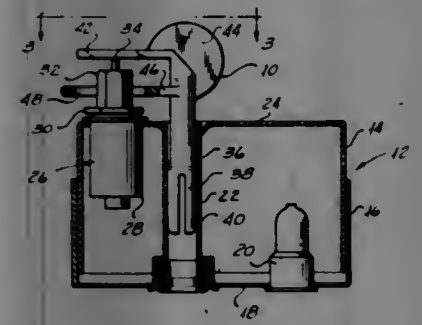
1. The method of metering a liquid comprising
providing a supply of gas under a predetermined pressure,
restraining flow of a liquid from a chamber with a back pressure less than one-half of said predetermined pressure,
continuously supplying said gas from said supply to said chamber,
and continuously reducing the pressure of the gas as the gas is applied to said chamber to a second predetermined pressure less than half that of said predetermined pressure and higher than said back pressure and metering the flow of the gas to the chamber at a constant uniform rate to force the liquid from the chamber at a uniform metered rate of flow irrespective of changes in said back pressure.

3,194,435
VALVE SHUT-OFF DEVICE FOR GAS FUEL RESERVOIR

Ray L. Burchett, East Orange, N.J., assignor to Jacques Kreisler Manufacturing Corporation, North Bergen, N.J., a corporation of New Jersey

Filed Aug. 5, 1963, Ser. No. 299,972

13 Claims. (Cl. 222—3)



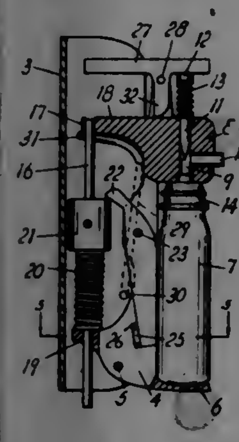
7. A valve shut-off device including in combination a shank having a longitudinal axis, an arm carried by said shank and extending in a direction generally perpendicular to said axis and a pair of spaced flanges depending from said arm, said flanges extending generally in the direction of said arm.

3,194,436
PRESSURE BOTTLE HOLDER AND OPENER

Floyd R. Jaynes, 1930 Oakland Drive, Kalamazoo, Mich.

Filed Nov. 6, 1962, Ser. No. 235,665

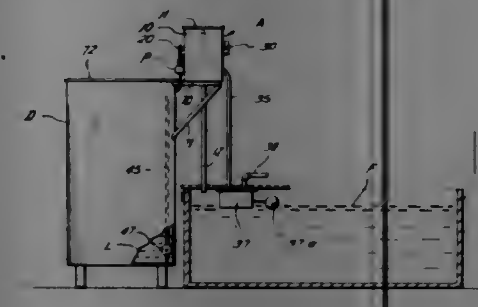
9 Claims. (Cl. 222—5)



7. A structure of the class described comprising a first body member of channel cross section, a second body member having a portion disposed between and pivotally connected to the side portions of said first body member and having an outwardly projecting container seat disposed at the outer side of said pivotal connection for said first and second body members, said second body member also having a projecting container support and outlet member disposed in spaced aligned relation to said container seat, said container seat and container support and outlet member being spaced to supportedly receive a container between them, said container and punch support member having a container outlet and punch guide bore therein, a spring retracted punch member reciprocatingly mounted in said outlet and punch guide bore and having

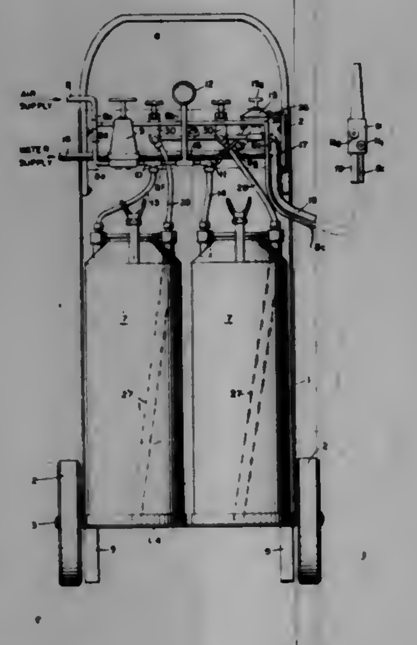
a portion projecting outwardly from said container support and outlet member, said second body member also having spaced inwardly projecting portions, a spring actuated actuating member reciprocatingly mounted on said second body member and having a thrust and keeper member, a punch actuating member pivotally mounted on said second body member to coact with said actuating member and with said punch member, said punch actuating member having a stop engageable with said second body member for limiting the actuation thereof by said spring on said punch, a detent pivotally mounted on said second body member to coact with said keeper member on said actuating member, said second body member having a holder therein adapted to receive a soluble keeper for said detent, and a latch member mounted on said first body member and having a portion with which said actuating member is in sliding engagement and coacting therewith for limiting the opening movement of said body members relative to each other.

3,194,437
DISPENSING APPARATUS
Lester W. Toelke, 2308½ Bingle Road, Bldg. B, Houston, Tex.
Filed Sept. 3, 1963, Ser. No. 305,959
2 Claims. (Cl. 222—57)



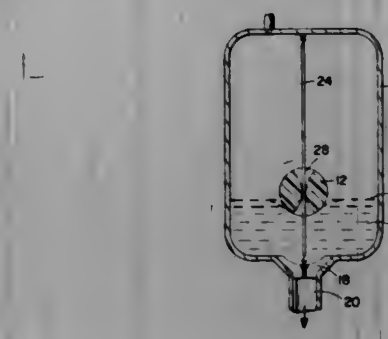
1. A dispensing apparatus, comprising:
- (a) pump means for pumping a first material in predetermined quantities, said pump including a cylinder and a piston reciprocable therein,
- (b) said pump having an inlet for receiving said first material and a discharge for discharging said first material,
- (c) conduit means connecting said inlet with a source of said first material,
- (d) conduit means including a discharge outlet connecting said pump discharge for discharging said first material,
- (e) said inlet conduit means terminating at a point below said discharge outlet of said conduit communicating with said pump discharge to inhibit flow through said pump except when said pump is actuated,
- (f) actuating means for alternatively receiving a quantity of a second flowable material and discharging same therefrom,
- (g) a measuring pan having at least two sections,
- (h) pivot means for mounting said measuring pan for pivotal movement alternately to and from a first position and a second position,
- (i) said measuring pan being adapted to receive a second flowable material in one of said sections and discharge from another of said sections in each of said first and second positions,
- (j) means for alternately introducing a second material into each of said sections for alternately pivoting said measuring pan,
- (k) means for maintaining said measuring pan in either the first position or the second position until the section being filled has received a predetermined quantity of said second material, and
- (l) means connecting said measuring pan to said pump piston for actuating said pump piston in response to the pivotal movement of said measuring pan.

3,194,438
CLEANING AND SANITIZING MACHINE
Maurice D. Walker and Jimmie K. Sanders, both of Corner Elm and Mathis Sts., Blytheville, Ark.
Filed Nov. 19, 1964, Ser. No. 412,465
12 Claims. (Cl. 222—61)



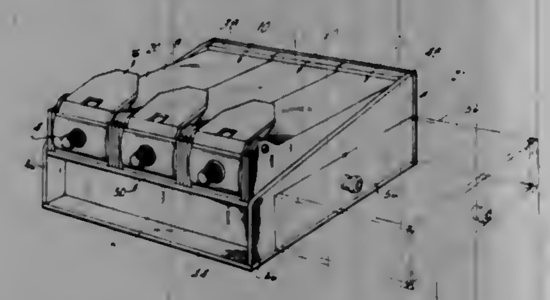
1. A cleaning and sanitizing machine for mixing a fluid chemical cleaner in any desired ratio with water under pressure and dispensing same into a nozzle having a water valve, while simultaneously directing air under pressure controlled by a nozzle air valve into said nozzle for admixture with the water issuing from the nozzle, comprising a frame; a water pipe in said frame having its inlet connected to a supply of pressurized water, and having its outlet connected to the water inlet of said nozzle, said pipe having a 90° turn therein; a normally closed mixing valve in said 90° turn adapted to be opened in acordance with the flow of water therepast; a back pressure regulator having a diaphragm and having its outlet connected with the 90° turn; a needle valve in said regulator controlled by said diaphragm; a pipe connecting the regulator above the diaphragm with the water pipe beyond the mixing valve to selectively close the needle valve by back pressure in acordance with the pressure of water passing to the nozzle; an air pipe in said frame having an inlet connected to a source of air under pressure and having a main branch connected to the air inlet of said nozzle; a secondary air branch leading from the air inlet to the regulator below the diaphragm for raising the needle valve according to the air pressure in the secondary branch; a globe valve in said secondary branch; a pressure tank in said frame containing the fluid chemical cleaner; a pipe connecting the top of said tank with the secondary branch beyond the globe valve; an air pressure gauge in said secondary branch beyond the globe valve; a dip tube in said tank extending to the bottom thereof; a manifold in the frame having its outlet connected to the inlet of the back pressure regulator in advance of the needle valve; and a valved pipe connecting the upper end of the dip tube with said manifold, whereby the chemical cleaner may be passed from the tank in constant regulated ratio into the water pipe leading to the nozzle when the water is flowing through the nozzle, and whereby when the water flow at the nozzle is shut off the back pressure of the water in advance of the nozzle will close the needle valve.

3,194,439
VORTEX CAVITY SEAL FLOAT
Herman F. Beduerftig, Huntsville, Ala., assignor to the United States of America as represented by the Secretary of the Army
Filed Sept. 5, 1963, Ser. No. 306,965
5 Claims. (Cl. 222—66)
(Granted under Title 35, U.S. Code (1952), sec. 266)



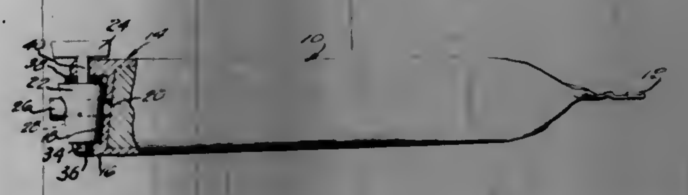
1. A device comprising a liquid containing tank having inlet and outlet ends, said inlet end disposed in communication with a source of gas pressure for pressurizing said liquid in said tank by being in direct contact with an upper surface of said liquid at all times, said outlet end disposed for draining liquid from said tank, a buoyant body carried on the surface of said liquid at all levels and retained for rotation with the vortex created in response to draining of the liquid to reduce the amount of vortexing at all liquid levels and thereby provide a more uniform liquid head at all levels, said body being aligned with the vortex cavity responsive to the rotation to completely seal off the cavity and prevent loss of pressurizing gas therethrough and thus maintain substantially constant tank pressure, flow rate of said liquid, and liquid surface configuration.

3,194,440
PLURALITY OF TUBE SQUEEZERS AND HOLDER THEREFOR
Cornelius B. Watson, Jr., P.O. Box 832, Madison, Conn.
Filed Oct. 11, 1963, Ser. No. 315,650
10 Claims. (Cl. 222—93)



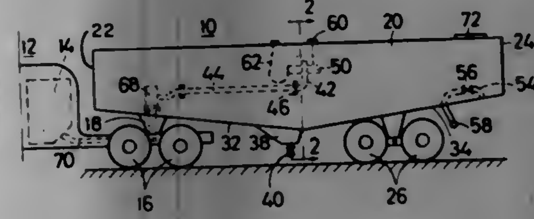
1. The combination comprising a plurality of individual tube squeezers each including a generally elongated body adapted to receive a tube to be squeezed and having a discharge end from which end the contents of the associated tubes are dispensed, each of said tube squeezers also including a squeezing mechanism having a manually operable operating means located exteriorally of and adjacent one side of the associated body, a holder adapted to be placed on a horizontal surface and having an upwardly facing support surface for vertically supporting said squeezers, means fixed relative to said support surface and engageable with said squeezers for releasably holding said squeezers in side-by-side relation on said support with said discharge ends facing forwardly and with said operating means facing upwardly, said squeezers being separate from one another and from said holder so that each squeezer may be used either while resting on said holder or may be removed from said holder for use away from said holder, and means on said holder extending a substantial distance downwardly from said support surface to support said support surface above and in spaced relationship to said horizontal surface to provide space for inserting a hand or implement between the discharge end of any one of said individual squeezers and said horizontal surface.

3,194,441
DISPENSING CAP FOR TUBULAR CONTAINERS
Keevil L. Brown, Box 427, Salem, Ill.
Filed Mar. 20, 1963, Ser. No. 266,547
2 Claims. (Cl. 222—148)



1. A combined spout and valve for a tubular container comprising a body adapted for attachment to one end of said container, there being a first recess in said body, an aperture in said body connecting the interior of said container with said recess when said body is on said container end, a rotatable plug in said first recess, said plug having a bore extending therethrough, there being an open sided second recess opening into said first recess, a nozzle projecting from said plug, said nozzle being connected in communication with said bore, and a handle on one end of said plug, said nozzle being conformably shaped to said second recess and being movable into and out of said second recess responsive to rotary movement of said plug and said second recess having an end wall for receiving the free edge portion of said nozzle when the nozzle has been moved into said second recess, said end wall wiping clean the free edge portion of said nozzle.

3,194,442
TANK VEHICLE
Kai Sjöblom, Rindogatan 5, Stockholm, Sweden
Continuation of application Ser. No. 17,934, Mar. 28, 1960. This application Mar. 4, 1963, Ser. No. 262,788
Claims priority, application Sweden, Apr. 2, 1959, 3,159/59
3 Claims. (Cl. 222—176)



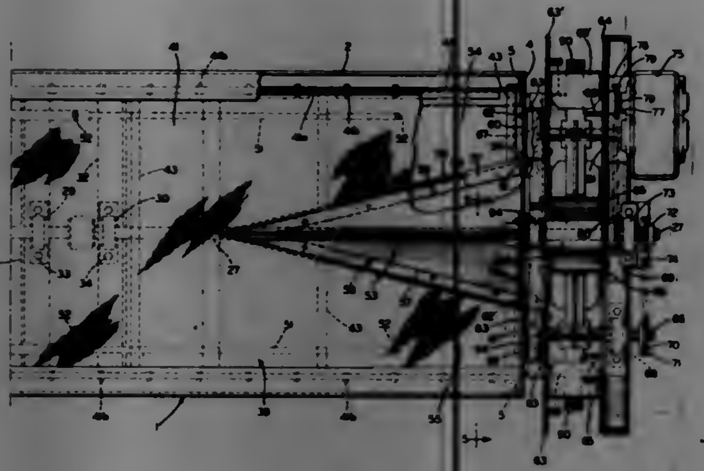
1. In a tank vehicle, a transversely curved elongated tank body tapering continuously longitudinally from a maximum cross section thereof located between the ends of the tank body and toward both ends of the tank body, the cross sectional shape of the tank body varying progressively from said maximum cross-section to both ends thereof to provide a curved bottom portion of said tank body sloping gradually downwardly from both ends thereof to said maximum section, drainage means at the bottom of the tank body substantially below said maximum cross-section, and means to discharge the tank body including a tubular arm and a float secured to said arm, the arm being pivoted at one end and having a mouth at its other end at a water safety distance from the inner bottom wall of the tank body, the pivot enabling the arm to swing from a bottom position having its mouth near the said bottom wall at the maximum cross-section of the tank body to the top thereof and vice versa.

3,194,443
ROCK DUSTER

Glenn D. Gurney, Canton, Ohio, assignor to The American Mine Door Company, Canton, Ohio, a corporation of Ohio

Filed July 1, 1963, Ser. No. 292,017

20 Claims. (Cl. 222—193)



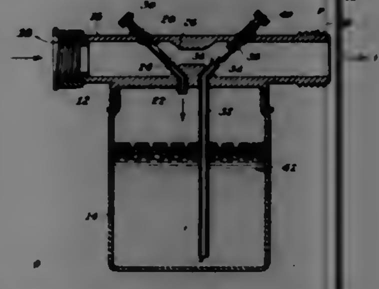
1. A rock duster comprising a hopper having side walls, end walls and a porous bottom wall, there being spaced discharge outlets in one end wall, a gas chamber below and coextensive with the bottom wall, means for introducing a gaseous medium under pressure into said gas chamber, a transversely disposed rotary fan located in front of each discharge outlet, spaced transverse walls between which the fans are located, the space between said transverse walls being unobstructed above each fan and at opposite ends of said transverse walls, there being openings concentric with the fans in the innermost transverse wall, and means for rotating the fans, whereby rock dust will be conveyed along said porous bottom wall and through said discharge outlets and drawn into said fans and will be blown upwardly and outwardly thereby from between said transverse walls.

3,194,444
DISPENSER FOR ENTRAINING AN ADDITIVE INTO A STREAM OF WATER

George Hubert, P.O. Box 364, Norwalk, Calif.

Filed Oct. 30, 1964, Ser. No. 407,791

1 Claim. (Cl. 222—193)



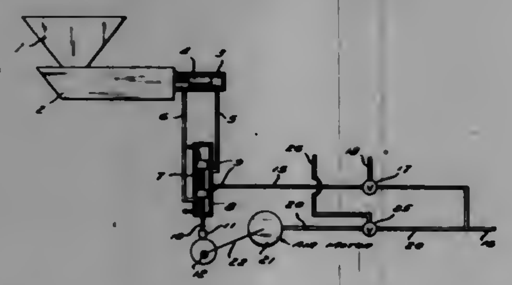
A dispenser for entraining an additive into a stream of water comprising, in combination, an upwardly opening receptacle, a main body portion having a depending lid portion for detachable mounting upon the top of said receptacle and having a conduit portion defining a water inlet and a water outlet, an inlet valve communicating with said inlet of said conduit portion and the interior of said receptacle, and an outlet valve communicating with said outlet and the bottom of said receptacle, whereby a stream of water passing through said conduit pressurizes the interior of said receptacle through said inlet valve for the dispensing of contents from said container through said outlet valve into said stream of water, said conduit portion comprising a tubular member, said water inlet defining an internally threaded fitting for receiving a water hose fitting, said water outlet comprising an externally threaded terminal portion for supporting a spray nozzle thereupon, said inlet valve comprising a needle valve having an inlet and a manually adjustable control member inclined from said water inlet toward the interior of said receptacle, said inlet member defining an inlet opening and having an upwardly projecting portion in axial alignment with said control member, and said outlet valve comprising an outlet member and a manually adjustable control member inclined from said receptacle toward said water outlet, said outlet member defining an outlet opening and having an upwardly projecting portion in axial alignment with said respective control member.

3,194,445
VIBRATING FEEDERS WITH FREQUENCY AND AMPLITUDE CONTROLS

Lauritz E. Mylting, Ardmore, Pa., assignor, by mesne assignments, to Buell Engineering Company, Inc., Lebanon, Pa., a corporation of Delaware

Filed Feb. 12, 1963, Ser. No. 257,967

6 Claims. (Cl. 222—199)



3. A feeder for feeding finely divided solids which comprises a feeder housing having a downwardly inclined passage for fine solids, a gate pivotally supported by said housing and movable into and out of position to open or close the lower end of said passage, a feeder pan enclosing the lower end of said passage to receive solids therefrom and having a bottom opening remote from said passage, springs suspending the pan from said housing for reciprocation in a generally horizontal path, and means for vibrating said pan, said means including a cylinder attached to said pan, a free piston in said cylinder, a four-way valve including a reciprocable piston, conduits connecting the ends of said cylinder to said valve for admitting fluid alternately into opposite ends of the cylinder to reciprocate the free piston therein and thereby apply forces to the pan to reciprocate it, means including a cam and cam follower to actuate said reciprocable piston, an air motor connected to the cam to rotate it, a main line for fluid under pressure, a first branch line connecting the main line to said air motor, a second branch line connecting the main line to said four-way valve, valves in said branch lines to control the flow of fluid through the latter, and means to adjust the valves and thereby to vary the flow of fluid through said branch lines.

3,194,446
PISTON PUMP

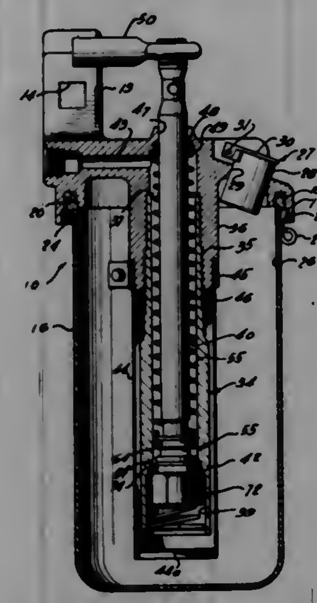
Lee T. Miller, Arlington Heights, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Oct. 11, 1963, Ser. No. 315,603

5 Claims. (Cl. 222—318)

1. A pump, comprising a pump cylinder, a pump stem extending axially within the pump cylinder, a piston assembly secured and sealed to the pump stem, said piston assembly being operable in one position to be sealed across to the periphery of the cylinder to define between the cylinder and the pump stem an expansible fluid pumping chamber and being operable in a second position to be unsealed across to the periphery of the cylinder to permit priming flow of the fluid past the piston assembly to the pumping chamber, outlet means for the fluid from the pumping chamber, a check assembly for the pump

cylinder adapted to define within the pump cylinder a priming chamber on the opposite side of the piston assembly from that of the pumping chamber, said check assembly being spring biased closed operable to maintain by means of the spring bias the priming chamber pressure confined up to a predetermined fluid pressure and thereafter to permit fluid by-pass from the priming chamber whereby said piston is adapted to be returned to a predetermined position irrespective of the length of travel of said piston in said pumping chamber in delivering said total volume of fluid and the difference in unit volume between said pumping and priming chambers, said check assembly also having therein an inlet check operable to admit fluid from a fluid source to the priming chamber for filling said priming chamber in response to the movement of said piston assembly for pumping said fluid past said outlet means, and means on the stem to reciprocate the pump stem and piston assembly in the pump cylinder.

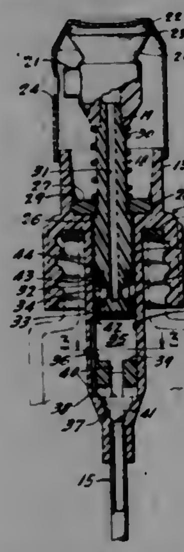


3,194,447
ATOMIZER PUMP

Frank E. Brown, Glendale, Calif., assignor to The De Vilbiss Company, Toledo, Ohio, a corporation of Ohio

Filed Feb. 10, 1964, Ser. No. 343,646

7 Claims. (Cl. 222—321)



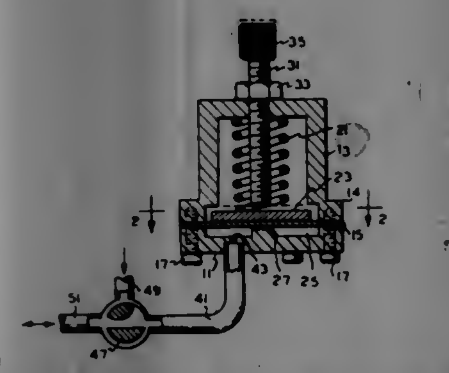
1. A device for dispensing liquid in the form of a finely atomized mist comprising an elongate hollow barrel portion having a lower end in communication with a reservoir of such liquid and an upper end open to atmosphere, a fluid chamber intermediate said upper and lower ends, a piston within said fluid chamber, said piston having an upper land, a lower land and a radial fluid passage between said lands, a plunger extending from the upper surface of said piston to a point above said upper end of said barrel portion to provide means for depressing said piston, said plunger containing a fluid passage connecting said radial fluid passage in said piston to a discharge nozzle on said plunger above said barrel portion, a first stop means defining the upper position of said piston, a second stop means defining the lower position of said piston, resilient means urging said piston upwardly against said first stop means, a fluid bypass in said fluid chamber having its lower end in valved communication with said liquid reservoir and its upper end terminating below said lower land of said piston when said piston is in its upper position such that no fluid can pass said piston when said piston is in an upper position, said fluid bypass communicating with said radial fluid passage in said piston when said piston is depressed to cause such fluid to flow upwardly through said plunger to said discharge nozzle, and a valve between said lower end of said fluid bypass and said liquid reservoir preventing return flow of liquid from said fluid chamber to said reservoir but allowing forward flow past said valve.

3,194,448
CYCLIC ADJUSTABLE VOLUME DISPENSING APPARATUS

George G. Theall, West Chester, Pa., assignor to F & M Scientific Corporation, a corporation of Delaware

Filed Nov. 28, 1962, Ser. No. 240,652

5 Claims. (Cl. 222—335)



1. Apparatus for dispensing accurately relatively small quantities of fluid comprising, in combination:

a fluid compartment having one wall closed by a diaphragm having an axis, said diaphragm being capable of an axial distending movement between a fixed first position corresponding to minimum compartment volume and a second position corresponding to maximum compartment volume,

resilient means normally urging said diaphragm to said first position, said resilient means adapted to yield to sufficient fluid pressure within said compartment to distend said diaphragm to the second position thereby to admit a quantity of fluid into said compartment to be dispensed,

adjustable means for selectively establishing said second position, thereby to vary the quantity of fluid dispensed from said compartment by said resilient means immediately upon the cessation of said sufficient fluid pressure,

and a floating follower plate abutting said adjustable means, said resilient means, and a substantial portion of said diaphragm. thereby to accurately control the diaphragm distension and hence the quantity of dispensed fluid.

3,194,449
DISPENSER FOR DIESEL ENGINE STARTING FLUID

Fay E. Kaiser, Jr., Niles, Mich., assignor to United States Aviex Company, Niles, Mich., a co-partnership

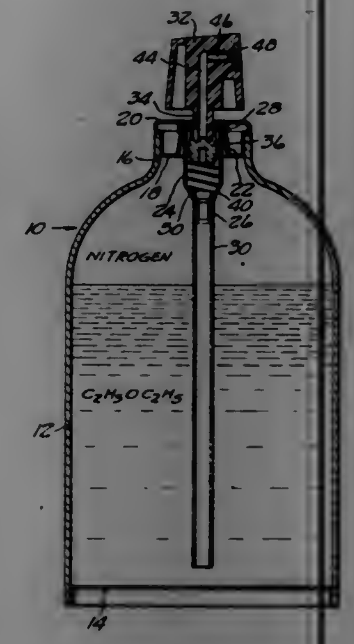
Filed June 8, 1962, Ser. No. 201,120

7 Claims. (Cl. 222—394)

1. A dispenser for diesel starting fluid comprising a container having an outlet,

a normally closed jet discharge valve controlling said outlet,

a charge of ethyl ether starting fluid partially filling said container, and



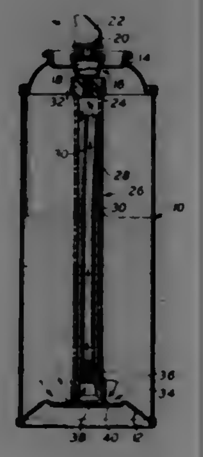
nitrogen in said container under a pressure sufficient to expel all of said starting fluid through said valve controlled outlet at temperatures below −65° F. without mixture of said nitrogen with said fluid.

3,194,450
AEROSOL DISPENSER

Owen F. Van Brocklin, Baldwin, N.Y., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut

Filed Nov. 15, 1963, Ser. No. 323,957

6 Claims. (Cl. 222—3[illegible]4)



1. An aerosol dispenser comprising, in combination, a container for liquid under super-atmospheric pressure, a valved outlet assembly closing the top of the container, a dip tube closed at its inner end attached to the outlet assembly and extending downwardly therefrom to the bottom of the container and a second tube of smaller diameter than the dip tube within said dip tube, the inner end of said second tube being in open communication with the container at its bottom through the inner end of the dip tube and the outer end of said second tube opening into said dip tube in proximity to its outer end.

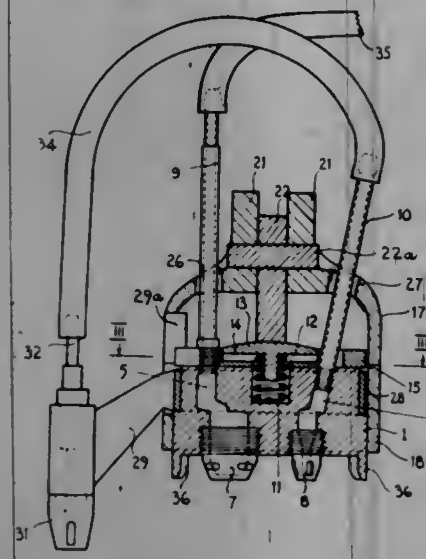
3,194,451
CONNECTING HEAD FOR USE WITH CASKS, SIPHONS AND THE LIKE RECEPTACLES CONTAINING LIQUID UNDER PRESSURE

Kenneth Fletcher, Dublin, Ireland, assignor to Arthur Guinness Son & Company (Dublin) Limited, Dublin, Ireland, a company of Ireland

Filed June 22, 1962, Ser. No. 204,539

Claims priority, application Ireland, June 26, 1961, 531/61

11 Claims. (Cl. 222—400.7)



1. A connecting head for dispensing a liquid contained in a cask and subjected to pressure from a gas contained in a separate chamber located within the cask, the top of the cask being provided with three valve controlled openings communicating respectively with the top of the liquid contained in the cask, with a siphon delivery tube extending from the top to the bottom of the cask, and with the separate gas chamber within the cask, said connecting head comprising a casing adapted for detachable mounting upon the top of the cask, an actuator element movable in a downward axial direction within the casing against the action of spring return means, two throughway passages formed in the actuator element terminating at their lowermost ends in a pair of nozzles, which, on downward movement of the actuator element communicate with and open the two valve controlled openings in the cask communicating with the top of the liquid and with the siphon delivery tube, a pressure reducing valve carried on the exterior of the actuator element and fitted with a nozzle at its inlet end which, on downward movement of the actuator element, communicates with and opens the valve controlled opening in the cask communicating with the separate gas pressure chamber, connecting means between the outlet from the pressure reducing valve and the uppermost end of the throughway passage which communicates with the top of the liquid in the cask, and manual actuating means mounted on the casing for effecting the downward axial movement of the actuator element.

3,194,452
TUBE STRIPPER

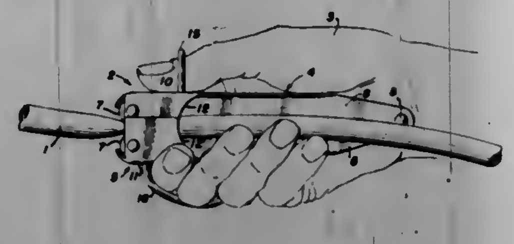
Eddie C. Sanderford, Fort Worth, Tex., assignor of one-half to Naomi Du Puis, San Antonio, Tex.

Filed Dec. 11, 1963, Ser. No. 329,767

3 Claims. (Cl. 222—407)

1. A hand tool for use in displacing fluids from flexible tubes, said tool comprising a pair of elongated elements adapted to be held in the hand, said elongated elements each having a transverse roller journaled in an end portion thereof opposite its connected end, said rollers being positioned in mutually opposing relation to each other in their operating position, and said elongated elements having means whereby they are movable in opposite directions about their connected ends relative to

each other in response to like movement of said thumb and fingers, the elongated elements consisting of oppositely facing, generally channel shaped members having two opposite side portions and connecting top and bottom portions, respectively, one of the side portions of each of the elongated elements being coextensive with the length of the elongated element and being pivotally connected to the adjacent side portion of the other elongated element, and the other of the side portions and the connecting top and bottom portions, respectively, of the elongated elements being cut away beginning at the ends thereof adjacent the connected ends of the elongated elements whereby they are progressively shorter in the direction of said other of the side portions so that the device is readily engageable over a tube and may be maneuvered freely relative thereto independently of whether the tube is aligned axially therewith.

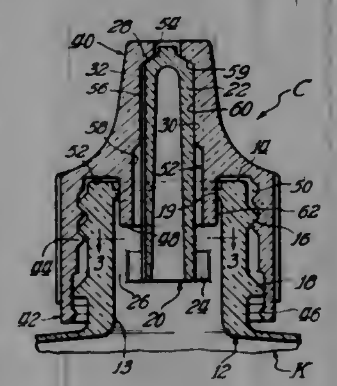


3,194,453
LIQUID DISPENSING CLOSURE ARRANGEMENT

Samuel Cherba, Totowa Boro, N.J., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware

Continuation of application Ser. No. 158,210, Dec. 11, 1961. This application Sept. 5, 1963, Ser. No. 306,956

3 Claims. (Cl. 222—521)



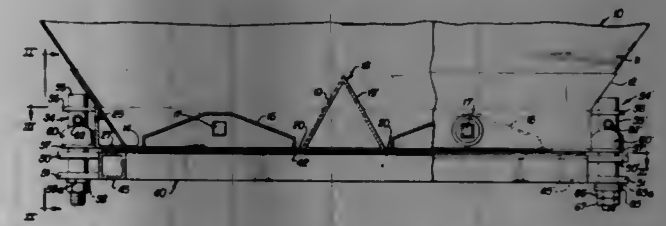
1. A closure arrangement for dispensing liquid in controlled, drop-by-drop quantities from a container such as a plastic bottle or tube, comprising the combination of:
- (a) a container neck having a central discharge opening extending axially therethrough;
- (b) a one-piece cap member having a central discharge opening extending axially therethrough and being axially movable relative to said neck between open and closed positions;
- (c) a central post member mounted in the discharge opening of the container neck and having a portion extending outwardly beyond said neck and axially into the discharge opening of the cap member;
- (d) said cap and post members presenting within said cap member discharge opening opposed, smooth, cylindrical surfaces cooperating axially along a common length to afford liquid-tight, sliding engagement between the surfaces during relative axial movement of the cap and post members to prevent the flow of liquid between the cylindrical surfaces even when said cap member is in the open position;
- (e) one of said members having recessed from its cylindrical surface a relatively narrow, elongated channel extending axially thereof along at least said common length;
- (f) said channel having a cross-sectional area of sufficient dimension to provide a flow resistance which, in combination with the viscosity of the liquid, permits the flow of the liquid therethrough only in the desired drop-by-drop quantity, even when the cap is in the open position;
- (g) said cap and post members presenting adjacent one end of said channel a pair of mutually engageable annular, sealing surfaces, angularly disposed relative to said cylindrical surfaces;
- (h) said annular sealing surfaces being seated against each other when the cap member is in the closed position to prevent the flow of the liquid into or out of said channel and being spaced from each other when the cap member is in the open position to provide, in communication with said channel, a passageway having a cross sectional area greater than that of the channel, so that the rate of flow of the liquid from the container through the entire closure arrangement is controlled only by the channel.

3,194,454
CLOSURE CONSTRUCTION

Joe L. Cox, 609 Hendrix, Claremont, Calif.

Filed Oct. 18, 1962, Ser. No. 231,371

3 Claims. (Cl. 222—545)



1. In a closure construction for a hopper means provided with a material discharge opening and a valve means for said opening, the provision of: a closure means for said opening including a closure supporting frame having frame members adapted to support means cooperable with said hopper opening in closed and open positions of valve means; means mounting the closure support frame from said hopper means for displacement of the frame into proximate and distal positions from said opening, and for pivotal movement away from the hopper opening when in said distal position; said mounting means including a pivot bolt carried by said hopper means in off-center relationship with respect to an axis of the opening; said closure support frame including a latch means and said hopper means carrying a latching bolt adapted to be engaged by said frame latch means; and cam means at opposite sides of said opening adjacent to each of said pivot and latch bolts. an actuating handle connected to each of said bolts, each handle being adapted to engage the cam means adjacent said bolt for displacing the closure support frame by a movement of said handles along said cam means.

3,194,455
CONTAINER WITH SIFTER TOP

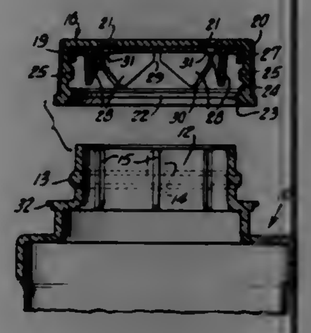
Charles Castelli, New Brunswick, N.J., assignor to Johnson & Johnson, a corporation of New Jersey

Continuation of application Ser. No. 101,101, Apr. 6, 1961. This application Nov. 22, 1963, Ser. No. 333,249

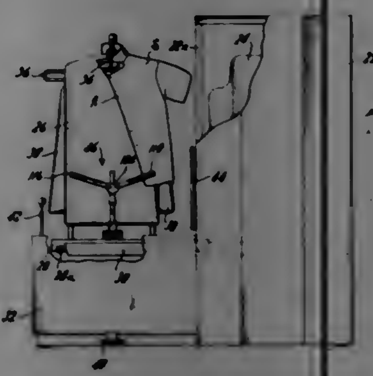
4 Claims. (Cl. 222—545)

1. A container with sifter top comprising a neck member presenting a filling opening and including a vertical wall with a smooth-edged top, an inner cap member having a top portion equipped with first dispensing aperture means and which seats on said smooth-edged top, and an outer cap member accommodating the inner cap member and having a top portion equipped with second dispensing aperture means, said cap members, in their assembled positions, covering the filling opening and being in axial align-

ment with each other and with the axis of the neck member and being relatively rotatable about their axes to move the first and the second aperture means into and out of registry respectively to permit and prevent dispensing material from said container, a plurality of interlocking means presented one by the neck member on one surface of the wall thereof and the other by means depending from the top portion of the inner cap member adjacent said wall surface, said interlocking means being adapted by interlocking engagement when the cap members are in their assembled positions on the container neck, to lock the inner cap member against relative rotation in either direction with respect to the neck member, and means associated with one of said interlocking means for guiding them into interlocking engagement, said guide means being so shaped and disposed as to locate the interlocking means for movement into operative position upon movement of the neck and inner cap members toward each other longitudinally along their axes when said members are coaxially disposed and regardless of their relative angular dispositions about their axes, the shape and disposition of said guide means being such as to rotate said neck and said inner cap member relatively with respect to each other about their common axes to effect operative engagement of the interlocking means as said members are moved into their assembled positions, and means including the outer cap member for holding the inner cap member and the neck member in their assembled positions.

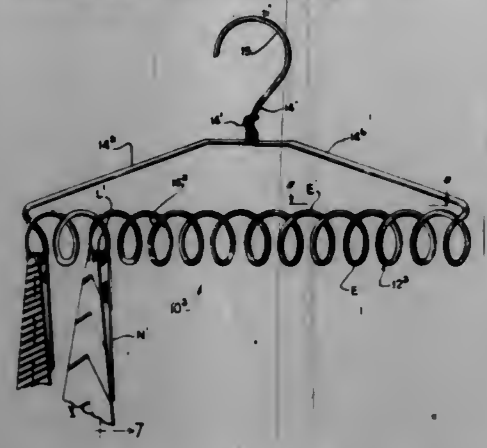


3,194,456
SHIRT-CLAMPING MECHANISM
Wallace F. Gayring, Minoa, N.Y., assignor to Ametek, Inc., New York, N.Y., a corporation of Delaware
Filed Jan. 22, 1964, Ser. No. 339,438
13 Claims. (Cl. 223—57)



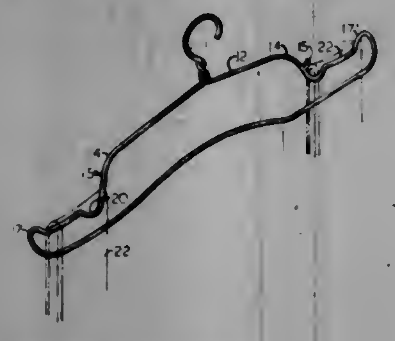
1. A tail clamp for a shirt-pressing machine including a table and a body form comprising a base including a head-mounting member adapted to be mounted on said table, a clamp-supporting head mounted on said head-mounting member for movement to longitudinally adjusted positions relative to said body form, a pair of clamps projecting from said clamp-supporting head, means movably mounting said clamps for movement to laterally adjusted positions relative to said body form, and means interengaged between said clamps for coordinating said clamps for simultaneous lateral movement.

3,194,457
NECKTIE HANGER
Sanford Jerome Freilich, 784 Columbus Ave., New York 25, N.Y.
Filed Jan. 9, 1964, Ser. No. 336,746
1 Claim. (Cl. 223—88)



A garment hanger of the character described comprising a generally triangular frame formed from a single length of heavy gauge wire, said frame having an elongated crossbar which extends between the lower ends of a pair of oppositely extending angularly disposed arms which are connected together at the upper ends thereof with one of said upper ends being extended upwardly therefrom and curved to form a hook; said crossbar comprising a plurality of similar successive helically coiled turns extending from end to end of said crossbar, each of said turns having a convexly curved upper section which is obliquely disposed with respect to the axis of said crossbar, the forward end of each upper section overlapping the rear end of the upper section of the next succeeding turn in generally transversely spaced relation thereto, the forward end of each upper section being connected to the rear end of the upper section of the next succeeding turn by a relatively short concavely curved lower section.

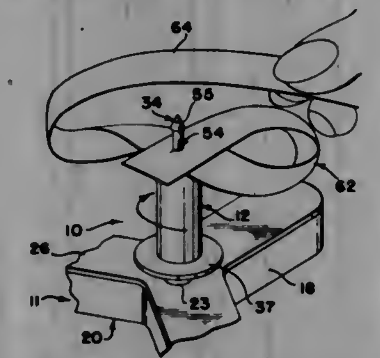
3,194,458
GARMENT HANGERS
Gerald G. Bennett, 636 Thayer Ave., Los Angeles, Calif.
Filed Apr. 1, 1963, Ser. No. 269,373
2 Claims. (Cl. 223—92)



1. A garment hanger comprising
a central portion
a suspension hook attached to said central portion at substantially the midpoint of the horizontal extent of said central portion, said central portion having a top surface running substantially normal to the longitudinal axis of said hook a distance equal to at least one third the total horizontal extent of said hanger,
sloped portions adjacent opposite ends of said central portion, said sloped portions having a continuous downward sloping concave curvature and each including a first part immediately adjacent to said central portion having a relatively steep slope running most of the downward extent of its associated sloped portion and a second part adjacent to said first part having a relatively gradual slope, each of said second parts having a notch formed therein, and

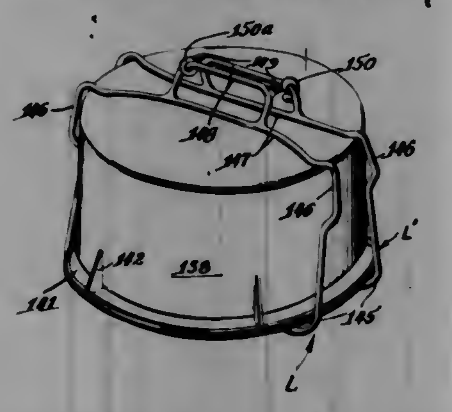
rounded knob-like end portions adjacent to the gradually sloped parts of said sloped portions, said end portions being turned up,
whereby the strap portions of garments readily come to rest on the gradually sloped parts of said sloped portions held apart from each other by said central portion and are prevented from slipping off said hanger by said turned up end portions.

3,194,459
TOOL AND METHOD FOR MAKING RIBBON DECORATIONS
William W. Knox, Mentor on the Lake, Ohio, assignor to Mag-Nif, Inc., Painesville, Ohio, a corporation of Ohio
Filed Apr. 23, 1964, Ser. No. 362,001
10 Claims. (Cl. 223—46)



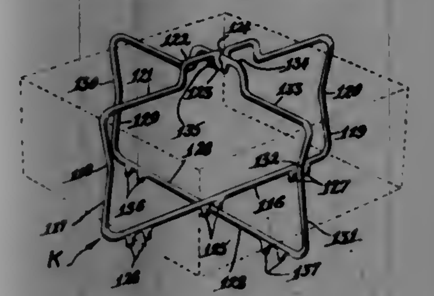
1. In a bow making device, the combination of a tool and a decorative ribbon material cooperating to form loops of a bow formation, said tool comprising a rotatable work surface, fastener means thereon for holding a free end of said ribbon material, means for rotatably mounting the work surface, and means for causing rotation thereof which means includes the standing portion of the ribbon material, a measured length of said portion being sufficiently stiff to exert a torsional force on the work surface in the process of developing a loop therein whereby successive loops of the bow formation are formed out of said ribbon material by repeatedly engaging measured lengths thereof with the fastener means.

3,194,460
CONTAINER REINFORCING HARNESS AND HANDLE
Earl S. Tupper, Esmond, R.I., assignor, by mesne assignments, to Rexall Drug and Chemical Company, a corporation of Delaware
Original application May 21, 1958, Ser. No. 736,756, now Patent No. 3,137,423, dated June 16, 1964. Divided and this application May 15, 1962, Ser. No. 204,019
7 Claims. (Cl. 224—45)



1. The combination of a container having generally circular top and bottom walls with upright connecting side walls and a removable frame and handle assembly adapted for frictional positioning engagement, support, and transport of the container, said frame and handle assembly solely comprising an interengageable and identical pair of individual frame and handle units, each of said units being a continuous, rod-like, planar, resiliently yieldable and distortable plastic element, said unit comprising a first lower run adapted for engagement with and extension across and under the bottom wall of the container, said lower run being of a slightly lesser extent than the largest lateral dimension of the bottom wall of the container, a second side run integral with and extending upwardly from each end of said lower run in engagement with portions of the container side wall, a third upper run integral with and extending between the upper end of said side runs, said upper run extending across the top wall of the container, the peripheral extent formed by all of said runs further being of a slightly lesser extent than the largest peripheral dimension of the container, a handle integral with and extending upwardly from said upper run, said handle including an upper uninterrupted gripping portion and a connector on each end thereof integrally connecting said gripping portion to said upper run, a hook-shaped member integral with and extending from one end of said upper gripping portion, said member being resiliently bendable out of the plane of said unit, and said pair of said units being positioned upon the container with the units in spaced opposition to each other with said hook-shaped members positioned distal from each other.

3,194,461
CONTAINER REINFORCING HARNESS AND HANDLE
Earl S. Tupper, Esmond, R.I., assignor, by mesne assignments, to Rexall Drug and Chemical Company, a corporation of Delaware
Original application May 21, 1958, Ser. No. 736,756. Divided and this application May 15, 1962, Ser. No. 204,021
10 Claims. (Cl. 224—45)

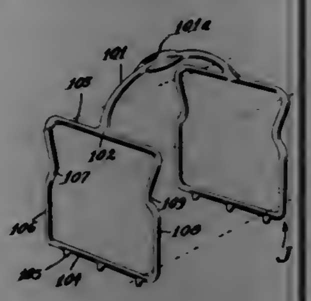


1. The combination of a container and a frame and handle assembly comprising:
- (a) an enclosed container having upright side walls, a top wall and a bottom wall,
- (b) a first rod-like plastic element completely encircling the container in a first vertical plane,
- (c) a second rod-like plastic element completely encircling the container in a second vertical plane located substantially normal to and crossing the first vertical plane, and
- (d) each of said elements having a portion offset outwardly from the container to provide a handle for carrying the container and assembly.

3,194,462
CONTAINER REINFORCING HARNESS AND HANDLE
Earl S. Tupper, Esmond, R.I., assignor, by mesne assignments, to Rexall Drug and Chemical Company, a corporation of Delaware
Original application May 21, 1958, Ser. No. 736,756. Divided and this application May 15, 1962, Ser. No. 204,022
3 Claims. (Cl. 224—45)

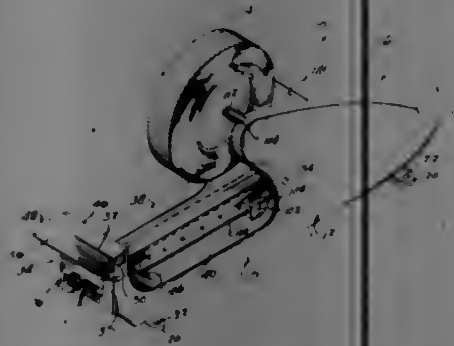
1. The combination of a container and a frame and handle assembly, said container having predominantly vertically disposed side walls and an integral bottom wall; said assembly being a continuous, rod-like, oriented, resiliently yieldable and distortable plastic element, said as-

sembly including a pair of frame units spaced from each other in parallel planes and joined by a handle; each unit includes a four-sided polygon formed from said plastic element, all sides of the polygon being located in a single plane, the vertical inside dimension of the polygon being slightly less than the height of said container and the horizontal inside dimension of the polygon being slightly greater than the width of said container; said container being inserted in the polygon with the vertical dimension of the container corresponding to the vertical dimension of the polygon, the upper and lower sides of the polygon snugly, frictionally and resiliently engaging the upper and lower extremities of the container to maintain each unit substantially stationary on the container; the outer sides of the polygon being bowed inwardly toward and in engagement with the side walls of the container; said handle extending between and connected at its ends to the upper side of each polygon, said handle having a length greater than the spacing between the frame units so that part of the handle is spaced from and above the top of the container to be gripped by the user.



3,194,463
FLEXIBLE TAPE-DISPENSING AND SEVERING DEVICE

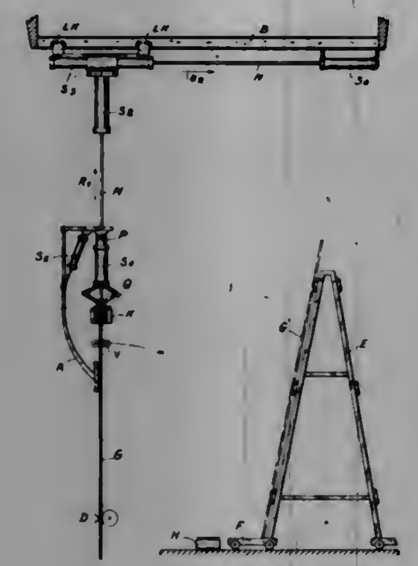
Ralph L. Comet, Paterson, N.J.
(200 Baldwin Road, Parsippany, N.J.)
Filed Feb. 18, 1964, Ser. No. 345,643
5 Claims. (Cl. 225—6)



1. A tape-dispensing and severing device comprising an elongated housing including a pair of longitudinally-extending normally upright sidewalls having a pair of adjacent ends, a draw plate mounted for reciprocation in said housing for movement longitudinally between, said sidewalls, said draw plate having portions thereof extensible beyond said pair of adjacent ends, means connected with said draw plate and said housing to effect retraction of said draw plate into said housing after extension of said draw plate, a drawbar fixedly mounted on said draw plate and extending longitudinally thereof, means on said sidewalls for supporting a roll of tape therebetween for the successive feeding of lengths of tape to said drawbar, an anvil, means mounting said anvil for reciprocation between said sidewalls, said anvil reciprocating in a direction perpendicular to the reciprocable movement of said drawbar and said draw plate, said drawbar receiving successive lengths of tape thereon having portions thereof engageable by said anvil as said draw plate and drawbar are extended and retracted, and means extending between said sidewalls adjacent said pair of ends to effect the severing of a length of tape.

3,194,464
APPARATUS FOR BREAKING OFF AND REMOVING GLASS SHEETS FROM AN ADVANCING BAND OF GLASS

Nils Aksnes, Drammen, Per Cappelen Smith, Slependen, and Öyvind Sunde, Drammen, Norway, assignors to Drammens Glassverk, Drammen, Norway
Filed Nov. 13, 1961, Ser. No. 151,948
10 Claims. (Cl. 225—96.5)



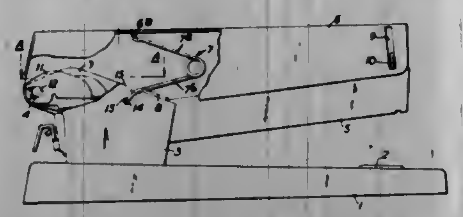
1. Apparatus for severing glass plates from a glass band which is continuously fed upwardly and for stacking the thusly severed plates, said apparatus comprising gripper means for gripping the edge of the advancing glass band along an upper edge thereof, means supporting said gripper means for upward movement at the same speed as the advancing band, cutter means located below the gripper means adjacent the glass band to sever the band and form a plate, means for moving the gripper means laterally to cause the gripped plate which is substantially vertically suspended by the gripper means to be moved laterally in fixed attitude, rack means having a surface which is slightly vertically inclined, said rack means including a support below said surface, means for moving the gripper means to rest the glass plate in said fixed attitude on the support of the rack means, means for releasing the gripper means to allow the glass plate to rest freely on the support, means for exerting a force on the glass plate as the same rests freely on the support to cause the glass plate to tilt towards said slightly inclined surface of the rack means and be supported thereby, and means for returning the gripper means to the original position thereof.

3,194,465
STAPLING OR TACKING MACHINES

Peter Thomas Roger Harrington, Kingsbury, London, England, assignor to Goodman & Vandervieren Limited, Berkhamsted, England, a British company
Filed Aug. 14, 1963, Ser. No. 302,111
Claims priority, application Great Britain, Aug. 27, 1962, 32,870/62
3 Claims. (Cl. 227—120)

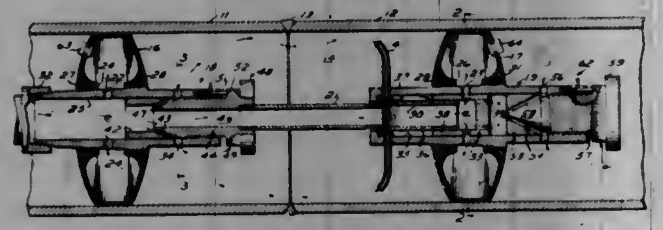
1. In a stapling machine including a base having laterally spaced upstanding side plates and a head structure pivotally mounted on a pivot pin supported by said side plates so that the head structure overlies said plates, the improved means for limiting the pivotal movement of said head structure relative to the base which comprises a latch plate located in the head structure, a latch arm on the said latch plate and means at one end of said latch plate pivotally connected with the said pivot pin, one of

said side plates having an inwardly extending slot, and spring means in said head structure which urges said latch plate into a position wherein said arm extends into said slot and frictionally engages a wall thereof with a force sufficient to support the weight of the base when the stapling machine is lifted by grasping the head structure.



3,194,466
GAS BACKING BLOCKS FOR WELDED JOINTS

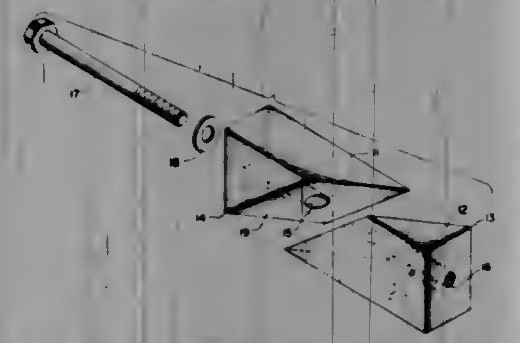
Orland T. Davis, 6273 Arlington Blvd., Richmond, Calif.
Filed Feb. 23, 1961, Ser. No. 91,156
3 Claims. (Cl. 228—42)



3. Tube welding apparatus comprising a pair of axially spaced inflatable sealing tubes, gas supply tube means extending coaxially through said sealing tubes and having a central passage with at least one inflate port in respective communication with each sealing tube, said supply tube means being adapted for connection at one end of its central passage to a gas source and being closed at the other end of said central passage, said supply tube means having radially extending inlet ports axially intermediate said sealing tubes in communication with said central passage, said supply tube means defining an outlet passage extending from a position intermediate said sealing tubes to a position disposed outwardly of one of said sealing tubes, a plurality of radially extending gas escape tubes secured to said supply tube means in communication with said outlet passage, said escape tubes each having an end opening disposed intermediate said sealing tubes in longitudinally spaced relation with said inlet ports and spaced radially from the axis of said supply tube means, first valve means for controlling the rate of flow of gas through said inlet ports, and second valve means for controlling the rate of flow of gas through said outlet passage.

3,194,467
WAVEGUIDE FLANGING SYSTEM

Harry J. Goonan, Brooklyn, and James K. Fitzpatrick, New York, N.Y., assignors to The Western Union Telegraph Company, New York, N.Y., a corporation of New York
Filed Jan. 30, 1962, Ser. No. 169,786
3 Claims. (Cl. 228—50)



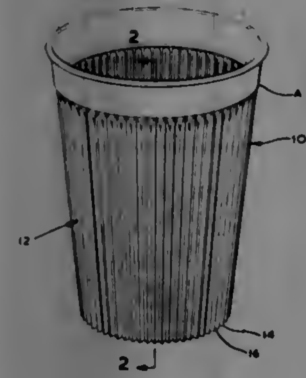
1. Means for installing the end of a rectangular waveguide in the recess of a recessed waveguide coupling flange which has an aperture accurately sized to the maximum inside tolerance dimensions of the waveguide, and which has enlarged portions of the recess at the corners of the waveguide in order to maintain a smooth and continuously conductive interior surface through the waveguide and to the mating face of the coupling flange which comprises:

- (A) first and second blocks having right dihedral angles placeable along opposite interior corners of the waveguide when the waveguide is assembled on the flange;
- (B) side portions on each of said blocks having dihedral elements for contacting relatively extensive portions of waveguide interior wall area including the waveguide and including together substantially all of the end;
- (C) said blocks being of a size sufficiently large to provide substantial overlapping within the cross section of a waveguide;
- (D) said blocks having abutting smooth surfaced and readily mutually slidable ends in the overlapping region defined by a plane skewed in respect to all axes of the waveguide;
- (E) and means to urge the blocks together in skew sliding and waveguide wall stretching relationship;

whereby the waveguide is caused to substantially fill the recess of the flange so that solder applied in the enlarged portions of the recess of the coupling flange will flow between the end of the waveguide and the seat of the recess to form a smooth interior wall surface.

3,194,468
PLASTIC DRINKING CUPS

Ronald Baron, Agincourt, Ontario, Canada, assignor, by mesne assignments, to Somerville Industries Limited, London, Ontario, Canada
Filed June 11, 1962, Ser. No. 201,643
2 Claims. (Cl. 229—1.5)

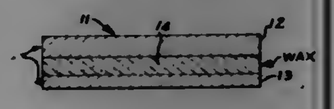


1. An injection moulded plastic cup comprising a hollow, thin walled, open topped body, defined by a circumferential sidewall and an integral base, said sidewall between its top and botom being of corrugated form providing a series of alternating substantially parallel internal and external ribs and valleys extending in the direction of the longitudinal axis of said body, said external ribs terminating in peaks which form a gripping area for the hand of a user, the spacing between the ribs being sufficiently close as to cause the contacting surfaces of the user's hand to engage the peaks of said ribs while spanning the intervening external valleys, said external valleys forming heat-dissipating air circulating channels, said ribs and valleys being formed by converging portions of said side wall, said valleys on the inside of said side wall being augmented with plastic where the portions of the side wall converge to thicken and strengthen the ribs on the outside of said side wall.

3,194,469
FOLDING CARTONS CONSTRUCTED OF PARTICULAR LAMINATED SHEET MATERIALS

George G. Rumberger, Portage, Mich., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich., a corporation of Delaware

Filed Aug. 23, 1961, Ser. No. 133,521
6 Claims. (Cl. 229—3.1)



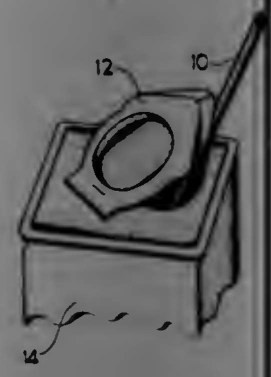
1. A folding carton having end closure flaps hingedly attached to panels formed from a scored blank, said folding carton being produced by steps which comprise folding said blank at two scores through about 180 degrees to permit side-seaming for production of a tubular carton body and being adapted to be converted into a sealed carton having highly protective properties by steps which include unfolding at said two scores about 90 degrees to form a body of rectangular cross section, and folding and sealing together the end closure flaps thereof, said carton panels and end closure flaps being constructed of laminated sheet material having at least two coherent plies, each of said plies comprising at least one member of the group consisting of paper and paperboard, laminated together by a thermoplastic hydrocarbon wax-base adhesive, said laminated sheet material having an over-all thickness of at least .008 inch and said thermoplastic adhesive having a thickness of at least eight tenths the thickness of the thickest coherent ply adhesively united thereby.

6. A protective carton erected from a folding carton of claim 1, filled, and having its end closure flaps sealed shut.

3,194,470
LIQUID CONTAINER SEAL PROVIDED WITH DRINKING TUBE

Henry G. Zimmerman, 301 Trumbull St., and John W. Catlow, 207 Sigourney St., both of Hartford, Conn.

Filed Mar. 18, 1963, Ser. No. 265,937
1 Claim. (Cl. 229—7)



A liquid container having

a preformed flexible sealing member hinged to said container and having an annular wall adapted to enter an opening in one of the surfaces of the container,

a flanged flexible member having a central depression therein,

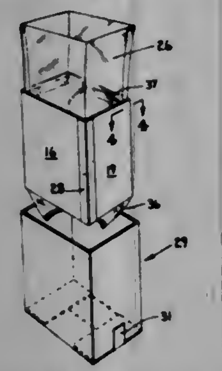
a compact drinking tube housed within the depression of said flanged flexible member, the flanged flexible member engaging the annular wall of said sealing member to retain said flanged flexible member therein,

and a cover member adhesively positioned over said depression and retaining said tube within said depression.

3,194,471
BULK CONTAINER DEVICE

Bernard A. Murphy, Erie, Pa., assignor to Inland Container Corporation, Indianapolis, Ind., a corporation of Indiana

Filed June 4, 1964, Ser. No. 372,637
5 Claims. (Cl. 229—14)

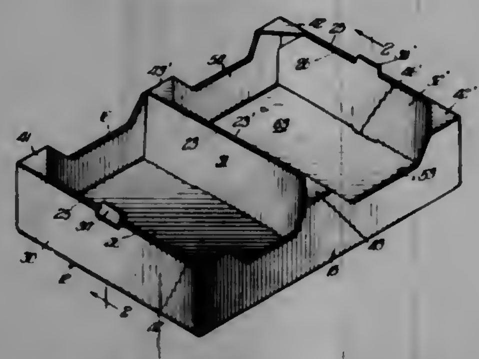


1. A container comprising: a flexible liner adapted to be filled with a flowable material, a rigid polygonal tube surrounding said liner, the upper marginal edges of said tube defining the upper opening thereof and the lower marginal edges of said tube defining the lower opening thereof, first adhesive means extending around the interior of said tube adjacent said upper edges and securing said liner to said tube adjacent the upper marginal edges of said tube, second adhesive means extending around the interior of said tube adjacent said lower edges and securing said liner to said tube adjacent said lower marginal edges of said tube, said liner being folded upon itself to provide lengthwise folds extending vertically along diagonally opposite corners of said tube from the lower marginal edges of said tube to the upper marginal edges, the interior of said lengthwise folds providing passageways for passing air from the bottom to the top of said liner, and a rigid receiver receiving said lower edges of said tube with the liner therein, the said passageways venting air from between said liner and said receiver as the liner is filled.

3,194,472
SHIPPING CONTAINER

Walton B. Crane, South Pasadena, Calif., assignor to Allied Plastics Company, Los Angeles, Calif., a corporation of California

Filed June 3, 1964, Ser. No. 372,307
12 Claims. (Cl. 229—23)

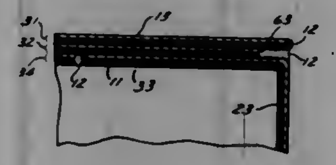


1. A tray-like shipping container which is fabricated from two separate corrugated paperboard blanks, said blanks being cut and scored so as to provide, when folded and secured in container forming relation, multi-panel side and end walls and a substantially open top wall, one of said blanks constituting a bottom tray forming member having a bottom wall forming panel and integral side and end wall forming panels folded upwardly therefrom along the side and end edges and the other one of said blanks constituting a top tray forming member having a top wall forming panel and integral side and end wall forming panels folded downwardly therefrom along the side and end edges, said top member being telescoped over said bottom member with the top side and end wall forming panels overlapping corresponding bottom side and end wall forming panels and disposed along the outside faces thereof, said overlapping side and end wall forming panels being secured to each other in face engaging relation, said top member having end wall reinforcing panels cut therein which are each integrally hinged along a narrow top end edge strip to a top end wall forming panel and which are folded down inside the container into oppositely disposed relation with the upwardly folded bottom end wall forming panels, corner connecting flaps integrally hinged to each of the opposite ends of each of said top and bottom side wall forming panels of the top and bottom members, said corner connecting flaps being folded inwardly and rigidly secured between the end wall forming panels and the end wall reinforcing panels whereby five panel thicknesses are provided in end portions of each end wall with the panel portions being secured together in face contacting relation so as to form a rigid corner construction with high resistance to crushing forces resulting when the containers are stacked upon each other.

3,194,473
SEALABLE OVERLAP CARTON

George G. Rumberger, Portage Township, Kalamazoo County, Mich., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich., a corporation of Delaware

Filed Aug. 23, 1961, Ser. No. 133,420
14 Claims. (Cl. 229—37)



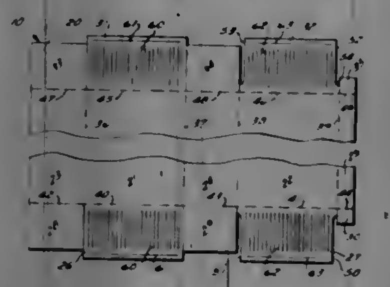
1. A carton blank having at least one series of end closure flaps, including an inner flap, an intermediate flap, and an outer flap, said flaps being adapted to be folded in sequence upon erecting a carton from said blank and closing of the same to provide a plural layered closure in which the flaps lie with the surface of one flap upon the surface of another flap, said intermediate flap being recessed along an edge thereof so as to be narrower than said outer flap along at least a portion of an edge thereof, and so as to provide an area of overhang of said intermediate flap by said outer flap when said flaps are folded upon each other upon closing of the carton, said inner flap providing a surface for opposed facing relation with said outer flap adjacent the fold line of said inner flap in said area of overhang upon erection of a carton from said blank and closing of the same, at least one of said flaps being provided with adhesive adapted to be disposed and activated in said area of overhang upon the erection of a carton from said blank and closing and sealing thereof by the application of adhesive-activating conditions to the flap carrying said adhesive, the amount of said adhesive being sufficient to secure said outer flap to said inner flap in said area of overhang.

3,194,474
HEAT-SEALING CARTONS

George G. Rumberger, Portage Township, Kalamazoo County, Mich., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich., a corporation of Delaware

Filed Aug. 23, 1961, Ser. No. 133,439
39 Claims. (Cl. 229—37)

1. A scored carton blank of laminated sheet material having an overall thickness of at least .008 inch suitable for fabrication into a sealed carton, the base plies of which laminated sheet material comprise at least two sheets which are individually at least .002 inch thick and have a porosity of at least five seconds, and in which the laminant is a thermoplastic adhesive laminant present in an amount of at least about fifty-five pounds of laminant per ream of laminated sheet material, said carton blank comprising a plurality of carton members, including panels and flaps articulated to said panels along score lines, at least some of said carton members being adapted to be folded upon each other to provide a plural layered closure in which one carton member lies in juxtaposition to another carton member so as to place a surface of the one carton member in opposed facing relation to the surface of the other carton member and thereby provide an area in which a seal between said members can be effected, at least one of said carton members being provided, in a ply thereof constituting a surface thereof which will come into opposed facing relationship with the surface of the other carton member in the said sealing area upon folding of the carton blank in erecting a carton therefrom and closing of the same,

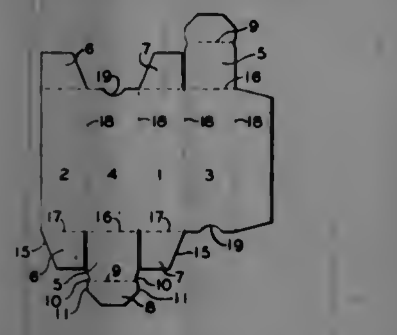


with openings from said surface thereof to the intercalated laminant layer thereof, said thermoplastic laminant adhesive in said carton member provided with openings being adapted to extrude through said openings in said ply to at least the surface of the member in opposed facing relation therewith, and thereby to effectively seal said one carton member to said other carton member in the area of their opposed facing relationship, upon folding said carton blank so as to bring the surface of the ply of the carton member provided with said openings into opposed facing relationship with the surface of the other carton member in said sealing area, applying thermoplastic laminant adhesive-activating conditions to the carton member provided with said openings to cause extrusion of thermoplastic adhesive laminant from the intercalated laminant layer thereof through said openings, and setting said thus-extruded laminant.

3,194,475
CARTON

William C. Ralston, Owensboro, Ky., assignor to General Electric Company, a corporation of New York

Filed June 11, 1964, Ser. No. 374,407
3 Claims. (Cl. 229—38)



1. A carton having a plurality of sidewalls defining an enclosure and an opening at the end of said enclosure.

(a) a pair of foldable interior flaps extending from a first and a second sidewall for folding over said opening, the interior surface of a third sidewall and edges of said interior flaps adjacent said third sidewall defining a slot, said edges of said third sidewall being cut at an angle to provide converging corners for said slot,

(b) an exterior cover flap extending from a fourth sidewall foldable to cover said interior flaps,

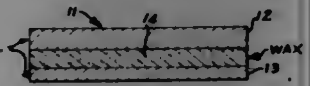
3,194,469

FOLDING CARTONS CONSTRUCTED OF PARTICULAR LAMINATED SHEET MATERIALS

George G. Rumberger, Portage, Mich., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich., a corporation of Delaware

Filed Aug. 23, 1961, Ser. No. 133,521

6 Claims. (Cl. 229—3.1)



1. A folding carton having end closure flaps hingedly attached to panels formed from a scored blank, said folding carton being produced by steps which comprise folding said blank at two scores through about 180 degrees to permit side-seaming for production of a tubular carton body and being adapted to be converted into a sealed carton having highly protective properties by steps which include unfolding at said two scores about 90 degrees to form a body of rectangular cross section, and folding and sealing together the end closure flaps thereof, said carton panels and end closure flaps being constructed of laminated sheet material having at least two coherent plies, each of said plies comprising at least one member of the group consisting of paper and paperboard, laminated together by a thermoplastic hydrocarbon wax-base adhesive, said laminated sheet material having an over-all thickness of at least .008 inch and said thermoplastic adhesive having a thickness of at least eight tenths the thickness of the thickest coherent ply adhesively united thereby.

6. A protective carton erected from a folding carton of claim 1, filled, and having its end closure flaps sealed shut.

3,194,470

LIQUID CONTAINER SEAL PROVIDED WITH DRINKING TUBE

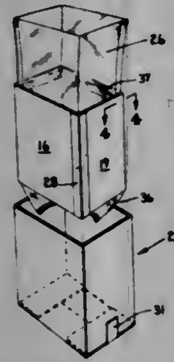
3,194,471

BULK CONTAINER DEVICE

Bernard A. Murphy, Erie, Pa., assignor to Inland Container Corporation, Indianapolis, Ind., a corporation of Indiana

Filed June 4, 1964, Ser. No. 372,637

5 Claims. (Cl. 229—14)

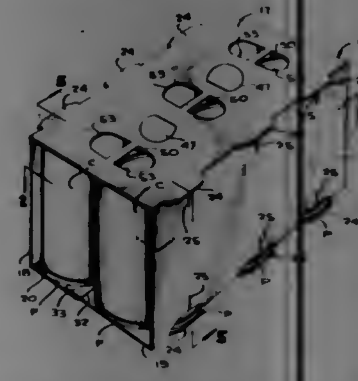


1. A container comprising: a flexible liner adapted to be filled with a flowable material, a rigid polygonal tube surrounding said liner, the upper marginal edges of said tube defining the upper opening thereof and the lower marginal edges of said tube defining the lower opening thereof, first adhesive means extending around the interior of said tube adjacent said upper edges and securing said liner to said tube adjacent the upper marginal edges of said tube, second adhesive means extending around the interior of said tube adjacent said lower edges and securing said liner to said tube adjacent said lower marginal edges of said tube, said liner being folded upon itself to provide lengthwise folds extending vertically along diagonally opposite corners of said tube from the lower marginal edges of said tube to the upper marginal edges, the interior of said lengthwise folds providing passageways for passing air from the bottom to the top of said liner, and a rigid receiver receiving said lower edges of said tube with the liner therein, the said passageways venting air from between said liner and said receiver as the liner is filled.

(c) a locking flap extending from said exterior cover flap,
(d) said exterior cover flap and said locking flap having a continuous edge with at least one curvilinear edge portion along said continuous edge at the junction of said exterior cover flap and said locking flap,
(e) at least one curvilinear shoulder along said continuous edge on said locking flap adjacent said curvilinear portion for securing said locking flap in said slot.
(f) said locking flap being folded at an angle to said cover flap and inserted in said slot, whereby said curvilinear edge portion provides clearance between said cover flap and said corners of said slot and said curvilinear shoulder engages said corner of said slot to retard withdrawal of the locking flap from said slot.

3,194,476
WRAP-AROUND PAPERBOARD CARRIER

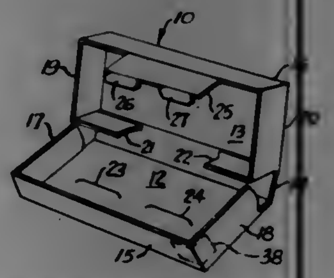
Arthur J. Weiss, Bergenfield, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 14, 1960, Ser. No. 75,825
13 Claims. (Cl. 229—[illegible]0)



1. A wrap-around paperboard carrier for holding two rows of articles such as cans and the like, said carrier having overlapping closure panels including an inner closure panel and an outer closure panel, said inner closure panel having a width in excess of one half of the width of said carrier, spacers struck from said inner closure panel and being hingedly connected thereto along a longitudinal center line of said carrier for projection between articles in adjacent rows, said outer closure panel having a plurality of latching tongues projecting therefrom, and said inner closure panel having a plurality of slits receiving said latching tongues, said slits being aligned with and extending across areas of said inner closure panel from which said spacers are struck.

3,194,477
MAILING CONTAINER

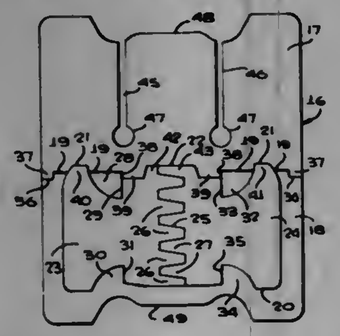
Gladys Blumberg, 135—19 223rd St., Laurelton, N.Y.
Filed July 29, 1963, Ser. No. 298,139
2 Claims. (Cl. 229—4[illegible])



1. A mailing container formed from a single blank of material and comprising a rectangular bottom panel having a front edge, a rear edge and two side edges, a rectangular front panel integral with said front edge and extending perpendicularly to the bottom panel, a top panel aligned with said bottom panel and integral with an edge of said front panel, an inner rear panel aligned with said front panel and integral with the rear edge of the top panel, a rectangular outer rear panel integral with the rear edge of the bottom panel and extending over said inner rear panel when the container is closed, two aligned inner end panels integral with a portion of the side edges of the top panel and extending perpendicularly to the top panel from said inner rear panel toward said front panel but being spaced from said front panel, two rectangular outer end panels extending from said outer rear panel to said front panel and covering said inner end panels, two opposed gusset flaps integral with said outer end panels and extending perpendicularly thereto and over portions of said front panel, a closure flap integral with an edge of said outer rear panel and extending over a portion of said top panel, and at least one tongue integral with said closure flap and fitting into a slit formed substantially in the middle of said top panel.

3,194,478
TWO-PLY SEPARATOR FOR BOTTLE CARRIERS

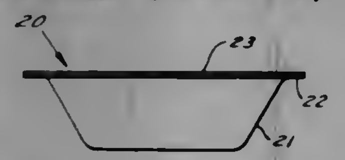
Arthur J. Weiss, Bergenfield, N.J., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 1, 1961, Ser. No. 128,521
18 Claims. (Cl. 229—42)



1. A separator for use in a bottle carton for separating bottles disposed therein, said separator comprising a pair of panels disposed in face-to-face engagement and adapted to be disposed between two rows of bottles, and at least one partition member extending substantially equidistant transversely from opposite sides of one of said panels for extending between adjacent bottles of the rows of bottles, the other of said panels having a narrow slit therein aligned with said partition member, said partition member projecting through the slit of said other panel in engagement with said other panels.

3,194,479
CONTAINERS AND CONTAINER CLOSURES

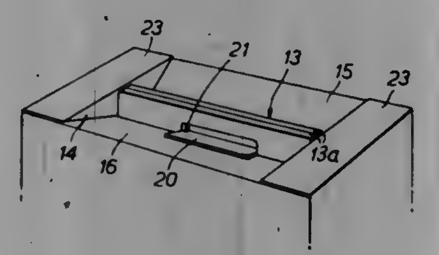
George G. Rumberger, Portage Township, Kalamazoo County, Mich., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich., a corporation of Delaware
Filed Apr. 16, 1962, Ser. No. 187,592
32 Claims. (Cl. 229—43)



1. A container member selected from the group consisting of container closure members and container body members, adapted for use in conjunction with a complementary container body or closure member, constructed of plies of sheet material at least two of which plies have a thickness of at least about .002 inch each laminated together with thermoplastic laminant adhesive, having an avenue of exit in its edge areas for extrusion of thermoplastic laminant adhesive from its normal location between the plies into contact with the complementary container member in areas of sealing engagement therewith, upon application of thermoplastic laminant adhesive activating conditions, selected from heat, pressure, and heat and pressure, when said complementary container body and closure members are placed in sealing engagement, said laminated sheet material of construction of the container member constructed thereof containing at least about 55 lbs. of thermoplastic laminant adhesive per 3,000 sq. feet of laminated sheet material between its plies to allow such extrusion without delamination of said container member formed therefrom.

3,194,480
COLLAPSIBLE PACK WITH RECESSED HANDLE

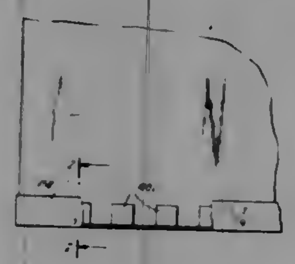
André Maindron, Le Buisson, France, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Filed Oct. 15, 1963, Ser. No. 316,387
Claims priority, application France, Oct. 19, 1962, 912,876
12 Claims. (Cl. 229—52)



1. A carton comprising a bottom and four side walls, panels connected to the walls and disposed inwardly thereof, flaps extending from the edges of the panels, one pair of said flaps extending from opposite panels and being folded to meet and form an upright recessed handle the upper edge of which does not project above a plane passing through the upper edges of said side walls, and the other pair of said flaps extending inwardly from the other opposite panels and engaging and securing said handle and its associated panels against upward movement.

3,194,481
BAG CLOSURE

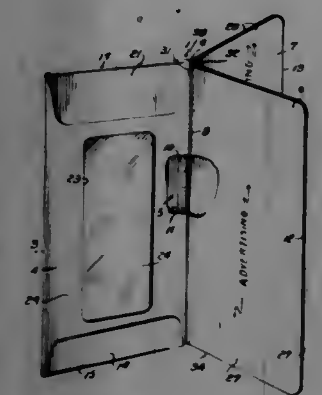
Clinton R. Hollis, Camden, Ark., assignor to International Paper Company, New York, N.Y., a corporation of New York
Original application Jan. 8, 1963, Ser. No. 250,131, now Patent No. 3,129,646, dated Apr. 21, 1964. Divided and this application Dec. 12, 1963, Ser. No. 337,119
2 Claims. (Cl. 229—62)



1. A closure on one end of a tube having opposing surfaces comprising a laterally disposed plurality of tongues defined by longitudinal slits in the end at spaced intervals, each alternate tongue being folded toward one of the opposing surfaces, and a tape having portions disposed over and enfolded about the tongues and a remaining portion positioned over the end.

3,194,482
COMBINATION ENVELOPE AND DISPLAY FOLDER

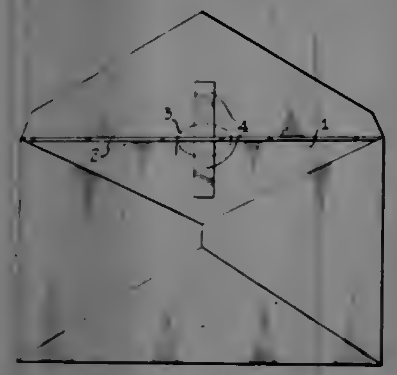
Eugene B. Berkley, Shawnee Mission, Kans., assignor to Tension Envelope Corporation, Kansas City, Mo., a corporation of Delaware
Filed May 8, 1964, Ser. No. 365,907
12 Claims. (Cl. 229—71)



6. A combination envelope and display folder including generally rectangular overlying panels connected along one side edge by a fold,
a side flap extending integrally from the opposite side portions of each panel,
adhesive connecting the panels along the side portions, and
means closing the remaining edges of the panels to complete an envelope portion having a pocket for containing an enclosure to be displayed through a window in one of said panels,
said side flaps having folds for the flaps to overlie the envelope portion in one folded position and to hinge said flaps from said folded position to a display position.

3,194,483
OPENING MEANS FOR ENVELOPES

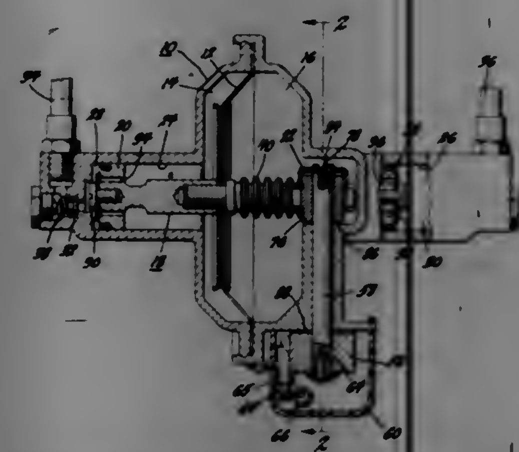
George A. Alexandrou, 261 Acharnon Ave., Athens, Greece
Filed Sept. 17, 1962, Ser. No. 224,100
Claims priority, application Greece, June 25, 1962, Patent 23,369
1 Claim. (Cl. 229—86)



An envelope having a folded flap for dispatching correspondence and printed matter, provided with a narrow band of flexible material attached longitudinally to the envelope wall adjacent the fold line of the flap, and having a perforated portion of the envelope wall extending in both directions from the fold line to form a detachable finger piece section positioned substantially in the middle of the envelope fold line; a cross piece of printed flexible sheet material for withdrawal with the perforated portion; said band, perforated section, cross piece and envelope wall forming an integral removable unit from the envelope, when detached along the perforated section and pulled from the envelope, tearing away from the envelope a narrow strip of the wall thereof with the integral perforated section.

3,194,484
PUMP

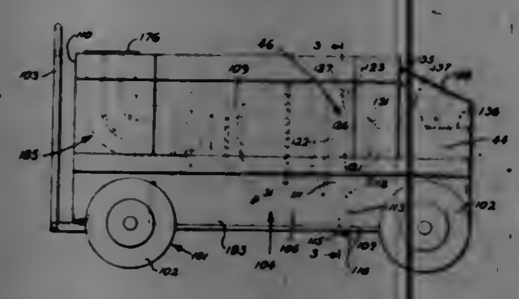
Robert M. Van House, Dayton, Ohio, assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 18, 1963, Ser. No. 265,700
2 Claims. (Cl. 230—52)



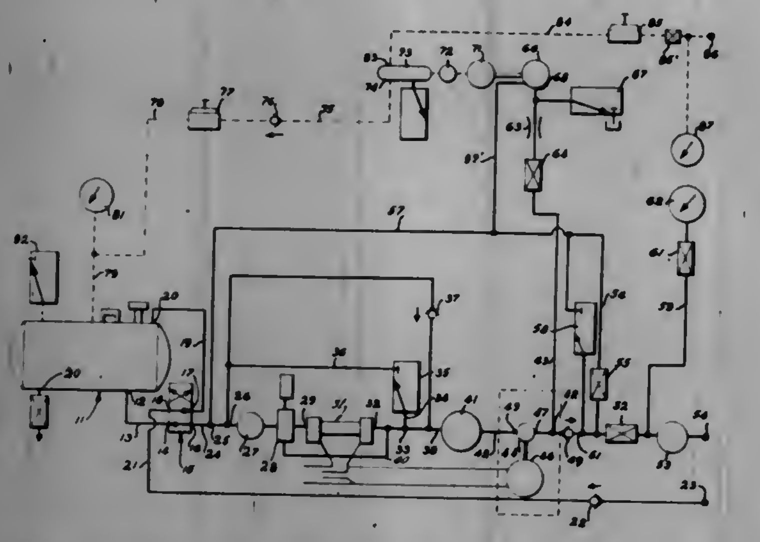
1. In a pump, in combination, a housing formed with two chambers, a reciprocable piston rod in said chambers, said housing being formed with a pair of ports for establishing communication between the chambers and the atmosphere and a third port adapted for connection to a source of vacuum, a valve carrier having a valve received therein and operatively pivotally mounted on said housing, said valve being arranged to selectively establish communication of the third port with either of the other ports while uncovering the remaining port to the atmosphere upon pivotal movement of said carrier, stop means on said housing for selectively limiting carrier pivotal movement in opposite directions to selectively establish the position of the valve in either of said port communication positions, an overcenter crankshaft rotatably received in said housing and rotatably receiving said valve carrier thereon at one end and having a crank arm extending therefrom adjacent said carrier, an overcenter spring attached to said arm and said carrier and selectively holding said carrier against said stop means in said port communication positions, a rack on said piston rod and a gear rotatably mounted on the other end of said shaft and engaging said rack to be driven thereby, and lost motion connection means between said shaft and said gear for rotating said shaft with said gear when said piston rod is adjacent each stroke end to actuate said carrier.

3,194,485
GAS DRIVEN TURBINE HYDRAULIC TEST STAND

Alec E. Ulmann, New York, N.Y., assignor to Greer Hydraulics, Inc., Los Angeles, Calif., a corporation of New York
Filed Oct. 5, 1962, Ser. No. 228,692
7 Claims. (Cl. 230—57)

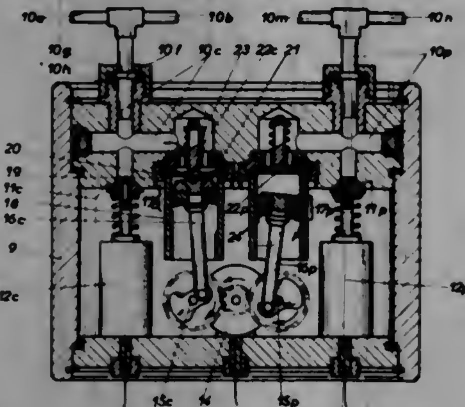


7. Equipment for providing a source of fluid under pressure comprising a vehicle having a plurality of supporting wheels, and a pair of spaced parallel support beams extending longitudinally thereof, a gas turbine positioned between said beams, means releasably to mount said gas turbine comprising a pair of brackets each secured at one end to an associated beam and at its other end to opposed sides of said gas turbine and a substantially U-shaped bracket having a cross piece and a pair of legs, each of the free ends of the legs being secured to an associated beam and the cross piece being secured to the top of said gas turbine, a fluid pump operatively connected to said gas turbine at one end thereof to be driven thereby, said pump having an inlet and an outlet, a fluid reservoir mounted on said vehicle, a line connecting said reservoir to the inlet of said pump, a casing mounted on said vehicle on the end thereof opposed to said pump, a heat exchanger positioned beneath said casing, said heat exchanger having a plurality of coils forming a continuous path for flow of fluid therethrough, said gas turbine having a discharge pipe extending into said casing, on one side thereof, a discharge duct having a horizontal portion secured to the other side of the casing and in communication therewith and a vertical portion rising from said horizontal portion and means controlled by the exhaust through said discharge pipe to create a suction in said casing to effect rapid movement of the outside air past the heat exchanger to effect cooling of the fluid passing therethrough.



3,194,486
MOTOR AND COMPRESSOR SET APPLICABLE, IN PARTICULAR, TO PNEUMATIC SUSPENSION SYSTEMS

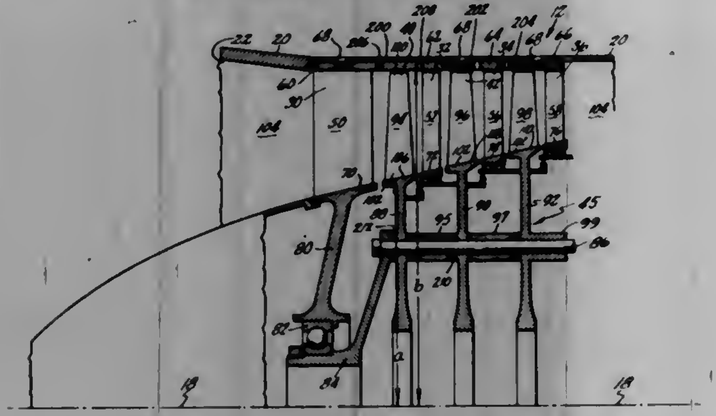
Fernand Stanislas Allinquant, 53 Ave. Le Notre, Sceaux, Seine, France
Filed Nov. 29, 1963, Ser. No. 326,958
Claims priority, application France, Dec. 5, 1962, 917,636
3 Claims. (Cl. 230—58)



1. In combination with a gas-tight reserve casing filled with pressurized gas, said casing having an end plate in which is bored at least one delivery duct communicating with the inside of said casing and an electrovalve located within said casing normally closing said duct, an electrically actuated piston compressor comprising a threaded blind bore machined in said end plate inside said casing, an externally threaded cylinder positioned within said threaded bore, a bottom wall positioned within and spaced from the blind end of said threaded bore, an annular seal of elastic material, said seal being fastened at its outer periphery between the bottom wall and the threaded end of said cylinder, an inlet spring-biased poppet-valve mounted on said bottom wall and bearing on the inner periphery of said annular seal, said poppet-valve normally preventing gas from flowing out of said cylinder into said delivery duct, a piston, a cup-type seal, said seal being mounted on said piston so as to constitute an outlet valve allowing gas to flow from said cylinder into said casing when compressed by said piston, and electrically actuated means for reciprocating said piston within said cylinder.

3,194,487
NOISE ABATEMENT METHOD AND APPARATUS

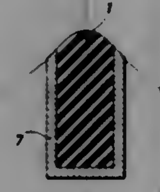
John M. Tyler, Glastonbury, and Thomas G. Sofrin, West Hartford, Conn., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed June 4, 1963, Ser. No. 285,361
48 Claims. (Cl. 230—122)



1. In an axial flow compressor located within a fluid flow confining duct and which develops noise creating spinning modes due to interaction between stator vanes and rotor blades, the method of reducing the strength of the noise creating spinning modes comprising positioning a fixed stator within the duct which stator has a preselected number of stationary vanes around the periphery thereof, supporting a rotor for rotation within the duct which rotor has a prescribed number of blades around the periphery thereof and with the blades of the rotor being of different number from the vanes of the stator thereby developing noise creating spinning modes due to interaction between the stationary vanes and the rotating blades, and positioning the rotor to about five chord lengths from the stator to reduce the strength of the interaction between spinning modes so developed as to reduce the noise.

3,194,488
SEALING BAR FOR ROTATING PISTON ENGINES

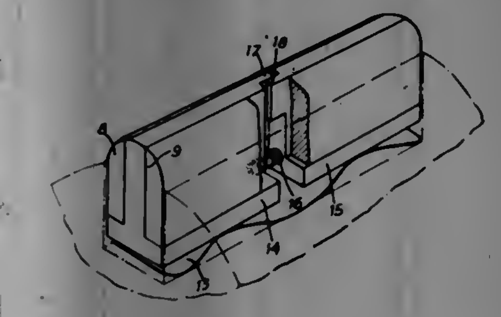
Ernst Fuhrmann, Burscheid, near Cologne, Germany, assignor to Goetzewerke Friedrich Goetze Aktiengesellschaft, Burscheid, near Cologne, Germany, a corporation of Germany
Filed Sept. 9, 1963, Ser. No. 307,727
Claims priority, application Germany, Sept. 10, 1962, G 35,892
3 Claims. (Cl. 230—145)



1. In combination with the piston of a rotating piston engine which piston is mounted for eccentric rotation relative to a piston enveloping body, said piston being provided with outwardly facing grooves running from one end face to the other of said piston for respectively receiving a sealing bar extending the length of said groove with parts of the free end thereof emerging from the respective grooves for sealing engagement with the inner wall of said piston enveloping body, the respective sealing bars having a body which is made of non-metallic material, and metallic sheathing means provided about the sides of the body within the groove, said metallic sheathing means projecting slightly beyond the edges of the groove at all times during operation of the device and the body emerging from said sheathing and tapering progressively from the inner terminal edge of said sheathing to form a dome-shaped cylinder-engaging surface, and said sheathing in cross section being generally U-shaped and conforming to the cross sectional configuration of said body and covering the base and sides, and the edges of said sheathing adjacent to said surface being tapered in a like manner and conforming to said surface and forming a part thereof.

3,194,489
RADIAL PISTON FOR ROTARY ENGINES

Manfred Frenzel, Burscheid, Cologne, Germany, assignor to Goetzewerke Friedrich Goetze Aktiengesellschaft, Burscheid, Cologne, Germany, a corporation of Germany
Filed Mar. 20, 1964, Ser. No. 353,628
Claims priority, application Germany, Mar. 20, 1963, G 37,309
6 Claims. (Cl. 230—145)



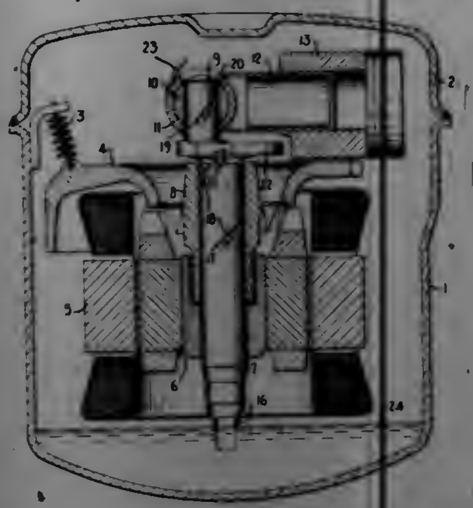
1. In a sealing structure for rotary combustion engines, a housing, a rotary piston in said housing, said piston having grooves at the corners thereof, sealing means carried by said piston and cooperating with said housing, said sealing means comprising an insert member of generally inverted T-shape in cross-section inserted in said groove in said piston with the head of the T at the radial inner end of the groove and cooperable with the walls thereof to define two grooves, and sealing strips slidably received in said last-named grooves.

3,194,490
LUBRICATING DEVICE FOR A MOTOR COMPRESSOR

Knud Roelsgaard, Nordborg, Denmark, assignor to Danfoss ved ing. M. Clausen, Nordborg, Denmark, a company of Denmark
Filed Nov. 13, 1961, Ser. No. 173,847
Claims priority, application Germany, Nov. 12, 1960, D 34,728
7 Claims. (Cl. 230—206)

1. A lubricating device for a refrigeration compressor, comprising means for lubricating the compressor and operative centrifugally for separating an entrained and dissolved gaseous medium in a liquid lubricant, said means comprising a rotationally driven shaft having two parallel bores disposed extending axially in said shaft, one of said bores disposed as a continuation of the other bore and eccentric of said other bore, said one eccentric bore

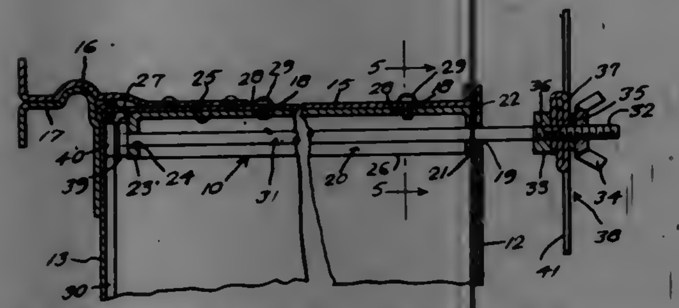
having a lesser diameter than said other bore, a pump element for delivering said lubricant into said other bore for separating therefrom said gaseous medium, said one eccentric bore having an outlet for discharging lubricant and the gaseous medium separated therefrom.



3,194,491

MAILBOX SIGNAL

James H. Parker, R.D. 2, Blossvale, N.Y.
Filed Aug. 19, 1963, Ser. No. 302,791
6 Claims. (Cl. 232—35)



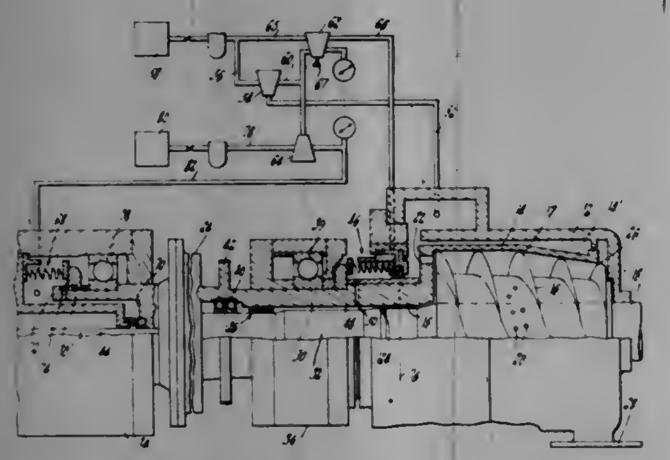
1. In combination with a mailbox having a rear wall and a closure pivotally mounted for outward and downward swinging movement to an open position and constituting a front wall and door of the mailbox; a signal unit comprising a support disposed within and secured to the mailbox, a shaft reciprocably and rotatively mounted in said support including a rear portion protruding from said rear wall, a signal member secured to said rear shaft portion and supported thereby externally of the mailbox, means carried by the shaft and engageable with a part of the support for retaining the shaft against rotation in at least two positions of rotation of said signal member, and means releasably attaching said shaft to said closure to effect sliding movement of the shaft with the closure during initial movement of the closure toward an open position for releasing said first mentioned means from said part of the support.

3,194,492

PRESSURIZED CENTRIFUGE

Richard A. Koffinke, 638 Common St., Walpole, Mass., and Horace F. Cook, 33 Leonard St., Foxboro, Mass.
Filed June 28, 1962, Ser. No. 205,987
6 Claims. (Cl. 233—7)

1. In a centrifugal separator comprising
a pressure casing,
a solid-walled bowl within said casing,
a rotatably mounted bowl trunnion extending out of
  said casing, said trunnion being hollow and in driving relation with said bowl,
a conveyer within said bowl,
a rotatably mounted conveyer trunnion extending concentrically within said bowl trunnion, in driving relation with said conveyer,
means outside said casing for driving said trunnions at high but different speeds, said speeds being sufficient to produce high separating forces in said bowl,
means for introducing into said casing and said bowl a slurry to be separated and a gas to maintain superatmospheric pressure in said casing,
a first fluid sealing chamber surrounding said bowl trunnion at the point where it extends out of said casing,
and means for supplying said fluid chamber with seal fluid at a pressure higher than the pressure within said casing,
the improvement comprising,
a low-pressure-differential fluid contact seal sealing between said bowl trunnion and said casing against leakage from said fluid sealing chamber into said casing,



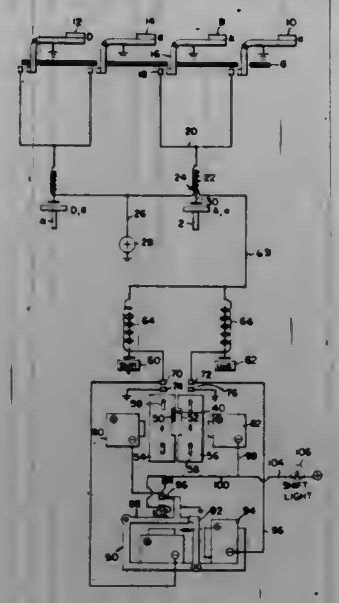
a high-pressure-differential fluid contact seal sealing between a wall of said fluid sealing chamber and said bowl trunnion against leakage from said chamber to the atmosphere,
pressure regulating means for regulating the seal fluid pressure in said first fluid sealing chamber,
control means for controlling said pressure regulating means, said control means connected and arranged in an exposed relation to said casing pressure, said control means connected to said regulating means and adapted to operate said regulating means in response to said casing pressure, said pressure regulating means and said control means constructed and arranged to maintain the fluid seal pressure in said first fluid sealing chamber at a constant positive pressure differential above said casing pressure,
a second fluid sealing chamber defined between said trunnions,
and means connected with said second fluid sealing chamber for supplying said chamber with seal fluid at a pressure higher than that within said casing.

3,194,493

APPARATUS FOR EFFECTING ALTERNATE OPERATION OF THE SHIFT AND UNSHIFT KEYS OF A TAPE PERFORATING MACHINE

Claire N. Brewer, Indianapolis, Ind., assignor to International Typographical Union of North America, Colorado Springs, Colo.
Filed Oct. 16, 1963, Ser. No. 316,622
9 Claims. (Cl. 234—23)

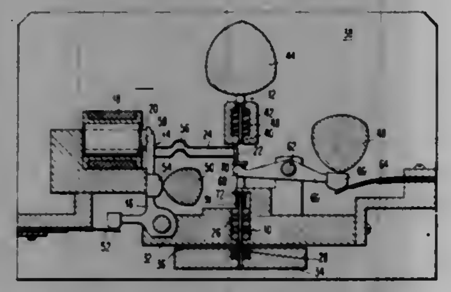
1. Auxiliary apparatus for alternately operating the shift and unshift keys of a tape perforating machine by successive operations of a single control key forming part of the auixilary apparatus, comprising electrical operating means associated with each of the shift and unshift keys of the tape perforating machine for separately operating the associated key when energized, a control key, means for energizing one of said electrical operating means upon operation of said control key, and means also operable upon the same operation of said control key for establishing conditions which upon the next operation of the control key cause energization of the other of said electrical operating means.



3,194,494

PUNCH MECHANISM

Daniel P. Darwin, Saratoga, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 29, 1963, Ser. No. 269,040
5 Claims. (Cl. 234—115)



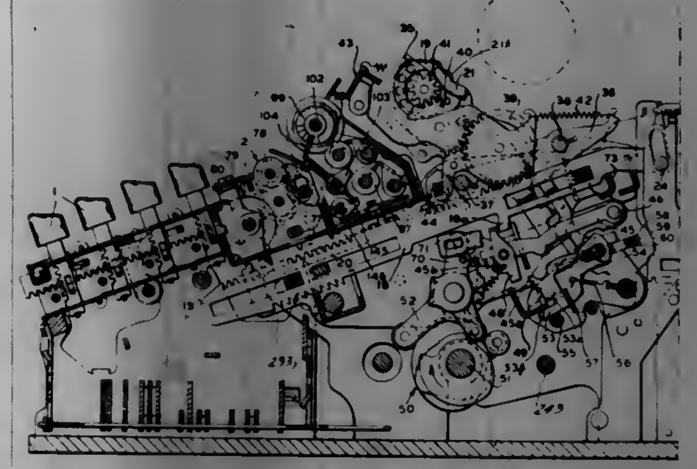
1. A punch mechanism comprising:
a record marking member selectively movable between a non-marking and a marking position;
actuating means;
control means selectively movable between a first and a second position; and
an interposing member,
  said interposing member being coupled to said control means by a coupling means consisting of a spring member having resiliency in two directions,
  said control means adapted when in said second position to cause said interposing member to couple said actuating means to move said operative member from said non-marking to said marking position.

3,194,495

DECIMAL POINT MECHANISM

Herman Gang, Morris Plains, N.J., assignor to Monroe International Corporation, a corporation of Delaware
Filed Sept. 7, 1962, Ser. No. 222,144
19 Claims. (Cl. 235—60.15)

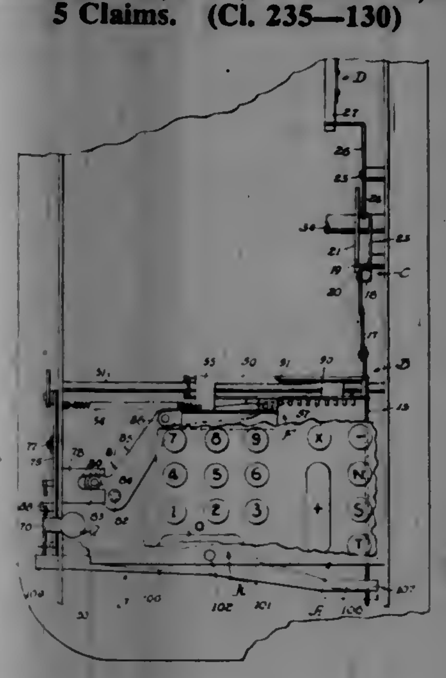
1. In a calculating machine having registering mechanism including an ordinal series of differential actuators, a selector carriage including an ordinal series of differentially settable digital value selection means for controlling said actuators, means for shifting said carriage relative to said actuators, digital value keys successively depressible in accordance with the digits of a selected value, means operable in response to each key depression for entering a digit into said selection means and for controlling said shifting means for one ordinal shift of said carriage in a given direction, and a first and a second function control key: a decimal key for depression in decimal sequence with said digit keys; a first and a second normally disabled shift limiting means each operable to limit shifting of said carriage in said given direction to a number of ordinal positions which provide for a given number of decimal digits; means operable upon depression of said decimal key for conditioning both of said limiting means for subsequent enablement; means operable upon depression of said first function control key subsequent to depression of said decimal key to enable said first shift limiting means and to initiate operation of said carriage shifting means for shifting in said given direction; and means operable upon depression of said second function control key subsequent to depression of said decimal key to enable said second shift limiting means and to initiate operation of said carriage shifting means for shifting in said given direction.



3,194,496

PIN CARRIAGE TO CLUTCH INTERLOCK MECHANISM IN A TEN-KEY ADDING AND SUBTRACTING MACHINE

Giles E. Bullock, 7960 Corbin Ave., Reseda, Calif.
Filed Sept. 12, 1962, Ser. No. 223,112
5 Claims. (Cl. 235—130)



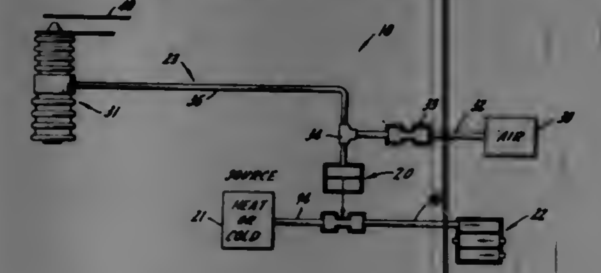
1. In a calculating machine, of elongated form, front to rear, in combination: memory means to register a keyboard-punched numeral for transfer to an accumulator; clearing means to restore said memory means to a home position for registering another numeral; a correction lever operable on said clearing means for correctional clearing, said correction lever being mounted at one side of the machine on a pivot and projecting upwardly there-

from for forward swinging movement to effect said correction clearing, said lever having a forwardly projecting blocking finger; power control means disposed at the other side of the machine near its forward end, for initiating cycles of transfer from said memory means to an accumulator; and an interlock lever extending transversely across said forward end of the machine and pivoted thereto intermediate its ends for rocking movement in a substantially horizontal plane, said interlock lever having one end linked to said power control means for fore-aft swinging movement, and its other end movable rearwardly in response to actuation of said power control means, to a position extending beneath said blocking finger to prevent forward movement of said correction key, said blocking finger having a vertically extending arcuate forward face which moves downwardly when said correction key is actuated, to a position blocking rearward movement of said other end of the interlock lever so as to prevent actuation of said power control means; whereby said interlock lever is effective to permit independent actuation of either said correction lever or said power control means while preventing simultaneous actuation of both.

3,194,497
TEMPERATURE CONTROL SYSTEM

David H. Thorburn, Oak Park, Ill., assignor to Powers Regulator Company, Skokie, Ill., a corporation of Illinois

Filed Feb. 12, 1962, Ser. No. 172,458
8 Claims. (Cl. 236—1)



1. A control valve arrangement for regulating the flow of a heat transfer fluid from a source of the heat transfer fluid into heat transfer relationship with a fluid medium as a function of a predetermined schedule of single pressures related to the temperature of said medium to maintain a predetermined optimum fluid medium temperature comprising; a valve housing, passage means through said housing for said heat transfer fluid, valve means mounted in said passage means for modulating the flow of heat transfer fluid therethrough, diaphragm means connected to said valve means and adapted to respond to the signal pressures to move said valve means in modulation of said flow of heat transfer fluid through said passage, and modulating control means for modulating the movement of said valve means according to a predetermined schedule coordinated with variation in signal pressure, said modulating control means being effective to modulate the movement of said valve means only after movement of said diaphragm means from a neutral position to a predetermined initial operating position.

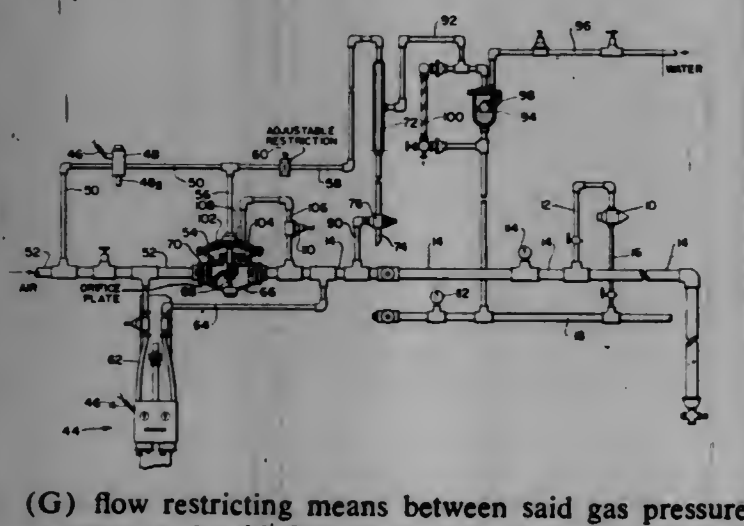
3,194,498
HUMIDIFYING SYSTEM

George L. Miner, Warwick, and Arthur Magson, Cumberland, R.I., assignors to Grinnell Corporation, Providence, R.I., a corporation of Delaware

Filed May 17, 1963, Ser. No. 281,203
9 Claims. (Cl. 236—44)

1. In combination with an atomizer nozzle having means for receiving a first fluid in gaseous state at a first pressure and a second fluid in liquid state at a second pressure which is higher than that of said first pressure, for mixing said gas and liquid together in said nozzle, and for discharging said fluids therefrom as a finely divided mist or spray, apparatus for controlling and correlating the pressures of said fluids in said nozzle, said apparatus comprising:

(A) a source of said gas under pressure,
(B) a source of said liquid,
(C) first and second conduit means connecting said gas and liquid sources respectively to said atomizer nozzle receiving means,
(D) third conduit means connecting said gas source to said liquid source,
(E) flow control means, adapted to be activated by a humidity responsive means, for controlling the admission of said gas from said gas pressure source into said first and third conduit means,
(F) auxiliary valve means in said third conduit means, operable in response to a predetermined value of pressure of said gas in said first conduit means for controlling the flow of said gas in said third conduit means to said liquid source,



(G) flow restricting means between said gas pressure source and said first conduit for causing said first fluid to be delivered to said nozzles first fluid receiving means at said first pressure and for establishing a pressure differential between said gas pressures in said first and third conduit means, and
(H) flow restricting means in said third conduit means for controlling the rate of flow of said gas therethrough,

whereby gas upon being admitted into said first and third conduit means by said flow control means in response to a moisture requirement in the atmosphere controlled by said apparatus, flows through said first conduit means to said atomizer nozzle gas receiving means, and coincident therewith, flows through said third conduit means to said auxiliary valve means by which, upon the attainment of said predetermined pressure in said first conduit means, said gas is directed onto said liquid source to pressurize the same and cause said liquid to be delivered through said second conduit means to said atomizer nozzle liquid receiving means at said second pressure.

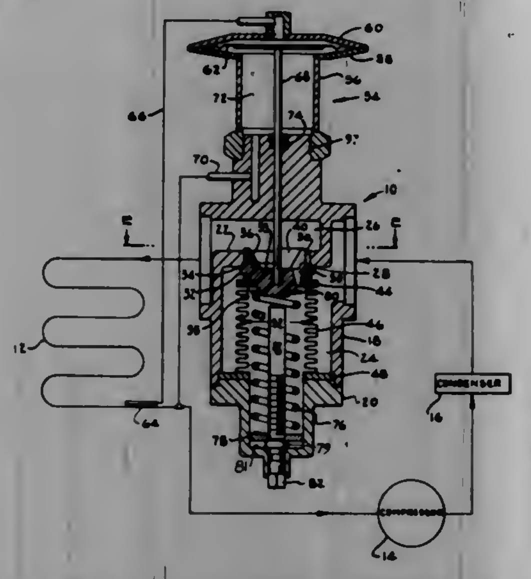
3,194,499
THERMOSTATIC REFRIGERANT EXPANSION VALVE

Thomas E. Noakes, Detroit, and Abdul S. Bahrani, Drayton Plains, Mich., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 23, 1962, Ser. No. 219,070
2 Claims. (Cl. 236—92)

1. In combination: a refrigerant expansion valve having a valve body which is provided with a partition for defining a refrigerant inlet chamber, a refrigerant outlet chamber, and a valve seat therebetween; a valve element disposed within one of the chambers for closing against the seat to throttle refrigerant flow therethrough; a thermostatic power element disposed adjacent one end of the valve body and adapted to be responsive to evaporator outlet temperature for opening the valve element; said power element comprising a stem extending through the valve body into unattached abutting engagement with the valve element; an adjustable superheat spring disposed within said one chamber adjacent the other end of the valve body for opposing the action of the power element on the valve element; said valve body having an opening registering with the valve seat; a removable cap structure sealing said opening;

a pressure-balancing bellows located within said one chamber in surrounding relation to the superheat spring;

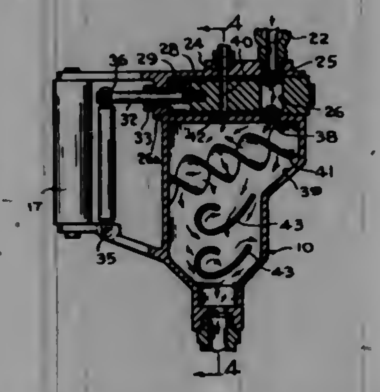


means sealing one end of the bellows to the valve element, and means sealing the other end of the bellows to the cap structure so that the exterior surface of the bellows is at all times subjected to the one chamber pressure;
means defining a passage between the bellows interior and the other chamber so that the interior surface of the bellows is at all times subjected to the other chamber pressure;
said bellows having substantially the same effective area as the valve seat so that said bellows is subtantially unifluenced by the absolute pressures in the individual chambers or by the pressure differential between chambers; said bellows, superheat spring and valve element being installable in the valve body by insertion thereof through the aforementioned valve body opening.

3,194,500
SURFACE DEGREASING AND CLEANING GUN

Glen M. Byrd, 875 Snyder St., Akron, Ohio

Filed Mar. 20, 1963, Ser. No. 266,538
8 Claims. (Cl. 239—8)

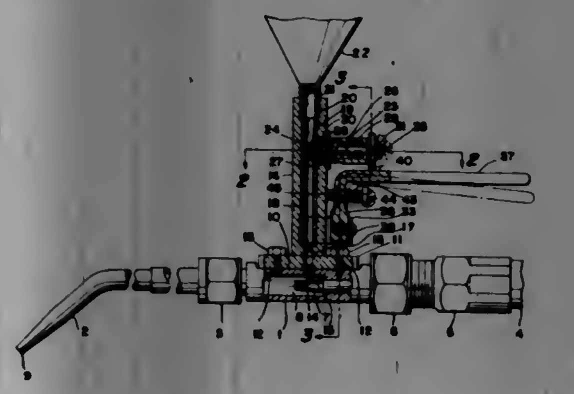


1. A method of providing a hot pressurized medium for treating surfaces as for removing grease, salt, snow, ice, or the like therefrom, comprising: the steps of agitating within a confining chamber, streams of water substantially at boiling temperature and of relatively low pressure, and compressed air, at a relatively high pressure of at least 90 pounds per square inch, and from separate continuous sources of the streams and thereby continuously to form a highly pressurized reconstituted mixture of air and water directly within the chamber; and continuously discharging the mixture from the mixing chamber through an orifice of reduced flow area into the atmosphere immediately to expand the same as a continuous stream of hot gaseous liquid of greatly increased flow area and with considerable force approximating the pressure of said compressed air, whereby the expanded fluid will have at least the grease reducing qualities of steam combined with the flushing qualities of water without undue harshness to surfaces being treated.

3,194,501
POWDER MELTING TORCH

Arthur T. Cape, Monterey, Calif., assignor to Powder Melting Corporation, Monterey, Calif., a corporation of California

Filed Aug. 13, 1963, Ser. No. 301,822
2 Claims. (Cl. 239—85)



1. In a touch for supplying powdered metal or the like through a flame to a work piece, a torch body having a chamber therein and from which a combustible gas mixture is discharged through a tip, an outer tube extending upwardly from the torch body and comunicating, through the torch body, with the chamber, a resilient tube within the outer tube and communicating with a source of powder which falls through the resilient tube by gravity, a tubular housing mounted on said outer tube and extending substantially at right angles to the outer tube, a plunger slidable axially in said housing and having an inner end which contacts the resilient tube, a compression coil spring within said housing for actuating said plunger to cause the inner end of the plunger to pinch the resilient tube to close the flow of powder through the resilient tube, a handle which is independent of said plunger and is disposed adjacent said torch body, said handle being pivotally movable and operatively connected to said plunger for retracting the plunger to permit said resilient tube to resume its original cylindrical form to permit passage of powder therethrough, and means for preventing said plunger from fully closing said resilient tube to the flow of powder therethrough, said means comprising a screw extending through said handle and having an end which abuts said outer tube, said screw being adjustable to control the size of the opening through said resilient tube.

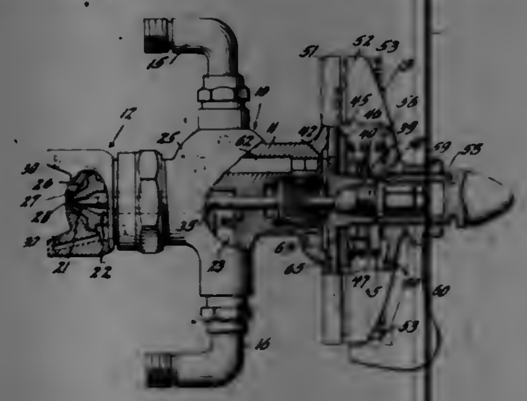
3,194,502
AIR OPERATED SPRAY DEVICE HAVING FLEXIBLE PACKING MEANS

James A. West, Elmhurst, Ill., assignor to American Type Founders Co., Inc., Elizabeth, N.J., a corporation of Delaware

Filed Nov. 14, 1962, Ser. No. 237,616
2 Claims. (Cl. 239—411)

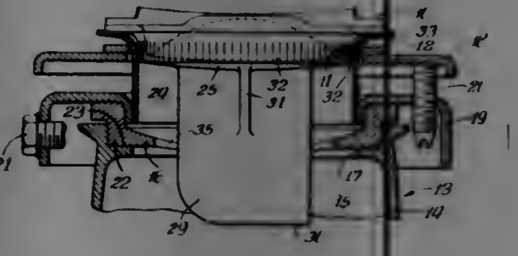
1. In a spray device of the class described, a spray gun body having a spray nozzle at the forward end thereof, a liquid chamber in the forward portion of said gun body in communication with said nozzle, a com-

pressed air chamber in said body also in communication with said nozzle but having a rearwardly disposed portion, a liquid discharge orifice and air discharge orifices in said nozzle, an elongated cylindrical needle valve having a forward end controlling flow through said liquid orifice, a bore in the body of said gun between said liquid chamber and the rearward portion of said air chamber through which an intermediate portion of said needle valve snugly passes, a motor chamber within said gun body communicating with the compressed air supply, and a motor element in said motor chamber adapted to be subjected to the pressure of the compressed air, means connecting the rear end portion of said needle valve with said motor element whereby movement of said motor element under the pressure of the compressed air effects longitudinal movement of said needle valve to open the liquid orifice of said nozzle, and packing means for the needle valve supplementing the close fit of the valve in said bore which comprises a tubular flexible member surrounding said valve and having one portion thereof fixedly sealed to the interior of said gun body adjacent said bore through which the needle valve extends and another portion fixedly sealed to a portion of the needle valve longitudinally spaced from the point of securement of the first named portion to said body, a cylindrical cavity formed in the body of the gun rearwardly of said bore and with which said bore communicates, the joint between the first named end of the tubular flexible member and the body of the gun comprising a flange on the tubular flexible member and a clamping sleeve threaded into a portion of said cavity and adapted to press said flange into intimate contact with the end wall of said cavity adjacent said bore, and the joint between the second named end of the tubular flexible member and the needle valve comprising an O-ring seated within a cylindrical recess in the outer end of said packing means and bearing radially inwardly firmly against the periphery of the needle valve.



3,194,503
FOOD WASTE DISPOSER WITH IMPROVED COVER

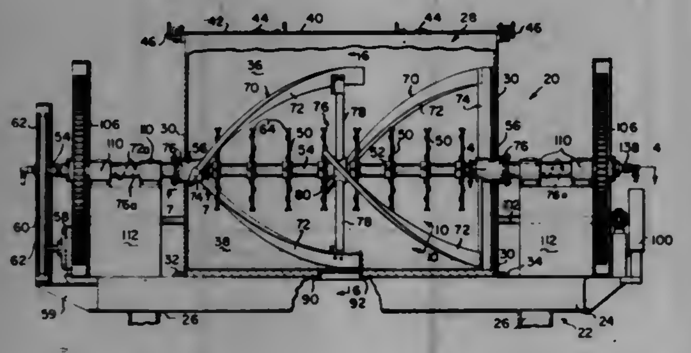
Wilbur G. Peyer, St. Paul, and Charles R. Lopp, White Bear Lake, Minn., assignors to Whirlpool Corporation, a corporation of Delaware
Filed May 21, 1963, Ser. No. 281,910
10 Claims. (Cl. 241—32.5)



1. In a waste disposer provided with a housing defining a grinding chamber and having an upper end, and a splash guard maintained across the chamber adjacent said upper end, said splash guard normally closing said chamber and being yieldably openable to pass material therethrough into said chamber, a cover device comprising: a closure arranged to extend removably across said upper end to close said chamber above said splash guard; and plunger means projecting from said closure for selectively opening said splash guard to cause material to pass downwardly therethrough.

3,194,504
MIXING MACHINE

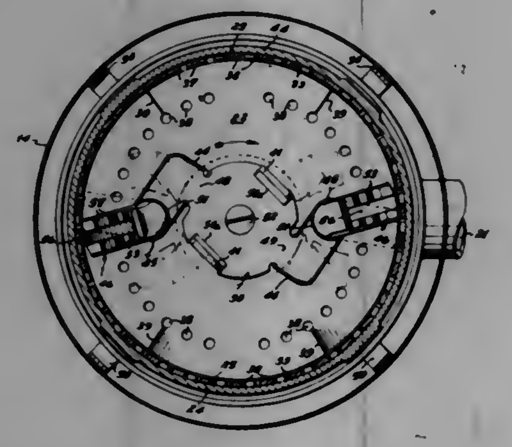
Raymond A. Entrikin, East Liverpool, Ohio, assignor to Patterson Industries, Inc., a corporation of Ohio
Filed Sept. 7, 1962, Ser. No. 222,004
7 Claims. (Cl. 241—98)



1. A mixing device comprising: a container; a plurality of disintegrator blades mounted for rotation in the container; a plurality of material moving blades mounted for rotation relative to said disintegrator blades and in surrounding relation to the disintegrator blades, said material moving blades being pitched to direct material from the ends to the center of the container, and means driving said disintegrator blades and said material moving blades.

3,194,505
WASTE DISPOSER

Thomas F. Spackman, Louisville, Ky., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 10, 1962, Ser. No. 222,513
12 Claims. (Cl. 241—194)



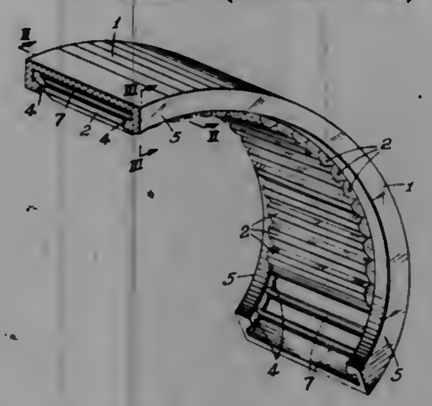
11. A hammer for a waste disposer of the type having a circular impeller disc therein, said hammer comprising, an upper part, a lower part and an integral, cylindrical journal connecting said parts,

said upper part configurated to provide cutting surfaces,

and said upper and lower parts being spaced apart a distance slightly greater than the thickness of said impeller disc and extending radially from said journal to approximately the same extent and generally toward the same side thereof.

3,194,506
RENEWABLE ELEMENTS WHICH ARE SUBJECT TO WEAR BY ABRASION

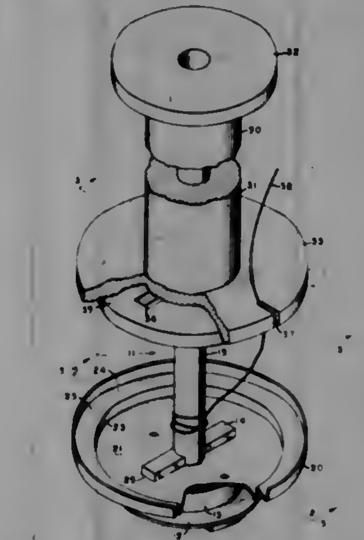
Ronald F. Bourne, "Wyness" Oak Road Atholl, and Donald G. Cheyne, 47A 12th Ave., Parktown N., both of Johannesburg, Transvaal, Republic of South Africa
Filed Jan. 22, 1963, Ser. No. 253,166
Claims priority, application Republic of South Africa, Mar. 8, 1962, 62/961; Sept. 24, 1962, 62/4,038; Sept. 24, 1962, 62/4,039
11 Claims. (Cl. 241—300)



1. A liner comprising a plurality of rod-like members of rigid abrasion resisting material disposed in parallel relationship; key element interposed between adjacent members to lock them together; and a base strip of flexible material of substantially channel section, the rod-like members being located transversely to the base strip between the sides of the channel by which they are gripped.

3,194,507
WINDING APPARATUS

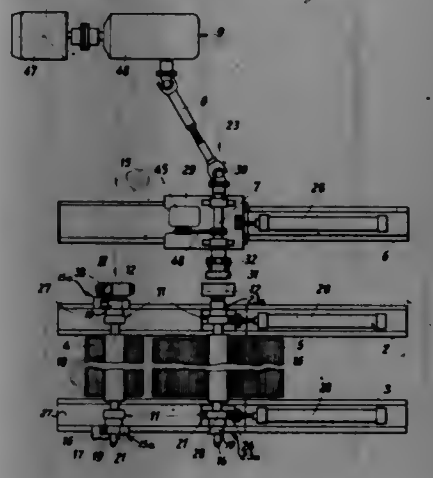
John P. Penevolpe, Box 3213, Mayaguez, Puerto Rico
Filed July 16, 1963, Ser. No. 295,482
1 Claim. (Cl. 242—18)



In combination with a winding apparatus having a spindle and means for driving said spindle, a spool driven by said spindle, said spool having a main body and heads at opposite ends thereof and a notch cut in one of said heads, a disk attached to the face of said notched head remote from said main body, a yarn securing and protecting member attached to said spindle, said member having a first substantially flat base portion, a second portion parallel or nearly so with and stepped from said base portion, a riser connecting said base portion and said second portion, and a collar formed on said second portion extending around the perimeter thereof, said notched head abutting the upper surface of said collar, said disk located within the circumference of said riser and overlying said first substantially flat base portion to secure between said disk and said base portion an end of yarn extending from said spool main body through said notch and into interlying relationship between said disk and said base portion.

3,194,508
UNINTERRUPTED SUPPLY OF WEB MATERIAL

Gunther Netze, Kapellen, near Moers, Germany, assignor to Firma Joseph Eck & Söhne, Dusseldorf-Heerdt, Germany, a German corporation
Filed July 6, 1962, Ser. No. 208,087
Claims priority, application Germany, July 8, 1961, E 21,354
8 Claims. (Cl. 242—58.3)



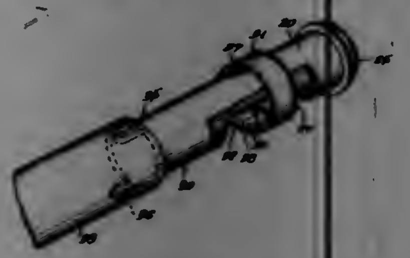
1. Machine for uninterrupted supply of a web from rolls of the web material as web supply sources comprising a pair of stationary journal blocks for the journaling of a first roll for rotation thereof for withdrawal of web material from said first roll so that the first roll serves as the web supply source, a first roll of web material mounted in said stationary journal blocks, a pair of movable journal blocks for journaling of a second roll on an axis parallel to the axis of the first roll, a second roll of web material mounted in said movable journal blocks, said movable journal blocks being movable between a first position wherein the second roll is disposed for transfer of the web supply source to the second roll, and a second position wherein the second roll is disposed for transfer to the stationary journal blocks, means for rotating the second roll in the direction of rotation of the first roll, means defining a web course for travel of the web from the rolls, presser means disposed along said web course for actuation to press the web into engaging relation with the second roll with the second roll in said first position and for transferring the web supply source to the second roll, means for advancing the second roll from said first position to said second position, and means for transferring the second roll to operative mounting in said stationary journal blocks, said second roll including a spool, an end portion of the spool projecting from each end thereof axially outwardly of the second roll and having mounted thereon an inner bearing and an outer bearing providing a pair of inner bearings disposed one on each side of the second roll and a pair of outer bearings disposed one on each side of the second roll, the bearings of one of said pairs being disposed for receipt by the movable journal blocks, and the bearings of said other pair of bearings being disposed for receipt by the stationary journal blocks, one of said pairs of journal blocks being disposed inwardly of the other pair of journal blocks, whereby the spool of the second roll is provided with bearings arranged for simultaneous engagement by the movable journal blocks and the stationary journal blocks.

3,194,509
CARPET ROLLS AND SUPPORTING AND HANDLING MECHANISM THEREFOR

Harry W. Thompson, Chicago, Ill., assignor to Conco Engineering Works, Inc., a corporation of Illinois
Filed Jan. 2, 1963, Ser. No. 249,096
3 Claims. (Cl. 242—68)

1. A carpet roll supporting structure providing for display, unwinding and rewinding of the carpet roll comprising: a hollow non-metallic tube on which a carpet of

coextensive length is adapted to be rolled, a spindle positioned within said tube and extending beyond the ends of the tube, said spindle having an outer diameter sufficient to snugly receive said tube to prevent radial deformation thereof, a collar secured to said spindle adjacent an end thereof and having an annular flange surrounding said spindle and spaced therefrom a distance to receive an end of the tube therebetween and fit between the tube and the carpet, said flange having a slight radial flare to facilitate insertion of said tube and compressively engage the outer surface of said tube, the radial flare being substantially less than the thickness of the tube so that the outer surface of the tube is slightly compressed while the inner surface of said tube remains undeformed radially, an axially extending lug mounted between the flange and the spindle, and a slot in said tube end for receiving said lug whereby the tube is compressed around the lug for positive driving engagement.



3,194,510

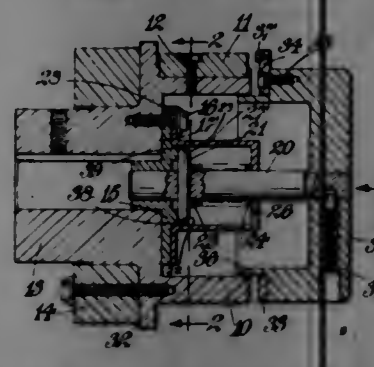
SPOOL CARRIERS

Harry James Charles Etherington, London, England, assignor to Decca Limited, London, England, a British company

Filed Mar. 18, 1963, Ser. No. 265,772

Claims priority, application Great Britain, Mar. 30, 1962, 12,403

7 Claims. (Cl. 242—[illegible]8.3)



7. A carrier for holding in driving engagement a spool of the kind having at least one recess in a bush portion for engaging a dog on a driving member comprising a hub portion with a dog or dogs for engaging said recess whereby said hub portion and dog constitute said driving member, a locking element carried on said hub portion for axial and rotational movement about the hub axis and having at least one radially extending ear positioned so that the spool can pass over the locking element when the ear is aligned with the corresponding dog but, by rotation of the locking member, the ear can be turned to a position adjacent the side of the spool, spring means urging the locking element axially to move the locking element towards the driving member and cam means arranged to effect axial movement of the locking element as it is rotated, said cam means being shaped so that the locking element is moved axially away from the driving member against the spring force as the locking element is rotated from a position in which the locking element clamps the spool on the driving member to a release position where the locking element ear or each ear is aligned with said dog or each dog for releasing the spool, the cam means being arranged furthermore so that, in the locking position the aforementioned spring means urge the locking element tightly against the spool.

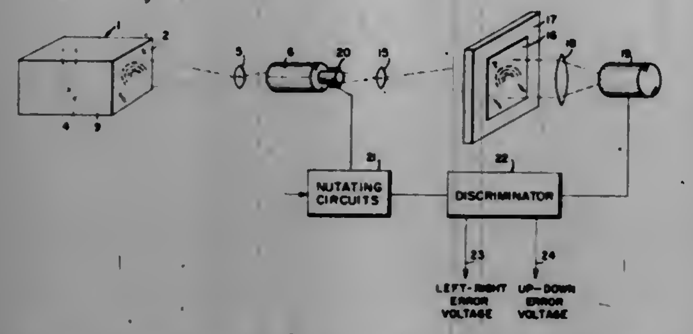
3,194,511

VEHICLE GUIDANCE SYSTEM AND ELECTRON IMAGE MATCHER

Donald B. Cohen, Akron, Ohio, assignor to Goodyear Aerospace Corporation, a corporation of Delaware

Filed Oct. 6, 1961, Ser. No. 144,010

3 Claims. (Cl. 244—14)



3. Tne combination in an electronic image matcher of means for producing an optical image of a map, means for converting the optical image to an electron image, means for converting the electron image back to an optical image having increased brightness, means in the converting means for focusing the electron image, electrical means for nutating the complete focused electron image on the last-named converting means, a transparent picture to the same scale and orientation as the image but of opposite contrast, lens means for superimposing the complete optical image as it is nutated on the picture, light responsive means for indicating substantially a match between the image and picture when a given amount of light from the image passes through the picture, and means to determine at what angular relation in the nutation of the electron image that said substantial matching takes place between the image and the picture.

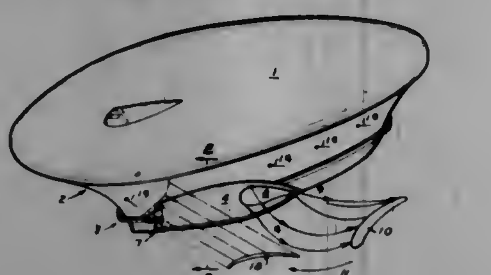
3,194,512

JET-WING AIRCRAFT

Walter Selden Saunders, 8014 Bradley Blvd., Bethesda, Md.

Filed Sept. 6, 1961, Ser. No. 136,293

2 Claims. (Cl. 244—23)



2. The method of propelling a fluid transversely to and by means of a gas jet within said fluid, independently of any propulsion generated by the structure per se from which the jet might be ejected, comprising: pressurizing a gas, venting said gas as a jet into said fluid, and moving said jet transversely to its vented direction.

3,194,513

AIRCRAFT

Ralph Spenser Hooper, Ham, England, assignor to Hawker Aircraft Limited, Surrey, England, a British company

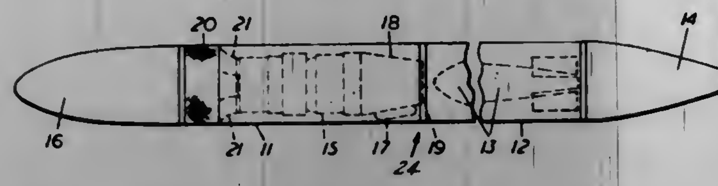
Filed Dec. 17, 1962, Ser. No. 245,174

Claims priority, application Great Britain, Dec. 20, 1961, 45,724/61

6 Claims. (Cl. 244—23)

1. A detachable pod for aircraft comprising a forward section containing an engine compartment, a jettisonable rear section containing a compartment for cargo or armament, a lift engine mounted in the engine compartment within said forward section. said lift engine being horizontally-oriented along the fore-and-aft centre line of the

pod with its exhaust end directed aft, and nozzle means on the exhaust end of said lift engine which nozzle means is adjustable from a setting in which it deflects the jet stream downward and out through an opening in the underside of the pod to a setting in which, when said rear section has been jettisoned, the jet stream is directed aft.



3,194,514

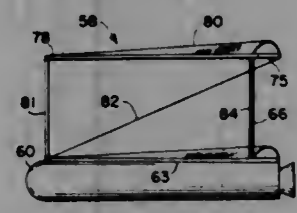
FLEXIBLE WING VEHICLE CONFIGURATIONS

Francis M. Rogallo, 17 Milford Road, Newport News, Va.

Original application Apr. 29, 1963, Ser. No. 276,664. Divided and this application Dec. 11, 1964, Ser. No. 429,694

2 Claims. (Cl. 244—49)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A vehicle capable of being launched from a planetary surface into an extraplanetary spatial vacuum and to reenter an atmosphere comprising: vehicle body means; power means associated with said body means for placing said vehicle in an interplanetary spatial vacuum; means forming a part of said body being deployable from remaining body means to form wing support structure; said wing support structure including wing leading edge members; flexible material means being connected between said leading edge members and said body means; at least one additional flexible wing means; and connection means joining said additional flexible wing means in spaced adjacency to said leading edge members and to said remaining body means to form at least a bi-wing arrangement.

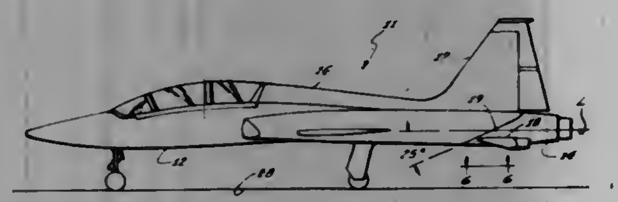
3,194,515

JET AIRCRAFT STRUCTURE FOR ENGINE REMOVAL

Sidney Cohan, Inglewood, Calif., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed Dec. 6, 1963, Ser. No. 328,583

3 Claims. (Cl. 244—54)



1. In a jet powered aircraft the combination comprising: a fuselage embodying a vertical stabilizer and horizontal control surfaces and having a longitudinal axis; said fuselage including fore, aft and center sections each having individual longitudinal axes coinciding with the longitudinal axis of said fuselage; the aft end of said center section and the forward end of the aft section terminating in planes having a canted relation with respect to their respective individual axis; said mating planes, when said center and aft sections are in their assembled relation being located aft of said vertical stabilizer; a turbine type engine mounted in said fuselage with portions thereof positioned in said center and aft sections at such times as the latter sections are assembled; and releasable means securing said aft and center sections whereby major portions of said engine are rendered accessible at such times as said aft section is removed from said center section.

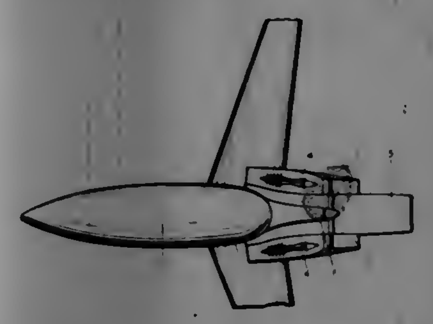
3,194,516

ARRANGEMENT FOR JET ENGINES AT THE TAIL END OF AIRCRAFT

Willy Messerschmitt, Munich, Germany, assignor to Messerschmitt A.G., Augsburg, Germany, a company of Germany

Filed Oct. 22, 1962, Ser. No. 232,026

14 Claims. (Cl. 244—74)



1. In an aircraft, in combination, a fuselage including a tapered tail portion; duct means mounted on said tail portion and forming with the same a duct, the forward end of said duct means forming with said tail portion a narrow inlet into said duct; rotary fan means located in said duct at the rear end of said tail portion; jet engine means supported on the aircraft outside of said duct and having air inlet means apart from said narrow inlet into said duct, said jet engine means being operatively connected with said fan means for rotating the same whereby said fan means draws air through said inlet and duct to remove the boundary layer from said fuselage.

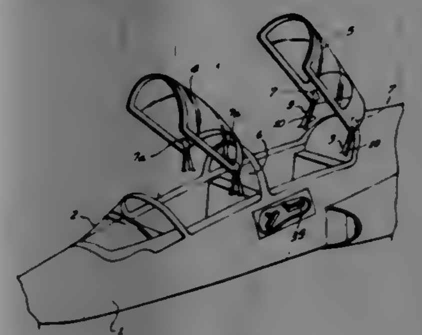
3,194,517

COCKPIT ENCLOSURE AND OPERATING MECHANISM

Willis B. Morris, Redondo Beach, and Robert M. Kubow, Manhattan Beach, Calif., assignors to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed Dec. 20, 1963, Ser. No. 332,088

13 Claims. (Cl. 244—121)



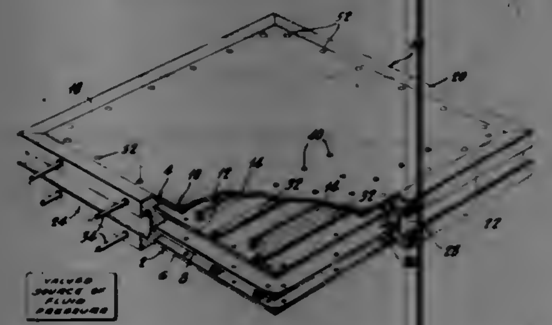
1. In an airplane or the like having a movable cockpit canopy, an operating mechanism for said canopy comprising: means for connecting said mechanism to each lower rear corner of said canopy; a pair of link members having their outer ends rotatably connected to each said connecting means at fore-and-aft spaced points thereon and having their inner ends rotatably connected to fixed airplane structure at fore-and-aft spaced points thereon; said link members forming, with said connecting means and said airplane structure, a pair of four-bar linkages such that

said canopy moves upwardly and rotates rearwardly open when said linkage is operated from a closed canopy position; elastic counter-balance means connected between both said linkages and said airplane to balance the weight of said canopy and mechanism throughout its range of positions; and manually operated linkage actuating means connected to both said linkages for opening and closing said canopy.

3,194,518

AIRCRAFT PANEL CONSTRUCTION FOR BOUNDARY AIR CONTROL

Robert L. Walsh, 2540 Massachusetts Ave. NW., Washington, D.C.
Filed Dec. 12, 1963, Ser. No. 330,175
10 Claims. (Cl. 244—130)

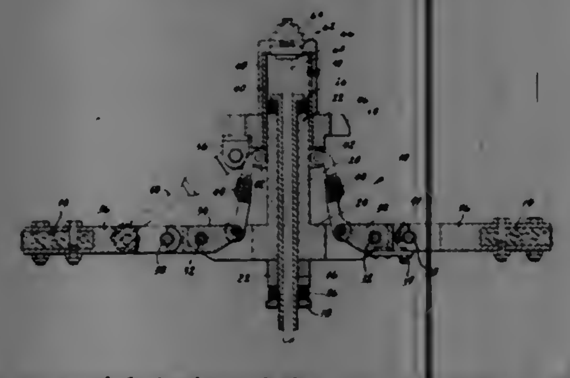


1. A panel construction for vehicle components comprising a plurality of panels placed edge to edge, each of the panels consisting of a pair of surface members, each of said pair of surface members comprising a pair of sheets having spacing members therebetween, the edges of such sheets secured to the inside edges of a frame, such outer edges of said frame having grooves formed therein and an interlocking strip between adjacent panels interlocking said edge grooves thereof to form a unitary assembly, apertured sleeves extending within the space between said pair of surface members and extending through said frame, flow control tubes extending through an assemblage of a plurality of said panels having apertures formed therein which may be moved into registration with the apertures in said sleeves and means to connect said flow control tubes to a controlled source of fluid pressure and means to move said flow control tubes in said panel assembly for the control of fluid through the space formed by said pair of surface members and aperture means formed in the outer surface member of said pair of surface members in the assembly for the control of fluid pressure adjacent the outer surface of said panel construction.

3,194,519

AERIAL DEVICE WITH RETARDING ROTOR

Wesley T. Rhodes, Windsor Locks, Conn., assignor to Kaman Aircraft Corporation, Bloomfield, Conn., a corporation of Connecticut
Filed Dec. 11, 1962, Ser. No. 243,790
24 Claims. (Cl. 244—138)

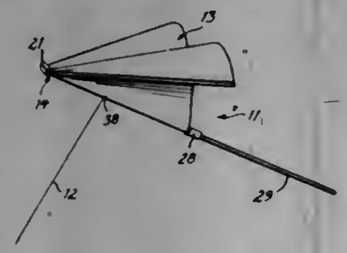


1. In an aerial device of the class described, the combination comprising a body adapted to carry a load, a hub connected with said body for rotation about a central axis, a plurality of blade retaining links connected with said hub at circumaxially spaced locations for pivotal movements relative to said hub about transverse coning axes tangent to a cylinder concentric with said central axis, a plurality of generally radial blades each of which blades is pivotally connected with a respective one of said retaining links for pivotal movements relative thereto about a flapping axis which is fixed relative to said retaining link at a fixed inclination relative to the assoicated coning axis, synchronizing means connected with said retaining links and movable relative to said coning axes for causing said retaining links to move in unison about said coning axes, and means connected with said synchronizing means for moving the same relative to said coning axes to permit adjustment of said retaining links to various desired positions about said coning axes.

3,194,520

KITE

Daniel C. Kurkjian, R.D. 1, Malvern, Pa.
Filed Oct. 5, 1962, Ser. No. 228,601
9 Claims. (Cl. 244—153)

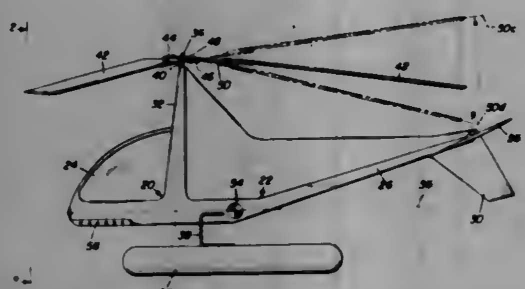


1. Kite comprising a frame and a wing, the frame having a central member extending fore and aft and having a pair of side members extending laterally, rearwardly, and upwardly from the foremost end of the central member, the wing consisting essentially of a substantially semicircular flexible membrane attached along its radial edges to the side members and along its centermost radial portion to the central member from the foremost end thereof and billowing upwardly between the central member and each side member when in flight, the central member extending aft of the trailing edge of the wing for a distance approximating the fore-to-aft extent of the wing.

3,194,521

KITE

George H. Rider, 7242 La Jolla Blvd., La Jolla, Calif., and Maurice C. Butler, 2611 Burgener Blvd., San Diego, Calif.
Filed Oct. 19, 1962, Ser. No. 231,797
1 Claim. (Cl. 244—154)

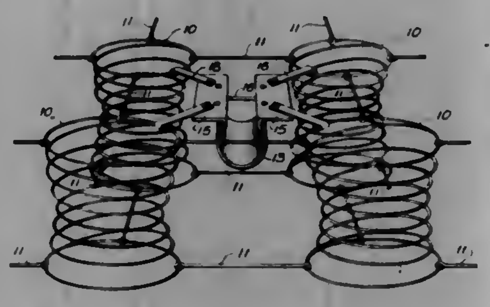


A kite simulating a helicopter or autogyro comprising in combination:
- (A) An elongated fuselage having:
  - (1) a horizontal stabilizer at the rear thereof;
  - (2) and a vertical stabilizer at the rear thereof;
- (B) a vertically extending bearing carried by the fuselage intermediate the mid-section and forward end of the fuselage;
- (C) a hub rotatably carried by the upper portion of the bearing, said hub having: a plurality of substantially vertically extending pins;
- (D) a plurality of rotor blades, each having a substantially horizontally disposed, resilient section pivotally connected on said pins for horizontal swinging movement bodily of the blades relative to the hub in the mean plane of rotation of the blades;
  - (3) and means on the hub directly engaged by the blade for limiting the bodily swing movements of the blades relative to the hub.

3,194,522

DEVICE FOR MOUNTING A VIBRATOR ON BEDSPRINGS

Leonard Azneer, 273 Norwood, Youngstown, Ohio
Filed June 11, 1963, Ser. No. 287,021
1 Claim. (Cl. 248—18)

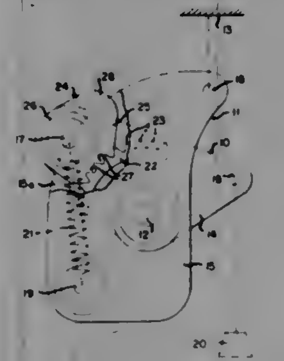


A vibrator motor mounting assembly for use with vibrator motors having cylindrical casings comprising an elongate cross-sectionally U-shaped body member of a length sufficient to engage a major portion of the casings held thereby having a bottom portion and two upstanding side portions, outturned flanges positioned in the same plane and connected to said side portions at the ends thereof remote from said bottom portion, at least one tensioning fastener connected to said two side portions adjacent said outturned flange which, when normally fastened, will cause said body member to engage over an arc of the casing greater than 180°, at least one support arm secured to each flange, said support arms lying in the same plane as said flanges and each having a portion of one of their ends in face to face contact with a face of the flange on which they are mounted and being rigidly connected thereto, the other ends of said arms having hook-like formations, said arms and flange providing a broad surface area through which vibrations may be perpendicularly transmitted.

3,194,523

LOCKING DEVICE FOR HANGERS

Edward S. Wright, Mount Lebanon, and James Donald Scannell, Monroeville, Pa., assignors to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Nov. 29, 1963, Ser. No. 326,736
6 Claims. (Cl. 248—54)

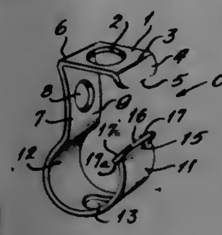


1. In constant support hangers and the like having at least two members pivotally attached to each other and swingable with respect to each other, a travel locking device comprising at least one of said members having a permanently fixed arcuate portion carrying a multiplicity of tooth elements and at least another of said members pivotal therewith carrying tooth engaging means selectively engageable in a locking relationship with the tooth elements of said arcuate portion at a plurality of positions whereby said swingable members are releasably held in a selected fixed relation with respect to each other.

3,194,524

CLIP STRAP

Earl F. Trumbull, Imperial, Mo., assignor to Richard F. W. Herzberger, St. Louis, Mo.
Filed Apr. 16, 1964, Ser. No. 360,231
9 Claims. (Cl. 248—74)

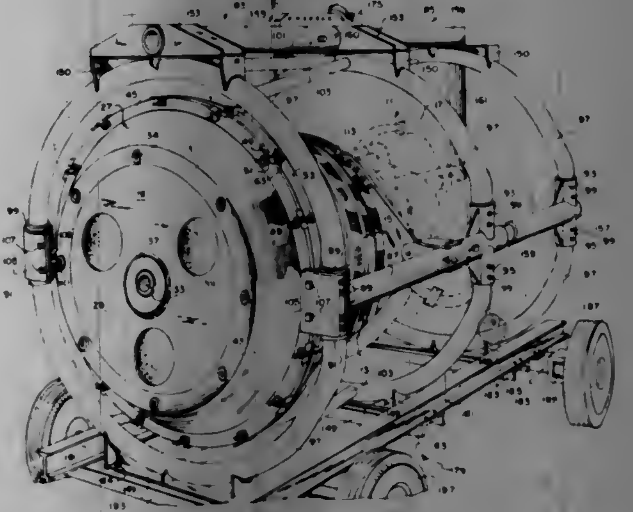


1. A clip strap having a top portion with a hole therein, an upper corner with a spacer portion extending at an angle with respect to said top portion, said spacer portion having a hole therein, a retainer portion for retaining a pipe, said retainer portion having a lip with an edge thereon, said retainer portion being slightly smaller than the pipe to be retained when not retaining a pipe and adapted to open slightly when receiving a pipe, and means formed on the side of the retainer portion and positioned at the juncture of said retainer portion and said lip for retaining said pipe.

3,194,525

SUPPORTING AND PROTECTING DEVICE

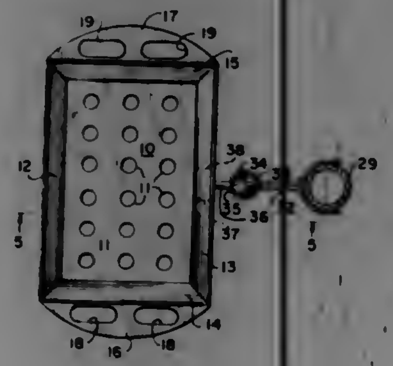
James E. Webb, administrator of the National Aeronautics and Space Administration with respect to an invention of Alfred Rotman
Filed Feb. 7, 1964, Ser. No. 343,425
19 Claims. (Cl. 248—119)



17. In combination with an engine having a thrust chamber, a rig for supporting said engine, comprising:
- (a) a support plug having a body of a configuration corresponding to the configuration of said thrust chamber;
- (b) said body being disposed within said thrust chamber with the exterior surface of said body contacting the interior surface of said thrust chamber;
- (c) a flange secured to an end of said body and projecting laterally beyond said body and said thrust chamber;
- (d) attachment means mounted on the exterior surface of said thrust chamber adjacent said flange;
- (e) menas connecting said attachment means and said flange thereby holding said support plug within said thrust chamber;
- (f) a protective frame encircling said engine;

(g) said frame comprising a plurality of spaced axially aligned rings connected by brace members extending therebetween;
(h) means for rigidly suspending said engine within said frame centrally of said axially aligned rings;
(i) said means including a connection between said flange and one of said rings at one end of said frame;
(j) said means further including a plug and socket connection between said frame and said engine at the other end of said frame;
(k) a section of said frame comprising said other end thereof being telescopically separable from the remainder of said frame.

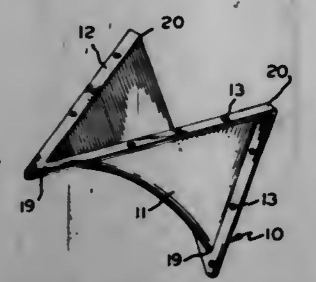
3,194,526
READILY MOUNTABLE SOAP DISH
Bruce Lemmond, Rte. 2, Decatur, Ala.
Filed Mar. 9, 1964, Ser. No. 350,400
2 Claims. (Cl. 248—226)



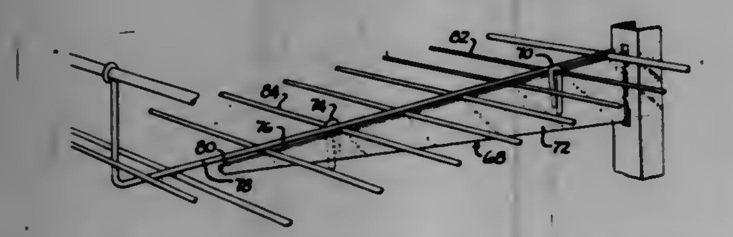
1. The combination of a soap dish of unitary construction having a bottom member with drainage openings therein and upstanding side and end retaining walls with said end walls having top portions extending horizontally and provided with openings for tooth brushes, and said side walls having rolled upper reinforcing edges, and selectively adjustable mounting means therefor comprising a two-part bracket having diverging flanges on an end of one part thereof with surfaces disposed substantially in a single plane and attached to said soap dish, the other part of said bracket having a support engaging bifurcated end comprising opposed and cooperating spring members for engagement about a pipe as a fixed support, said spring members being of a resiliency to firmly grip and be retained on said pipe, said cooperating spring members having outwardly turned tip portions to facilitate application of said two-part bracket onto a supporting pipe, a frictional universal joint connecting the other ends of said two bracket parts including a generally spherical spring socket with slots in the same on said other part and outwardly turned extremities between said slots, and a spherical ball portion of said one of the two bracket parts retained in said generally spherical spring socket of said other of the two bracket parts by the spring action of the latter and frictionally gripped by said spring socket to yieldingly maintain said soap dish in a horizontal plane regardless of the angular position of the pipe forming a support therefor.

3,194,527
BRACKET
Jack Gruss, 2710 Emmet Road, Silver Spring, Md.
Filed Apr. 1, 1963, Ser. No. 269,244
3 Claims. (Cl. 248—235)

1. A bracket comprising a hollow curved body portion terminating in a flattened portion defining a pair of substantially V-shaped sections, each of said sections being angularly disposed with respect to the other of said sections for securement to a surface, said bracket when used in a vertical position being so shaped that a vertical section through the body portion thereof defines a hyperbolic curve and a horizontal section through the body portion defines a parabolic curve, said body portion having an outer surface in the form of a hyperbolic paraboloid.



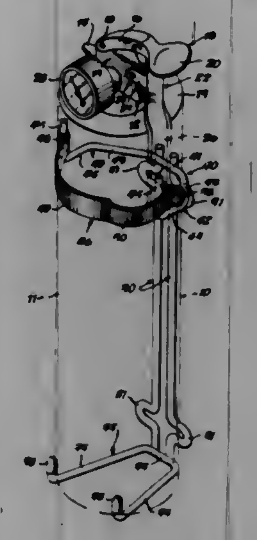
3,194,528
SHELF STRUCTURE
Robert G. Chesley, Farmington, Mich., assignor to Chesley Industries, Inc., Farmington, Mich., a corporation of Michigan
Filed June 3, 1963, Ser. No. 284,945
1 Claim. (Cl. 248—250)



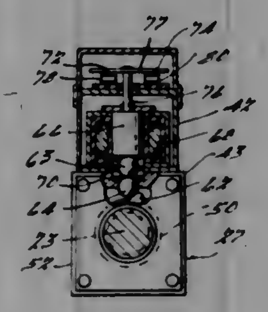
A shelf structure comprising a plurality of uprights securable to a wall, each of said uprights including a wall portion having a plurality of vertically spaced openings therein, a shelf-support bracket for each upright, said shelf-support brackets having lug means at one end, said lug means extending through selected openings in the uprights into engagement with said upright wall portion to detachably secure the brackets to the uprights at selected vertical levels, each of said brackets having a substantially horizontal upper support edge, a shelf comprising a grill-work of angularly related spaced apart wire elements mounted on the upper support edges of the shelf-support brackets, some of the wire elements of the shelf extending in directions substantially parallel to said upper support edges and others of the wire elements of the shelf extending in directions substantially perpendicular to said upper support edges, and at least two manually bendable wire fastening elements extending upwardly from each bracket, one of said wire fastening elements being positioned on one side of the brackets and the other of said elements being positioned on the opposite side of the brackets, each of said wire fastening elements being bent around one of either of the parallel or perpendicular shelf wire elements and engaging the other of the parallel or perpendicular shelf wire elements at a point adjacent to the intersection of a parallel and perpendicular shelf wire element, at least one of the shelf wire elements which extends substantially parallel to the upper support edges overlying the upper support edge of one bracket, the wire fastening elements of the last-mentioned bracket being positioned on either side of the overlying wire element to thereby prevent shifting of the shelf with respect to the brackets.

3,194,529
BRACKET FOR HOLDING FIRE EXTINGUISHERS
Gordon R. Brock, Elmira, N.Y., assignor to Sterling Precision Corporation, Elmira, N.Y., a corporation of Delaware
Filed Feb. 27, 1964, Ser. No. 347,933
5 Claims. (Cl. 248—313)

1. A bracket for supporting a fire extinguisher, comprising a pair of laterally spaced generally parallel metal members adapted to be fastened to a support surface, a first metal cross support forming the sole connection between one pair of extremities of said members and being formed to support one end of the extinguisher, a second metal cross support forming the sole connection between the other pair of extremities of said members and having arms extending part way around the corresponding end of the extinguisher, and means releasably holding said corresponding end of said fire extinguisher between said arms, comprising an integral extension at the outboard end of each of said arms extending generally parallel with the major axis of the extinguisher, a spring metal clip having one end formed into a knuckle pivotally embracing one of said extensions and having its opposite end formed into a U-shaped catch engaging the side, facing the support surface, of the other of said extensions, said clip yieldingly embracing the extinguisher to hold it against at least one of said arms of said second metal support.

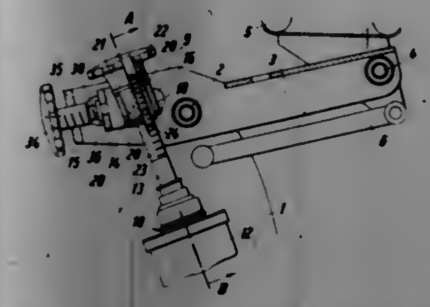


3,194,530
SEAT ADJUSTER
Russell G. Heyl, Jr., Birmingham, Mich., assignor to American Metal Products Company, Detroit, Mich., a corporation of Michigan
Filed May 9, 1963, Ser. No. 279,136
10 Claims. (Cl. 248—419)



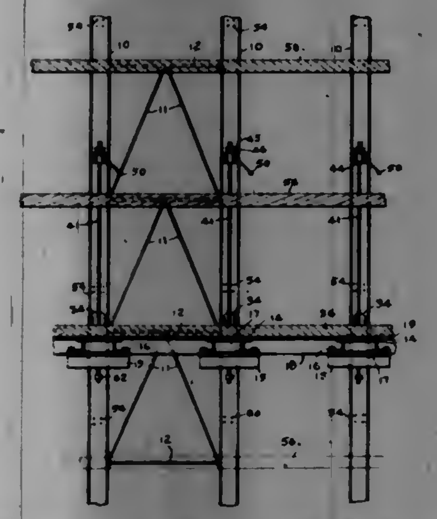
1. In a nut unit, nut means adapted to be rotatably mounted on jack screw means or the like and selectively operable thereon, nut holding means selectively movable to a position of engagement with the nut means to cause relative axial movement between the nut unit and the jack screw means, and detent means provided on said nut means to receive said holding means and prevent rotation of said nut means relative thereto, said detent means having a peripheral portion adapted to prevent movement of said holding means to said position, and said peripheral portion comprising only a small proportion of the total circumferential length of the periphery of said nut means in the path of said holding means during rotation of said nut means relative to said holding means.

3,194,531
VEHICLE SEATS
Alfred Langer, Solingen, Germany, assignor to Bremshey & Co., Solingen-Ohligs, Germany
Filed Nov. 13, 1963, Ser. No. 323,352
Claims priority, application Germany, Nov. 24, 1962, B 51,292
13 Claims. (Cl. 248—421)



1. Vehicle seat comprising a seat frame, a fixed underframe, and a lever pivotally connected by a first and second pivot, respectively, to said seat frame and said underframe, spring-biasing shock absorbing means including a link rod extending transversely to said lever, adjustable pivot means pivotally connecting said link rod to said lever at a location spaced from said second pivot in the longitudinal direction of said lever, and adjusting means for continuously adjusting said adjustable pivot means transversely and longitudinally with respect to said lever, said adjusting means comprising first and second screw threaded spindle means carried by said lever, said first spindle means being actuable for continuously displacing said adjustable pivot means in the longitudinal direction of said lever toward and away from said second pivot for continuously adjusting the effective moment arm of said shock absorbing means with respect to said second pivot, and said second spindle means being actuable for continuously displacing said adjustable pivot means in the transverse direction of said lever for continuously adjusting the level of said seat frame.

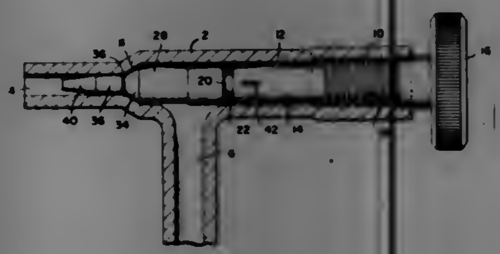
3,194,532
APPARATUS FOR POURING FLOORS OF A MULTI-STORY BUILDING
Chivous G. Harrill, 485 Hendersonville Road, Asheville, N.C.
Filed Nov. 17, 1961, Ser. No. 153,140
11 Claims. (Cl. 249—19)



1. Apparatus for pouring the floors of multi-story buildings having pre-erected vertical supporting columns, comprising a floor form having vertical form edges defining the limits of the floor slab to be poured, means beneath the form engaging and supporting it adjacent each column, detachable means connecting such supporting means to at least a plurality of the columns, and jack means connecting the supporting means to the columns independently of said detachable means whereby, after a

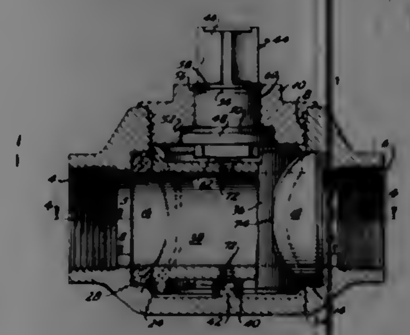
floor slab has been poured in the form, said detachable means may be disconnected and said form and its supporting means lowered to the next adjacent lower floor for detachable re-connection of said supporting means with said columns.

3,194,533
NEEDLE VALVE
Joseph F. McLay, Warminster, Pa., assignor to Fischer & Porter Company, Warminster, Pa., a corporation of Pennsylvania
Filed Aug. 29, 1961, Ser. No. 134,616
1 Claim. (Cl. 251—122)



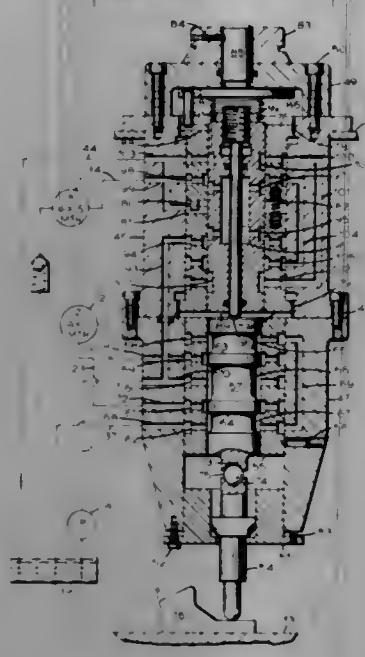
A needle valve comprising a rigid glass housing having a larger bore which is at least partially threaded, a smaller bore, a fluid passage in communication with said larger bore, and a glass seat between said bores, and an adjustable valve having a threaded stem portion formed of a rigid material having substantially the mechanical properties of polytrifluorochloroethylene receivable in the first mentioned threads so as to be movable axially upon its rotation, and a valve portion having a surface engageable with said seat and having a gradually tapered flexible portion arranged to enter said smaller bore, said valve portion being formed of a material having substantially the mechanical properties of polytetrafluoroethylene for controlling fluid flow between said passage and said smaller bore.

3,194,534
BALANCED STEMLESS ROTARY PLUG VALVE AND SEALING STRUCTURE THEREFOR
Norman H. Sachnik, Houston, Tex., assignor to Texsteam Corporation
Filed Jan. 8, 1964, Ser. No. 336,423
8 Claims. (Cl. 251—175)



1. A valve seat for a cylindrical valve comprising a body member having an outer cylindrical surface, a cylindrical opening through said member concentric with said outer surface for flow of fluid therethrough, a concave cylindrical surface at one end of said body intersecting said outer cylindrical surface, a continuous groove formed in said body member at the intersection of said surfaces, and a flexible sealing ring bonded in said groove and extending axially outwardly therefrom except on diametrically opposite sides thereof which are flattened and extend normal to said outer cylindrical surface whereby eliminating galling engagement of said sealing ring with an edge of a transverse opening in a plug valve when rotatively supported thereby.

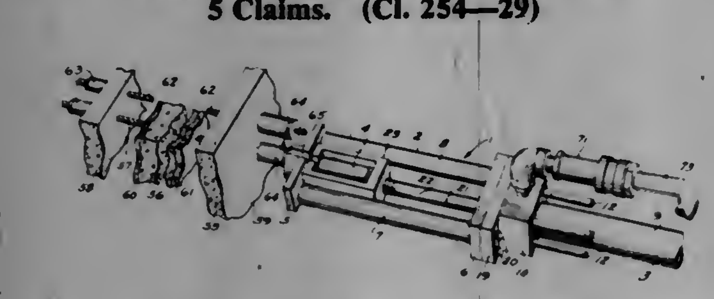
3,194,535
VALVE FOR PATTERN CONTROLLED MACHINE
Wendell I. Evans, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio
Filed Oct. 31, 1963, Ser. No. 320,347
7 Claims. (Cl. 253—1)



1. In a tracer valve for use in a rate compensated, 180 degree, fluid actuated tracing apparatus, the valve having a reversing valve section and a blocking valve section, the latter section comprising:

(a) a body,
(b) a motor line port in said body,
(c) a pressure line port in said body and spaced from said motor line port,
(d) a spool slidable one way and the other in said body from a center position,
(e) a pair of fluid channels in said spool, said channels overlapping the pressure line port and the motor line port, respectively, by equal amounts when said spool is in the center position,
(f) means to connect said channels serially to one another, said ports and channels defining a minimum restriction to fluid flow through said body when equally overlapped, and
(g) means equally to adjust the overlap of said channels and the respective ports and alter said minimum restriction.

3,194,536
PRE-STRESSED CONCRETE REINFORCED STRAND TENSIONING DEVICE
James S. Simms, 5301 W. Patterson Ave., Chicago 41, Ill.
Filed Mar. 6, 1963, Ser. No. 263,182
5 Claims. (Cl. 254—29)

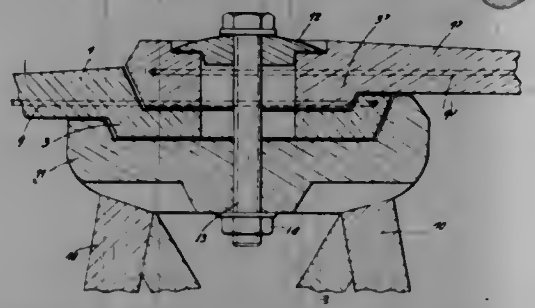


1. An apparatus for tensioning cables, comprising, in combination,

(1) a fluid actuated driving unit including,
  (a) a rear frame assembly
  (b) a cylinder supported in said frame assembly
  (c) a piston reciprocable in said cylinder
  (d) front and rear end cylinder heads on said cylinder, including a front opening in said front end cylinder head,
  (e) a forwardly extending piston rod attached to said piston and extending through said opening, and
  (f) means for supplying driving fluid to either end of said cylinder for reciprocably driving said piston and said rod,
(2) a front frame and chuck holder assembly including,
  (a) rigid members forming the sides of said front frame, and disposed across said members and forming the front end portion of said frame,
  (b) a rigid front plate including a front surface portion for abutting the rear of a chuck disposed on a cable to be tensioned, and for preventing rearward movement of said chuck during tensioning of the cable, while applying a tensioning force to said cable, and
  (c) a chuck holder attached to said piston rod and reciprocable between said front end plate and said front cylinder head, said chuck holder including a cable receiving slot in the front face thereof.

ERRATUM
For Class 254—51 see:
Patent No. 3,194,541

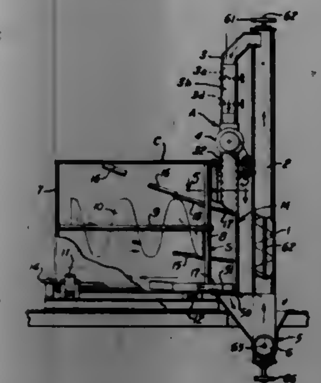
3,194,537
SAFETY BARRIER FOR ROAD TRAFFIC
Jacques Jean-Marie Jules Gerin, 24 Rue de la Tourelle, Boulogne-sur-Seine, France
Filed July 3, 1962, Ser. No. 207,372
Claims priority, application France, July 4, 1961, 866,905
7 Claims. (Cl. 256—13.1)



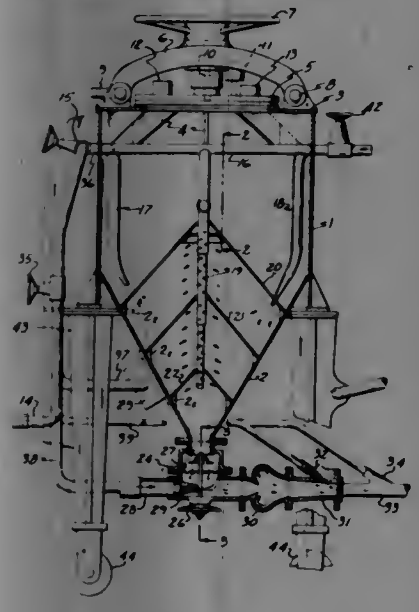
5. A safety barrier for road traffic comprising concrete guiding strips each having at least one vertical wall and terminating in first and second horizontal dish shaped portions, a piller rigidly anchored in the ground at each extremity of each of said strips, each of said pillars being, at the upper portion thereof, in the form of a dished member pivotally receiving said dish shaped portions of said guiding strips, said dish shaped member receiving in nesting relationship said first horizontal dish shaped portion of one guiding strip and said second horizontal dish shaped portion of an adjacent guiding strip.

3,194,538
ROTARY CYLINDER MIXING MACHINE
Ned Murray, P.O. Box 192, Waupaca, Wis.
Filed June 5, 1962, Ser. No. 200,114
8 Claims. (Cl. 259—3)

4. In a mixing machine, a stationary manifold for receiving and discharging material and having an arcuate bottom, a rotary cylinder having a rear end wall and also having an open front end in communication with said manifold, a generally open spider secured in said cylinder adjacent said front end and through which material can pass, a shaft secured between said rear end wall and said spider, conveying means mounted on said shaft, and having a pitch to feed material towards said front end, a series of baffles secured to the interior of said cylinder and at an angle to the direction of rotation thereof for feeding material toward said rear wall, at least some of said baffles extending into said manifold to sweep material across said arcuate bottom and rearwardly into said cylinder, a hopper located beneath said manifold for receiving material by gravity therefrom, a generally vertical conveyor having a lower end in communication with said hopper and having an upper end located above said manifold, and conduit means in communication with said upper end for selectively directing material to said manifold and to a location separate from said machine.



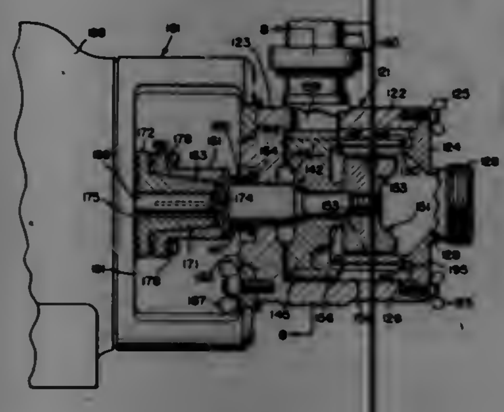
3,194,539
MIXING APPARATUS
Emile Alfred Hanne-Wiame, Paris, France, assignor to Eugene Goffart & Cie, Charleroi, Belgium, a society of France
Filed Feb. 10, 1961, Ser. No. 88,342
Claims priority, application France, Feb. 11, 1960, 818,216, Patent 1,250,107
3 Claims. (Cl. 259—4)



1. Apparatus for mixing and fluidizing a solid powdered material with a gaseous fluid and transporting the fluidized mixture into a liquid bath; comprising hopper means for containing a quantity of said powdered materials, said hopper means including a frusto-conical lower portion having an outlet at the lower end thereof, conduit means in said hopper means extending downwardly into said frusto-conical portion including a central duct in axial alignment therewith having a plurality of openings spaced along a substantial length thereof for directing a flow of said fluid radially outward to fluidize and mix said powdered material, a plurality of spaced apart distributing cone elements formed around said central duct extending upwardly and inwardly from said frusto-conical lower portion, injection chamber means below said hopper means having an inlet in communication with the outlet of said hopper means and an outlet, valve means cooperating with the inlet of said chamber means for controlling the flow of fluidized materials from said hopper

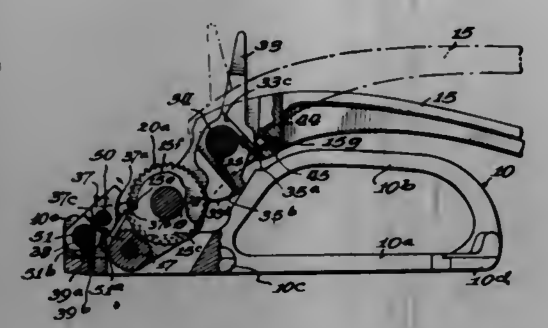
means, injector means extending into said injection chamber means in axial alignment with the outlet thereof directing a flow of gaseous fluid into said injection chamber means for carrying a flow of fluidized powdered mateerial through the outlet thereof suspension chamber means in communication with the outlet of said injection chamber means axially aligned with said injector means for entraining and mixing said fluidized materials in said gaseous flow from said injector means, and atomization chamber means in communication with said suspension chamber means including a gas nozzle injector for transporting the fluidized mixture from said suspension chamber means into said liquid bath.

3,194,540
HOMOGENIZING APPARATUS
John L. Hager, Buffalo, N.Y., assignor, by mesne assignments, to Liberty National Bank and Trust Company, Buffalo, N.Y.
Filed July 28, 1961, Ser. No. 127,531
9 Claims. (Cl. 259—7)



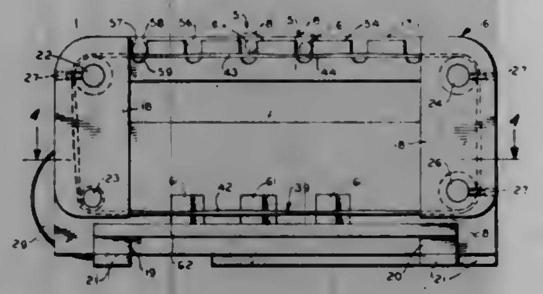
9. Apparatus for homogenizing fluids containing particles comprising a hollow casing having an annular wall closed at its ends to define a chamber, a shaft rotatably mounted in said casing at one end of said chamber and having one end thereof extending into said chamber coaxially of said annular wall, fluid agitating means secured to said shaft intermediate the ends of said chamber, pumping means secured to said shaft intermediate said agitating means and said one end of said chamber, a stationary, annular element disposed closely about said agitating means and having one end secured to the end of the chamber opposite said one end, and having its other end slightly spaced from said pumping means, a rotatable annular element disposed closely about said stationary element and having one of its ends secured to said pumping means and the other of its ends spaced slightly from said opposite chamber end, said rotatable element and said annular wall defining an annular space therebetween, spring means interposed between said shaft and said casing and operative to urge said shaft, said pumping means, and rotatable element in an axial direction away from said opposite chamber end, said casing having a fluid inlet opening at said opposite chamber end communicating with the interior of said stationary element, and an exhaust port adjacent said one chamber end and communicating with said pumping means, said annular elements having spaced apertures therein, whereby upon rotation of said shaft, said pumping means is operative to cause fluid to flow from within said stationary element and outwardly through said apertures to said annular space and said exhaust port, and the apertures in said rotatable element are rotated past the apertures in said stationary element to thereby shear particles in the fluid passing between apertures in said rotating and stationary elements, respectively.

3,194,541
STRAP STRETCHING TOOL
James A. Kocian, Evergreen Park, Ill., assignor to Interlake Steel Corporation, a corporation of New York
Filed Oct. 30, 1961, Ser. No. 148,609
1 Claim. (Cl. 254—51)



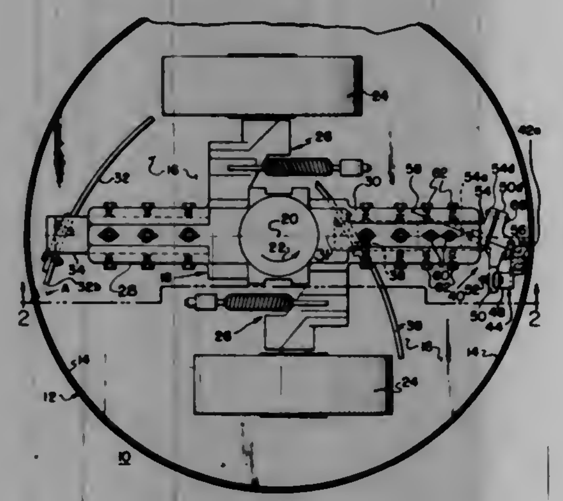
The combination in a strap stretching device for tensioning a strap taut around an object to be bound, a frame with a pivot thereon, a link mounted on the pivot on the frame, a shaft journaled on said link, and a rotary gripping whel journaled on said shaft in driving connection with the shaft, said link being rotatably movable on said pivot to thereby cause movement of said rotary gripping wheel toward and away from engagement with the strap, a ratchet wheel mounted on said shaft in driving connection with the shaft, an actuating lever journaled on said shaft and provided with a releasable driving connection with the ratchet wheel for causing the rotary gripping wheel by said driving connections to be rotated in a forward direction to tension the strap when the rotary gripping wheel is moved into engagement with the strap, and check means for preventing reverse rotation of the rotary gripping wheel in order to maintain tension developed in the strap by said wheel, said check means having a pawl engaging teeth on the ratchet wheel and resilient means urging the pawl into engagement with the teeth, said pawl being divided into a first length and a second length, the first length being pivoted to said second length to provide a jointed connection between them allowing the pawl to be bent at the connection, resilient means reacting between said first and second lengths to urge the pawl into an unbent condition, the second length being pivoted to the frame to provide a pivot for movement of the pawl toward the ratchet wheel for engagement therewith and movement away from it for disengagement, said two lengths providing a locking toggle between the engaged portion of the pawl on the ratchet wheel and the pivot for said second length to thereby provide resistance to reverse rotation of the ratchet wheel, a pawl release means on said actuating lever engageable with said second length to cause the second length to pivot away from engagement with said teeth on said ratchet wheel when the actuating lever is in a first angular relationship relative to said frame, said actuating lever in a second angular relationship relative to the frame reacting against said frame for causing said rotary gripping wheel to move away from engagement with the strap, said second angular relationship of the actuating lever being more advanced than said first angular relationship to thereby cause the pawl release means to cause the second length of the pawl means to pivot in a direction away from the ratchet wheel before the actuating lever actuates said link to cause the rotary gripping wheel to move away from engagement with the strap, said check means being bendable at the connection between the first and second lengths at this time to allow the first length to remain in engagement with the teeth of the ratchet wheel because of frictional contact between the first length and the teeth of the ratchet wheel until sufficient bending has occurred to break said locking toggle and ineffectuate the check means as a means for preventing reverse rotation of the rotary gripping wheel, reverse rotation of said rotary gripping wheel due to tension developed in said strap causing relief of the force of engagement between the first length and the teeth of the ratchet wheel to permit complete disengagement of the first length from the teeth.

3,194,542
PIPETTE ROTATOR
Robert Pfeifer, 695 29th Ave., San Mateo, Calif.
Filed Mar. 4, 1964, Ser. No. 349,364
10 Claims. (Cl. 259—57)



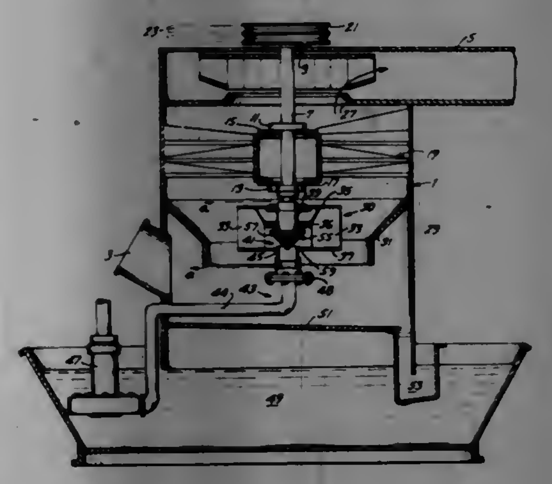
4. A pipette rotator comprising a frame, means on said frame for imposing only horizontal restraint on a pipette to be rotated about the axis of the pipette when disposed horizontally and abutting said imposing means, means including a horizontal flexible band constituting the sole vertical support of said pipette and disposed in frictional transverse engagement with the underside of said pipette, and means for horizontally advancing said band for so rotating said pipette.

3,194,543
MIXER
Robert L. McIlvaine, Winnetka, Ill., assignor to Herbert Simpson Corporation, Chicago, Ill., a corporation of Illinois
Filed Oct. 31, 1963, Ser. No. 320,471
7 Claims. (Cl. 259—107)



1. A mixer comprising a mixing chamber having a bottom wall and a circular side wall, a cross-head in said chamber rotatable in one direction about a first axis normal to said bottom wall and centrally disposed in relation to said circular side wall, said cross-head including a support arm extending radially outward from said first axis, a scraper mechanism carried adjacent the outer end of said support arm, said mechanism including a scraper having a normal position with its outer edge closely adjacent said circular side wall and its lower edge closely adjacent said bottom wall, a scraper support carrying said scraper and pivotally secured adjacent the outer end of said support arm about a second axis, said second axis positioned to allow said scraper to pivotally move from its normal position to a second position wherein said outer edge is spaced inwardly away from said circular side wall and said lower edge is spaced upwardly away from said bottom wall and frangible stop means interconnecting said support arm and said scraper support at a position spaced from said second axis for maintaining said scraper in said normal position and frangible when said scraper is subjected to a force of predetermined magnitude in a direction opposed to the direction of rotation of said crosshead allowing said scraper to pivotally move to said second position.

3,194,544
AIR WASHER
Robert M. Jamison, Detroit, and Orlan M. Arnold, Grosse Pointe Park, Mich., assignors to Ajem Laboratories, Inc., Livonia, Mich.
Filed Sept. 15, 1961, Ser. No. 138,472
13 Claims. (Cl. 261—24)

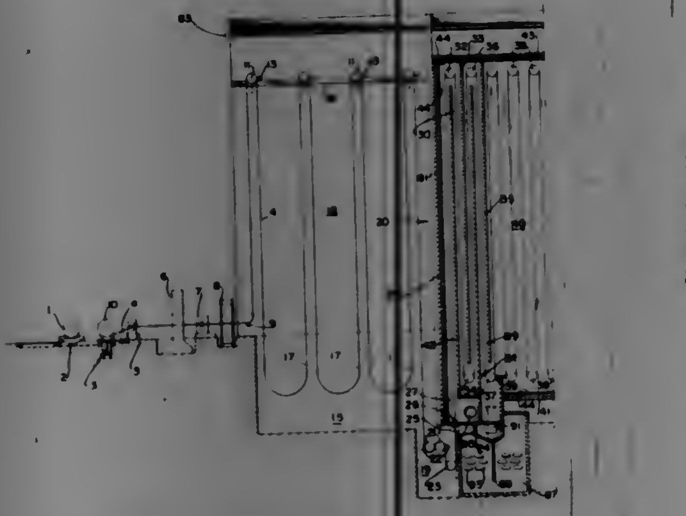


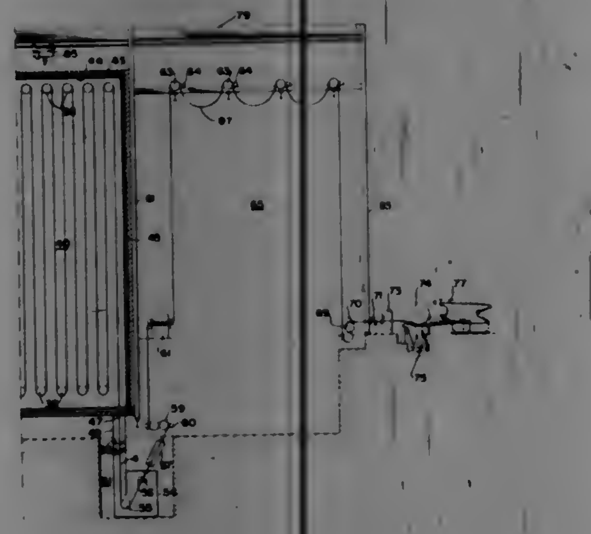
1. In a liquid gas scrubbing apparatus, a housing for confining a flow of gas to be scrubbed with the liquid, means for moving gas to be scrubbed through said housing, a spray generator in said housing for filling a scrubbing zone therein with a driving rain of high velocity droplets and comprising a series of spaced impellers substantially cylindrically arranged, means to rotatably support said spray generator, means for rotating said spray generator at high velocity about its axis, a conduit for supplying liquid under pressure, a feed port in one end of said spray generator and substantially fitting the delivery end of said conduit, whereby said liquid is received within the interior of said spray generator without sucking in gas from said flow, generally cone-shaped deflecting means having vanes on its surface facing said feed port axially supported from and within said spray generator at said feed port for deflecting said liquid over substantially the full effective length of said impellers and the full circumference of their cylindrical arrangement, whereby said liquid is broken up by impact of said impellers, dispersed and projected outwardly as high velocity liquid droplets.

3,194,545
APPARATUS FOR CONTINUOUSLY SOLUTION HEAT-TREATING ALUMINUM AND ITS ALLOYS
Arthur Dean Smith, also known as A. Dean Smith, San Lorenzo, Calif., assignor to Kaiser Aluminum & Chemical Corporation, Oakland, Calif.
Filed Mar. 17, 1960, Ser. No. 15,766
3 Claims. (Cl. 266—3)

1. Apparatus for continuously solution heat treating an elongated heat treatable aluminum member comprising a heating furnace, a holding furnace adjacent said heating furnace, said heating and holding furnaces having an outer shell, a radiation shield mounted inside said shell in spaced relationship therewith, partition walls within said heating furnace which define a tortuous path, said holding furnace comprising an undivided chamber,

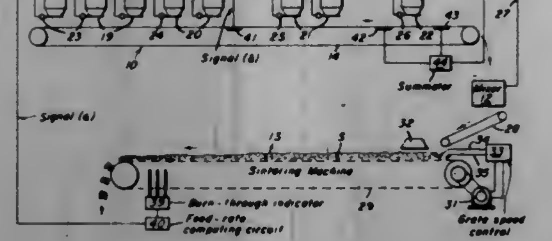
common heating means for heating said aluminum metal member in said heating furnace to solution heat treating temperature while maintaining substantially zero heat head in the furnace above the solution heat treating temperature and for maintaining said holding furnace also at said temperature, said common heating means comprising means for conveying high velocity heated gas both along said tortuous path in said heating furnace in a direction opposite to travel of said metal member and into the undivided chamber comprising said holding furnace, means within said heating furnace for supporting said member during travel along said tortuous path, a vertical divided wall between said heating and holding furnaces said wall being provided with an opening to permit passage of said metal member from said heating furnace to said holding furnace, means within said undivided chamber comprising said holding furnace for supporting said metal member, and means for continuously moving said member through said heating and holding furnaces while maintaining the stress substantially equal throughout the length of said metal member in said furnaces and at a value less than the yield strength of said metal member.



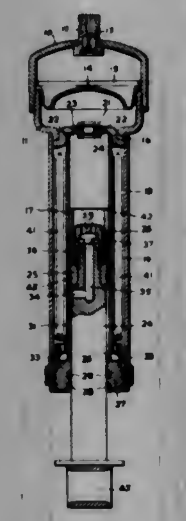


3,194,546
MECHANISM AND METHOD FOR CONTROLLING SINTERING
Thomas R. Schuerger and Frank S[illegible]amar, Monroeville, Pa., assignors to United States Steel Corporation, a corporation of New Jersey
Filed Aug. 29, 1958, Ser. No. 758,106
17 Claims. (Cl. 266—21)

1. In a sintering installation which includes a traveling grate sintering machine, apparatus for assembling and mixing ingredients of a combustible sinter mix and feeding the mix to said machine, and a burn-through indicator operatively connected with said machine, the combination therewith of a control mechanism comprising computing means operatively connected with said indicator for computing feed rates to hold the burn-through point at a set location on the grate, and means operatively connected with said computing means and said apparatus for regulating the quantity of sinter mix fed to said machine in accordance with computed rates.

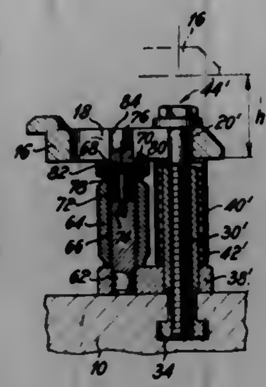


3,194,547
HYDRO-PNEUMATIC VEHICLE SUSPENSION UNIT
David Alan Avner, Ellerslie, Beaconsfield Road, Coventry, England
Filed Apr. 28, 1961, Ser. No. 106,355
3 Claims. (Cl. 267—64)



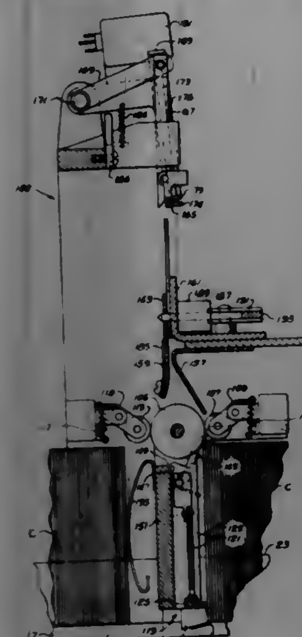
1. A self-adjusting hydro-pneumatic spring suspension unit for a vehicle comprising a cylinder, an annular reservoir surrounding the cylinder and having its inner wall formed by the cylinder, a pressure chamber communicating with a first end of said cylinder and containing a liquid and a gas, a piston working in the cylinder, a piston-rod of less diameter than the cylinder carrying said piston, a closure for the second end of the cylinder through which said piston-rod works, the piston and the end closure defining the ends of an annular pumping space of variable axial length between the piston-rod and the cylinder, a passage connecting said pumping space with the first end of the cylinder, a first one-way valve in said passage permitting flow only from the pumping space into the first end of the cylinder, a second passage connecting said pumping space with the reservoir, a one-way valve in said passage permitting flow only from the reservoir into the pumping space, and a port in the cylinder wall leading directly and freely into the reservoir and controlled by the piston, said port permitting flow directly from the first end of the cylinder to the reservoir at a predetermined axial position of the piston.

3,194,548
CLAMPING ARRANGEMENT
Kurt Zwick, Munich, Germany, assignor to Feinmechanik G.m.b.H., Weilheim, Germany, a company of Germany
Filed May 10, 1963, Ser. No. 279,461
Claims priority, application Germany, May 21, 1962, F 36,864
7 Claims. (Cl. 269—93)



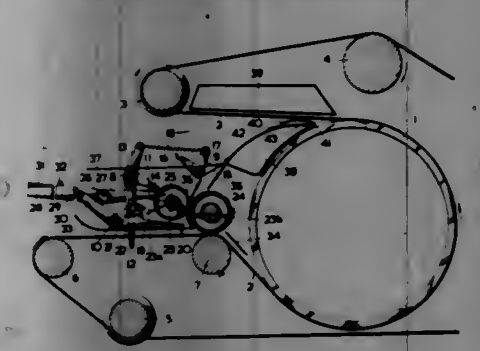
1. A clamping attachment for clamping a workpiece to a support comprising, in combination:
- (a) a lever member having a pivot portion and two arm portions;
- (b) a tension member having one terminal portion pivotally fastened to said pivot portion and another terminal portion spaced from said lever member in a predetermined direction;
- (c) fastening means for fastening said other terminal portion to said support;
- (d) abutment means on one of said arm portions and facing in said direction;
- (e) a pressure member engageable with the other one of said arm portions, said pressure member including
  - (1) threaded adjustment means for moving said other arm portion in a direction opposite to said predetermined direction when said adjustment means are threadedly moved, and
  - (2) a base member having a portion mounted on said tension member for pivotal movement about an axis extending in said predetermined direction, and another portion radially spaced from said axis,
  - (3) said adjustment means being interposed between said other portion of said base member and said other arm portion when the same is engaged by said pressure member and including a threaded pin member fixedly fastened to said other portion of said base member, and a nut member threadedly engaging said pin member,
  - (4) said other arm portion of said lever member being formed with an aperture, an end portion of said pressure member extending into said aperture; and
- (f) stop means on said pin member for limiting threaded movement of said nut member on said pin member
  - (1) said pin member having an axis and an axial end portion spaced from said base member, said end portion being formed with an axial bore.
  - (2) said stop means including a stop member axially movable inward and outward of said bore, and means for limiting said outward movement of said stop member, said stop member having an abutment face axially engageable by said nut member during threaded movement of said nut member on said pin member in a direction away from said base member.

3,194,549
CARD HANDLING
Robert W. Wirtz, Watchung, N.J., assignor to Varityper Corporation, Newark, N.J., a corporation of Delaware
Filed Aug. 14, 1962, Ser. No. 216,860
21 Claims. (Cl. 271—3)



1. A method of handling cards which comprises (1) stacking the cards to form a supply stack and placing the stack edgewise of the cards on a support; (2) placing the support so as to present the supply stack endwise to a feeding point; (3) separating and feeding a card edgewise from the presented end of the supply stack normal to the support to a fed position (4) stopping the card and then feeding it in a reverse direction in its own plane back onto the surface of the support member edgewise thereof to form part of a collection stack on the same support member, with card planes parallel to those of the supply stack and with its card receiving end closely adjacent but slightly spaced from the presented end of the supply stack.

3,194,550
EXPOSURE APPARATUS
Henri Jean Hubert Goertz, Venlo, Netherlands, assignor to Chemische Fabriek L. van der Grinten N.V., Venlo, Netherlands, a corporation of the Netherlands
Filed Dec. 20, 1962, Ser. No. 246,073
Claims priority, application Netherlands, Dec. 27, 1961, 272,952
9 Claims. (Cl. 271—3)



1. Exposure apparatus for contact-copying translucent sheet-shaped originals on sheet-shaped light sensitive material, comprising an exposure section, a feeding section having therein feeding members leading to the exposure section, and an ejection zone leading away from the latter, means for feeding a single sheet or several super-imposed sheets simultaneously, put in readiness in said feeding section, to said exposure section, a movable blocking device, which in one position arrests the sheet(s) and in another position permits the sheet(s) to be carried along into the exposure section by said feeding members, means for separating original and light-sensitive material after exposure, guiding means for returning an original, after

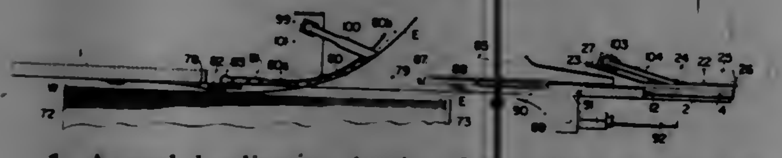
the separation, to the entrance of the exposure section with a view to making a further copy, switching means including a switch member disposed in the return path followed by the original along the guiding means for controlling the movement of the blocking device, and a movable deflecting member which, when in one position, causes the original to move to said guiding means after the separatoin and, when in another position, deflects the original to said ejection zone, the said apparatus further comprising a detector means, in the feeding section, which responds to the presence of a sheet in said feeding section, and means for passing the response of the detector means to the movable deflecting member, whereby the movable deflecting member is automatically located in its said one position when a sheet is present in the feeding section and in its said other position when the feeding section is empty.

3,194,551
AIR OPERATED WORK LOADING MECHANISM FOR SEWING MACHINES

John A. Herr, Garwood, and Orland B. Reid, Kenilworth, N.J., assignors to The Singer Company, a corporation of New Jersey

Filed Nov. 21, 1960, Ser. No. 70,497

13 Claims. (Cl. 271—14)



1. A work loading mechanism for sewing machines for removing work pieces individually from a stack and presenting the same to said sewing machine, comprising a platform adapted to receive a stack of work pieces, releasable clamping means adapted to clamp the uppermost work piece on the stack and to define a free edge that is adapted to be raised from said stack, an air foil disposed over the stack and having a first end adjacent to that portion of the stack held by said releasable clamping means and a second end disposed in spaced relation and substantially over the free edge of the work piece, said air foil diverging relatively to the stack from said first end to said second end, a nozzle for directing a stream of air along said air foil from said first end toward said second end, means for providing a supply of air to said nozzle, a plate, means for moving said plate between a first position in which the free edge of the uppermost work piece in the stack is adapted to be raised from the stack by the action of the air foil and a second position in which the edge of said plate is adapted to be disposed over the edge of the stack and on which the free edge of the uppermost work piece is adapted to be deposited upon termination of the action of the air foil, means adapted to act upon that portion of the work piece on said plate for moving the uppermost work piece from the stack, and sequential actuating means for actuating in sequence said releasable clamping means, the supply of air to said nozzle, said means for moving said plate and said means for moving said work piece from said stack.

3,194,552
ARRANGEMENT FOR AVOIDING DOUBLE PULL-OFFS IN SYSTEMS SERVING SINGLING-OUT OF FLAT ARTICLES

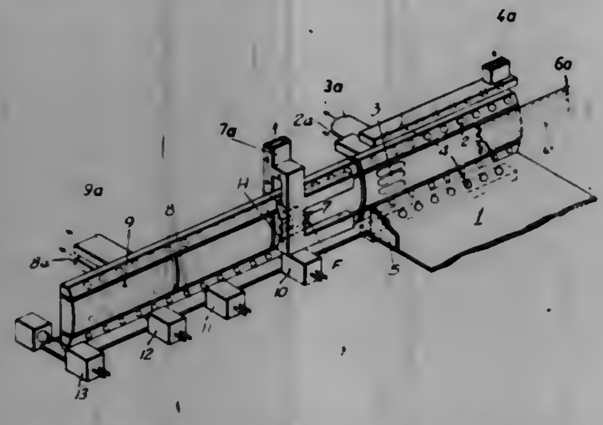
Fritz Buchwald, Thallaweg, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed May 1, 1962, Ser. No. 191,593

Claims priority, application Germany, May 2, 1961, St 17,768

7 Claims. (Cl. 271—26)

1. Arrangement for singling out and conveying flat, thin articles, from a stack of such articles comprising:
- a perforated belt;
- guide means for causing said belt to follow a predetermined path in an edgewise position;
- means for holding a stack of such articles adjacent said path;
- compressed air means having outlets adjacent said stack and directed thereto to separate a foremost article, in said stack of said articles, from said stack;
- first suction means adjacent said belt on the side opposite said stack with a given suction power which cooperate with said belt to convey said articles;



- second suction means, with less suction power than said given power, disposed on the other side of said stack opposite said first suction means to draw and hold thereto any adjacent article overlapping and conveyed with said foremost article; and control means, including sensing means positioned along said path to control said first suction means and space said articles, to cooperate with said belt and said first suction means to subsequently convey said any adjacent article, and to start and stop operation of said arrangement.

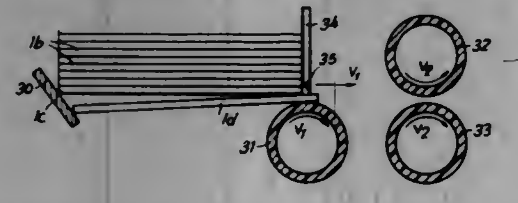
3,194,553
FEEDING MECHANISM FOR STACKED ARTICLES

Olof Einar Larsson, Orebro, Sweden, assignor to Sunds Verkstader Aktiebolag, Sundsvall, Sweden, a corporation of Sweden

Filed Apr. 22, 1963, Ser. No. 274,544

Claims priority, application Sweden, Apr. 25, 1962, 4,588/62

2 Claims. (Cl. 271—41)



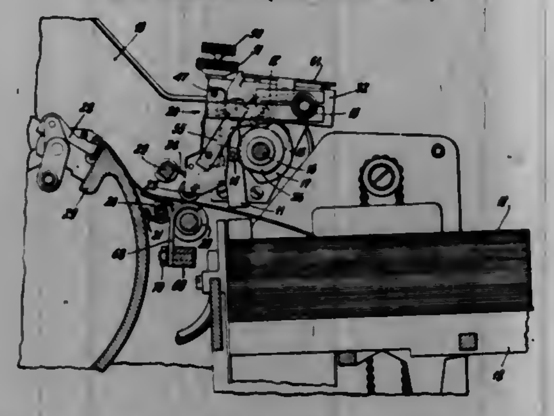
1. In a mechanism for withdrawing relatively stiff articles, such as carton blanks for a carton manufacturing machine, from a stack of such articles, comprising a roller feed member having a surface covering of a friction material, which feed member is disposed below the forward end of such stack for frictional engagement only with the forward end of the lower side of the lowermost article of such stack, and a rigid guard disposed in front of such stack above the feed member which guard is located at a vertical distance from the feed member at least equalling the thickness of one article: in combination a bevel at the lower edge of said rigid guard and a stationary sloping plane at the rear lower end of the stack substantially on level with the bevel, said sloping plane and said feed member carrying the entire weight of the stack, said bevel and said sloping plane providing for the elimination of friction between the rear portion of a carton blank to be withdrawn and the superposed blank when the feed member starts to withdraw the lowermost blank by frictional engagement at its forward end of the lowermost side.

3,194,554
DOUBLE SHEET DETECTOR FOR PRINTING PRESS

Paul H. Hilpman, Garden City, and Siegfried Ralff, Jamaica, N.Y., assignors, by mesne assignments, to Fairchild Camera and Instrument Corporation, a corporation of Delaware

Filed Aug. 22, 1962, Ser. No. 218,588

4 Claims. (Cl. 271—57)



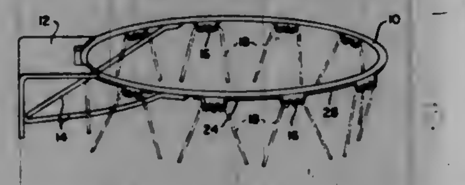
1. In a printing press having a continuously rotating lower feed roller and an upper feed roller intermittently movable into operative relationship with the lower feed roller to advance a sheet to the gripper mechanism of the press and wherein sheets are fed directly from the stack of sheets in a sheet feeder to the press, the combination with said feed rollers of a double sheet detector comprising a fixed member aligned with the surface of said lower feed roller, a detector foot axially aligned with said upper feed roller when the latter is in its operative sheet advancing position, and means for moving said detector foot into double sheet detecting position with respect to said fixed member after said upper feed roller is moved into sheet advancing position and out of the double sheet detecting position prior to the feed of a subseqeunt sheet.

3,194,555
BASKETBALL GOAL

Delby C. Humphrey, 726 Wabash Ave., Box 55, Terre Haute, Ind.

Filed Dec. 27, 1962, Ser. No. 247,708

3 Claims. (Cl. 273—1.5)



1. In a basketball goal; a ring, a plurality of net supporting hooks on the bottom of the ring, said hooks comprising wire bent to the configuration of the hook, a plurality of said hooks being formed in a single piece of wire so as to be integral with each other, said wire being bent to the same curvature as said ring, and welding joining the wire to the ring along the entire length of the wire between said hooks.

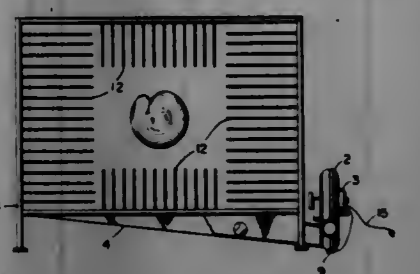
3,194,556
BASEBALL PITCHER'S AID

George R. Vinson, E. 4302 6th, Spokane, Wash.

Filed Aug. 16, 1962, Ser. No. 218,217

2 Claims. (Cl. 273—26)

1. A baseball pitcher's aid of the nature described comprising, in combination, a first peripheral tubular frame having inwardly projecting springy wires structurally communicating therewith so arranged as to leave a vacant center portion and adapted to indicate any disturbance thereof by passage of a ball therethrough; a canvas back carried by a peripheral frame communicating with the upper portion of said first frame and angularly disposed in a downward direction from said first frame; a trough-like ball return disposed below the lower portion of said canvas ball catcher and connected to a ball thrower, said return being angularly disposed to move a ball therealong by force of gravity; a ball thrower rotatably communicating with said ball return, adapted to receive a ball therefrom, comprising a housing having a tangentially extending spout, a centrally journalled two-arm resilient rotor, an



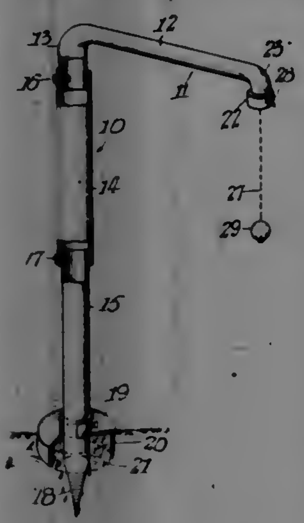
inwardly extending bumper substantially at the lowest portion of said housing requiring some elastic deformation of said rotor to pass thereover, an electric motor having a pulley, a belt connecting the pulley and rotor to rotate said rotor and a normally open pressure-activated switch near the lower portion of said housing adapted to close to activate said motor, in response to presence of a ball, to throw said ball from said spout.

3,194,557
BALL PRACTICING DEVICE

John M. Holley, Tucker, Ga.
(3547 Embry Circle, Chamblee, Ga.)

Filed Dec. 27, 1962, Ser. No. 247,571

3 Claims. (Cl. 273—26)



1. In ball practice apparatus, a generally 7-shaped frame including a vertical standard portion and a downwardly inclined arm portion, with the portions being interconnected at their upper ends with said arm portion forming an acute angle with said standard portion, means for securing the lower end of said standard portion in the ground, the lower end of said arm portion being equipped with a downwardly-extending part, a string secured to said part, and a ball secured to said string.

3,194,558
WHIRLING AMUSEMENT DEVICE

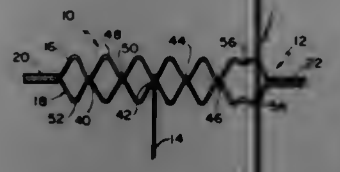
Carl A. Fowler, Jr., 911 N. Armour Road, Wichita, Kans.

Filed Sept. 10, 1963, Ser. No. 307,940

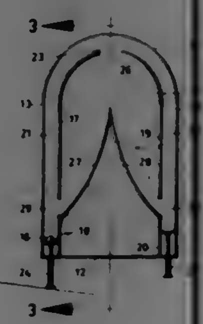
14 Claims. (Cl. 273—109)

1. In a whirling amusement device, structure comprising an elongated, substantially straight member provided with spaced gripping portions adjacent its remote extremities whereby such member can be manipulated, said elongated member having a longitudinal axis generally centrally disposed therein, said member having an external configuration along a continuous portion intermediate said gripping portions definitive of a surface of revolution

envelope about said axis that alternately increases and decreases in transverse diameter along said axis, said surface of revolution along its axial length having an alternating sequence of longitudinally spaced, locally maximal and locally minimal diameters with each adjacent pair of such sequence of maximal diameters being defined and separated by one of the locally minimal diameters, and a closed loop having a maximum internal diameter greater than the greatest of the sequence of locally maximal diameters, said loop being adapted to embrace the member intermediate the gripping portions thereof and along the axial extent of the defined surface of revolution and to be whirled about the member and caused to travel from one to other positions along the length of the member coincident with the locally minimal diameters of the surface of revolution envelope on manipulation of the member.

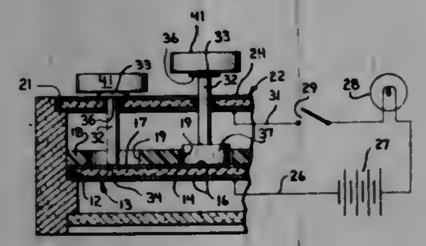


3,194,559
ROLLING BALL GAMEBOARD
John McCutcheon, 7 Richview Side Road, R.R. 1, Islington, Ontario, Canada
Filed Oct. 14, 1963, Ser. No. 315,991
4 Claims. (Cl. 273—121)



3. A rolling ball gameboard wherein means are provided for propelling said ball over a surface and comprising: a playing surface having a forward end and a rearward end, said surface being inclined, whereby said rearward end is uppermost; a pair of side walls; a curved rear wall, being a continuation of said side walls, said curve being substantially semi-circular; a forward wall across said forward end to join said side walls, whereby all said walls define the limits of said playing surface; a ball on said surface and confined thereon by said walls; a pair of ball projecting mechanisms secured to the opposite end of said forward wall, and oriented so as to project said ball parallel with one said side wall and closely adjacent thereto, said ball being projected toward said curved rear wall to be deflected thereby towards the center; a pair of inner walls spaced inwardly from said side walls to define ramps therebetween and continuing forwardly to follow parallel with said curved rear wall and terminating at a position substantially mid-way of said curved rear wall to define a gap therebetween through which said ball can pass upon being deflected from said rear wall and guided by one of said inner walls; and a pair of curved rails having a common apex located substantially centrally of said gap and forwardly therefrom, said rails extending forwardly to either side of said surface to terminate at said inner walls to define the position of a passage in each said inner wall, whereby said ball can be returned to either of said ramps by said rails upon passage through said gap, thereby returning said ball to one or the other of said projecting mechanisms.

3,194,560
ELECTRICALLY OPERATED GAME COMBINATION COMPRISING AN APERTURED GAME BOARD AND ELECTRICALLY CONDUCTIVE GAME PIECES
Donald A. White, Indianapolis, Ind., assignor of one-fifth to Dane L. Love and eight-fifteenths to Howard W. Sams, both of Indianapolis, Ind.
Filed Dec. 31, 1962, Ser. No. 248,676
4 Claims. (Cl. 273—130)

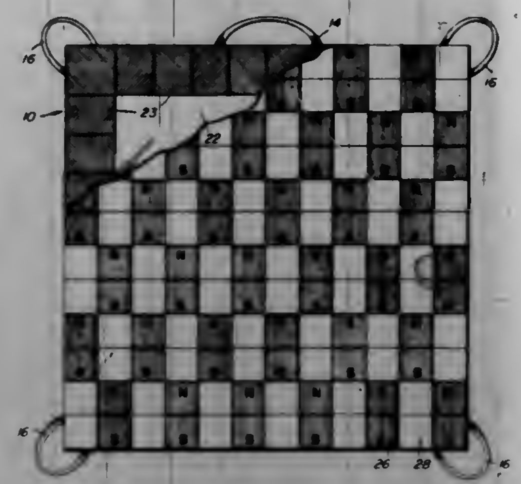


1. A game apparatus comprising:
a first board having an electrically conductive material on its upper surface;
a second board above said first board, said second board being of electrically non-conductive material and having a plurality of apertures therein;
a third board disposed above said second board and having a plurality of apertures therein aligned with the apertures in said second board, said third board having an electrically conductive material adjacent the apertures therein;
a power source and an indicator serially connected between the electrically conductive material of said first board and the electrically conductive material of said third board;
a plurality of electrically conductive armatures removably received in apertures of said third board, each of said armatures having a game playing piece secured thereto, and each of said armatures adapted to extend through an aperture of said third board and an aperture of said second board and make electrical contact with the electrically conductive material of said first board and electrically conductive material of said third board to complete an electrical circuit through said indicator, thereby energizing said indicator;
and electrically non-conductive plugs removably disposed in selected apertures of said second board to preclude passage of an armature through said selected apertures and thereby prevent armatures inserted in apertures of said third board above said plugs from energizing said indicator.

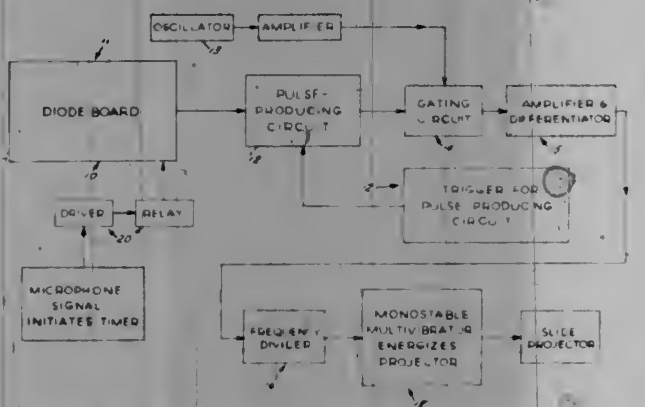
3,194,561
MAGNETIC CARD TABLE TOP
Norman C. Schumann, 620 Pennsylvania Ave., West Bend, Wis.
Filed Mar. 8, 1963, Ser. No. 263,904
1 Claim. (Cl. 273—136)

A table top for magnetically holding magnetically cooperating playings cards in position thereon, said table top being substantially square in outline and comprising a playing surface top covering, a base spaced therebeneath, and a plurality of rectangular flat magnetic bars interposed and secured between said top covering and said base, said flat magnetic bars being arranged in diagonal

alignment in checkerboard fashion in a common plane, and an equal plurality of flat non-magnetic bars occupying the areas between said magnetic bars in said same common plane and also extending in diagonal alignment, whereby each pole of each magnetic bar is contiguous to a non-magnetic area.



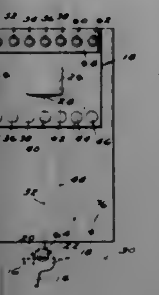
3,194,562
SLIDE PROJECTOR SCENE SHIFTING MEANS AND DISTANCE COMPUTER MEANS
Maximilian R. Speiser, 17 W. 60th St., New York, N.Y.
Filed Apr. 8, 1963, Ser. No. 271,352
4 Claims. (Cl. 273—184)


OSCILLATOR
AMPLIFIER
13
11
DIODE BOARD
PULSE-PRODUCING CIRCUIT
GATING CIRCUIT
AMPLIFIER & DIFFERENTIATOR
TRIGGER FOR PULSE PRODUCING CIRCUIT
DRIVER
RELAY
20
MICROPHONE SIGNAL INITIATES TIMER
FREQUENCY DIVIDER
MONOSTABLE MULTIVIBRATOR ENERGIZES PROJECTOR
SLIDE PROJECTOR

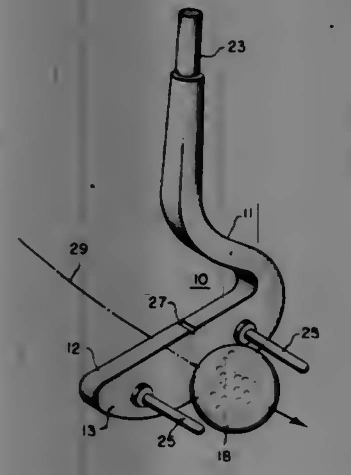
4. In a computer-type golf game, including an optical slide projector having slide-changing means, and computer means for determining the length of projected trajectory of a golf ball in terms of a voltage, the improvement comprising: timing means connected to said computer means and producing a signal for a period of time proportional to the distance determined by said computer, oscillator means producting an oscillating signal of predetermined frequency corresponding to the units of distance measurement employed by said computer means, gating means connected to said oscillator means, and controlled by said timing means, and relay means connected to said oscillator means and operated once for each predetermined multiple of oscillations passing through said gating means, said relay means controlling said slide-changer means to operate the same once for each operation of said relay means.

3,194,563
MEANS FOR INDICATING THE POSITION OF A GOLF CLUB HEAD STRIKING FACE AT THE INSTANT OF BALL IMPACT
Frank Mackniesh, 25812 Salem Road, Huntington Woods, Mich.
Filed July 11, 1962, Ser. No. 209,123
3 Claims. (Cl. 273—186)

1. Apparatus of the character described comprising, in combination: a base; means on the base for supporting a golf ball; a source of intense light mounted on the base spaced from said ball support and positioned to direct a concentrated beam of light in a generally horizontal path at such support; a golf club; a light reflecting member affixed to said golf club and positioned in a plane that is perpendicular to the ball striking face of the club so as to reflect light from said concentrated beam in a horizontal path; a plurality of photoelectric elements arranged in uniformly spaced relation having light sensitive elements positioned to be selectively actuated by reflected light from said member when the reflecting member intercepts the light beam; and indicating means coupled to each of said photoelectric elements and responsive to the actuation of a respective photoelectric element to indicate such actuation.



3,194,564
PRACTICE GOLF CLUB
Lawrence S. Swan, Niles, Ill.
(9109 Oak Park Ave., Morton Grove, Ill.)
Filed May 13, 1963, Ser. No. 279,890
3 Claims. (Cl. 273—186)

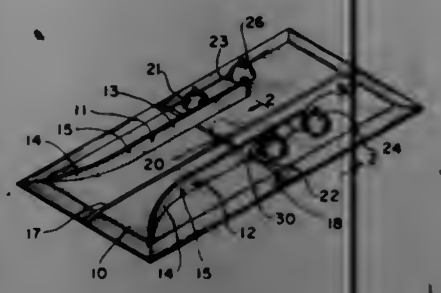


1. A practice golf club comprising:
a club head having a substantially flat golf ball striking face in which a pair of apertures, substantially perpendicular to said face and spaced apart a distance greater than the diameter of a golf ball, are provided to define that portion of said face which is the desired impact area;
and a pair of pins spring held in respective ones of said apertures for releasable insertion and each having a length which is at least a substantial portion of the diameter of a golf ball such that one or the other of said pins engages the golf ball if the complete swing of the golf club is not properly executed.

3,194,565
INDICATOR DEVICE ACTUABLE BY THE MOVEMENT OF A GOLF CLUB HEAD BETWEEN TWO SPACED STRIPS ON A MAT
John B. Schroer, 1111 Tumbleweed Ave., Las Vegas, Nev.
Filed June 3, 1963, Ser. No. 284,869
7 Claims. (Cl. 273—186)

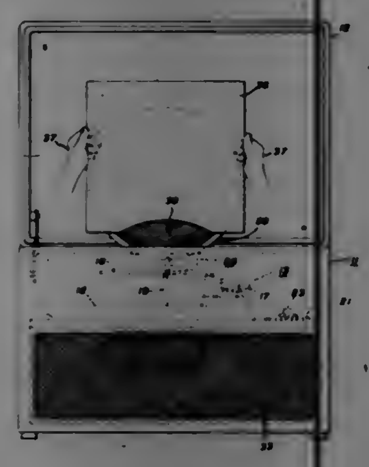
1. A golf practice swing device, comprising a relatively broad flat base adapted to be placed in a horizontal position on the ground or floor in front of a golfer, a pair of upstanding elongated strips extending along and with their lower sides on said base, said strips being of low height

and having opposed straight parallel main portions spaced from each other a distance slightly greater than the length of the head of a golf club. indicating means mounted adjacent to the outer sides of said strips whereby said strips when struck actuate said indicating means.



3,194,566
DEVICE FOR USE IN HANDLING PHONOGRAPH RECORDS

Harwood B. Moore, Sauquoit, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 15, 1961, Ser. No. 117,376
7 Claims. (Cl. 274—2)

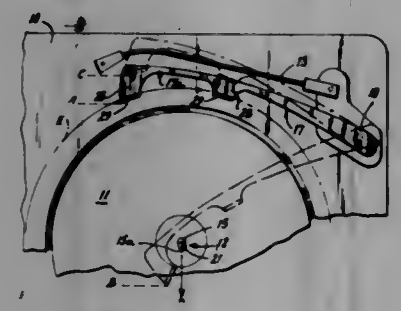


6. A phonograph comprising an enclosable housing, a base member disposed in said housing, a record player disposed on said base member, and means associated with said record player for use in handling phonograph records with respect thereto, said means comprising only a single substantially vertical slot means located in said base member adjacent said record player, said slot means being dimensionally adapted to cooperate with, retain and support a substantially vertical record, said slot means receiving said record with a major portion of the record extending upwardly and outwardly from said slot, thereby to expose a substantial portion of said record adjacent said record player for placement and removal of a protective jacket relative to said record.

3,194,567
PHONOGRAPH RECORD CENTERING AND STABILIZING APPARATUS

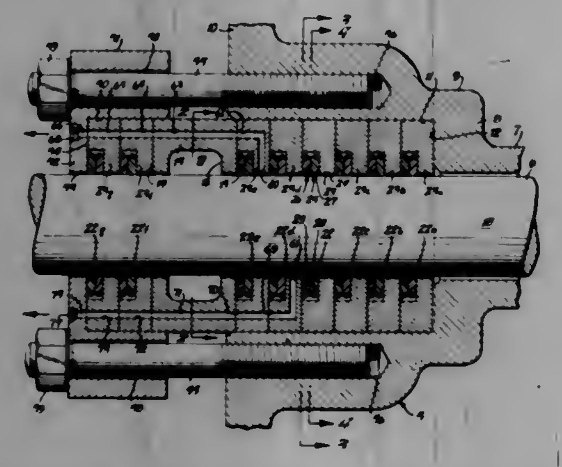
William R. Conrad, Medford Lakes, N.J., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Jan. 21, 1963, Ser. No. 252,639
3 Claims. (Cl. 274—10)

1. Apparatus for centering and stabilizing a centrally apertured record in a phonograph of the type in which such records are manually brought over and lowered to engage a vertically extended spindle having a record-supporting shoulder spaced downwardly from the spindle upper extremity, said apparatus comprising; an elongated generally horizontal arm having portions constituting abutment means for contact with the peripheral edge of a record; a generally vertical shaft connected at its upper end portion to one end portion of the arm; a hollow upstanding post in which the shaft is received to slide upwardly and downwardly for selective placement of the arm either at a level in substantial alignment with the spindle extremity or at a level at substantial alignment with the spindle shoulder, the shaft being also received in the post to rotate therein for selective placement of the arm in a predetermined intermediate position in which the mentioned abutment means contact the peripheral edge of the record to center the same when brought over the upper extremity of the spindle, or in a predetermined inner position in which the arm rests upon the upwardly presented face of the record to stabilize the same when in engagement with the spindle and supported by the shoulder thereof, or a predetermined outer position in which the arm and mentioned abutment means clear records for removal from the spindle; and interengageable means between the shaft and post to index and retain the arm in its several positions.



3,194,568
STUFFING BOX WITH COOLING AND VENT MEANS

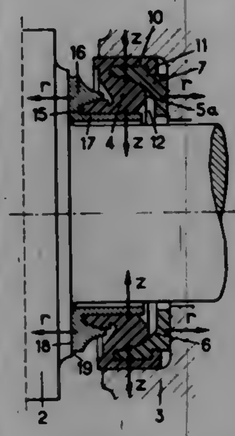
William H. Payne, Olean, N.Y., assignor to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed June 16, 1961, Ser. No. 117,537
3 Claims. (Cl. 277—68)



1. In a stuffing box construction for a relatively reciprocable rod having a peripheral surface, the combination comprising means providing an annular chamber arranged to surround said rod and communicate with said surface thereof, inlet and outlet means independent of said rod arranged to conduct cooling liquid through said chamber for contact with said surface, and packing means on axially opposite sides of said chamber means, one of said sides being a high pressure side, that one of said packing means on said high pressure side having a passage communicable with said surface within the confines of said one of said packing means for venting vapor formed from liquid adhering to said surface.

3,194,569
SEALING JOINT AXIALLY SUPPORTED BY FRICTION BETWEEN PARTS IN ROTATION IN RELATION TO ONE ANOTHER IN A MACHINE

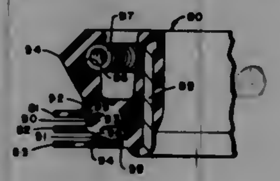
Jovan Utvitch, 19 Square Jean Thiébaud, Paris, France
Filed July 3, 1961, Ser. No. 121,656
Claims priority, application France, July 5, 1960, 832,115, Patent 1,269,723
11 Claims. (Cl. 277—88)



9. Sealing means comprising an annular sealing member provided with an annular axially extending projection, a coaxial sealing member on which said annular sealing member is mounted to float freely, said coaxial sealing member comprising a resilient portion which is free to flex axially of said sealing means and is provided in its elastically relaxed state with an annular recess aligned to receive said projection, a thick mass of resilient material forming part of said resilient portion and provided with a curved surface constituting one side of said recess, said surface curving from the bottom of said recess toward its mouth so that said recess is wider at its mouth than at its bottom, the adjacent side of said projection curving in the same direction as the curved side of said recess, the curvature of said recess side being greater than that of said projection side so that a cavity is formed therebetween into which a portion of said mass is forced when said sealing members are squeezed together, thereby causing said projection to become more firmly held in said recess.

3,194,570
MULTIPLE-LIP SEAL

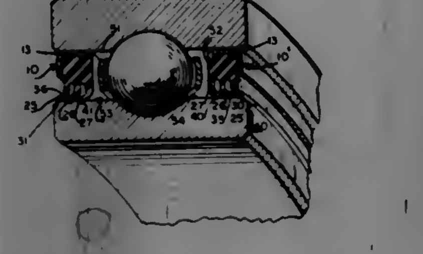
Robert N. Haynie, Los Altos, and Lloyd E. Voss, Redwood City, Calif., assignors to Federal-Mogul-Bower Bearings, Inc., Detroit, Mich., a corporation of Michigan
Filed Jan. 29, 1962, Ser. No. 169,683
6 Claims. (Cl. 277—182)



3. A multiple-lip fluid seal comprising a single rigid annular generally cylindrical reinforcing member, and an integral annular elastomeric member molded and bonded to said annular member and having a body substantially covering it and extending radially outwardly therefrom and having a main V-shaped sealing lip at one end of its outer periphery, and also having a plurality of annular supplemental lips, each rectangular in cross-section and projecting radially outwardly from said body, all said supplemental lips being coaxial and of identical periphery, and meeting said body at successive roots and separated from each other by successive grooves of successively increasing depth, reading from said main lip, said supplemental lips being primarily for the purpose of excluding foreign matter while said main lip is primarily for the purpose of retaining lubricant.

3,194,571
MULTIPLE-LIP SEAL

Vasalie L. Peickii, Hillsborough, Andrew M. Seemann, San Jose, and Robert N. Haynie, Mountain View, Calif., assignors to Federal-Mogul-Bower Bearings, Inc., Detroit, Mich., a corporation of Michigan
Continuation of application Ser. No. 780,479, Dec. 15, 1958. This application Jan. 29, 1963, Ser. No. 255,720
9 Claims. (Cl. 277—184)



1. A multiple-lip radial-type single-molded unitary annular seal for installation between two relatively rotating machine parts for retaining lubricant on one side of said seal and excluding the entry of dirt and other foreign matter from the other side of said seal, comprising

a rigid, closed, continuous annular metal reinforcing member having one cylindrical wall for engaging one of said two machine parts, and

an integral, annular, continuous unitary synthetic rubber, lubricant-resistant elastomer molded and bonded to a second cylindrical wall of said reinforcing member and having at least three coaxial radial lips for engaging the other of said two machine parts,

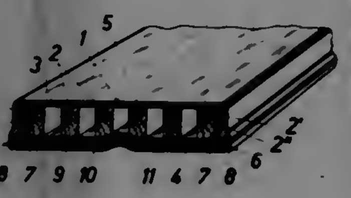
said lips being of identical periphery, each being rectangular in cross-section and with at least one edge sharp, sharp lip edges being on the same side of all lips for engagement of said other machine parts upon installation of said seal with flexure of said lips toward the side from which dirt might enter,

concentricity of parts and proper support and dimensional tolerances being assured by the integrality of the reinforcing member and the unitary elastomeric member,

said lips being spaced apart axially by radial grooves that are sufficiently wider than said lips, so that the lips can be flattened at their ends with marginal portions of the radial lips extending axially without touching one another, said grooves having rounded concave terminal surfaces that are semi-toroidal, to avoid corners and thereby enable mold removal without tearing said surfaces.

3,194,572
LAMINATED SKI

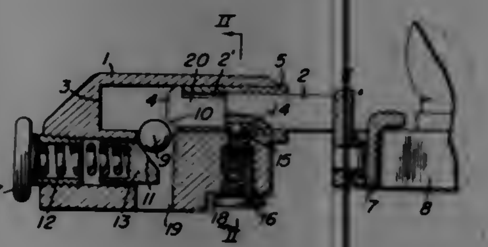
Josef Fischer, 16 Ahornweg, Ried Innkreis, Austria
Filed Dec. 4, 1961, Ser. No. 156,666
Claims priority, application Austria, Dec. 7, 1960, A 9,141/60
3 Claims. (Cl. 280—11.13)



1. In a ski including a core covered by upper and lower facing sheets of metal, the improvements comprising a strip of steel disposed along each bottom edge of said lower facing sheet and having an exposed portion at the outside, a layer on the bottom of the ski fillling the space between the exposed portions of the edge strips

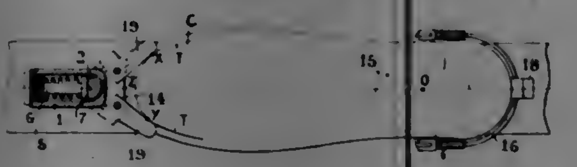
and forming a running surface, and a layer of rubber-like material of high toughness disposed between and securing said edge strips to said lower facing sheet to resiliently absorb and dampen transfer of shocks received by said exposed portions of the edge strips.

3,194,573
SAFETY HEAD FOR SKI BINDINGS
Paul Unger, Zirndorfer Weg 1, Altenberg, near Nurnberg, Germany
Filed Jan. 31, 1963, Ser. No. 255,407
Claims priority, application Germany, Feb. 7, 1962, U 8,682
9 Claims. (Cl. 280—11.35)



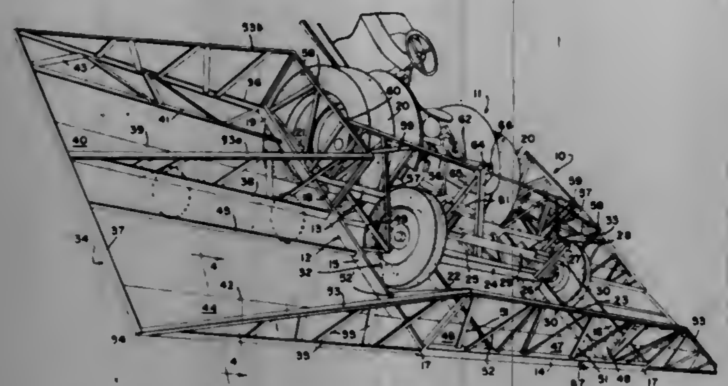
1. Safety head for ski bindings comprising release means operative in response to forward as well as turning falls to effect release of the foot, said release means including a closed housing, a pressure member extending longitudinally of and into said housing and being slidable relative to said housing and rotatable about a horizontal axis in said housing, a boot latch supported externally of said housing at one end of said pressure member, and spring loaded locking means retaining said pressure member and thereby said boot latch in engagement with the front end of the ski boot, said locking means including a first spring adapted to yield to twisting forces and a second spring adapted to yield to forward forces on said pressure member.

3,194,574
SAFETY SKI BINDER
Jean Joseph Alfred Beyl, Rue des Champs-Ferrant, Nevers, France
Filed May 27, 1963, Ser. No. 283,181
Claims priority, application France, June 1, 1962, 899,418
6 Claims. (Cl. 280—11.35)



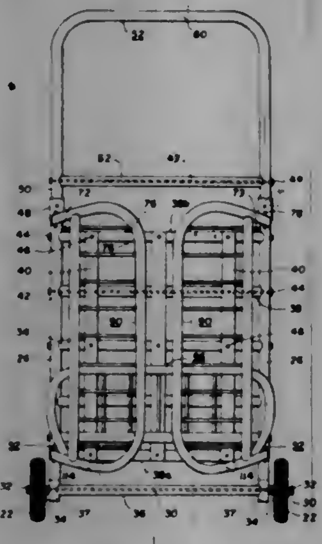
1. A safety ski binder for holding the toe end of a ski boot against motion, which comprises in combination a pivot pin carried by a base plate and adapted to be secured on a ski with its axis extending at right angle from the top face of the ski, an abutment member having a body rotatably mounted on said pivot pin, resilient means interconnecting said body and said base plate for retaining said abutment member body in its normal operative position while permitting the release thereof when a torsion stress exceeding a predetermined value is applied thereto, said abutment member body carrying on its rear portion bearing means adapted to be engaged by the toe end of the ski boot sole, a pair of lateral arms carried by said body and adapted to engage the toe end of the boot, the front end of each lateral arm being pivotally mounted about a pin carried by said abutment member at right angles to the ski face, abutment means being provided for holding each one of said two arms against movement in any desired angular positions to permit the adjustment of the relative spacing of the free end of said arms.

3,194,575
HARVESTING VEHICLE HAVING WORKER SUPPORT MEANS
Joseph Paul Cullifer, Bethel, N.C.
Filed Dec. 26, 1963, Ser. No. 333,381
9 Claims. (Cl. 280—32.5)



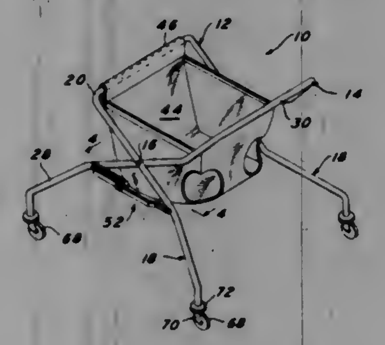
1. Apparatus of the kind described comprising an elongate rectilinear open chassis comprised of a main front beam and a secondary rear beam, end beams each connected at one end to said secondary beam and each connected at an intermediate point to said primary beam with its end portion projecting therebeyond to receive the wheels of a farm tractor therebetween, seats for workers disposed along said secondary beam, a pair of spaced, upstanding axle guides fixed to said chassis, each of said guides comprising spaced vertical guide elements, the elements of said guides being formed with aligned holes for receiving bolts therein, an axle having noncircular end portions received between the elements of said guides and restrained from vertical movement by bolts passing through the openings in said guide elements above and below said noncircular portions, the ends of said axle beyond said guides being formed with downwardly extending arms each terminating in a horizontal outwardly extending spindle, a wheel mounted on each of said spindles, a pair of spaced hitch devices fixed to said primary beam for connection to the power operated towing levers of said tractor, and a third hitch device fixedly mounted on said primary beam at a point intermediate and above said pair of hitches for connection to the stabilizing link of said tractor.

3,194,576
FOLDABLE CARRIER DEVICE
Joseph Paul Kunkle, R.D. 1, Irwin, Pa.
Filed Apr. 27, 1962, Ser. No. 191,404
8 Claims. (Cl. 280—36)



1. A collapsible carrier device comprising a pair of spaced generally parallel rail members, a load-carrying platform extending between and secured to said rail members, said platform including a plurality of spaced transversely extending tubular brace members secured at their ends to said rail members respectively, a wheel-supported axle secured to said rail members adjacent the front ends thereof, a foldable side wall member hingedly secured to each of said rail members, a foldable front wall member hingedly secured to the frontmost one of said brace members, means for detachably securing said front wall member to the adjacent ends of said side-wall members to support said wall members in the upright positions thereof, each of said front and said side-wall members including an inverted generally U-shaped supporting rail provided with aligned pivot openings adjacent each end thereof respectively, a pair of angular pivot brackets for each of said wall members secured to the associated rail member and to said front-most brace member respectively, the pivot arms of said brackets extending thru said apertures respectively and disposed generally in alignment with said rail members and said front-most brace member respectively, said front-most brace member being secured to said rail members by a pair of eyebolts secured to said rail members respectively with their eye-ends inserted into the open ends respectively of said front-most brace member, the securance of said front-most brace member being completed by extending portions of said front-wall brackets thru said eye-ends, respectively, and handle means secured to rail members for operating said carrier device.

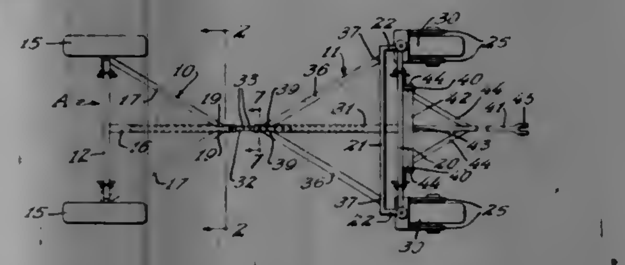
3,194,577
COMBINATION BABY WALKER AND JUMPER
Daniel Berlin, 4424 Paul St., Philadelphia, Pa.
Filed Mar. 22, 1962, Ser. No. 181,617
3 Claims. (Cl. 280—41)



1. A combination baby walker and jumper comprising a pair of frame members pivotally secured together, a sling seat supported by said frame members, said sling seat including a pair of leg openings, a plurality of ground engaging wheels supported by the bottoms of said frame members and a spring linkage joining one of said frame members to the other, said spring linkage comprising a first arm pivotally secured to one of said frame members, a second arm pivotally secured to the other of said frame members, and means slidably connecting said arms, said connecting means including a spring, whereby the separation of one frame member relative to the other and the expendability of the spring within said linkage are limited by said connected arms.

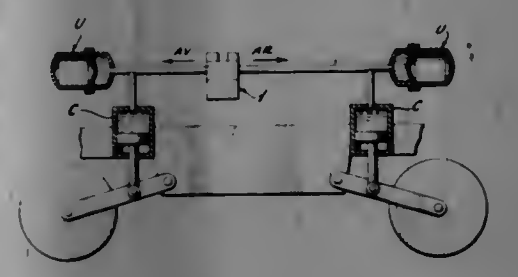
3,194,578
SWIVEL WHEELED TRAILERS
Ervin A. Klecker, Fairfax, Minn.
Filed Nov. 15, 1961, Ser. No. 152,441
2 Claims. (Cl. 280—80)

1. A trailer including:
(a) an elongated frame,
(b) a pair of rear wheels,
(c) means supporting said rear wheels on axially aligned transverse pivots on said frame,
(d) a pair of caster wheels supporting the weight of the trailer and transversely pivotal about generally parallel vertical axes disposed on opposite transverse ends of said front frame member,
(e) an elongated, generally cylindrical bearing having a vertical axis stationarily secured to each end of said front frame member,
(f) said caster wheels including a wheel supporting member and having a pivot shaft extending through said bearng,
(g) said bearing encircling said pivot shaft from the end of said shaft adjacent said wheels to a point intermediate the other end of said shaft,
(h) a flange at the upper end of said bearing,
(i) an elongated sleeve encircling said pivot shaft and including a friction flange at one end in abutting relation to said flange on said bearing,



(j) said sleeve having its other end fixedly secured in non-rotation relative to said pivot shaft, said sleeve thereby being held from rotation relative to said shaft,
(k) said sleeve slidably supported on said shaft,
(l) abutment means on said shaft above said sleeve whereby upward slidable movement of said sleeve is restricted,
(m) spring means interposed between said abutment means and said friction flange to urge said friction flange toward said flange on said bearing,
(n) whereby frictional engagement between said abutting flanges is maintained to resist turning of said wheels.

3,194,579
TRIM CORRECTING DEVICES FOR VEHICLES EQUIPPED WITH A HYDRAULIC-CORRECTION SUSPENSION SYSTEM
Lucien Peras, Billancourt, France, assignor to Regie Nationale des Usines Renault, Billancourt, France
Filed Apr. 24, 1963, Ser. No. 275,296
Claims priority, application France, Apr. 27, 1962, 895,992, Patent 1,329,076; June 27, 1962, 902,214, Patent 81,834
6 Claims. (Cl. 280—104)

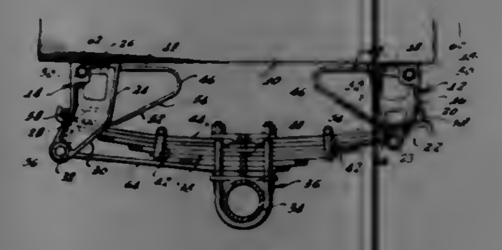


1. A device for correcting the trim of a vehicle in response to a source of vacuum wherein the suspension system of at least one axle of said vehicle comprises hydraulic correcting means, a source of hydraulic pressure, a distributor, a reservoir, said distributor connecting said pressure source to said reservoir and said correcting means, said distributor including a movable member, said member being adapted to assume a position wherein said correcting means is hydraulically isolated, said position being intermediate a charging position in which said distributor connects said pressure source to said correcting

means and a discharge position in which said distributor connects said correcting means to said reservoir, an enclosure, an actuator assembly in said enclosure adapted to control said movable member, said assembly dividing said enclosure into two chambers, suction passageway means connecting each of said chambers with said vacuum source, vent passageway means connected to each of said chambers and having a first and second set of ports, a first valve interposed in said suspension system of said axle for sensing the position of the body of said vehicle above the ground, said first set of ports being positioned in said first valve, said first valve having a movable element for cooperation with said first set of ports, said movable element of said first valve acting to uncover said first set of ports in response to the sensing of a predetermined level of said body, said element acting to cover one port of said first set of ports in response to the sensing of a level of said body outside said predetermined level whereby suction is created in one of said chambers to effect movement of said movable member of said distributor from said intermediate position, said first valve being interposed in said suspension system in such a manner so that said movable member is actuated by said movable assembly to one of said positions other than said intermediate position to maintain said predetermined level of said body and a second valve adapted to effect manual actuation of said movable member, said second set of ports being positioned in said second valve, said second valve having a selector element for cooperation with said second set of ports, said selector element being adapted to move from a normal position wherein said ports are not covered to at least one position to close to the atmosphere one port of said second set of ports whereby a vacuum is created in one of said chambers causing said movable member to be actuated by said movable assembly to one of said positions other than said intermediate position to move said body from said predetermined level, said first valve having a relief passage for communication with said first set of ports of said vent passageway means upon movement of said body a predetermined distance from said predetermined level for venting said one of said chambers thereby limiting the extent of said movement of said body.

3,194,580
LEAF SPRING SUSPENSION SYSTEM WITH NO-LOAD FEATURE AND AXLE ADJUSTMENT

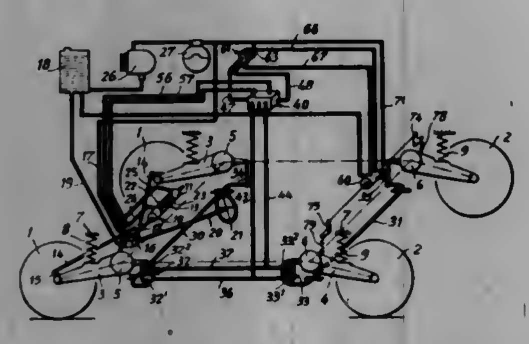
Buck C. Hamlet, La Habra, Calif., assignor to Cambria Spring Company, Los Angeles, Calif., a corporation of California
Filed May 19, 1961, Ser. No. 111,211
11 Claims. (Cl. 280—104.5)



1. A spring assembly for an automotive vehicle, comprising a leaf spring, an axle support at the center of said leaf spring, spring hangers at the ends, respectively, of said spring adapted for attachment to the vehicle frame, at least one of said hangers including a rigid spring seat over the adjacent end of the spring, and a relatively light auxiliary spring carried by said one hanger and interposed between said spring seat and said adjacent spring end for yieldably resisting relative movement of said latter spring end toward said seat.

3,194,581
ANTI-ROLL DEVICES FOR AUTOMOBILE VEHICLES

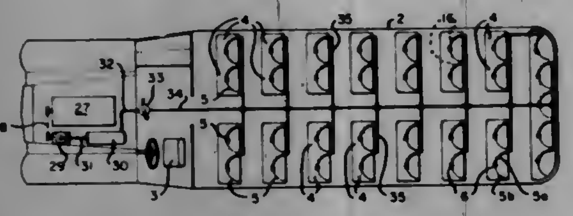
Antoine Brueder, Paris, France, assignor to Societe Anonyme André Citröen, Paris, France, a corporation of France
Filed Mar. 14, 1963, Ser. No. 265,273
Claims priority, application France, Mar. 15, 1962, 891,242, Patent 1,325,058
5 Claims. (Cl. 280—112)



1. Anti-roll device for an automobile vehicle having a suspension system comprising fluid-pressure receiving members to correct the trim of the vehicle, servo steering control means having a servo steering distributor and a servo steering control cylinder with two chambers connected to the latter, a pressure fluid distributor connected to said members and responsive to said servo steering control means to selectively distribute, in response to the direction in which the steering wheel is actuated, fluid under pressure to said receiving members to cause the vehicle body to lean transversely on the side corresponding to the direction in which the steering wheel has been actuated, said distributor being actuated selectively by means of fluid under pressure from said servo steering control means, the selective control of said pressure fluid distributor being responsive to the pressures prevailing in said two chambers of the servo steering control cylinder, a transverse inclination sensing device comprising an auxiliary distributing device, said auxiliary distributing device cooperating with said pressure fluid distributor to discontinue the delivery of fluid under pressure to said distributor when a predetermined transverse inclination of the vehicle body is attained.

3,194,582
REMOTELY OPERABLE SEAT BELT LOCKING DEVICE

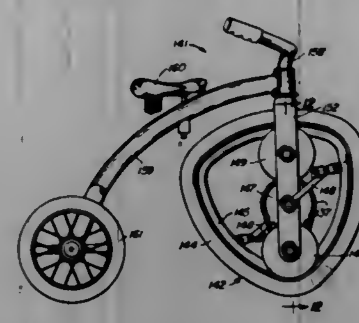
Jacob H. Kutz, 3050 Fadette St., Pittsburgh, Pa.
Filed Nov. 8, 1962, Ser. No. 236,275
7 Claims. (Cl. 280—150)



1. A safety device comprising a plurality of seat belts each having portions adapted to be disposed in predetermined relative position when the seat belt is to be rendered operative for holding a person in a seat, a locking member associated with each seat belt so that when the portions of a seat belt are in said position the locking member associated therewith may be moved to locked position to render that seat belt operative, resilient means urging each locking member to unlocked position, fluid pressure means to move the locking members to locked position against the action of the resilient means and a common control device for controlling the flow of fluid to all of the locking members.

3,194,583
TOY VEHICLES HAVING TRACK-TYPE WHEELS

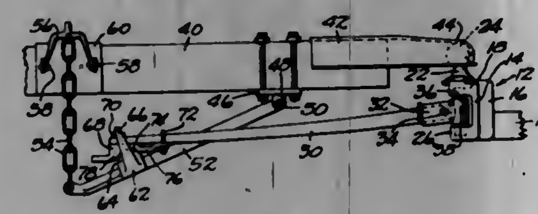
Howard J. Nottage, 609 SE. 41st Ave., Portland, Oreg.
Filed May 13, 1963, Ser. No. 279,934
11 Claims. (Cl. 280—229)



1. In a toy vehicle,
a pair of polygonal, generally annular, non-circular, rigid track members,
a toy cart body having a pulling means,
axle means supporting the body and adapted to rest on and move along the inner peripheral portions of the rigid track member when the track members are supported by a supporting surface, and means retaining the track members in position at opposite sides of the toy cart body and permitting views from the sides of substantially the entire track members.

3,194,584
LOAD TRANSFERRING TRAILER HITCH

Terrell J. Reese, 4013 Cassopolis St., Elkhart, Ind.
Filed Aug. 22, 1963, Ser. No. 303,889
13 Claims. (Cl. 280—406)

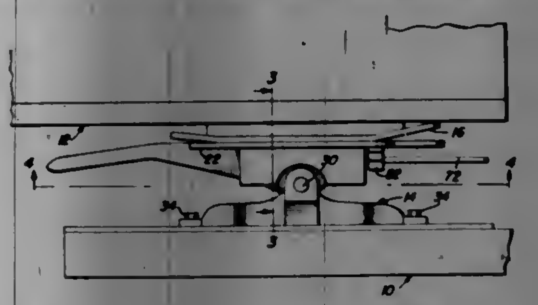


1. A load-transferring trailer hitch for connecting tractive and trailing vehicles comprising
a rigid unit adapted to be secured to the frame of a tractive vehicle and including a hitch ball bracket having a central hitch ball,
a hitch ball socket carried by the frame of said trailing vehicle,
a pair of elongated spring bars pivoted at one end thereof about substantially vertical axes to said bracket in laterally spaced relation to said hitch ball,
means adapted to be carried by the frame of said trailing vehicle for supporting the free ends of said spring bars in upwardly flexed position, and
means for simultaneously retarding endwise movement of and varying the flexure of said spring bars relative to said supporting means incident to turning of said tractive vehicle.

3,194,585
ROCK LOCK TYPE FIFTH WHEEL LOCKING MECHANISM

Reuel A. Cochrane, Chilesburg, Va.
(P.O. Box 281, Benghazi, Libya)
Filed Apr. 19, 1963, Ser. No. 274,132
1 Claim. (Cl. 280—437)

In combination, a fifth wheel bearing plate adapted to be pivotally secured to a tractor vehicle for rotation about a generally horizontally disposed axis extending transversely of said tractor vehicle and having a rearwardly opening vertically extending slot formed therein whose forward end defines an upstanding and rearwardly opening generally semi-cylindrical seat adapted to snugly and seatingly receive the depending fifth wheel pin of an associated trailer vehicle, a pair of depending journal plates supported from said plate and generally paralleling and disposed on opposite sides of said slot, a cam and seat member including a forward cam portion and a rear generally semi-cylindrical seat portion, means supporting said cam and seat portions between said journal plates for movement about a horizontal transverse axis between a first open position with said seat portion swung rearwardly and downwardly in an out-of-the-way position and said cam portion swung rearwardly and upwardly and aligned with said slot and disposed rearwardly of said seat and a second closed position with said cam portion swung forwardly and downwardly and shifted out of registry with said slot and said seat portion swung forwardly and upwardly and disposed in said slot rearwardly of and opposing said seat and forming, together with the latter, cylindrical bearing means for rotatably receiving said kingpin and adapted to be moved from said first position to said second position upon engagement of said kingpin with said cam portion as said kingpin is moved forwardly through said slot and into seated engagement with said seat, said journal plates having a pair of aligned transverse openings formed therethrough disposed immediately rearwardly of said cam and seat member when



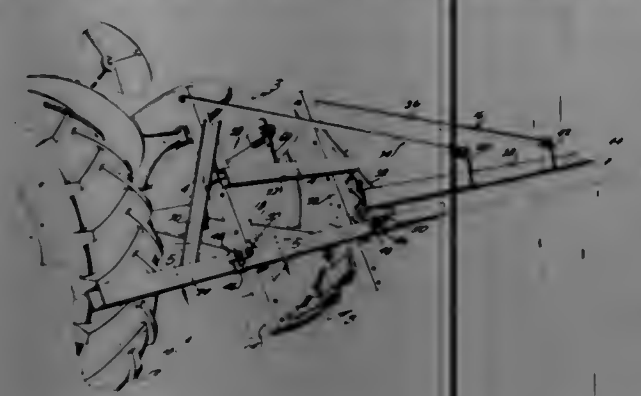
the latter is in said second position, an elongated generally horizontal locking bar, means independent of said journal plates guidingly supporting said bar at points spaced longitudinally therealong for straight line longitudinal reciprocation between a first limit position extending through said openings and a second limit position retracted to one side of said slot and with the end of said locking bar adjacent said slot disposed in the adjacent opening, said cam and seat member, when disposed out of said second position, defining abutment means disposed in registry with said openings and engageable by said end of said bar to prevent movement of said bar toward its first position, said bar, when the latter is disposed in its second position comprising a backing member for said cam and seat member preventing its movement toward its first position at the rear end of said slot, said cam and seat member including an abutment element projecting generally radially outwardly therefrom and disposed forwardly of said cam portion in the direction of rotation of said cam and seat member when moving from said first postion to said second position and engageable with abutment means supported from said bearing plate upon movement of said cam and seat member from said second position toward said first postion and defining means limiting movement of said cam and seat member toward said first position.

3,194,586
TOOL BAR

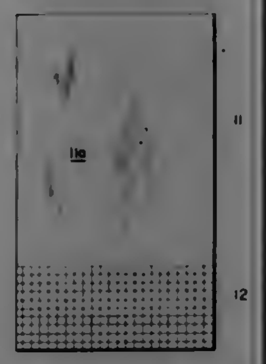
John M. Noble, Rte. 2, Albany, Mo.
Filed Mar. 29, 1963, Ser. No. 269,090
3 Claims. (Cl. 280—461)

1. A tool bar for attachment to a tractor having a pair of laterally spaced lift arms and a top link disposed above and between said lift arms, said tool bar comprising a pair of laterally spaced posts, a cross member extending between and connecting said posts together, means on said cross member for attachment thereto of the top link of a tractor, a horizontally disposed transversely

arranged draw bar fixedly secured to said posts inwardly of and adjacent the lower ends of said posts, coupling means on said draw bar, a ground working implement attached to said coupling means, a horizontally disposed rod fixedly secured to said posts and adapted for securement to the lift arms of said tractor, a support arm having one end pivotally connected to the upper end of each of said posts, and a horizontally disposed support bar extending between and connecting the other ends of said support arms together, said support bar being connected to an implement when the latter is attached to said draw bar.



3,194,587
METHOD OF AND MEANS FOR CORRECTING CARBON COPIES
Viola O. Weis, Uniontown, Wash.
Substituted for abandoned application Ser. No. 125,764, July 21, 1961. This application June 1, 1964, Ser. No. 372,735
3 Claims. (Cl. 282—[illegible]8)

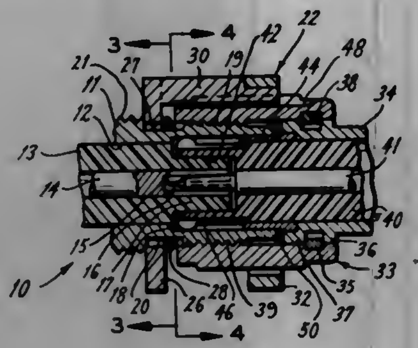


1. In carbon copy correction tabs of sheet-like body materials each having a transfer medium along a fractional portion of one side face, the improvement comprising:

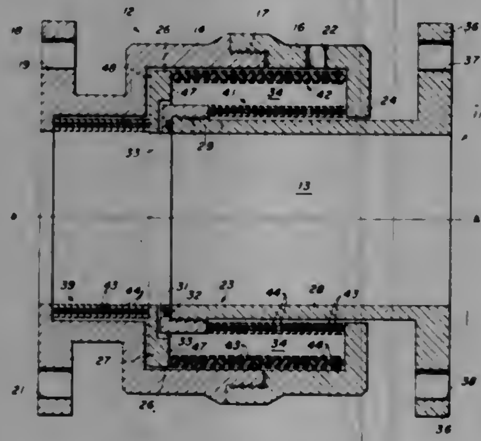
said transfer medium being a quantity of carbon paper secured superposed with respect to at least a portion of said one side face and at its marginal edges only with the transfer material disposed outwardly, to define an air space between said side face of said body and said transfer medium.

3,194,588
KEYED CONNECTOR FOR PLUGS AND SOCKETS HAVING NONINTERCHANGEABLE COUPLING MEANS
Don L. Buckey, High Ridge, and Harold Lankford, Florissant, Mo., assignors to McDonnell Aircraft Corporation, St. Louis, Mo., a corporation of Maryland
Filed Nov. 30, 1962, Ser. No. 241,341
6 Claims. (Cl. 285—[illegible]8)

1. In a keyed connector assembly for mating the end of a first line with the end of one of a plurality of second lines, the improvement which comprises a plug carried on the end of the first line with an internal bore exposing the end of the first line therein and said internal bore extending axially beyond the end of the first line, a key member mounted for relative rotation and against axial movement on said plug, said key member having generally axially directed and laterally spaced key elements extending over said plug, a socket carried on the end of a second line for relative rotation and against axial movement thereon with an internal bore exposing the end of the second line therein and said internal bore of said socket extending axially beyond the end of the second line and being sized to receive said plug therein, said socket having external key element receiving grooves generally axially directed and arranged in laterally spaced relation matching the spacing of said key elements, said socket and key member being relatively rotatable to match said key elements and grooves for interfitting sliding connection and being rotatable together relative to said second line and plug and without rotation of said plug and second line, and means on said plug and socket adapted to relatively axially move the same into assembly and connect said first and second lines.



3,194,589
VIBRATION ISOLATING PIPE COUPLING
Jerry V. Kahlbau and Frederick O. Bohls, Austin, Tex., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed July 19, 1963, Ser. No. 296,410
1 Claim. (Cl. 285—49)



Vibration-isolating-pipe coupling apparatus for connecting a pair of longitudinally aligned fluid passage pipes comprising:

a female member adapted to be connected at its outer end to one of said pair and provided at its inner free end with a radially-inwardly-extending flange,

a male member fitted into said female member and provided at its interior end with a radially-outwardly-extending flange,

the exterior end of the male member being adapted to be secured to the other of said pair and said male member having its interior surface longitudinally aligned with the interior surfaces of said pair of pipes,

a pair of radially-spaced stacked O-ring sealing and vibration decoupling assemblies extending and compressed between said male and female member flanges,

a third stacked O-ring sealing and vibration-decoupling assembly extending and compressed between the radial flange of said male member and said outer end of the female member,

said outer end of the female member being formed with a radial flange disposed to abut said third assembly and said last-mentioned flange being disposed for maintaining said third assembly with its radially inward surfaces aligned with the inner surfaces of said pair of pipes,

a fluid passage extending through said male member flange into the radial space between said pair of O-ring assemblies,

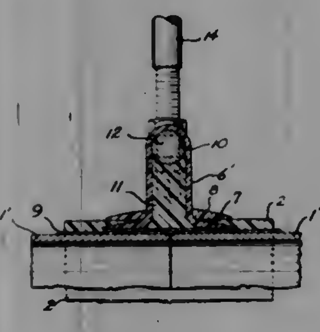
said O-ring assemblies each being formed of a plurality of stacked O-rings each formed of an elastomeric material and a plurality of stacked U-shaped casings each having its legs and web partially encompassing one of said O-rings,

one of said O-rings at one end of each assembly projecting outwardly of its casing into abutment with one of said radial flanges, and each of the remaining O-rings projecting outwardly of its casing into abutment with an adjacent casing whereby a fluid-tight seal is created by the assembly, and

vent means for exposing of the fluid free interior surfaces of said coupling apparatus to atmosphere,

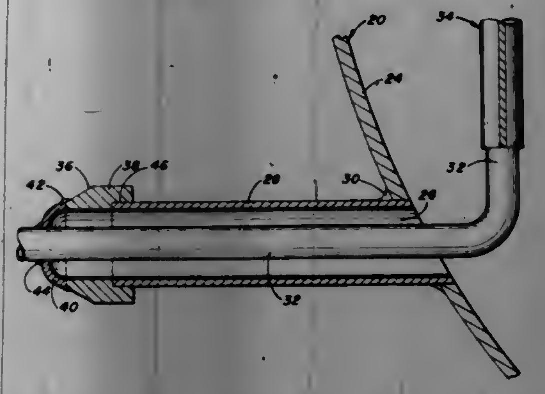
said O-ring assemblies being sufficiently flexible and compressible for decoupling vibrations to which the apparatus is subjected and said fluid pressure acting on said radial flanges for counter balancing the axial thrust of fluid in said pipes and apparatus.

3,194,590
COMBINATION PIPE HANGER AND COUPLING
Walter L. Cook, Renton, Wash., assignor to Heath-Tecna Plastics, Inc., Auburn, Wash., a corporation of Washington
Filed June 24, 1963, Ser. No. 289,839
3 Claims. (Cl. 285—61)



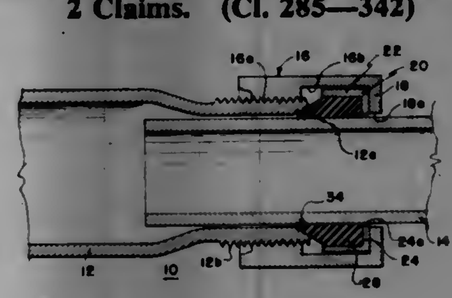
1. In combination, a pair of generally horizontal pipes arranged end to end, a sleeve composed of reinforcing material wrapped completely around the abutting ends of said pipes and secured in sealing relation to said pipes by a coating of synthetic resin, so as to form a joint therebetween, a longitudinally split annular band of reinforced plastic resin material clamped tightly about the mat and overlapping the adjacent ends of said pipe, so as to reinforce the joint, a bulged portion formed in said band opposite to said split and having an aperture therein, an inverted U-shaped strap of reinforced plastic resin material having its feet disposed in said bulged portion to either side of said aperture, so as to be fixedly upstanding therefrom, the legs of said U-shaped strap extending through said aperture substantially normal to the axes of said pipes, a plug of reinforced plastic resin material interengaged between the legs of the strap, so as to rigidify the same, a socket through the strap, at its bight portion, and means supporting the pipes, including a pin inserted through the socket, so as to suspend the strap from the same.

3,194,591
TUBE PENETRATION FOR CRYOGENIC SHIELD
Charles R. Weisend, Columbus, Ohio, assignor to Cryovac, Inc., Columbus, Ohio, a corporation of Ohio
Filed Aug. 10, 1962, Ser. No. 216,086
1 Claim. (Cl. 285—158)



A cryogenic vessel comprising, in combination, a ferrous metal wall means forming an evacuated sealed chamber and including an opening; a tubular shield of the same metal as said wall means enclosing an annular evacuated insulating space and having its inner end secured to said wall means by a fused junction and an outer end; a conduit formed of a non-ferrous metal extending through said opening in said wall means and disposed coaxially through said shield portion in spaced insulated relationship therewith and including a portion extending beyond the outer end of said tubular shield, means to rigidly connect in fluid tight relationship, said outer end of said tubular shield to said extending portion of said conduit comprising a closure member of a non-ferrous metal having substantially the same coefficient of expansion as that of said conduit, said closure member being fused to said conduit and bonded to said tubular shield.

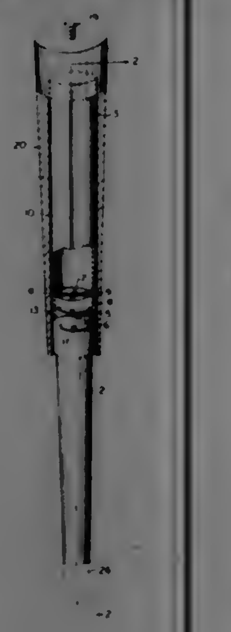
3,194,592
COUPLING NUT ASSEMBLY
Roger C. Boughton, Western Springs, Ill., assignor, by mesne assignments, to Pittsburgh Pipe and Coupling Company, Allison Park, Pa., a corporation of Pennsylvania
Filed Aug. 16, 1962, Ser. No. 217,493
2 Claims. (Cl. 285—342)



1. A coupling assembly for use with a pipe comprising a sleeve telescoped around said pipe and including a wedging surface tapered inwardly from the end of said sleeve toward said pipe, coupling nut means having a wall portion spaced outwardly from and encircling said pipe to define an annular gasket receiving recess around said pipe, said coupling nut means including flange means extending inwardly from said wall portion toward said pipe defining an end wall of said recess opposite said wedging surface on said sleeve, means interconnecting said sleeve and coupling nut means for moving said flange means toward and away from said sleeve, elastomeric, annular gasket means around said pipe within said recess having a forward end disposed between said wedging surface and said pipe and a rear end facing said flange means, and wedge ring means bonded to said forward end of said gasket means, said wedge ring means having a first surface tapered on its outer circumference complementary to said wedging surface and a second surface having its

inner periphery shaped to closely embrace said pipe, at least one radially extending face on said ring, a plurality of substantially radially extending serrations formed on said at least one radial face and terminating in radially extending teeth projecting outwardly from said first and second surfaces, a plurality of wirelike burrs extending from said radial teeth outwardly from said first and second surfaces of said wedge ring means gripping the sleeve and pipe in sealed relation.

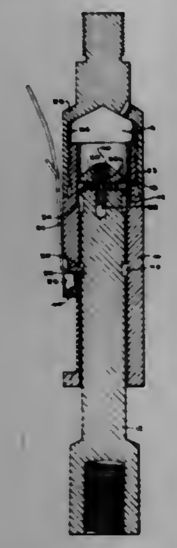
3,194,593
EXTENSIBLE SUPPORT
Robert G. Hendry, 41 Kaymar, Box 335, R.R. 1,
Ottawa, Ontario, Canada
Filed Oct. 3, 1962, Ser. No. 228,083
2 Claims. (Cl. 287—58)



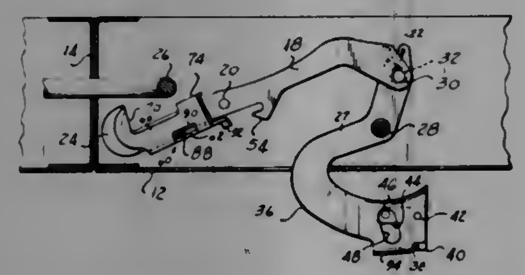
1. An extensible support including a first and second rigid elongated member, said first member having a longitudinal bore therein, a cylindrical liner in said bore of said first member, a longitudinal slot in said cylindrical liner, said cylindrical liner including a transverse slot having an inwardly bevelled edge, said second rigid elongated member being adapted to slide longitudinally in said cylindrical liner, a spring means for attaching said spring to said second member, and locking means on said second member resiliently biased to urge said means radially outwardly therefrom to engage said transverse slot of said cylindrical liner of said first member thereby locking said first member to said second member at a predetermined extended position, said locking means cooperating with said transverse slot, on the bevelled edge thereof, to release said locking means as said second member is rotated relative to said first member, said longitudinal slot in said cylindrical liner co-operating with one end of said spring, to bias said second member relative to said first member thereby to return said locking means of said second member to a radial position in register with said arcuate slot in said first member.

3,194,594
RELEASE TOOL
Herbert L. Hagler, P.O. Box 4456, Midland, Tex.
Filed Sept. 9, 1963, Ser. No. 307,431
10 Claims. (Cl. 287—119)

1. An oil well release tool comprising:
(a) a top holding member having an axial chamber with an upper outwardly inclined release rim, a median inwardly inclined lifting shoulder and a transverse slot cut through the lower wall;
(b) a bottom releasable member telescoping within said axial chamber and attachable at its lower end to a tool being deposited in said well, said bottom releasable member having a transverse bore at its top and at least one peripheral locking groove at its mid-portion;
(c) lifting locking means positioned at either end of said bottom member transverse bore, said locking means being urged outwardly against the inner walls of said axial chamber and respectively onto said inwardly inclined lifting shoulder and said outwardly inclined release rim; and
(d) telescoping locking means positioned in said transverse slot in the lower wall of said top member and urged through said slot against said telescoping bottom releasable member and into said peripheral locking groove.

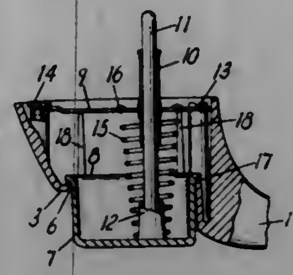


3,194,595
SAFETY DEVICE FOR COWLING LATCH
Frank Wheeler, Little Falls, N.J., and Benjamin Carl Beehner, Van Nuys, Calif., assignors to Camloc Fastener Corporation, Paramus, N.J., a corporation of New York
Filed Aug. 21, 1962, Ser. No. 218,313
4 Claims. (Cl. 292—113)



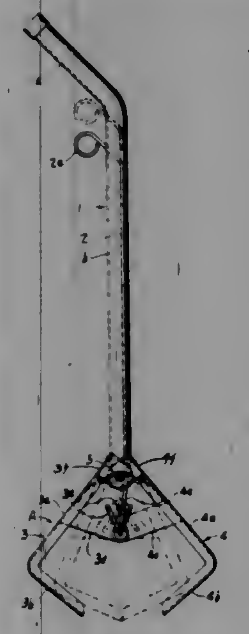
1. A latching assembly including in combination a keeper, a latch arm, means mounting said latch arm for movement from a first position at which said latch arm is out of engagement with said keeper to a latching position at which said latch arm engages said keeper, said mounting means having a latch arm actuator movable between a first position at which said latch is out of engagement with said keeper and a second position at which said latch is in latching engagement with said keeper, means comprising interengageable elements on said arm and on said actuator movable between a first position out of engagement when said arm is in said first position and a second position in engagement when said arm is in said latching position for locking said arm in said latching position, means comprising interengageable means carried by said latch arm and by said latch arm actuator for blocking movement of said locking means interengageable elements to said second position and means responsive to latching engagement of said latch arm with said keeper for rendering said blocking means inoperative.

3,194,596
DOOR HANDLES
Gerald V. Jakeway, Grand Rapids, Mich., assignor to Keeler Brass Company, Grand Rapids, Mich.
Filed Aug. 15, 1963, Ser. No. 302,296
8 Claims. (Cl. 292—336.3)



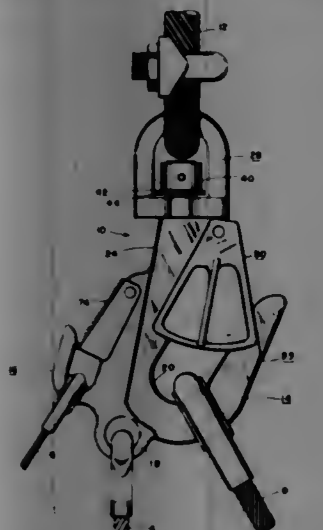
7. A handle of the class described comprising a grip member and a chambered head member having a push button opening therein and a push button stop, a push button reciprocatingly disposed in said opening and provided with a stem slidably mounted in said head member, said head member having elongated push button guide members disposed to laterally and guidingly support said push button, resilient guide member engaging means supportedly mounted on said push button to reciprocate therewith and being in lateral thrust sliding engagement with said guide members throughout the stroke of said push button and coacting with said guide members to prevent vibration of said push button as it is being reciprocatingly adjusted, and spring means acting to yieldably hold said push button in retracted position and with said resilient means in engagement with said stop.

3,194,597
PICK-UP TOOL
George E. Lasch, Jr., 31143 Hilliard Road, Westlake, Ohio
Filed Aug. 1, 1962, Ser. No. 214,040
4 Claims. (Cl. 294—19)



1. A tool of the class described comprising, in combination, an elongated handle having a hand gripping section at one end, a pair of opposed scoop members pivotally mounted about a common point to the other end of said handle for movement toward and away from one another to respective closed and open positions, said scoop members each comprising a respective main body portion and an integral scoop portion angularly disposed with respect to its main body portion, said scoop portions extending from their main body portions in converging relation to one another when the scoop members are in fully open position, said scoop portions having such angular relation to one another as to move into substantially linear alignment when they are in closed position with their opposed extremities in abutting relation, whereby said scoop portions will pass under and scoop up loose material as said scoop portions move toward one another while engaging the surface on which said material is initially supported, spring means intermediate of the scoop members and engaging each of them normally urging said scoop members to open position away from one another, and actuating means for effecting movement of the scoop members toward one another to closed position against the action of said spring means, wherein the said scoop members are each provided with a single respective offstanding lug member struck out of the body of its respective scoop member, each lug member provided with an elongated slot therein, said actuating means including an actuating member having a part extending through said slots in said lugs, said slots converging at the point where the actuating member extends therethrough and said slots diverging outwardly therefrom in an upward direction whereby upward movement of the actuator member will serve to effect movement of the scoop members toward one another.

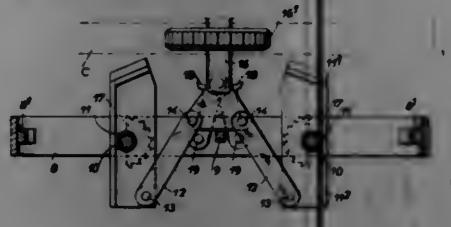
3,194,598
HELICOPTER RESCUE HOOK
Martin N. Goldfuss, Broomall, Pa., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 18, 1963, Ser. No. 309,903
3 Claims. (Cl. 294—78)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A multiple load handling device comprising:
(a) a main hook having a shank and a bill with a throat therebetween;
(b) a bail swivelly mounted on said shank;
(c) means securing said bail to said shank;
(d) an anti-friction element interposed between bail and said means securing thereof;
(e) a latch pivotally secured to said shank for movement between open and closed positions having sides and an end with the lower portion removed, said shank being disposed between said sides in the open and closed positions of said latch and said bill extending through said slot and between said sides when said latch is in closed position;
(f) resilient means urging said latch to a closed position;
(g) a secondary hook having a bill and a shank;
(h) said main and secondary hooks being integrally connected at the backs of their shanks;
(i) latch means pivotally secured to the shank of said secondary hook for movement between open and closed positions; and
(j) a ring member integral with said hooks disposed between the heels of their shanks.

3,194,599
SELF-CLAMPING SUSPENSION

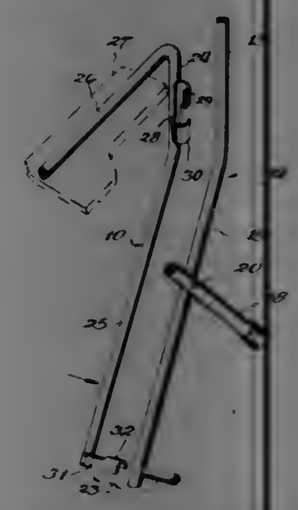
Pierre Ambill, 4 Cottage Monthreynaud, Saint-Etienne, Loire, France
Filed July 22, 1963, Ser. No. 296,662
Claims priority, application France, July 28, 1962, 8,502, Patent 1,331,011; June 10, 1963, 8,709
8 Claims. (Cl. 294—[illegible]0)



1. A self-clamping suspension device for cattle, including an oblong cage having a central transverse strut, longitudinal sides, and rounded ends, symmetrical pivot pins carried by said cage, self-clamping shoes pivotally mounted on said pins and having at one end thereof a suspension chain, the opposite end of said shoes forming bearing jaws in the form of sectors for acting on the animal's feet when an animal is suspended, the said feet being abutted at the opposite side by the interior of the rounded ends of the cage.

3,194,600
ATTACHMENT FOR CHAIRS

Bela B. Junkunc, Chicago, Ill., assignor to Bela Seating Company, Inc., Chicago, Ill., a corporation of Illinois
Filed Aug. 26, 1963, Ser. No. 304,595
10 Claims. (Cl. 297—[illegible]60)

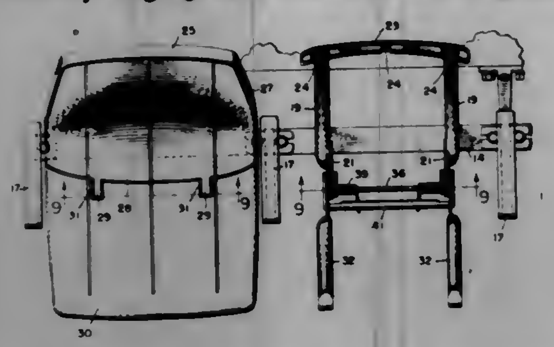


1. A clamping attachment for chairs, said attachment comprising a rod, a pair of oppositely disposed clamps attached to said rod, the longitudinal axis of each of said clamps extending parallel an adjacent portion of said rod and each of said clamps being spaced longitudinally relative to said rod, and another clamp attached to said rod, said last mentioned clamp extending at an angle to said oppositely disposed clamps.

3,194,601
AUDIENCE CHAIRS

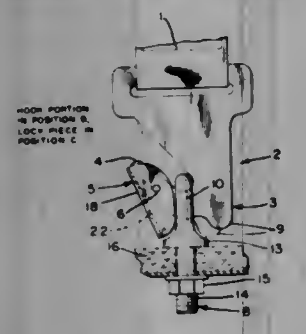
Alfred C. Hoven, Grand Rapids, and Frans Semplonius, Wyoming, Mich., assignors to American Seating Company, Grand Rapids, Mich., a corporation of New Jersey
Filed June 8, 1964, Ser. No. 373,327
4 Claims. (Cl. 297—[illegible]33)

1. In combination with a platform providing stepped vertical and horizontal areas, pedestals anchored to a vertical portion of the platform, a cross beam carried by said pedestals, a pair of back tubes fixed to said beam and having portions extending rearwardly and upwardly and short portions extending forwardly, a plastic back carried by said upwardly-extending tube portions and providing also a rear seat segment over said forwardly-extending portions, a pair of seat supports pivotally mounted on said forwardly-extending tube portions, a plastic seat segment complementary to said first-mentioned rear seat segment carried by said seat supports, and spring means yieldably urging said forward seat segment upwardly into a position generally parallel with said back, said forward seat segment being apertured to clear said forwardly-extending back tube portions when said forward seat segment is raised and said fixed rear seat segment being provided with extensions received within said apertures to substantially fill said apertures when the forward seat segment is in lowermost position.



3,194,602
SAFETY BELT ATTACHMENT

Donald Gottwald, Jr., 2938 Walnutridge Road, Akron, Ohio
Filed Aug. 23, 1962, Ser. No. 219,024
3 Claims. (Cl. 297—385)



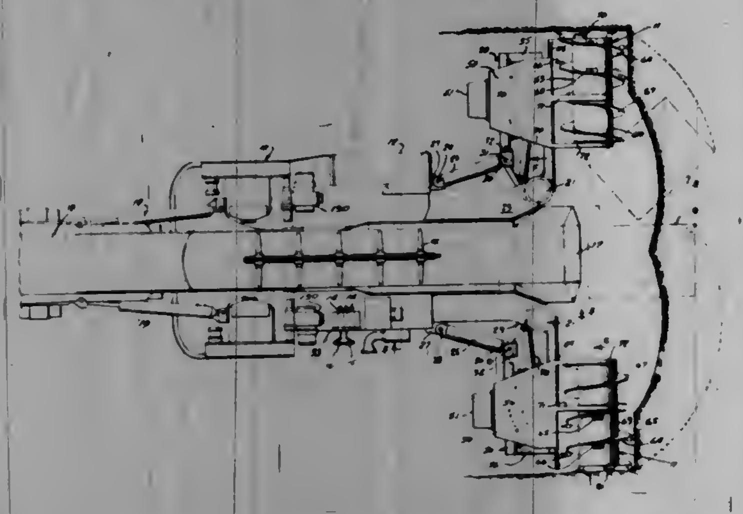
1. The combination of a safety belt, an eyebolt and a base, which includes

an eyebolt with its shank held in the base, and
a flat hook with one end of the belt engaged in flat relation in an elongated opening therein whereby said end of the belt and the hook are in the same plane,
the eyebolt having a base portion between its shank and its eye.
said hook including a body portion and a hook portion both in the same plane as said end of the belt,
with a slot in one edge of the hook dividing said portions,
the hook portion being engaged in the eye with the outer portion of the eye in the closed end of the slot,
the body portion of the hook having a heel which extends from its base where the hook portion joins the body portion,
said heel limiting the amout of the hook that can be passed through the eye,
the hook portion being extended through the eye until said heel is against the eye, and
a lock piece swivelly attached near its outer end to the hook portion near its outer end, and comprising two sides
the opposite end of the lock piece being movable to and from the hook portion when the hook is extended through the eye,
the lock piece being movable in and out of the eyebolt with the hook portion when said opposite end of the lock piece is adjacent the hook portion,

said lock piece comprising two sides each of which covers a part of one side of the hook portion, which sides are joined adjacent one edge of each over the edge of the hook portion between its heel and said outer end of the hook portion, the opposite edges of said sides tapering toward the end of the lock piece opposite said outer end thereof in a plane perpendicular to the hook portion, said sides being against one side of the eyebolt when the hook portion rests on the eyebolt with its heel against the other side whereby the hook portion is held in substantial alignment with the shank.

3,194,603
SCROLL TYPE CONTINUOUS MINING MACHINE

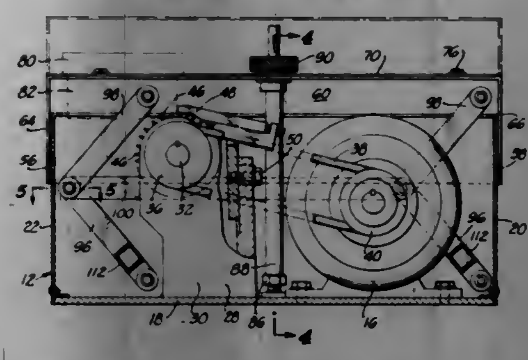
Joseph Gonski, Chicago, and John S. Newton, Glen Ellyn, Ill., assignors to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Filed June 28, 1963, Ser. No. 291,334
4 Claims. (Cl. 299—64)



1. In a continuous mining machine, a mobile main frame having an endless conveyor extending therealong from a receiving portion adjacent the ground at the front of the main frame toward a rearward discharge portion, power actuated means for advancing said main frame along the ground, a feeder arm pivotally mounted on each side of the main frame for horizontal swinging movement ahead of the main frame about a vertical pivot, elongated pusher means extending along each feeder arm, effective upon inward swinging movement of the feeder arms, to sweep cuttings along the floor into the path of the receiving portion of the endless conveyor, when the latter is advanced, a mining and conveying head comprising side cutting scroll means carried by each feeder arm on the leading side of the corresponding pusher means when the feeder arm is swung inwardly, power actuated means for simultaneously rotating both scroll means and swinging the feeder arms toward each other, the scroll means comprising coaxial cutting-conveying and conveying scrolls of substantially the same conveying capacity, the cutting-conveying scroll having cutter bits on the periphery thereof and being positioned at the outer end of the corresponding feeder arm and the conveying scroll being positioned inwardly of the cutting-conveying scroll and forming an inward continuation thereof, means mounting said scroll means on said feeder arms for longitudinal adjustable movement therealong to vary the width of the room being mined, and the pusher means being extensibly and retractibly movable with the scroll means and being long enough to back up at least the conveying scroll in all longitudinally adjusted positions to effect the transfer of cuttings from the mine face to the receiving portion of the conveyor at substantially the same uniform rate, regardless of the width of room being mined.

3,194,604
BRUSH TRIMMER

Glen R. Lambert, 16512 Kettler Lane, Huntington Beach, Calif.
Filed Aug. 5, 1963, Ser. No. 299,891
4 Claims. (Cl. 300—17)

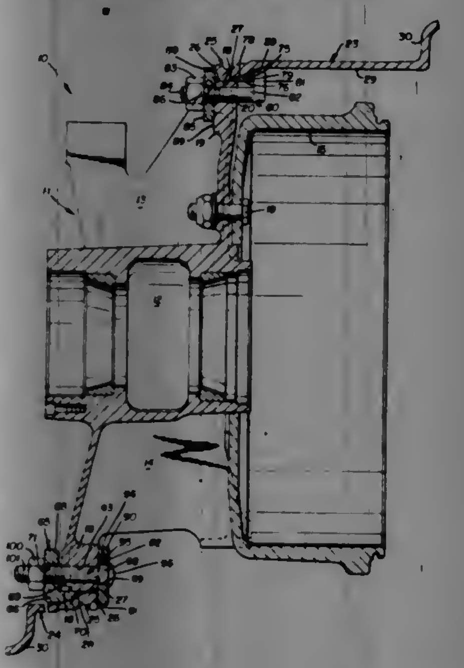


1. A brush trimmer, said brush trimmer comprising:

a lower housing, said lower housing having a bottom, first and second side walls and first and second end walls;
a brush trimming shear head rotatably mounted within said lower housing adapted for the cutting of brush bristles, power means mounted within said lower housing and connected to drive said shear head;
an upper housing, said upper housing having a top, first and second end walls and first and second side walls depending from said top, said end walls and said side walls of said upper housing respectively cooperating with said end walls and said side walls of said lower housing to substantially enclose said shear head and said power means for the prevention of inadvertent access thereto; and
guide means on said top of said upper housing, said guide means being arranged for the guidance of brushes, said guide means being positioned with respect to said shear head so that when brushes are guided along said guide means the bristles of the brushes are trimmed in accordance with the relationship of said top of said upper housing with respect to said shear head.

3,194,605
RIM AND WHEEL ASSEMBLIES

William D. Walther, Dayton, Ohio, assignor to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio
Filed Nov. 4, 1963, Ser. No. 321,033
4 Claims. (Cl. 301—13)

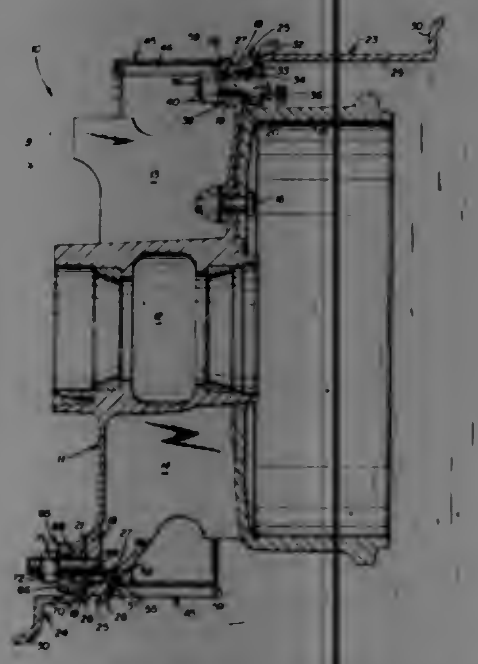


4. A rim and wheel assembly for mounting dual interchangeable inner and outer rims on a wheel having a plurality of inner and outer spoke members, each spoke

member having a felly surface with an axially spaced apart relation to the felly surface of an adjacent spoke member and terminating in a radially oriented stop surface, the radially oriented stop surface on said inner spoke members positioned on the axially outer side thereof and the radially oriented stop surface on said outer spoke members positioned on the axially inner side thereof, each rim having a mounting flange with a radially oriented positioning surface, an axially oriented seating surface, and an axially inclined holding surface, the felly surface on each spoke member being axially flat for seating a mounting flange, there further being individual and removable elements attached at the axially outer end of the felly surface of each inner spoke member and at the axially inner end of the felly surface of each outer spoke member, each element having a radially extending surface for positively engaging the positioning surface on a rim mounting flange and said rim stop surface, a circumferentally continuous clamp element carried on each inner spoke felly surface for holding the mounting flange of an inner rim, and an individual clamping element carried by each outer spoke member for holding the mounting flange of an outer rim.

3,194,606
RIM, WHEEL AND SPACER ASSEMBLIES

William D. Walther, Dayton, Ohio, assignor to The Dayton Steel Foundry Company, Dayton, Ohio, a corporation of Ohio
Filed Nov. 4, 1963, Ser. No. 321,034
8 Claims. (Cl. 301—13)

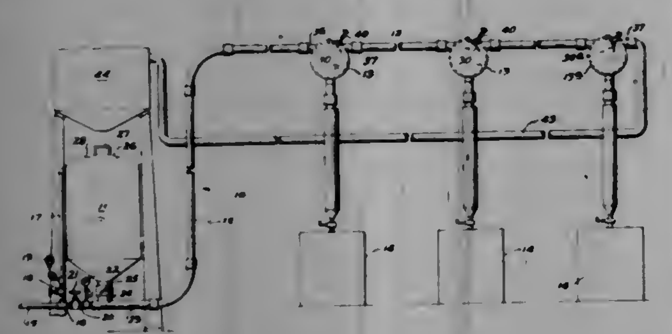


7. A rim, wheel and spacer assembly for mounting dual interchangeable inner and outer rims on a wheel having a felly surface, an arcuate notch in said felly surface, a spacer mounted between said rims, said spacer being axially rigid, a radially inwardly directed flange on said spacer received in said notch, axially positionable clamping means carried on the axially inner side of said wheel for holding said inner rim against said spacer and separate, circumferentially spaced, axially positionable clamping means carried on the axially outer side of said wheel for holding said outer rim against said spacer.

3,194,607
SALT CONVEYING SYSTEM

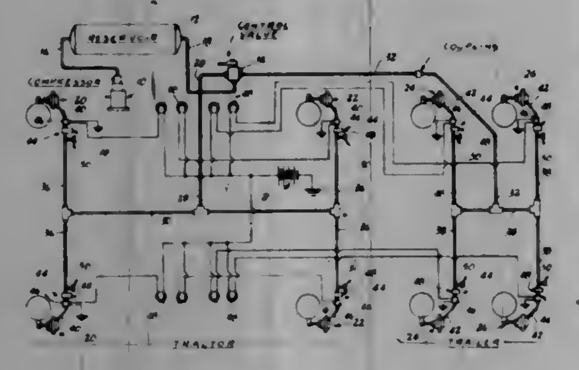
Anthony Timmons, San Mateo, and Karl O. Engstrom, Palo Alto, Calif., assignors to Leslie Salt Co., San Francisco, Calif., a corporation of California
Filed June 25, 1962, Ser. No. 205,012
6 Claims. (Cl. 302—28)

1. In a system for conveying granulated materials in an air stream to a plurality of dispensing stations, said system including a pressure vessel containing a supply of the granulated material and having an outlet connected with a conduit supplied by a source of air under pressure, the combination therewith of a plurality of diverter valves spaced apart along said conduit, each of said valves being adapted to extract an amount of the granulated material from the air stream and comprising: a walled enclosure forming a chamber; axially aligned air inlet and outlet means near the upper end of said chamber for directing the air stream and the particles of granulated material entrained therein into said chamber; a movable baffle member of resiliently deflectable material located in said chamber between its aligned inlet and outlet means; said baffle member having an elongated shape and being fixed at one end only to wall of said enclosure forming a valve chamber, the free end of said baffle member extending downstream of its attached end; means engaging the free end of said baffle member for moving it to a predetermined fixed position across the particle conveying air stream to cover a predetermined portion of the air stream as it enters said chamber; whereby the particles entrained in the covered portion of said air stream are deflected and removed therefrom and are caused to fall downward in said chamber; and material outlet means at the lower end of said chamber adapted to communicate with a supply hopper for the material thus removed from said air stream.



3,194,608
SAFETY MEANS IN AIR BRAKE EQUIPMENT

Samuel M. Rich, 15 Aberdeen Place, University City 5, Mo.
Filed May 1, 1963, Ser. No. 277,154
4 Claims. (Cl. 303—84)



1. In tractor-trailer air brake equipment of the type described including terminal lines for supplying air pressure simultaneously to each of the brake operating mechanisms, means adapted to insure the operability of the other brake mechanisms even though the terminal line leading to any one of the included brake mechanisms has been broken, said means comprising an assemblage interpolated in each terminal line adjacent the brake mechanism and including:

a normally open solenoid valve;

a differential air pressure switch unit mounted in a housing;

electrical connections between the valve, the switch unit and the battery of the tractor-trailer electrical system;

an air pressure by-pass tube leading from the terminal line to said switch housing;

a piston slidably disposed in a cylindrical bore centrally of the switch housing, said piston having an integral upwardly extending stem;

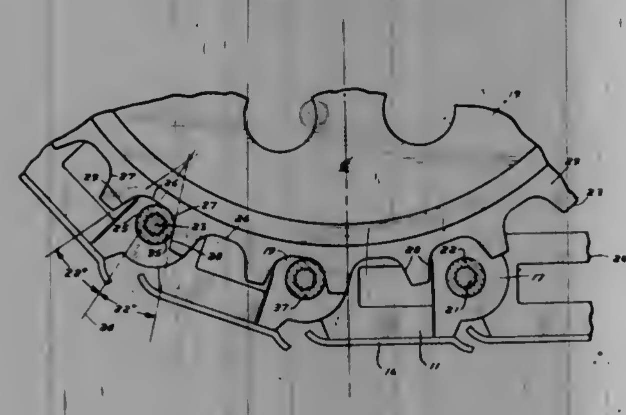
a light compression spring interposed in the cylindrical bore about the stem between the upper end of said bore and the top face of the piston;

a stationary contact element mounted in a closure plate atop the switch housing in alignment with the piston stem; and

means for delivering air pressure to said bore below the piston causing said stem to engage the contact element whereby to energize the solenoid valve to closed position when the air pressure delivered to the bore above the piston via the by-pass tube ceases.

3,194,609
SPROCKET AND CHAIN DRIVE

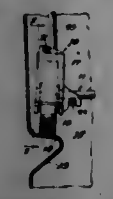
Lloyd Thurlow, Wahpeton, N. Dak.
Filed Mar. 30, 1964, Ser. No. 356,363
5 Claims. (Cl. 305—57)



1. In a crawler tractor having a power output axle and a pair of endless tracks positioned on opposite sides of said crawler tractor and driven by said output axle, each of said tracks having a separate endless chain portion comprising a plurality of links having spaced side members with transverse, cylindrical, equally spaced, sprocket engaging bushings of a single uniform diameter extending between said side members, the improvement comprising a pair of drive sprockets mounted on said power output axle and each engaging the chain portion of one of said tracks, each of said sprockets having first and second side surfaces and a plurality of teeth evenly spaced along the outer periphery thereof, adjacent teeth partially defining bushing receiving receptacles, said receptacles being further defined by a pair of part-cylindrical surfaces of said uniform diameter extending between said first and second side surfaces of said sprocket, said part-cylindrical surfaces having separate spaced parallel axes, said axes being spaced on opposite sides from a plane extending radially outwardly from the center of said sprocket and bisecting said receptacle, said axes further being situated substantially parallel to the center of rotation of said sprocket, a plane root surface tangent to each of said part-cylindrical surfaces and situated substantially normal to said radial plane, and a pair of outer plane faces, each tangent to one of said part-cylindrical surfaces extending outwardly at an angle of not more than 22 degrees with respect to said radial plane, the effective pitch of said sprocket being less than the pitch of its mating chain.

3,194,610
RELEASABLY ATTACHABLE WHEEL DEVICE FOR USE WITH WIRE STRUCTURES

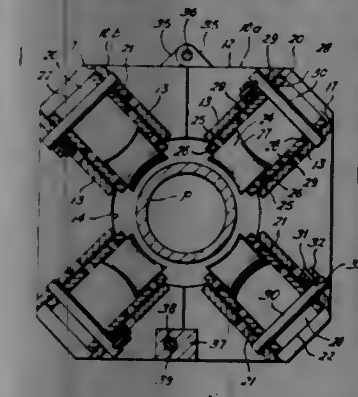
Bruce E. Stewart, St. Paul, Minn., assignor to Whirlpool Corporation, a corporation of Delaware
Filed Mar. 27, 1963, Ser. No. 268,355
11 Claims. (Cl. 308—3.8)



1. In a structure having a member to be carried provided with wire means, means for movably carrying the member, comprising: a wheel; a carrier having a portion in snap-fitted engagement with the wire means of said member for maintaining the carrier in releasable attached relationship to said member; and means for journalling the wheel on said carrier for rolling movement in carrying the member.

3,194,611
PIPE GUIDE FOR RUNNING WELL PIPES

Peter M. Mahony, % Dixie Rental Tools, Inc., Box 691, Lake Charles, La.
Filed Mar. 6, 1963, Ser. No. 263,212
3 Claims. (Cl. 308—4)



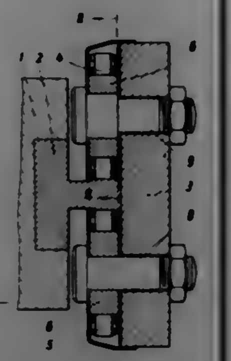
1. A pipe guide for running well pipes, comprising, a generally annular hollow body mountable on top of a well and having a central opening therethrough for passage of pipe, spacer means defining a plurality of radial slots in said body angularly spaced about said opening, said body being split medially to provide two complementary segments, means hingedly connecting the segments for opening and closing them about a pipe, cooperating latch means on the segments for releasably locking them together, a horizontally disposed roller carriage slidably mounted in each of said slots to project radially therefrom into said opening, said body and said spacer means cooperating to enclose each said carriage to prevent vertical movement thereof in its slot, guide rollers journalled in the inner ends of said carriages to rollably engage pipe passing through said opening, and cooperating means on said spacer means and said carriages for selectively adjusting the extent of projection of said rollers into said opening whereby to accommodate pipes of differing diameters therebetween, said cooperating means including means for securing said carriages in the selected position.

3,194,612
ROLLER GUIDE

Friedrich Striepe, Friedrichshafen, Germany, assignor to Zahnradfabrik Friedrichshafen Aktiengesellschaft, Friedrichshafen, Germany
Filed July 30, 1962, Ser. No. 213,389
Claims priority, application Germany, Aug. 18, 1961, 8,918
8 Claims. (Cl. 308—6)

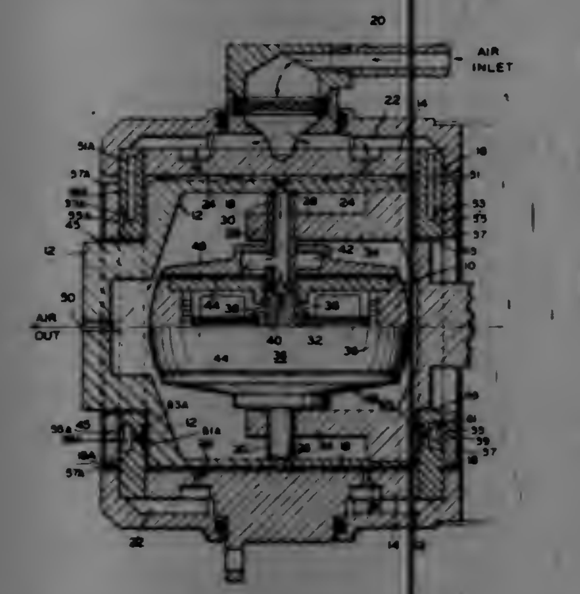
8. A movable member and a roller guide therefor comprising a pair of endless rotative roller trains having

straight flights in parallel relation, said member having a rail means intermediate and contiguous with adjacent flights of said trains whereby said member is supported for translational movement by rolling motion of said trains, a lower flight of one of said trains effecting retention of said rail and an upper flight of the other of said trains effecting load support for said rail, and a fixed shoe within each of said roller trains on which rollers of said trains are rotative, said shoes having parallel sides contiguous with said rollers and rounded ends for effecting ease of movement of respective roller trains in motion therearound in either direction, a machine wall, means for securing said shoes to said machine wall, and eccentric bolt means spaced from said latter means and securing at least one of said shoes to said machine wall for effecting adjustability thereof with respect to the other of said shoes.



3,194,613
HYDROSTATIC AIR BEARING FOR SUPPORTING A HYDROSTATIC MOTOR

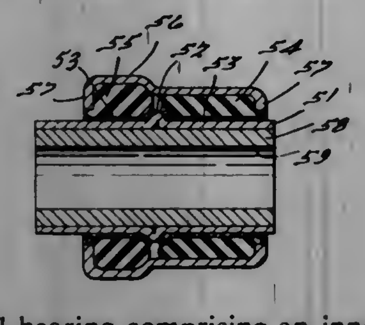
Joseph P. Pierry, Park Ridge, and Howard E. Schulien, Montville, N.J., assignors to The Bendix Corporation, Teterboro, N.J., a corporation of Delaware
Filed Feb. 18, 1963, Ser. No. 259,067
3 Claims. (Cl. 308—9)



1. The combination comprising a sleeve, a cylinder pivotally mounted within the sleeve in spaced relation thereto, port means for supplying air under pressure to the space between the cylinder and the sleeve to form a first film of air for bearing the cylinder in said sleeve, a hollow shaft having an outer surface, said shaft being positioned within and supported by said cylinder, a rotor formed with an inner surface positioned concentrically with the outer surface of said shaft and in spaced relation thereto, port means in the cylinder for communicating the space between the cylinder and sleeve with the interior of the hollow shaft for introducing air under pressure into the hollow shaft, port means opening from the hollow shaft for directing air under pressure from the hollow shaft into the space between the inner surface of the rotor and the hollow shaft so as to form a second air bearing film between the rotor and the shaft.

3,194,614
LOW FRICTION SLEEVE TYPE BUSHING

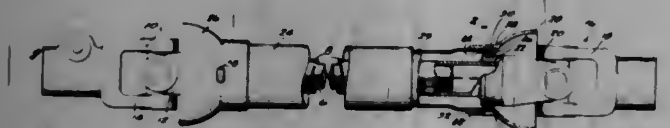
Paul P. Thomas, Detroit, Mich., assignor to American Metal Products Company, Detroit, Mich., a corporation of Michigan
Filed Nov. 21, 1960, Ser. No. 70,602
1 Claim. (Cl. 308—26)



A cylindrical bearing comprising an inner metal sleeve having a generally cylindrical outer bearing surface, an outer metal sleeve surrounding said inner sleeve, said inner sleeve having an outwardly bent portion forming an annular flange on the outer bearing surface thereof intermediate the ends of the inner sleeve, the ends of said outer sleeve extending inwardly to form annular end flanges, a cloth sleeve having an inner surface of low friction fibers surrounding said inner sleeve on each side of the flange thereof, and a pair of resilient sleeves of elastomeric material compressed between said outer sleeve and cloth sleeves on each side of the inner sleeve flange and maintaining said cloth sleeves in snug mated sliding engagement with the outer bearing face of said inner sleeve, one of said resilient sleeves cooperating with said inner sleeve flange and one of said outer sleeve flanges to inhibit axial movement between the sleeves in one direction and the other of said resilient sleeves cooperating with the inner sleeve flange and the other of said outer sleeve flanges to inhibit axial movement between said sleeves in the opposite direction.

3,194,615
SHAFT ORGANIZATION

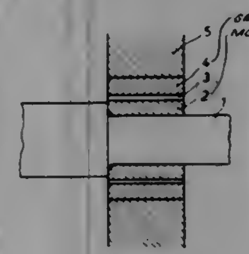
Anthony V. Weasler, 603 Ridge Road, West Bend, Wis.
Filed July 3, 1962, Ser. No. 207,231
1 Claim. (Cl. 308—37)



In a shaft organization which includes inner and outer members, non-metallic bearing means rotatably supporting and axially positioning the outer member from the inner member, said bearing means comprising a discontinuous ring having an arcuate extent materially in excess of 180° and provided with separable ends, the inner member having an annular channel in which a peripheral portion of the ring is releasably engaged and from which the other periphery of said ring projects, the outer member having adjacent one of its ends a complementary channel in which said other periphery of the discontinuous ring is disposed, the two channels of the respective members having shoulders engaging the ring, whereby said members are not only positioned radially but restrained from relative axial displacement, one of said shoulders proximate the said end of the outer member comprising a snap washer engaged in a narrow peripheral slot with which said outer member is provided, the snap washer having a free end and being removable from the slot for withdrawal from the said end of the outer member when the free end of the snap washer is deformed inwardly, the snap ring also being replaceable through the end of the outer member, the outer member having an opening communicating with said slot and through which a portion of said washer near at least one of its free ends is accessible for deforming it inwardly by radially inward pressure to release it from the slot whereby to permit the axial movement of the outer member from the bearing ring, and the said outer member being freely movable axially away from the bearing ring when the snap washer is absent.

3,194,616
GAS LUBRICATED SLEEVE BEARING FOR GAS TURBINES

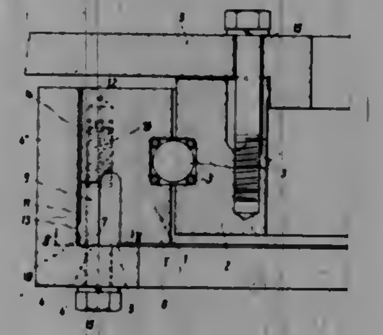
Ulrich Oprecht, Wittenbach, Sankt Gallen, Switzerland, assignor to Adolph Saurer Ltd., Arbon, Switzerland
Filed Jan. 28, 1963, Ser. No. 254,325
Claims priority, application Switzerland, Jan. 29, 1962, 1,071/62
2 Claims. (Cl. 308—121)



1. A gas lubricated radial sleeve bearing for use in turbo engines, and particularly in gas turbines exposed to widely varying operational temperatures and high velocities of the rotary member, comprising a rotary member at least a part of which is made of a material consisting at least preponderantly of molybdenum, and a stationary member at least a part of which is made of a material consisting at least preponderantly of graphite.

3,194,617
BEARING ASSEMBLY

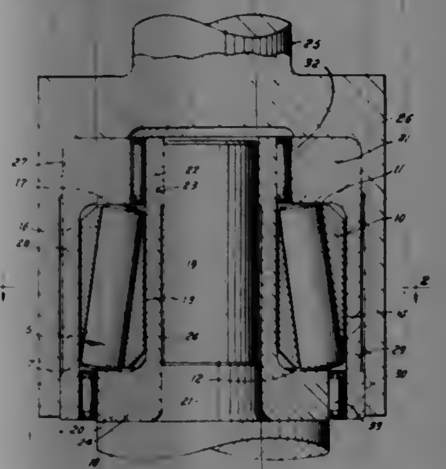
Wilhelm Schlüeter, Dortmund, Germany, assignor to Eisenwerk Rothe Erde G.m.b.H., Dortmund, Germany
Filed Dec. 18, 1962, Ser. No. 245,617
Claims priority, application Germany, Dec. 23, 1961, E 22,164
6 Claims. (Cl. 308—219)



1. In an anti-friction bearing assembly, in combination, a supporting ring having a supporting surface extending transverse to the bearing axis; a race ring arranged coaxially with and substantially non-rotatably relative to said supporting ring and having a portion spaced from and facing said supporting surface; and resiliently deformable means integral with said portion of said race ring extending therefrom in axial direction and having an end surface abutting against said supporting surface for transmitting axial forces between said rings, said resiliently deformable means being resiliently deformed in direction transverse to said axis during differential expansion of said rings so as to exert a resilient force tending to keep said rings coaxial with each other while minimizing during such expansion the sliding movement of said surfaces with respect to each other.

3,194,618
ANTI-FRICTION BEARINGS

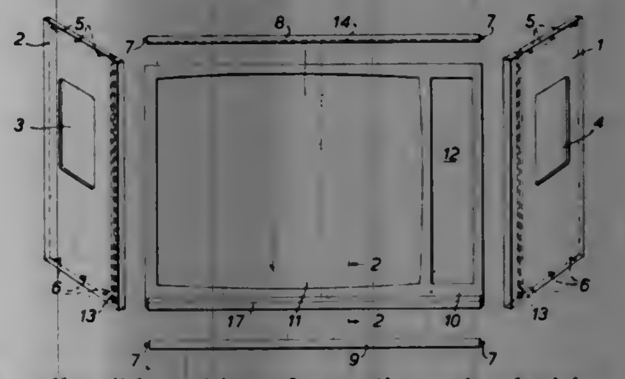
John D. Hamaker, Rte. 7, Box 276, Tyler, Tex.
Filed May 27, 1963, Ser. No. 283,256
14 Claims. (Cl. 308—231)



1. An anti-friction load-sustaining bearing including a plurality of elongated roller-shaped bearing members of circular cross-section having substantially spherical bearing load-sustaining end bearing faces on each end for carrying substantially the entire bearing load, the end faces having a general radius of curvature of the magnitude of one-half the axial length of the bearing members, the bearing members being of much greater length than diameter, a cage member for the bearing members of generally ring shape having end faces and an axial bore forming an internal face, the cage member having an outer longitudinal face and a plurality of bearing bores receiving the bearing members in rotatable relationship, the bearing bores being inclined at an oblique angle with respect to one axis of the cage member and opening through opposed faces of the cage member, the bearing bores having axial lengths less than the axial lengths of the bearing members.

3,194,619
COLLAPSIBLE CABINET FOR RADIO AND TELEVISION RECEIVERS AND LIKE PURPOSES

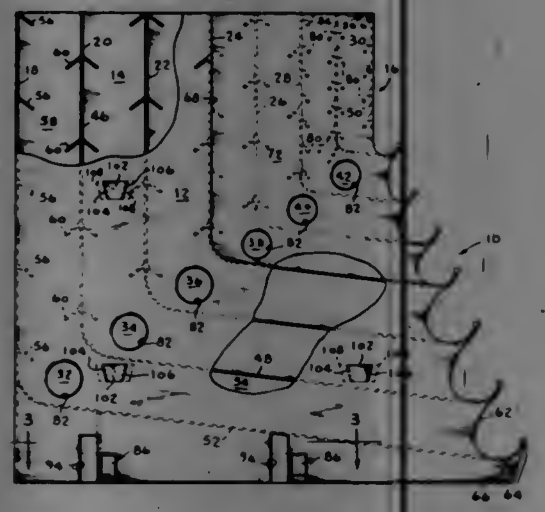
Rudi Heinz Gerhard Dannenberg, 22–24 Haager Strasse, Neuendettelsau, Middle Franconia, Germany
Filed Oct. 19, 1962, Ser. No. 231,780
Claims priority, application Germany, Mar. 19, 1962, D 38,401; Apr. 25, 1962, D 38,762
7 Claims. (Cl. 312—7)



5. A collapsible cabinet for radio and television receivers and like purposes comprising a plurality of nominally flat panels constituting respectively a front, base,

top and side walls; dowel and socket connections between said base and top panels and said side panels; tongue and groove connections between said front panel and said side and top panels; a rebate along the front edge of said base panel on the underside thereof; an inward-projecting flange on the bottom edge of said front panel in the erected state of the cabinet engaging said rebate and clamped to said base panel; and an elongated foot member extending parallel to said side panels and releasably secured to the underside of said base panel by means of a screw and slot connection.

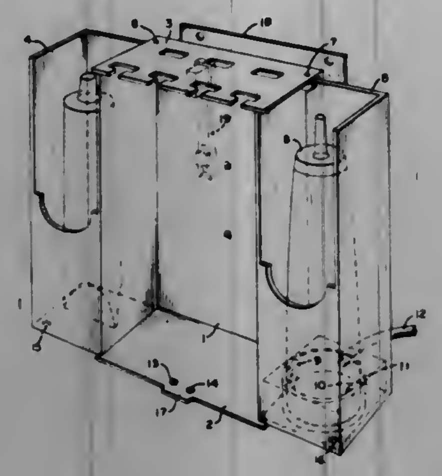
3,194,620
STORAGE AND DISPENSING UNIT
Lloyd A. Sauer, Glendale, Wis., assignor to Display Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed June 17, 1963, Ser. No. 288,167
13 Claims. (Cl. 312—[illegible]5)



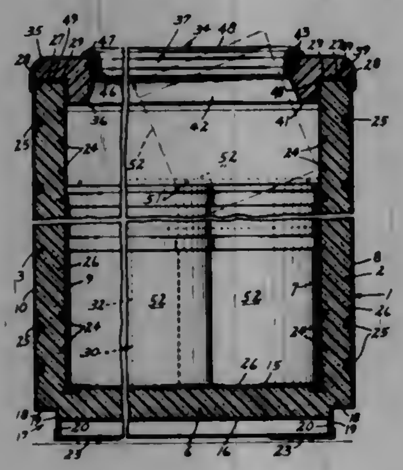
1. A dispenser comprising, in combination, opposed side walls, opposed end walls extending between said side walls, means separating the area defined by said side walls into a plurality of compartments, a plurality of support members and means for receiving said support members arranged on said side walls in pairs, each of said pairs comprising a support member on one side wall aligned with means for receiving said support member on the other side wall, and a plurality of interlocking members arranged on said side walls in pairs, each pair comprising a projection on one side wall aligned with means on the opposite side wall defining an opening complementary to and adapted to interlock with said projection.

3,194,621
ELECTRIC TOOTHBRUSH CASE
George H. Frost, Ashland, Ohio, assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 24, 1963, Ser. No. 283,034
3 Claims. (Cl. 312—[illegible]6)

1. A portable folding compartmented case for storage of domestic appliances, such as a power drive toothbrush handle, detachable brushes, toothpaste tubes and a charger for said power drive handle, consisting of a frame constructed as a square U shaped piece having its bottom constituting the back of said frame and its two legs constituting the top and the bottom of said frame, a pair of rectilinear compartments pivoted to said top and bottom parts of said frame at the outer edge back corners thereof, each said compartment having a mound protruding from the bottom corner thereof diagonally across from said pivot, dimple means in said bottom of said frame registering with said mound means in the completely closed position of said compartments, a lip provided on said bottom of said frame accessible in said completely closed position of said case, said bottom of said frame being sufficiently elastic to respond to downward pressure on said lip to spring said mount and dimple means apart to allow said compartments to be swung out into open position and an offset stiffening member secured to said back part of said frame forming with said back part a reel for the storage of an appliance cord for a said charger.



3,194,622
FREEZER CABINET CONSTRUCTION
Donald G. Harter, Edina, Minn., assignor to Studebaker Corporation, South Bend, Ind., a corporation of Michigan
Filed Feb. 8, 1963, Ser. No. 257,167
4 Claims. (Cl. 312—214)



1. A freezer cabinet for frozen food products comprising:

(a) opposed side walls, opposed end walls, a bottom wall and a door-equipped top wall,

(b) said side walls and said end walls comprising an inner casing portion and an outer casing portion spaced from said inner casing portion,

(c) said bottom wall comprising an upper casing portion and a lower casing portion spaced below said upper casing portion,

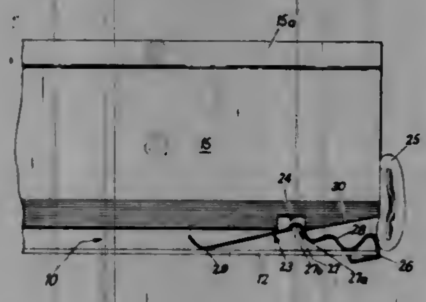
(d) a structure supporting angle section disposed generally at the lower edge of the outer casing of at least an opposed pair of said side and end walls, said angle sections generally forming a right angle in cross section and having a generally horizontally inwardly extending part and a generally vertically downwardly extending part and said angle sections being secured to the lower casing portion of the bottom wall of the cabinet,

(e) said lower casing portion of the bottom wall being disposed below the generally horizontally extending parts of said angle sections,

(f) depending flanges on the lower casing portions secured to the vertically downwardly extending parts of the angle sections, and

(g) the spaces between the spaced casing portions of said side, end and bottom walls containing a foamed-in-place insulating material.

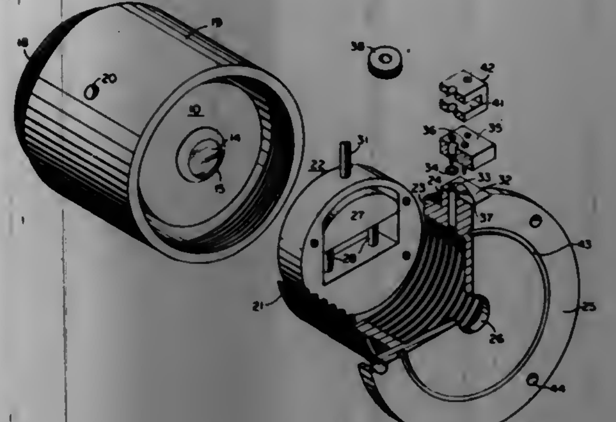
3,194,623
DRAWER SUSPENSION RETAINER
George A. Burgess, Fairfield, Ohio, assignor to The Globe-Wernicke Co., Division of Globe-Wernicke Industries, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed June 21, 1963, Ser. No. 289,619
1 Claim. (Cl. 312—333)



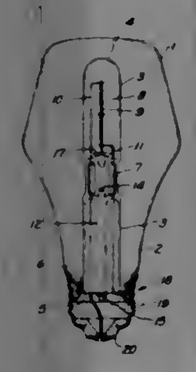
In a filing cabinet having at least one drawer, and including a track secured to said cabinet, a rail secured to said drawer, an intermediate runner between said track and said rail, and a system of bearings cooperating therebetween; the improved retainer comprising a resilient bumper at one end of said track to stop said rail and said runner at the closed position, a spring detent secured to said track, said spring detent comprising a strip of resilient material having a clip portion at one end adapted to engage said track, and including a tapered, upwardly extending, yieldable abutment, a bevel on said rail disposed to depress said detent as said rail and runner are moved toward said closed position, and a notch in said rail disposed to cooperate with said detent and said bumper to releasably hold said rail and runner in closed position, said abutment being arranged to engage said notch in said rail when said rail is in the closed position, said spring detent including at least one corrugation between said yieldable abutment and said notch and the rear portion of said tapered abutment being more steeply sloped than the front portion thereof, whereby said suspension unit is releasably retained in the fully closed position.

3,194,624
METHOD OF EVACUATING AN X-RAY TUBE HAVING A THIN WINDOW
Jack A. Soules, 870 N. Arlington Mill Drive, Arlington, Va.
Original application May 22, 1962, Ser. No. 196,837, now Patent No. 3,135,889, dated June 2, 1964. Divided and this application Mar. 30, 1964, Ser. No. 371,165
4 Claims. (Cl. 316—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method of evacuating and baking an X-ray tube having a thin window to obtain an ultra-high vacuum pressure in said tube without damage to said window which comprises securing said X-ray tube in a vacuum system, simultaneously evacuating said X-ray tube and said vacuum system to a high vacuum pressure, sealing off said thin window with a sealing means to maintain said high vacuum pressure between said thin window and said sealing means, removing said X-ray tube from said vacuum system with said sealing means sealing off said window, further evacuating and simultaneously baking said X-ray tube at a high temperature to obtain said ultra-high vacuum in said X-ray tube, sealing off said tube evacuation and terminating said baking.



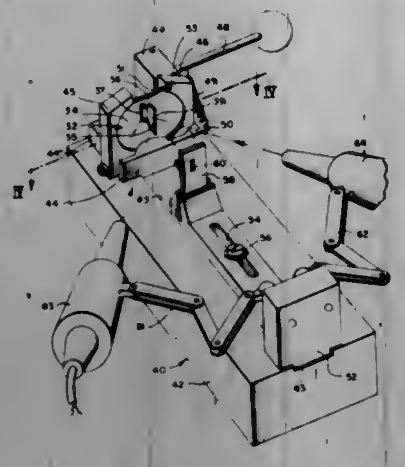
3,194,625
ELECTRIC LAMP WITH UNITARY INNER ENVELOPE AND STEM ASSEMBLY AND MANUFACTURE THEREOF
George K. Danko, Chesterland, Ohio, assignor to General Electric Company, a corporation of New York
Filed June 18, 1962, Ser. No. 203,237
1 Claim. (Cl. 316—20)



The method of manufacturing an electric lamp which comprises arranging an assembly of a single unitary length of an elongated glass envelope having one end closed and the other end open, with a glass exhaust tube extending into the interior of said envelope through the open end thereof, and with a pair of lead-in conductors extending longitudinally into the interior of said envelope beyond said exhaust tube and supporting thereat a filament connected at its ends to the ends of said conductors, heating and softening a zone of said envelope located intermediate its ends and adjacent to the inner end of said exhaust tube, compressing the softened walls of the envelope at said zone to form a single hermetic pinch seal area about the adjacent portions of said conductors and about said exhaust tube while preserving the opening through the interior of said tube to thereby form a chamber enclosing said filament between the closed end of said envelope and the said hermetic seal area, removing the air from said chamber through said exhaust tube and filling the chamber with a desired atmosphere, reheating a portion of said hermetic seal area adjacent said chamber to soften and collapse the glass thereat to seal off the opening through said exhaust tube, forming an exhaust aperture through the wall of another portion of said seal area in communication with the interior of said exhaust tube, inserting the resulting assembly into the interior of an outer glass bulb through an open neck portion of the bulb, sealing together the peripheries of said bulb neck portion and the outer end of said envelope, evacuating said outer bulb through said exhaust tube and exhaust aperture, and then sealing off said exhaust tube.

3,194,626
METHOD OF ALIGNING A REFLECTOR AND A LIGHT SOURCE
Thomas A. Hoffmann, Morris Plains, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Dec. 5, 1961, Ser. No. 157,217
11 Claims. (Cl. 316—3)

1. The method of positioning an element and a curved reflector surface in predetermined spaced relation, which method comprises, aiming at said reflector surface a beam of radiant energy of a type that is reflected by said reflector surface, placing the element in said beam, placing a screen at a location such that it intercepts the beam of radiant energy reflected by said reflector surface, and then adjusting the relative poistion of said element and reflector surface to obtain the desired alignment thereof by detecting the resultant movement of the reflected shadow of the element on said screen.



CHEMICAL

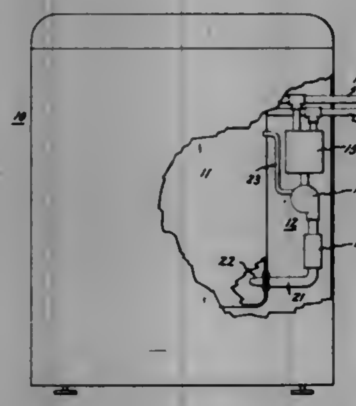
3,194,627
PROCESSES FOR PRODUCING MODIFIED CELLULOSIC TEXTILE MATERIALS
Dmitry Michael Gagarine, Pendleton, S.C., assignor to Deering Milliken Research Corporation, Pendleton, S.C., a corporation of Delaware
No Drawing. Filed Aug. 7, 1958, Ser. No. 753,620
17 Claims. (Cl. 8—16)

1. In a process for imparting flat drying characteristics to a textile material containing cellulosic fibers, having an average of at least about 1.8 free hydroxyl groups per glucose unit, wherein said fibers are reacted with a cellulose cross-linking agent in the presence of a base solution, the conditions of this reaction being such that the wet tensile strength of the fibers is reduced below the dry strength of the fibers, the improvement which comprises applying to said textile material up to about 8% by weight of the base solution of an antioxidant selected from a group consisting of oxidizable inorganic salts, metal formaldehyde sulfoxylates, aldehydes, aromatic alcohols, aromatic amines, aliphatic amines, and condensation products of amines and aldehydes, and retaining said antioxidant on said textile material during the cross-linking reaction whereby the wet tensile strength of the fibers is not reduced to the same extent as would occur in the cross-linking reaction in the absence of said antioxidant.

3,194,628
GENERATOR OF CLEANSING MEDIUM FOR WASHING MACHINE
Peter Cannon, Alplaus, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 27, 1961, Ser. No. 119,961
8 Claims. (Cl. 8—137)

5. A method of generating a cleansing medium for a washing machine which comprises in combination, passing water containing air ranging in concentration from between about 20 to about 50 percent of the volume of water through an electrical discharge device having an ultraviolet lamp therein for the production of H_2O_2 and O_3, utilizing a photoemissive reflector with said lamp to increase production of H_2O_2 and O_3, passing water containing newly generated H_2O_2 and O_3 into a washing machine having clothes therein for the desired period of time, removing air from above the water level in said machine, and entraining the air so removed in the water to be passed through said electrical discharge device.

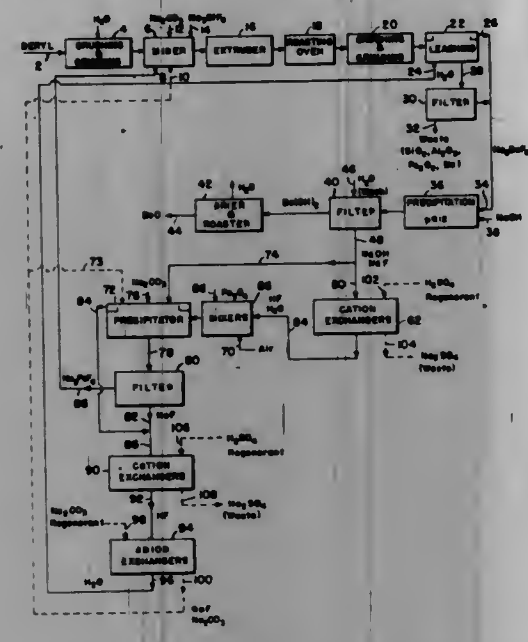
8. In combination with a washing machine having a container for containing water and clothes to be washed, an electrical discharge device for generating H_2O_2 and O_3 including an ultraviolet lamp, means for entraining a substantial volume of air in water and passing the resulting water-air mixture through said device for H_2O_2 and O_3 generation, a photoemissive surface and shielding reflector combination surrounding said lamp being adapted to reflect light rays and electrons from said lamp into the water-air mixture, means for introducing the water containing newly generated H_2O_2 and O_3 into said container and means placing said air entraining means in communication with the air space in said container above the water therein.



3,194,629
METHOD OF REMOVING MERCURY VAPOR FROM GASES
John A. Dreibelbis and Ronald S. Joyce, Pittsburgh, Pa., assignors to Pittsburgh Activated Carbon Company, a corporation of Pennsylvania
No Drawing. Filed Feb. 23, 1962, Ser. No. 175,347
2 Claims. (Cl. 23—2)

1. A process of removing mercury from a gas contaminated with the same comprising passing the gas over activated carbon impregnated with sulfur.

3,194,630
PROCESS FOR THE RECOVERY OF A FERRIC-FLUORIDE COMPLEX AND/OR A BERYLLIUM COMPOUND
George E. Glover, Philadelphia, Pa., assignor to Crane Co., Chicago, Ill., a corporation of Illinois
Filed Jan. 11, 1962, Ser. No. 165,695
9 Claims. (Cl. 23—88)



7. A process for removal of soluble ionizable fluoride from an aqueous solution thereof including:

subjecting at least a part of said solution to cation exchange to provide a solution containing hydrofluoric acid;

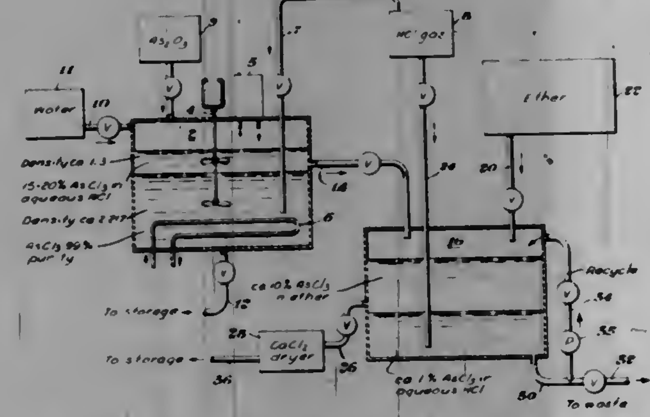
treating a substance of the group consisting of iron and salts thereof with the hydrofluoric acid solution to produce iron fluoride;

reacting the iron fluoride with alkali fluoride to produce a precipitate of alkali-ferric fluoride;

removing the precipitate of alkali-ferric fluoride; and

subjecting the remaining aqueous solution to demineralization by ion exchange to remove alkali and fluorine ions.

3,194,631
PROCESS OF PRODUCING HIGH PURITY ARSENIC TRICHLORIDE FROM A SLURRY OF As_2O_3
George B. Cobel, Midland, and William R. Fronk, Ann Arbor, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 14, 1963, Ser. No. 265,100
7 Claims. (Cl. 23—98)



1. A method of making high purity $AsCl_3$ which consists essentially of (1) slurrying As_2O_3 in an aqueous HCl solution of between 20 percent and the point of saturation, in a closed system, (2) passing HCl gas through the aqueous slurry so made to produce $AsCl_3$ in suspension at a temperature of between room temperature and about 100° C., (3) allowing the reaction mixture to cool and stratify into substantially two liquid layers: a lower layer comprising $AsCl_3$ and an upper aqueous layer containing dissolved $AsCl_3$, (4) separating the two layers, and (5) extracting $AsCl_3$ from the thus separated aqueous layer by admixing therewith an organic solvent for $AsCl_3$, which is substantially immiscible with water, and (6) separating the solvent containing a substantial portion of the $AcCl_3$ from the remaining aqueous portion.

3,194,632
PROCESS FOR THE MANUFACTURE OF MAGNESIUM PHOSPHATES OR OF SALT MIXTURES CONTAINING MAGNESIUM PHOSPHATES
Avraham M. Baniel, Haifa, Simon Lavie, Ramat Shaul, Haifa, and Hugo C. Heimann, Kiryath Bialik, Haifa, Israel, assignors, by mesne assignments, to Israel Mining Industries-Institute for Research and Development, a company of Israel
No Drawing. Filed Aug. 13, 1962, Ser. No. 216,330
Claims priority, application Israel, Aug. 20, 1961, 15,921
12 Claims. (Cl. 23—105)

1. A process for the manufacture of anhydrous magnesium orthophosphate, which comprises reacting rock phosphate containing a predetermined amount of calcium with a mixture of anhydrous magnesium chloride and a chloride selected from the group consisting of alkali metal chlorides and ammonia chloride at a temperature sufficiently high to cause said mixture to start to melt, said mixture containing an amount of magnesium stoichiometrically equivalent to a desired proportion of the calcium of the rock phosphate, thereby to produce a product consisting of a mixture of a major part of anhydrous magnesium orthophosphate and a minor part of calcium orthophosphate.

3,194,633
MANUFACTURE OF LEAD OXIDE HYDROXIDES
Ernst Voss and Alexander Koenig, both of Frankfurt am Main, Germany, assignors to Varta Aktiengesellschaft, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed Dec. 11, 1961, Ser. No. 158,597
Claims priority, application Germany, Dec. 31, 1960, A 36,410
8 Claims. (Cl. 23—146)

1. The process which comprises adding to an alkaline alkali metal plumbite solution, at a temperature not exceeding about 50° C., and a mineral acid in an amount sufficient to adjust the pH of the solution to within the range of about 13.0 to about 14.0 and recovering the resulting lead oxide hydroxide of the formula $5PbO.2H_2O$.

3,194,634
PROCESS FOR PRODUCING SILICA IN THE FORM OF A DISPERSED POWDER
Georges Yelnik, Saint-Jean-de-Maurienne, and Robert Odievre, Riouperoux, France, assignors to Solumeta, Paris, France, a corporation of France
Filed Feb. 27, 1961, Ser. No. 92,072
Claims priority, application France, Feb. 26, 1960, 819,720, Patent 1,257,842
3 Claims. (Cl. 23—182)

1. In the process of producing silicon dioxide as a dispersed powder by (1) the partial reduction of silicon dioxide into silicon monoxide utilizing carbon as the reducing agent and the vaporization of silicon monoxide in an arc furnace containing electrodes, and (2) the combustion and cooling of the silicon oxide vapors in a separate zone, the improvement comprising treating a powdered mixture of silica and carbon by continuously charging same into a sealed arc furnace maintained at a temperature of about 2000–2600° C. and containing a molten bath consisting essentially of silicon, said mixture being charged such that the molten layer of said mixture on said bath is maintained at a volume 5 to 20 times smaller than the volume of the bath, whereby impurities contained in the charged

mixture are absorbed by said bath, the silica reduced to silicon monoxide and vaporized, further comprising blasting the interior of said furnace with blasts of inert gases to inhibit formation of deposits of conducting material on said furnace, and thereafter burning and cooling the silicon monoxide gas to produce said silica power.

3,194,635

METHOD FOR THE PRODUCTION OF ALUMINUM REFRACTORY MATERIAL

David T. Lapp, Chippawa, Ontario, and Howard J. Bartlett, Niagara Falls, Ontario, Canada, assignors to Norton Company, Worcester, Mass., a corporation of Massachusetts

No Drawing. Filed July 18, 1961, Ser. No. 124,789

7 Claims. (Cl. 23—1[illegible]2)

1. A method for the production of aluminum nitride refractory material which comprises forming a mixture of finely divided aluminum with finely divided carbon in an amount of about 5% to 20% by weight of the mixture, heating the mixture at a temperature between about 1000° and 1500° C. in an atmosphere of excess nitrogen, continuing said heating for a time effective to convert the aluminum to aluminum nitride, and cooling the mixture in the nitrogen atmosphere.

3,194,636

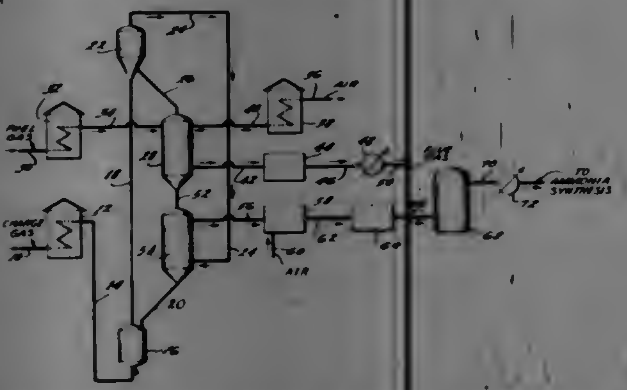
HYDROGEN FROM HYDROCARBONS

James E. McEvoy, Morton, Pa., and Thomas Henry Milliken, Jr., New York, N.Y., assignors to Air Products and Chemicals, Inc., a corporation of Delaware

Filed Aug. 15, 1962, Ser. No. 217,020

The portion of the term of the patent subsequent to Oct. 9, 1979, has been disclaimed and dedicated to the Public

1 Claim. (Cl. 23—2[illegible]2)



In a process for generating hydrogen which comprises contacting a methane stream with a catalyst comprising a porous refractory support impregnated with metallic iron, said catalyst containing from 0–20% FeO by weight and being free of higher iron oxides and said catalyst further containing 1–3% by weight of residual coke, effecting said contacting at elevated temperature between 1400 and 2000° F. to form by decomposition of said methane elemental hydrogen and depositing coke upon said catalyst, continuing said contacting for a period such that the coke content of the catalyst is increased to a total content not in excess of 5% by weight of the catalyst, thereafter regenerating said catalyst by oxidative combustion with air under conditions avoiding excessive oxidation of the iron therein, the quantity of air used furnishing free oxygen in an amount insufficient to burn all the coke in the catalyst and said regeneration being under conditions such that during combustion of the coke in the catalyst a high molar ratio of at least 6:1 CO/CO_2 is maintained in the vicinity of the catalyst, said regeneration being continued to an extent sufficient to remove a portion of the deposited coke leaving 1–3% by weight of residual coke in said catalyst and thereafter contacting said regenerated catalyst with additional methane at said elevated temperature to form elemental hydrogen and to deposit coke upon said catalyst, the improvement which consists of the combination of: circulating catalyst particles through a confined reaction zone to a separate confined regeneration and heating zone and back to the reaction zone; controlling the temperature of said confined regeneration and heating zone within the range from about 1700° F. to about 2150° F. whereby the gas stream discharged from the regeneration zone contains a greater quantity of carbon monoxide than carbon dioxide; controlling the flow of methane through the confined reaction zone relative to the flow of catalyst particles therethrough so that at least a major portion of the methane is converted in the absence of oxidizing gases into hydrogen and carbon; and effecting the contacting of the methane and catalyst particles so that the obtained hydrogen stream is substantially free from carbon oxides.

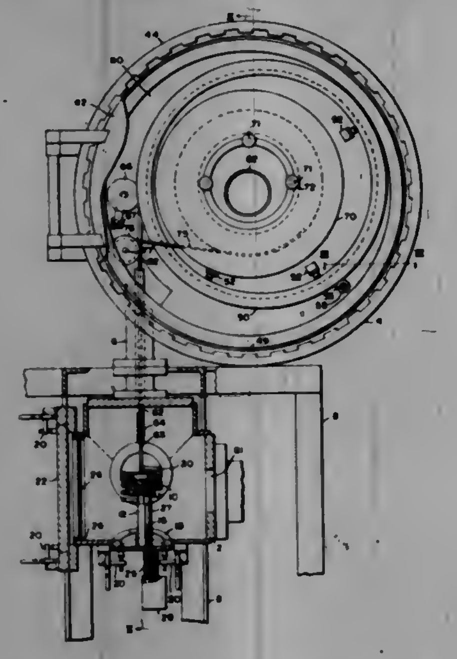
3,194,637

APPARATUS FOR THE CONTINUOUS DENDRITIC GROWTH OF CRYSTALLINE MATERIAL

Richard L. Longini, Pittsburgh, Allan I. Bennett, Export, Walter J. Smith, Monroeville, and Jacob J. Coleman, Braddock, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 22, 1960, Ser. No. 37,931

9 Claims. (Cl. 23—273)



1. Apparatus for the continuous growth of dendritic crystalline material comprising a first air tight chamber, a crucible mounted within said first chamber for containing a melt of said material; heating means for controlling the temperature of the melt disposed about the crucible; a second air tight chamber disposed above said first chamber; a third chamber interconnecting said first and second chamber; windup means rotatably mounted within said second chamber and presenting a curved surface; said windup means disposed within said second chamber to align the dendrite crystal issuing from said first chamber with a portion of said curved surface; said windup means including means for seating and drawing said crystal onto said curved surface.

3,194,638

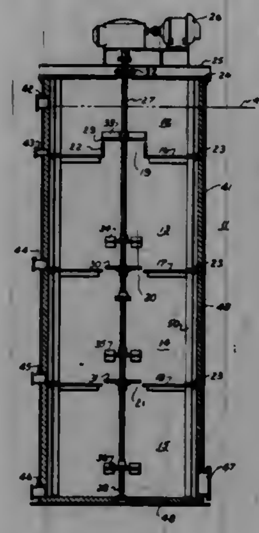
COMBINED SLAKER-CAUSTICIZER APPARATUS

Stewart M. Neuville, Harrison, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware

Filed Nov. 21, 1962, Ser. No. 239,118

2 Claims. (Cl. 23—283)

1. A combined slaker-causticizer apparatus comprising a vertical cylindrical vessel, a plurality of spaced stationary horizontal imperforate baffles dividing said vessel into superposed compartments, said baffles having central apertures therein for communication between said compartments, an upstanding flange disposed around the circumference of the central aperture in the uppermost compartment, a shaft rotatably mounted axially of said vessel and extending through said compartments, horizontal rotating imperforate baffles mounted on said shaft adjacent to and closely spaced from each of said apertures, agitating means located in each compartment and mounted on said shaft, means for admitting both dry and liquid reaction chemicals into the uppermost of said compartments for mixture therein, outlet means near the floor of said uppermost compartment and communicating with an exterior of the vessel for withdrawing from the uppermost compartment a portion of the reaction mixture containing coarse particles, and outlet means at the base of the lowermost compartment of said vessel for removing fully reacted chemicals.



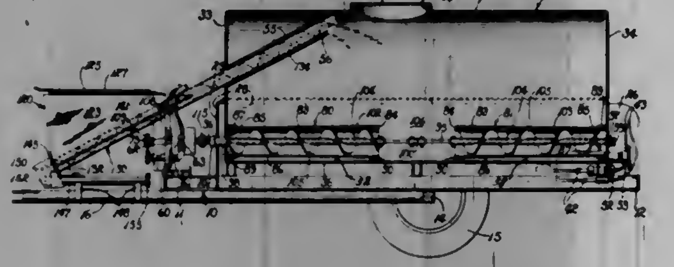
3,194,639

PORTABLE MIXING MECHANISM

Curt Brown, 820 E. Lovers Lane, Visalia, Calif., and Lyle B. Oliver, 16 Birch Ave., Reedley, Calif.

Filed May 17, 1962, Ser. No. 195,631

8 Claims. (Cl. 23—285)



1. A mixing mechanism for manufacturing solutions of a solid solute comprising: a tank having a semi-cyclindrical bottom wall; means for introducing water and solid solute into the tank; a pair of spaced axially aligned tubular housings rigidly mounted in the tank in spaced relation closely adjacent to the bottom wall, each housing having oppositely opening ends and a longitudinally tapering slot therein adjacent to and directed toward the bottom wall; a shaft journaled longitudinally in the tank concentrically of the housings; a pair of longitudinally spaced helical screw impellers mounted on said shaft individually within said housings with the impellers being of opposite pitch; power means having driving connection to the shaft for rotating said impellers within their respective housings to force liquid through said slots in sweeping relation against said bottom wall to stir material tending to settle in the liquid; and means for releasing the aqueous solution from the tank.

3,194,640

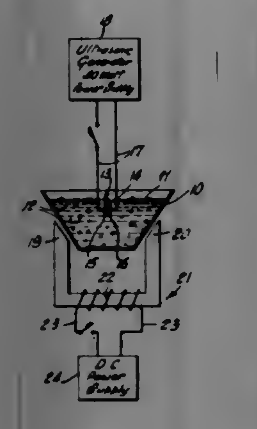
USE OF ULTRASOUND TO INDUCE CRYSTAL REARRANGEMENTS AND PHASE TRANSITIONS

Florence Nesh, 1445 Otis Place NW., Apt. 122, Washington, D.C.

Filed Feb. 10, 1961, Ser. No. 88,586

7 Claims. (Cl. 23—293)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. The method of treating a metal oxide, which in one form is non-ferromagnetic and in another form is ferromagnetic, to convert said oxide from a non-ferromagnetic form to a ferromagnetic form, which comprises:

(a) dispersing and suspending said oxide, while in a finely divided condition, in an aqueous liquid containing small gas bubbles, and

(b) subjecting said liquid with dispersed oxide suspended therein concurrently to ultrasonic vibrations sufficient to create cavitation and a strong magnetic field, until the crystal form of the oxide is changed to its ferromagnetic form.

3,194,641

METHOD OF REMOVING SULFATES FROM CRYOLITE CONTAINING THE SAME

Arthur Gross and Heinz Ringelmann, Lunen, Westphalia, Germany, assignors to Vereinigte Aluminium-Werke, Bonn, Germany

No Drawing. Filed Nov. 29, 1961, Ser. No. 155,808

Claims priority, application Germany, Nov. 29, 1960, V 19,720

14 Claims. (Cl. 23—312)

1. In a method of removing sodium sulfate from cryolite containing the same, the steps of heating said sodium sulfate-containing cryolite to a temperature above 100° C.; and leaching the thus heated cryolite with an aqueuos liquid so as to dissolve at least a portion of said sulfate thus obtaining a cryolite of reduced sulfate content.

3,194,642

WELDING STRUCTURE AND METHOD OF MAKING SUCH STRUCTURE

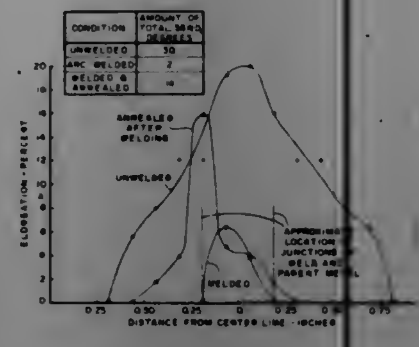
Robert C. Bates, Monroeville, Robert W. Huston, Wilkinsburg, and Fred J. Morley, Jr., Hempfield Township, Westmoreland County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Apr. 22, 1960, Ser. No. 24,044

7 Claims. (Cl. 29—191)

4. As an article of manufacture a structure of nodular iron, in which the free carbon is predominately in the form of nodules, said structure having dimensions readily permitting annealing treatment, said structure to constitute a part of a substantially larger assembly by the subsequent welding, of said structure to a contiguous member of said assembly, said larger assembly being too large to be subjected to annealing treatment at said site, the region of said structure where said structure is to be

welded to said member being buttered with a ferrous alloy readily weldable to said iron, said buttered structure having a microstructure substantially only of ferrite and graphite, the overlay produced by the buttering being so thick that it is effective, during the subsequent welding to said member, to prevent the heat-affected zone from penetrating into the original modular-iron base metal.



3,194,643

CLAD METAL PRODUCT

James J. L. Ma, West Chester, Charles Wright, Jr., Coatesville, and Kenneth W. McEuen, Malvern, Pa., assignors to Lukens Steel Company, Coatesville, Pa., a corporation of Pennsylvania

Filed July 20, 1962, Ser. No. 211,375

8 Claims. (Cl. 29—191)

1. A clad metal product of a base metal plate and a clad metal sheet, the juxtaposed surfaces of said plate and sheet being initially intermittently bonded by a high energy rate source, the uniting interfaces of said plate and sheet including a plurality of intermeshing waves, said plate and sheet being subsequently metallurgically bonded over the entire area of said juxtaposed surfaces with the amplitude of the intermeshing waves reduced.

3,194,644

PRODUCTION OF PIPELINE GAS FROM COALY SOLIDS

Everett Gorin and Charles H. Rice, Pittsburgh, Pa., assignors to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 30, 1962, Ser. No. 183,807

7 Claims. (Cl. 48—197)

1. A process for producing pipeline gas from coaly solids, which process comprises

(a) introducing said solids into a hydrogasification zone wherein between 20 and 70 weight percent thereof is reacted with hydrogen and steam at a temperature in the range of 1200 to 2000° F. and at a pressure in the range of 50 to 150 atmospheres to yield gas A comprising methane, hydrogen, and carbon monoxide,

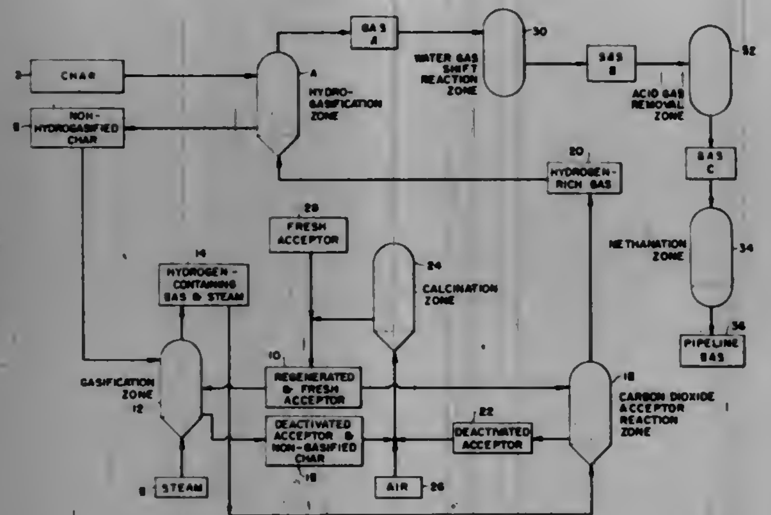
(b) recovering said gas A from said hydrogasification zone,

(c) separately recovering the remainder of said solids from said hydrogasification zone,

(d) gasifying at least a portion of the recovered solids with steam in the presence of a carbon dioxide acceptor in a gasification zone maintained at a temperature in the range of 1400 to 1800° F. and at a pressure in the range of 5 to 40 atmospheres to yield a hydrogen-containing gas,

(e) recovering said hydrogen-containing gas from said gasification zone, said gas being introduced subsequently into said hydrogasification zone of step (a) to supply at least a portion of said hydrogen used therein, and

(f) thereafter catalytically methanating gas A under conditions to yield pipeline gas.



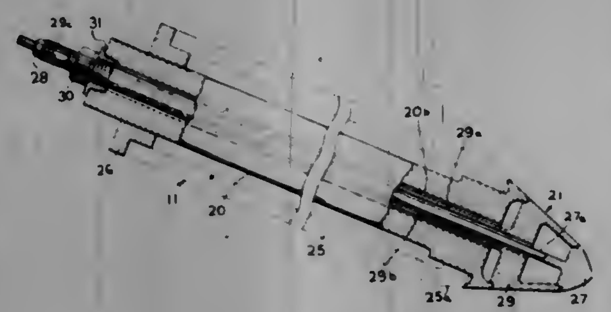
3,194,645

APPARATUS FOR FORMING MOLTEN GLASS IN CYLINDRICAL FORM

Calvin Green, Vineland, and Jack D. Walk, Millville, N.J., assignors, by mesne assignments, to Owens-Illinois Glass Company, Toledo, Ohio, a corporation of Ohio

Filed July 31, 1961, Ser. No. 128,204

4 Claims. (Cl. 65—167)



1. A rotatable mandrel for forming molten glass in cylindrical form comprising a cylindrically-shaped body portion and an interconnecting conically-shaped free end portion, said free end portion being comprised of multiple complementally-contoured separable component parts, the terminating part being conically-shaped and the next adjacent part being frusto-conically shaped, means connecting each of said component parts to said body portion extending through the latter, said parts being adapted for use both in cooperation and in succession for forming individual rod and tubular products by drawing.

3,194,646

HERBICIDAL COMPOSITIONS AND METHODS

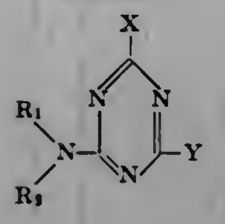
Thomas C. Nohejl, Downers Grove, Ill., assignor to Nalco Chemical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed Jan. 29, 1962, Ser. No. 169,679

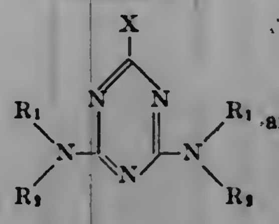
6 Claims. (Cl. 71—2.4)

1. A composition comprising (A) a herbicidally active substituted s-triazine selected from the group consisting of the formula:

Formula I

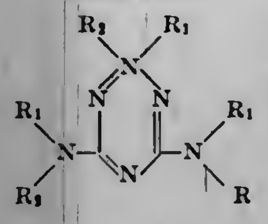


Formula II



and

Formula III



wherein R_1 and R_2 each represent a radical selected from the group consisting of hydrogen, lower alkyl, lower alkenyl, lower hydroxy alkyl, and cyclohexyl and R_1 and R_2 together with corresponding nitrogen atoms constitute a radical selected from the group consisting of 5- to 6-membered alkylenimino and morpholino, and X and Y each represent a radical selected from the group consisting of halogen, lower alkoxy, lower alkylmercapto, lower alkenyloxy, lower alkenylmercapto, lower nitroalkyloxy, lower haloalkoxy, lower alkoxyalkoxy, and lower hydroxyalkoxy and (B) an alkali metal borate compound with the weight ratio of said triazine to said borate being within the range of 1:20 to 1:1.

3,194,647

METHOD OF DESTROYING GRASSES

Robert J. Convery, Wilmington, Del., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Dec. 12, 1962, Ser. No. 243,989

1 Claim. (Cl. 71—2.7)

A method for killing weeds which comprises applying to a locus to be protected a lethal concentration of di (2-acetoxy ethyl mercuri) sulfate adsorbed on an asphalt black carrier, said asphalt black being characterized by insolubility in hexane, benzene and CCl_4 and a surface area ranging from about 65 to about 125 square meters per gram.

3,194,648

METHODS OF OBTAINING METAL POWDER FROM ORES OR OXIDES

Gerhard Naeser, Duisburg, and Norbert Dautzenberg, Wattenscheid, Germany, assignors to Mannesmann Aktiengesellschaft, Dusseldorf, Germany, a corporation of Germany

Filed July 9, 1963, Ser. No. 293,816

Claims priority, application Germany, July 30, 1962, M 53,734

3 Claims. (Cl. 75—.5)

1. A method of obtaining ferrochromium metal powder from chromic iron ore comprising

comminuting said chromic iron ore to a fine powder;

mixing said finely powdered chromic iron ore with carbon powder and subjecting the resulting mixture to continued grinding;

blending into the resulting mixture 0.1 to 0.6%, based on the weight of said mixture, of a catalyst selected form the group consisting of metal salts of alkalies and of salts of alkaline earths, said salts being added in the form of an aqueous solution;

drying and briquetting said mixture;

heating the resulting briquettes under vacuum to about 1300° C. to bring about reduction of the chromic iron ore to ferrochromium;

cooling and comminuting the reduced ore;

and subsequently separating the ferrochromium metal powder from the slag.

3,194,649

FILLING SUBSTANCE FOR PRODUCING CHROMIUM-MOLYBDENUM STEEL

Shigeyuki Okazaki, 112 Matsunaga-cho, 3 Joagaru, Tominokoji, Nakakyo-ku, Kyoto, Japan

No Drawing. Filed Apr. 27, 1962, Ser. No. 190,794

4 Claims. (Cl. 75—27)

1. A modifying composition for producing chromium-molybdenum steel comprising, in combination, finely divided reactants as follows:

	Percent
(a) Chromium oxide	20 to 70
(b) Molybdenum oxide	1 to 15
(c) Reducing agent	8 to 45
(d) Thermal cracking oxidizer	5 to 25
(e) Flux	1 to 15

said finely divided reactants being intimately mixed and formed into bodies with the aid of a binder, said binder comprising essentially

(f) inorganic binder material.

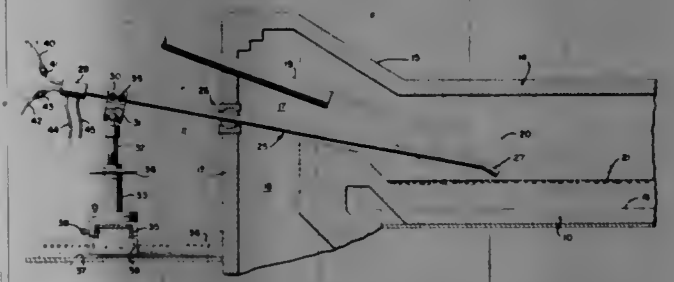
3,194,650

METALLURGICAL MELTING AND REFINING PROCESS

Edward F. Kurzinski, Allentown, Pa., assignor, by mesne assignments, to Air Products and Chemicals, Inc., Trexlertown, Pa., a corporation of Delaware

Filed Apr. 5, 1961, Ser. No. 101,022

19 Claims. (Cl. 75—43)



1. The method of operating a metallurgical furnace of the open hearth type having a bottom, a roof and side walls defining a zone and having end wall burners, comprising the steps of operating the end wall burners and introducing fluid including fuel and oxygen along at least one confined path downwardly to within the zone, burning the fuel and oxygen in admixture to form a short flame beyond the end of the confined path, charging solid material including metal into the zone, operating the end wall burners and separately burning the admixture to form a short flame while charging the solid material while moving the end of the confined path to direct the short flame onto solid material beneath the confined path, adding hot molten metal to the zone upon the completion of the charging of solid material, and thereafter continuing the introduction of at least oxygen through the confined path and directing the resulting stream onto the molten metal to refine the metal of the charge.

18. A method of operating a metallurgical furnace, comprising the steps of establishing in the furnace a metallic charge, establishing in the furnace a first flame, introducing fuel and oxygen along at least one confined path within the furnace to a point directly above the charge and spaced from the walls of the furnace and spaced only a short distance from the charge, burning the fuel and oxygen in admixture to form a second flame beyond the confined path, the second flame being substantially shorter and hotter than the first flame, and directing the second

flame downward onto the charge with the second flame directly contacting the charge and disposed beneath the first flame.

3,194,651

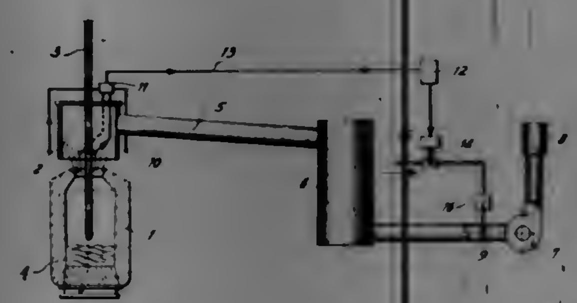
PROCESS AND APPARATUS FOR RECOVERING WASTE GASES FROM CONVERTERS IN STEEL WORKS

Gérald Namy, Saint-Etienne, and Jacques Dumont Fillon, Metz Queuleu, France, assignors to Institut de Recherches de la Sidérurgie Francaise, Saint-Germain-en-Laye (Seine-et-Oise), France, a professional institution of France

Filed July 17, 1962, Ser. No. 210,370

Claims priority, application France, July 28, 1961, 869,365, Patent 1,303,519; Aug. 18, 1961, 871,103, Patent 1,316,484; Mar. 15, 1962, 891,191, Patent 81,957

8 Claims. (Cl. 75—60)



1. A process for the recovery of gases emanating from a pig iron refining zone, comprising the steps of recovering said gases in a chamber above said refining zone, said chamber having a wall defining an open bottom zone in communication with the surrounding air; drawing the recovered gases from the chamber through an exhaust conduit remote from the open bottom zone, the recovered gases forming a seal with the wall of the chamber against entry of atmospheric air in a horizontal plane in the lower part of the open bottom zone, measuring temperature fluctuations in said open bottom zone close to the refining zone, controlling the draught of the gases through the exhaust conduit in response to the measured temperature fluctations in excess of a predetermined temperature fluctuation range whereby the temperature at the measured level is re-established within said range and said sealing plane is maintained at a substantially constant level to minimize leaks of surrounding air and recovered gases beyond said plane.

3,194,652

REMOVAL OF METAL CONTAMINANTS FROM NICKEL-CONTAINING PROCESS SOLUTIONS

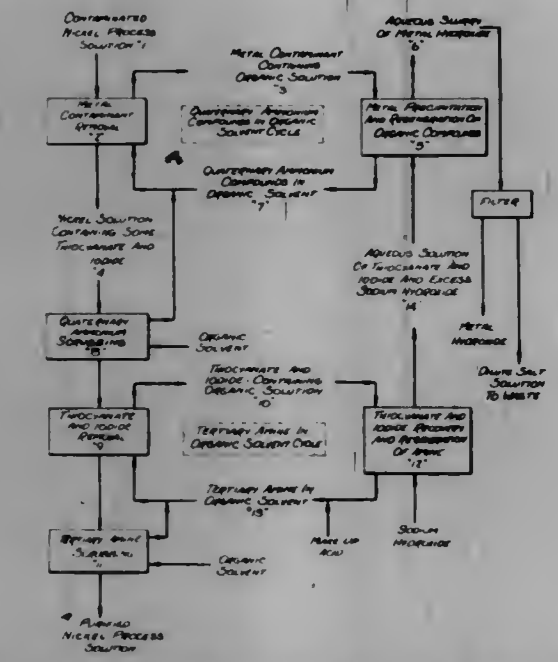
Warren Eugene Clifford, San Francisco, and Leslie Andrew McClaine, San Rafael, Calif., James Henry Bryn George, Cambridge, Mass., and Charles E. O'Neill, Upper Montclair, N.J., assignors, by direct and mesne assignments, to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

Filed Aug. 19, 1963, Ser. No. 302,778

19 Claims. (Cl. 75—119)

11. An improved solvent extraction process for removing metal contaminants from nickel-containing process solutions which comprises treating a nickel-containing aqueous feed solution having a pH below about 6.5 and containing at least one metal contaminant from the group consisting of cobalt, iron, copper, lead and zinc with a solution of at least one water-insoluble extractant selected from the group consisting of the quaternary ammonium chlorides, thiocyanates, iodides, bromides, nitrites, azides, tungstates and molybdates in a water-immiscible organic solvent to remove metal contaminants therefrom in a metal-bearing organic phase and to maintain the nickel in the aqueous phase, stripping metal contaminants from said metal-bearing organic phase with a stripping agent and regenerating said extractant for re-use in treating further nickel process solution containing metal contaminants.

14. An improved solvent extraction process for removing metal contaminants from nickel-containing process solutions which comprises treating a nickel-containing aqueous feed solution having a pH below about 6.5 and containing at least one metal contaminant from the group consisting of iron, copper, lead and zinc with an extractant solution of at least one salt from the group consisting of chloride, thiocyanate, bromide, azide and iodide salts of a water-insoluble amine in a water-immiscible organic solvent to remove said metal contaminants therefrom in a metal-bearing organic phase and to maintain the nickel in the aqueous phase, stripping metal contaminants from said metal-bearing organic phase, and regenerating said amine for re-use in treating further nickel process solution containing metal contaminants.


Contaminated Nickel Process Solution "1"
Metal Contaminant Containing Organic Solution "3"
Aqueous Slurry Of Metal Hydroxide "6"
Metal Contaminant Removal "2"
Quaternary Ammonium Compounds in Organic Solvent Cycle
Metal Precipitation And Regeneration Of Organic Compound "5"
Filter
Metal Hydroxide
Tertiary Amine in Organic Solvent "13"
Make Up Acid
Sodium Hydroxide
Tertiary Amine Scrubbing "11"
Organic Solvent
Purified Nickel Process Solution

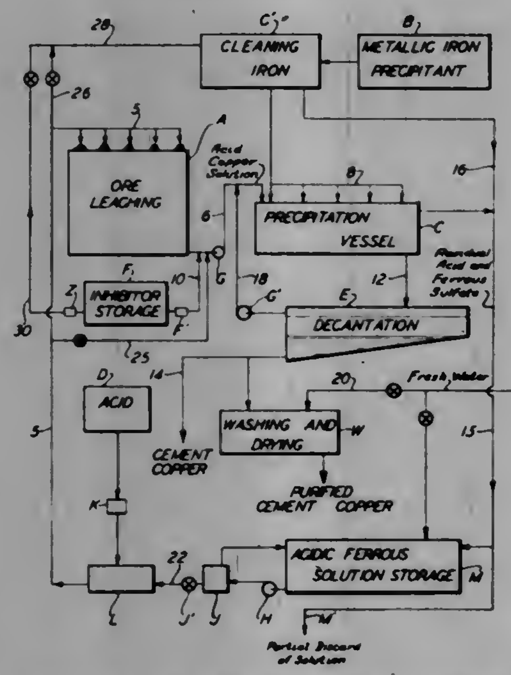
3,194,653

COPPER RECOVERY PROCESS

Harmon E. Keyes, 508 E. Culver St., Phoenix, Ariz.

Filed May 6, 1963, Ser. No. 278,260

9 Claims. (Cl. 75—109)



1. A method for producing metallic copper including the steps of:

producing in acid solution a copper salt of such acid;

contacting such solution with a metal electro-positive to copper to precipitate the copper of the solution in metallic form on the electro-positive metal;

and supplying to said solution undergoing precipitation an acid-corrosion inhibitor for such acid comprising an organic compound to inhibit attack of the electro-positive metal by the acid and yield granular copper particles readily separable from the electro-positive metal and solution.

3,194,654

MANGANESE ALUMINUM ALLOY MAGNETS

Hideo Kaneko, 558 Wakabayashi, Setagaya-ku, Tokyo, Japan

Filed Oct. 24, 1963, Ser. No. 318,595

Claims priority, application Japan, Dec. 27, 1962, 37/57,867

6 Claims. (Cl. 75—134)

1. A magnetic material consisting essentially of 65.65% to 72.17% manganese, 1% to 5% titanium, 0.1% to 2% of an element selected from the group consisting of zinc, copper, iron, and nickel, and the remainder of aluminum.

3,194,655

PROCESS FOR MAKING A COPPER-CHROMIUM-ZIRCONIUM ALLOY

Alan R. Pels, Stamford, and Herman F. Petsch, Newtown, Conn., assignors to National Distillers and Chemical Corporation, Richmond, Va., a corporation of Virginia

No Drawing. Filed July 28, 1961, Ser. No. 127,477

3 Claims. (Cl. 75—135)

1. A process for making a copper-chromium-zirconium alloy, comprising forming a melt of substantially pure oxygen free copper protected from oxygen, while maintaining said melt so protected and at a high temperature completely dissolving therein from .60 to .90% chromium, thereafter while so protected lowering the temperature of said melt to a temperature causing rapid solution of zirconium therewith without excessive zirconium loss and dissolving therein from .40% to .60% zirconium and with complete solution thereof promptly processing the alloy melt to form a casting.

3,194,656

METHOD OF MAKING COMPOSITE ARTICLES

Milton B. Vordahl, Beaver, Pa., assignor to Crucible Steel Company of America, Pittsburgh, Pa., a corporation of New Jersey

No Drawing. Filed Aug. 10, 1961, Ser. No. 130,495

8 Claims. (Cl. 75—135)

1. A method of making shaped metallic articles having a fine grained microstructure and exhibiting improved hardness and comprising an alloy containing a matrix metal and at least one high melting point compound, comprising: preparing in a form an admixture of at least two substances, the one substance consisting of a molten alloy, said alloy having a melting point lower than that of said matrix metal, and the other substance comprising at least one member selected from the group consisting of a non-metal and an alloy thereof, said substances providing all of the essential components of said high melting point compound and in such amount as to result in a substantial increase in the melting point of the mass when reaction between components in different ones of said substances occurs, said substances being so composed individually that each contains no more than a relatively small amount of all of said components; the energy released from a chemical reaction causing formation of said compound by chemical reaction of components in said substances being such in relation to the amounts and heat capacity of materials present as to raise the temperature of the system to a temperature not exceeding the melting point of the matrix metal; and maintaining the temperature of said admixture substantially less than the melting point of said matrix metal until solidification of said mass occurs.

3,194,657

PROCESS FOR MAKING WORKABLE RUTHENIUM AND PRODUCT THEREOF

Walter Betteridge, Beckenham, Kent, and Brian Taylor, London, England, assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Apr. 4, 1963, Ser. No. 270,527

Claims priority, application Great Britain, Mar. 13, 1963, 10,445/63

8 Claims. (Cl. 75—172)

5. A single-phase alloy consisting essentially of about 0.005% to about 0.25% of metal selected from the group consisting of cerium, erbium, gadolinium, holmium, lanthanum, praseodymium, samarium, ytterbium and yttrium with the balance essentially ruthenium.

3,194,658

FABRICATION OF CORROSION RESISTANT IRON STRIP

Samuel Storchheim, Forest Hills, N.Y., assignor to Alloys Research & Manufacturing Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 5, 1963, Ser. No. 262,886

3 Claims. (Cl. 75—206)

1. The method of forming solid, iron-based strip comprising passing iron-based particles through a heating zone to effect agglomeration of the particles to form hot sinter-cake, conveying said sinter-cake through a hot rolling zone to densify said cake into a solid shape and treating said iron-based particles before they enter the hot-rolling zone with steam at a temperature and for a period sufficient to form a vapor-impervious magnetic oxide skin thereon which is ruptured in hot rolling at the grain boundaries whereby in the resultant strip there is a cellular protective network of said oxide.

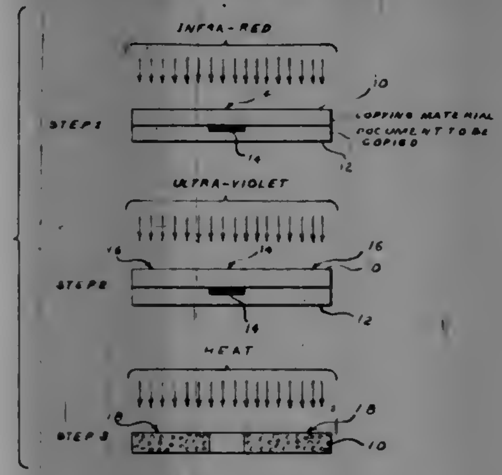
3,194,659

REFLEX COPYING METHOD USING HEAT DEVELOPABLE LIGHT SCATTERING MATERIALS

René Baus, Jr., New Orleans, La., and Roy J. Lahr, Lexington, Ky.; said Baus assignor to Kalvar Corporation, New Orleans, La., a corporation of Louisiana, and said Lahr assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Mar. 6, 1961, Ser. No. 93,646

1 Claim. (Cl. 96—47)



A method of copying a document having areas of differing light absorption qualities onto a material of the light scattering, heat developable type comprising a vehicle which is optically substantially homogeneous and in the form of a dry film having dispersed therein a light decomposable solid agent which is sensitive only to radiations in the region of the blue end of the visible spectrum, substantially uniformly dispersed in said vehicle as the sole essential image producing agent, said decomposable agent itself being substantially non-reactive to said vehicle and upon exposure to light decomposing into products which are also chemically substantially non-reactive to said vehicle and which products upon warming are volatile to form radiation scattering discontinuities only in the light struck area in said film to thereby furnish an image,

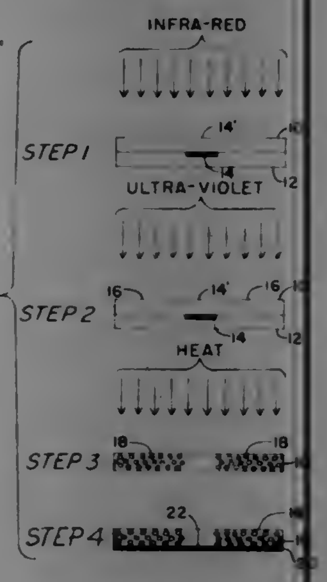
said method comprising plying the document and said material together, irradiating the document with radiations in the regions of the red end of the spectrum to which said material is substantially not sensitive, and then irradiating the plied document and material with said radiations in the region of the blue end of the visible spectrum, whereby said radiation of the red end of the spectrum is absorbed selectively by said document to raise the temperature of the area thereof by which it is absorbed preferentially, thereby also selectively heating the areas of the said material adjacent thereto, to reduce the sensitivity of said material selectively, and the blue end irradiation produces a latent reflex copy of said document in said material of improved contrast.

3,194,660
REFLEX COPYING METHOD

Roy J. Lahr, Lexington, Ky., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 26, 1961, Ser. No. 119,711

3 Claims. (Cl. 96—47)



1. A method of copying a document having areas of differing light absorption qualities onto a material of the light scattering, heat developable type comprising a vehicle which is optically substantially homogeneous and in the form of a dry film having dispersed therein a light decomposable solid agent which is sensitive only to radiations in the region of the blue end of the visible spectrum, substantially uniformly dispersed in said vehicle as the sole essential image producing agent, said decomposable agent itself being substantially non-reactive to said vehicle and upon exposure to light decomposing into products which are also chemically substantially non-reactive to said vehicle and which products upon warming are volatile to form radiation scattering discontinuities only in the light struck area in said film to thereby furnish an image,

said method comprising plying the document and said material together, irradiating the document with radiations in the regions of the red end of the spectrum to which said material is substantially not sensitive, and then irradiating the plied document and material with said radiations in the region of the blue end of the visible spectrum, whereby said radiation of the red end of the spectrum is absorbed selectively by said document to raise the temperature of the area thereof by which it is absorbed preferentially, thereby also selectively heating the areas of the said material adjacent thereto, to reduce the sensitivity of said material selectively, and the blue end irradiation produces a latent reflex copy of said document in said material of improved contrast, and thereafter heat developing said material to form a reflex copy and bonding an opaque backing thereto.

3,194,661
SILVER IMAGE TRANSFER POLYMERIZATION PROCESS

Abraham Bernard Cohen, Springfield, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 2, 1961, Ser. No. 86,598

23 Claims. (Cl. 96—48)

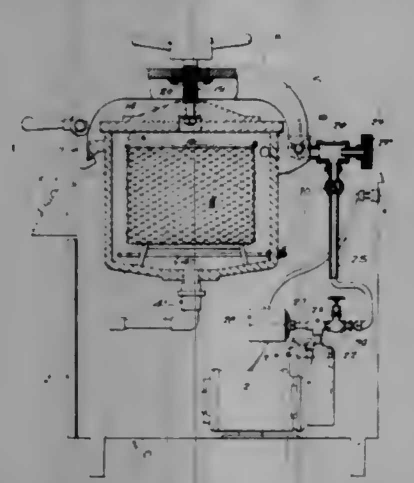
1. A silver image transfer process which comprises treating a stratum containing a silver image and in which any metal-containing, image-yielding material in association with said stratum and image is a silver-containing material, by subjecting the silver image while said image is in directly adjacent transfer relationship with a stratum comprising a non-gaseous addition-polymerizable ethylenically unsaturated compound containing at least one terminal ethylenic group, to the action of a peroxygen compound under aqueous conditions at pH below 8.0 until an image of addition polymer corresponding to the silver image is formed in said stratum.

3,194,662
METHOD OF DEEP FAT FRYING AND COOKING

Edward J. Nelson, Omaha, Nebr., assignor to Ballantyne Instruments and Electronics, Inc., Omaha, Nebr., a corporation of Delaware

Filed June 4, 1963, Ser. No. 285,428

2 Claims. (Cl. 99—1)



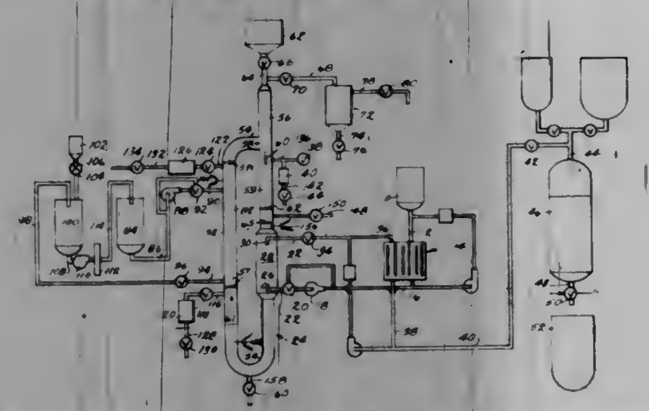
1. The method of deep fat frying minimum quantities of chicken, shrimp, hamburgers, frankfurters, potatoes and like foods at high temperatures within a receptable built to accommodate substantially large quantities of food, comprising heating fat in a receptacle to a temperature of from about 320° to 325° F., said fat being nonvolatilizable at said temperatures, submerging uncooked food in an amount of from one piece up to 33⅓ percent of the total food capacity of said receptacle in said fat whereby to immediately sear the surface of said food to lock in the natural moisture and juices of the food, immediately closing and sealing said receptable to provide an airtight chamber therein above said fat, immediately introducing air under pressure above said fat in said chamber, raising the air pressure in said chamber to a value of 14 lbs. per square inch, and cooking said minimum quantity of submerged food under said air pressure in said fat for a period of approximately 8 minutes.

3,194,663
RADIOACTIVE DECONTAMINATION OF MILK

Irwin R. Higgins, Oak Ridge, Tenn., assignor to Chemical Separations Corporation, Oak Ridge, Tenn., a corporation of Tennessee

Filed Apr. 1, 1963, Ser. No. 269,585

10 Claims. (Cl. 99—60)



1. A continuous process for the radioactive decontamination of milk consisting essentially of:

(1) acidifying successive portions of the contaminated milk to be processed to reduce its pH to a level between about 5 and 6;

(2) flowing a first portion of said milk into a cation decontaminating section of an ion exchange column loop having a shiftable cation exchange resin bed therein, to bring the same into contact with a first portion of the cation exchange resin therein, and exchanging strontium–90 cations for at least one cation selected from the class consisting of calcium, magnesium, sodium, and potassium; while,

(3) simultaneously treating a second portion of said cation exchange resin in a regenerating section of said ion exchange column loop, by flowing a regenerating salt solution therethrough,

said regenerating salt solution consisting essentially of a balanced aqueous solution of calcium, magnesium, sodium, and potassium chlorides;

(4) substantially simultaneously interrupting the flow of said milk and said regenerating salt solution;

(5) shifting the cation exchange resin bed in said ion exchange column loop from one section thereof to another contiguous section therein,

thereby replacing at least a portion of said resin in said decontaminating section with another portion of said resin previously regenerated in said regenerating section and displacing a portion of resin carrying the cations previously eliminated from the milk into said regenerating section for regeneration thereof;

(6) thereafter re-establishing the liquid content of said decontaminating section as consisting of milk, while maintaining said decontaminating section free from adulteration with any liquid components other than milk;

(7) thereafter simultaneously flowing a second portion of said acidified milk and a second portion of said regenerating salt solution through said decontaminating and regenerating salt section respectively pursuant to steps (2) and (3) above;

(8) and repeating the same cycle of steps (4)–(7) as long as desired;

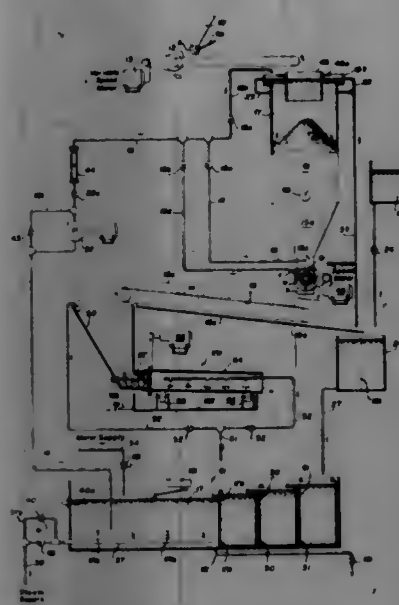
(9) treating the successive portions of milk removed from said decontaminating section to decrease the hydrogen ion content thereof, whereby the original pH of the milk is substantially restored.

3,194,664
METHOD FOR CONTINUOUSLY PRODUCING NIXTAMAL

Bruce D. Eytinge, near San Antonio, Tex., assignor to The Frito Company, Dallas, Tex., a corporation of Texas

Filed May 19, 1960, Ser. No. 30,366

10 Claims. (Cl. 99—80)



1. A continuous method of producing nixtamal comprising: feeding corn kernels at a controlled rate into an aqueous treating bath having an alkalinity of at least 10 pH and a temperature of about 80° C., forming an accumulated mass of corn kernels in said bath which gravitates through the bath; causing said alkaline bath to pass through said mass and progressively subjecting said gravitating corn kernels to the action of said bath; and progressively discharging from said alkaline bath corn kernels which have been exposed to the bath for at least about five hours.

3,194,665
METHOD FOR MAKING MARGARINE OF REDUCED TENDENCY TO SPATTER AND PRODUCT OBTAINED THEREBY

Hermann Pardun, Cleves, Germany, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed May 11, 1961, Ser. No. 109,280

Claims priority, application Great Britain, May 19, 1960, 17,643/60

12 Claims. (Cl. 99—123)

1. A process for preparing a margarine of reduced tendency to spatter, which comprises forming an aqueous mixture suitable for providing at least part of the aqueous phase in margarine, said mixture being of pH 4.5 to 5, and containing suspended therein the residue left after extracting comminuted soya bean with polar and non-polar solvents, the protein in said residue being undenatured, and preparing a margarine in which the said aqueous mixture constitutes at least part of the aqueous phase, the said residue therein amounting to about 0.1 to 2% by weight of the margarine.

3,194,666
STORAGE-STABLE AERATED ICINGS

William T. Bedenk, Greenhills, and Gordon F. Brunner, Springfield Township, Hamilton County, Ohio, and David R. Goodrich, Levittown, N.Y., assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed May 15, 1963, Ser. No. 280,734

11 Claims. (Cl. 99—139)

1. An aerated, storage-stable icing comprising a mixture of sugar, water and shortening, said shortening comprising esesntially, by weight of the shortening, from

about 55% to about 75% partially hydrogenated glyceride base stock having an iodine value of from about 50 to about 110 and from about 25% to about 45% substantially completely hydrogenated triglyceride hardstock having an iodine value not exceeding about 12, said substantially completely hydrogenated triglyceride consisting essentially of beta-phase-tending hardstock and non-beta-phase-tending hardstock in a ratio by weight of from about 9:1 to about 1:1, at least about 70% of the shortening solids being in a beta-phase, said icing having substantially uniformly incorporated therein from about 5% to about 50%, by volume of said icing, of an edible gas in finely divided form.

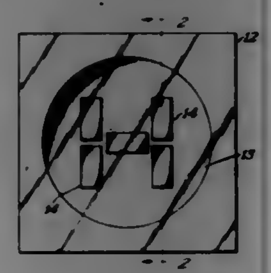
3,194,667
METHOD FOR PACKAGING VISCOUS LIQUIDS
Ralph E. Pfister and Richard J. Lee, Midland, Mich., and Orwin G. Maxson, Ponca City, Okla., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 26, 1962, Ser. No. 233,420
7 Claims. (Cl. 99—171)

1. A method of vacuum packaging a viscous liquid within a rigid container to eliminate bubble formation at the interface between the liquid and the container which comprises introducing into a container consisting essentially of an alkenyl aromatic resin having sorbed therein less than about 0.05 cubic centimeter of gas per gram of resin, a quantity of viscous liquid and hermetically sealing said container under conditions which will result in a reduced pressure existing in the container under normal storage conditions.

3,194,668
PROCESS FOR PREPARING RADIATION STABILIZED POLYETHYLENE AND FOOD PACKAGE UTILIZING SAME
Herbert N. Schlein, Framingham, and Bernard R. La Liberte, Wayland, Mass., assignors to the United States of America as represented by the Secretary of the Army
No Drawing. Filed Apr. 8, 1963, Ser. No. 271,523
6 Claims. (Cl. 99—171)
(Granted under Title 35, U.S. Code (1952), sec. 266)

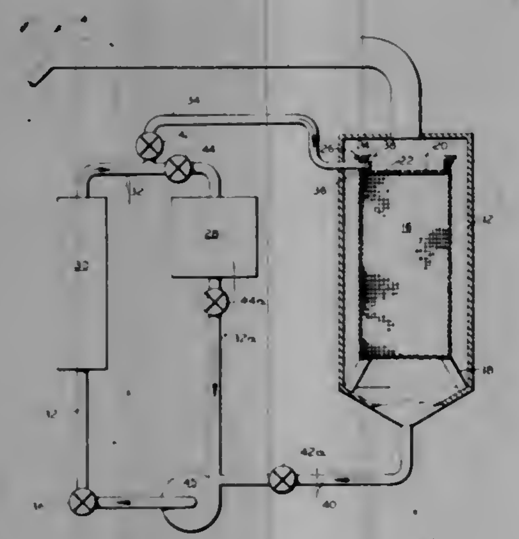
4. Process of preventing odor formation resulting from the exposure of polyethylene to high energy ionizing radiation when foodstuffs are subsequently sterilized therein which comprises incorporating with said polyethylene an effective amount of 2,2′-methylene-bis-(4-ethyl-6-t-butyl phenol) and exposing said polyethylene containing said 2,2′-methylene-bis-(4-ethyl-6-t-butyl phenol) to a food sterilizing dose of high energy ionizing radiation.

3,194,669
CONDITION RESPONSIVE DEVICES
Robert B. Koch, Hopkins, Minn., assignor to Honeywell Inc., a corporation of Delaware
Filed Dec. 26, 1961, Ser. No. 162,086
3 Claims. (Cl. 99—192)



1. A device for indicating that an article has undergone a freezing and subsequent thawing comprising a transparent water impervious envelope defining a cavity, said cavity containing at least one free member arranged in a predetermined relationship within said cavity and maintained in said spaced relationship by a silica gel composition which substantially fills the balance of said cavity, said gel composition characterized in that the gel structure is substantially destroyed upon freezing thereof.

3,194,670
METHOD OF DEHYDRATING FOOD
William R. Dorsey and Robert L. Roberts, Orinda, and Sumner I. Strashun, El Cerrito, Calif., assignors to Vacu-Dry Company, Oakland, Calif., a corporation of California
Filed Sept. 21, 1962, Ser. No. 225,428
3 Claims. (Cl. 99—199)



1. A method of dehydrating food selected from the group consisting of meat, fish, fruit and vegetables consisting of simultaneously subjecting the food during dehydration to subatmospheric pressure and to a continuing shower of heated dispersed edible oil so as to cover the food with a continuously replenished film of hot oil that serves as a liquid heat transfer medium to supply the heat of evaporation required to dehydrate said food, the temperature of said oil falling within the range of from about 100° F. to about 200° F., said shower of dispersed edible oil being continued until the bubble formation caused by the escape of water vapor through the oil film on the food subsides.

3,194,671
SELF-SETTING CEMENTS AND METHODS OF MAKING THE SAME
Paul J. Yavorsky, Bedford, and John F. Svet, Cleveland, Ohio, assignors to Zirconium Corporation of America, Solon, Ohio, a corporation of Ohio
No Drawing. Filed June 28, 1962, Ser. No. 205,880
18 Claims. (Cl. 106—55)

7. A composition adapted for self-setting cement or mortar applications without the use of external heat to set the same, said composition consisting essentially of an intimate admixture of (1) about 100 parts by weight of refractory particles, (2) water, and (3) binder-forming ingredients for the refractory particles comprising (a) a salt of an element of the group consisting of zirconium, titanium, hafnium and thorium and an organic acid having 1 to 8 carbon atoms and 1 to 3 carboxyl groups, and (b) about 0.01 to 5 parts by weight of a gelling agent having a cation that reacts with the salt in the presence of water, the agent also having an anion that is a weak acid.

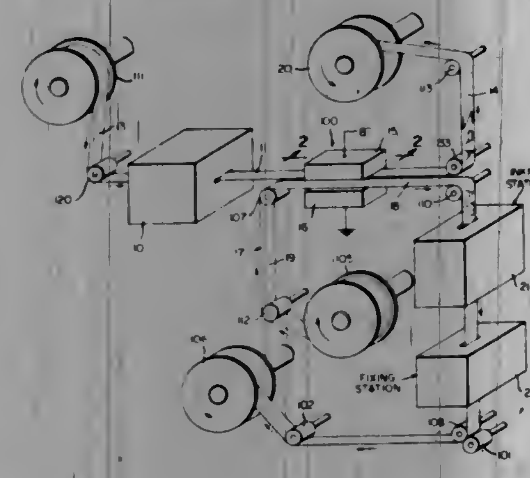
3,194,672
FIRED BASIC REFRACTORY SHAPES
Ben Davies and Peter H. Havranek, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 4, 1963, Ser. No. 270,699
5 Claims. (Cl. 106—59)

1. In fired, basic refractory shapes made from refractory brickmaking size graded batches, said batches consisting essentially of magnesia and chrome ore, said magnesia constituting from 80 to 60 parts, by weight, of the batch, the improvement consisting of, the total SiO_2 content of the batch being less than about 5%, by weight, based on the weight of the total batch, and from 0.5 to 5 parts, by weight, of titania in the brickmaking batch to increase modulus of rupture at 2300° F. in said fired shapes without deleteriously affecting other physical properties, and said shapes fired at a temperature on the order of at least about 2890° F.

3,194,673
HYDRAULIC CEMENT AND PROCESS FOR MAKING SAME
Andor Schedel, Budapest, Hungary, assignor to Licencia Talalmanyokat Ertekesito Vallalat, Budapest, Hungary
No Drawing. Filed Aug. 29, 1961, Ser. No. 135,408
3 Claims. (Cl. 106—100)

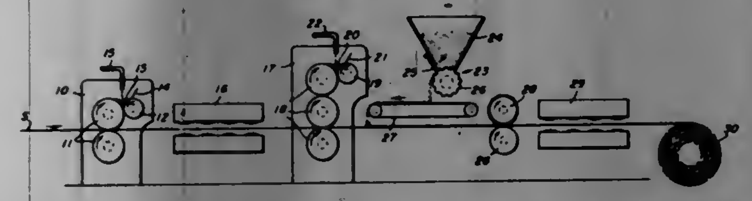
1. A process for producing a hydraulic cement, comprising the steps of admixing lime, silica, alumina and iron oxide, the weight ratio of the silica content to the sum of the alumina and iron oxide contents being less than about 0.5, the weight ratio of the alumina content to the iron oxide content being less than about 1.5; heating the resulting mixture at a temperature sufficient to convert same into a cement clinker consisting in major part of a tetra-calcium alumino-ferrite; comminuting the clinker thus produced; and admixing with the comminuted clinker a substance capable of modifying the setting rate of the cement.

3,194,674
APPARATUS AND METHOD FOR DUPLICATING MESSAGES WHICH ARE ELECTROSTATICALLY CHARGED, DEVELOPED AND FIXED ON A MASTER DIELECTRIC MEDIUM ONTO COPY MEDIA CAPABLE OF RETAINING ELECTROSTATIC CHARGES
Richard S. Sakurai, Philadelphia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed May 24, 1961, Ser. No. 121,276
17 Claims. (Cl. 117—17.5)



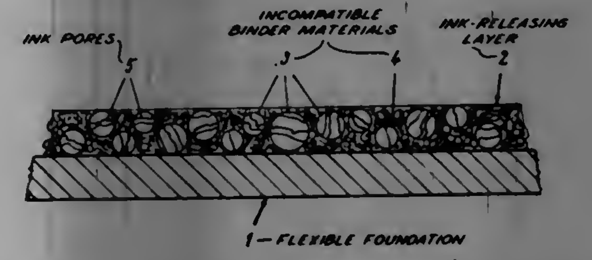
3. A method of reproducing a pattern of conductive ink disposed and fixed on a charged pattern of a dielectric layer of a first recording medium wherein the medium comprises a relatively conductive layer and said dielectric layer, said method comprising removably positioning said medium with its conductive layer disposed in facing relationship to a first conductive member, removably positioning a second receiving recording medium which is capable of retaining electrostatic charges closely adjacent to and having a first surface facing the inked and fixed pattern surface of said first medium, supporting said second medium on its medium surface opposite said first surface contiguous to a second conductive anvil member, biasing said first conductive member with respect to said second conductive member such that the difference in potential between said first and second members is sufficient to cause ionic discharge from said fixed conductive ink of said first recording medium to said second recording medium; said first medium conductive pattern discharging a mirror image of itself upon said receiving recording medium through the filed caused by the voltage between the first conductive member which is contiguous to said first tape conductive layer and the removed voltage of said second conductive member, removing said second medium away from said anvil member, inking said second medium to form a visible inked copy, fixing the ink on said inked copy and removing said first medium away from said first conductive member.

3,194,675
METHOD FOR APPLYING A DECORATIVE COATING TO A METAL STRIP
Daniel T. Carter, Penn Township, Westmoreland County, and George H. Rendel, Mount Lebanon Township, Allegheny County, Pa., assignors to United States Steel Corporation, a corporation of New Jersey
Filed May 8, 1961, Ser. No. 108,392
2 Claims. (Cl. 117—26)



1. A method of coating metal strip which comprises applying thereto a layer of a heat-curable resin plastisol, metering a stream of solid particles of reflective material distributed across the strip and sprinkling them onto said layer, then wiping the layer of plastisol and particles from the strip, kneading the plastisol and particles removed by the wiping action, re-applying them to the strip as a layer and thereafter heating the re-applied layer to cure it.

3,194,676
PRESSURE SENSITIVE TRANSFER ELEMENT
Edgar Krumbein and Sigo Muschter, Hannover, Germany, assignors to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y.
Filed Dec. 6, 1961, Ser. No. 157,453
Claims priority, application Germany, Dec. 14, 1960, W 29,084; Mar. 16, 1961, W 29,659
10 Claims. (Cl. 117—36.1)



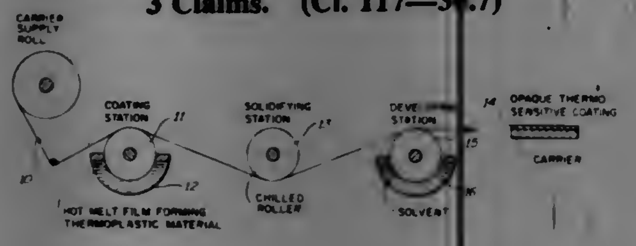
1. A pressure-sensitive transfer element comprising a flexible foundation having thereon a microporous ink-releasing layer comprising as the solid binder material a mixture of synthetic plastic materials which are incompatible in that they are incapable of forming an optically clear, solid solution after being dissolved together in a mutual solvent and after the solvent has been evaporated, said binder material having dispersed therein a pressure-

releasable ink comprising oil and coloring matter, the said mixture of incompatible synthetic plastic materials comprising at least about 50% by weight of a vinyl resin together with a sufficient incompatible amount by weight of a synthetic plastic material whereby the tendency of the ink-releasing layer to cause the transfer element to curl and roll is substantially completely avoided.

3,194,677
PROCESS FOR FORMING NON-TRANSPARENT HEAT AND/OR PRESSURE TRANSPARENTIZABLE FILMS

Armand R. Schwarz, Elmwood, and Joseph R. Blanchette, Bristol, Conn., assignors to Royal McBee Corporation, New York, N.Y., a corporation of New York

Filed Mar. 20, 1962, Ser. No. 181,166
3 Claims. (Cl. 117—36.7)



1. A process for forming non-transparent heat transparentizable film coats on a colored background material, said process consisting of the steps of

coating said background material with a transparent film forming thermoplastic material,

and applying to said coating a solvent therefore which evaporates on the order of seconds and which acts upon evaporation to render said coating opaque.

3,194,678
POLYMERS CROSS-LINKED WITH SULFUR DIOXIDE, FABRICS COATED THEREWITH, AND COATING METHOD

John R. Caldwell, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 20, 1960, Ser. No. 76,994
20 Claims. (Cl. 117—62.1)

2. A method for the preparation of an improved textile fabric which comprises (A) forming a solution of (1) a volatile organic solvent, (2) a polymeric composition of matter essentially composed of polymeric linear chains which have an average molecular weight of at least 3,000, said linear chains consisting of monomeric units wherein from about 2% to about 33% of said units have an olefinic double bond, all of said monomeric units being derived from at least one bifunctional organic compound having its two functional substituents limited to those selected from the group consisting of carboxy, oxy, amino and isocyanato substituents and being linked end to end in linear chains by means of linkages selected from the group consisting of ester, amide and ether linkages, and (3) a minor amount of a peroxy catalyst, (B) incorporating said solution in a textile fabric, (C) evaporating said volatile solvent and (D) contacting said fabric with sulfur dioxide whereby said olefinic double bonds are sulfoxylated thereby interconnecting said linear chains with $—SO_2—$ linkages.

3,194,679
POLYESTER COATINGS

Arthur P. Dowling, Lakewood, Ohio, assignor to The Glidden Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Mar. 24, 1960, Ser. No. 17,270
5 Claims. (Cl. 117—72)

1. In a process for curing a coating film comprising an unsaturated polyester dissolved in a polymerizable monomer in contact with a catalyzed subcoating containing film-forming binder on a substrate, the improvement which comprises: applying to the substrate a subcoating in which the binder consists essentially of an aqueous emulsion of synthetic resin solids, said synthetic resin solids consisting essentially of vinyl acetate units and having monomer solubility not substantially in excess of about 50%, and a free radical catalyst capable of curing said polyester-containing coating film; thereafter applying said polyester-containing coating film directly over said subcoating; and allowing said coating film to set by the action of said catalyst in said subcoating.

3,194,680
PROCESS FOR THE PRODUCTION OF SILOXANE-COATED SEPARATING PAPER

Klaus Damm, Cologne-Flittard, Germany, and Hans-Engelbert Göttgens, Thal, Sankt Gallen, Switzerland, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

No Drawing. Filed Apr. 13, 1962, Ser. No. 187,217
Claims priority, application Germany, Apr. 25, 1961, F 33,750
5 Claims. (Cl. 117—155)

1. In the process for preparing siloxane-coated separating papers by applying to the paper a mixture which contains

(a) between 1 and 70 parts by weight of an essentially linear organopolysiloxane containing terminal hydroxyl groups bound to silicon and having the formula

$$R_{\frac{m}{2}}(CH_3)_{\frac{m}{2}}SiO_{\frac{4-m}{2}}$$

wherein R is a member selected from the group consisting of hydrogen and hydrocarbon radicals and m has a value of from 1.9–2.1;

(b) between 99 and 30 parts by weight of an organopolysiloxane having the formula

$$R'_{\frac{3n}{4}}(CH_3)_{\frac{n}{4}}SiO_{\frac{4-n}{2}}$$

wherein R′ is a hydrocarbon radical and n has a value of from 0.5–1.5; and

(c) between 0.1 and 10% of the total of the weight of (a)+(b) of a curing catalyst,

drying and heating the coated paper at a temperature of 100–150° C.; the improvement which comprises incorporating in said mixture between 0.1–10% of the total of the weight of (a)+(b) of a boron compound selected from the group consisting of boron oxide, boric acid, boric acid alkyl esters, alkylboric acid alkyl esters having the formula $R''_aB(OR''')_{3-a}$, and alkyl boroxoles having the formula $(R''BO)_3$ wherein R″ and R‴ each represent lower alkyl radicals and a is an integer from 1 to 2.

3,194,681
PROCESS FOR PLATING THROUGH HOLES IN A DIELECTRIC MATERIAL

Richard J. Nicholson and Robert P. Williams, Dayton, Ohio, assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

No Drawing. Filed Dec. 22, 1960, Ser. No. 77,489
5 Claims. (Cl. 117—212)

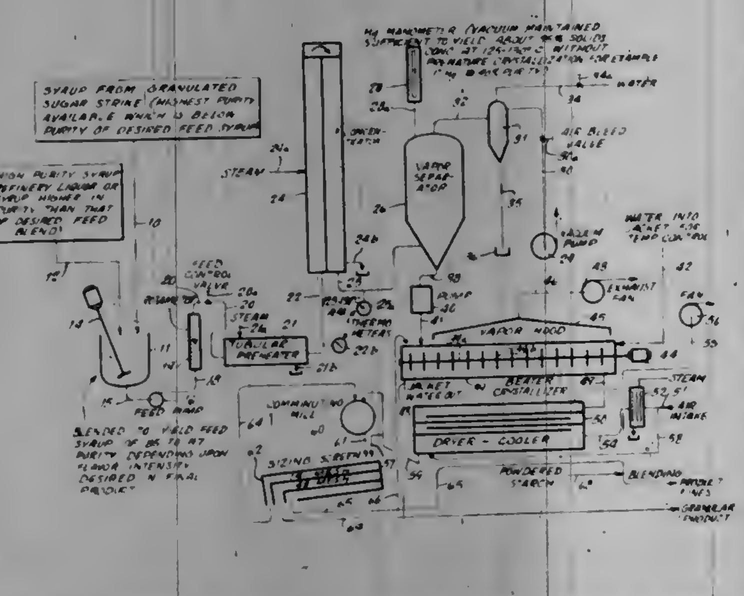
1. A process for plating through perforations in a panel of dielectric material having a conductive metallic pattern upon respective opposite surfaces thereof to pro-

vide an electrical connection therethrough comprising the steps of applying a coating of protective material to both panel surfaces, perforating the panel with holes as small as .005 inch in diameter at those points through which plating is to be effected, immersing the panel in a sensitizing bath comprised of an aqueous solution of a metallic salt for sensitizing the interior surface areas of the perforations, agitating the sensitizing bath solution ultrasonically during panel immersion, immersing the panel in an activating bath comprised of an aqueous solution of a salt of another metal for activating the sensitized interior surface areas of the perforations, agitating the activating bath solution ultrasonically during panel immersion and immersing the panel in an aqueous solution of a salt of a conductoir metal and a reducing agent whereby the conductor metal is reduced out of solution and chemically deposited through said perforations to provide electrical connection between said conductive metallic patterns upon respective opposite surfaces of said panel.

3,194,682
SUGAR PRODUCT AND METHOD OF PRODUCING SAME

Dorr E. Tippens, Greenwich, Conn., and Max A. Cohen, Utopia, and Freeman Bush, Hollis, N.Y., assignors to American Sugar Company, a corporation of New Jersey

Filed Apr. 3, 1963, Ser. No. 270,355
15 Claims. (Cl. 127—30)



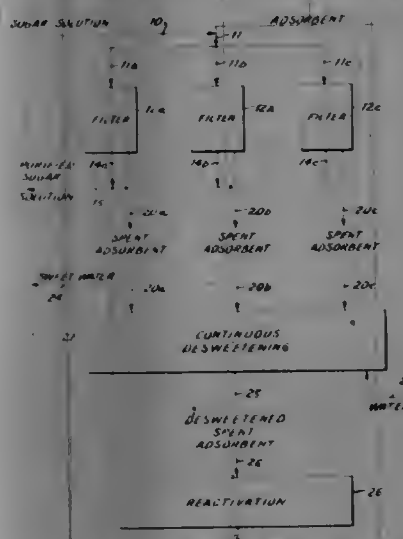
1. A method which comprises concentrating a sugar syrup to about 95–97% by weight solids, said sugar syrup containing in the range about 3–15% by weight non-sucrose solids based on the solids content of said syrup, said non-sucrose solids comprising invert and the ash, flavor, and color molassegenic components of blackstrap molasses, said concentrating operation being carried out so that no crystallization takes place and at reduced pressure and at a temperature not greater than about 130° C., immediately subjecting the resulting concentrated sugar syrup to a heat dissipation operation simultaneously with vigorous agitation under conditions to produce aggregates of fondant-size sugar crystals, said heat dissipation operation being at least sufficient to dissipate the heat produced by agitation and crystallization and being carried out in the substantial absence of liquid water in contact with said aggregates, and subjecting the resulting sugar product to drying and further cooling to produce an aggregate sugar product containing not more than about 1% by weight moisture.

15. A sugar product consisting essentially of aggregates of fondant-size sugar crystals produced in accordance with claim 1.

3,194,683
PURIFICATION OF LIQUIDS, SUCH AS SUGAR SOLUTIONS, BY TREATMENT WITH AN ADSORBENT

William M. Grosvenor, Jr., Pelham, and Willard Marcy, Pelham Manor, N.Y., assignors to American Sugar Company, New York, N.Y., a corporation of New Jersey

Filed July 10, 1963, Ser. No. 293,966
11 Claims. (Cl. 127—46)



1. In an operation wherein aqueous sugar solution contacts a fixed bed of particle-form solid absorbent material to improve the color and other properties of the sugar solution and wherein the adsorbent, thus employed, becomes depleted of its ability to improve said sugar solution and wherein the resulting depleted adsorbent is treated to remove occluded sugar solution and to remove adsorbed water-soluble, inorganic material, previously adsorbed from said sugar solution, the improvement which comprises discharging depleted adsorbent from a fixed bed of adsorbent when the adsorbent therein has been substantially depleted of its capacity to effect improvement of sugar solution in contact therewith, supplying the discharged depleted adsorbent to a desweetening zone wherein said depleted adsorbent is subjected to continuous counter current contact with a stream of water introduced into the bottom portion of said desweetening zone, the depleted adsorbent being supplied to the top portion of said desweetening zone and the resulting desweetened adsorbent being removed from the bottom portion of said desweetening zone, the depleted adsorbent passing through said desweetening zone in a substantially continuous manner as a downwardly moving bed, withdrawing from the upper portion of said desweetening zone an aqueous sugar stream containing dissolved therein sugar solution which had previously been occluded in the depleted adsorbent supplied to the desweetening zone, supplying withdrawn desweetened adsorbent from the bottom of said desweetening zone to the upper portion of a deashing zone, moving the thus-withdrawn, desweetened adsorbent downwardly through said deashing zone as a downwardly moving bed in contact with a stream of water to effect removal of water-soluble, inorganic materials from said adsorbent by dissolution, withdrawing from the bottom of said deashing zone the resulting desweetened, deashed adsorbent and regenerating and returning the thus-treated adsorbent for eventual contact with additional aqueous sugar solution in the aforesaid fixed beds to improve said sugar solution.

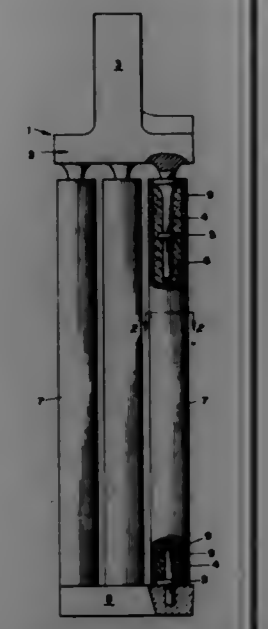
3,194,684
ELECTRIC STORAGE BATTERY ELECTRODE

Leland E. Wells, Fairhope, Ala., assignor to The Electric Storage Battery Company, a corporation of New Jersey

Filed Feb. 15, 1963, Ser. No. 258,861
7 Claims. (Cl. 136—6)

1. A storage battery electrode comprising an electrochemically active material, a plurality of metallic spines

disposed in said active material and porous retainers enclosing said active material about each of said metallic



spines, said retainers being fabricated from an electrolyte resistant material which contains a major amount of said active material.

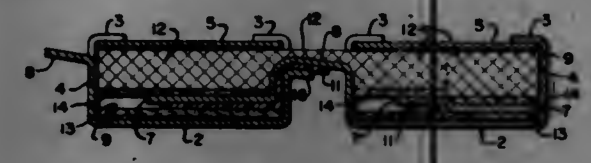
3,194,685
METHOD OF MANUFACTURING STORAGE BATTERY ELECTRODE ACTIVE MATERIAL

James P. Malloy, Cheltenham, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey
No Drawing. Filed Mar. 9, 1964, Ser. No. 350,532
6 Claims. (Cl. 136—27)

1. A method of manufacturing a stable, pre-sulfated, dry active material for a lead-acid storage battery electrode which comprises adding sulfuric acid and water to lead-lead oxide powder which is being vigorously agitated, thoroughly mixing the composition, said water being added in amounts such that the water present in the composition does not exceed about 8% by weight of the lead-lead oxide powder, said sulfuric acid being added in amounts sufficient to produce a dry active material product which contains from about 5 to about 50% by weight of lead sulfate, drying said composition so that it contains less than ½% by weight of water, and recovering in the form of discrete particles a stable, pre-sulfated, dry active material for a lead-acid storage battery electrode.

3,194,686
GALVANIC THERMAL BATTERY CELL

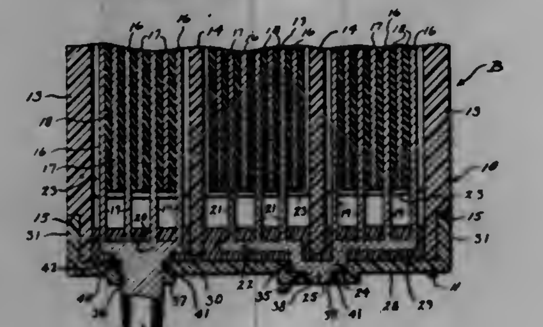
Joseph C. Jerome, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 6, 1956, Ser. No. 557,815
6 Claims. (Cl. 136—90)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A thermoelectric cell comprising a pair of thermally responsive half-cell units supercoincidently retained within a housing and having an electrode in common, a normally latent thermal energy unit retained within said housing in proximate relationship with said pair of units for heating said pair of units upon activation of said thermal energy unit, said thermal energy unit consisting of spun glass ribbon pretreated with zirconium, said housing being defined by an enclosed casing having the interior thereof coated with calcium whereby the calcium coating on a pair of opposing sides of said casing defines the other electrode, respectively, of each of said pair of units, and an electrolyte interposed between said common electrode and the calcium coating on each of said pair of opposing sides whereby said common electrode and the calcium coating on said pair of opposing sides form the cathode and anode, respectively, for each of said half-cell units, said electrolyte being of such substance as to be conductively ineffective when in a solid state and conductively effective when in a liquid state.

3,194,687
STORAGE BATTERY

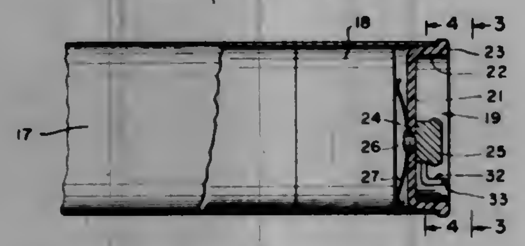
John K. Shannon, 2028 63rd Place, Kenosha, Wis.
Filed Feb. 20, 1961, Ser. No. 90,487
7 Claims. (Cl. 136—134)



1. A storage battery comprising a case including side and end walls and a cover therefor including an outer preformed thin section having a finished appearance and including a top wall and depending flanges, said section when in an inverted position forming a mold tray, the inner face of said top wall having spaced jump strap seats therein, and groups of cell plates having the negative plates of one set connected with the positive plates of another set by jump straps and said jump straps being fitted in the seats in the top wall of the outer cover section, and an inner poured cover section intimately engaging the entire inner face of the top wall of the outer section and sides of the flanges to a predetermined distance and covering said jump straps, said side and end walls of the case having their edges inserted into the cover and into the inner section, said inner and outer cover sections being formed of compatible material whereby the material of the two sections will unite to form a homogeneous whole with the jump straps embedded in the material of the inner section.

3,194,688
END PORTION CONSTRUCTION FOR HANDLE OF CORDLESS ELECTRIC DEVICE HAVING A SLIDE-OUT BATTERY PACK

Robert H. Riley, Jr., Towson, and John W. Leaman, Baltimore, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Mar. 5, 1962, Ser. No. 177,467
2 Claims. (Cl. 136—173)



1. In combination with a cordless electrical device having a battery in a housing formed with an open end having a continuous rim, a closure means for the housing, comprising:

(a) a cover member received within the open end of the housing and seated against the rim of the housing;

(b) a pair of mutually-aligned peripheral bosses formed on said cover member, each of said bosses having a bore therethrough;

(c) a pair of recesses formed in the housing radially adjacent of said respective bosses of said cover member, said recesses communicating with said respective bores in said bosses;

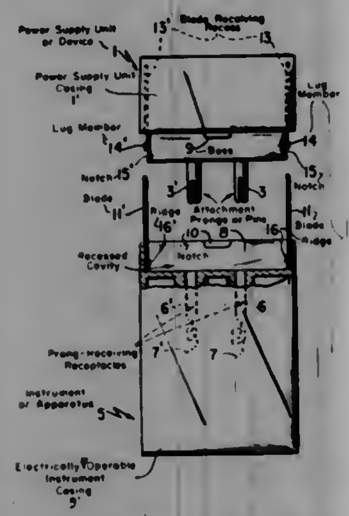
(d) a locking post secured to said cover member intermediate said bosses; and

(e) a locking spring comprising a pair of legs straddling said post, a manually-manipulatable upturned base portion joining said legs, and a pair of outwardly-projecting feet, one on each leg;

(f) said feet being journaled for radial sliding movement in said respective bores of said bosses, whereby said locking post forces said feet into said communicating recesses in the housing to latch said cover member to the housing, and whereby, when said locking spring is lifted, said legs clear said locking post to retract said feet in said bores and out of latching engagement with said recesses in the housing.

3,194,689
ELECTRICAL DEVICE CONSTITUTING A POWER SOURCE

Robert Marcel Deschamps, Paris, France, assignor to Societe des Accumulateurs Fixes et de Traction (Société Anonyme), Romainville, France, a company of France
Filed July 13, 1962, Ser. No. 210,609
Claims priority, application France, Mar. 16, 1962, 891,384
6 Claims. (Cl. 136—173)

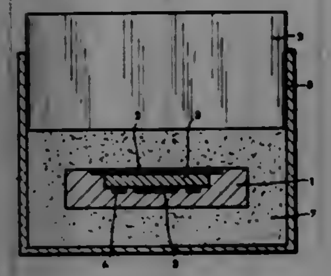

Power Supply Unit or Device
13'
Blade Receiving Recess
13
Power Supply Unit Casing 1'
Lug Member
Lug Member 14'
9 Boss
14
Notch 15'
15 Notch
Blade 11'
Ridge 16'
Attachment Prongs or Pins
3'
3
10
8
16
11 Blade
Ridge
Recessed Cavity
Notch
6'
6
Prong-Receiving Receptacles
7'
7
Instrument or Apparatus 5
Electrically Operable Instrument Casing 9'

1. The combination of an electrically operable instrument having an instrument casing with a blade extending therefrom, a recessed cavity and prong-receiving receptacles; an electric power supply unit having a power supply unit casing with a blade-receiving recess, and a projecting portion, the projecting portion having attachment prongs extending therefrom, an electric energy source within said power supply unit casing; and means for effecting electrical connection between the electric energy source and the said instrument, whereby the projecting portion, attachment prongs and blade may engage the recessed cavity, receptacles and recess, respectively.

3,194,690
PRODUCING A SEMICONDUCTOR ARRANGEMENT

Leo Grasser, Munich, and Friedrich Schnell, Munich-Feldmoching, Germany, assignors to Siemens & Halske-Aktiengesellschaft Berlin and Munich, a corporation of Germany
Filed May 14, 1962, Ser. No. 194,258
Claims priority, application Germany, May 17, 1961, S 74,016
4 Claims. (Cl. 148—1.5)

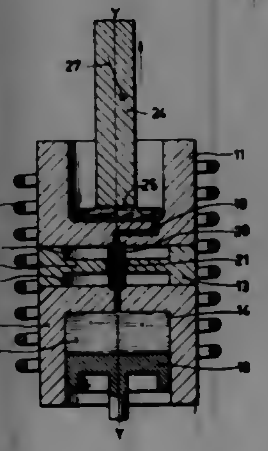
1. A method of producing a semiconductor arrangement by alloying electrode metal in a semiconductor body, comprising the steps of assembling the individual components of the arrangement in the cavity of a mold constructed of a material which does not wet the semiconductor components, the configuration of said cavity and the dimensions thereof corresponding to those of the arrangement, whereby said components are supported in their re-



spective desired relative positions, embedding said mold in a powder of a substance which does not react with the semiconductr components, confining such powder, applying pressure to the confined powder, and heating the assembled parts, while under such pressure, to the alloying temperature of the respective components.

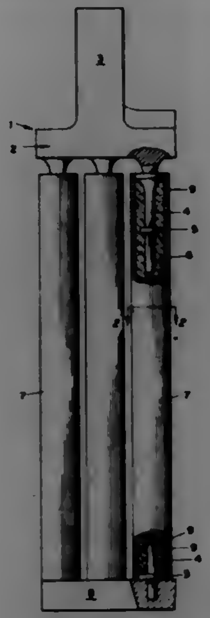
3,194,691
METHOD OF MANUFACTURING ROD-SHAPED CRYSTALS OF SEMI-CONDUCTOR MATERIAL

Johannes Aloysius Maria Dikhoff, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Sept. 2, 1960, Ser. No. 53,692
Claims priority, application Netherlands, Sept. 18, 1959, 243,511
4 Claims. (Cl. 148—1.6)



1. A method of making generally monocrystalline wafers for use in semiconductor devices, comprising providing a single seed crystal of semiconductor material having a diamond structure and having three main crystallographic directions including the [111]-directions, [100]-directions, and the [110]-directions, contacting the seed to a melt of the same semiconductor material which is then translated away relative to the seed to grow from the seed a generally rod-shaped crystal, said single seed crystal being oriented relative to the melt such that its growing direction corresponding to the direction of translation deviates from all of the said three main crystallographic directions by an angle of at least 5°, and the smallest angle between a [111]-direction of the seed and the said growing direction does not exceed 30°, and such that the melt-solid interface is oblique to the said three main crystallographic directions and the rod-shaped crys-

disposed in said active material and porous retainers enclosing said active material about each of said metallic

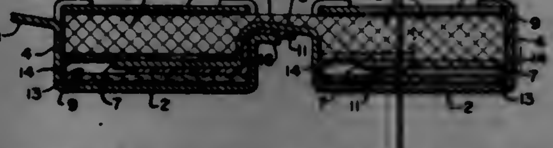


spines, said retainers being fabricated from an electrolyte resistant material which contains a major amount of said active material.

3,194,685
METHOD OF MANUFACTURING STORAGE BATTERY ELECTRODE ACTIVE MATERIAL
James P. Malloy, Cheltenham, Pa., assignor to The Electric Storage Battery Company, a corporation of New Jersey
No Drawing. Filed Mar. 9, 1964, Ser. No. 350,532
6 Claims. (Cl. 136—[illegible]7)

1. A method of manufacturing a stable, pre-sulfated, dry active material for a lead-acid storage battery electrode which comprises adding sulfuric acid and water to lead-lead oxide powder which is being vigorously agitated, thoroughly mixing the composition, said water being added in amounts such that the water present in the composition does not exceed about 8% by weight of the lead-lead oxide powder, said sulfuric acid being added in amounts sufficient to produce a dry active material product which contains from about 5 to about 50% by weight of lead sulfate, drying said composition so that it contains less than ½% by weight of water, and recovering in the form of discrete particles a stable, pre-sulfated, dry active material for a lead-acid storage battery electrode.

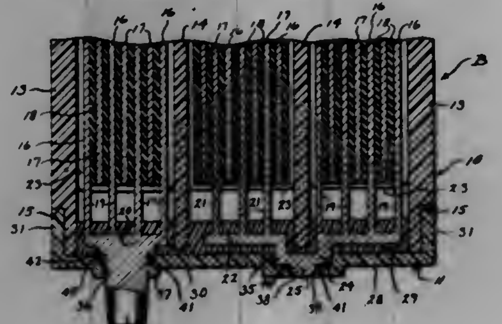
3,194,686
GALVANIC THERMAL BATTERY CELL
Joseph C. Jerome, Hyattsville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 6, 1956, Ser. No. 557,815
6 Claims. (Cl. 136—[illegible])
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A thermoelectric cell comprising a pair of thermally responsive half-cell units supercoincidently retained within a housing and having an electrode in common, a normally

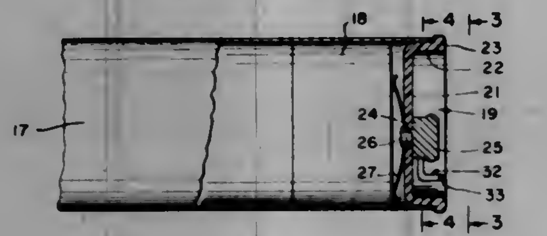
posing sides of said casing defines the other electrode, respectively, of each of said pair of units, and an electrolyte interposed between said common electrode and the calcium coating on each of said pair of opposing sides whereby said common electrode and the calcium coating on said pair of opposing sides form the cathode and anode, respectively, for each of said half-cell units, said electrolyte being of such substance as to be conductively ineffective when in a solid state and conductively effective when in a liquid state.

3,194,687
STORAGE BATTERY
John K. Shannon, 2028 63rd Place, Kenosha, Wis.
Filed Feb. 20, 1961, Ser. No. 90,487
7 Claims. (Cl. 136—134)



1. A storage battery comprising a case including side and end walls and a cover therefor including an outer preformed thin section having a finished appearance and including a top wall and depending flanges, said section when in an inverted position forming a mold tray, the inner face of said top wall having spaced jump strap seats therein, and groups of cell plates having the negative plates of one set connected with the positive plates of another set by jump straps and said jump straps being fitted in the seats in the top wall of the outer cover section, and an inner poured cover section intimately engaging the entire inner face of the top wall of the outer section and sides of the flanges to a predetermined distance and covering said jump straps, said side and end walls of the case having their edges inserted into the cover and into the inner section, said inner and outer cover sections being formed of compatible material whereby the material of the two sections will unite to form a homogeneous whole with the jump straps embedded in the material of the inner section.

3,194,688
END PORTION CONSTRUCTION FOR HANDLE OF CORDLESS ELECTRIC DEVICE HAVING A SLIDE-OUT BATTERY PACK
Robert H. Riley, Jr., Towson, and John W. Leaman, Baltimore, Md., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Mar. 5, 1962, Ser. No. 177,467
2 Claims. (Cl. 136—173)



1. In combination with a cordless electrical device hav-

tal thus grown exhibits more uniform transverse resistivity, and forming monocrystalline wafers from the thus-grown rod-shaped crystal by dividing same along planes extending substantially at right angles to one of said three main crystallographic directions, said wafers or sections thereof to be incorporated in the devices made.

3,194,692
CORROSION PROTECTION OF KANSITE COATED STEEL ARTICLES

Jean Albert Ternisien, Pau, Basses-Pyrenees, and Jean Jacques Trillat, St.-Germain-en-Laye, France, assignors to Societe anonyme dite: Societe Nationale des Petroles d'Aquitaine, Paris, France, a French company
No Drawing. Filed Aug. 1, 1961, Ser. No. 128,353
Claims priority, application France, Aug. 9, 1960, 835,358; July 19, 1961, 868,30
17 Claims. (Cl. 148—6.35)

1. A process for the protection of steels and other ferrous metals which are exposed to the action of a hydrogen sulphide-containing corrosive medium so as to form a layer permeable to said medium consisting essentially of crystalline kansite thereon by converting the permeable kansite corrosion layer into a crystalline impermeable protective layer consisting essentially of at least one member selected from the group consisting of pyrrhotine and pyrite which comprises the step of heating said layer of kansite to a temperature above 130° C. in an an hydrous atmosphere so as to form said impermeable layer.

3,194,693
PROCESS FOR INCREASING MECHANICAL PROPERTIES OF TITANIUM ALLOYS HIGH IN ALUMINUM

Paul J. Soltis, Upper Darby, Pa., assignor to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed June 12, 1962, Ser. No. 202,025
3 Claims. (Cl. 148—13)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A heating treatment for improving the elevated temperature creep strength of a high alpha phase alloy consisting essentially of 6–25 weight percent of aluminum, 1 weight percent of molybdenum and 1 weight percent of vanadium with the balance of the alloy being essentially titanium, which comprises the step of exposing the alloy to a temperature of 950° F. for at least 1000 hours whereby an ordering of the alpha phase is effected in the alloy.

3,194,694
PROCESS FOR SURFACE-TREATING IRON AND STEEL MATERIALS TO BESTOW HIGH ACID AND WEAR RESISTIVITY

Shinzoh Satoh, 548 2-chome Higashimachi, Kichishoji, Musashino-shi, Tokyo, Japan
No Drawing. Filed Apr. 18, 1963, Ser. No. 273,822
Claims priority, application Japan, June 18, 1962, 37/24,484
3 Claims. (Cl. 148—15)

1. A process for surface treating a member selected from the group consisting of iron and steel which comprises electro-plating electrolytically-active titanium in an aqueous alkaline solution over the entire surface of said member and immediately thereafter electro-plating zinc thereon to completely cover the resultant titanium plating, and then immersing the so-treated member in a cyanide salt bath at a temperature of about 600°–800° C. until the zinc has melted and vaporized, thereby forming a titanium-iron alloy and a nitride layer on the surface of said member.

3,194,695
DEGASSING AND DEOXYGENATING AGENT FOR USE IN CASTING AN ALUMINIUM ALLOY

Rikizo Yanagawa, 88 Hagoromo-cho 1-chome, Tokyo, Japan
No Drawing. Filed May 12, 1961, Ser. No. 109,517
Claims priority, application Japan, May 24, 1960, 35/25,093
2 Claims. (Cl. 148—26)

1. A degassing and deoxygenating agent consisting essentially of the following composition:

	Percent by weight
Lithium chloride, LiCl	2–10
Sodium fluoride, NaF	5–40
Fluorite, CaF_2	5–20
Cryolite, Na_3AlF_6	2–20
Common salt, NaCl	5–40
Potassium chloride, KCl	5–30

whereby the proportions of the compounds of the said agent selected total about 100%.

2. A degassing and deoxygenating agent consisting essentially of the following composition:

	Percent by weight
Hexachloroethane, C_2Cl_6	3–40
Lithium chloride, LiCl	2–20
Ammonium zinc chloride, $ZnCl_2 \cdot 3NH_4Cl$	3–20
Potassium silicon fluoride, K_2SiF_6	3–20
Borax, $Na_2B_4O_7 \cdot 10H_2O$	2–10
Soda ash, Na_2CO_3	1–5
Silica sand, SiO_2	1–5

whereby the proportions of the compounds of the said agent selected total about 100%.

3,194,696
CYANATE BATHS

Johannes Müller, Neu-Isenburg, Germany, assignor to Deutsche Gold- und Silber-Scheideanstalt vormals Roessler, Frankfurt am Main, Germany
No Drawing. Filed June 11, 1963, Ser. No. 286,954
Claims priority, application Germany, June 20, 1962, D 39,182
2 Claims. (Cl. 148—28)

1. A fused bath for increasing the hardness of steel consisting of 3 to 30% of alkali metal cyanate and the remainder at least one member selected from the group consisting of alkali metal and alkaline earth metal chlorides, carbonates and oxides.

3,194,697
HEAT TREATMENT OF REFRACTORY METALS

Winston H. Chang, Cincinnati, Ohio, assignor to General Electric Company, a corporation of New York
No Drawing. Filed Sept. 28, 1962, Ser. No. 227,045
7 Claims. (Cl. 148—133)

1. In a method for heat treating a metal alloy based on a refractory metal selected from the group consisting of Mo, W, Cb, Ta and Cr including carbon in the range of about 0.1–0.2 weight percent, the steps of: annealing the alloy at a temperature of about 2500–4000° F. for a time sufficient to place carbon in solution with the base metal; aging the alloy prior to final processing for about 1–50 hours at a temperature of about 1800–2800° F. to precipitate fine metal carbides in the microstructure of the alloy; and then reducing the alloy to a finished form.

3,194,698
HEAT TREATMENT OF CHROMIUM-FREE STEEL BEARINGS

Joseph R. Mitchell, Chicago, and Mary E. Potter, Thornton Township, Cook County, Ill., assignors to United States Steel Corporation, a corporation of New Jersey
No Drawing. Filed Sept. 15, 1961, Ser. No. 138,264
2 Claims. (Cl. 148—134)

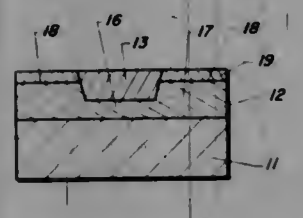
1. The method of producing steel suitable for bearings characterized by good wear resistance comprising producing substantially chromium-free steel containing

	Percent
Carbon	.80 to 1.20
Manganese	1.50 to 2.00
Silicon	.50 to .90
Molybdenum	.35 to .60
Aluminum	.05. maximum

with the balance iron and residual impurities, spheroidizing said steel by holding it at a temperature between 1225 and 1275° F. for 5 to 10 hours, raising the temperature to 1375 to 1425° F. and holding for 1 to 3 hours, cooling in a plurality of successive stages to below 1180° F. and holding at each stage and then transforming the steel to a microstructure composed of martensite and well distributed carbides by austenitizing in the range of 1475 and 1575° F. and air cooling.

3,194,699
METHOD OF MAKING SEMICONDUCTIVE DEVICES

Loring C. White, Reading, Mass., assignor to Transitron Electronic Corporation, Wakefield, Mass., a corporation of Delaware
Filed Nov. 13, 1961, Ser. No. 151,870
5 Claims. (Cl. 148—186)

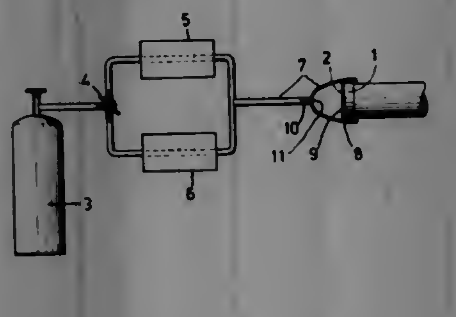


1. A method of making a semiconductive device with a low resistance path from the surface of the device to the base layer which method includes the steps of processing semiconductor material to establish an emitter layer of first conductivity in the surface of said material with a first carrier density, a base layer in rectifying contact with said emitter of second conductivity type opposite to said first conductivity type with a second carrier density less than said first carrier density and having an internal portion and an external portion in the surface of said material with said internal portion separated from said surface by both said external portion and said emitter layer, and a third layer of conductivity type different from said second conductivity type and separated from said emitter layer by the thickness of said internal base layer portion,

and diffusing a substance of said second conductivity type with a carrier density less than said first carrier density and greater than said second carrier density through said surface into said external base layer portion to reduce the resistance through said external base layer portion from said surface to said internal base layer portion while maintaining the rectifying contact between said emitter and base layers and maintaining the carrier density in said internal base portion substantially unaffected.

3,194,700
GAS HEATING AND COOLING IN THE MANUFACTURE OF SEMICONDUCTOR DEVICES

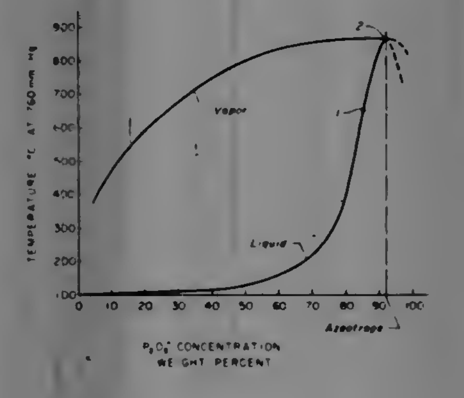
Hermann Georg Grimmeiss, Aachen, and Rüdiger Memming, Neu Egenbuttel, near Hamburg, Germany, and Hein Koelmans, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 13, 1962, Ser. No. 209,680
Claims priority, application Germany, July 14, 1961, N 20,331
10 Claims. (Cl. 148—186)



1. A method of making a semiconductor device comprising providing a semiconductive body in surroundings at an ambient temperature, providing a source of gas and heating means and cooling means for the gas, said heating means being maintained at an elevated temperature well above the ambient temperature and said cooling means being maintained beliw the ambient temperature, directing a stream of gas from the said source through the heating means and the resultant gas heated above the ambient temperature onto a restricted portion of the surface of the semiconductive body in the presence of an active impurity to diffuse without melting the active impurity into the heated restricted surface portion only of the body to alter an electrical property thereof, and immediately thereafter directing a stream of gas from the source through the cooling means and the resultant gas cooled below the ambient temperature onto the same said restricted surface portion of the body to rapidly cool same and thus preserve the altered electrical property.

3,194,701
METHOD FOR FORMING P-N JUNCTIONS ON SEMICONDUCTORS

Robert P. Lothrop, San Mateo, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Apr. 1, 1963, Ser. No. 269,827
9 Claims. (Cl. 148—189)



1. In a process for forming a P-N junction on the surface of a semiconductor with phosphorus, the step comprising exposing said surface to an azeotropic mixture of gaseous phosphorus pentoxide and water vapor for a controlled period of time.

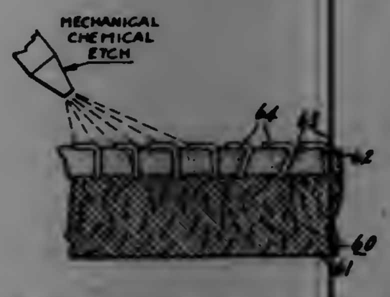
3,194,702

METHOD OF MAKING SELF-LUBRICATING BEARING MEANS

Rodger E. Geller, Dayton, and Harry J. Couch, Vandalia, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Jan. 3, 1962, Ser. No. 164,089

2 Claims. (Cl. 156—3)



1. A method for manufacture of a self-lubricating bearing comprising the steps of, applying to a backing portion of a cellulosic sheet a layer of thermosetting adhesive resin comprising one of the resins from the group consisting of phenolic and epoxide, spray flocking fibers of a self-lubricating thermosetting resinous material which is resistant to an alkaline etching solution into said adhesive whereby generally upstanding fibers are embedded in said adhesive, and preferentially etching the adhesive resin leaving a sufficient layer of adhesive resin to retain the fibers and provide a bearing surface of exposed fiber ends of the self-lubricating resinous material.

3,194,703

METHOD OF TREATING BODIES OF SEMICONDUCTIVE MATERIAL BY CHEMICALLY ETCHING WITH AN ACID ETCHING LIQUID

Jan Bloem, Nijmegen, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed June 29, 1962, Ser. No. 206,147

Claims priority, application Netherlands, July 5, 1961, 266,733

3 Claims. (Cl. 15[illegible]7)

1. In the manufacture of a semiconductor device, a method of chemically etching a semiconductive body selected from the group consisting of germanium and silicon, comprising the step of subjecting a surface portion of the said body to the etching action of an acid etching aqueous solution containing hydrofluoric acid, at least one oxidizing agent selected from the group consisting of hydrogen peroxide and nitric acid, and further containing between about 60% by weight and 85% by weight of sulphuric acid.

3,194,704

METHOD FOR THE PREPARATION OF ALUMINUM FILLER WIRES FOR ARC WELDING

Maurice Hubert, Clichy-sous-Bois, France, assignor to l'Air Liquide, Societe Anonyme pour l'Etude et l'Exploitation des Procedes Georges Claude

No Drawing. Filed Sept. 21, 1962, Ser. No. 225,360

Claims priority, application France, Sept. 28, 1961, 874,455, Patent 1,308,719

1 Claim. (Cl. 156—[illegible]2)

A method for the preparation of aluminum and aluminum-alloy welding wires, in particular for use as bare electrode wires in sigma welding, which comprises immersing a length of such wire in a bath consisting essentially of:

	Percent by weight
H_3PO_4	50 to 75.
H_2SO_4	5 to 20.
HNO_3	5 to 25.
H_2O	Complement to 100%.

together with:

(a) a weak acid capable of forming a complex with H_3PO_4, said weak acid being an acid of the group which comprises boric, molybdic, iodic, vanadic and tungstic acids, this weak acid representing from 0.5 to 10% by weight of the bath,

(b) a catalyst being a metallic salt of a metal of the group which comprises copper, nickel, cobalt, chromium, zinc and aluminum, this catalyst representing from 0.5 to 2% by weight of the bath, said method further comprising maintaining said bath at a temperature above 80° C. and continuously stirring said bath with said wire therein, until a layer of metal comprised between about 15 and 30 microns, has been chemically removed by said bath from the surface of said wire and said wire exhibits a specular gloss.

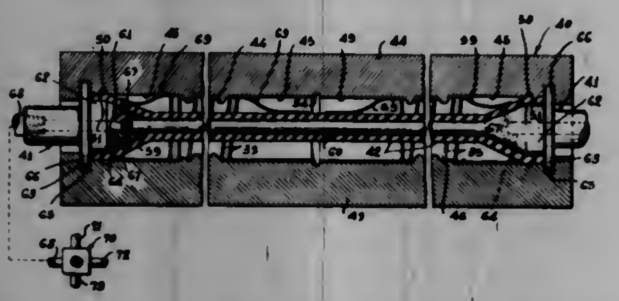
3,194,705

METHOD AND APPARATUS FOR MAKING REINFORCED CORRUGATED HOSE

David M. Caplan, Los Angeles, Calif., assignor, by mesne assignments, to H. K. Porter Company, Inc., Pittsburgh, Pa., a corporation of Delaware

Original application Feb. 1, 1954, Ser. No. 407,248. Divided and this application Mar. 8, 1957, Ser. No. 644,841

17 Claims. (Cl. 156—143)



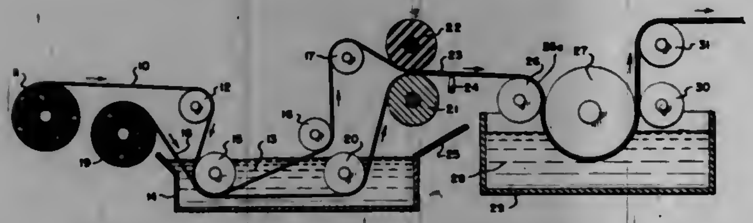
1. A method of fabricating a hose of thermosetting plastic material with circumferential turns of wire reinforcement means embedded therein, characterized by the use of a hollow mold with a helically corrugated interior circumferential wall and including the steps of: placing a tube of thermosetting plastic material in said mold with said wire reinforcement means surrounding the tube in the mold and free of engagement with said tube at portions corresponding to the helically corrugated interior wall of said mold; sealing off the interior of the tube from the interior of the mold; introducing fluid under pressure into said tube for the purposes of providing pressure to expand the tube radially; supplying heat to said tube to cause material of the expanded tube to flow around the turns of said reinforcement means into contact with the surrounding mold walls to assume the configuration of the mold; and supplying heat to cure the plastic material of the expanded tube.

9. In apparatus of the character described for processing a tube of uncured thermosetting plastic material to form a tubular body, the combinattion of: a longitudinally split mold with an interior circumferential wall of the shape of the finished tubular body; and a mandrel to extend through the tube and initially support the tube in the mold, said mandrel having a central portion of a first diameter and having ends of a second diameter larger than said first diameter but less than the diameter of the cooperating portions of the mold, at least one of said ends being separable from the central portion to permit insertion of said mandrel into said tube, said mandrel having an opening extending exteriorly of said mold for the admission of fluid under pressure into the interior of said tube to expand the tube radially to the configuration of the mold, the ends of said mandrel being dimensioned to cooperate with the mold to clamp the ends of the tube in a fluid-tight manner to seal off the interior of the tube from the interior of the mold around the tube, said mandrel having a second opening spaced from said first

mentioned opening and extending exteriorly of said mold for the discharge of fluid from the interior of the tube thereby to cause circulation of the fluid through the tube.

3,194,706
IMPREGNATING, LAMINATING, AND CAST COATING IN ONE OPERATION

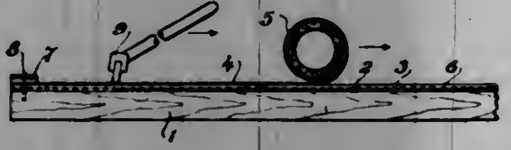
Walter C. Utschig and Milton Yezek, Battle Creek, Mich., assignors to General Foods Corporation, White Plains, N.Y., a corporation of Delaware
Filed May 12, 1959, Ser. No. 812,706
3 Claims. (Cl. 156—242)



1. A method for producing laminated packaging material having on one side thereof a smooth, glossy coating of thermoplastic agent, comprising applying a coating of molten thermoplastic agent to opposed surfaces of an elongated first ply, bringing said first ply into contact with a second elongated ply so that the coating on one surface of said first ply is contiguous with a surface of said second ply, forcing said plies into the nip formed by a mirror-finished casting surface and a pressure roll to form a laminated structure in which said molten thermoplastic agent is disposed between said first and second plies and the coating on the exposed surface of said first ply is adhered to said casting surface, said laminated structure thereby being held immovable relative to said casting surface, chilling said laminated structure while it is held on said casting surface to simultaneously harden the laminating layer between said first and second plies and the coating adhered to said casting surface, and peeling the laminated structure from said casting surface.

3,194,707
METHOD OF APPLYING A BONDED SKIN OR COVERING TO A SURFACE TO RENDER IT WATER-TIGHT

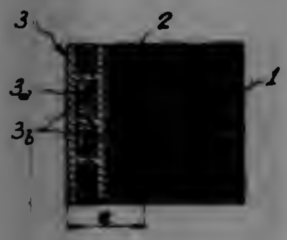
Gordon Spencer McNae, Portland, near Whangarei, Auckland, New Zealand
Filed Aug. 7, 1961, Ser. No. 129,617
Claims priority, application New Zealand, Aug. 19, 1960, Patent 127,180
5 Claims. (Cl. 156—247)



1. A method of applying a smooth bonded skin to the surface of an article to render it water-tight, said method comprising the steps of applying to said surface at least one coat of an initially liquid resinous priming composition and allowing the coat to harden; cutting a piece of glass fiber fabric to a size sufficient to cover at least a part of said surface; cutting a piece of smooth pliable and impervious abhesive sheet material to the size of the thusly cut piece of glass fiber fabric; laying the piece of glass fiber fabric on the hardened coat of resinous priming composition; applying a liquid resinous bonding composition to the exposed face of the thusly laid piece of glass fiber fabric in sufficient quantity to insure thorough wetting of said fabric; progressively applying the piece of abhesive sheet material onto the exposed surface of said bonding composition while the latter is still liquid and while applying pressure to the exposed face of the abhesive sheet material as the latter is being applied to bring the sheet material into close contact with the liquid bonding composition and thereby squeeze the bonding composition against the glass fiber and against the hardened coat while causing excess bonding composition to move in a mass towards the free end of the fabric, whereby a substantially uniform layer of bonding composition will be formed between the abhesive sheet material and the glass fiber fabric, which bonding composition will adhere to the hardened coat of priming composition; retaining the piece of abhesive sheet material in contact with the bonding composition until the latter has hardened; and then peeling off the piece of abhesive sheet material from the hardened bonding composition which now has a smooth and glossy outer surface.

3,194,708
PRODUCTION OF LIGHT STRUCTURAL MEMBERS

Robert Fourcade, Gosnay, and Marcel Duboo, Bruay-en-Artois, France, assignors to Houilleres du Bassin du Nord et du Pas-de-Calais, Douai, France, a French public establishment
Filed Nov. 2, 1960, Ser. No. 66,777
Claims priority, application France, Nov. 7, 1959, P.V. 809,721
1 Claim. (Cl. 156—279)



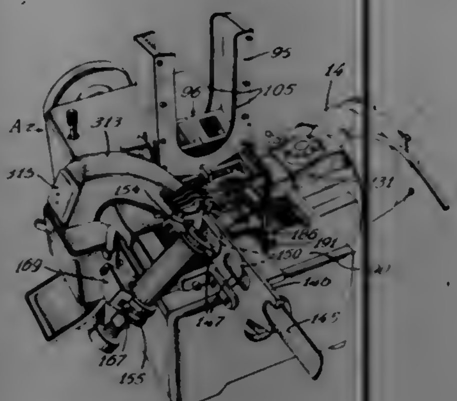
A process comprising impregnating a cellular core having a majority of closed cells, to a pre-established controlled depth in a surface zone of the core with an unsatured polyester composition having a cross-linking monomer constituted by styrene, said core being of expanded polyvinyl chloride, said styrene being contained in said polyester composition in a quantity related to the cellular core to limit penetration to said pre-established depth, said polyester composition having a molecular weight of between 400 to 500 and including 100 parts by weight of a mixture of propylene glycol 5 mol, phthalic anhydride 2 mol, maleic acid 3 mol and 40 parts by weight of styrene, polymerizing the polyester composition at least partially in said surface zone to obtain a first layer in direct contact and bonded to said cellular core in said surface zone, covering said first layer with a coating of glass fibers impregnated with a second composition of polyester resin, the polymerization of the first said polyester composition being sufficient to block penetration of the second composition further into the core and then polymerizing the coating thus applied to form a second layer fused to the first layer while completing polymerization of any polyester composition in the first layer.

3,194,709
AUTOMATIC FILM MOUNTING APPARATUS

Tom M. Bondhus, Big Lake, Minn.
Filed May 12, 1961, Ser. No. 109,735
15 Claims. (Cl. 156—355)

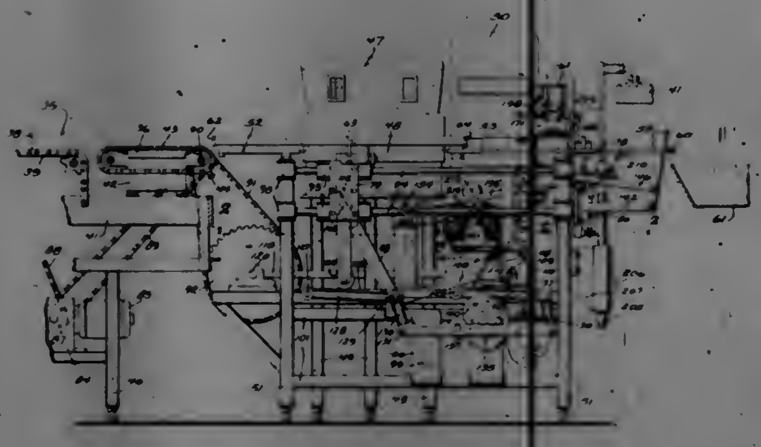
11. A transparency mounting apparatus for use in mounting a section of an elongated film strip in a film mount, comprising a pair of hingedly connected similar apertured panel at least one of which includes a film of heat sensitive adhesive, the apparatus including a hopper for supporting a series of mounts in superposed relation, a table adjoining said hopper and over which said film mounts may be moved, means engageable with the lowermost film mount in said hopper to move the same to a predetermined position on said table, a heating plate at said pre-

determined position for heating said film to a plastic state, means for moving said heated film mount from said first position to a second predetermined position on said table, means for transferring a film section onto one panel of said film mount and holding said panel against said table,



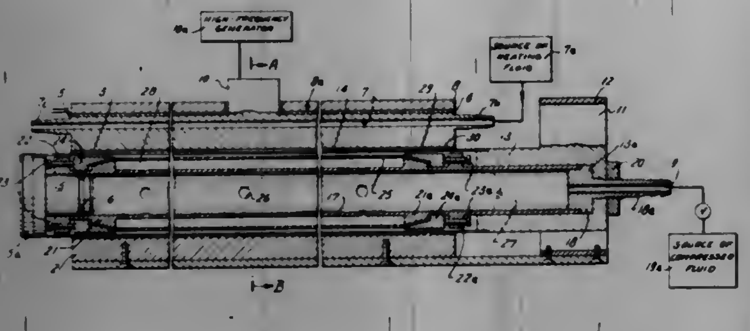
folding means engageable with the other said panel to fold said other panel while said one panel is held, means releasing said transferring means from said one panel while continuing the folding of said other panel, said folding means clamping said panels together at the completion of said folding operation.

3,194,710
AUTOMATIC LABELLING MACHINE
William F. Stremke, 8031 W. Holmes Ave.; William F. Stremke, Jr., 3329 S. Springfield Ave.; and Roman R. Pazderski, 3844 S. 15th Place, all of Milwaukee, Wis.
Filed Aug. 24, 1960, Ser. No. 51,588
26 Claims. (Cl. 156—360)



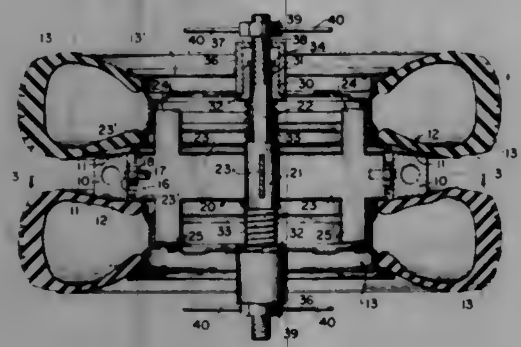
1. A package labelling machine having a bed over which a series of spaced packages are conveyed from a source of unlabelled packages past a series of spaced stations at which various operations with respect to the packages are performed, said stations including a first station having mechanism for weighing the packages and a second station for applying a price label to a previously weighed package, and a corresponding series of spaced sweep arms which concurrently push respective packages in said series of packages from one station toward the next station, and actuating means for concurrently moving said sweep arms in a cycle of sweep arm movement in which the respective arms advance from an initial position behind respective packages along the bed at a level of engagement with the packages and thereafter retract along a path clear of said packages and return to said initial position to engage succeeding packages in a series of packages in a subsequent cycle of movement.

3,194,711
APPARATUS FOR SEAM WELDING OVERLAPPING EDGE PORTIONS OF ROLLED PLASTIC SHEETS
Horst Pasternack, Essen, Germany, assignor to Wasag-Chemie, A.G., Essen, Germany
Filed June 29, 1962, Ser. No. 206,321
Claims priority, application Germany, July 5, 1961, W 30,298
18 Claims. (Cl. 156—380)



1. In an apparatus for welding weldable overlapping longitudinal edge portions of rolled sheets and for thereby transforming such sheets into tubular bodies, in combination, a mold member having an elongated bore, wall means bounding said bore, and an elongated slot communicating with said bore; an electrode having an elongated portion extending into and at least nearly filling said slot; and radially outwardly expansible spreading means received in said bore, said spreading means being movable between a contracted position in which said spreading means defines with said wall means and with said electrode an annular space for reception of a rolled sheet with the overlapping edge portion of the sheet abutting against said elongated portion of said electrode, and an expanded position in which said spreading means presses the overlapping edge portion of the sheet against said electrode and presses the remaining portions of the sheet against said wall means.

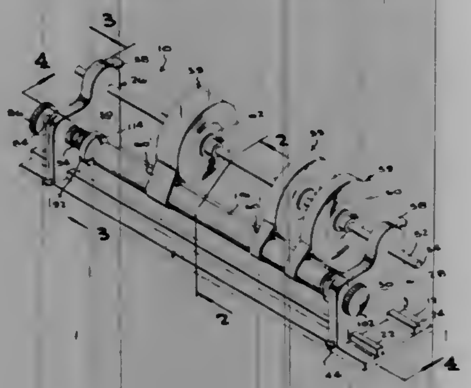
3,194,712
WHITEWALL APPLYING APPARATUS
Randolph R. Pollock, 1103 N. Locust Ave., Lawrenceburg, Tenn.
Filed Oct. 26, 1962, Ser. No. 233,296
5 Claims. (Cl. 156—394)



1. Apparatus for simultaneously vulcanizing decorative rubber trim to a plurality of pneumatic tires mounted on rims comprising a centering jig having a central portion, a plurality of arms connected at one end to said central portion and extending radially therefrom, a pair of projections extending outwardly from opposite sides of each of said arms adjacent the other ends for engaging and guiding the tire rims, a heatable mold ring having oppositely disposed mold surfaces located about said centering jig and attached to said other ends of said arms, said central portion having reduced threaded extremities extending oppositely and axially thereof, quickly disconnectable rim centering

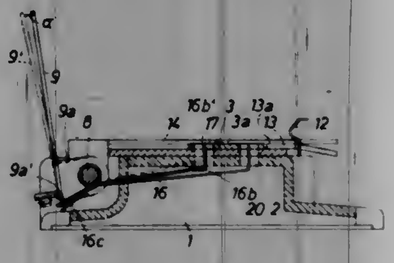
means axially slidably mounted on said reduced extremities, and force applying means for moving the tire rims into engagement with said jig and the tires onto engagement with said mold ring.

3,194,713
APPARATUS FOR DISPENSING AND APPLYING TAPE TO A CYLINDRICAL ARTICLE
Ralph L. Comet, Nutley, N.J.
(200 Baldwin Road, Parsippany, N.Y.)
Filed Nov. 23, 1962, Ser. No. 239,686
7 Claims. (Cl. 156—446)



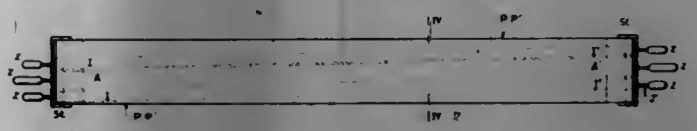
1. A device for dispensing and applying tape to a cylindrical member to be marked comprising a base, a pair of longitudinally-spaced normally-upright standards on said base, a shaft extending between and supported on said standards adapted to rotatably support a plurality of rolls of tape, and means on said standards adapted to support said cylindrical member, said means comprising confronting and aligned frusto-conical members rotatably mounted, respectively, on each of said standards, said frusto-conical members adapted to receive the opposed ends of said cylindrical member to support the latter proximate said rolls to receive said tape therefrom as said rolls and cylindrical member are rotated.

3,194,714
FILM SPLICERS
Friedrich Winkler, Munich, and Johann Zanner, Unterhaching, near Munich, Germany, assignors to Agfa, Aktiengesellschaft, Leverkusen-Bayerwerk, Germany
Filed Oct. 8, 1962, Ser. No. 228,824
Claims priority, application Germany, Oct. 14, 1961, A 38,560
15 Claims. (Cl. 156—502)



1. In a film splicer, in combination, support means having a surface adapted to be engaged by film during splicing thereof; hold-down means movable toward and away from said surface for holding film against said surface when said hold-down means is in an operating position adjacent said surface; release means located adjacent said support means for releasing film from said surface thereof; and means responsive to movement of said holding down means away from said surface and cooperating with said release means for actuating the latter to release film from said surface when said hold-down means is moved away from said surface.

3,194,715
APPARATUS FOR HOT VULCANIZING SEAMS IN RUBBERIZED ELEMENTS
Michel Philippe François Gambin, 13 Rue Soufflot, Paris, France
Filed Nov. 21, 1961, Ser. No. 153,822
Claims priority, application France, Dec. 20, 1960, 848,526
2 Claims. (Cl. 156—583)

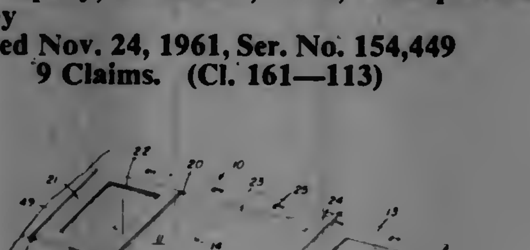


1. In an apparatus for heat-vulcanizing an elongated seam between two rubberized sheetlike elements the improvement comprising in combination a table adapted to support said two rubberized sheetlike elements in adjoining position; a beamlike member mounted above said table for vertical reciprocating movement into and out of engagement with the sheetlike elements resting upon said table; an elongated heatable platen placed on the side of the beamlike member facing the table, said platen having a width substantially equal to that of the seam; a thermically insulated holding ledge on each side of said platen, said ledges adapted to hold the seam forming border portions of said elements during vulcanization, and means to shift said platen upon the beamlike member comprising strap supports fastened at each end to the side near the end of said beamlike member and being spaced a small distance from the end of said member, shafts having one end attached to said platen and passing between said member and said strap supports and handles attached to the other end of said shafts.

3,194,716
FILAMENTARY MICROTAPES
Lloyd E. Lefevre, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 29, 1960, Ser. No. 39,562
1 Claim. (Cl. 161—104)

A novelty microtape or labyrinthian cross section composed of an organic, thermoplastic, resinous material and characterized in having opposite edge portions inwardly curled uniformly about their longitudinal axis, said edge portions being separated by a wavy, flat, central portion separating said curled edge portions.

3,194,717
LAMINATED TAPE STRUCTURE
Donald J. Albert, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Nov. 24, 1961, Ser. No. 154,449
9 Claims. (Cl. 161—113)



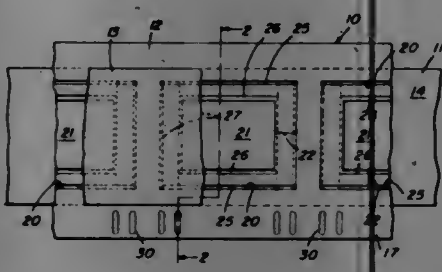
1. A laminated tape structure, for supporting a plurality of removable areas formed in one of the tape lamina comprising a first tape having an adhesive on one surface thereof and having a plurality of spaced transverse slits dividing said tape into a plurality of removable areas

spaced longitudinally on said tape; and a second tape contiguous to the adhesive surface of said first tape and provided with a plurality of longitudinally spaced apertures in registry with said areas of said first tape, said apertures being of substantially the same longitudinal dimension as said areas and smaller transversely than said areas, whereby longitudinal marginal portions of said second tape support each of said areas along opposite edges thereof.

3,194,718
LAMINATED TAPE STRUCTURE

Glen W. Offensend, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Nov. 24, 1961, Ser. No. 154,450
6 Claims. (Cl. 161—1[illegible]3)



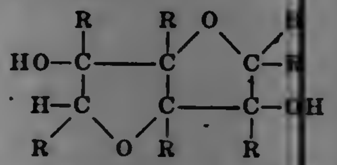
1. A laminated tape structure for supporting a plurality of strips partially preformed in one of the tape lamina comprising a first tape having apertures spaced longitudinally thereof, a second tape having a pressure-sensitive adhesive on one surface thereof contiguous to one surface of said first tape, and pieces of the same material as said first tape which are smaller than and similar to said apertures, said pieces being secured to the adhesive surface of said second tape and arranged centrally within each of said apertures in said first tape and said second tape being provided with longitudinal slits within each of said apertures adjacent the longitudinal edges of said apertures and of said pieces to provide partially preformed strips of said second tape.

3,194,719
MODIFIED MELAMINE RESINS

James D. Larkin, West Springfield, and Gabriel M. Grudus, Springfield, Mass., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed May 7, 1963, Ser. No. 278,762
20 Claims. (Cl. 161—156)

1. A resinous thermosetting co-condensation product comprising an aminotriazine, an aldehyde and 1,4,3,6 sorbide having the formula:



wherein R is independently selected from the group consisting of hydrogen and an alkyl radical having 1–4 carbon atoms, providing that when at least three of the R groups have alkyl radicals of 3–4 carbon atoms each, the remaining R groups shall be hydrogen; said aldehyde being present in the ratio of 1.5–6.0 mols per mol of aminotriazine; said 1,4,3,6 sorbide constituting 5–40 weight percent of the total reactants; said aminotriazine being selected from the group consisting of melamine, substituted melamines and cycloaliphatic guanamine, and mixtures thereof.

15. A decorative laminate comprising a thermoset resin-bonded assembly of a rigid substrate, a decorative print sheet impregnated with a melamine-formaldehyde resin, and an overlay sheet impregnated with a resin of claim 1.

3,194,720
MELAMINE LAMINATING RESIN MODIFIED WITH AN ANHYDRIDE OF SORBITOL

Gabriel M. Grudus, Springfield, and James D. Larkin, West Springfield, Mass., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed May 7, 1963, Ser. No. 278,763
20 Claims. (Cl. 161—156)

1. A resinous thermosetting co-condensation product comprising an aminotriazine, an aldehyde and an anhydride of sorbitol wherein said aldehyde is present in the ratio of 1.5–6.0 mols per mol of aminotriazine and said anhydride of sorbitol constitutes 5–40 weight percent of the total reactants; said aminotriazine being selected from the group consisting of melamine, substituted melamines and cycloaliphatic guanamine, and mixtures thereof.

15. A decorative laminate comprising a thermoset resin-bonded assembly of a rigid substrate, a decorative print sheet impregnated with a melamine-formaldehyde resin, and an overlay sheet impregnated with a resin of claim 1.

3,194,721
MELAMINE LAMINATING RESIN MODIFIED WITH AN OLEFIN OXIDE OF MANNITOL

Gabriel M. Grudus, Springfield, and James D. Larkin, West Springfield, Mass., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed May 7, 1963, Ser. No. 278,764
20 Claims. (Cl. 161—156)

1. A resinous thermosetting co-condensation product comprising an aminotriazine, an aldehyde and a modifier selected from the group consisting of polyoxyethylene derivatives of mannitol and polyoxypropylene derivatives of mannitrol, and mixtures thereof wherein the polyoxyethylene derivatvies of mannitol are the reaction products of 1–100 mols of ethylene oxide per mol of mannitol and the polyoxypropylene derivatives of mannitol are the reaction products of 1–100 mols of propylene oxide per mol of mannitol; said aldehyde being present in the ratio of 1.5–6.0 mols per mol of aminotriazine; said modifier constituting 5–40 weight percent of the total reactants; said aminotriazine being selected from the group consisting of melamine, substituted melamines and cycloaliphatic guanamine, and mixtures thereof.

15. A decorative laminate comprising a thermoset resin-bonded assembly of a rigid substrate, a decorative print sheet impregnated with a melamine-formaldehyde resin, and an overlay sheet impregnated with a resin of claim 1.

3,194,722
MELAMINE LAMINATING RESIN MODIFIED WITH AN OLEFIN OXIDE OF SORBITOL

Gabriel M. Grudus, Springfield, and James D. Larkin, West Springfield, Mass., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed May 7, 1963, Ser. No. 278,766
20 Claims. (Cl. 161—156)

1. A resinous thermosetting co-condensation product comprising an aminotriazine, an aldehyde and an olefin oxide of sorbitol wherein the olefin oxide of sorbitol is selected from the group consisting of polyoxyethylene sorbitol and polyoxypropylene sorbitol, and mixtures thereof and wherein the polyoxyethylene sorbitol is the reaction product of 1–100 mols of ethylene oxide per mol of sorbitol and the polyoxypropylene sorbitol is the reaction product of 1–100 mols of propylene oxide per mol of sorbitol; said olefin oxide of sorbitol constituting 5–40 weight percent of the total reactants; said aminotriazine being selected from the group consisting of melamine, substituted melamines and cycloaliphatic guanamine, and mixtures thereof.

15. A decorative laminate comprising a thermoset resin-bonded assembly of a rigid substrate, a decorative

print sheet impregnated with a melamine-formaldehyde resin, and an overlay sheet impregnated with a resin of claim 1.

3,194,723
MELAMINE LAMINATING RESIN MODIFIED WITH MANNITAN

Gabriel M. Grudus, Springfield, and James D. Larkin, West Springfield, Mass., assignors to Monsanto Company, a corporation of Delaware

No Drawing. Filed May 7, 1963, Ser. No. 278,767
20 Claims. (Cl. 161—156)

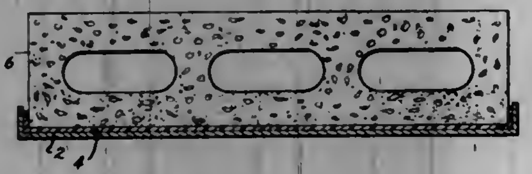
1. A resinous thermosetting co-condensation product comprising an aminotriazine, an aldehyde and mannitan where said aldehyde being present in the ratio of 1.5–6.0 mols per mol of aminotriazine, and wherein said mannitan constitutes 5–40 weight percent of the total reactants; said aminotriazine being selected from the group consisting of melamine, substituted melamines and cycloaliphatic guanamine and mixtures thereof.

15. A decorative laminate comprising a thermoset resin-bonded assembly of a rigid substrate, a decorative print sheet impregnated with a melamine-formaldehyde resin, and an overlay sheet impregnated with a resin of claim 1.

3,194,724
COATED BLOCKS

John A. Sergovic, Linthicum Heights, Md., assignor to The Burns & Russell Company of Baltimore City, Baltimore, Md., a corporation of Maryland

Filed June 29, 1961, Ser. No. 120,712
13 Claims. (Cl. 161—158)



1. A porous masonry unit having an integral molded facing layer of a composition comprising 50 to 95% of a granular sand filler and 50 to 5% of a cured polymer, said cured polymer being made from a curable composition containing (1) a copolymer of 75 to 85% of butadiene-1,3 containing at least 30% of its unsaturation in the form of side vinyl groups with 25 to 15% of styrene and (2) up to 80% of the total polymerizable material present of a vinyl substituted benzene hydrocarbon, said percentages of filler and cured polymer being based on the total of said filler and said cured polymer and in which said sand and said cured polymer are bonded to one another by a bonding agent selected from the group consisting of an ethylenically unsaturated silane, a Werner-type methacrylato chromic chloride complex, allyl silicate, beta-methalyl silicate, beta-phenylallyl silicate, and beta-chloroallyl silicate.

3,194,725
LAMINATE

Lewis Charles Pounds, Cheshire, Conn., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 23, 1963, Ser. No. 310,893
6 Claims. (Cl. 161—165)

1. A high impact strength, combustion resistant self-extinguishing unitary heat- and pressure-consolidated laminated article comprising

(I) a rigidity-imparting high impact vinyl chloride polymer substrate of from about 40 to 250 mils in thickness,

(II) a highly plasticized vinyl chloride polymer interlayer of from about 2 to 25 mils in thickness, and

(III) a polymethylmethacrylate overlay sheet of from about 1 to 15 mils in thickness, the ratio of thickness between (I) and (III) being at least 4:1, respectively.

3,194,726
ACRYLAMIDE CEMENTS

Ralph W. Baxendale, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Aug. 13, 1962, Ser. No. 216,281
11 Claims. (Cl. 161—227)

11. A laminated article comprising two solid members, at least one of said members being selected from the group consisting of aluminum, zinc, cadmium, antimony, manganese, and lead, bonded together by a thin film of polymerized acrylamide monomer.

3,194,727
PREPARATION OF HYDROLYZED POLYMER DEPOSITED ON CELLULOSIC MATERIAL AND THE RESULTING PRODUCT

James W. Adams and Henry W. Hoftiezer, Schofield, Wis., assignors to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois

No Drawing. Filed Sept. 24, 1962, Ser. No. 225,881
9 Claims. (Cl. 162—168)

1. In a method of treating cellulosic materials having ion exchange capacity resulting from ion exchange functional groups therein, which comprises

(a) chemically fixing a material, adapted to provide at least part of a catalyst for effecting polymerization of an olefinically unsaturated monomer within the cellulosic material by ion exchange reaction with at least part of said ion exchange groups,

(b) treating said cellulosic material and chemically fixed material, in any order, with an olefinically unsaturated monomer containing hydrolyzable functional groups and with anything additional required to render said chemically fixed material catalytically active to polymerize said monomer and deposit the resulting guest polymer within said cellulosic material,

the improvement which comprises hydrolyzing at least part of the hydrolyzable functional groups in the deposited guest polymer by treatment with an aqueous solution of a base selected from the group consisting of alkali metal hydroxides and quaternary ammonium hydroxides.

7. A cellulosic material having a partially hydrolyzed polymer deposited therein, produced in accordance with claim 1.

3,194,728
PAPER SIZED WITH FATTY ACID ESTERS OF METHYLOLATED ROSIN, METHOD OF MAKING SAME AND SIZE PASTE THEREOF

Joseph H. Stump, Jr., Pensacola, Fla., assignor, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Feb. 2, 1962, Ser. No. 170,789
11 Claims. (Cl. 162—179)

1. Paper comprising a water-laid web of cellulosic fibers carrying alum-precipitated size, said size having an acid value in the range of 0–50 and being the alkali metal saponification product of a material selected from the group consisting of ester-acid of fatty acid containing 16 to 20 carbon atoms and methylolated rosin acids, reaction product of such an ester-acid with from 1% to 10% by weight of an unsaturated aliphatic dicarboxylic acid, and reaction product of such an ester-acid and the anhydride of an unsaturated aliphatic dicarboxylic acid, said ester-acid having an acid value of not more than 110,

and the amount of said size carried by the web being in the range of from 0.25% to 5% by weight of the fibers on a dry basis.

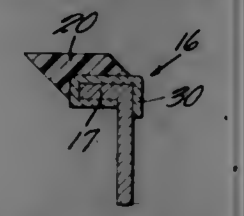
2. In the method of manufacturing sized paper from a water-laid web of cellulosic fibers comprising forming a dilute aqueous suspension of paper-making cellulose fibers, adding thereto an aqueous dispersion of size having an acid value in the range of 0–50, precipitating the size on the papers with the addition of alum to the suspension, sheeting the said fibers to form a web, and drying said web, wherein said size is the alkali metal saponification product of a material selected from the group consisting of ester-acid of fatty acid containing 16 to 20 carbon atoms and methylolated rosin acids, reaction product of such an ester-acid with from 1% to 10% by weight of an unsaturated aliphatic dicarboxylic acid, and reaction product of such an ester-acid and the anhydride of an unsaturated aliphatic dicarboxylic acid, said ester-acid having an acid value of not more than 110, and the amount of said size carried by the web being in the range of from 0.25% to 5% by weight of the fibers on a dry basis.

6. An aqueous paste for sizing paper containing water and from 60% to 80% of the alkali metal saponification product of ester-acid of fatty acid containing from 16 to 20 carbon atoms and methylolated rosin acids, said paste having an acid value in the range 0–50.

3,194,729
SUCTION BOX TOP

David E. Robinson, Norwalk, Conn., assignor to Time, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 23, 1961, Ser. No. 146,935
7 Claims. (Cl. 162—374)



1. A suction-box top which has a forward end, a rearward end, and a side adapted to support paper-web-transporting means movable in a direction from said forward end to said rearward end, comprising at least one bar extending transversely of said top and having first and second intersecting legs, said first leg lying substantially parallel to said side and extending forwardly from said second leg and said second leg extending from said first leg in a direction away from said paper-web-transporting means, a clip engageable with said first leg, a portion of said clip lying between said first leg and said paper-web-transporting means, a cover attached to said clip and lying between said clip and said paper-web-transporting means, said cover having a supporting surface and a forward surface forming with said supporting surface an acute dihedron of which the edge lies substantially in said side and extends transversely of said top, and means for supporting said second leg on said top.

3,194,730
PESTICIDAL FORMULATION CONTAINING A COMPLEX OF $CaCO_3$ AND SiO_2

Joseph W. Nemec, Rydal, and Edward A. Nolan, Jr., Philadelphia, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Aug. 4, 1961, Ser. No. 129,225
11 Claims. (Cl. 167—42)

1. A pesticidal formulation comprising a pesticide and, as a carrier therefor, a substantially insoluble intermolecular complex of calcium carbonate and silicon dioxide which contains from 7 to 25% by weight calculated as carbon dioxide, said carrier prepared by reacting carbon dioxide with a substantially insoluble diatomaceous calcium silicate in the presence of water.

3,194,731
METHOD FOR HYPNOSIS AND TRANQUILIZATION WITH PIPERAZINEDIONE DERIVATIVES

Sidney Robert Safir, River Edge, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Mar. 11, 1963, Ser. No. 264,035
3 Claims. (Cl. 167—52)

1. A method of inducing hypnosis and tranquilization which comprises orally administering to warm-blooded animals from 100 to 2000 milligrams of a compound selected from the group consisting of 3-phenyl-3-methyl-2,6-piperazinedione and 3-phenyl-3-propyl-2,6-piperazinedione in dosage unit form and a pharmaceutical carrier.

3,194,732
ASSISTING HEALING OF SKIN-DENUDED AREAS ON THE BODY WITH DRIED NON-FIBROUS EGG-SHELL MEMBRANE PRODUCTS AND COMPOSITIONS THEREFOR

Irene Neuhauser, 5759 S. Kenwood, Chicago 37, Ill.

No Drawing. Filed Oct. 3, 1960, Ser. No. 59,804
5 Claims. (Cl. 167—58)

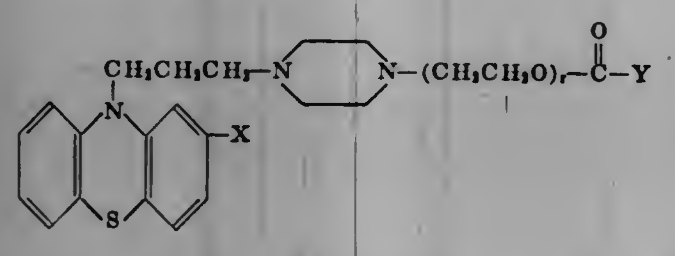
3. As an article of manufacture for assisting the healing of skin-denuded areas on the body, dry, finely divided pulverulent egg-shell membrane in essentially non-fibrous form, the bulk density of said particles in the mass being from about 0.05 to 0.40 gram per cubic centimeter.

3,194,733
PHENOTHIAZINE COMPOSITIONS AND METHOD OF TREATING MENTAL DISORDERS

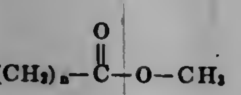
Harry L. Yale, New Brunswick, and Reynold C. Merrill, Short Hills, N.J., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Jan. 28, 1963, Ser. No. 254,459
11 Claims. (Cl. 167—65)

1. A pharmaceutical composition for parenteral administration in the treatment of mental disorders, said composition characterized by prolonged duration of activity which comprises, in combination (I) a physiologically active compound of the formula



wherein *r* is a positive integer of from one to two; X is selected from the group consisting of chloro and trifluoromethyl; and Y is selected from the group consisting of higher alkyl of from six to fourteen carbon atoms, higher alkenyl of from six to fourteen carbon atoms, higher alkynyl of from six to fourteen carbon atoms, tolyl, dimethyl benzyl, anisyl, and



$$-(CH_2)_n-\overset{\overset{\displaystyle O}{\|}}{C}-O-CH_3$$

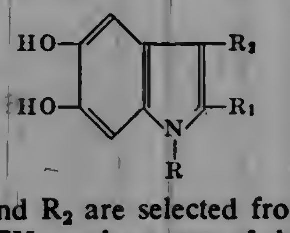
wherein *n* is a positive integer of from seven to twelve; and (II) a stable, non-toxic, pharmaceutically acceptable, non-aqueous liquid carrier selected from the group consisting of vegetable oils, synthetic glycerol esters of long chain fatty acids and mixtures thereof.

3,194,734
PROCESSES AND COMPOSITIONS FOR DYEING HAIR AND SIMILAR FIBRES

John Robert Seemuller, Paris, Roger Charle, Soisy-sous-Montmorency, and Charles Pigerol, Saint-Ouen, France, assignors to Societe Anonyme dite: L'Oreal, Paris, France

No Drawing. Filed June 1, 1961, Ser. No. 126,749
Claims priority, application France July 29, 1955, 8,544, Patent 1,133,594; June 3, 1960, 829,122, Patent 1,264,707
21 Claims. (Cl. 167—88)

1. A process for dyeing human hair which comprises applying thereto an aqueous alkaline composition containing a compound represented by the formula



in which R, R_1 and R_2 are selected from the group consisting of H and CH_3, at least one of these radicals being CH_3; and a nitrogeneous substance selected from the group consisting of ammonia, ammonium salts and amines; and applying thereto in a second step an aqueous solution of a water soluble synthetic inorganic oxidizing agent; and allowing said composition to remain in contact with said hair until the desired shade is obtained.

3,194,735
HAIR COLORING COMPRISING A BASIC DYE, A GLYCOL AND AN AMPHOTERIC SURFACTANT

Stanley Brechner, West Orange, N.J., assignor to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J., a corporation of Delaware

No Drawing. Filed Feb. 4, 1964, Ser. No. 342,518
4 Claims. (Cl. 167—88)

1. A composition for coloring human hair which comprises an aqueous solution containing between about 2 and about 15 percent by weight of a surface active agent selected from the group consisting of compounds of the formula:

$$R_1—NH—A—COOH$$

wherein R_1 is alkyl of 8 to 20 carbon atoms and A is alkylene of 1 to 8 carbon atoms and the alkali metal and triethanolamine salts thereof, between about 0.04 and about 1.5 percent by weight of a water soluble basic hair dye, and from about 2 to about 15 percent by weight of a glycol having the formula $C_6H_{12}(OH)_2$.

3,194,736
ANHYDROUS DEPILATORY STICK

Ernest Braun, Forest Hills, N.Y., and John E. Logun, North Caldwell, N.J., assignors to Chemway Corporation, Wayne, N.J., a corporation of Delaware

No Drawing. Filed Mar. 6, 1962, Ser. No. 177,746
5 Claims. (Cl. 167—89)

1. An anhydrous, stable depilatory composition in solid stick form consisting essentially of a solid stick base consisting of a sterol, a non-ionic polyalkenoxy water-in-oil emulsifier, and a solid, inert, organic filler material, said solid stick base having intimately dispersed therein a solid basic material selected from the class consisting of guanadine, alkali metal hydroxides, alkali metal carbonates, alkali metal silicates, alkali metal tribasic phosphates, alkaline earth metal hydroxides, alkaline earth metal carbonates, alkaline earth metal silicates and alkaline earth metal tribasic phosphates, and as the essential active depilating agent, an effective depilating amount of depilating material selected from the class consisting of guanadine thioglycollate, ethylene diamine thioglycollate, alkaline earth metal thioglycollate, alkali meta thioglycollate, guanadine thioactate, ethylene diamine thiolactate, alkaline earth metal thioactate and alkali metal thiolactate, the solid basic material being present in an amount sufficient to provide a pH of 10.5 to 12.5 in a saturated aqueous solution of the depilatory composition.

3,194,737
PROCESS FOR REMOVING AND PURIFYING WATER SOLUBLE CONSTITUENTS FROM A KERATIN STRUCTURE

Otto Karl Jacobi, Wiesbaden-Igstadt, Germany, assignor to Kolmar Laboratories, Inc., Milwaukee, Wis., a corporation of Delaware

No Drawing. Filed Apr. 5, 1961, Ser. No. 100,811
4 Claims. (Cl. 167—90)

2. A process for removing and purifying a water soluble material from a keratin structure, comprising the steps of dissolving the water soluble constituents from the keratin structure in an aqueous media, adjusting the temperature of the aqueous media to a temperature in the range of 15° C. to 25° C. to precipitate a first fraction, separating the first fraction from the aqueous media, removing a second fraction from the aqueous media by adsorbing the second fraction on a cation exchange resin in acid form at a pH up to 7.0, freeing said second fraction from the ion exchange resin at a pH up to 8.0 by passing an ionizable alkaline material over said resin to provide a solution of said second fraction in said alkaline material, concentrating the alkaline solution to at least a 50% solution, and lowering the pH of the alkaline solution into a value in the range of 4.0 to 6.8 to thereby free the amino acids present in said solution, said solution being a purified topical water control material.

3,194,738
CHEWING GUMS AND DENTIFRICES CONTAINING ENZYMES

Jos. W. E. Harrisson, Lansdowne, and Elias W. Packman, Philadelphia, Pa., assignors to American Chicle Company, Long Island City, N.Y., a corporation of New Jersey

No Drawing. Filed Mar. 14, 1962, Ser. No. 179,770
16 Claims. (Cl. 167—93)

2. A dentifrice composition comprising diluents, binders, excipients and about 0.1% to about 6% by weight based upon single strength activity of enzyme products produced by inoculating a moist nutrient medium with a heavily sporulated culture of *Aspergillus oryzae*, and maintaining said inoculated medium at a suitable temperature for a suitable period of time and separating therefrom enzyme products having a proteolytic activity of not less than 2000 casein units per gram, not less than 10,000 hemoglobin units per gram, and not less than 25,000 gelatin viscosity units per gram and having an amylolytic activity of not less than 100 SKB units per gram and not less than 500 starch liquefaction units per gram and characterized by having a ratio of casein unit activity to hemoglobin unit activity of not less than 1:3 and a ratio of SKB unit activity of starch liquefaction unit activity of not less than 1:2.

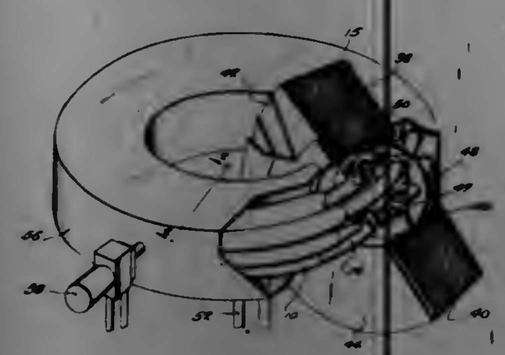
3,194,739
FUSION RESEARCH APPARATUS

Donald W. Kerst, Madison, Wis., and Tihiro Ohkawa, San Diego, Calif., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 20, 1962, Ser. No. 217,959
9 Claims. (Cl. 176—1)

1. Apparatus for confining plasma comprising means for providing alternate interconnected convex and concave magnetic confining fields about an area where the plasma is to be confined, and additional means in each of the concave fields for providing an additional convex

magnetic field between each pair of the first mentioned convex fields whereby the plasma area is encircled by a series of convex fields, the total magnetic field strength in the space defined between the additional means and



the portion of said first mentioned means which provides the concave field being made substantially greater than that of the first mentioned convex magnetic field to thereby stabilize the plasma.

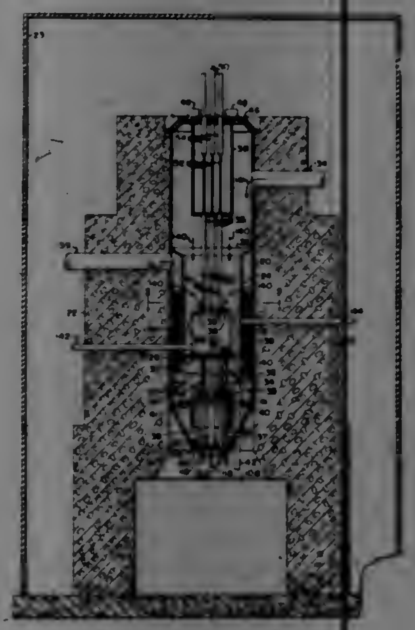
3,194,740

NUCLEAR REACTOR

Erling Frisch, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 610,821, Sept. 19, 1956. This application Jan. 30, 1961, Ser. No. 85,877

14 Claims. (Cl. 176—18)



1. A nuclear reactor comprising a hermetically sealed vessel; a reactor core casing supported within said vessel, said casing having oppositely disposed and aligned lattices of apertures therein; a plurality of reactor core sleeves secured within said casing and communicating with aligned pairs of said apertures; a number of atomic fuel elements positioned individually within some of said reactor core sleeves; said fuel elements each including at least one open-ended tubular member supported within the associated reactor core sleeve and spaced therefrom and a mass of atomic fuel forming part of said tubular member; a number of control rod assemblies individually passing through at least some of the remaining sleeves; said assemblies each including at least one tubular section disposed generally within said core casing; means for moving said control rod assemblies relative to said reactor core casing; and means for circulating cooling fluid through said reactor core sleeves, said fuel element tubular members, and said control rod tubular sections.

3,194,741

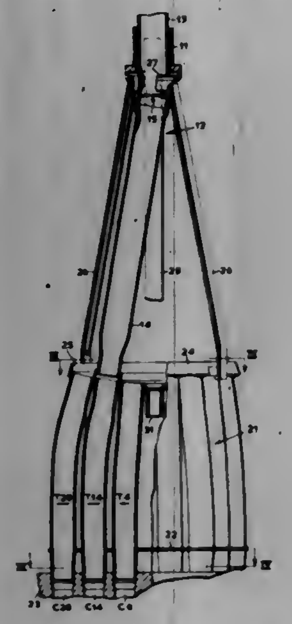
NUCLEAR REACTOR FUELLING APPARATUS

Everett Long, Thomas Cyril Greaves, and William John Knight, all of Whetstone, England, assignors to The English Electric Company Limited, London, England, a British company

Filed Jan. 31, 1962, Ser. No. 170,162

Claims priority, application Great Britain, Feb. 1, 1961, 37,524/61, 3,793/61

3 Claims. (Cl. 176—30)



1. In a nuclear reactor including a pressure vessel, a reactor core within the pressure vessel, means defining a group of parallel fuel channels in the core and means defining an access duct through the pressure vessel between the outside and inside thereof and parallel with extended axes of the fuel channels; charging apparatus in the pressure vessel comprising a rotatable charge chute in said access duct, an extension tube having one free end and being pivoted at its other end on said charge chute within the pressure vessel, an assembly of fixed fuel element guide tubes over said core, the lower end of each guide tube being aligned with a fuel channel of said group, and the upper ends of the guide tubes in the assembly defining a continuous spiral and being positioned on a plurality of pitch circles concentric with the charge chute axis so that part of each pitch circle constitutes a part of said continuous spiral, means on said guide tube assembly for guiding the charge chute during rotation thereof and means on the guide tube assembly for guiding the said free end of the extension tube along the said continuous spiral so that the said free end communicates successively with the said fixed guide tubes as the charge chute rotates.

3,194,742

FUEL LOADING AND UNLOADING ARRANGEMENT FOR NUCLEAR REACTORS

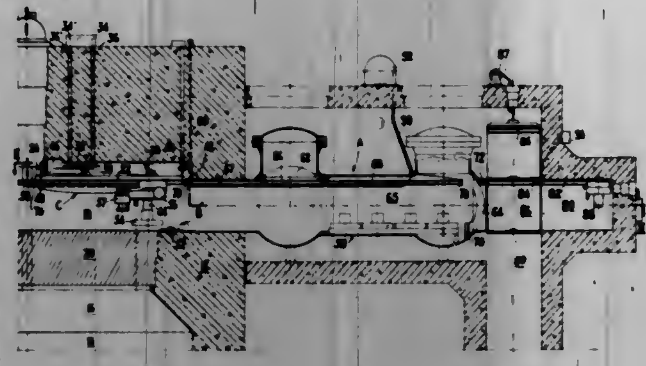
Michel Aubert, Fontenay aux Roses, Guillaume Fortin, Massy, René Gugenberger, Chatillon-sous-Bagneux, Roger Martin, Paris, and Pierre Rouge, Gif-sur-Yvette, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed Aug. 2, 1963, Ser. No. 299,504

Claims priority, application France, Aug. 3, 1962, 906,112

7 Claims. (Cl. 176—30)

1. In a gas-cooled nuclear reactor having a moderator core formed with parallel spaced fuel element channels, a pressure vessel and a biological protection shield surrounding the core, a servicing chamber inside the pressure vessel and biological shield, a lock between said servicing chamber and the atmosphere and means for the transfer of fuel elements between said chamber and said channels comprising an intermediate fuel element storage means within said pressure vessel and biological shield, means for conveying fuel elements between said lock and the atmosphere, an arm rotable in said servicing chamber about a vertical axis, a fuel element handling machine movable along said arm, means for positioning said arm and said machine in servicing relation to a selected channel for insertion and withdrawal of fuel elements into



and out of said channel and for positioning said arm and machine in servicing relation to said fuel element storage means and for movement of said machine between said arm and said lock for conveying fuel elements between said machine and said lock.

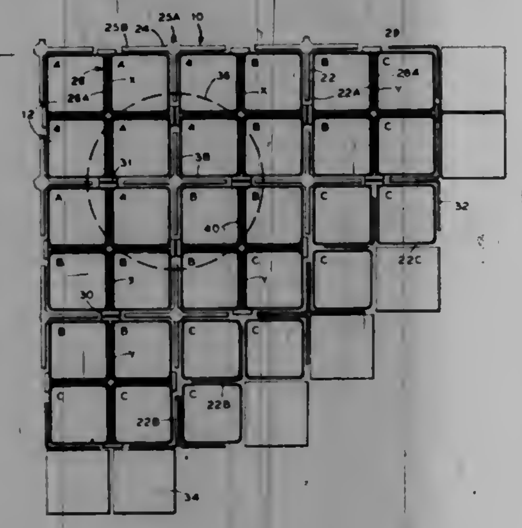
3,194,743

NUCLEAR REACTOR CORE ARRANGEMENT

James C. Deddens, Norbert L. Kopchinski, Jr., and Gilbert Wayne Meyers, Lynchburg, and Howard S. Barringer, Rustburg, Va., assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey

Filed Mar. 9, 1959, Ser. No. 798,031

7 Claims. (Cl. 176—43)



5. A core for a nuclear reactor comprising a plurality of elongated fuel element assemblies uniformly spaced to provide flow channels therebetween for the length of adjoining assemblies, said core containing an excess mass of fissionable material in addition to that required to sustain a fission chain reaction whereby an extended core lifetime can be achieved, means to control the chain type fission reaction within said core comprising a number of replaceable fixed control rods containing a material having a high neutron absorption cross section and disposed within a portion of said flow channels, and flow control filler rods formed of material having a low neutron absorption cross section and having substantially the same shape as said fixed control rods and arranged within at least some of the remaining portion of said flow channels, said fixed control rods being replaceable by said flow control filler rods during the lifetime of said core when the excess reactivity within said core has been reduced obviating the need for at least some of said fixed control rods.

3,194,744

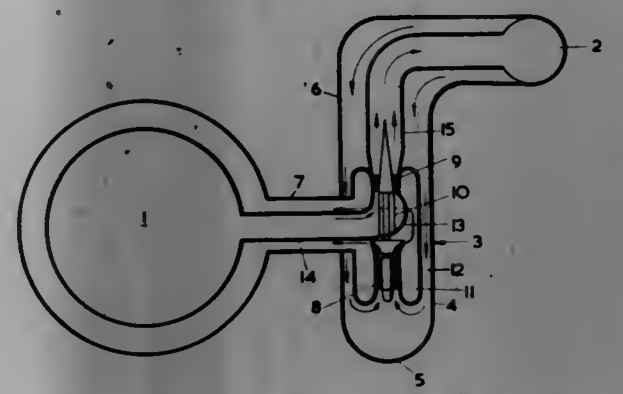
CLOSED CYCLE GAS TURBINE SYSTEM

David Geoffrey Ainley, Farnborough, Martin Cox, Fleet, and John Avery Flint, Farnborough, England, assignors to Power Jets (Research and Development) Limited, London, England, a British company

Filed Mar. 5, 1962, Ser. No. 177,350

Claims priority, application Great Britain, Mar. 13, 1961, 9,039/61

4 Claims. (Cl. 176—60)



1. A closed cycle gas turbine system comprising a heat source, a heat sink and a gas turbine-compressor circulator set assembly, said assembly comprising,

an outer pressure casing of circumferentially one-piece construction and closable at one end;

a dome detachably connected to the pressure casing to close the closable end;

an inlet duct connected to lead gas from the heat sink to the end of the pressure casing remote from the closable end;

an outlet duct extending through the side of the casing and connected to lead gas to the heat source;

a circulator comprising a coaxial compressor and turbine having a driving connection between them and mounted coaxially within the casing with the compressor inlet towards the closable end and the turbine outlet directed towards the other end;

a collector within the casing and surrounding the circulator and defining with the pressure casing an annular passage surounding the circulator for leading gas from said inlet duct to the compressor inlet, said collector having an outlet connected to said outlet duct;

means connecting the compressor outlet to discharge into collector;

a duct mounted coaxially within the outlet duct and connected to lead gas from the heat source to the turbine inlet;

a duct mounted coaxially within the inlet duct and connected to lead gas from the turbine outlet to the heat sink;

an annular member detachably clamped between the pressure casing and said dome;

and radially extending members attached at their inner ends to the compressor stationary structure and at their outer ends to the annular member.

3,194,745

URANIUM MONOSULFIDE-MONOCARBIDE NUCLEAR FUEL ELEMENT

Joseph H. Handwerk and George D. White, Joliet, and Peter D. Shalek, Champaign, Ill., assignors to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Feb. 6, 1964, Ser. No. 343,165

8 Claims. (Cl. 176—67)

1. As a new composition of matter, a fuel for nuclear reactors consisting of a mixture of uranium monosulfide and uranium monocarbide.

3. A fuel element for nuclear reactors comprising a core of a uranium monosulfide-uranium monocarbide mixture and a metal cladding therearound.

3,194,746

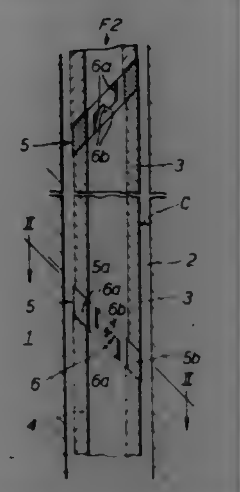
LOCATING MEANS FOR POSITIONING NUCLEAR FUEL COMPONENTS

Herman Joseph Hackett, Jumpers, Christchurch, England, assignor to United Kingdom Atomic Energy Authority, London, England

Filed Feb. 15, 1963, Ser. No. 258,783

Claims priority, application Great Britain, Feb. 20. 1962, 6,502/62

2 Claims. (Cl. 176—77)



1. A vertical coolant channel extending within a body of moderating material, a plurality of refractory tubes including nuclear fuel material arranged end to end in superposition within the chanel, the tubes having a diameter relative to that of the channel such that a clearance is defined between between the tube and the channel wall, end faces on said tubes lying in a plane oblique to the axis of the tubes, a spacer ring between adjacent end faces, and projections on said ring extending into said clearance to abut the wall of the coolant channel due to the radial component of force set up by an axially downward force on the fuel tubes thereby tending to maintaining the tubes co-axial with the channel.

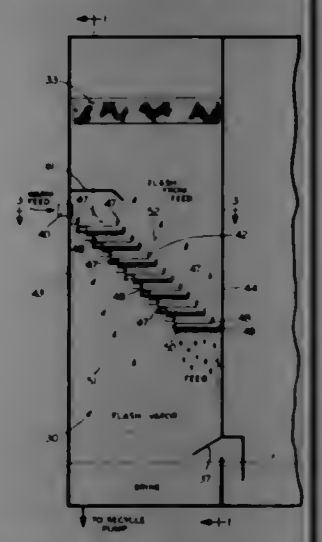
3,194,747

EVAPORATOR CONSTRUCTION

Kenneth B. Ris and William A. Gardner, Massillon, Ohio, and John M. Ryan, Jackson Heights, N.Y., assignors, by mesne assignments, to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed Nov. 8, 1961, Ser. No. 151,026

8 Claims. (Cl. 202—173)



1. In multi-stage flash evaporator construction for distilling sea water and the like of the type in which a series of operably connected flash evaporator stages of progressively decreasing flashing temperatures and pressures are each provided with a flash chamber for receiving a main stream of feedwater therein and flashing a portion thereof into water vapor, and a condensing chamber operably connected to the flash chamber for receiving the flow of said water vapor from said flash chamber and condensing the condensible part thereof, through contact with a condensing tube bundle, to form distillate; in which an outside condensing medium is directed from a source thereof through the condensing tube bundles of the lowest temperature to an intermediate temperature stage condensing chamber forming the condensing medium therein; in which the main stream of feedwater flows at progressively decreasing temperatures through lower parts of the flash chambers progressively from the highest to the lowest temperature of the evaporator stages; and in which at least a portion of the remainder of the main stream of feedwater from the lowest temperature stage flash chamber is recirculated back into and forms the condensing medium in the condensing tube bundle of said intermediate temperature stage condensing chamber, and then flows progressively through the condensing tube bundles of the stages from said intermediate temperature stage to the highest temperature stage, and ultimately flows to and forms the main stream of feedwater in the flash chamber of the highest temperature stage; the improvements including, make-up feedwater inlet means operably connected into the flash chamber of the lowest temperature stage for directing make-up feedwater from a source thereof into said chamber above the main stream of feedwater therein, deaerating tray means mounted within the flash chamber of the lowest temperature stage above the main stream of feedwater in said chamber and subject to the flashing pressure of said chamber, and the deaerating tray means being constructed and arranged in communication with the make-up feedwater inlet means and discharging downwardly into the main stream of feedwater of said chamber for receiving and deaerating by partial flashing through subjection to the flash chamber flashing pressure make-up feedwater from said make-up feedwater inlet means and discharging the remaining deaerated make-up feedwater downwardly into and forming a part of the main stream of feedwater in said stage; whereby, the main stream of feedwater leaving the flash chamber of the lowest temperature stage is formed partially by the main stream of feedwater flowing therethrough from the next higher temperature stage and partially by the remaining deaerated unflashed make-up feedwater of said lowest temperature stage, with at least a portion of such mixture being recirculated back into the condensing tube bundle in the condensing chamber of the intermediate temperature stage.

3,194,748

REVERSAL PHOTOCONDUCTOGRAPHIC PROCESSING

Franz Urbach, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Oct. 25, 1960, Ser. No. 64,903

4 Claims. (Cl. 204—18)

1. A reversal photoconductographic process comprising illuminating by an image having light and dark areas a substantially colorless photoconductive layer to produce an imagewise distribution of variations in conductivity, passing D.C. current similarly distributed through the layer in contact with a substantially colorless dye precursor which forms a dye when the pH is raised to a certain value, the D.C. current being in the direction and of sufficient quantity to lower the pH of the substantially colorless dye precursor in the light image areas at least .1 unit leaving it still substantially colorless, terminating the imagewise illuminating and then uniformly illuminating the photoconductive layer and passing a second D.C. current substantially uniformly distributed through the layer in the opposite direction and of sufficient quantity to raise the pH of the dye precursor in the dark image areas to said certain value to form said dye in said dark image areas without raising it to such value in the light image areas.

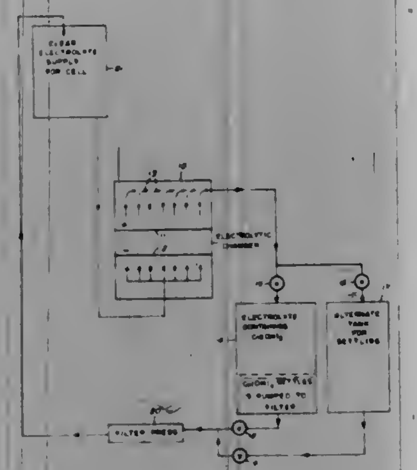
3,194,749

ELECTROLYTIC METHOD OF MAKING CUPRIC HYDROXIDE

William H. Furness, Haddonfield, N.J.; Mary A. Furness, executrix of said William H. Furness, deceased, assignor to Kennecott Copper Corporation, New York, N.Y., a corporation of New York

Filed Dec. 9, 1960, Ser. No. 74,809

5 Claims. (Cl. 204—96)



1. A process for the electrolytic production of finely divided stable cupric hydroxide which comprises passing a direct current of electricity through an electrolyte between a copper anode and an inert cathode, said electrolyte consisting essentially of an aqueous solution of from about 80 to about 125 grams per liter of sodium sulfate ($Na_2SO_4 \cdot 10H_2O$) and from about 20 to about 35 grams per liter of trisodium phosphate ($Na_3PO_4 \cdot 12H_2O$), said electrolyte having a pH above about 9.0 and being circulated between said anode and said cathode by evolution of hydrogen gas from the cathode.

3,194,750

PROCESS FOR SEPARATING NONFERROUS METALS FROM STEEL

Gustav Knippers, Auf dem Saarnberg 18, Mulheim-Saarn, Germany

Filed June 21, 1961, Ser. No. 127,425

Claims priority, application Germany, Jan. 28, 1961, K 42,766

6 Claims. (Cl. 204—146)

1. A process for separating surface coatings of nonferrous metals from steel plates comprising the steps of immersing the material to be treated into an electrolytic solution, subjecting said solution to a vacuum to remove most of the entrapped air from contact with said plates, removing said vacuum, and simultaneously subjecting said solution to cyclic pressure fluctuations to compress and cause movement of remaining entrapped air to increase the wetted area and passing a current through said electrolytic solution of sufficient density to separate coatings of nonferrous metals.

3,194,751

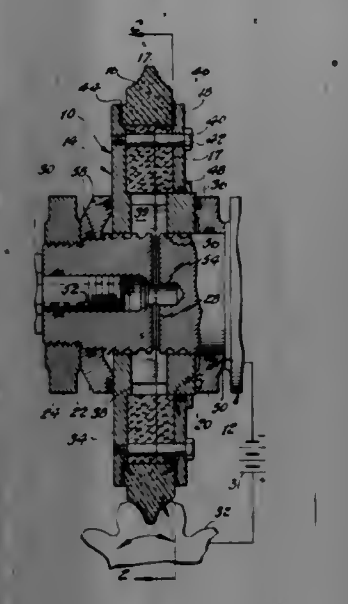
ELECTROLYTIC GRINDER WHEEL

Samuel G. Brady, Birmingham, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan

Filed Sept. 1, 1961, Ser. No. 140,967

5 Claims. (Cl. 204—212)

1. Apparatus for use in the electrolytic removal of stock from electrically conductive workpieces comprising a rotatable grinder wheel having an annulus composed of non-conductive abrasive grains held together in an electrically conductive porous metallic binder having a high conductivity, means for causing a forced flow of electrolyte radially outward through said annulus, said binder being exposed at the radially outer surface of said annulus so that said radially outer surface is electrically conductive, grains of said abrasive protruding from the radially outer electrically conductive surface of said annulus for maintaining a predetermined spacing between said radially outer electrically conductive surface and the surface of the workpiece during the electrolytic removal of stock and for removing non-conductive stock by abrasive action.



3,194,752

PRODUCTION OF RESINS FROM HYDROCARBONACEOUS PITCH

Nathaniel M. Winslow, 2115 Riverside Drive, Cleveland 7, Ohio

No Drawing. Filed Apr. 2, 1962, Ser. No. 184,523

4 Claims. (Cl. 208—44)

1. The process of producing a hydrocarbonaceous resin, which comprises mixing a hydrocarbonaceous pitch with an oxidizing agent selected from the group consisting of solid and liquid oxidizing agents and heating said mixture in the presence of a phenolic ester of a polybasic acid selected from the group consisting of tricresyl phosphate, triphenyl phosphite, and phenyl sulfate at a temperature within the range of 165–400° C. for a time sufficient to obtain a reaction product having a draw point within the range of 150–275° C. and containing 25–60% of benzene-soluble components, said hydrocarbonaceous pitch having a specific gravity of at least 1.02 at 25° C., yielding at least 60% of a solid material based upon the weight of said pitch upon heating said pitch for 72 hours at 450° C. in a closed vessel where distillation is not possible, and said resulting solid material, when heated to 950° C. at atmospheric pressure in the absence of oxygen, yielding a carbon residue amounting to at least 80% of said solid material.

3,194,753

CONTINUOUS COKING PROCESS AND APPARATUS

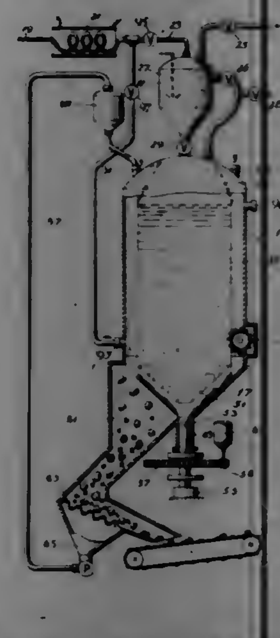
Lawrence A. Winter, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York

Filed Jan. 29, 1963, Ser. No. 254,643

4 Claims. (Cl. 208—46)

1. The method for continuously producing coke from thermally polymerizable hydrocarbon fractions which comprises introducing said hydrocarbon fractions at coking temperatures into a substantially cylindrical vertical

coking chamber and maintaining an annular layer of pulverized coke around the inside periphery of said coking chamber so as to separate the polymerizing hydrocarbon fraction from the walls of said coking vessel, and continuously withdrawing hard coke at the bottom of said coking chamber.



3,194,754

CATALYTIC CONVERSION OF HYDROCARBONS

Frank C. Fahnestock, Roslyn Harbor, N.Y., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Original application Dec. 20, 1961, Ser. No. 160,904. Divided and this application Apr. 13, 1964, Ser. No. 359,484

7 Claims. (Cl. 208—120)

1. In a method for the catalytic conversion of hydrocarbons the improvement which comprises contacting the hydrocarbons at conversion conditions with a contact mass comprising two components one of which is a particle form solid material selected from the group consisting of inert material and catalytic material ranging generally from 20 microns upwardly to 0.1 inch and above, the average size of particles being dependent upon the type of process, the second component comprising a crystalline aluminosilicate conversion catalyst said second component being in the form of particles ranging downward in size from 15 microns, said second component having at least some material of not more than 5 microns in size and sufficient of said second component to substantially coat the particles of the first named component and to adhere to the surfaces of the particles of the first named component.

3,194,755

DEHALIDED PLATINUM ON ALUMINA CATALYST AND REFORMING PROCESS THEREWITH

Edward B. Cornelius, Swarthmore, and Lee A. Cosgrove, West Chester, Pa., assignors to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Mar. 20, 1962, Ser. No. 181,155

The portion of the term of the patent subsequent to Nov. 4, 1980, has been disclaimed and dedicated to the Public

2 Claims. (Cl. 208—139)

1. A method for preparing catalyst particles having the advantageous combination of from 0.1 to 2% by weight of platinum on a sorptive alumina carrier, in which method there are steps including the preparing hydrated alumina granules substantially free from chloride, subjecting such granules to high temperature dehydration to prepare sorptive alumina particles substantially free from chloride, cooling the sorptive alumina particles, impregnating aqueous solution containing chloroplatinate ion into the sorptive alumina particles to provide chloroplatinated alumina particles having a platinum content within the range from 0.1 to 2% by weight, said impregnating being conducted at a temperature within the range from 60° F. to 140° F., subjecting the chloroplatinated alumina particles to gaseous hydrogen sulfide at a temperature within the range from about 60° F. to about 140° F., subjecting the sulfided particles to gaseous ammonia at a temperature within the range from about 60° F. to about 140° F., washing the ammonia-treated particles with deionized water to remove substantially all of the chloride derived from the chloroplatinate, whereby the chloride content of the particles is reduced to less than 25% of the platinum content, said washing being conducted at a temperature within the range from about 60° F. to about 140° F., drying the particles subsequent to said impregnating, sulfiding, ammoniating, and washing of the particles and withdrawing as the product of the process dry sorptive alumina particles having a chloride content less than 25% by weight of the platinum content, said particles containing platinum constituting from 0.1 to 2% by weight of the particles, the improvement which consists of: imparting superior bonding of the platinum to the alumina by treating the chloroplatinated particles with gaseous hydrogen sulfide, withdrawing the hydrogen sulfide gas to provide evacuated sulfided particles, directing a stream of oxygen-containing gas over the sulfided particles at a temperature within the range from about 15° C. to 70° C. for a time adapted to modify the bonding between the alumina and platinum sulfide, withdrawing the oxygen-containing gas to provide evacuated oxidized particles, treating the thus oxidized particles with gaseous ammonia, and washing chloride from the ammoniated particles to prepare alumina particles containing a quantity of platinum corresponding to the amount of platinum impregnated from the chloroplatinic acid.

2. The method of upgrading naphtha which includes the step of treating a gas stream consisting essentially of naphtha and several mols of hydrogen per mol of naphtha at a pressure within the range from about 20 to 40 atmospheres at a temperature within the range from about 470 to 540° C. at a liquid hourly space rate within the range from about 0.5 to 15 volumes of hydrocarbon per volume of catalyst per hour in the presence of catalyst granules prepared by the method of claim 1.

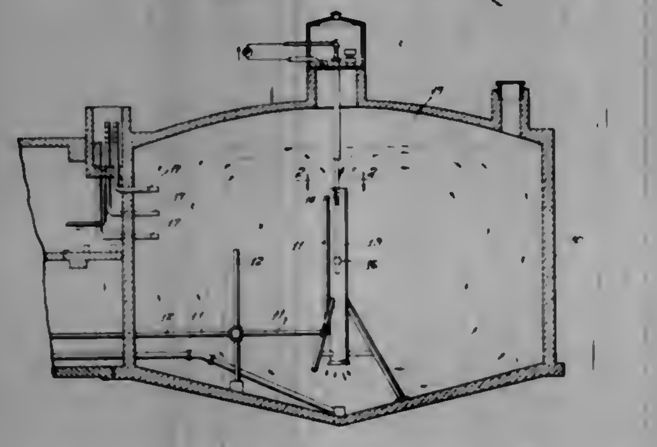
3,194,756

PROCESS FOR DIGESTING SLUDGE AND DIGESTER THEREFOR

James Donald Walker, Aurora, Ill., assignor to Walker Process Equipment, Inc., Wilmington, Del., a corporation of Delaware

Filed Sept. 15, 1960, Ser. No. 56,132

9 Claims. (Cl. 210—14)



1. In the treatment of sludge from a waste treatment plant, the improvement comprising: maintaining in a digester a body of digesting sludge; moving the central portion of the digester contents generally vertically then outwardly and returning, entirely with a mainly radial laminar flow which avoids extensive mixing of sludge from areas widely separated angularly about a vertical axis, but with a slight component of rotary movement about the vertical axis, to form a toroidal roll slowly advancing circumferentially; adding substantially all of the raw sludge at an off-center point swept by said flow to be mixed with the passing contents and to largely follow their advancing toroidal path; and withdrawing the mixture from the main body substantially entirely at a point in said path which is remotely spaced angularly about the central portion from the point of adding raw sludge.

4. In a digester including a tank substantially closed except for gas drawoff means, an updraft tube and means for discharging gas at a substantial depth therein to produce upflow through the tube for inducing a rolling movement of the digester contents, the updraft tube having an inlet, an extended upflow portion, and an outlet vertically above the inlet and substantially within the upwardly projected area of the upflow portion, the improvement comprising: stationary swirl vanes operatively connected to the updraft tube to impart a component of circumferential rotation to the rolling movement.

3,194,757

PROCESS FOR CLARIFYING RED MUDS

Edward J. Sullivan, Bay City, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Feb. 16, 1962, Ser. No. 173,836

10 Claims. (Cl. 210—52)

1. In a process for clarifying red muds obtained by the alkali metal hydroxide digestion of aluminiferous ores, the improvement which consists in adding to the red mud a small but effective amount of an ultrahigh molecular weight polyvinyl aromatic sulfonate characterized by a reduced viscosity number of at least about 17 and a flow index ratio of at least 1.7.

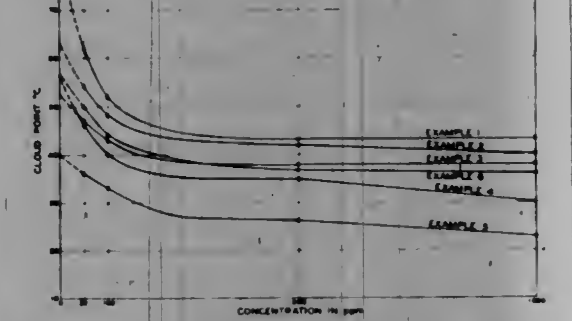
3,194,758

METHOD OF AGGLOMERATING FINELY DIVIDED SOLIDS IN AN AQUEOUS MEDIUM

Kenneth J. Lissant, St. Louis, Mo., assignor to Petrolite Corporation, Wilmington, Del., a coporation of Delaware.

Filed May 24, 1961, Ser. No. 123,604

12 Claims. (Cl. 210—54)



1. A method of agglomerating finely divided solids in an aqueous medium characterized by causing a polyalkyleneoxy chain surfactant introduced in minor amounts into a finely divided solid-liquid system, said system including an aqueous medium, to become insoluble therein.

3,194,759

LUBRICATED BEARING ASSEMBLY

Martin J. Devine, 2560 Prescott Road, Havertown, Pa., and Edward R. Lamson, Greentree Road, Sewell, N.J.

No Drawing. Filed Oct. 31, 1962, Ser. No. 234,912

1 Claim. (Cl. 252—12)

(Granted under Title 35, U.S. Code (1952), sec. 266)

The method of greatly decreasing the wear of the bearing surfaces of two movable parts, one of said bearing surfaces being of one metal and the other of said bearing surfaces being of a different metal which is essentially molybdenum which comprises:

disposing between said surfaces a lubricant selected from the group of lubricants consisting of petroleum, diester, polyalkylene glycol, silicate ester, polyphenyl ether, pentaerythritol ester, and silicone, said lubricant being characterized by the presence therein of at least one member of the group consisting of sulphur and sulphur compounds, and

during operation of said bearing at temperatures within the temperature limitations of said group of lubricants producing a temporary exchange between said last named member and said surface essentially of molybdenum.

3,194,760

LUBRICATING OIL COMPOSITIONS CONTAINING CALCIUM ACETATE AND LUBRICATING SOLIDS

Robert H. Davis, Woodbury, N.J., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Nov. 16, 1962, Ser. No. 238,269

8 Claims. (Cl. 252—25)

1. A lubricating composition comprising a petroleum lubricating oil and based on the total composition (a) from about 0.1% to about 60%, by weight, of calcium acetate and (b) from about 0.1% to about 60%, by weight, of a layer lattice solid lubricant, the total weight percentage of (a) and (b) in said composition being no greater than about 80.

3,194,761

PREPARATION OF OVERBASED SULPHURIZED CALCIUM ALKYLPHENATE LUBRICANT ADDITIVES

William Joseph Fox, Cottingham, and John Pennington, Hull, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company

No Drawing. Filed Mar. 3, 1961, Ser. No. 93,037

Claims priority, application Great Britain, Mar. 16, 1960, 9,198/60

7 Claims. (Cl. 252—42.7)

1. The process for the production of a basic lubricant additive which comprises contacting a mixture of a lubricating oil and a sulfurized calcium alkylphenate with carbon dioxide at a temperature in the range of 80° C. to 180° C. and reacting the product, in admixture with a 1:2 glycol selected from the group consisting of ethylene glycol and propylene-1,2-glycol, with calcium hydroxide, the amount of carbon dioxide being not more than one mole for each two moles of calcium contained in the calcium alkylphenate and the sulfurized calcium alkylphenate being produced by heating together a mixture of a lubricating oil, an alkylphenol, calcium hydroxide, elemental sulfur and the selected 1:2 glycol.

3,194,762

EXTREME PRESSURE LUBRICANT AND METHOD FOR MAKING THE SAME

Charles A. Browning, Chicago, and Walter L. Walz, Park Forest, Ill., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey

No Drawing. Filed June 12, 1961, Ser. No. 116,262

3 Claims. (Cl. 252—51.5)

1. A method of preparing an extreme pressure lubricating composition consisting of the steps of dissolving a ductile thermoplastic resin selected from the group consisting of nylon, acetal polyoxymethylene and polytetrafluoroethylene, with a dispersing agent in a minor portion of a first liquid organic solvent, vigorously agitating a major portion of a second liquid organic solvent, said second solvent being miscible with said first solvent and immiscible with said resin, adding said solution slowly to said vigorously agitating second solvent to precipitate said

resin in particle form of 1 to 10 microns size, extracting substantially all of said first solvent and a major portion of said second solvent from the resulting first mixture, adding the resulting mass thus obtained to a lubricant natural base oil with agitation forming a second mixture, evaporating substantially all of said second solvent from said second mixture thereby forming an extreme pressure lubricant composition consisting essentially of said resin particles stably suspended in said base oil.

3,194,763

POLYMERIC COMPOSITION AND LUBRICANT CONTAINING IT

Chester D. Gordon, Richmond, Frank A. Stuart, Orinda, and Alfred Goldschmidt, El Cerrito, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Continuation of applications Ser. No. 38,705 and Ser. No. 38,749, June 27, 1960. This application Dec. 18, 1962, Ser. No. 245,409

2 Claims. (Cl. 252—51.5)

1. A detergent oil-soluble copolymer of (A) at least one alkyl methacrylate having 8 to 30 carbon atoms in the alkyl group and (B) glycidyl methacrylate, the mole ratio of (A) to (B) being from about 5:1 to 100:1, said polymer being reacted with N-aminoethyl ethanolamine, the molar ratio of the glycidyl portion to N-aminoethyl ethanolamine being approximately 1:1, said copolymer containing from about 0.05 to 8% by weight of nitrogen and having a total molecular weight of at least about 2000, said copolymer being characterized by a solubility in mineral lubricating oil of at least 0.5% by weight.

2. A lubricant composition comprising a major portion of an oil of lubricating viscosity and a minor portion sufficient to enhance the detergent characteristics of the composition of the detergent oil-soluble copolymer of claim 1.

3,194,764

BLENDED ESTER LUBRICANT

Elwin B. Ovist, Park Forest, Ill., and Manley Kjonaas, Hammond, Ind., assignors, by mesne assignments, to Sinclair Research Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 13, 1959, Ser. No. 792,955

4 Claims. (Cl. 252—56)

1. A blended synthetic lubricant characterized by a kinematic viscosity of at least about 7.5 centistokes at 210° F. and not exceeding about 13,000 centistokes at —40° F., consisting essentially of about 15 to 30 percent of a diester, of lubricating viscosity, of a C_8 to C_{10} primary branched chain monohydric alcohol and a dicarboxylic acid selected from the group consisting of sebacic and azelaic acids, and about 70 to 85 percent of a complex ester produced by the steps of esterifying in the presence of a catalytic amount of a titanium compound, neopentyl glycol, a C_8 to C_{10} primary branched chain monohydric alcohol and a dicarboxylic acid component consisting essentially of azelaic acid containing up to about 90% of sebacic acid as the essential esterifying constituents in the approximate proportions of one mole of glycol to two moles of alcohol to two moles of acid and stripping the reaction product at a temperature above about 175° C. and at an absolute pressure of up to about 25 mm. Hg.

3,194,765

CADMIUM SUBSTITUTED LEAD ZIRCONATE TITANATE COMPOSITIONS

William R. Bratschun, Hopkins, Minn., assignor to Honeywell Inc., a corporation of Delaware

Filed Dec. 26, 1962, Ser. No. 247,211

6 Claims. (Cl. 252—62.9)

1. As a composition of matter, a solid solution consisting essentially of lead zirconate and lead titanate wherein the atomic ratio of Zr to Ti is from about 90:10 to 40:60 and cadmium, said cadmium being present as a substitutent for approximately 0.5 to 5.0 atomic percent for the lead in said solution.

3,194,766

DIELECTRIC COMPOSITION

Jean Coquillion, Saint-Didier-au-Mont-d'Or, France, assignor to Progil, Paris, France, a corporation of France

No Drawing. Filed Oct. 5, 1962, Ser. No. 228,733

Claims priority, application France, Oct. 4, 1961, 874,949

5 Claims. (Cl. 252—66)

1. A dielectric composition constituted of polychlorodiphenyls having in their molecules 2 to 4 chlorine atoms, characterized in that it contains, by weight, at least 20% of 2,4'-dichlorodiphenyl and 40% to 70% of polychlorodiphenyls having in their molecules 3 to 4 chlorine atoms.

3,194,767

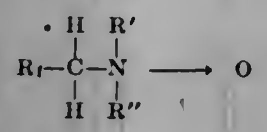
SUDSING DETERGENT COMPOSITION

Jim S. Berry, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Original application Dec. 18, 1961, Ser. No. 160,231. Divided and this application Dec. 19, 1963, Ser. No. 331,916

4 Claims. (Cl. 252—152)

1. A detergent composition consisting essentially of a relatively low sudsing detergent compound and as a suds builder an effective amount of a member of the class of compounds having the following formula



$$\begin{array}{ccccc} & H & & R' & \\ & | & & | & \\ R_f- & C & - & N & \longrightarrow O \\ & | & & | & \\ & H & & R'' & \end{array}$$

wherein R_f represents a perfluorinated straight chain alkyl radical ranging from C_3F_7 to $C_{11}F_{23}$ and R' and R'' represent lower alkyl radicals selected from the group consisting of methyl, ethyl and n-propyl, and wherein the ratio of said suds builder to said detergent compound is from about 1:1 to about 1:6 by weight.

3,194,768

PRODUCTION OF STORAGE STABLE ACTIVE OXYGEN CONTAINING LIQUID CONCENTRATES

Kurt Lindner and Elfriede Eichler, Berlin-Lichterfelde, Germany, assignors to Henkel & Cie G.m.b.H., Dusseldorf-Holthausen, Germany, a German corporation

No Drawing. Filed June 30, 1961, Ser. No. 120,922

Claims priority, application Germany, July 7, 1960, L 36,504

2 Claims. (Cl. 252—186)

1. In the process of storing active oxygen-containing aqueous concentrates, the improvement for attaining extended periods of storage stability at a concentrate pH between 2.5 and 6 which comprises storing an acid stabilized aqueous hydrogen peroxide solution, having a peroxide content between about 2.5 and 75%, in admixture with between about 1 and 20%, based on the total concentrate, of a water-soluble adduct of ethylene oxide with an organic compound having a saturated alkyl group containing an active hydrogen atom and which is selected from the group consisting of lauryl alcohol and alkyl phenols having from 9 to 13 alkyl carbon atoms, as the aqueous concentrate, said adduct having from 5 to 16 ethylene oxide groups in the molecule and the pH of the aqueous concentrate being maintained between 2.5 and 6.

3,194,769

REACTIVATION OF ALKALI-METAL SULFATE CATALYST

Arthur L. Maloy, South Charleston, Charles R. Maloney, Charleston, and James O. Hambrick, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application Nov. 19, 1956, Ser. No. 622,837. Divided and this application Sept. 7, 1962, Ser. No. 222,199

10 Claims. (Cl. 252—413)

4. Process for reactivating a spent catalyst bed consisting essentially of a mixture of an alkali metal sulfate and an alkali metal acid sulfate supported on an inert carrier, which process comprises contacting said bed with a sulfur compound capable of yielding sulfuric acid at a temperature about 100° C. to 250° C.

3,194,770

CURING COMPOSITION COMPRISING AN ORGANO-TIN COMPOUND AND A SILOXANE-OXYALKYLENE COPOLYMER

Fritz Hostettler, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Nov. 25, 1958, Ser. No. 776,201

6 Claims. (Cl. 252—431)

1. Curing compositions comprising an organo-tin-compound having a direct carbon-to-tin valence bond and at least one other bond from said tin being connected to a member of the group consisting of halogen, oxygen, sulfur, nitrogen and phosphorus and a polysiloxane-oxyalkylene copolymer containing from said 10 to about 80 percent by weight of siloxane polymer and from 90 to 20 percent by weight of alkylene oxide polymer.

3,194,771

CATALYST COMPOSITION CONSISTING OF IRON OXIDE, MOLYBDENUM OXIDE AND CHROMIUM

Pierre Vasseur, Vermelles, France, and Kristian Sondergaard, Hellerup, Denmark, assignors to Houilleres du Bassin du Nord et du Pas-de-Calais, Dounai, Nord, France, a French public establishment, and Haldor Topsoe, Hellerup, Denmark, a Danish society, and Baunegaardsvej-Kaltenbach & Cie, Paris, France, a French society

No Drawing. Filed Apr. 16, 1962, Ser. No. 187,922

Claims priority, application France, Apr. 18, 1961, 859,031

2 Claims. (Cl. 252—470)

1. An unsupported ferric oxide-molybdenum oxide catalyst for use in the production of formaldehyde by the catalytic oxidation of methanol, having a molar ratio of $MoO_3:Fe_2O_3$ of from 3:1 to 8:1 and containing from 0.05 to 1% by weight of chromium.

3,194,772

PROCESS FOR COPOLYMERIZING TETRAHYDROFURAN WITH AN EPOXIDE MONOMER

Samuel I. Trotz, New Haven, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Sept. 21, 1962, Ser. No. 225,365

9 Claims. (Cl. 260—2)

1. A process for the production of copolymers which comprises copolymerizing tetrahydrofuran with a compound selected from the group consisting of ethylene oxide, propylene oxide, beta-propiolactone and vinylcyclohexene dioxide, in the presence of $B_{10}H_{10}[C(COCl)]_2$.

3,194,773

PROCESS OF MAKING POLYURETHANE FOAMS

Fritz Hostettler, Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed June 14, 1961, Ser. No. 116,977

15 Claims. (Cl. 260—2.5)

1. A process for preparing stable, cured, foamed polyurethane resins without the application of external heat which comprises reacting together a polyether polyol, an organic polyisocyanate, water and a surfactant comprising a polysiloxane-oxylalkylene copolymer in the presence of an organo-tin catalyst containing a direct carbon to tin valence bond and at least one bond from said tin to a member of the group consisting of halogen, oxygen, nitrogen, sulfur and phosphorus.

3,194,774

RESINS HAVING SUBSTANTIAL OIL LENGTHS AND IMPROVED WATER SOLUBILITY PREPARED FROM POLYCONDENSATION REACTION PRODUCTS

Gus Nichols, Galveston, Tex., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed May 2, 1962, Ser. No. 191,742

9 Claims. (Cl. 260—22)

1. A resin having water solubility and being suitable for the formation of an air-dry surface coating film which resin comprises a reaction product of (I) a polycondensation reaction product of (a) an acidic member being selected from at least one member of the class consisting of trimellitic acid, trimellitic anhydride, hemimellitic acid, hemimellitic anhydride, trimesic acid (b) an ether containing monohydric alcohol selected from at least one member of the class consisting of monohydroxyalkylene tetrahydrofuran having from 1 to about 4 carbon atoms in said alkylene group and polyalkylene glycol monoalkyl ether having from 2 to 8 ether groups, from 2 to 3 carbon atoms in each alkylene group, and from 1 to 8 carbon atoms in said alkyl group, and (c) a dihydroxyl group affording material derived from a compound affording 3–4 hydroxyl groups, an unsaturated fatty acid and a furan substituted aliphatic acid having from 1 to about 3 carbon atoms in said aliphatic acid group, said monohydric alcohol being present in a mole ratio to said acidic member of at least about 0.4, said polycondensation reaction product being characterized by an oil length of from about 45% to about 80%, said furan substituted acid being present in an amount sufficient to impart water solubility to said reaction product, and (II) an alkaline agent selected from the class consisting of ammonia, alkylamines, heteroamines, and alkanolamines, said resin being characterized by being water soluble.

3,194,775

FLOORING MATERIALS

Francis John Woodford Bartlett, Vails Gate, N.Y., assignor to The Ruberoid Co., a corporation of New Jersey

No Drawing. Filed Oct. 16, 1962, Ser. No. 231,038

9 Claims. (Cl. 260—28.5)

1. A grease-resistant floor tile conforming to Federal Specification SS–T–307 and L–T–751 and composed of (a) from about 18.5 to about 30 percent by weight of an organic binder comprising (i) a chlorinated paraffin containing between about 45 and about 71 percent by weight of chlorine in its molecule and having a melting point from about 15° C. to about 55° C., and (ii) a copolymer of vinyl chloride and an olefinic monomer selected from the group consisting of vinyl acetate and vinylidene chloride, said copolymer containing about 80 to about 95 percent by weight of vinyl chloride based on its weight, the ratio of chlorinated paraffin to copolymer in the organic binder being from about 1.5:1 to about 4:1; (b) from about 0.5 to about 5 percent by

weight of a substituted polyethylene selected from the group consisting of chlorinated polyethylenes and chlorosulfonated polyethylenes; and (c) between 81.5 and 70 percent by weight of inorganic fillers.

3,194,776

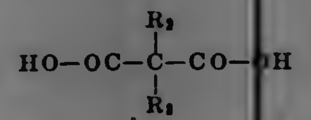
POLYMERIC PLASTICIZERS OF POLYESTERS OF DIMETHYLMALONIC ACID AND A GLYCOL

John R. Caldwell, Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed June 3, 1957, Ser. No. 662,972

4 Claims. (Cl. 260—31.6)

1. A linear condensation-type polyester of a neopentyl glycol and a dicarboxylic acid of which at least 70 mole percent consists of a compound having the formula:



$$\mathrm{HO{-}OC{-}}\overset{R_2}{\underset{R_3}{C}}\mathrm{{-}CO{-}OH}$$

wherein each of R_2 and R_3 represents an alkyl radical containing from 1 to 4 carbon atoms, which polyester melts at below 60° to 70° C. and is a viscous liquid when boiled with water for 96 hours whereby hydrolysis does not exceed about 0.3%.

2. A plastic composition essentially composed of (I) a member selected from the group of plastics consisting of (1) cellulose alkanoates wherein the alkanoate radicals contain no more than 4 carbon atoms and (2) polymerized mono-ethylenically unsaturated polymerizable organic compounds, and (II) from 5% to 60% by weight of a polyester of claim 1 as a plasticizer.

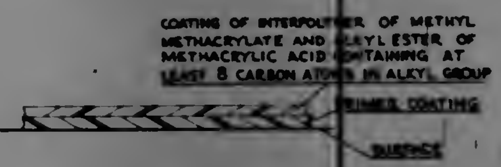
3,194,777

COATING COMPOSITIONS

Roger M. Christenson, Gibsonia, Donald P. Hart, Allison Park, and Henry A. Vogel, Gibsonia, Pa., and Karl R. Gosselink, Rocky River, Ohio, assignors to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 8, 1961, Ser. No. 108,292

13 Claims. (Cl. 260—31.8)


COATING OF INTERPOLYMER OF METHYL METHACRYLATE AND ALKYL ESTER OF METHACRYLIC ACID CONTAINING AT LEAST 8 CARBON ATOMS IN ALKYL GROUP
PRIMER COATING
SURFACE

1. An inert organic solvent based coating composition, the resinous film-forming component of which consists essentially of an interpolymer of from about 50 percent to about 90 percent by weight of methyl methacrylate and 10 percent to 50 percent by weight of an alkyl ester of methacrylic acid in which the alkyl group contains from 8 to about 18 carbon atoms, said interpolymer having a relative viscosity of from 1.150 to 1.260.

3,194,778

VINYLIDENE CHLORIDE POLYMER-DIOLEFIN, LOW ALKYL ALKACRYLATE COPOLYMER BLEND HAVING IMPROVED LOW TEMPERATURE PROPERTIES

George J. Butzler, George B. Sterling, and Robert E. Lee, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed June 13, 1962, Ser. No. 202,063

14 Claims. (Cl. 260—31.8)

1. A polymeric composition comprising a blend of (I) from 70 to 95% by weight of the composition of a normally crystalline polymer selected from the group consisting of polyvinylidene chloride and interpolymers of at least about 70% by weight of vinylidene chloride with up to about 30% by weight of at least one other monoethylenically unsaturated comonomer and (II) complementarily from 5 to 30% by weight of the composition of a rubber-like copolymer consisting of (1) from 70 to 95% by weight of open chain aliphatic conjugated diolefin having from 4 to about 9 carbon atoms and (2) 5 to 30% by weight of a lower alkyl alkacrylate having from 1 to about 4 carbon atoms in the alkyl ester group and 1 to 2 carbon atoms in the alpha alkyl group.

3,194,779

PREPARATION OF N-ARYL IMIDES AND AMIDES

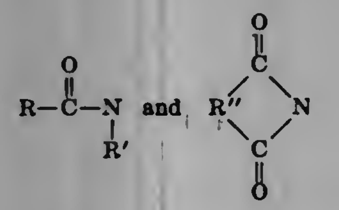
Eric Royle Lynch, Chirk, and Ernest Bryson McCall, Llangollen, Wales, assignors to Monsanto Chemicals Limited, London, England, a British company

No Drawing. Filed Nov. 21, 1962, Ser. No. 239,363

Claims priority, application Great Britain, Nov. 29, 1961, 42,678/61

5 Claims. (Cl. 260—326)

1. A process for the production of a nitrogen-containing compound of the formula, Y=N—Z, wherein:
   Z is selected from the group consisting of phenyl, naphthyl and diphenylyl, and the halogenated and lower alkylated derivatives thereof;
   Y=N is selected from the group consisting of



R is selected from the group consisting of methyl, ethyl and phenyl;
R′ is selected from the group consisting of hydrogen, methyl and cyclohexyl; and
R″ is selected from the group consisting of lower alkylene, vinylene, phenylene and halogenated phenylene,

said process comprising heating a compound of the formula, ZH, with a compound of the formula,

$$Y{=}N{-}SO_2X$$

where X is halogen, and Y=N and Z have the same meaning as above.

3,194,780

SYNTHETIC RUBBER

Wilbur J. Wald, Bellevue, Pa., assignor to Neville Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 4, 1960, Ser. No. 12,701

11 Claims. (Cl. 260—33.6)

1. In the manufacture of improved, non-bleeding vulcanizates from an oil masterbatch high molecular weight elastomeric diene polymer, said oil masterbatch comprising a polymer having a Mooney viscosity in excess of about 60 (M.L. 100° C./4′), and containing at least 35 parts per 100 parts of elastomer of a hydrocarbon extender oil at least about 90% of which boils above 250° C., the said oil and the proportion thereof in the masterbatch being such that a bleeding vulcanizate is obtained upon curing in the absence of added resin; the improvement which comprises incorporating in said oil masterbatch, prior to curing, about 5 parts (per 100 parts of polymer) of a thermoplastic coumarone-indene resin having a ball and ring softening point from about 10° C. to about 125° C.

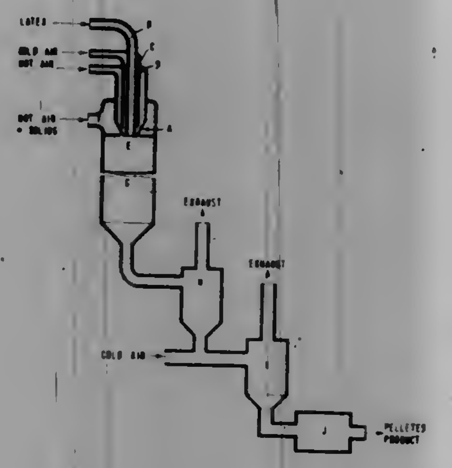
3,194,781

ELASTOMERS COMPOUNDED BY SPRAY DRYING

Johan Gustav Hedberg, Wilmington, Del., and Harry Bernard O'Donnell III, Louisville, and Gilbert Willison Peet, Jeffersontown, Ky., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 24, 1960, Ser. No. 38,626

5 Claims. (Cl. 260—33.6)



1. A process for preparing a precompounded elastomer in powder form which comprises (I) mixing a latex of an elastomer selected from the group consisting of natural rubber, polychloroprene, chlorosulfonated polyethylene, butadiene-styrene copolymers and butadiene-acrylonitrile copolymers with a preformed dispersion of a heat-sensitive organic vulcanization accelerator for said elastomer in an oil selected from the group consisting of petroleum hydrocarbons, glycerides, dibutyl phthalate, and methyl abietate, (II) atomizing the resulting mixture with a gas at a temperature of from 40° to 1000° F., (III) mixing the resulting atomized mixture with a heated gas containing, in finely divided form, an inorganic compounding ingredient selected from the group consisting of carbon black, clay, calcium carbonate, barium sulfate, titanium dioxide, iron oxide, magnesium oxide, zinc oxide, silicon dioxide and lead oxide, and (IV) separating the resulting dry compounded elastomer powder.

3. The storage-stable, precompounded elastomer prepared by the process of claim 1.

3,194,782

TITANIA-FILLED LINEAR POLYESTER MOLDING RESIN OF HIGH DIELECTRIC CONSTANT

Richard G. Devaney, George R. Greear, and John W. Tamblyn, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Oct. 30, 1961, Ser. No. 148,723

6 Claims. (Cl. 260—40)

1. A plastic composition capable of being injection molded comprising poly(1,4 - cyclohexylenedimethylene terephthalate) containing from about 60 to about 80 percent by weight of said poly(1,4-cyclohexylenedimethylene terephthalate) of substantially white ceramic-grade rutile titanium dioxide having the properties of a slightly reduced titanium dioxide and an about 80–325 mesh particle size, said composition having a dielectric constant of from about 12.5 to about 50, a dissipation factor of less than about 2 percent, and an elongation of at least about 100 percent.

3,194,783

SILICA-RESIN DIRECT FILLING MATERIAL AND METHOD OF PREPARATION

Rafael L. Bowen, Washington, D.C., assignor to the United States of America as represented by the Secretary of Commerce

No Drawing. Original application Jan. 30, 1959, Ser. No. 790,308, now Patent No. 3,066,112, dated Nov. 27, 1962. Divided and this application May 1, 1962, Ser. No. 191,645

2 Claims. (Cl. 260—41)

1. A dental filling material comprising about 70% to about 83% by weight of a filler and about 30% to about 17% by weight of a hardenable resin; said filler comprising a mixture of fused silica and a peroxide catalyst; said resin comprising the condensation product of a salt of a polyhydric phenol with the reaction product of hydrochloric acid and at least one member of the class consisting of glycidyl methacrylate and glycidyl acrylate, and a tertiary amine for producing free radicals upon reacting with said peroxide catalyst in said filler.

3,194,784

SILICA-RESIN DIRECT FILLING MATERIAL AND METHOD OF PREPARATION

Rafael L. Bowen, Washington, D.C., assignor to the United States of America as represented by the Secretary of Commerce

No Drawing. Original application Jan. 30, 1959, Ser. No. 790,308, now Patent No. 3,066,112, dated Nov. 27, 1962. Divided and this application May 1, 1962, Ser. No. 191,646

4 Claims. (Cl. 260—41)

1. A dental filling material comprising about 17% to about 30% by weight of a hardenable resin and about 83% to about 70% by weight of a filler; said resin comprising the reaction product of a polyglycidyl ether of a polyhydric phenol, at least one member of the class consisting of methacrylic and acrylic acids, a tertiary amine catalyst, and a free radical polymerization inhibitor consisting essentially of hydroquinone; said filler comprising a mixture of fused silica and a peroxide catalyst.

3,194,785

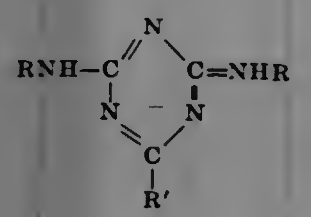
VINYL HALIDE RESIN COMPOSITIONS STABILIZED WITH S-TRIAZENE COMPOUNDS

James P. Scullin, Pompton Lakes, N.J., assignor, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Oct. 3, 1962, Ser. No. 227,998

8 Claims. (Cl. 260—41)

1. A heat-stable resinous composition comprising a vinyl halide resin, asbestos, and a stabilizer selected from the group consisting of s-triazines having the formula



wherein R in each case represents a member selected from the group consisting of a hydrogen atom and a phenyl group and R′ represents a member selected from the group consisting of a phenyl group and a phenylamino group; the salts of said s-triazines; and mixtures thereof in the amounts of 50 to 200 parts by weight of asbestos and 0.3 to 10 parts by weight of said stabilizer, all parts per 100 parts by weight of said vinyl halide resin.

3,194,786

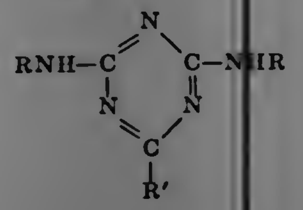
STABILIZED ASBESTOS CONTAINING VINYL HALIDE RESIN COMPOSITIONS

James P. Scullin, Pompton Lakes, N.J., assignor, by mesne assignments, to Tenneco Chemicals, Inc., a corporation of Delaware

No Drawing. Filed Oct. 3, 1962, Ser. No. 227,999

9 Claims. (Cl. 260—41)

1. A heat-stable resinous composition comprising a vinyl halide resin, asbestos, and a stabilizer selected from the group consisting of dicyandiamide; mixtures of dicyandiamide and an s-triazine having the formula



wherein R in each case represents a member selected from the group consisting of a hydrogen atom, a phenyl group, an alkyl group containing from 1 to 5 carbon atoms, and a carbon atom in an s-triazine ring and R′ represents a member selected from the group consisting of an amino group, an alkylamino group, a phenylamino group, and a phenyl group; and the salts of said stabilizers in the amounts of 50 to 200 parts by weight of asbestos and 0.3 to 10 parts by weight of said stabilizer, all parts per 100 parts by weight of said vinyl halide resin.

3,194,787

PROCESS FOR THE PRODUCTION OF PHOSPHONITRILIC POLYMERS

Cyril Aubrey Redfarn, London, Martin Apley, Altrincham, and James Ranald Alexander, Bolton, England, assignors to The Walker Chemical Company Limited, Bolton, England, a British company

No Drawing. Filed Jan. 23, 1961, Ser. No. 83,914

Claims priority, application Great Britain, Jan. 28, 1960, 3,165/60

7 Claims. (Cl. 260—47)

1. A process for the production of polymeric substances which comprises heating a polymeric chlorine-free alkoxylated phosphonitrilic compound under substantially anhydrous conditions, with an amount of a polyhydroxy aromatic hydrocarbon sufficient to produce a polymerizable product.

3,194,788

COPOLYMERIZATION OF TRIOXAN WITH DIETHYLENE GLYCOL FORMAL AND RESULTING PRODUCT

Klaus Küllmar, Edgar Fischer, and Klaus Weissermel, all of Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed June 1, 1960, Ser. No. 33,087

Claims priority, application Germany, June 9, 1959, F 28,645

10 Claims. (Cl. 260—67)

1. In a process for the polymerization of trioxan in contact with at least one cationically active catalyst selected from the group consisting of boron trifluoride, tin tetrachloride, antimony pentachloride, etherates and amine complexes thereof, oxonium fluoroborates, aryl diazonium fluoroborates, and mixtures thereof, the improvement which comprises copolymerizing trioxan with diethylene glycol formal in contact with from 0.001 mol percent to 5 mol percent of said catalyst, calculated upon the monomer mixture, at a temperature from —100° C. to +150° C.

3,194,789

POLYMERIZATION OF FORMALDEHYDE

Hiroo Oba, Nishinomiya, Masataka Nakahara, Takatsuki, Hisao Naito, Sakai, and Yoshihiro Osada, Mishimacho, Mishimagun, Japan, assignors to Kanegafuchi Spinning Co., Ltd., Tokyo, Japan

No Drawing. Filed Jan. 29, 1962, Ser. No. 169,618

Claims priority, application Japan, Feb. 6, 1961, 36/4,289; Feb. 15, 1961, 36/5,173; Mar. 31, 1961, 36/11,552

4 Claims. (Cl. 260—67)

1. A process for preparing a high molecular weight formaldehyde polymer which comprises contacting gaseous monomeric formaldehyde, in the absence of any liquid medium, with a solid catalyst selected from the group consisting of salts of oxyacids of boron, carbon, phosphorus and sulfur with an element selected from the group consisting of those belonging to Group II of the Periodic Table, lead, manganese, nickel, and cobalt, and recovering the high molecular weight formaldehyde polymer produced.

3,194,790

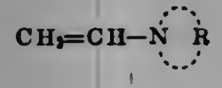
COPOLYMERS OF FORMALDEHYDE AND VINYL-NITROGEN COMPOUNDS

Northrop Brown, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

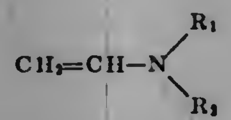
No Drawing. Filed June 13, 1960, Ser. No. 35,420

8 Claims. (Cl. 260—67.5)

1. A normally solid, thermoplastic copolymer of formaldehyde and a polymerizable compound selected from the group consisting of vinyl monomers having the formulas:

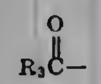


and



$$CH_2{=}CH{-}N\begin{matrix}R_1\\R_2\end{matrix}$$

where R is a divalent cyclic organic radical having 3–12 carbon atoms and being connected to the nitrogen of the above formula through two separate and distinct carbon atoms; and wherein R_1 and R_2 are selected from the group of monovalent organic radicals having 1–12 carbon atoms consisting of alkyl, cycloalkyl, aryl, and the radical having the formula



$$R_3\overset{\overset{O}{\|}}{C}{-}$$

in which R_3 is selected from the group of monovalent radicals consisting of hydrogen, alkyl radicals of 1–12 carbon atoms, cycloalkyl radicals of 4–6 carbon atoms, and aryl radicals of 6–12 carbon atoms, said copolymer containing 0.5 to 50 mols of the said vinyl monomer per 1000 mols of formaldehyde.

3,194,791

TIN SALTS CATALYSTS FOR POLYESTERIFICATION PROCESS

Earl W. Wilson and James E. Hutchins, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Feb. 23, 1962, Ser. No. 183,316

1 Claim. (Cl. 260—75)

A process for preparing a polymeric linear polyester having less than 0.6% residual acid and a molecular weight ranging from 400 to 4,000 starting with a free dicarboxylic acid consisting essentially of heating for about 5 to 10 hours at a temperature of 150° C. to 300° C. at about atmospheric pressure (A) one mole proportion of a dicarboxylic acid containing from four to forty carbon

atoms including a major portion of an alphatic acid having from four to twelve carbon atoms (B) from 0.5 to 2 mole proportions of a dihydroxy compound containing from two to twenty carbon atoms including a major portion of a branched-chain aliphatic glycol selected from the group consisting of 2,2-dimethyl-1,3-propanediol, 2,2,4-trimethyl-1,3-pentanediol and 2,2,4,4-tetramethyl-1,3-cyclobutanediol and (C) from 0 to 0.6 mole proportion of a chain terminator selected from a group consisting of monocarboxylic acids and monohydric alcohols containing from four to forty carbon atoms in the presence of a catalytic amount of a catalyst consisting essentially of stannous phthalate, said catalytic amount being calculated as 0.001 to 3 percent of tin by weight based on (A), (B) and (C), said process yielding a finished polyester having an acid concentration of less than 0.6% in no more than about five hours of said heating, said finished polyester having a Gardner color not greater than about 1.

3,194,792

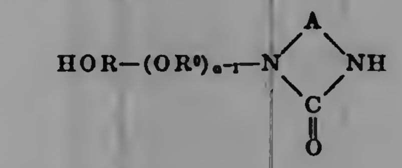
UNSATURATED DICARBOXYLIC MONOESTERS, POLYMERS THEREOF, AND METHODS OF PREPARATION

William D. Emmons, Huntingdon Valley, and Dominic R. Falgiatore, Philadelphia, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed May 25, 1961, Ser. No. 112,507

13 Claims. (Cl. 260—77.5)

1. As a composition of matter, a dicarboxylic acid monoester of a monohydroxyalcohol of the formula



where

R is a $(C_2–C_8)$-alkylene group,
$R°$ is a $(C_2–C_3)$-alkylene group,
n is an integer having a value of 1 to 10, and
A is a $(C_2–C_3)$-alkylene group,

the dicarboxylic acid being selected from the group consisting of maleic acid, fumaric acid, and itaconic acid.

3,194,793

POLYURETHANES CURED WITH MIXTURES OF AROMATIC PRIMARY AND SECONDARY DIAMINES

Irving C. Kogon, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 13, 1961, Ser. No. 159,164

8 Claims. (Cl. 260—77.5)

1. In a cured polyether polyurethane elastomer which is the reaction product of (I) an aromatic diamine, with (II) a liquid polyisocyanate composition being the reaction product of (a) a molar excess of at least one monomeric organic polyisocyanate free of isocyanate-reactive groups, and (b) at least one polyether having on the average about 2 to 3 HO-groups per molecule and a molecular weight of about 700 to 6000, said polyether selected from the group consisting of polyalkyleneether glycols, polyalkylene-aryleneether glycols, polyalkyleneether-thioether glycols, polyalkylene-aryleneether-thioether glycols, and polyalkylene ether triols; the improvement wherein said aromatic diamine (I) is a mixture of (1) at least one aromatic primary diamine, and (2) at least one aromatic secondary diamine whose secondary amino groups have one valence of each nitrogen atom attached to an aromatic ring and another valence attached to an aliphatic carbon atom, the molar ratio of (1) to (2) ranging from about 0.33:1 to 5.7:1.

3,194,794

PROCESS OF PREPARING POLYMERS OF NUCLEARLY POLYCHLORINATED AROMATIC DICARBOXYLIC ACIDS AND DIAMINES HAVING AT LEAST 4 CARBONS

John R. Caldwell and Russell Gilkey, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Jan. 27, 1960, Ser. No. 4,870

3 Claims. (Cl. 260—78)

1. A process for preparing a polyamide from an aryl diester of a nuclearly polychlorinated aromatic dicarboxylic acid and an equimolecular proportion of an organic bifunctional aliphatic diamine containing at least 4 carbon atoms, said aryl diester being composed of an aromatic hydrocarbon group having two nuclearly attached carbaryloxy radicals and from two to four nuclearly attached chlorine atoms, said process comprising the steps of (A) heating said aryl diester and said aliphatic diamine under a vacuum at from 200°–350° C. until a prepolymer is obtained having a degree of polymerization corresponding to an inherent viscosity of from about 0.1 to about 0.5, (B) pulverizing said prepolymer to form a powder, (C) heating said prepolymer powder at below its melting point and above about 175° C. until a powder of said polyamide is obtained having an inherent viscosity in the range of 0.5–3.0.

3,194,795

PHOSPHORUS ESTERS AND POLYMERS THEREOF

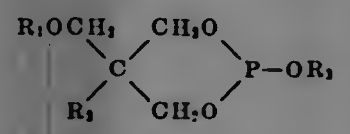
Lester Friedman, Beachwood, Ohio, assignor, by mesne assignments, to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 7, 1962, Ser. No. 222,217

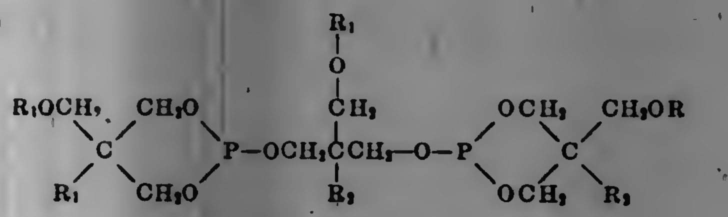
20 Claims. (Cl. 260—80.3)

18. A polymer of a monomer of the group consisting of

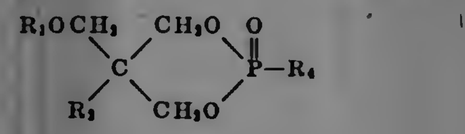
a)



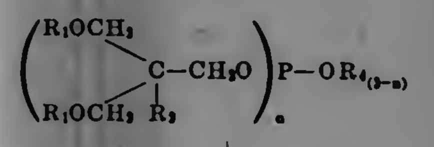
(b)



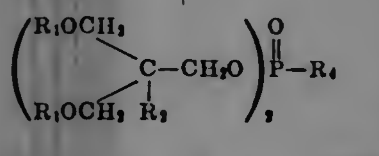
(c)



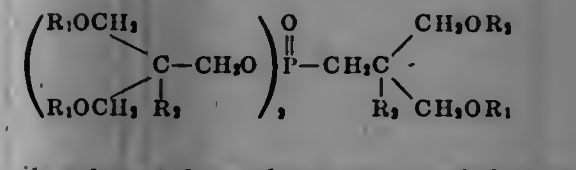
(d)



(e)



(f)



where R_1 is selected from the group consisting of allyl, methallyl and crotyl, R_2 is alkyl, R_3 is selected from the group consisting of hydrogen, alkyl, aryl, haloaryl, alkenyl of 3 to 4 carbon atoms, hydroxyalkyl, hydroxyalkoxyalkyl and hydroxypolyalkoxyalkyl, R_4 is selected from the group consisting of alkyl, aryl, haloaryl, alkenyl of 3 to 4 carbon atoms, hydroxyalkyl, hydroxyalkoxyalkyl and hydroxypolyalkoxyalkyl, n is an integer from 2 to 3.

3,194,796

ELASTOMERIC FLUOROCARBON TERPOLYMERS OF VINYLIDENE FLUORIDE, HEXAFLUOROPROPYLENE AND A HALOGEN FREE POLAR MONOMER

Edward Noonan Squire, Birmingham Township, Delaware County, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 22, 1962, Ser. No. 181,791

5 Claims. (Cl. 260—80.5)

1. A fluorocarbon elastomer containing from 45 to 85 weight percent vinylidene fluoride, hexafluoropropylene, and 0.05 to 2 weight percent of a monomer selected from the group consisting of acrylonitrile, glycidyl methacrylate, and ethylene dimethacrylate.

3,194,797

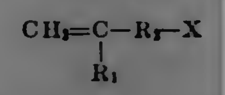
HYDRAZO GROUP CONTAINING POLYMERS

John R. Caldwell and Edward H. Hill, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 2, 1959, Ser. No. 850,036

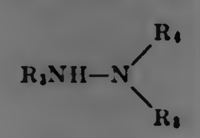
12 Claims. (Cl. 260—85.5)

1. A polymer of improved dyeability comprising the reaction product of (1) a copolymer of from 3–35% by weight of a compound having the general formula



$$\mathrm{CH_2{=}\underset{\displaystyle R_1}{\underset{|}{C}}{-}R_2{-}X}$$

and conversely from 96–65% by weight of at least one different monoethylenically unsaturated, polymerizable compound containing a $-CH=C<$ group, with (2) a hydrazo compound having the general formula



wherein the above formulas R_1 is selected from the group consisting of hydrogen and a methyl group, R_2 is divalent member selected from the group consisting of an alkylene group, an oxyalkylene group and an alkylenecarboxy group wherein in each instance the said alkylene contains from 1–4 carbon atoms, R_3 is selected from the group consisting of hydrogen, an alkyl group of from 1–8 carbon atoms and a cyclohexyl group, R_4 is selected from the group consisting of hydrogen, an alkyl group of from 1–8 carbon atoms, a cyclohexyl group and a monohydroxyalkyl group containing from 2–4 carbon atoms, R_5 is selected from the group consisting of hydrogen, an alkyl group of from 1–8 atoms, an acyl group of a saturated monobasic fatty acid containing from 2–8 carbon atoms, a benzoyl group, a gycolyl radical, a lactoyl radical and a salicyloyl group and X is selected from the group consisting of chlorine and bromine.

3,194,798

CYANOETHYLATION OF POLYVINYL ALCOHOL

Lawrence W. Frost, Murrysville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed May 9, 1962, Ser. No. 193,613

5 Claims. (Cl. 260—91.3)

1. A process for cyanoethylating a polyvinyl alcohol comprising the steps of (1) admixing polyvinyl alcohol and acrylonitrile, (2) adding thereto an aqueous catalyzing solution of ammonium hydroxide containing about 0.1 to about 10% by weight of ammonium hydroxide based on the weight of the acrylonitrile, (3) adding thereto a catalyzing amount of a strong alkali having a strength at least comparable to alkaline-earth metal hydroxides, and (4) heating said admixture thereby rapidly producing a substantially colorless cyanoethylated polyvinyl alcohol.

3,194,799

THREE-COMPONENT ALUMINUM-TITANIUM TETRAHALIDE CATALYSTS FOR OLEFIN POLYMERIZATION

Harry W. Coover, Jr., Kingsport, Tenn., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Nov. 25, 1960, Ser. No. 71,382

The portion of the term of the patent subsequent to Nov. 29, 1977, has been disclaimed and dedicated to the Public

11 Claims. (Cl. 260—93.5)

1. In the polymerization of a hydrocarbon selected from the group consisting of styrene and conjugated diolefins containing 4 to 6 carbon atoms to form solid polymer, the improvement which comprises catalyzing the polymerization with a catalytic mixture consisting essentially of an activated aluminum-titanium tetrahalide and a third component selected from the compounds having the formulas: $P(O)Y_3$, PY_3, $RC(O)Y$, and $YC(O)(CH_2)_nC(O)Y$ wherein each Y is selected from the group consisting of lower alkylamino and lower alkoxy radicals, R being an alkyl radical containing 1 to 8 carbon atoms and *n* being an integer of 1 to 4, the molar ratio of titanium tetrahalide to third component being within the range of 1:1 to 1:0.1.

3,194,800

POLYMERIZATION OF ETHYLENE WITH CYANIDES

Angus U. Blackham, Provo, Utah, assignor to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Oct. 23, 1962, Ser. No. 232,589

15 Claims. (Cl. 260—94.9)

1. A process for preparing a normally solid polymer of an alpha-olefin which comprises contacting said alpha-olefin compound under a temperature above 50° C. and superatmospheric pressure with a catalytic amount of a catalyst consisting of a cyanide salt of a metal selected from the group consisting of Groups IB, IIB, and VIII of the periodic system.

3,194,801

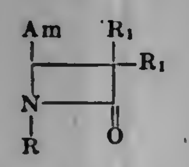
STABLE AMINO-SUBSTITUTED LACTAMS

Melvin Perelman, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Oct. 15, 1962, Ser. No. 230,697

3 Claims. (Cl. 260—239)

1. A compound of the formula



wherein Am is a member of the group consisting of di-(lower-alkyl)amino, N-lower alkyl anilino, N-lower alkyl substituted-anilino wherein said substituents are members of the group consisting of lower alkyl, halo, lower alkoxy, nitro, and trifluoromethyl, N-lower alkyl phenyl-lower-alkylamino, piperidino, pyrrolidino, and morpholino, R is a member of the group consisting of phenyl and substituted phenyl wherein said substituents are members of the group consisting of lower alkyl, halo, lower alkoxy, nitro, and trifluoromethyl, and R_1 and R_2, when taken separately, represent lower alkyl groups and, when taken together with the carbon atom to which they are attached, represent a cycloalkyl group having from five to eight carbon atoms.

3,194,802

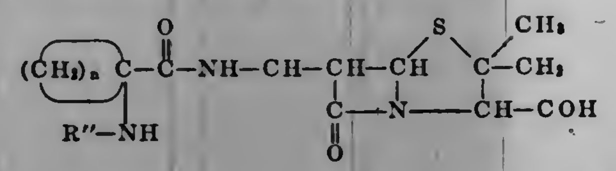
6-(1-AMINOCYCLOALKANOYLAMINO)-PENICILLANIC ACID

Harvey E. Alburn, West Chester, Norman H. Grant, Wynnewood, and Horace Fletcher 3rd, Pottstown, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Feb. 7, 1963, Ser. No. 256,815

5 Claims. (Cl. 260—239.1)

1. A compound having the formula:



wherein *n* is a whole number from 2 to 9; and R″ is of the of the group consisting of hydrogen and lower alkyl.

3,194,803

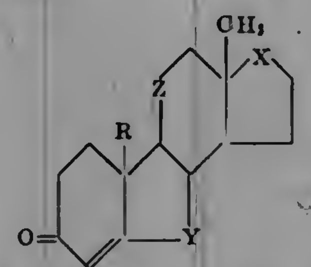
PROCESS AND INTERMEDIATES FOR THE MANUFACTURE OF 3-KETO-$\Delta^{4,6}$ STEROIDS

Frank B. Colton, Chicago, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

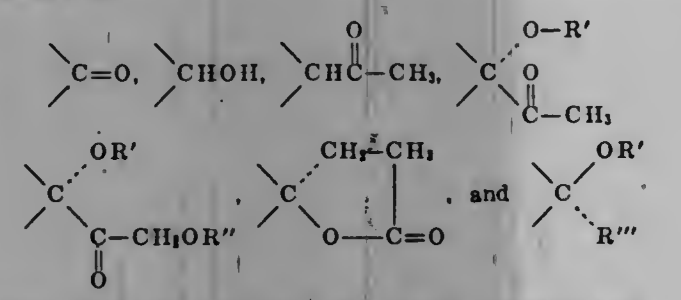
No Drawing. Filed Apr. 28, 1960, Ser. No. 25,231

13 Claims. (Cl. 260—239.57)

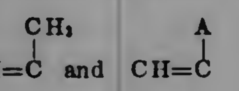
1. In a process for the manufacture of compounds of the structural formula



wherein R is selected from the group consisting of hydrogen and methyl radicals, X is selected from the group consisting of

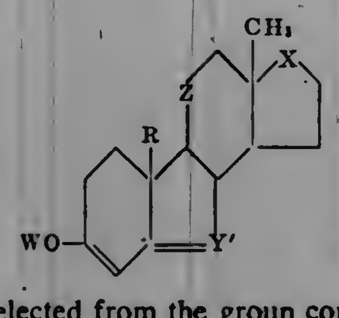


radicals; Y is selected from the group consisting of

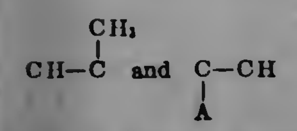


$$\mathrm{CH{=}\overset{CH_3}{\overset{|}{C}}}\quad\text{and}\quad\mathrm{CH{=}\overset{A}{\overset{|}{C}}}$$

groups, wherein A is a member of the class consisting of hydrogen and halogens, of atomic weight less than 100, attached to carbon atom 6; Z is a member of the class consisting of methylene, carbonyl, and hydroxymethylene groups; R′ and R″ being members of the class consisting of hydrogen and lower alkanoyl radicals and R‴ being a member of the class consisting of hydrogen, lower alkyl, lower 1-alkenyl, and lower 1-alkynyl radicals; the step which comprises contacting a compound of the structural formula



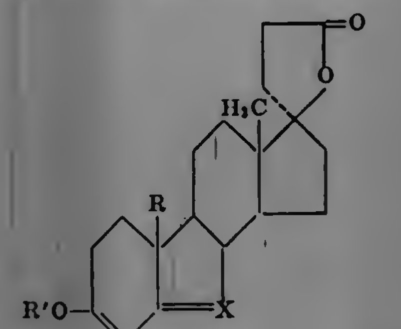
wherein W is selected from the group consisting of lower alkyl and lower alkanoyl radicals and X, Z, and R are as defined supra and Y′ is selected from the group consisting of



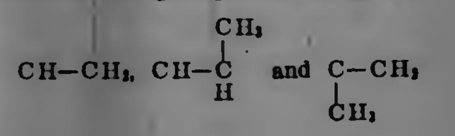
$$\mathrm{CH{-}\overset{CH_3}{\overset{|}{C}}}\quad\text{and}\quad\mathrm{\underset{A}{\underset{|}{C}}{-}CH}$$

radicals, wherein A is as defined supra, with manganese dioxide in a suitable inert organic solvent.

4. A compound of the structural formula



wherein R is selected from the group consisting of hydrogen and methyl radicals; R′ is a lower alkyl radical; X is selected from the group consisting of



$$\mathrm{CH{-}CH_3,\ CH{-}\underset{H}{\overset{CH_3}{\overset{|}{C}}}}\quad\text{and}\quad\mathrm{\underset{CH_3}{\underset{|}{C}}{-}CH_3}$$

radicals.

3,194,804

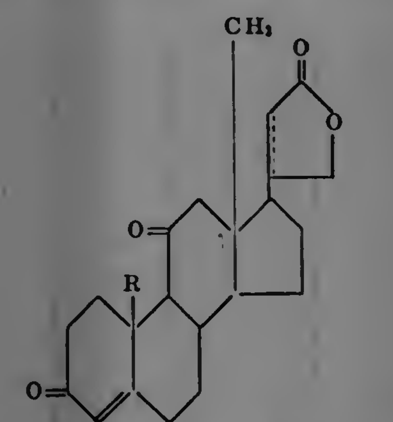
19-NORCARD-20(22)-ENOLIDES, DERIVATIVES THEREOF, AND INTERMEDIATES THERETO

John S. Baran, Morton Grove, Ill., assignor to G. D. Searle & Co., Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 2, 1963, Ser. No. 292,439

16 Claims. (Cl. 260—239.57)

1. A member selected from the class consisting of the 14β-hydroxy and Δ^{14} derivatives of a compound of the formula



wherein R is selected from the group consisting of hydrogen, carboxy, and carb(lower alkoxy) radicals, and the dotted line indicates the optional presence of a double bond between carbon atoms 20 and 22.

3,194,805

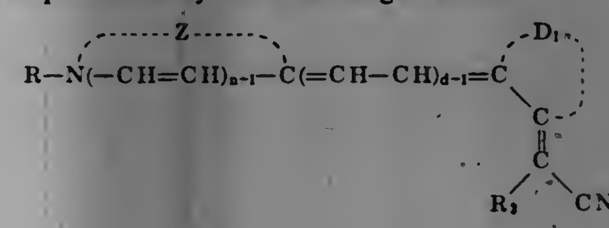
MEROCYANINE AND HOLOPOLAR DYES CONTAINING ARYLENE-CHAIN SUBSTITUTION

Leslie G. S. Brooker and Frank G. Webster, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed Sept. 2, 1960, Ser. No. 53,698

3 Claims. (Cl. 260—240)

1. A compound selected from the group consisting of those represented by the following formula:



wherein R represents an alkyl group containing from 1 to 4 carbon atoms, R_2 represents a member selected from the class consisting of the cyano group and an alkoxycarbonyl group containing from 2 to 3 carbon atoms, *d* represents a positive integer of from 1 to 3, *n* represents a positive integer of from 1 to 2, D_1 represents the atoms necessary to complete a ring selected from the class consisting of an indan ring and a 1,2,3,4-tetrahydronaphthalene ring, such that the benzene ring of said indan ring and said 1,2,3,4-tetrahydronaphthalene ring is substituted with a group selected from the class consisting of the hydrogen atom, a halogen atom, the hydroxyl group, the methoxy group, the ethoxy group, the methyl group and the ethyl group, and Z represents the non-metallic atoms necessary to complete a heterocyclic nucleus selected from the class consisting of a thiazole nucleus, a benzothiazole nucleus, a naphthothiazole nucleus, a benzoxazole nucleus, a naphthoxazole nucleus, a benzoselenazole nucleus, a naphthoselenazole nucleus, a 2-quinoline nucleus, and a 4-quinoline nucleus.

3,194,806

NOVEL PHARMACOLOGICALLY ACTIVE QUINAZOLINONE COMPOUND

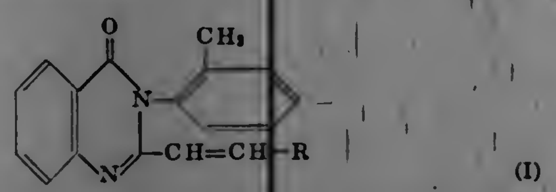
Karl-Heinz Boltze, Bensberg, Dietrich Lorenz, Klein Hurden, Post Immekeppel, Bensberg, and Maria Rüberg-Schweer, Bochum, Germany, assignors to Troponwerke Dinklage & Co., Cologne-Mulheim, Germany

No Drawing. Filed Mar. 14, 1963, Ser. No. 265,073

Claims priority, application Germany, Mar. 16, 1962, T 21,763

4 Claims. (Cl. 260—240)

1. A member selected from the group consisting of compounds of the formula



(I)

and their non-toxic, pharmaceutically acceptable, acid addition salts, wherein R is a member of the group consisting of pyridyl-(2), pyridyl-(3) and pyridyl-(4).

3,194,807

PROCESS OF PREPARING PYRIMIDINE DERIVATIVES

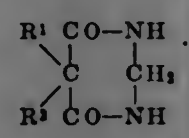
Wilhelm Peter Seebode, Grangemouth, Scotland, and Charles Henry Vasey, Huddersfield, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Original application Dec. 2, 1960, Ser. No. 73,227. Divided and this application Feb. 2, 1962, Ser. No. 170,865

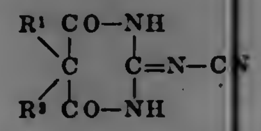
Claims priority, application Great Britain, Dec. 21, 1959, 43,324/59

7 Claims. (Cl. 260—260)

1. A process for the manufacture of pyrimidine derivatives of the formula:



wherein R^1 is selected from the group consisting of phenyl and halophenyl, and R^2 stands for an alkyl radical, which comprises reacting an imino-derivative of the formula:



wherein R^1 and R^2 have the meanings stated above, with zinc and a mineral acid.

3,194,808

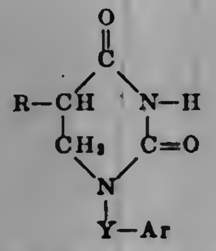
PREPARATION OF 1-(AROMATIC-ALKYL)-2,4-DIOXOHEXAHYDROPYRIMIDINES

Alexander R. Surrey, Albany, and George Y. Lesher, Schodack Township, Rensselaer County, N.Y., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

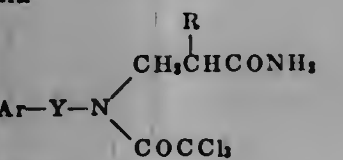
No Drawing. Original application Mar. 12, 1958, Ser. No. 720,810, now Patent No. 3,124,580, dated Mar. 10, 1964. Divided and this application Dec. 12, 1962, Ser. No. 255,418

4 Claims. (Cl. 260—260)

1. A process for the preparation of a 1-aromatic-alkyl-2,4-dioxohexahydropyrimidine having the structural formula

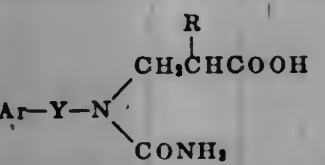


where R is a member selected from the group consisting of H and a lower-alkyl radical, Ar is a member selected from the group consisting of phenyl, naphthyl, biphenylyl, furyl, pyridyl and thienyl radicals and Y is a lower-alkylene radical which can be substituted further by a second aromatic radical Ar, which comprises reacting an N-(2-carbamylalkyl) - N - (aromatic-alkyl)trichloroacetamide having the formula

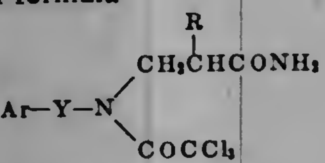


with an alkaline agent.

3. A process for the preparation of an N-carbamyl-N-(2-carboxyalkyl)-aromatic-alkylamine having the structural formula



where R is a member selected from the group consisting of H and a lower-alkyl radical, Ar is a member selected from the group consisting of phenyl, naphthyl, biphenylyl, furyl, pyridyl and thienyl radicals and Y is a lower-alkylene radical which can be substituted further by a second aromatic radical Ar, which comprises reacting an N-aromatic - alkyl-N-(2-carbamylalkyl)trichloroacetamide having the structural formula



with an excess of an alkaline agent.

3,194,809

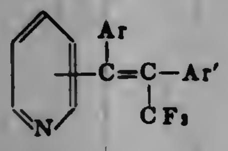
TRIFLUOROPROPENE-PYRIDINE COMPOUNDS AND METHODS FOR THEIR PRODUCTION

John R. Dice and Martin L. Black, Ann Arbor, Mich., assignors to Parke, Davis & Company, Detroit, Mich., a corporation of Michigan

No Drawing. Original application Aug. 14, 1961, Ser. No. 131,094, now Patent No. 3,142,683, dated July 28, 1964. Divided and this application Sept. 19, 1963, Ser. No. 310,134

2 Claims. (Cl. 260—290)

1. 3,3,3-trifluoro-1-propene compounds of the formula



where Ar is a member of the class consisting of phenyl and chlorophenyl, and Ar′ is a member of the class consisting of phenyl, chlorophenyl and methoxyphenyl.

3,194,810

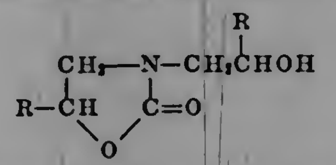
PRODUCTION OF N-HYDROXYALKYL SUBSTITUTED OXAZOLIDONES

Robert L. Formaini, Petersburg, and Edwin D. Little, Hopewell, Va., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 4, 1960, Ser. No. 12,674

10 Claims. (Cl. 260—307)

1. A process of preparing an N-hydroxyalkyl substituted oxazolidone having the formula:



wherein R is a member of the group consisting of hydrogen, methyl and ethyl which comprises reacting cyanuric acid with an alkylene oxide selected from the group consisting of ethylene oxide, propylene oxide and butylene oxide, in mol ratio of at least 6 mols of alkylene oxide per mol of cyanuric acid, at temperature of about 115° to 250° C. in the presence of an inert solvent for the cyanuric acid and alkylene oxide, and recovering the N-hydroxyalkyl substituted oxazolidone from the resultant reaction product.

3,194,811

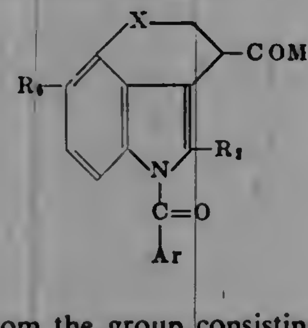
AROYL-BENZINDOLYL ACIDS

Tsung-Ying Shen, Westfield, N.J., assignor to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 5, 1963, Ser. No. 306,712

9 Claims. (Cl. 260—319)

1. A compound of the formula:



wherein:

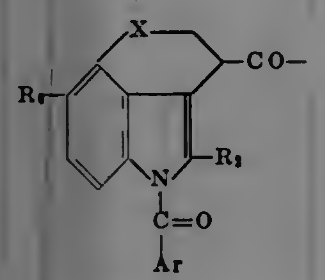
Ar is selected from the group consisting of benzene and a substituted benzene wherein said substituent is selected from the group consisting of triloweralkoxy, phenoxy, trifluoroacetyl, N,N-di(lower alkyl)sulfamyl, lower alkanoyl, N,N-di(lower alkyl)p-carboxamido, cyano, carb-lower alkoxy, formyl, trihalolower alkylthio, N,N-di(lower alkyl)p-sulfonamido, lower alkyl sulfinyl, lower alkyl sulfonyl, mercapto, benzylthio, phenyl, lower alkyl, lower alkylthio, nitro, diloweralkylamino, lower alkanoylamino, halogeno, lower alkoxy, hydroxy, 2,3,4-trihalo, benzyloxy, halobenzyloxy, amino, monoloweralkylamino, halolower alkoxy, halolower alkylthio, and trifluoromethyl;

R_2 is selected from the group consisting of hydrogen, lower alkyl, halophenyl, lower alkoxyphenyloxy, phenyl, benzyl, hydroxy, and benzyloxy;

R_6 is selected from the group consisting of hydrogen, lower alkyl, lower alkoxy, halogeno, hydroxy, di(lower alkyl)amino, and benzyloxy;

X is selected from the group consisting of methylene and carbonyl; and

M is selected from the group consisting of hydroxy, amino, lower alkoxy, phenoxy, cyclopropoxy, di(lower alkyl)amino-lower alkoxy, phenyl lower alkoxy, lower alkenyloxy, lower alkylamino, di(lower alkyl)amino, morpholino-lower alkoxy, tetrahydrofurylcarbonoxy, phenethylamino, N-ethylphenethylamino, benzylamino, anilino, p-chloranilino, p-methoxyanilino, diethanolamino, piperidino, pyrrolidino, morpholino, 1-methylpiperazino, N - phenylpiperazino, 1-β-hydroxyethylpiperazino, 1-methyl-2-aminomethyl pyrrolidino, 1-ethyl - 2 - aminomethyl piperidino, tetrahydrofurfurylamino, N-phenylpiperazino, 1,2,5,6-tetrahydropyridino, N-carbobenzyloxymethylamino, and N,N-dimethylcarboxamidomethyl; and OY wherein Y is selected from the group consisting of a pharmaceutically acceptable non-toxic cation and



where X, R_2, R_6, and Ar are as defined above,

X in the above structure and in the original formula above both being the same in any one compound.

2. 1 - p - methylthiobenzoyl-2-methyl-6-methoxy-1,3,4,5-tetrahydrobenz-[c,d]-indole-3-carboxylic acid.

ERRATUM

For Class 260—326 see:
Patent No. 3,194,779

3,194,812

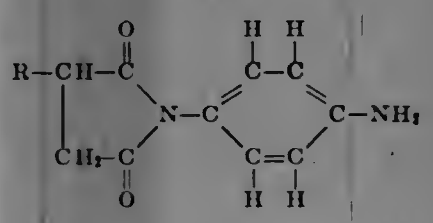
HIGH MOLECULAR WEIGHT ALKENYL-N-PARA AMINO-PHENYL SUCCINIMIDE

George R. Norman, Lyndhurst, and William M. Le Suer, Cleveland, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 31, 1962, Ser. No. 220,885

2 Claims. (Cl. 260—326.5)

1. A succinimide having the structural formula



wherein R is a polyisobutene radical having from about 50 to about 200 carbon atoms.

3,194,813

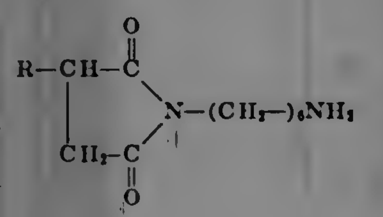
HIGH MOLECULAR WEIGHT ALKENYL-N-OMEGA AMINO HEXYLSUCCINIMIDE

William M. Le Suer, Cleveland, and George R. Norman, Lyndhurst, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 18, 1962, Ser. No. 231,554

2 Claims. (Cl. 260—326.5)

1. A succinimide having the structural formula

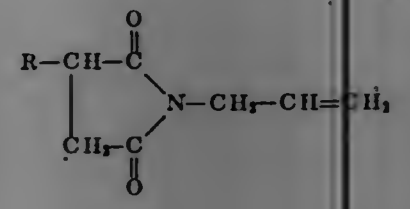


wherein R is a polyisobutene radical having from about 50 to about 200 carbon atoms.

3,194,814
HIGH MOLECULAR WEIGHT ALKENYL-N-ALLYL SUCCINIMIDE

William M. Le Suer, Cleveland, and George R. Norman, Lyndhurst, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Oct. 18, 1962, Ser. No. 231,566
2 Claims. (Cl. 260—32[illegible].5)

1. A succinimide having the structural formula

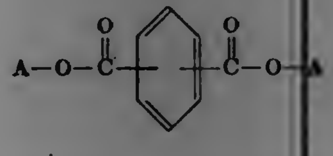


wherein R is a polyisobutene radical having from about 50 to about 200 carbon atoms.

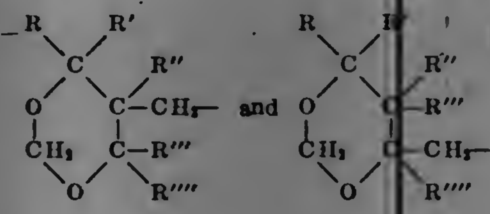
3,194,815
ESTERS OF HYDROXYMETHYL-DIMETHYL-META-DIOXANE

Vincent J. Keenan, Ardmore, and Edward S. Wheeler, Ambler, Pa., assignors to The Atlantic Refining Company, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed July 17, 1962, Ser. No. 210,587
1 Claim. (Cl. 260—34[illegible].7)

A phthalate ester of hydroxymethyl-dimethyl-meta-dioxane, said ester having the formula



wherein A is a member of the group consisting of



and wherein two of the groups R, R′, R″, R‴, R⁗ are methyl and the others hydrogen.

3,194,816
PURIFICATION OF 1,2,3,4-CYCLOPENTANETETRACARBOXYLIC ACID AND PREPARATION OF ITS ANHYDRIDE

Ross Van Volkenburgh and Jerome R. Olechowski, Baton Rouge, and Grover C. Royston, Baker, La., assignors to Copolymer Rubber & Chemical Corporation, a corporation of Louisiana
No Drawing. Filed Dec. 18, 1961, Ser. No. 160,553
11 Claims. (Cl. 260—3[illegible]6.3)

5. In a process for preparing an anhydride of 1,2,3,4-cyclopentanetetracarboxylic acid wherein the resultant anhydride is discolored, the 1,2,3,4-cyclopentanetetracarboxylic acid being prepared by a process comprising nitric acid oxidation of bicyclo (2,2,1)-5-heptene-2,3-dicarboxylic anhydride and including nitrogen containing impurities produced during the preparation thereof, the improvement comprising preparing the anhydride from 1,2,3,4-cyclopentanetetracarboxylic acid which has been purified by a process comprising crystallizing the 1,2,3,4-cyclopentanetetracarboxylic acid including impurities from a solvent comprising by volume about 10–80 parts of water and about 90–20 parts of at least one alkanoic monocarboxylic acid containing 1–4 inclusive carbon atoms to reduce the impurity content.

3,194,817
PRODUCTION OF TETRABROMO PHTHALIC ACID ANHYDRIDE

Heinrich Hahn, Cologne-Deutz, Germany, assignor to Chemische Fabrik Kalk G.m.b.H., Cologne-Kalk, Germany
No Drawing. Filed Dec. 26, 1961, Ser. No. 162,271
4 Claims. (Cl. 260—346.3)

1. In a process for the production of tetrabromo phthalic acid anhydride by bromination of phthalic acid anhydride with bromine at atmospheric pressure at elevated temperatures in concentrated sulfuric acid containing 20 to 65% of SO_3 as the reaction medium, the step which comprises simultaneously introducing into the phthalic acid anhydride containing reaction medium 4 to 6 g.-atoms of bromine and 0.5 to 3.0 g.-atoms of chlorine per mol of phthalic acid anhydride while maintaining a slight excess of bromine over the chlorine during the entire bromination reaction.

3,194,818
ALPHA-ARYL OR ARALKYL FURFURYLAMINES

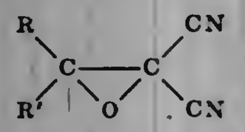
Robert L. Clarke, Bethlehem, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 14, 1963, Ser. No. 301,993
3 Claims. (Cl. 260—347.7)

1. N-methyl-α-(4-fluorophenyl)furfurylamine.

3,194,819
2,2-DICYANO-3,3-DI(POLYFLUOROHALOALKYL)-OXIRANES

William J. Middleton, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Mar. 29, 1963, Ser. No. 269,141
3 Claims. (Cl. 260—348)

1. A compound of the formula



wherein R and R′ each represent a member of the group consisting of perfluoroalkyl, ω-chloroperfluoroalkyl and ω-hydroperfluoroalkyl, each of up to 18 carbons, and R and R′ conjointly are perfluoroalkylene of 3 to 8 carbons.

3,194,820
PREPARATION OF DIAMINO-1,1′-DIANTHRAQUINONYL

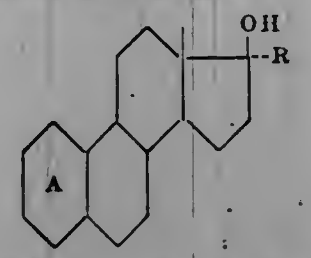
Maurice Grelat, Basel, Switzerland, assignor to Ciba Limited, Basel Switzerland, a Swiss firm
No Drawing. Original application Oct. 26, 1959, Ser. No. 848,516. Divided and this application Dec. 28, 1961, Ser. No. 166,978
Claims priority, application Switzerland, Sept. 23, 1959, 78,552/59
6 Claims. (Cl. 260—367)

1. A process for the manufacture of diamino-1:1′-dianthraquinonyls, wherein two molecular proportions of a 1-acylamino-α-chloroanthraquinone whose acyl radical is derived from a member selected from the group consisting of a lower alkanoic acid and benozic acid is heated with at least one atomic proportion of copper in an inert high boiling solvent and the acyl groups are split off from the resulting diacylamino-1:1′-dianthraquinonyl.

3,194,821
17α-SUBSTITUTED 17β-HYDROXYESTRENES

Leslie A. Freiberg, Waukegan, and John Wayne Cole, Deerfield, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed Dec. 30, 1963, Ser. No. 334,652
9 Claims. (Cl. 260—397.1)

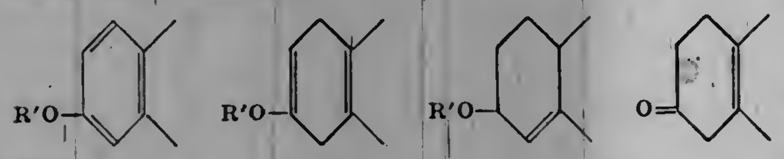
1. A compound of the formula



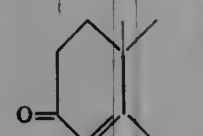
wherein R is selected from the group consisting of —CH_2COO-loweralkyl, —CH_2CH_2OH, and

$$—CH_2CH_2OCOCH_3$$

and wherein the A-ring has a configuration selected from the group consisting of



and



wherein R′ is selected from the group consisting of hydrogen, loweralkyl and phenylloweralkyl.

3,194,822
PREPARATION OF CARBOXYLIC ACID ESTERS

David D. Neiswender, Jr., Haddonfield, and Robert D. Offenhauser, Sewell, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York
No Drawing. Filed Mar. 26, 1962, Ser. No. 182,658
8 Claims. (Cl. 260—410.9)

1. A method for converting fatty acid esters into higher alkyl fatty acid esters that comprises reacting an ester selected from the group consisting of methyl and ethyl esters of fatty acids having between about 8 and about 30 carbon atoms and a trialkyl borate having between about 4 and about 18 carbon atoms per alkyl group, at a temperature of between about 175° C. and about 300° C., under a pressure of between about 0.1 atmosphere and about one atmosphere, and continuously removing an ester of the group consisting of trimethyl borate and triethylborate.

3,194,823
ORGANIC COMPLEXES

William M. Le Suer, Cleveland, and George R. Norman, Lyndhurst, Ohio, assignors to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Mar. 18, 1963, Ser. No. 266,022
8 Claims. (Cl. 260—414)

1. A barium- and cadmium-containing organic complex made by the process which comprises preparing a mixture of:

(A) a monohydric alcohol containing from 1 to about 20 carbon atoms,

(B) at least one aliphatic monocarboxylic acid compound selected from the group consisting of aliphatic monocarboxylic acids containing an average of from about 6 to about 30 carbon atoms and the barium and cadmium salts thereof, and

(C) at least one metallic base selected from the group consisting of barium bases and cadmium bases in an amount to provide in the mixture of components A–C, inclusive, at least about 0.1 equivalent each of cadmium and barium and a total of at least about 1.1 equivalents of barium and cadmium per equivalent of monocarboxylic acid;

removing substantially all water from said mixture by heating at a temperature of from about 70° C. to about 250° C. and then treating said mixture with at least about $(x-y)$ equivalents of carbon dioxide, where x represents the total equivalents of barium and cadmium in the mixture and y represents the equivalents of B.

3,194,824
PREPARATION OF CYCLOPENTADIENYL GROUP VB METAL TETRACARBONYLS

Robert P. M. Werner, Binningen, Basel-Land, Switzerland. and Switlana Manastyrskyj, Warren, Mich., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Dec. 11, 1961, Ser. No. 158,565
10 Claims. (Cl. 260—429)

1. Process for the formation of organometallic complexes having the formula

$$QM(CO)_4$$

where M is an atom of a metal of Group VB of the Periodic Table of atomic number of at least 41, Q is selected from the class consisting of the cyclopentadienyl radical and hydrocarbon substituted cyclopentadienyl radicals having 6 to 13 carbon atoms, said process comprising reacting

(A) a compound having the formula $M_1E_xM(CO)_6$, where M_1 is selected from the class consisting of alkali and alkaline earth metal atoms, E is selected from the class consisting of bidentate and tridentate ethers, x is an integer having the value of three when E is a bidentate ether and two when E is a tridentate ether, and M is a Group VB metal atom of atomic number of at least 41

with

(B) a compound having the formula M_1Q_n wherein n is the valance of M_1, and

(C) an oxidizing agent selected from the Group IIB metal dihalides; said process being carried out at a temperature of about 25° to about 100° C.

3,194,825
(ISOTHIOCYANATOALKYL)AMINES

Thomas K. Brotherton, South Charleston, and John W. Lynn, Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York
No Drawing. Filed Apr. 19, 1962, Ser. No. 188,834
2 Claims. (Cl. 260—454)

1. (Isothiocyanatoalkyl)amines of the formula:

$$[SCN(C_cH_{2c})]_2N—G—N[(C_cH_{2c})NCS]_2$$

wnerein c is an integer having a value of from 1 to 6 inclusive and G is an arylene radical of 6 to 14 carbon atoms.

3,194,826
PROCESS OF PRODUCING 2-AMINO ALKANOL ESTERS OF SULFURIC ACID

Albert Goldstein, New Shrewsbury, and Frank A. Nowak, Jr., Ridgefield Park, N.J., assignors to Chemirad Corporation, East Brunswick, N.J., a company of Delaware
No Drawing. Filed Dec. 29, 1961, Ser. No. 163,047
9 Claims. (Cl. 260—458)

1. The process of producing a 2-amino lower alkanol sulfuric acid ester which comprises the steps of

reacting substantially equimolecular amounts of a 2-amino lower alkanol and sulfuric acid at a temperature between about 65° C. and about 75° C., thereby forming the amino lower alkanol sulfuric acid addition salt, heating the resulting mixture to a temperature between about 120° C. and about 200° C.,

removing less than substantially all of the water from the reaction mixture by heating it under vacuum until crystallization sets in,

cooling the fluid reaction mixture at atmospheric pressure and separating the crystalline 2-amino lower alkanol sulfuric acid ester from the reaction mixture.

3,194,827
PREPARATION OF ORGANIC PHOSPHITES

Leland J. Lutz, Grand Island, and Harry N. Tatomer, Niagara Falls, N.Y., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Feb. 4, 1953, Ser. No. 335,172

6 Claims. (Cl. 260—461)

1. A method for the preparation of phosphites which comprises mixing in a short mixing zone maintained at an absolute pressure below 100 mm. of mercury phosphorus trichloride and a compound of the formula ROH and then introducing the reaction mixture into a fractionating column operating at an absolute pressure below 100 mm. of mercury, and removing hydrogen chloride and a compound of the formula RCl as overhead and a compound of the formula $(RO)_2P(O)H$ as bottoms from the column, R in the foregoing formulas being a hydrocarbon radical selected from the group consisting of alkyl radicals containing not more than 8 carbon atoms, cyclohexyl and methylcyclohexyl, the phosphorus trichloride and ROH being the only materials introduced into the mixing zone.

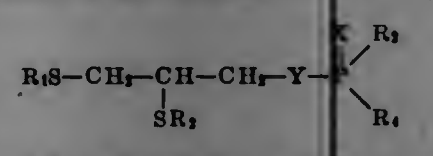
3,194,828
2,3(ALKYL MERCAPTO)PROPYL ESTERS OF PHOSPHINOTHIOIC AND PHOSPHONOTHIOIC ACIDS

Gerhard Schrader, Wuppertal-Cronenberg, Walter Lorenz, Wuppertal-Vohwinkel, and Hans-Gerd Schicke, Wuppertal-Elberfeld, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation

No Drawing. Filed Aug. 16, 1960, Ser. No. 49,823
Claims priority, application Germany, Aug. 21, 1959, F 29,219; Sept. 5, 1959, F 29,320

13 Claims. (Cl. 260—461)

1. A compound of the formula



$$R_1S-CH_2-\underset{SR_2}{\underset{|}{C}H}-CH_2-Y-\overset{X}{P}\begin{matrix}R_3\\R_4\end{matrix}$$

wherein R_1 and R_2 individually stand for lower alkyl having up to 4 carbon atoms, R_3 stands for a member selected from the group consisting of lower alkyl having up to 4 carbon atoms and lower alkoxy having up to 4 carbon atoms, R_4 stands for lower alkyl having up to 4 carbon atoms and X and Y stand for a chalkogen of an atomic weight less than 40, at least one of them being sulfur.

3,194,829
CATALYTIC HYDRATION OF OLEFINS

Leslie D. Moore and Raymond C. Odioso, Glenshaw, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Dec. 12, 1960, Ser. No. 75,134

8 Claims. (Cl. 260—641)

8. A process for the catalytic hydration of olefin to alcohol comprising contacting a C_2 to C_5 olefin with water in the presence of a hydration catalyst consisting of silica-alumina at a temperature between about 250° F. and 700° F. and a pressure between about 400 and 10,000 pounds per square inch, said silica-alumina hydration catalyst having been pretreated by contacting hydrogen sulfide with said silica-alumina catalyst at a temperature between about 100° F. and 2000° F., there being substantially no reaction between the hydrogen sulfide and the silica-alumina catalyst and substantially no deposition of sulfur upon the silica-alumina catalyst as a result of said pretreatment, said pretreatment increasing the activity of said catalyst for olefin hydration.

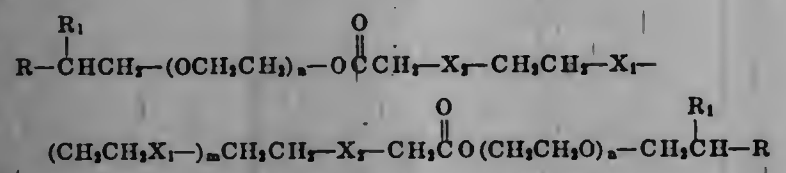
3,194,830
DIESTERS OF SATURATED ALIPHATIC DICARBOXYLIC ACIDS CONTAINING BOTH OXYGEN AND SULPHUR IN THE CHAIN

John R. Dann, Peter P. Chiesa, and William G. Lovett, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Original application Oct. 14, 1959, Ser. No. 846,230, now Patent No. 3,038,805, dated June 12, 1962. Divided and this application May 24, 1962, Ser. No. 197,274

6 Claims. (Cl. 260—481)

1. A compound of the formula:



$$R-\overset{R_1}{\overset{|}{C}}HCH_2-(OCH_2CH_2)_n-O\overset{O}{\overset{\|}{C}}CH_2-X_2-CH_2CH_2-X_1-$$
$$(CH_2CH_2X_1-)_mCH_2CH_2-X_2-CH_2\overset{O}{\overset{\|}{C}}O(CH_2CH_2O)_n-CH_2\overset{R_1}{\overset{|}{C}}H-R$$

wherein R represents a member selected from the class consisting of hydroxyl, alkoxyl containing from 1 to 4 carbon atoms and carbamyl radicals, R_1 represents a member selected from the class consisting of hydrogen and methyl, each of X_1 and X_2 is a different divalent radical selected from the class consisting of oxygen and sulfur atoms, *m* is an integer of from 0 to 1 and *n* is an integer of from 0 to 2.

3,194,831
18-NOR-D-HOMO ANDROSTANES

Hans Reimann, Bloomfield, and Eugene P. Oliveto, Glen Ridge, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 15, 1961, Ser. No. 138,272

14 Claims. (Cl. 260—488)

1. A compound selected from the group consisting of 3-Z-9α-X-11β-Y-17-keto-18-nor-D-homo-13(17a)-dehydro-5α-androstane and 3-Z-9α-X-11β-Y-17-keto-18-nor-D-homo-13(17a)-dehydro-5β-androstane wherein Z is a member selected from the group consisting of keto; (H,βOR′) and (H,αOR′), R′ being a member selected from the group consisting of hydrogen and an acyl radical of a hydrocarbon carboxylic acid having up to 8 carbon atoms selected from the group consisting of alkanoic acids and aryl carboxylic acids; X is a member selected from the group consisting of hydrogen, fluorine, chlorine, and bromine; and Y is a member selected from the group consisting of hydroxy and OR, R being an acid radical of a hydrocarbon carboxylic acid having up to 8 carbon atoms selected from the group consisting of alkanoic acids and aryl carboxylic acids.

3,194,832
18-NOR-D-HOMO-STEROIDS

Hans Reimann, Bloomfield, and Eugene P. Oliveto, Glen Ridge, N.J., assignors to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey

No Drawing. Filed Sept. 15, 1961, Ser. No. 138,273

18 Claims. (Cl. 260—488)

1. A member selected from the group consisting of:

6-B-9α-X-16-V-17-keto-18-nor-D-homo-13(17a)dehydro-4-androstene-3-one, the 19-nor, Δ^1-, Δ^6-, $\Delta^{1,6}$-, Δ^1-4,5-dihydro- analogs thereof, and the 2-methyl and 7-methyl-homologs of the foregoing;

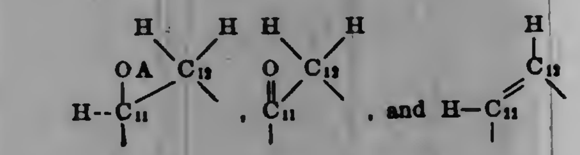
3β-(OW)-9α-X-16-V-17-keto-18-nor-D-homo-13(17a)-dehydro-5-androstene;

3-(OR)-6-B-9α-X-16-V-17-keto-18-nor-D-homo-13(17a)-dehydro-1,3,5(10)-estratriene;

and the tautomers of the foregoing;

wherein B is a member of the group consisting of hydrogen, α-lower alkyl, β-lower alkyl, α-fluoro and β-fluoro; X is a member of the group consisting of hydrogen and halogen; V is a member of the group consisting of hydrogen, α-lower alkyl, β-lower alkyl, α-halogen selected from the group consisting of fluorine, chlorine, and bromine, β-halogen selected from the group consisting of fluorine, chlorine, and bromine; and α-OY, wherein Y is a member of the group consisting of hydrogen and an acid radical of a hydrocarbon carboxylic acid having up to 8 carbon atoms selected from the group consisting of an alkanoic acid and an aryl carboxylic acid; R is a member of the group consisting of hydrogen, lower alkyl, and an acid radical of a hydrocarbon carboxylic acid having up to 8 carbon atoms selected from the group consisting of an alkanoic acid and an aryl carboxylic acid; W is a member of the group consisting of hydrogen and an acid radical of a hydrocarbon carboxylic acid having up to 8 carbon atoms selected from the group consisting of an alkanoic acid and an aryl carboxylic acid;

said member being characterized by a configuration about C-11 and C-12 of the group consisting of:



wherein A is a member selected from the group consisting of hydrogen and an acid radical of an acid selected from the group consisting of an aryl carboxylic acid having up to 8 carbon atoms, and a saturated aliphatic hydrocarbon carboxylic acid having up to eight carbon atoms.

16. In the process of preparing a compound selected from the group consisting of:

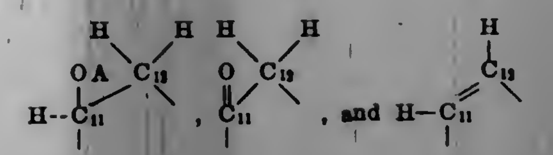
6-B-9α-X-16-V-17-keto-18-nor-D-homo-13(17a)-dehydro-4-androstene-3-one, the 19-nor-, Δ^1-, Δ^6-, $\Delta^{1,6}$-, Δ^1-4,5-dihydro- analogs thereof, and the 2-methyl and 7-methyl-homologs of the foregoing;

3β-(OW)-9α-X-16-V-17-keto-18-nor-D-homo-13(17a)-dehydro-5-androstene;

3-(OR)-6-B-9α-X-16-V-17-keto-18-nor-D-homo-13(17a)-dehydro-1,3,5(10)-estratriene;

and the tautomers of the foregoing;

wherein B is a member of the group consisting of hydrogen, α-lower alkyl, β-lower alkyl, α-fluoro and β-fluoro; X is a member of the group consisting of hydrogen and halogen; V is a member of the group consisting of hydrogen, α-lower alkyl, β-lower alkyl, α-halogen having an atomic weight less than 126, β-halogen having an atomic weight less than 126, and α-OY, wherein Y is a member of the group consisting of hydrogen and an acid radical of a hydrocarbon carboxylic acid having up to 8 carbon atoms selected from the group consisting of an alkanoic acid and an arylcarboxylic acid; R is a member of the group consisting of hydrogen, lower alkyl, and an acid radical of a hydrocarbon carboxylic acid having up to 8 carbon atoms selected from the group consisting of an alkanoic acid and an arylcarboxylic acid; W is a member of the group consisting of hydrogen and an acid radical of a hydrocarbon carboxylic acid having up to 8 carbon atoms selected from the group consisting of an an alkanoic acid and an arylcarboxylic acid; said compound being characterized by a configuration about C-11 and C-12 of the group consisting of:



wherein A is a member selected from the group consisting of hydrogen and an acid radical of an acid selected from the group consisting of a methylsulfonic acid, p-toluene-sulfonic acid, an arylcarboxylic acid having up to 8 carbon atoms and a saturated, aliphatic hydrocarbon carboxylic acid having up to 8 carbon atoms;

the steps which comprise irradiating an 11-nitrite ester of a steroid selected from the group consisting of:

6-B-9α-X-16-V-4-androstene-11β-ol-3,17-dione, the 18-nor, Δ^1-, Δ^6-, $\Delta^{1,6}$-, Δ^1-4,5-dihydro- analogs thereof, and the 2-methyl- and 7-methyl homologs of the foregoing;

3β-(OW)-9α-X-16-V-5 androstene-11β-ol-17-one;

3-(OR)-6-B-9α-X-16-V-1,3,5(10)-estratriene-11β-ol-17-one;

wherein B, X, V, W, and R are as hereindefined; in an inert solvent with ultraviolet radiation having a wave length greater than about 3000 A. and less than about 4400 A., said radiation including an absorption band of the 11-nitrite radical; and isolating the thereby formed 11β-hydroxy-18-nor-D-homo-13(17a)-dehydro-steroid.

3,194,833
REDUCTION OF PHENYLSULFAMIC ACID AND PHENYLSULFAMATES

Morris Freifelder, Waukegan, Ill., and Bernard Meltsner, Toledo, Ohio, assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

No Drawing. Filed Oct. 2, 1961, Ser. No. 141,988

6 Claims. (Cl. 260—500)

1. In the method of preparing cyclohexylsulfamic acid, the step comprising hydrogenating phenylsulfamic acid in the presence of a catalytic amount of rhodium.

3,194,834
PROCESS OF OXIDATION OF ORGANOBORANES

John K. Presswood, Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed Dec. 20, 1961, Ser. No. 160,899

8 Claims. (Cl. 260—540)

1. A process for the preparation of at least one member of the group consisting of alcohols, aldehydes, and organic acids which comprises the oxidation of an organoborane, each organic radical of which contains up to about 18 carbon atoms and is selected from the group consisting of alkyl, aryl, cycloalkyl, alkaryl and aralkyl radicals, with an agent selected from the group consisting of gaseous oxygen and mixtures thereof with inert gaseous diluents, using as a catalyst material for said oxidation a compound selected from the group initially consisting essentially of alkoxides and halides of aluminum, said oxidation being carried out at a temperature in the range of from about 50° to about 210° C. and at a pressure in the range of from about atmospheric to about 1000 p.s.i.g.

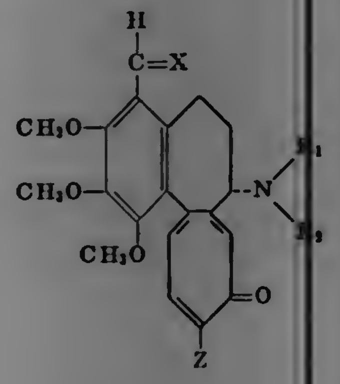
3,194,835

NEW COLCHICINIC AND THIOCOLCHICINIC DERIVATIVES AND PROCESS OF PREPARATION

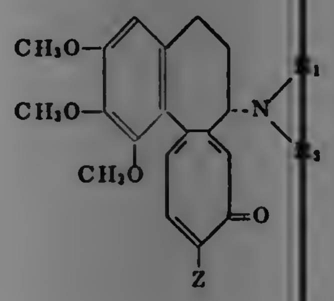
Georges Muller, Nogent-sur-Marne, Seine, France, assignor to Roussel-UCLAF, Paris, France, a corporation of France

No Drawing. Filed May 10, 1963, Ser. No. 279,610
Claims priority, application France, May 18, 1962, 898,044; Oct. 30, 1962, 913,881; Jan. 30, 1963, 923,185
11 Claims. (Cl. 260—5[illegible]4)

4. A process for the production of a colchicinic derivative of the formula:



wherein R_1 is selected from the group consisting of hydrogen and lower alkyl, R_2 is the acyl radical of an organic carboxylic acid selected from the group consisting of alkanoic acid having 1 to 8 carbon atoms and benzoic acid, X is selected from the group consisting of =O, =NOH and =N—NHCONH₂, and Z is selected from the group consisting of lower alkoxy, and —S-lower alkyl, which comprises the steps of reacting 1,1-dichloromethyl methyl ether with a compound of the formula:



wherein R_1, R_2 and Z have the above assigned values, in the presence of an anhydrous inert organic solvent and a catalyst selected from the group consisting of stannic chloride and aluminum chloride, decomposing the complex formed by the addition of water and recovering said colchicinic derivative.

3,194,836

PREPARATION OF PANTOTHENAMIDE

Ralph H. Beutel, Newark, N.J., assignor to Merck & Co., Inc., Rahway, N. J., a corporation of New Jersey

No Drawing. Filed Dec. 19, 1961, Ser. No. 160,657
1 Claim. (Cl. 260—5[illegible]1)

The process which comprises mixing a methanol solution of 1-α,γ-dihydroxy-β,β-dimethylbutyrolactone with β-alaninamide at room temperature to form d-pantothenamide, thereafter adding isopropanol and heating to dissolve said d-pantothenamide, adding ethyl acetate to the resulting solution, and recovering crystalline d-pantothenamide from said cooled solution.

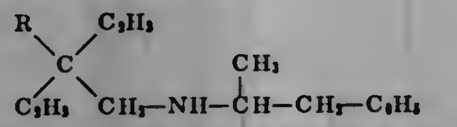
3,194,837

N-ARYLALKYL-PHENYLALKYL AMINES

Ingeborg Hennig, Kelkheim, Taunus, and Ernst Lindner, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Nov. 9, 1961, Ser. No. 151,159
Claims priority, application Germany, Nov. 12, 1960, F 32,535
5 Claims. (Cl. 260—570.8)

1. The compounds of the group consisting of (1) phenylalkylamines of the formula



wherein R is a member selected from the group consisting of phenyl, monoalkylphenyl, monoalkoxyphenyl and benzyl, the alkyl and alkoxy substituents having at most 4 carbon atoms and (2) pharmaceutically acceptable acid addition salts thereof.

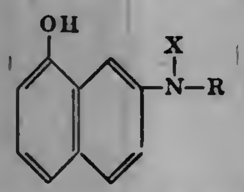
3,194,838

PROCESS FOR PREPARATION OF α-HYDROXY-β-ALKYL-AMINONAPHTHALENE

Daniel L. Ross, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Feb. 19, 1962, Ser. No. 174,247
5 Claims. (Cl. 260—573)

1. The process of selectively replacing the β-hydroxy group of 1,7-dihydroxynaphthalene with an alkyl amino group which comprises heating in a bomb a reaction mixture consisting essentially of (a) an amine selected from the group consisting of primary and secondary aliphatic amines; (b) 1,7-dihydroxynaphthalene; and (c) water, and recovering a compound of the formula:



wherein R is a lower alkyl radical and X is selected from the group consisting of hydrogen and lower alkyl radicals.

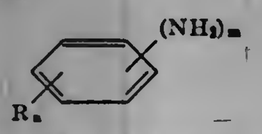
3,194,839

CATALYTIC HYDROGENATION OF NITRO-AROMATIC COMPOUNDS TO AROMATIC AMINES

Ralph M. Robinson and Rudolph G. Sundberg, Waukegan, Ill., assignors to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois

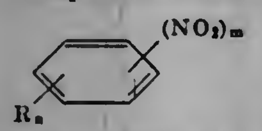
No Drawing. Filed Apr. 12, 1962, Ser. No. 186,848
6 Claims. (Cl. 260—575)

1. The process of making an aromatic amino compound of the formula



wherein R is a substituent selected from the group consisting of hydroxy, alkyl, amino, and alkoxy, *m* is an integer from 1 to 3, *n* is an integer from 0 to 5, and wherein the sum of *m*+*n* is between 1 and 6 inclusive, comprising

subjecting a nitro compound of the formula



wherein R, *m* and *n* have the above meanings, to gaseous hydrogen at a temperature between room temperature and 150° C. and at a hydrogen pressure between atmospheric pressure and 150 p.s.i.,

in the presence of a minor amount of a rhodium catalyst whose activity as a phenylring-hydrogenation promoter is substantially exhausted.

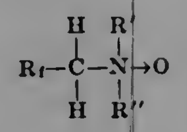
3,194,840

N,N-DILOWERALKYL, 1,1-DIHYDROGEN PERFLUOROALKYL AMINE OXIDES

Jim S. Berry, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio

No Drawing. Filed Dec. 18, 1961, Ser. No. 160,231
4 Claims. (Cl. 260—583)

1. The class of compounds having the following formula



$$R_f-\overset{H}{\underset{H}{C}}-\overset{R'}{\underset{R''}{N}}\rightarrow O$$

wherein R_f represents a perfluorinated straight chain alkyl radical ranging from C_3F_7 to $C_{11}F_{23}$ and R′ and R″ represent lower alkyl radicals wherein each of which is selected from the group consisting of methyl, ethyl, and n-propyl.

3,194,841

PROCESS FOR PREPARING HEPTA-1:6-DIENE-3:5-DIONES

Jan van Alphen, Voorburg, and Hendrik Jacob Johannes Pabon, Vlaardingen, Netherlands, assignors to Lever Brothers Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Aug. 29, 1960, Ser. No. 52,361
Claims priority, application Great Britain, Aug. 31, 1959, 29,623/59
5 Claims. (Cl. 260—590)

1. In the condensation between (1) an aldehyde wherein the carbonyl double bond of the functional group is in conjugation with a carbon-carbon double bond and (2) a pentane-2:4-dione wherein reaction occurs between the aldehyde group of said aldehyde and a terminal group of said dione to yield a hepta-1:6-diene-3:5-dione, the improvement which comprises carrying out the condensation at a temperature not greater than 170° C. in the presence of boric oxide, a trialkyl borate having up to 18 carbon atoms in each alkyl group and a primary aliphatic amine selected from the group consisting of alkyl monoamines and alkylene diamines containing at least 3 and not more than 6 carbon atoms, the molar ratio of boric oxide to aldehyde being from 1:8 to 1:1, the molar ratio of amine to aldehyde being from 1:10 to about 1:1, the molar ratio of trialkyl borate to aldehyde being from 1:4 to 10:1.

3,194,842

PREPARATION OF ALKYLATED DECABORANES

Murray S. Cohen, Dover, and Carl E. Pearl, Morristown, N.J., assignors, by mesne assignments, to Thiokol Chemical Corporation, a corporation of Delaware

No Drawing. Filed July 1, 1955, Ser. No. 519,626
9 Claims. (Cl. 260—606.5)

1. A method for the production of a liquid, lower alkylated decaborane which comprises reacting decaborane and a monoolefin hydrocarbon having from two to five carbon atoms at a temperature within the range from about 55° to 200° C. while the decaborane is dissolved in a saturated hydrocarbon containing an effective amount of an aluminum halide selected from the group consisting of aluminum bromide and aluminum chloride.

3,194,843

REACTIVATION OF CATALYST IN PRODUCTION OF A PHENOL

Alvin D. Silber, Riverdale, N.Y., and Jack B. Feder, Dumont, and Joseph L. Russell, Ridgewood, N.J., assignors to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Apr. 11, 1961, Ser. No. 102,140
4 Claims. (Cl. 260—621)

4. A process for the preparation of phenol from a crude oxygenated cyclohexane fraction containing at least one member of the group consisting of cyclohexanol and cyclohexanone which comprises vaporizing said fraction, diluting said fraction with hydrogen in an amount in the range of 1 to 15 mols of hydrogen per mol of total cyclohexanone and cyclohexanol, contacting the resulting mixture with a platinum-on-carbon catalyst at a temperature in the range of 250 to 425° C. at a liquid hourly space velocity in the range of 0.3 to 2.5 per hour and recovering phenol from the reaction product, discontinuing said contacting when the catalyst is spent, leaching the spent catalyst with water until the leachings are free of organic material, separating said catalyst and reusing the thusly treated catalyst in the further production of phenol.

3,194,844

CATALYST REGENERATION AND PROCESS

Alvin D. Silber, Riverdale, N.Y., and Jack B. Feder, Dumont, and Joseph L. Russell, Ridgewood, N.J., assignors to Halcon International, Inc., a corporation of Delaware

No Drawing. Filed Apr. 11, 1961, Ser. No. 102,141
3 Claims. (Cl. 260—621)

3. A process for the preparation of phenol from a crude oxygenated cyclohexane fraction containing at least one member of the group consisting of cyclohexanol and cyclohexanone which comprises vaporizing said fraction, diluting said fraction with hydrogen in an amount in the range of 1 to 15 mols of hydrogen per mol of total cyclohexanone and cyclohexanol, contacting the resulting mixture with a platinum-on-carbon catalyst at a temperature in the range of 250 to 425° C. at a liquid hourly space velocity in the range of 0.3 to 2.5 per hour and recovering phenol from the reaction product, discontinuing said contacting when the catalyst is spent, contacting the spent catalyst at a temperature between the freezing and boiling temperature of the system with aqueous alkaline solution containing at least 0.01% alkaline material, separating said solution from said catalyst and reusing the thusly treated catalyst after washing with water until the wash water is substantially free of the alkaline material in the further production of phenol.

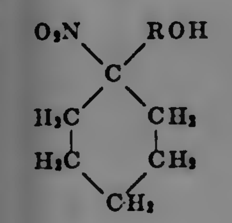
3,194,845

NITROCYCLOHEXANE MANUFACTURING PROCESS

Bernard Taub, Williamsville, and John B. Hino, Buffalo, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Feb. 24, 1964, Ser. No. 347,052
12 Claims. (Cl. 260—644)

1. A method for producing pure nitrocyclohexane, which comprises distilling a solution of a compound of the formula:



wherein R is a radical of the group consisting of methylene and lower alkyl substituted methylene radicals, and recovering the pure nitrocyclohexane from the distillate.

3,194,846
STABILIZED CHLORINATED PARAFFIN WAX

Aurel Blaga, Syracuse, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed May 13, 1963, Ser. No. 280,123
5 Claims. (Cl. 260—65[illegible].5)

1. A composition of matter comprising a chlorinated paraffin wax containing between about 45% and about 80% chlorine, and a stabilizing amount of a monochloromonohydric alkanol of 2 to 3 carbon atoms wherein the chlorine and hydroxy groups are attached to different carbon atoms.

3,194,847
PROCESS FOR THE PRODUCTION OF HALO-SUBSTITUTED OLEFINES

Clifford William Capp, Ewell, George William Godin, London, Roderick Frank Neale, Great Bookham, John Bentley Williamson, Sutton, and Brian Walton Harris, Carshalton, England, assignors to The Distillers Company Limited, Edinburgh, Scotland, a British company
No Drawing. Filed Dec. 8, 1961, Ser. No. 158,161
Claims priority, application Great Britain, Jan. 2, 1961, 97/61; Jan. 20, 1961, 2,3[illegible]8/61
5 Claims. (Cl. 260—6[illegible]6)

1. A process for the production of vinyl chloride which comprises heating ethylene under substantially anhydrous conditions at a temperature of from 5[illegible] to 300° C. and at a pressure of from 1 to 100 atmospheres with a metal chloride wherein said metal is selected from the group consisting of cupric copper, mercuric mercury and silver in admixture with polar solvent selected from the group consisting or organic esters, ethers, aliphatic chlorinated hydrocarbons and aromatic chlorinated hydrocarbons, and in addition in the presence of a platinum group metal salt as a catalyst.

3,194,848
PROCESS FOR DIMER AND TRIMER PREPARATION

Julian Feldman, Bernard A. Saffer, and Martin Thomas, Cincinnati, Ohio, assignors to National Distillers and Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Dec. 31, 1962, Ser. No. 248,199
10 Claims. (Cl. 260—[illegible]66)

1. A process for the production of cyclic dimers and cyclic trimers which comprises polymerizing a linear conjugated diolefin at an elevated temperature in the presence of a catalyst which is characterized by the formula:

$$A_{1,2}\text{—Ni—}B_2$$

wherein A is 1-methyl-4-phospha 3,5,8-trioxabicyclo [2,2,2]octane, and B is selected from the group consisting of cinnamonitrile, acrylonitrile, acrolein and carbonyl.

6. A catalyst which is characterized by the formula:

$$A_{1,2}\text{—Ni—}B_2$$

wherein A is 1-methyl-4-phospha-3,5,8-trioxabicyclo [2,2,2]octane and B is selected from the group consisting of cinnamonitrile, acrylonitrile, acrolein and carbonyl.

3,194,849
PROCESS FOR PRODUCING CREEP RESISTANT CROSS-LINKED PRODUCTS FROM POLYPROPYLENE AND POLYBUTENE-1, AND THE CROSS-LINKED PRODUCTS SO PRODUCED

Giulio Natta, Giovanni Crespi, and Mario Bruzzone, Milan, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, Milan, Italy
Filed July 29, 1958, Ser. No. 751,741
Claims priority, application Italy, Aug. 1, 1957, 11,560/57
22 Claims. (Cl. 260—[illegible]78)

1. A process for increasing the creep resistance of linear crystalline homopolymers made up of isotactic macromolecules and selected from the group consisting of polypropylene and polybutene-1, which process consists essentially of the steps of mixing the linear homopolymer with from 1% to 10% by weight of dicumyl peroxide and with from 5% to 50% by weight of a monomeric material selected from the group consisting of styrene and divinyl benzene, and heating the mixture at a temperature of about 170° C., to produce a polypropylene and polybutene-1 respectively, having cross-links made up of units derived from the monomeric material between the chains thereof, the cross-linked homopolymer being resistant to solvents and to creeping at temperatures above the melting point of the crystalline isolatic homopolymer, and being further characterized in that it has susbtantially the same density, mechanical properties, hardness, flexibility, brittle point, power factor, volume resistivity, and dielectric constant as the starting linear homopolymer at the temperatures of normal use, and a stress-elongation curve which is similar to that of vulcanized rubber.

3,194,850
PROCESS OF PREPARING POLYETHYLENE RESIN BLENDS

Francis M. Sweeney, East Hempfield Township, Lancaster County, Pa., assignor to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Nov. 13, 1959, Ser. No. 852,850
1 Claim. (Cl. 260—897)

A method of preparing a finely divided solid mixture capable of melting to form a homogeneous resin consisting essentially of at least two polyethylene resins of different molecular weights comprising forming a melt by heating said resins at a temperature above the transition temperture of said resins, stirring the melt of said resins to form a dispersion of the higher molecular weight resins in the lower molecular weight resins, cooling said melt to form a solid, reducing said solid to a finely divided state, and repeating said mixing, cooling, and reducing cycle a sufficient number of times to establish the desired degree of homogeneity.

3,194,851
PROCESS FOR FORMING PROPELLANT GRAINS HAVING A COMPOSITE STRUCTURE

Charles W. Sauer, Cambridge, Ekkehard L. Kreidl, Wayland, Bessie A. Lepper, Cambridge, and Bruce S. Old, Concord, Mass., assignors to the United States of America as represented by the Secretary of the Army
Original application June 20, 1955, Ser. No. 516,374. Divided and this application Jan. 21, 1963, Ser. No. 254,854
3 Claims. (Cl. 264—3)

1. A process for forming propellant grains each containing a core and at least one discrete outside layer, which comprises forming a lacquer of the outside layer material and a solvent therefor, adding the core material to the lacquer formed, dispersing the lacquer-core mixture in a non-solvent medium and stirring until desirable lacquer-coated grains are formed, driving off said solvent used in forming said lacquer, separating said grains from said non-solvent medium, and drying said grains, said core material being present in small discrete particles and having burning characteristics different from said outside layer material, said outside layer material being capable of sustaining combustion without external oxygen, said solvent being one which is a solvent for the polymeric material and a non-solvent for the core material, and said non-solvent medium being a liquid which is a non-solvent for said core material and said lacquer.

3,194,852
PRODUCTION OF URANIUM OXIDE BODIES

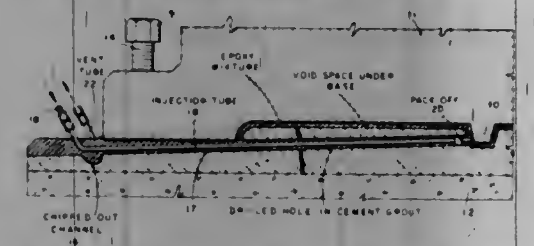
Henry Lloyd, Wantage, Neville Ronald Williams, Harwell, and Christopher Cameron Hope Wheatley, West Hanney, near Wantage, England, assignors to United Kingdom Atomic Energy Authority, London, England
No Drawing. Filed June 16, 1960, Ser. No. 36,467
Claims priority, application Great Britain, June 22, 1959, 21,393/59
9 Claims. (Cl. 264—21)

1. A method of producing a dense uranium dioxide body, comprising the steps of mixing powdered uranium dioxide having an oxygen to uranium atomic ratio of less than 2.3 with an organic binding agent; cold-compacting the mixture into a body at a pressure of at least 20 tons/sq. in. to yield a compacted body; heating said compacted body to a temperature in the range 200° C. to 250° C. in an oxidising atmosphere until the oxygen to uranium ratio is at least 2.3 and at least a large part of the binding agent is removed; and thereafter heating the body in an inert atmosphere to a temperature of 1300° C. to 1500° C., thereby obtaining a dense non-stoichiometric body.

7. A method of producing a dense uranium dioxide body, comprising the steps of mixing powdered uranium dioxide having an oxygen to uranium atomic ratio of less than 2.3 with an organic binding agent; compacting the mixture into a body at a pressure of at least 20 tons/sq. in. to yield a compacted body having a density of at least 6 gm./cc.; then heating said compacted body to a temperature in the range 200° C. to 250° C. in an oxidising atmosphere until the oxygen to uranium ratio is at least 2.3 and at least a large part of the binding agent is removed; subsequently heating said body in an inert atmosphere to a temperature of 1300° C. to 1500° C. and thereafter heating the body in a reducing atmosphere at a temperature of at least 1000° C., thereby producing a dense stoichiometric body.

3,194,853
SETTING OF MACHINE BASES

Jesse W. Weise and David E. Galloway, Corpus Christi, Tex., assignors, by mesne assignments, to Esso Production Research Company, Houston, Tex., a corporation of Delaware
Filed Dec. 4, 1962, Ser. No. 242,242
21 Claims. (Cl. 264—36)

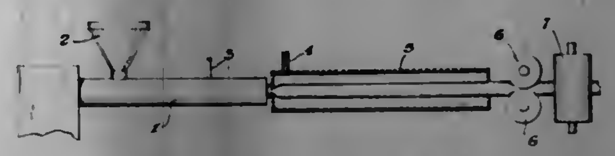


1. A method of treating cement grout wherein the grout is arranged between a foundation and the base of a machine while maintaining said base and grout in place which comprises injecting into said grout under a pressure sufficient to fill any spaces, voids, cracks, or gaps in the grout a clear liquid epoxy resin containing a hardening agent and then curing said epoxy resin, whereby said grout into which said epoxy resin is injected and cured is capable of supporting said machine during operation.

3,194,854
PROCESS FOR PRODUCING THERMOPLASTIC FOAMS

William F. Smith, Lake Jackson, Tex., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 3, 1963, Ser. No. 306,366
8 Claims. (Cl. 264—53)

1. An improved process for the production of substantially uniform non-shrinking flexible plastic foams comprising (1) extruding a thermoplastic polymer selected from the group consisting of polyethylene and copolymers of ethylene containing a volatile organic fluid as blowing agent, into a foaming and curing chamber wherein the atmosphere consists predominantly of vapors of a normally gaseous agent which diffuses into the foam at about the same rate as the blowing agent diffuses out of the foam; and (2) almost immediately thereafter crushing the foamed product to rupture at least a portion of the cells therein.



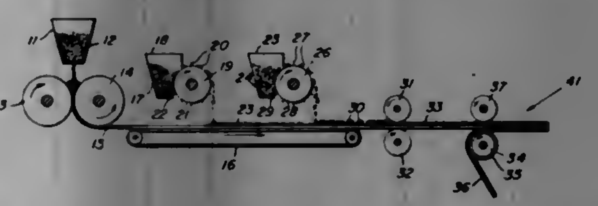
3,194,855
METHOD OF VIBRATORILY EXTRUDING GRAPHITE

James Byron Jones and William B. Tarpley, Jr., West Chester, Pa., assignors to Aeroprojects Incorporated, West Chester, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 2, 1961, Ser. No. 141,989
3 Claims. (Cl. 264—70)

1. A process for extruding a green graphite extrusion mixture containing a binder lubricant into an unrestrained article of indefinite length which comprises extruding said mixture through a die while subjecting said mixture to vibratory energy having a frequency of between 30 and 300,000 cycles per second and a power level sufficient to produce an extrusion which forms an unrestrained graphite article of indefinite length which is relatively free from both surface and subsurface cracks upon subsequent graphitization, with said vibratory energy power level being sufficient to effect a reduction in the requisite amount of pressure needed to extrude said extrusion mixture through the die.

3,194,856
METHOD OF PRODUCING DECORATIVE SURFACE COVERING

Leon B. Palmer, Little Falls, N.J., assignor to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York
Filed Apr. 17, 1961, Ser. No. 103,590
The portion of the term of the patent subsequent to June 6, 1978, has been disclaimed and dedicated to the Public
5 Claims. (Cl. 264—76)



1. A method of producing an inlaid linoleum composition sheet having a non-directional multicolored decoration, which comprises depositing a thin, uniform layer of fine granules of linoleum composition uniformly over about 75 percent to 100 percent of one surface of a preformed, uncured linoleum composition base sheet, said granules having a maximum face dimension of about 0.02 to about 0.06 inch, depositing larger chips of linoleum composition upon said layer of granules uniformly over about 1 percent to about 20 percent of said layer, said chips having a maximum face dimension of about 0.1 to about 1 inch and having a thickness of about 0.75 to about 2 times the thickness of said base sheet and said granules and said chips are formulated with a lower binder content linoleum composition than the composition of said base sheet, and passing said base sheet with said granules and chips deposited on said surface between a

pair of calender rolls, said rolls being spaced apart a distance of about 0.005 to about 0.020 inch greater than the thickness of said base sheet thereby embedding said granules and chips into said base sheet and integrally bonding them thereto to form said non-directional decoration, the spacing between said rolls being controlled in accordance with the volume of granules and pieces deposited upon said surface so that the embedding takes place without gauge reduction of said base sheet.

3,194,857

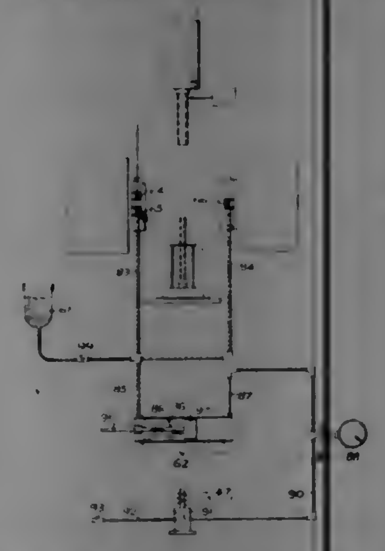
METHOD AND APPARATUS FOR PRINTING ON MOLDED PLASTIC ARTICLES WHILE IN A MOLD

Irvine Everard White, Fishpool, England, assignor to Illingworth (Plastics) Limited

Filed June 19, 1962, Ser. No. 203,634

Claims priority, application Great Britain, June 28, 1961, 23,338/61; Oct. 9, 1961, 36,196/61; Dec. 23, 1961, 46,147/61

10 Claims. (Cl. 264—94)



9. A method of printing mouldable articles during the moulding operation in a combined moulding and printing machine having a moulding die movable against a mouldable article, a printing pad mounted in the moulding die, and means providing a continuous supply of a printing fluid to the printing pad which method comprises the steps of pressing the moulding die against the mouldable article, then applying pressure to the printing fluid in a direction to apply the fluid under pressure through the printing pad and onto the mouldable article, and then applying suction to the fluid in a direction to withdraw a portion of the fluid clear of at least the printing surface of the printing pad.

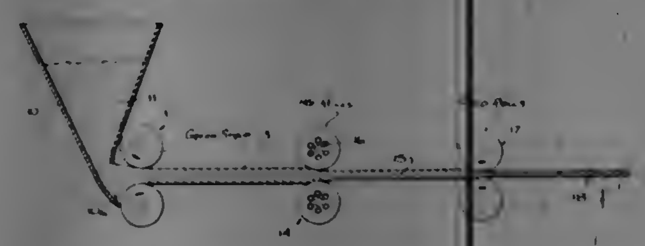
3,194,858

CONTINUOUS POWDER METALLURGICAL PROCESS

Samuel Storchheim, Forest Hills, N.Y., assignor to Alloys Research & Manufacturing Corporation, Woodside, N.Y., a corporation of Delaware

Filed Feb. 23, 1962, Ser. No. 175,037

6 Claims. (Cl. 264—111)



1. The method of converting metal oxidation-sensitive particles formed of a relatively low melting point metal into solid strip comprising the steps of feeding said particles into cold rolls to form a green strip and continuously feeding said green strip into at least one set of heated rolls to form a densified strip, said steps being carried out in air.

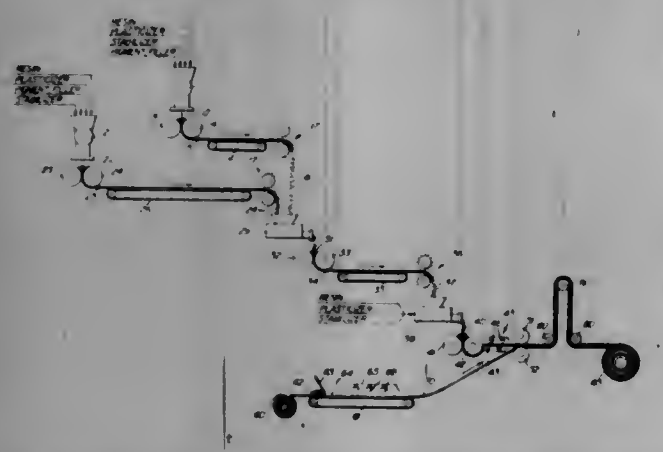
3,194,859

PROCESS FOR PRODUCING DECORATIVE SURFACE COVERING

Albert R. Wacker, Churchville, Pa., assignor to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York

Filed Sept. 2, 1960, Ser. No. 53,711

6 Claims. (Cl. 264—123)



1. A process for producing a decorative wear resistant resinous composition sheet which comprises mixing thermoplastic decorative chips having a thickness of about one-third to about seven-eighths of the thickness of the final sheet, with a tacky, viscous liquid plastisol comprising a dispersion of fine particles of unfused and unplasticized vinyl resin in a liquid plasticizer and having a viscosity of at least 10^6 centipoises, to completely coat said chips with said liquid plastisol, passing the mixture of plastisol and chips between calender rolls to form said mixture into a thin film having a thickness corresponding to the distance between said calender rolls, said rolls being heated to a temperature sufficient to at least partially fuse and plasticize said dispersed vinyl resin, allowing said thin liquid film to remain in contact with one of said rolls until the film is converted to a solid, self-supporting sheet, thereafter further heating said sheet to completely fuse and plasticize the dispersed vinyl resin and then cooling the composition sheet thus produced.

3,194,860

MANUFACTURE OF REINFORCED CONDUCTIVE PLASTIC GASKETS

John E. Ehrreich, Arlington, Mass. (315 Langly Road, Newton, Mass.), and Donald H. Avery, Boston, Mass. (19 Baker Road, Nahant, Mass.)

No Drawing. Filed Oct. 23, 1962, Ser. No. 232,566

6 Claims. (Cl. 264—154)

1. A process for making an electromagnetic energy-shielding flat gasket adapted to seal a joint electrically consisting essentially of the steps of:

(a) preparing a pasty mixture of a liquid plastic composition that cures to an elastomer containing within the range of 70 to 93 weight percent of a metal powder having a continuous outer surface of a noble metal;

(b) forming a sheet by spreading the heavy paste so obtained into the interstices of a wire mesh using the wire mesh to set the thickness of the sheet, the amount of said heavy paste and the thickness of said wire mesh being sufficient to yield a sheet having a final thickness in the range of 4 to 100 mils the plane of said wire mesh being parallel to the planes of the two sealing surfaces of the gasket;

(c) curing said sheet using curing conditions appropriate to the specific liquid plastic composition to convert the same to an elastomer while maintaining the particles of said metal powder in electrical particle-to-particle contact; and

(d) cutting from said sheet a gasket of a size and shape to fit said joint.

3,194,861

VISCOSE SPINNING PROCESS AND BATH

Rudolph S. Bley, Milligan College, Tenn., assignor, by mesne assignments, to Beaunit Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Mar. 25, 1957, Ser. No. 647,942

13 Claims. (Cl. 264—189)

1. In a process for producing regenerated cellulose by extruding viscose into a high acid spin bath, the improvement which comprises extruding said viscose into a spin bath comprising an acid solution of strength sufficient to plasticize regenerated cellulose precipitated therein, and an aluminum compound dissolved therein.

3,194,862

ACRYLONITRILE SPINNING SOLUTIONS AND METHOD OF PRODUCING FILAMENTS THEREFROM

Harry W. Coover, Jr., and Willis C. Wooten, Jr., Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

No Drawing. Filed Dec. 18, 1961, Ser. No. 160,297

21 Claims. (Cl. 264—206)

10. In the method of producing filaments from acrylonitrile polymers containing at least about 65% by weight of acrylonitrile the steps which comprise preparing a spinning solution consisting essentially of, by weight, (I) from about 10% to 30% of a polymer selected from the group consisting of polyacrylonitrile and a copolymer of acrylonitrile and at least one other substance having ethylenic unsaturation, said copolymer containing at least about 65% by weight of acrylonitrile and (II) from about 90% to 70% of a solvent composition consisting essentially of, by weight, (a) from about 98% to 60% of acetonitrile and (b) from about 2% to 40% of an acetonitrile soluble inorganic salt having the formula C_xA_y wherein C is a cation selected from the group consisting of K^+, Pb^{++}, NH_4^+, Cd^{++}, Al^{+++}, Na^+, Ba^{++}, Cu^{++}, Cu^+, Mg^{++}, Ga^{+++}, In^{+++}, Tl^{+++}, Sn^{++++}, Li^+, Zn^{++}, Ag^+, Ni^{++}, Co^{++}, and Mn^{++}; wherein A is an anion selected from the group consisting of I^-, Br^-, NO_3^-, So_4^{--}, and SCN^-; and wherein x and y are integers such that the total charge on the cation portion of the molecule equals the total charge on the anion portion of the molecule, forming the solution into the form of filaments, removing from the formed filaments substantially all the solvent composition present therein, and drafting the resulting filaments whereby there are provided filaments suitable for use in the manufacture of textiles.

12. The method of claim 10 wherein the filaments are formed by extruding the spinning solution into an atmosphere of air maintained at a temperature of from about 140° C. to 200° C. to remove therefrom substantially all solvent.

3,194,863

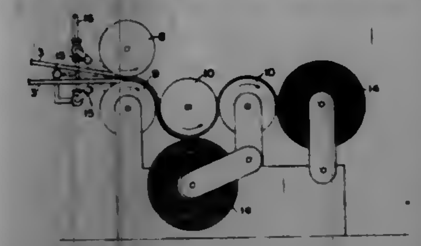
COMPRESSION ROLLING OF MULTIPLE STRIPS OF ORGANIC POLYMERS

Robert F. Williams, Jr., and Edward D. Morrison, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

Filed July 24, 1961, Ser. No. 126,183

9 Claims. (Cl. 264—209)

1. A process for producing transparent crystalline polymer films comprising heating a crystalline polymer to produce a clear melt, forming translucent sheets 2 to 10 times the thickness desired in the finished films, simultaneously passing at least two superimposed translucent sheets between rollers with the aid of a lubricant between the surface of said sheets and said rollers to produce transparent final sheets having a thickness of ½ to ⅒ that of the translucent sheets.



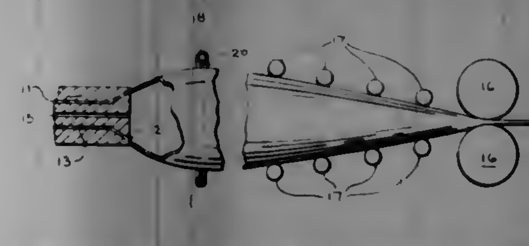
3,194,864

METHOD FOR PRODUCING CELLULAR THERMOPLASTIC TUBING WITHOUT CORRUGATIONS

Carlton A. Richie, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio

Filed Dec. 11, 1961, Ser. No. 158,312

3 Claims. (Cl. 264—209)



1. The method of producing flattened cellular thermoplastic material comprising the steps of extruding heated foamable thermoplastic material through an orifice in the form of tubing, expanding said tubing, cooling said expanded tubing by passing the same through a curtain of diffused gaseous medium located a distance from the point of extrusion at least equal to the diameter of said orifice but not more than three times the diameter of said orifice, and collapsing said tubing.

3,194,865

ACID DEPILATION AND EXTRUDABLE FIBRIL PRODUCTION FROM HIDE CORIUM

Paul V. Fagan, New Brunswick, and Emanuel R. Lieberman, Somerville, N.J., assignors to Johnson & Johnson, a corporation of New Jersey

No Drawing. Filed Oct. 1, 1962, Ser. No. 227,585

12 Claims. (Cl. 264—209)

11. In the method of producing a tubular collagen casing, the steps of:

immersing fresh undehaired animal hide in a dilute aqueous solution of an acid having a dissociation constant in aqueous solution between 1.0×10^{-5} and 1.0×10^{-3};

soaking the hide in said acid solution until the epidermal layer and thermostat layer of said hide are swollen and softened;

removing the hide from the acid solution and scraping the hide on both sides to remove from the hide corium all hair and flesh, the hair follicles, epidermal layer, dermis and adnexial glands which consist of the sebaceous glands and the sudorific glands;

treating the dehaired and defleshed hide corium so obtained with a dilute aqueous alkaline solution to neutralize residual acid present and deswell the corium;

washing the cleaned hide corium with water;

comminuting the cleaned hide corium and reswelling the comminuted corium in acid solution to form a homogeneous mass of swollen collagen fibrils having a collagen solids content in the range of more than 2.5% and less than 6% by weight;

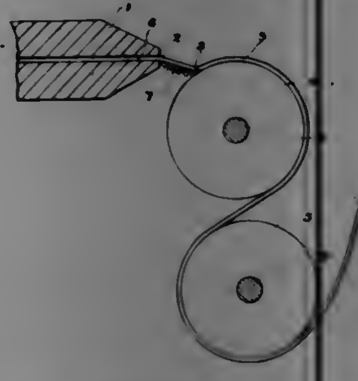
extruding the homogeneous mass of swollen collagen fibrils to form a continuous, fragile, tubular body;

applying a coagulant to said tubular body;
hardening the coagulated body;
washing coagulant from the hardened body;
maintaining substantially the same wall thickness in said tubular body throughout the aforesaid steps of coagulating, hardening and washing said body; and, drying said body,
while maintaining the internal diameter of said body substantially equal to that at which it is extruded.

3,194,866

METHOD OF FORMING A SHEET

Roger E. Gibson and Lester W. A. Meyer, Kingsport, Tenn., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Dec. 22, 1961, Ser. No. 161,693
3 Claims. (Cl. 264—211)



1. A method of forming a sheet having improved surface characteristics from a cellulose ester composition blended with a petroleum oil comprising the steps of extruding into the form of a sheet at a temperature sufficient to vaporize the petroleum oil a composition comprising

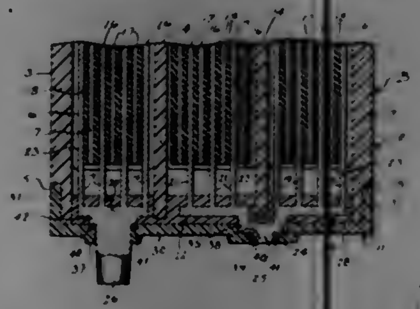
(a) 100 parts by weight of a compound selected from the group consisting of the lower fatty acid esters of cellulose and the mixed lower fatty acid esters of cellulose and,
(b) 0.05 to 5 parts by weight of a petroleum oil having a boiling point within the range of 400° F. to 935° F.,

moving the emerging sheet through a distance of about 2–5 inches to a cooled moving surface while condensing the vaporized petroleum oil on the cooled moving surface closely adjacent the surface of the sheet and forming a liquid interface between the sheet and the cooled moving surface.

3,194,867

METHOD OF CONSTRUCTING STORAGE BATTERY COVERS AND THE UNITING OF THE SAME WITH STORAGE BATTERY CASES AND BATTERY ELEMENTS

John K. Shannon, 2028 63rd Place, Kenosha, Wis.
Original application Feb. 20, 1961, Ser. No. 90,487. Divided and this application Mar. 5, 1962, Ser. No. 177,312
2 Claims. (Cl. 264—263)

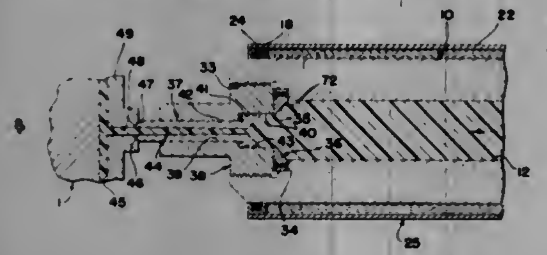


1. A method for forming a storage battery which comprises molding a storage battery casing having a bottom, end, and side walls, molding a thin-walled outer section having a finished appearance and provided with a top wall and depending flanges, inverting the said outer section to form a mold tray, affixing cell plates thereto, and filling said outer section to a height which corresponds to at least the thickness of said outer section with solidifiable plastic material which is compatible with the material of said outer section, inverting said storage battery case and inserting the upper edges of said case into the material in said outer section while said plastic material is in a moldable state and solidifying the material of said outer section whereby, upon solidification, a homogeneous battery cover and case is formed, around said cell plates.

3,194,868

PROCESS AND APPARATUS FOR MOLDING THERMOSETTING MATERIAL

Clement D. Shaw, 1502 Tarpon Center Drive, Venice, Fla.
Filed Sept. 20, 1963, Ser. No. 310,398
14 Claims. (Cl. 264—328)



1. In an injection molding process for mass production of articles from thermosetting material wherein the same cycle of operation is repeated over and over again without purging of the equipment and wherein the thermosetting material is advanced in increments through a charging cylinder toward a discharge nozzle and is progressively heated in said cylinder to a temperature below its curing temperature to facilitate plastic flow, each cycle comprising in seriatim the steps of (1) applying a high pressure to the material in said cylinder to force it through said nozzle into the internal cavity of a mold that is heated to a temperature sufficient to cure said material, (2) maintaining the pressure until the material in said mold passages and at the discharge end of said nozzle has cured to the non-plastic state, and (3) removing the non-plastic thermoset material from said mold cavity before the next successive cycle, the improvement which comprises the steps of maintaining said cylinder in a fixed position away from the heated mold to reduce the transfer of heat from said mold to said cylinder, providing the nozzle with a long tapered axial passageway which gradually increases in diameter from its inlet end to its outlet end, applying high pressure to the material and holding the nozzle in contact with the heated mold during each cycle for a period of time such that the point of transition of the thermosetting material from its plastic to its non-plastic state is near the inlet end of the nozzle when such contact is broken, moving said nozzle axially relative to said cylinder in accordance with the pressure applied to the thermosetting material to advance the nozzle axially against the inlet of the heated mold when a high pressure is applied to said material; to retract the nozzle out of contact with the heated mold when the pressure is reduced whereby the heat transfer from the heated mold is so minimized that the material remaining at the inner end of said passageway is maintained in the uncured state; severing the cured from the uncured portion of material in said passageway and injecting said remaining uncured material into the mold cavity in the next molding cycle.

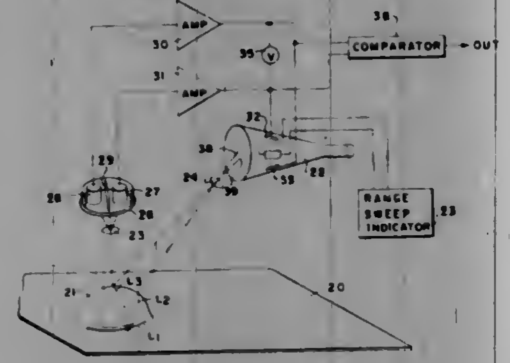
4. In an automatic injection molding machine, a mold having an internal mold cavity for receiving thermosetting material and means for heating the mold to a temperature sufficient to cure said material, a mold inlet in the heated mold in communication with said mold cavity, and apparatus spaced from the heated mold for periodically feeding the thermosetting material into said mold cavity including an axially elongated charging cylinder having heating means including axially spaced water jackets and means for rapidly circulating liquid through said jackets for progressively heating the thermosetting material as it flows from the inlet end to the discharge end of said cylinder to a temperature below but approaching the curing temperature and for maintaining the temperature of the material in the charging chamber of said cylinder below said curing temperature, a charging piston mounted for reciprocation in said cylinder near the inlet end thereof, removable means for closing the discharge end of said cylinder comprising a hollow plug detachably connected to said cylinder and a sealing ring clamped between the end of said plug and said cylinder to prevent leakage at the outer periphery of said plug, said plug having an axial bore and counterbore substantially in alignment with said mold inlet, said counterbore being located at the end portion of said plug nearest said charging chamber, an axially elongated tubular conduit with a length materially greater than that of said plug having a shank portion of reduced diameter mounted for limited reciprocation in said bore from a retracted position out of contact with said mold to an advanced operating position against said mold inlet wherein the thermosetting material is directed to said mold cavity, means for preventing leakage of said material between said mold inlet and the end of said conduit when the conduit is held in said operating position, said tubular conduit having an enlarged self-sealing piston at its inlet end mounted for reciprocation in said counterbore to effect movement of said conduit between said operating position and said retracted position in response to movement of said charging piston, said self-sealing piston having peripheral sealing means comprising axially spaced grooves, means for retracting said charging piston and for simultaneously retracting said self-sealing piston to retract the conduit to stop the conduction of heat directly from the mold through said conduit to said cylinder, whereby the plastic thermosetting material remaining at the inlet end of said conduit may be fed into the mold cavity in the next cycle of operation without purging of the apparatus.

ELECTRICAL

3,194,869

SYSTEM FOR MEASURING THE ALTITUDE AND PROFILING A THREE-DIMENSIONAL MAP

Robert M. Eisenberg, Rockville, Md., assignor to ACF Industries, Incorporated, New York, N.Y., a corporation of New Jersey
Filed Apr. 25, 1963, Ser. No. 275,655
7 Claims. (Cl. 35—10.4)



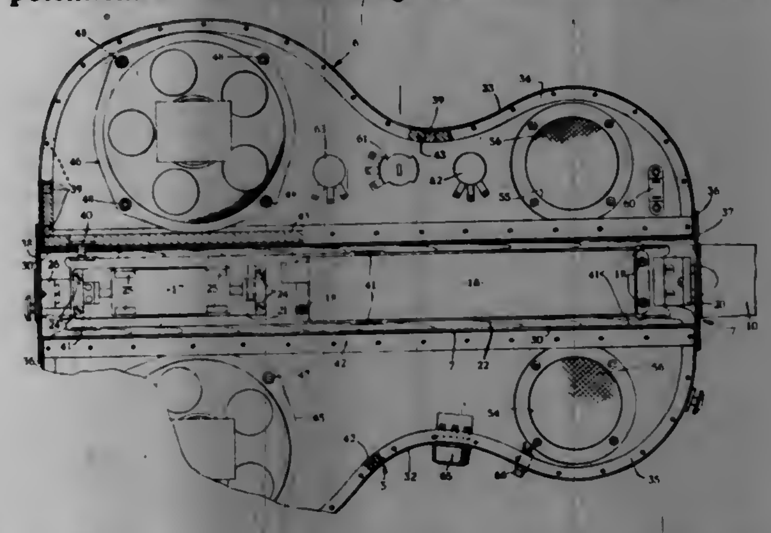
1. Apparatus for determining the elevation of points on a three dimensional map, comprising means for projecting a ray of light toward given points having a zero altitude at an acute angle to the plane of the map, whereby the point of intersection of the ray of light with the map has a geographic elevation which varies with the elevation of said point, photoelectric means for receiving from the map an amount of light which varies with said deviation, means responsive to the photoelectric means for repositioning said ray of light so as to diminish said deviation, said last means providing an output which is a measure of the elevation at the point of intersection of the repositioned ray of light.

3,194,870

SELF-CONTAINED ELECTRICAL MUSICAL INSTRUMENT

Albert W. Tondreau, 430 S. Fuller Ave., Los Angeles, Calif.; Leon F. Geyer, 12426 Moorpark St., North Hollywood, Calif.; and William A. Trotto, 2705 Boulder Highway, Las Vegas, Nev.
Filed Jan. 15, 1962, Ser. No. 166,118
12 Claims. (Cl. 84—1.16)

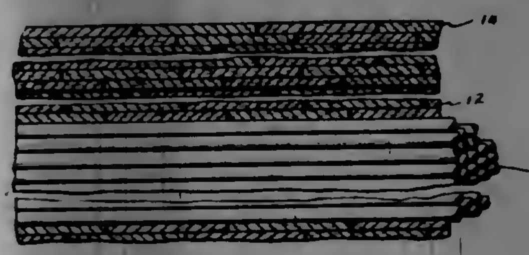
1. A self-contained electrical musical instrument comprising three sections, two of said sections being side sections and the third section being a central section having a rectangular cross-section to which the side sections are attached, said central section supporting the finger board and tuning keys of said instrument, at least one magnetic pickup unit positioned under the strings of said instrument, an amplifier in said central section, connections from said pickup unit to said amplifier, a potentiometer for controlling the transmission between said pickup unit and said amplifier, speakers in said side sections, connections between said speakers and said amplifier, a power supply connected to said amplifier and positioned in said central section, and insulation surrounding the wall of said side sections and said central section.



3,194,871

GRADED INITIAL MOISTURE CONTENT PAPER CABLE

Oscar G. Garner, Westfield, and Louis Meyerhoff, Metuchen, N.J., assignors to General Cable Corporation, New York, N.Y., a corporation of New Jersey
Filed June 9, 1961, Ser. No. 116,087
4 Claims. (Cl. 174—25)



1. An electric cable comprising a conductor and an enclosing wall of paper insulation made up of at least two layers each consisting of a plurality of overlying

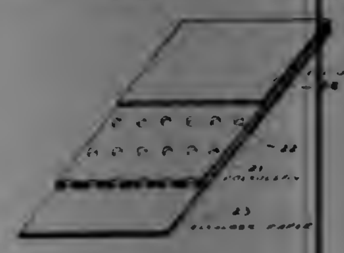
helical wrappings of paper tapes, the inner layer having the overlying wrappings in closer relation axially and radially to one another than are the wrappings of the outer layer, the overlying wrappings of the outer layer being in a looser relation to one another with greater radial spacings between the overlying wrappings than the spacings between the overlying wrappings of the inner layer, said spacings in each layer being distributed throughout the circumferential extent and radial thickness of the layer.

3,194,872
PAPER AND POLYOLEFIN POWER CABLE INSULATION

Oscar G. Garner, Westfield, N.J., assignor to General Cable Corporation, New York, N.Y., a corporation of New Jersey

Filed Apr. 23, 1963, Ser. No. 275,154

21 Claims. (Cl. 174—25)



10. An electric insulating wrapping material comprising interleaved layers of cellulosic paper and polyolefin bonded together, the outside layers both being paper.

13. An electric power cable comprising a conductor surrounded by a plurality of overlying helical wrappings of dielectric tapes laid with the edges of adjacent turns of a wrapping spaced slightly from each other, an impervious enclosure for the insulated conductor, and a dielectric fluid under pressure filling the enclosure, characterized by the fact that the dielectric tapes are composite cellulosic paper and polyolefin tapes comprising two layers of paper and an interposed layer of polyolefin, the said layers making up a tape being coextensive and being bonded together throughout their extent.

3,194,873
COMMUNICATION CABLE HAVING SYSTEMATICALLY CROSSED INDIVIDUAL CONDUCTORS FORMING TWO-CONDUCTOR LINES

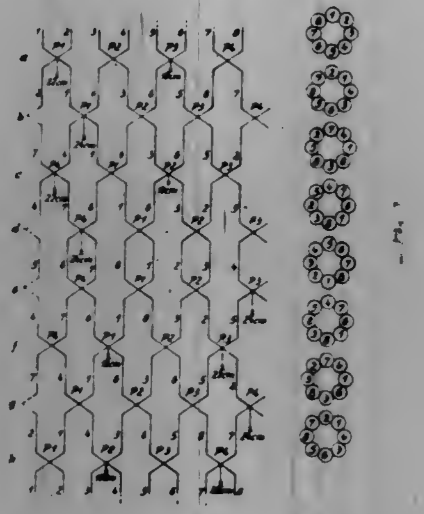
Georg Demmel and Josef Becicka, Berlin-Siemensstadt, and Günter Schaenke, Berlin-Friedenau, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin, and Munich, a corporation of Germany

Filed Jan. 30, 1962, Ser. No. 169,920

Claims priority, application Germany, Feb. 17, 1961, S 72,578

1 Claim. (Cl. 174—34)

A communication cable comprising at least one layer of stranded insulated conductors, said stranded layer having an even number of conductors which are in such layer, in peripheral direction, successively disposed and consecutively numbered, whereby an even numbered conductor is always positioned adjacent to an odd numbered conductor, a two-conductor line being formed from respective pairs selected from the even numbered conductors and the odd numbered conductors of said stranded layer, said stranded layer being throughout its length subdivided into crossing sections, the lengths of which are short as compared with the fabrication length of the layer, there being within a crossing section, lengthwise thereof, a plurality of spaced apart conductor crossing points which are located in crossing point rows, an even numbered conductor being at such crossing point crossed with an adjacently positioned odd numbered conductor, the even numbered conductors, which retain their relative mutual positions within a crossing section, being transposed in one peripheral direction and the odd numbered conductors, which retain their mutual relative positions within a crossing section, being transposed in the other peripheral direction, the number of crossing point rows within a crossing section being such that the conductors appear, at the beginning and at the end of each crossing section, in the identical numerical sequence, selected ones of the individual crossing points being displaced lengthwise of the cable by a predetermined amount with respect to the other crossing points of the same crossing point row, the distance of said displacements being such that capacitive couplings are removed between said two-conductor lines, a two-conductor line and a phantom circuit formed from two conductor lines or between two phantom circuits.

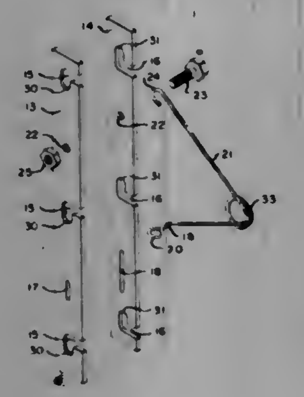


3,194,874
MID-SPAN SERVICE TAKEOFF

Norris C. Husted, Richland Township, Allegheny County, Pa. (R.D. 1, Gibsonia, Pa.)

Filed Apr. 29, 1963, Ser. No. 277,073

8 Claims. (Cl. 174—43)



1. A span service takeoff comprising a pair of elongated members of dielectric material lying in side by side relation, a like number of spaced L-shaped openings on each member, each having an entrance on an edge of said members, said openings being positioned on said members so that in one lengthwise side-by-side position of said members the entrances are in alignment and in a second position with the members shifted lengthwise from said one position the entrances are closed and the opposite extremes of the openings are aligned to form a through passage, attaching means between said members permitting limited relative lengthwise movement in one position and fixing the members together against relative movement in a second position and yoke means separate from the attaching means removably attached to said members intermediate their ends.

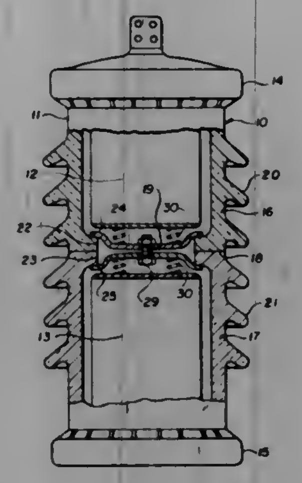
3,194,875
LIGHTNING ARRESTER AND HOUSING

Bengt L. Grundmark, Ludvika, Sweden, assignor to The Ohio Brass Company, Mansfield, Ohio

Filed May 8, 1962, Ser. No. 193,171

Claims priority, application Sweden, May 10, 1961, 4,933/61

5 Claims. (Cl. 174—52)



3. A composite tubular insulator comprising two tubular parts of insulating material having inwardly extending, shoulders at the adjacent ends thereof and closely fitted adjoining end faces, a rigid bond between the end faces of the parts, clamp means comprising two washers engaged with the said shoulders, and fastener means radially within the tubular parts and the shoulders thereof extending between the two washers for compressively securing the said two parts.

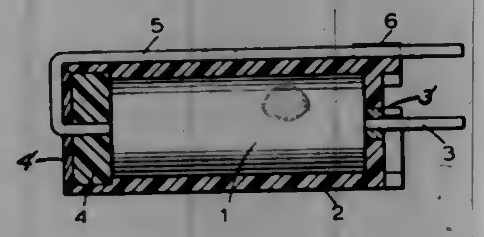
3,194,876
ELECTRICAL COMPONENT WITH PERIPHERAL MOUNTING MEANS FOR A BENT LEAD

Reginald J. Harrison, Southall, England, assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts

Filed Jan. 31, 1963, Ser. No. 255,408

Claims priority, application Great Britain, Feb. 20, 1962, 6,509/62

1 Claim. (Cl. 174—52)



An electrical component with mounting means comprising a component section having a pair of lead-wires extending axially from opposite ends thereof, said component being housed within a resilient plastic casing having a pair of oppositely disposed closed ends, said lead-wires emerging from opposite ends of said casing through closure members at said closed ends, one of said lead-wires being bent parallel to the other of said lead-wires whereby said lead-wires extend beyond the same end of said casing, said bent lead-wire being releasably secured to said casing adjacent said same end between a pair of integral resilient lugs defining a slot therebetween, the one of said closure members through which said bent lead-wire emerges being a thick disc between said component section and the adjacent one of said closed ends thereby spacing the bend away from said component section.

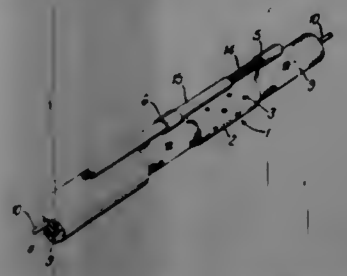
3,194,877
ELECTRICAL CONNECTOR FOR CONNECTING AN ELECTRICAL LEAD TO THE BRAID OF A BRAID-SHIELDED ELECTRICAL CABLE

John Covell Collier, Farnworth, England, assignor to AMP Incorporated, Harrisburg, Pa.

Filed Apr. 9, 1963, Ser. No. 271,691

Claims priority, application Great Britain, May 8, 1962, 17,594/62

9 Claims. (Cl. 174—88)



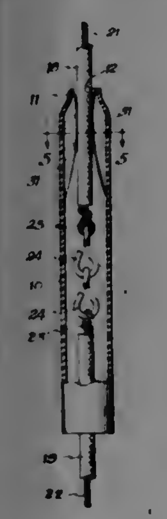
1. A sheet metal electrical connector comprising a generally U-section first ferrule forming portion for crimping about a braid-shielded electrical cable and having struck-out therefrom a series of upstanding internal lances adapted to make contact with the braid, second generally U-section ferrule forming portion oppositely directed to the first ferrule forming portion and being of smaller internal cross-sectional area than the first ferrule forming portion, a first resilient neck integrally formed with the first and second ferrule forming portions and extending from one end of each of these portions, a third generally U-section ferrule forming portion of smaller internal cross-sectional area than the second ferrule forming portion and being oppositely directed to the first ferrule forming portion, and a second resilient neck integrally formed with the first and third ferrule forming portions and extending from the other end of the first ferrule forming portion and one end of the third ferrule forming portion, the second and third ferrule forming portions being axially spaced from the first ferrule forming portion.

3,194,878
INSULATING SHIELD FOR PROTECTING ELECTRICAL JUNCTIONS

Joseph Schneiderman, 6649 N. Rockwell St., Chicago, Ill.

Filed Apr. 2, 1963, Ser. No. 270,036

4 Claims. (Cl. 174—138)



1. A device for slidable movement between two positions respectively shielding the junction of a pair of aligned electrical conductors, one of said conductors being of a given diameter and alternatively exposing the junction comprising: a hollow cylindrical body of electrically-insulating material open at both ends, at least one end of the body having an annular edge, the interior wall surface of said body for a portion of its length inwardly from said edge carrying a plurality of radially-inwardly-extending, axially-extending, mutually coextensive, independent, flexible members of resilient but generally shape-retain-

ing character, the inner edge of said flexible members defining a smooth continuous convex curve, said flexible members defining a passage way having a minimum diameter smaller than said given diameter at a point intermediate the length of said flexible members and a diameter greater than said given diameter adjacent the ends of said flexible members, said flexible members being adapted to grip said one of the conductors with a force precluding unintended sliding of the device along the said one conductor but capable of being overcome manually to slide the same between its two positions, the remainder of said interior wall surface from said members to the other end of said body surrounding the junction when the device is in junction-shielding position.

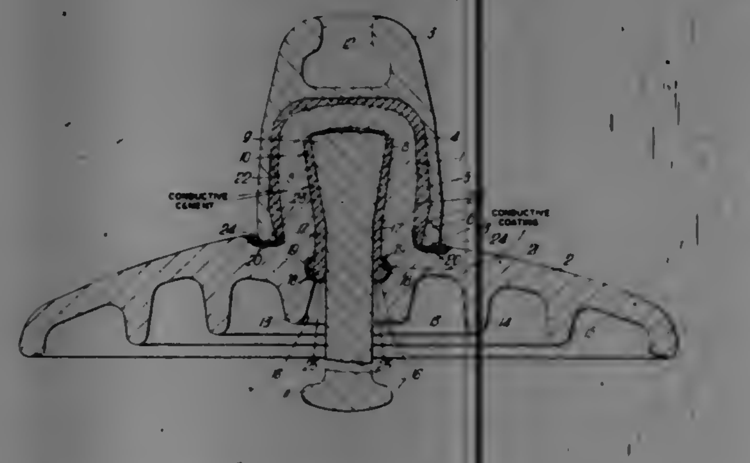
3,194,879
ELECTRICAL ANTI-INTERFERENCE INSULATORS

Walter Hopwood, Liverpool, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain

Filed Mar. 12, 1964, Ser. No. 351,312

Claims priority, application Great Britain, Mar. 1, 1961, 7,549/61

5 Claims. (Cl. 174—140)



4. For an electrical insulator, a dielectric body consisting of a hollow head, an integral skirt extending radially and downwardly from the head and an annular rib extending downwardly from the head under the skirt and having an inner surface of conical shape splayed outwardly and downwardly from the inner surface of the head, the inner surface of the body being formed with an annular groove which forms a radial depression around the inner surface of the body and joins the inner surface of the head to said conical inner surface of the rib, the depth and shape of the groove and the conical shape of the inner surface of the rib being such that in use the electric field in the dielectric body is shaped by the groove and the rib in such a way as to produce a low electric stress in the air adjoining the inner surface of the rib.

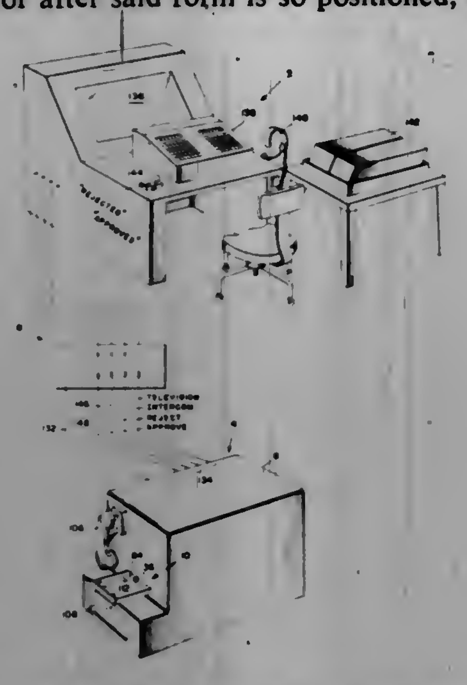
3,194,880
SYSTEM FOR MONITORING BUSINESS TRANSACTIONS

Richard I. N. Weingart, "Windward," East Bay St., P.O. Box 1526, Nassau, Bahamas

Filed May 3, 1961, Ser. No. 107,523

5 Claims. (Cl. 178—6)

1. A system for monitoring transactions comprising video display means positioned at a location remote from the point of said transactions to be viewed by a supervisor, video scanning means located at said point of transaction, means for transmitting signals from said scanning means to said display means to operate the latter, means located at the point of said transactions and operable by an operator for positioning a business form with respect to said scanning means so as to be scanned thereby, means preventing access to said form by said operator after said form is so positioned, and means operable only from said remote location by said supervisor to permit subsequent removal of said form from said position by said operator.



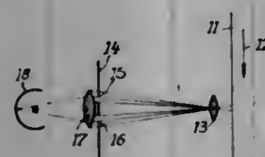
3,194,881
ENGRAVING APPARATUS

Maurice Lange, Issy-les-Moulineaux, France, assignor to Societe Anonyme dite: Ancienne Maison Turquetil, a French company

Filed Nov. 25, 1960, Ser. No. 71,573

Claims priority, application France, Nov. 30, 1959, 842,302

5 Claims. (Cl. 128—6.6)



1. Apparatus for producing an engraved pattern on a work surface in accordance with a master pattern, comprising photo-electric scanner means for scanning the master pattern and producing an electric output varying in accordance with light and dark areas on said master pattern, and cutting means scanning said work surface in substantial synchronism with the scanning of the master pattern and including a cutter tool operable between a working position and a retracted position under control of said output to perform an engraving operation on said work surface, said scanner means comprising a photo-electric cell element for producing said output, an optical system for directing light to the master pattern from which the light is selectively reflected by the light and dark areas towards said photo-electric cell element, a diaphragm screen between the photo-electric cell element and the master pattern for blocking reflected light to said photo-electric element, said screen being provided with at least a pair of orifices spaced in the scanning direction and through which reflected light is restricted to pass, said photo-electric cell element having at least three levels of output as the scanner means passes between light and dark areas on said pattern, a first level corresponding to the passage of light through all of said orifices from a first of the areas, a second level corresponding to the passage of light through all of said orifices from the other of said areas and an intermediate level corresponding to the passage of light through at least one of said orifices

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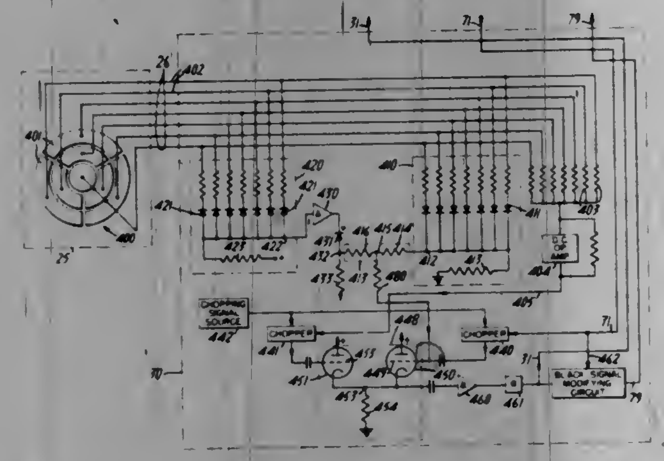
from said first area and passage of light through the other of the orifices from said other area, and means for operating the tool between its said positions as said output varies between two selected levels of output from said photo-electric cell element.

3,194,882
FACSIMILE SYSTEM WITH RESOLVED LOCAL AREA CONTRAST CONTROL

Vincent C. Hall, Stamford, Conn., assignor to Time, Incorporated, New York, N.Y., a corporation of New York

Filed May 16, 1961, Ser. No. 110,542

8 Claims. (Cl. 178—5.2)



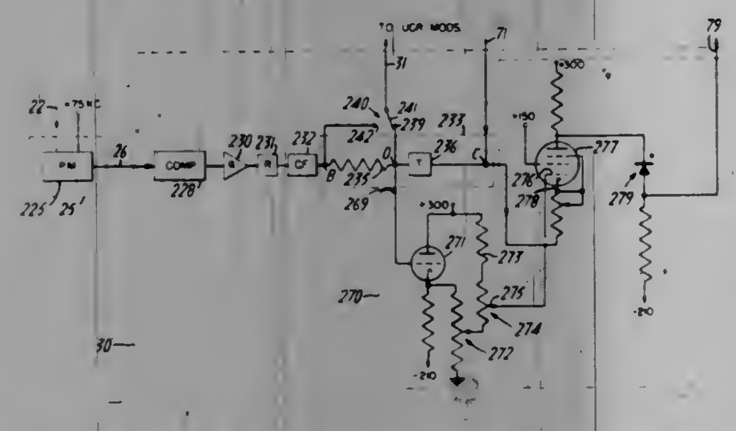
1. Facsimile apparatus for producing a replica of an original tonal subject comprising, means to derive from a small spot on said subject a first electric signal representative of tonal information contained within said spot, a plurality of photoelectric means responsive to light emanating from tonal portions of said subject in an area surrounding said spot to produce respective second electric signals each representative of tonal information in a corresponding one of said portions, means to derive from said second signals a third signal representative of a density condition characterizing such area, means to derive from said second signals a fourth signal representative of a contrast condition characterizing said area, and means to modify said first signal as a function both of said third and fourth signals.

3,194,883
FACSIMILE SYSTEM WITH LOCAL CONTRAST CONTROL

Austin Ross, Monroe, Conn., assignor to Time, Incorporated, New York, N.Y., a corporation of New York

Filed May 16, 1961, Ser. No. 125,607

12 Claims. (Cl. 178—5.2)



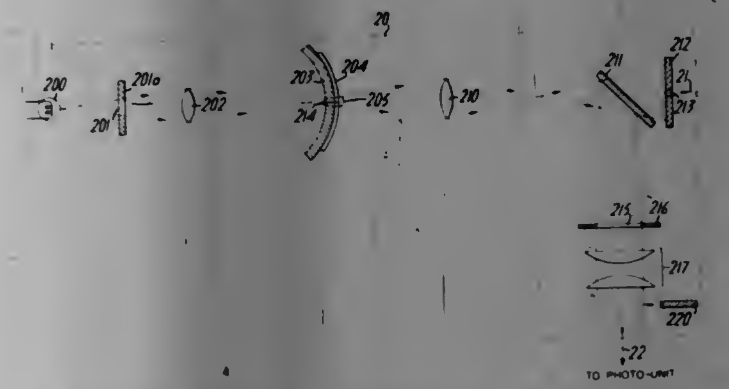
1. Facsimile apparatus comprising, means to illuminate an area of a tonal subject, means to derive an electric signal from a spot disposed on said subject within said area and dimensionally less by at least twenty times than said area, said signal being representative of tonal information in said spot, means to derive from said area at least one electric output representative of tonal information in said area, and means to modify said signal as at least a partial function of said output.

3,194,884
LOCAL CONTRAST CONTROLLED FACSIMILE SYSTEM WITH VARIABLE TRANSMISSIVITY APERTURE

Austin Ross, Monroe, Conn., and Joseph Grant Jordan, Poughkeepsie, N.Y., assignors to Time, Incorporated, New York, N.Y., a corporation of New York

Continuation of application Ser. No. 125,605, May 16, 1961. This application Jan. 21, 1964, Ser. No. 339,845

5 Claims. (Cl. 178—7.1)



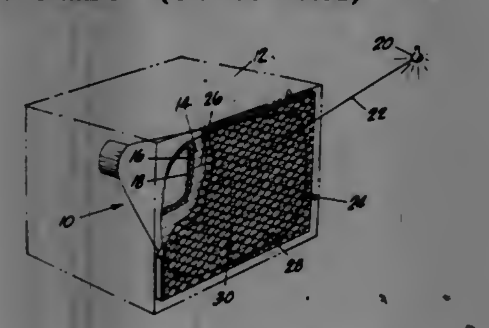
1. Facsimile apparatus comprising, means to mount a tonal subject, a light source to project light on an area of said subject and to produce emanation of light from that area, means to split said emanated light into first and second beams, means to derive first and second electric signals from respectively, said first and second beams and representative of, respectively, tonal information from a spot on said subject smaller than and in said area and tonal information from said entire area, said area being at least twenty times larger in dimension than said spot, means to modify said first signal as at least a partial function of said second signal, and light-attenuating means disposed between said source and signal-deriving means and in a path for said light to render the light in at least one of said beams of progressively diminishing intensity with increasing distance away from the axis of such beam in a cross-section thereof following said light-attenuating means, said light attenuating means being characterized by a transmissivity which progressively decreases within the cross sectional area of such beam in each of opposite, radially outward directions from said axis.

3,194,885
AMBIENT LIGHT TRAPPING FILTER FOR CATHODE RAY TUBES

Vern E. Hamilton, Palos Verdes Estates, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.

Filed Sept. 4, 1963, Ser. No. 306,473

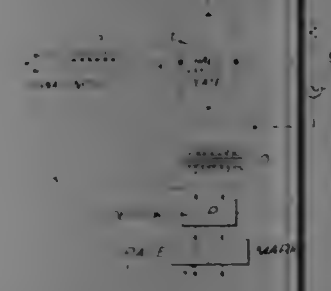
12 Claims. (Cl. 178—7.82)



1. The combination of a viewing screen from which image light emanates with a space lattice type ambient light trapping filter mounted in front of and in proximity to said screen, the general planes of said screen and said filter being substantially parallel; said screen, when acti-

vated, presenting a series of alternating light and dark horizontal lines constituting a horizontal raster; said filter comprising a thin, transparent panel bearing, throughout its thickness, a plurality of depthwise spaced tiers of filter elements, each in the form of a light trapping grid pattern of highly light absorbent material; said grid pattern consisting of narrow lines arranged to form a multiplicity of adjoining polygonal frames, each enclosing a transparent area serving as a light passage; each frame being oriented so that all of its sides are at sufficient angles to the horizontal lines of the raster pattern to prevent formation of a moire effect between the grid lines and the raster lines; the light passages of successive grid patterns being in depthwise registry to provide a multiplicity of depthwise directed viewing cells; said depthwise spaced grid lines acting individually to trap and absorb off-axis ambient light rays entering said cells at various angles and striking said grid lines at nearly normal angles.

3,194,886
HALL EFFECT RECEIVER FOR MARK AND SPACE CODED SIGNALS
Frederick Percival Mason, Croydon, Surrey, England, assignor to Creed & Company Limited, Croydon, England, a British company
Filed Dec. 13, 1962, Ser. No. 244,366
Claims priority, application Great Britain, Dec. 22, 1961, 46,053/61
14 Claims. (Cl. 178—88)

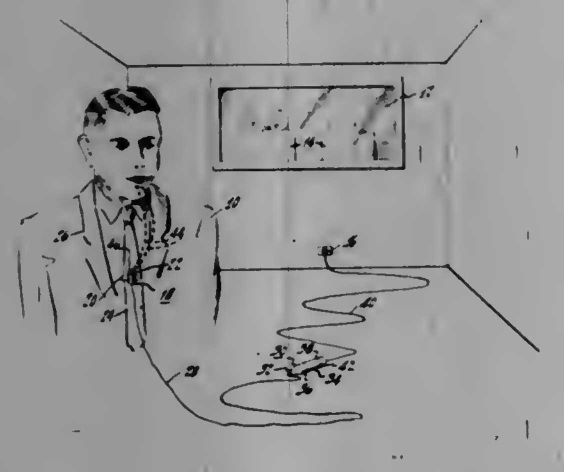


1. An electrical telegraph receiving arrangement comprising:

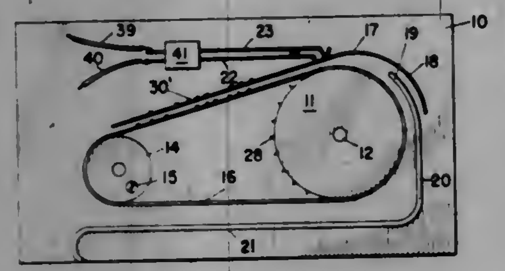
(a) a Hall multiplier which includes a plate of material exhibiting the Hall effect and having energizing input terminals and output terminals, and a magnetizing coil having signal input terminals;
(b) a source of electrical energy and
(c) sampling means; said source of electrical energy being coupled to said energizing input terminals, and said sampling means being coupled to said Hall multiplier output terminals, whereby the application of input signals comprising spaces and marks as permutable elements causes two different respective electrical potential conditions to occur at said output terminals of said Hall multiplier, said sampling means being arranged to sample the output derived from said Hall multiplier at the central point of each permutable element of a received code combination.

3,194,887
PERSONAL MICROPHONE LINE TRANSFORMER
John Preston, Trenton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 31, 1960, Ser. No. 66,022
2 Claims. (Cl. 179—1)

1. In a signal translating system, the combination of a microphone for converting acoustical vibrations into electrical signals capable of being amplified by amplifying means remote from said microphone, a first cable connected to said microphone for providing a partial output path for said signals, a second cable connectable to the input of said amplifying means and also providing a partial output path for said signals, and selectively interchangeable transformer means spaced from both said microphone and said amplifying means for connecting said cables to each other whereby to complete the output path from microphone and provide a coupling from said microphone to said amplifying means, said transformer means including a casing having a plurality of detachably connected shells including a pair of end shells at opposite ends thereof and an intermediate shell, a pair of coupling members, one in each of said end shells, and a transformer in said intermediate shell having windings respectively connectable to said coupling members when said end shells and said intermediate shells are in connected relation, said first cable being detachably connectable to one of said coupling members and said second cable being detachably connectable to the other of said coupling members, and said transformer being separable from said coupling members upon separation of said end shells and said intermediate shell to thereby enable ready replacement of said transformer at will.

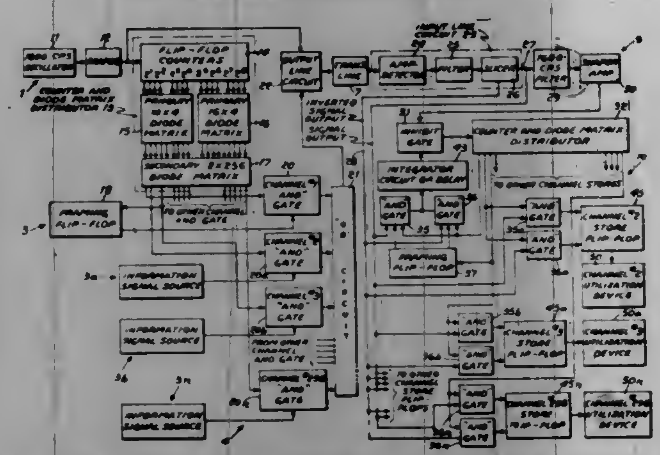


3,194,888
AUTOMATIC SIGNALING AND DIALING TELEPHONE SYSTEM
Loyal M. Bach, 17381 Sunset Blvd., Pacific Palisades, Calif.
Filed Dec. 21, 1961, Ser. No. 161,035
3 Claims. (Cl. 179—5)



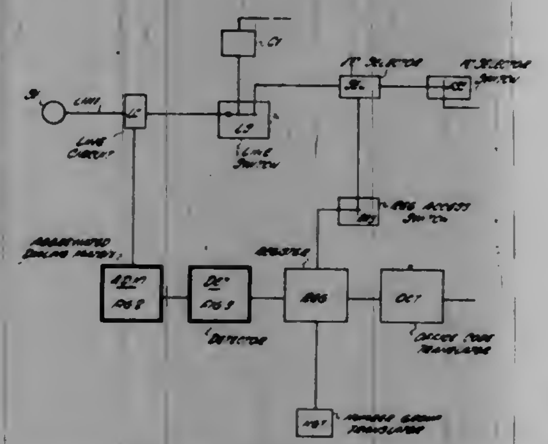
1. In a telephone signaling and dialing apparatus: an electric motor; a contact actuating means designed to be driven by said motor, said contact actuating means comprising a first movable tape having nodes spaced thereon embodying a code identifying a particular phone number and a second movable tape of similar structure identifying a given location; contact means designed to be opened by said nodes according to said codes and in response to energization of said motor; and, alarm means connected to said power source and designed to energize said motor and connect said contact means across the leads to said telephone in response to actuation thereof.

3,194,889
TIME DIVISION MULTIPLEX SYSTEM
Bruce McAdams, Pompton Plains, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Dec. 23, 1960, Ser. No. 77,927
21 Claims. (Cl. 179—15)



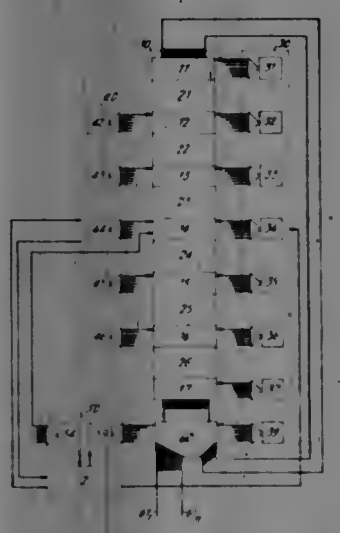
1. A time division multiplex system comprising a source of base frequency signal having a given repetition frequency, first means coupled to said base signal source responsive to said base signal to produce a first plurality of time sequential pulse trains, a plurality of sources of information signals, second means coupled to said first means and said sources of information signals responsive to said information signals and said first pulse trains to produce an information modulated time division multiplex signal, third means coupled to said base signal source and said second means responsive to said base signal and said multiplex signal to convey said multiplex signal by said base signal, fourth means coupled to said third means to receive said conveyed signal, fifth means coupled to said fourth means responsive to at least certain of said information signals of said received signal to provide a second plurality of time sequential pulse trains, and sixth means coupled to said fourth means and said fifth means responsive to said second pulse train and said received signal to sequentially recover said information signals.

3,194,890
TWO DIGIT REPERTOIRE DIALING SYSTEM
Edward R. Haskins, Chicago, Ill., assignor to International Telephone & Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Mar. 6, 1962, Ser. No. 177,851
13 Claims. (Cl. 179—18)



1. An abbreviated dialing system for converting multidigit code numbers received over any one of a plurality of calling lines into respectively corresponding multidigit telephone numbers assigned to said code numbers, a plurality of resistor matrix means associated with respective ones of said lines, a plurality of sections in said matrix corresponding respectively to said code numbers, means for controlling the section of the matrix means corresponding to the code number received over a calling line by passing a marking signal through the section of the matrix means corresponding to the received code number and excluding the marking signal from the remaining sections of the matrix means to provide markings indicative of the telephone number assigned to the received code, and means for scanning all of said matrix means to detect said markings and to generate a corresponding telephone number.

3,194,891
SWITCHING NETWORK
Pierre M. Lucas, 20 Rue Tariel, Issy-les-Moulineaux, France, and Michel M. Rouzier, 15 Chemin de la Sabliere, Vauhallan, France
Filed Apr. 13, 1962, Ser. No. 187,232
Claims priority, application France, Apr. 15, 1961, 858,869
11 Claims. (Cl. 179—18)

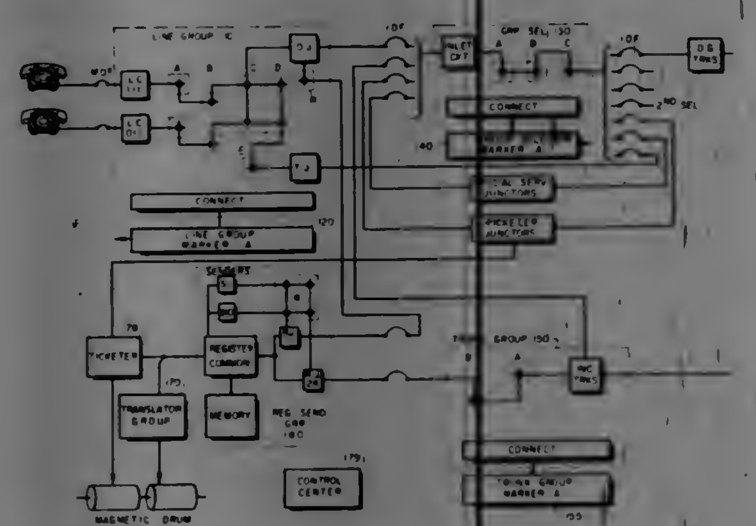


1. In a telephone system, a switch control circuit responsive to the service condition of a number of telephonic lines and circuits and an electronic switching network for the interconnection and disconnection of said lines and circuits as a function of a restricted number of orders from said switch control circuit, said electronic switching network comprising a space-division connection network and a logical means section called switching logic, said connection network being constituted of crosspoints arranged in rectangular matrices divided into a plurality of stages connected by single-wire junctions certain of which are parallel to one another, said connection network comprising methodical test means for effecting under the control of said switching logic and before any connection operation a test of the free or engaged condition of each junction which can take part in a path capable of connecting any two given telephonic lines or circuits linked to said connection network until such a complete path is determined or a blockage is indicated if none is available.

3,194,892
TRANSLATOR
Edward J. Glenner, Skokie, Ill., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Oct. 19, 1962, Ser. No. 231,627
4 Claims. (Cl. 179—18)

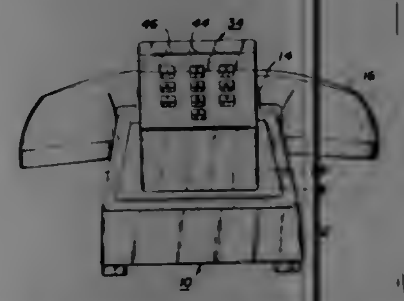
1. In an automatic telephone system including register-senders, a calling one of said register-senders, a common translator arranged to provide call routing information or subscriber directory number information to said register-senders, and a translator allotter operated to connect said calling one of said register-senders to said translator, said translator including; a first plurality of register means operated to register the called directory digit data from said register-sender, a second plurality of register means operated upon receipt of calling subscriber equipment

identity digits, a constantly rotating magnetic drum record means having recorded therein a plurality of sets of coded call routing and control data items, record reader means continuously scanning said record means, first output register means, second output register means, counter means arranged to indicate the address of said reader means in relation to said record means, first coincidence means continuously electrically operated to compare call routing data of the registered signals in said first incoming register means with the output address count of said counter means, second coincidence means and coincidence gating means including means responsive to receipt of information in said second register means to extend the outputs of said record reader means comprising the directory digits corresponding to said equipment identity digits to said second coincidence means, gating means responsive to correspondence of the called directory digit data and said counter means address count output in said first coincidence means for passing the outputs of said record reader means to said first output register means for transmission to said register-senders, and other means responsive to correspondence of the calling subscriber equipment identity code in said second register means and said reader means output to extend said counter address indication to said second output register means.



3,194,893
AUTOMATIC OPERATING DEVICE FOR PUSHBUTTON TELEPHONES

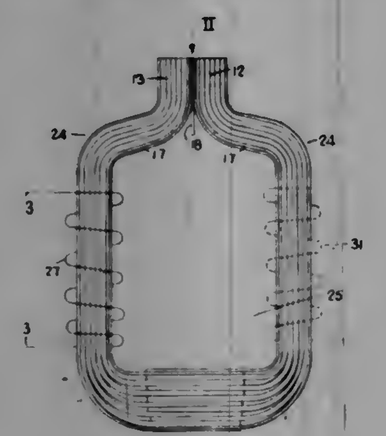
Carl C. Auel, 1200 8th Ave., Irwin, Pa.
Filed Apr. 7, 1961, Ser. No. 101,547
5 Claims. (Cl. 179—90)



5. In apparatus for effecting switch closures in a pushbutton-type telephone to call a preselected telephone number, the combination of a stationary bar of electrical conducting material, a plurality of electrical contacts resiliently biased into engagement with one side of said bar, each of said contacts representing indicia in a telephone number to be called, circuit means including said bar and said contacts for effecting switch closures representing indicia in a telephone number to be called, a card of electrical insulating material adapted to be manually pushed between the bar and said contacts, perforations in said card representing indicia in a number of to be called and adapted to register with selected ones of said contacts, and means including at least one normally open switch device for energizing said circuit means when said switch device is closed, said switch device being closed upon movement of the card between the bar and the contacts in one direction only.

3,194,894
ELECTRO-MAGNETIC HEADS

Hubert Colin Smith, Aston, Birmingham, England, assignor, by mesne assignments, to BSR Limited, Stafford, England
Filed May 23, 1962, Ser. No. 197,100
Claims priority, application Great Britain, May 30, 1961, 19,429/61
6 Claims. (Cl. 179—100.2)

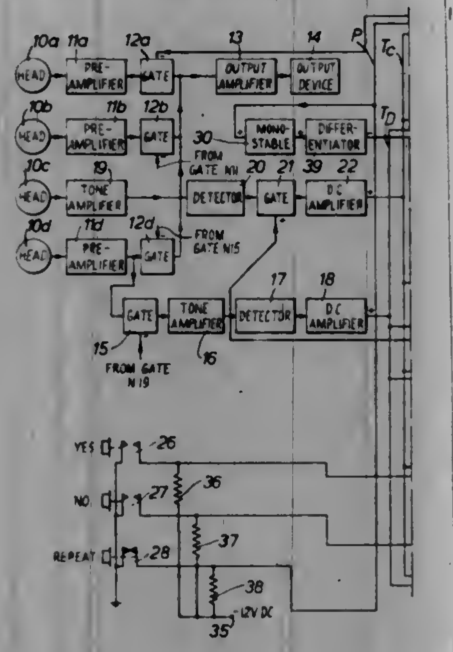


1. An electro-magnetic transducer head comprising an electro-magnet having a two-ended magnetizable core, the two ends of said core together comprising a pair of inner pole pieces of opposite polarities and a pair of outer pole pieces also of opposite polarities, the inner pole pieces being between the outer pole pieces with each inner pole piece adjacent to an outer pole piece of the same polarity at the same end of the core, a first non-magnetizable spacer between the inner pole pieces, two second non-magnetizable spacers of which one is located between one inner pole piece and its adjacent outer pole piece and of which the other is located between the other inner and outer pole pieces, the pole pieces presenting substantially co-planar pole faces and the non-magnetizable spacers extending to the plane of the faces.

3,194,895
APPARATUS FOR SOUND REPRODUCTION

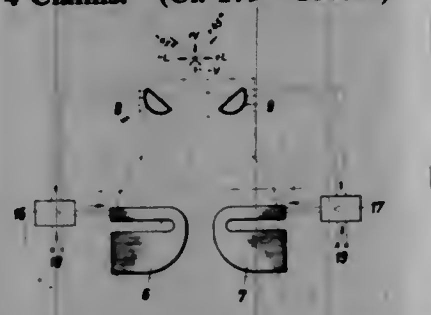
Richard Julian Treadwell, Cheltenham, England, assignor to S. Smith & Sons (England) Limited, Cricklewood, London, England, a British company
Filed June 22, 1962, Ser. No. 204,475
Claims priority, application Great Britain, June 23, 1961, 22,751/61; Sept. 8, 1961, 32,269/61
15 Claims. (Cl. 179—100.2)

13. An aid to performance of a predetermined routine, comprising a plural-channel magnetic recording tape that carries along successive sections of its length recordings of successive sub-routines of said predetermined routine, each sub-routine comprising a primary instruction recorded on the tape in a first channel, at least one secondary instruction recorded on the tape in a second channel, and marker signals recorded in a third channel at positions on the tape where the respective primary instructions end, manually actuable means for actuation selectively to either of first and second conditions for signifying answers to said instructions, and means for reproducing recorded instructions from the successive sections of the tape in turn and in accordance with actuation of said manually actuable devices, said reproducing means comprising first, second and third magnetic sensing heads for providing electric signals in accordance with records sensed from the first, second and third channels respectively, an electro-acoustic transducer for audibly reproducing instruction records sensed by the first and second heads, first and second gates for gating to the transducer the signals provided by the first and second heads respectively, tape drive means switchable from a hold state in which the tape is held stationary to a drive state in which the tape is driven past the sensing heads, means responsive to actuation of said manually actuable means when the tape drive means is in said hold state for switching said tape drive means to said drive state, means responsive to actuation of said manually actuable means to said first condition to supply a gating signal to the first gate, means responsive to actuation of said manually actuable means to said second condition to supply a gating signal to the second gate, and means for resetting said tape drive means to said hold state in response to any marker signal sensed by said third head.



3,194,896
STEREOPHONIC TRANSDUCER WITH ADJUSTABLE FEEDBACK COILS

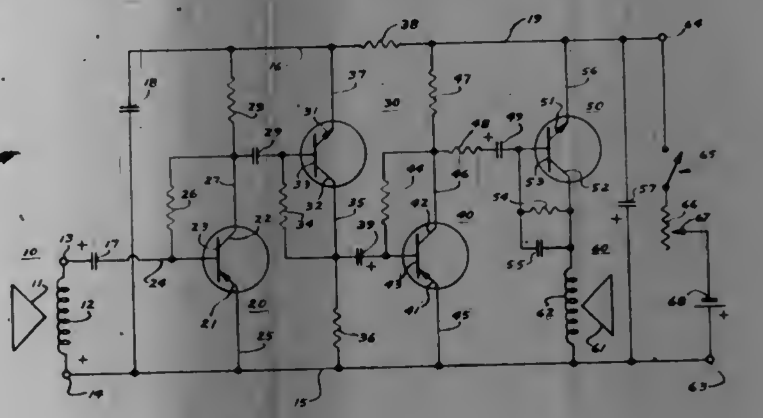
Horst Redlich, Berlin-Wilmersdorf, Germany, assignor to Teldev Telefunken-Decca Schallplatten G.m.b.H., Hamburg, Germany
Filed Jan. 8, 1962, Ser. No. 164,945
Claims priority, application Germany, Jan. 13, 1961, T 19,533
4 Claims. (Cl. 179—100.41)



1. A cutterhead for forming a grooved, stereophonic sound recording, comprising, in combination:
- (a) an armature;
- (b) a stylus holder on said armature and having a stylus mounted therein;
- (c) means for mounting said armature and thus said stylus for movement in a plane;
- (d) a drive transducer means for coordination with each of two signal channels and having parts thereof arranged on said armature and cooperating with said mounting means for moving the tip of said stylus in said holder through said plane which is disposed at right angles to the tangent of a groove of a recording, the movement being at angles of +45° and −45° respectively corresponding to two recording positions, relative to the surface of a recording support and with vertical components which are essentially translatory and lateral components which are essentially rotational, the movement being about an axis of rotation disposed at right angles to the deflection plane and remote from the tip of said stylus;
- (e) a feedback transducer means electrically associated with each drive transducer means and including a flat coil having a winding plane at least approximately corresponding to the plane of movement passing through the stylus and each disposed in the vicinity of the tip of said stylus for deriving for the feedback an electric magnitude representative of the resulting deflections in each of the directions corresponding to the recording positions, said feedback transducer means being arranged to respond only to stylus deflections in a certain direction but essentially not responding to deflections in a direction perpendicular thereto, said feedback transducer means having parts serving for energy conversion and lying each entirely on a respective side externally of the region of a straight line parallel to the vertical recording component and passing through the tip of said stylus and being arranged at an angle (β) relative to the 45° deflection direction with reference to the stylus tip and of the signal of the other feedback transducer, which assures that the electric magnitude of this signal excited in said transducer means is a minimum; and
- (f) at least one lug connected to said armature in the vicinity of said stylus and substantially entirely extending in the deflection plane, the feedback transducer means being mounted on said lug.

3,194,897
SEMI-CONDUCTOR HEARING AID AMPLIFIER

Frederick W. Lewis, Brooklyn Center, Minn., assignor, by mesne assignments, to The Telex Corporation, Tulsa, Okla., a corporation of Delaware
Filed Mar. 21, 1962, Ser. No. 181,311
6 Claims. (Cl. 179—107)



1. A hearing aid amplifier comprised of an even number of stages of alternately connected semi-conductive current controlling devices of opposite conductivity type; resistive and capacitive impedance means connected intermediate each of said stages; a pair of input terminals connected to the first of said stages and adapted for connection to a suitable source of audio signal; receiver means connected so as to be energized by the last of said stages for providing a compressional wave signal to the auditory canal of a user; variable impedance power supply means; and circuit means connecting said power supply means in energizing relationship with each of said stages whereby the gain and power output of the amplifier are simultaneously varied in accordance with the impedance of said power supply means.

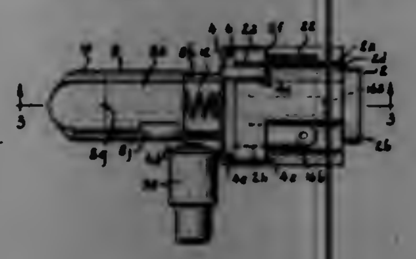
3,194,898

SELECTOR SWITCHES OF THE TRIGGER ACTUATED TYPE

Robert D. Thomas, Fox Point, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed May 28, 1962, Ser. No. 198,074

8 Claims. (Cl. 200—4)



1. An electric switch of the self-enclosed trigger actuated type adapted for mounting in a housing so that the self-enclosed switch is within the housing and the actuator extends through an aperture for manual depression comprising:

an insulating base;

a plurality of stationary contacts mounted within said base;

a movable contact carrier within said base having at least one contact mounted thereon;

a contact selector extending into said base to support said contact carrier and being operable to rotate said contact carrier thereby to preselect another stationary contact for engagement by said movable contact;

a spring-biased actuator through which said contact selector rotatably extends and being axially movable with said contact selector after said preselection has been made to close the selected contacts, said actuator having a narrow elongated cross-section and being slidable in the aperture in the housing in which the switch is used, and said contact selector having an enlarged head portion facilitating manual turning thereof and being coextensive with at least a portion of the sides of said actuator;

and a limited lost motion connection between said contact selector and said contact carrier to allow rotation of said selector more than said contact carrier rotates thereby to afford alinement of the head portion of said selector with the head of said actuator after the movable contact has been alined with a stationary contact.

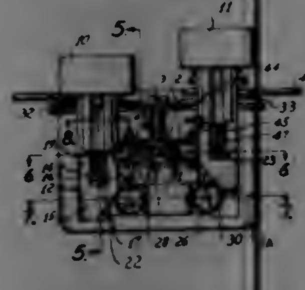
3,194,899

PUSHBUTTON SWITCH ASSEMBLY

Howard P. Stock, Brookfield, Wis., assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed June 15, 1962, Ser. No. 202,791

3 Claims. (Cl. 200—5)



1. An interlocked pushbutton mechanism comprising: a pair of body members, each open at one face, detachably secured together with their open faces juxtaposed and defining a hollow body with a guideway therein to which access can be gained when one of the body members is removed, a pair of pushbuttons, guide means in the body at opposite ends of the body, respectively, supporting each pushbutton for movement independently of the other in directions inwardly and outwardly of the body and transversely of the guideway, the guide means for each pushbutton including slideways on the inner surfaces of the body members, respectively, each pushbutton having a portion movable thereby and disposed within the body, and each portion having a cam surface thereon, the cam surface of one pushbutton being aligned with one end of the guideway and the cam surface of the other pushbutton being aligned with the other end of the guideway, said cam surfaces being positioned to approach and recede from their associated ends of the guideway upon movement of their associated pushbuttons in said directions, respectively, movable means in the guideway and movable endwise thereof and being substantially incompressible endwise thereof, and said movable means being of such length relative to the space between said cam surfaces that one cam surface must be in receded position when the other is in the approached position, and that the movable means transfers sufficient force from each cam surface, as it approaches its associated end of the guideway, to the other cam surface to cause said other cam surface to recede from the end of the guideway associated with said other cam surface, and complementary contact means including stationary contacts in the body and movable contacts carried by the pushbuttons, respectively, and cooperable with the stationary contacts in the body.

3,194,900

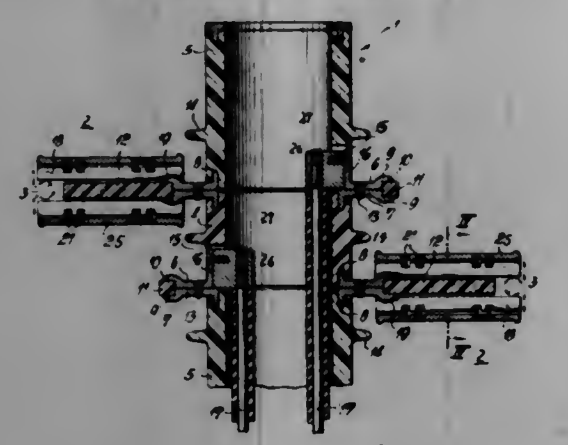
MODULAR TAP-CHANGING SELECTOR SWITCH FOR CONNECTING SELECTIVELY FIXED TAP CONTACTS TO A TRANSFER SWITCH

Alexander Bleibtreu, Regensburg, Germany, assignor to Maschinenfabrik Reinhausen Gebrüder Scheubeck K.G., Regensburg, Germany

Filed Dec. 13, 1962, Ser. No. 246,289

Claims priority, application Germany, Dec. 20, 1961, M 51,244

10 Claims. (Cl. 200—11)



1. A modular tap-changing selector switch for connecting selectively fixed tap contacts to a transfer switch, said selector switch comprising:

(a) a plurality of relatively short tubular insulating bodies of a casting resin superimposed in coaxial abutting relation to form a composite hollow insulating column;

(b) a plurality of contact bridges arranged at different levels and mounted for pivotal motion about the axis of said column, each of said plurality of contact bridges having a radially inner contact end and a radially outer contact end; and

(c) a plurality of fixed ring contacts arranged in coaxial relation to and supported by said column, each of said plurality of ring contacts being arranged at a different level at a point of abutting engagement between contiguous pairs of said plurality of insulating bodies and each of said plurality of ring contacts comprising a pair of complementary parts having a pair of radially inner ends each integral with one of said plurality of tubular insulating bodies, each of said pair of complementary parts further having a pair of radially outer ends in sliding engagement with said radially inner contact end of one of said plurality of contact bridges, and said pair of complementary parts further having a pair of intermediate portions being arranged in abutting relation.

3,194,901

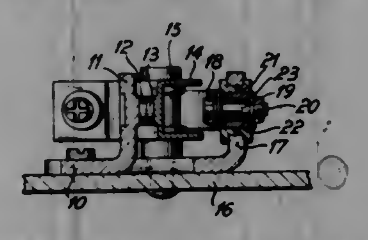
INSULATED MOUNTING FOR ELECTRICAL CONDUCTORS

Otto Stierle, Echterdingen, Kreis Esslingen, Germany, assignor to Robert Bosch G.m.b.H., Stuttgart, Germany

Filed June 7, 1961, Ser. No. 115,480

Claims priority, application Germany, June 11, 1960, B 58,197

10 Claims. (Cl. 200—30)



1. In an ignition interruptor switch assembly adapted to be used in an internal combustion engine interruptor or the like, in combination, an electrically conductive wall formed with an opening passing therethrough; an annular electrically non-conductive member fixedly carried by said wall and passing through said opening thereof; a tubular spacer member located within, extending through and surrounded by said annular member, and said tubular spacer member having a length at least as long as said annular member; a pair of conductors respectively located adjacent the ends of said tubular spacer member; and bolt means passing through said tubular spacer member and fixing said conductors thereto without stressing said annular member so that said conductors are insulated by said annular member from said wall and so that the connection of said conductors to said spacer member will be uninfluenced by changes in the condition of said annular member.

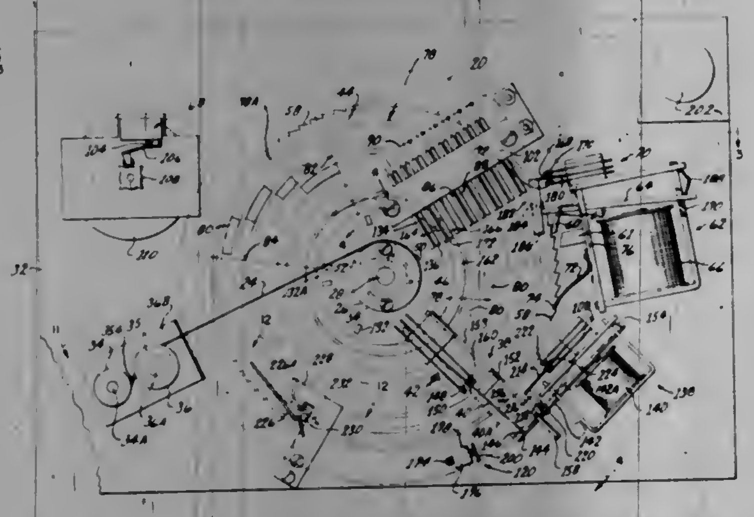
3,194,902

DIAL OPERATED TIMER

Werner Robert Bauer, Columbus, Ohio, assignor to Robertshaw Controls Company, a corporation of Delaware

Filed Nov. 30, 1962, Ser. No. 241,216

19 Claims. (Cl. 200—33)



1. A timer comprising: a finger operated dial having a plurality of finger receiving openings and being rotatable from a dial zero position to a selected program start position selected from a plurality of program start positions corresponding to said openings with the insertion of an operator's finger in a selected finger receiving opening; dial return means connected to said dial automatically rotatably to return said dial to dial zero position upon withdrawal of said finger from said selected opening; a one way rotation means; a program card rotatable with said dial by said one way rotation means from a card zero position to a correspondingly selected card program start position selected by finger rotation of said dial from a plurality of card program start positions; a plurality of electrically conducting program band assemblies on said card each assembly extending along an arc-like segment from a program start position to a program stop position; a member to be controlled by components of said member; electrically conducting program reading elements engaging said program bands and being electrically connectable to said components of said member to be controlled by such components to perform the selected programs; program speed card rotating means energized upon rotation of said dial to a program start position to rotate said card at program speed throughout the arc of said selected program; a series of electrically conducting program stop bands at the stop positions of said programs to stop said program speed card rotating means; a program stop reading construction having means to read said program stop bands and to condition a card zero position return circuit to return said card to zero position; an electrically conducting card zero position return band continuously extending along said program band assemblies; a return band reading construction having means to read said return band and to energize said card zero position return circuit to return said card to card zero position at return speed after the termination of said selected program; and a card return drive means to rotate said card to card zero position when said return circuit is energized.

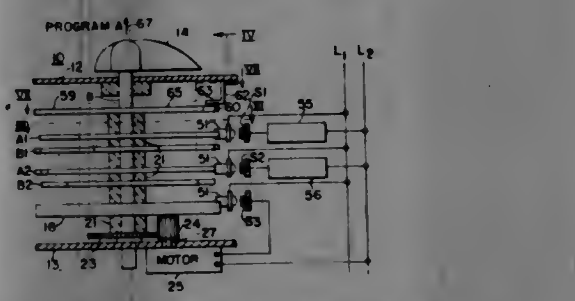
3,194,903

MOTOR-DRIVEN CAM-ACTUATED TIMED ELECTRICAL MULTISWITCH

Hal H. Dronberger, Columbus, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 5, 1963, Ser. No. 262,956

3 Claims. (Cl. 200—38)



1. A rotary program timer switch comprising

first and second sets of electrical contacts,

means including first and second cam followers for actuating said first and second sets of contacts, respectively,

first, second and third cam members,

a rotatable shaft having said cam members mounted thereon and jointly rotatable therewith,

means for manually translating said shaft from a first position in which said first cam member is operatively associated with said first cam follower to control a first program, to a second position in which said second cam member is operatively associated with said first cam follower to control a second program,

means including an electric motor for rotating said shaft a predetermined angular extent,

said second set of contacts being arranged to effect energization and deenergization of said motor, and

said third cam member being maintained in operative association with said second cam follower in both of said shaft positions.

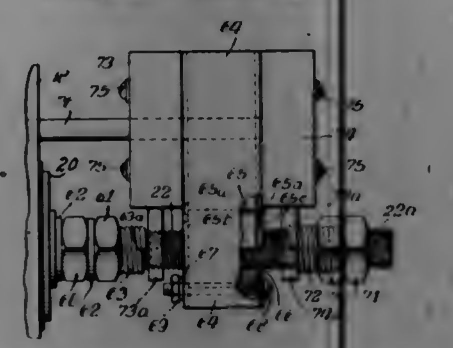
3,194,904

LIMIT SWITCH ACTUATOR

Marchand Blanchard Hall, Olympia Fields, Ill., assignor to Interlake Steel Corporation, a corporation of New York

Original application Nov. 29, 1960, Ser. No. 72,409, now Patent No. 3,052,178, dated Sept. 4, 1962. Divided and this application Aug. 31, 1962, Ser. No. 220,833

5 Claims. (Cl. 200—47)



1. A switch mechanism comprising, a rotatable threaded shaft, a threaded switch carrier threadedly engaged with a threaded portion of said shaft so that upon rotation of the shaft the switch carrier is moved longitudinally along said shaft, said switch carrier supporting two switches, stop means on the shaft on opposite sides of the switch carrier, said switches having actuating arms in the path of said stop means so that as the switch carrier is moved longitudinally of the shaft the two actuating arms are moved to actuate the switches as they either contact or separate from the stop means.

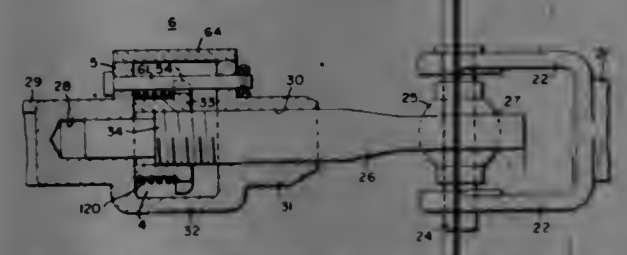
3,194,905

OPERATING MEANS FOR HIGH VOLTAGE DISCONNECT SWITCH

Francis W. Jewell and John H. Miles, Jr., Portland, Oreg., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 26, 1962, Ser. No. 212,538

5 Claims. (Cl. 200—48)



1. In an electric switch, in combination, a crank arm rotatable about a fixed axis, stationary contact means spaced from said axis, stop means adjacent said contact means, a switch blade mounted for swinging into engagement with the stop means about an axis fixed between said contact means and said crank arm axis and lying in a plane at right angles to the crank arm axis, said blade being rotatable about its longitudinal axis to engage said contact means when the blade is in engagement with said stop means, an arm fixed on said blade, toggle means connecting said blade arm to said crank arm and including a slip joint comprising a pair of members mounted for relative axial movement within predetermined limits and pivotally connected respectively to the blade arm and the crank arm for swinging the blade during part of the rotary movement of said crank arm until the free end of the blade engages the stop means, adjustable means on one of said members for engaging the other member to determine the limits of relative movement between the members, resilient means disposed between said adjustable means and said other member of said members to prevent bouncing of the blade when it engages the stop means, and said resilient means permitting the adjustable means to directly engage said other member during a further portion of the rotary motion of the crank arm to thereby rotate the blade about its longitudinal axis.

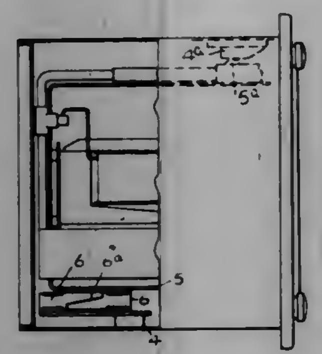
3,194,906

ELECTRICAL APPARATUS HAVING A HOUSING AND A WITHDRAWABLE FRAME OR LIKE SUPPORT

Harry Stanley Lewis, Brian Leslie Capper, and Bernard Henry Harris, Birmingham, England, assignors to Chamberlain & Hookham Limited, Birmingham, England

Filed Jan. 2, 1963, Ser. No. 249,001

5 Claims. (Cl. 200—50)



1. Electrical apparatus comprising a housing, a frame removably supported in the housing, electrical components mounted on said frame, a plurality of contacts mounted on the frame and electrically connected to the electrical components, a plurality of contacts mounted on the housing and electrically connectible with the contacts mounted on the frame when the frame is fully inserted into the housing, a plurality of first identification elements, means connecting said first identification elements to the frame permitting displacement of each of said first identification elements between two alternative positions to define a first arrangement of elements, a plurality of second identification elements, means connecting said second identification elements to the housing permitting displacement of each of said second identification elements between two alternative positions to define a second arrangement of elements and at least one of said first identification elements being engageable with a co-acting one of said second identification elements to prohibit full insertion of said frame into said housing unless said first arrangement is complementary to said second arrangement.

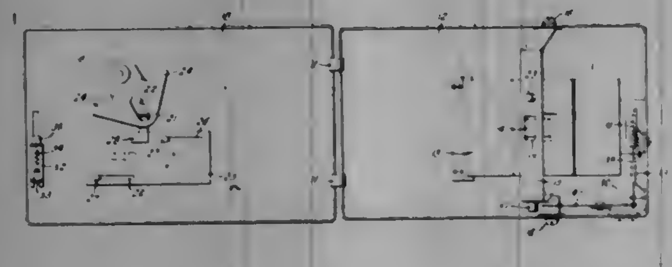
3,194,907

INTERLOCK MECHANISM FOR AN ENCLOSED ELECTRIC SWITCH

Cecil B. Turton, Burlington, Conn., assignor to General Electric Company, a corporation of New York

Filed June 28, 1963, Ser. No. 291,317

3 Claims. (Cl. 200—50)



1. In combination:
(a) an enclosure for an electric switching device;
(b) a cover for said enclosure;
(c) means pivotally mounting said cover on said enclosure for movement to open, closed, and closure-impending position respectively;
(d) a switch-operating member;
(e) means mounting said switch operating member in said enclosure for movement between "on" and "off" positions corresponding to "on" and "off" conditions of said switching device;

(f) manually operable operating means accessible externally of said enclosure when said cover is in said closed position and connected to said switch-operating member for operating said switching device when said cover is in said closed position;
(g) a latch member;
(h) means mounting said latch member on said enclosure for movement between first and second extreme positions and an intermediate position respectively;
(i) biasing means biasing said latch member toward said second extreme position at all times;
(j) interlock means comprising first and second spaced interfering portions and an intermediate clearance slot;
(k) means supporting said interlock means in said enclosure for movement between first and second blocking positions in each of which positions a corresponding one of said interfering portions is in the path of movement of said switch operating member and prevents movement thereof from said "off" to said "on" position, and for movement to an intermediate position in which said clearance slot is in the path of movement of said switch operating member so that said interlock means does not prevent movement of said switch operating member from said "off" to said "on" position;
(l) means connecting said latch member to said interlock means for movement of said interlock means to said first and second blocking positions and to said intermediate non-blocking position upon movement of said latch member to said first and second extreme positions and said intermediate position respectively;
(m) a latch-operating member carried by said cover of said enclosure;
(n) said latch-operating member engaging said latch member when said cover is in said closure-impending position and holding said latch in said first extreme postion corresponding to said first blocking position of said interlock means;
(o) said latch operating member being disengaged from said latch member when said cover is in said open position and allowing said latch member biasing means to move said latch to said second extreme position corresponding to said second blocking position of said interlocking means;
(p) said latch operating member engaging said latch member when said cover is in said closed position and holding said latch in said intermediate poistion corresponding to said intermediate position of said interlock means.

3,194,908

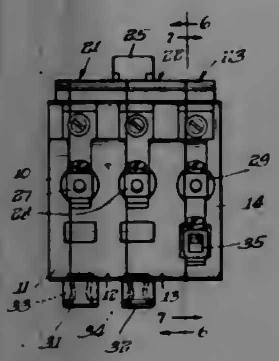
THREE-POLE CIRCUIT BREAKER FOR USE IN A SINGLE-PHASE PANELBOARD FOR PROTECTING A THREE-PHASE LOAD

Joseph Clifford, Cedar Rapids, Iowa, assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Jan. 31, 1962, Ser. No. 170,072

1 Claim. (Cl. 200—51)

For use in a single-phase panelboard to protect a three-phase load, a three-pole molded-case electrical circuit breaker comprising a casing having four parallel wall portions collectively defining three side-by-side compartments therein, a maximum of three circuit breaker mechanisms disposed respectively in said compartments, each of said mechanisms including a single stationary contact and a single movable contact, a maximum of two line terminals of the plug-in type disposed adjacent one end of said casing and electrically connected respectively to the stationary contacts of a first and a second of said circuit breaker mechanisms, three load terminals disposed adjacent the other end of said casing and electrically connected respectively to the movable contacts of said three circuit breaker mechanisms, a substantially rigid flat strip-like conductor having a main body portion mounted flatwise parallel to said wall portions of said casing in a groove in an inner surface of one of the wall portions defining the compartment in which the third of said circuit breaker mechanisms is disposed, the stationary contact of said third circuit breaker mechanism being secured to one end portion of said conductor adjacent said one end of said casing, and a line terminal disposed adjacent said other end of said casing and secured to the other end portion of said conductor and electrically connected by said conductor to said stationary contact of said third circuit breaker mechanism, said line terminal electrically connected to said stationary contact of said third circuit breaker mechanism and the load terminal electrically connected to the movable contact of said third circuit breaker mechanism being centered substantially in a common plane parallel to said wall portions of said casing.



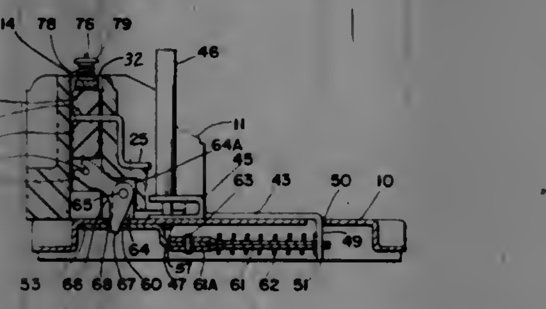
3,194,909

FAIL SAFE SNAP ACTING DISCONNECT SWITCH

Israel Epstein, Cleveland, Ohio, assignor to The Clark Controller Company, Cleveland, Ohio, a corporation of Ohio

Filed Mar. 28, 1962, Ser. No. 183,128

6 Claims. (Cl. 200—67)



3. An electric switch comprising a base plate, stationary and movable contact means associated with each other and mounted on one side of the base plate, a snap actuating mechanism mounted on the opposite side of the base plate and including a crank actuator with an arcuate slot therein rotatively pivoted to the base plate and snap acting means pivoted at its inner end to the actuator within said arcuate slot and adapted to rotate the actuator with a snap action, a toggle arm pivoted at the inner end to the base and secured at the outer end to the outer end of the snap acting means, an operating member secured to the toggle arm to rotate the same and effect actuation of the snap acting means when a center axis line extends through the pivots of the crank actuator and the snap acting means, and a crank secured to the base plate and extending therethrough in engagement at one end with the crank actuator of the snap actuating mechanism and at the other end with the movable contact means to open and close the contact means by a snap action when the toggle arm and snap actuating mechanism are actuated by the operating member.

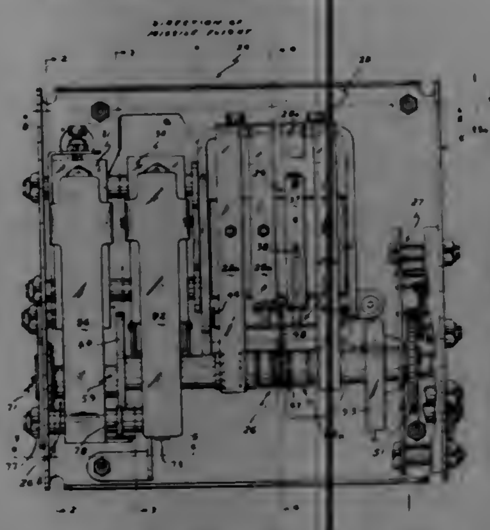
3,194,910

INERTIAL SWITCH DEVICE

Frank R. Edgarton, Inglewood, Calif., assignor to the United States of America as represented by the Secretary of the Air Force

Filed Oct. 4, 1962, Ser. No. 228,505

16 Claims. (Cl. 200—61.45)



1. A switch device comprising: a frame, a camshaft journaled in said frame, biasing means engaging with and biasing the rotation of said camshaft to an initial position on one side of the dead center position of engagement and to a terminal position on the other side of the dead center position of engagement, means rotating said camshaft from the initial position to at least slightly beyond the dead center position of engagement with said biasing means, means regulating the rate of rotation of said camshaft, means impeding said regulating means to increase the elapsed time required for said camshaft to rotate from the dead center to the terminal position, and a switch actuatable by the rotation of said camshaft.

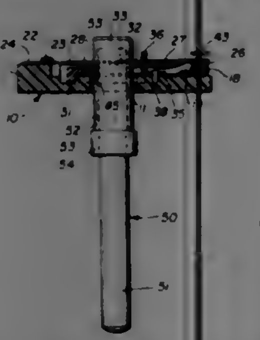
3,194,911

ELECTRICAL SWITCH ACTUATED BY A RECIPROCATED SHAFT WITH FREE END WHICH PASSES THROUGH AND BEYOND THE SWITCH INTO WORK CONTACTING POSITION TO IMPART MOTION TO OTHER MECHANISM

John F. Sherwood, 7801 W. 39th Ave., Wheat Ridge, Colo.

Filed Oct. 7, 1963, Ser. No. 314,112

7 Claims. (Cl. 200—67)



1. In combination with a reciprocated actuator shaft which has means between its ends for actuating a switch and which has a free end which passes through the switch into work contacting position for imparting motion to other mechanism, an electrical switch comprising

(a) a base of insulating material having an opening extending therethrough,

(b) a fixed contact point on one face of the base,

(c) a floating disc loosely supported on said face, said disc having an aperture therethrough smaller in diameter than the opening in the base,

(d) a flexible blade free at one end and mounted at its other end on the base to overlie the floating disc, said blade having an opening therein at least as large as the aperture in the disc, and

(e) a movable contact point on the free end of the blade for engagement with the fixed contact point,

(f) said base opening, floating disc aperture and blade opening being axially aligned to receive the reciprocated shaft therethrough, and the floating disc receiving bearing pressure in an annular area surrounding its aperture from the switch actuating means on the shaft, whereby the floating disc moves bodily and transmits pressure against the flexible blade and separates the contact points on the base and blade when the shaft has moved in axial direction into work contacting position.

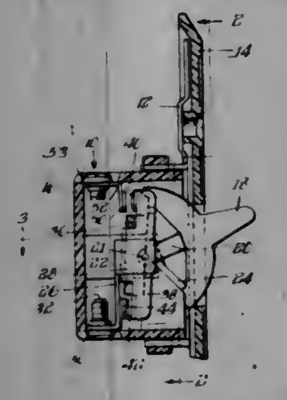
3,194,912

DOUBLE SNAP-ACTION MAGNETICALLY ACTUATED TOGGLE SWITCH

Donald H. Mink, Elgin, Ill., assignor to Molex Products Company, Brookfield, Ill., a corporation of Illinois

Continuation of abandoned application Ser. No. 51,734, Aug. 24, 1960. This application Oct. 22, 1963, Ser. No. 317,941

8 Claims. (Cl. 200—67)



1. A snap action switch comprising a base, fixed contact means carried by said base, a permanent bar magnet pivoting on its transverse central axis about a pivot point fixed to said base and having a substantially flat face presenting a half of the flat face on opposite sides of the transverse axis, movable electrical contact means pivotally mounted on said base and connected to said permanent bar magnet, a magnetically susceptible armature means of substantially angular longitudinal section having an apex with angularly disposed portions on either side thereof, means pivotally mounting said armature means substantially at its apex about said fixed pivot point confronting the substantially flat face of said magnet whereby pivoting of said armature means in either direction causes a corresponding one of its angularly disposed portions to be brought relatively near to the adjacent half of the flat face of the magnet on one side of the transverse axis with resultant snap movement of the adjacent half of the flat face of the magnet and contact with the adjacent angularly disposed portion of the armature means and with the other half of the flat face of the magnet on the opposite side of the transverse axis disengaging the other angularly disposed portion of the armature means to thus effect engagement and disengagement between the fixed and movable contact means.

3,194,913

CENTRIFUGAL SWITCH HAVING TWO RESILIENT ARMS WITH ADJUSTABLE FORCE TRANSMITTING MEANS FUNCTIONING THEREBETWEEN

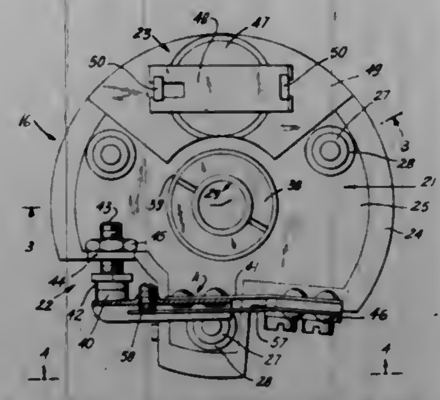
Nils Kauri Lindgren, Stockholm, Sweden, assignor to Aktiebolaget Electrolux, Stockholm, Sweden, a corporation of Sweden

Filed June 27, 1960, Ser. No. 39,082

Claims priority, application Sweden, July 3, 1959, 6,322/59

8 Claims. (Cl. 200—80)

1. A switch device including an operating contact arm having a contact thereon, said contact arm comprising at least two members normally biased toward a first position and movable under an applied force to a second position, each of said members being movable with respect to the other, and adjustable force transmitting means functioning between said members to vary the biasing of said contact arm to said first position.



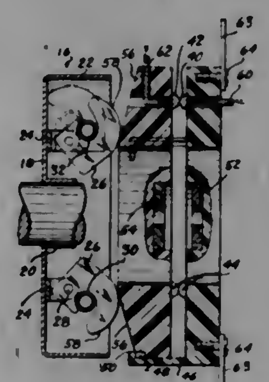
3,194,914

CENTRIFUGAL SWITCH EMBODYING MAGNETS

Steffen A. Brown, % Brown-Brockmeyer Company, 1000 S. Smithville Road, Dayton 1, Ohio

Filed Nov. 14, 1960, Ser. No. 69,002

12 Claims. (Cl. 200—80)



1. In combination; an electric switch comprising two co-axial ring members each having a pair of axially spaced sides with one side of each ring member facing the other and the other side facing in the opposite direction, electric contacts insulatingly carried by said members on the said one side thereof and in axially aligned relation, one of said members being stationarily supported and the other member being movable relative thereto in an axial plane to engage and disengage said contacts, magnetic means mounted in said members in opposing repelling relation so as continuously to urge the members away from each other, the said other side of said other member being in the form of a conical surface, and actuator means on the opposite side of said other member from said one member and comprising weight elements spring urged toward said conical surface and adapted to engage said conical surface for moving said other member toward said one member.

3,194,915

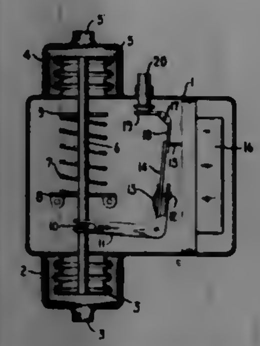
DIFFERENTIAL PRESSURE AND MANUALLY OPERATED SAFETY SWITCH ARRANGEMENT

Erik Andersen, Nordborg, Denmark, assignor to Danfoss ved ing. M. Clausen, Nordborg, Denmark, a company of Denmark

Filed Jan. 16, 1962, Ser. No. 173,850

3 Claims. (Cl. 200—83)

1. A switch arrangement comprising, a switch member operable to a first position for effecting closing of a circuit and operable to a second position for effecting opening of said circuit, said switch member being disposed normally in said second position, a differential pressure control unit comprising a first pressure-sensing system for sensing a first fluid pressure and responding thereto and a second pressure-sensing system for sensing a second fluid pressure and reponding thereto, means connected to said first and second pressure-sensing system for actuation in one direction by said systems in response to a given pressure difference between said two fluid pressures being sensed, a lever system connected to the last-mentioned means for actuation to a position for actuating said switch member to said first position, in response to said given pressure difference, and manual means coupled to said lever system for operation of said switch member to said first position independently of said differential pressure control unit sensing systems for periodically at will testing the actuation of said switch member to said first position by said lever system.



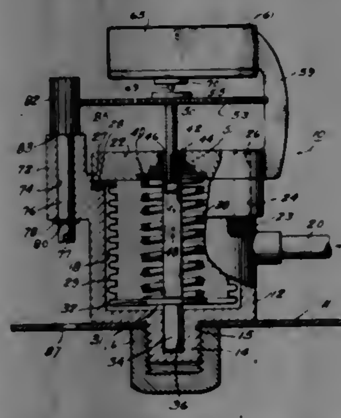
3,194,916

FLUID OPERATED SWITCH ACTUATOR

Alfred Vischer, Jr., Park Ridge, Ill., assignor of two-thirtieths each to William Vischer, Alfred Vischer, and Peter Vischer, four-thirtieths each to Walter W. Zitzewitz and Elmer K. Zitzewitz, one-thirtieth each to Gertrude J. Zitzewitz and Barbara O. Zitzewitz, and two-thirtieths to Gertrude V. Bouton

Filed Mar. 1, 1962, Ser. No. 176,513

6 Claims. (Cl. 200—83)



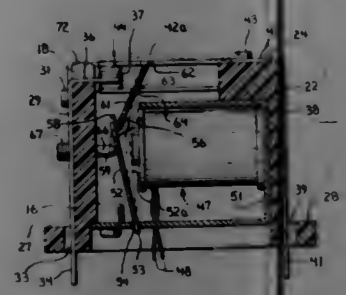
1. A fluid operated switch actuator comprising a housing defining a cavity therein, a cover member sealably connected to said housing, a bellows secured to said cover depending into said cavity, a coil spring mounted within said bellows axially thereof to bias said bellows into said cavity, a fluid inlet to said cavity externally of said bellows, a control rod extending axially through said cover and secured to said bellows for axial movement in accordance with the expansion and contraction of said bellows in said cavity, said rod having an axial hole therein opening outwardly of said cover and having a threaded wall, a screw threadedly received in said hole, a spur gear secured to said screw, a pinion gear rotatably carried by said housing in operative meshing engagement with said spur gear whereby rotation of said pinion gear causes axial movement of said screw in said rod, a switch mounted to said housing beyond the exposed end of said screw, said switch having an actuator disposed axially of said screw, said actuator being operated by movement thereof along the axis of said screw, and means operatively connecting said screw to said actuator whereby axial movement of said screw operates said switch.

3,194,917
KNEE-ACTION RELAY

Cecil L. Moore, St. Louis, Mo., assignor to E & R Laboratory Service Corporation, St. Louis, Mo., a corporation of Missouri

Filed Mar. 4, 1963, Ser. No. 262,479

7 Claims. (Cl. 200—87)



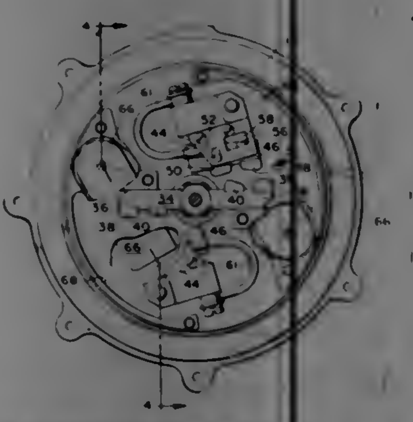
1. A relay comprising: a frame, electromagnetic means mounted on said frame, a first contactor fixed to said frame, a spring having a portion secured to said frame and having a free portion, a second contactor mounted to said free portion of said spring, an armature pivotally mounted to said frame, a rigid spacer pivotally mounted to said spring, said armature and spacer being pivotally mounted together and disposed with the pivot axes at the corners of a triangle lying in a plane perpendicular to said axes, said armature lying in the magnetic field of said magnetic means and being operable when said means are electrically energized to move two of said pivot axes and increase the length of one side of said triangle to change the relative positions of said contactors and develop a restoring force in said spring.

3,194,918
CONTACTOR FOR ELECTRIC TORPEDOES

Anthony J. Muscante and Eugene G. Peters, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Oct. 4, 1963, Ser. No. 314,081

1 Claim. (Cl. 200—98)



An electrical contactor comprising:

(a) a circular base member and a cup-shaped cover sealingly engaging same, forming a closed housing,

(b) a first circular plate member affixed to the base member,

(c) a second circular plate member disposed in spaced parallel relation to the first plate member, providing a space therebetween,

(d) a shaft journaled at the centers of said first and second plate members for rotation about an axis perpendicular thereto,

(e) a balanced contact rotor affixed to the shaft and disposed within said space having oppositely extending arms each carrying an outer contact and an inner contact,

(f) a pair of contact carriers disposed within said space and affixed to one face of said first plate member, each having an outer and an inner contact engageable with the corresponding contacts on an arm of the contact rotor,

(g) each contact carrier being mounted for pivotal and floating movement relative to the housing and constructed in such manner that when the contact rotor is rotated by the shaft, an outer contact on the contact rotor first engages an outer contact on a contact carrier, further rotation of the contact rotor effects pivotal movement of the contact carrier and the subsequent engagement of an inner contact on the contact rotor with an inner contact on the contact carrier, and further rotation of the contact carrier relative to the housing with both contacts in wiping engagement,

(h) resilient means for urging the contact carrier in a direction opposite to the direction of rotation of the contact rotor, opposite rotation of the contact rotor first opening the inner contacts and subsequently opening the outer contacts, whereby arcing is limited to the outer contacts,

(i) a pair of permanent magnets, each disposed in a position relative to the outer contacts for effecting propagation of an arc in an outwardly direction and away from the inner contacts,

(j) an arcuate arc shield of insulating material for each pair of inner and outer contacts disposed radially outward therefrom for shielding against outward propagation of an arc,

(k) a balanced armature rotor affixed to said shaft and disposed in a second space formed by one face of said second plate member and an end wall of said cup-shaped member, having oppositely extending arms,

(l) resilient means urging said armature rotor in one direction of rotation, and

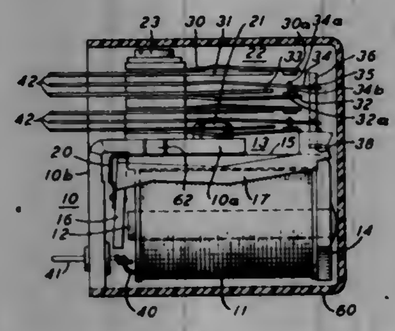
(m) a pair of solenoids disposed in said second space, one for each arm, for urging the armature rotor in the opposite direction of rotation.

3,194,919
MINIATURE ELECTROMECHANICAL RELAY HAVING A MAGNETIC YOKE WHICH REDUCES THE LOSS OF FRINGE FLUX

Frank A. Zupa, New York, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 21, 1962, Ser. No. 196,354

6 Claims. (Cl. 200—104)



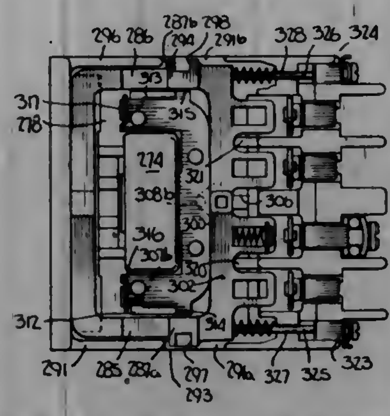
1. A relay comprising an actuating coil, magnetic circuit elements including an axial core within the coil, and an L-shaped member secured to the core, extending across one coil end and along a coil side to the other coil end; an armature hinged at the end of the L-shaped member and extending across said other end of the coil, said armature being hinged by means of an L-shaped spring secured to the armature and to the L-shaped member, an L-shaped bracket of magnetic material having one branch secured with the spring to the L-shaped member and the other branch extending in spaced, substantially parallel relation to the armature, said armature having an extension, and means connected to the extension for operating an electrical contact array.

3,194,920
ELECTRICAL CONTACTOR

John Scheib, Jr., Elmsford, N.Y., assignor to Ward Leonard Electric Co., Mount Vernon, N.Y., a corporation of New York

Filed June 23, 1964, Ser. No. 377,333

21 Claims. (Cl. 200—104)



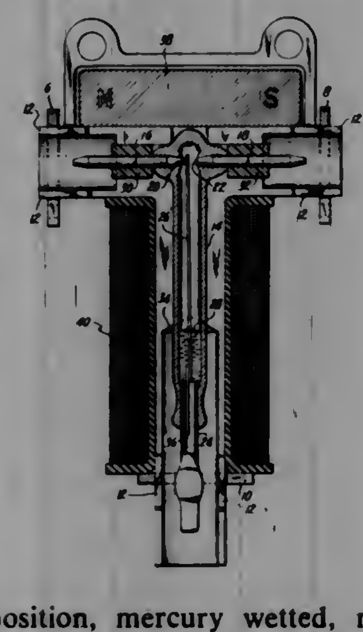
19. An electrical contactor comprising a panel, two flat contactor component supporting members extending normal to the panel each having a width substantially greater than the depth to form a flat elongated housing, a contact carrier extending parallel to the supporting members and having moveable contacts extending normal to the carrier, each member having a set of fixed contacts, each of said fixed contacts having a generally S-shape to align portions of said contact and said moveable contacts to reduce the depth of the members and provide a flat contactor.

3,194,921
RADIO FREQUENCY MERCURY SWITCH

Chester B. Watts, Jr., Annandale, Va., assignor to Scanwell Laboratories, Inc., Springfield, Va., a corporation of Virginia

Filed May 7, 1962, Ser. No. 192,827

5 Claims. (Cl. 200—112)



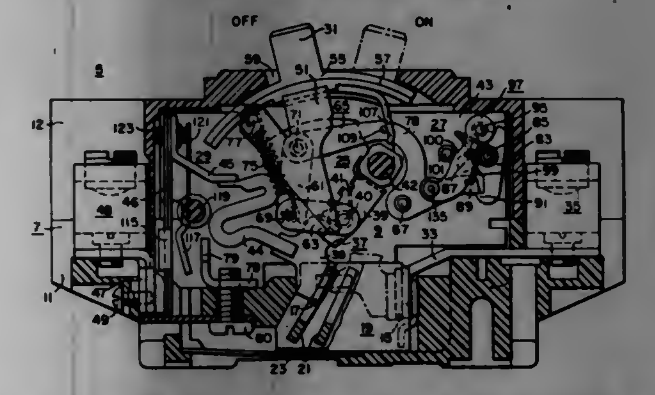
1. A two-position, mercury wetted, radio frequency switch comprising; a generally T-shaped conductive housing having a central leg and side arms; a tubular glass envelope disposed within said central leg; ferromagnetic side members extending laterally through opposed sides of said envelope at one end thereof and into said side arms, the inner ends of said side members being tapered toward each other and defining end faces of very small area adjacent but spaced from each other within said envelope and defining spaced contacts; a ferromagnetic filler tube extending axially into the other end of said envelope; a resilient ferromagnetic reed secured to the inner end of said filler tube and extending within said envelope to a position between said spaced contacts; a body of mercury in said filler tube and extending into said envelope; the surface of said reed and said spaced contacts being covered with material wettable by mercury; a permanent magnet disposed adjacent and parallel to said side members; and an electromagnetic coil surrounding said leg of said housing and said envelope; said ferromagnetic side members being elongated rod-like members arranged in coaxial relation whereby to minimize capacitance therebetween.

3,194,922
CIRCUIT INTERRUPTER WITH IMPROVED COMPACT ARRANGEMENT OF PARTS

James P. Ellsworth, Beaver, and Robert H. Flick, Brighton Township, Beaver County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Aug. 8, 1961, Ser. No. 130,045

7 Claims. (Cl. 200—116)



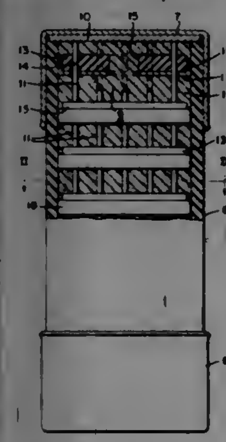
1. A circuit breaker comprising, in combination, a stationary contact, a movable contact cooperable with said stationary contact to open and close an electric circuit, an operating mechanism comprising a releasable member and overcenter spring means, latch means disposed on a first side of said operating mechanism and latching said releasable member in a normal position, trip means disposed on a side of said operating mechanism which is opposite said first side, means operatively connecting said trip means to said latch means, upon the occurrence of certain abnormal current conditions, said trip means automatically operating through said connecting means to move said latch means to effect release of said releasable member, and said releasable member when released moving to operate said overcenter spring means to effect opening of said contacts.

3,194,923
CURRENT LIMITING FUSE

Frank L. Cameron, North Huntingdon Township, Westmoreland County, and Otto Ackermann, Irwin, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 30, 1961, Ser. No. 85,871

7 Claims. (Cl. 200—120)



1. A fuse, comprising: a tubular fuse holder having a pair of spaced terminal means therein; fusible circuit interrupted means connected between said terminals and comprising a plurality of substantially parallel fusible conductors spaced from one another; interrupter means dis-

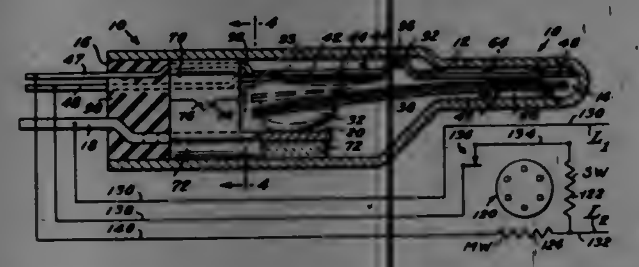
posed intermediate the ends of said fusible means, said interrupter means including a plurality of spaced plates of a predetermined thickness of gas evolving material, said plates each having a plurality of spaced apertures each providing an arc pressure chamber within the interrupter means, said plates each encircling the fusible conductors at a plurality of different spaced points along the length of the fusible conductors so that the arc formed upon fusion of each fusible conductor within the associated aperture is subjected to a longitudinal gas blast within each aperture providing pressure within each pressure chamber to maintain the arc voltage within each aperture at a high value and to remove the conducting products of the arc to establish an insulating condition; and a granular arc-quenching material in proximity with the pressure chamber means.

3,194,924
THERMALLY RESPONSIVE ELECTRICAL SWITCH

Walter H. Moksu, Attleboro, and James E. Shockroo, Norton, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed May 16, 1962, Ser. No. 195,132

13 Claims. (Cl. 200—122)



2. A thermally responsive electrical switch adapted for miniaturization comprising a casing; a first electrical contact disposed within said casing; a substantially U-shaped electrically conductive member disposed within said casing and having first and second leg portions comprising electrical heater members formed of thermally conductive, electrically resistant material and a bight portion interconnecting said leg portions; an elongated thermally responsive element, at one end thereof, being electrically connected to and cantilever mounted on said U-shaped member adjacent the bight portion end thereof, said element, at the other end thereof, carrying an electrical contact for movement into and out of engagement with said first electrical contact; said first and second heater members being positioned adjacent said element; means disposed in said casing restraining the free ends of said first and second members against movement longitudinally thereof; at least one of said first and second members being deformed at least in part in a direction transverse to the plane of said thermally responsive element so that upon predetermined thermal expansion, flexing of said one member toward said thermally responsive element will result.

3,194,925
ELECTRICAL FUSES IMMERSED IN A DIELECTRIC FLUID

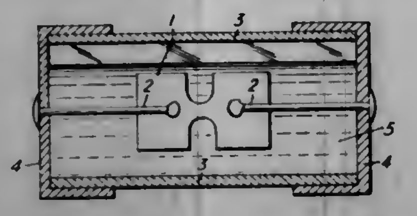
Victor J. Cox, Thorpe Bay, England, assignor to E. K. Cole Limited, Southend-on-Sea, England

Filed May 29, 1961, Ser. No. 113,456

Claims priority, application Great Britain, May 31, 1960, 19,138/60

4 Claims. (Cl. 200—131)

1. In an electric fuse, a thin metallic film fusible element connected between two end terminals, an insulating support supporting said thin metallic film fusible element, said thin metallic film element having a narrow portion between two broad portions, the narrow portion thereof being dimensioned to control the current carrying capacity of the fuse with said broad portions being connected to said end terminals, a container containing said element and supporting said terminals, in said container a heat dissipating dielectric liquid immersing the element and whose temperature of vaporisation is below the temperature of fusion of the said element and which liquid vaporises to produce a vapour of high heat and electrical resistance.

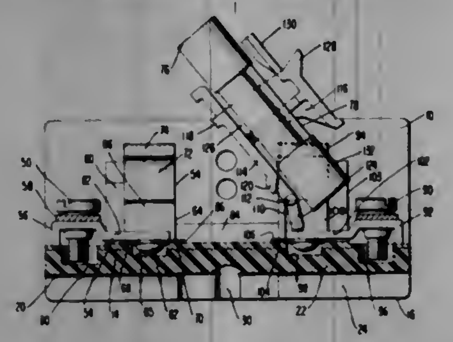


3,194,926
FUSE ASSEMBLY HAVING PIVOTALLY AND SLIDABLY MOUNTED INSULATING MEMBER IN ONE OF ITS FUSE CLIPS

George Ustin, Verona, N.J., assignor to Buchanan Electrical Products Corporation, Hillside, N.J., a corporation of New Jersey

Filed May 31, 1961, Ser. No. 113,834

5 Claims. (Cl. 200—133)



1. A fuse assembly for a tubular type fuse member having a cylindrically shaped body portion and a pair of terminal end portions, said assembly comprising an insulating member having a supporting surface, first and second aligned, spaced-apart clips each including a base portion mounted on said surface and a pair of spring metal legs extending away from said surface from said base portion to form a U-shaped spring clip member, said U-shaped spring clip members positioned releasably to engage the terminal end portions of said fuse member, the legs of said U-shaped clip member of said second clip having confronting grooves elongated longitudinally of said legs, and an insulating sleeve member having a portion to encircle the body portion of said fuse member and having laterally extending projections slidably and pivotally engaging said grooves and an extension slidably engaging said base portion on the opposite side of said projections from said fuse member encirculing portion, so that as said sleeve member is displaced from a first location in which said fuse member encircling portion is disposed intermediate said clips and said projections are spaced from the ends of said grooves remote from said base portion of said second clip to a second location remote from the first location, said extension will slide on said base portion of said second clip thereby causing said projections to slide in said grooves away from said base portion of said second clip.

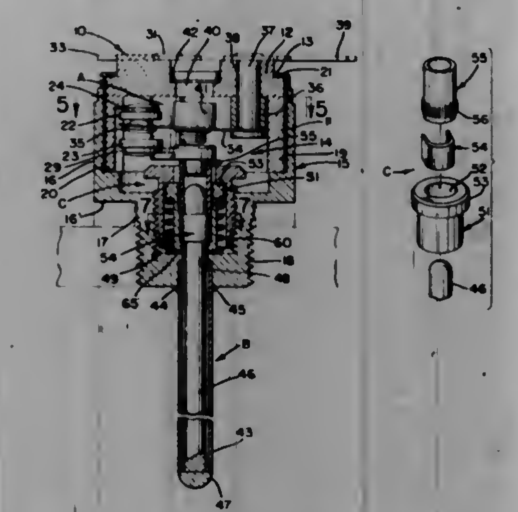
3,194,927
FAIL-SAFE PROBE-TYPE THERMO-RESPONSIVE ELECTRICAL SWITCH DEVICE

Donald E. Place, Mansfield, Ohio, assignor to Therm-O-Disc, Incorporated, Mansfield, Ohio, a corporation of Ohio

Filed July 31, 1962, Ser. No. 213,767

7 Claims. (Cl. 200—137)

1. A thermo-switch comprising: a housing defining a switch chamber; switch eelments mounted in said chamber including a stationary contact and a mobile contact and a cantilever mounted arm for supporting said mobile contact; a heat responsive probe spaced from said cantilever mounted arm having an elongated tubular member and a rod member mounted within and connected to said tubular member, said tubular member and rod member having different coefficients of thermal expansion; means for translating relative movement between said tubular member and rod member to said cantilever mounted arm including a bushing surrounding an end of said rod member; a frictional member within said bushing connecting the rod member and bushing for movement as a unit; means for adjustably limiting the axial movement of said bushing toward and away from said cantilever mounted arm; and means biasing said bushing in a direction to engage said translating means with said cantilever mounted arm.

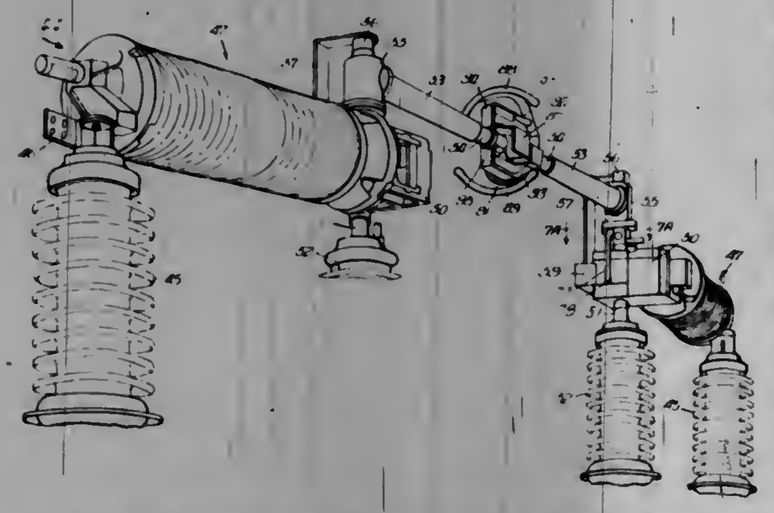


3,194,928
CENTER BREAK HIGH VOLTAGE SWITCH WITH CIRCUIT INTERRUPTERS

John J. Mikos, Highland Park, Ill., assignor to S & C Electric Company, Chicago, Ill., a corporation of Delaware

Filed July 26, 1962, Ser. No. 212,613

15 Claims. (Cl. 200—146)



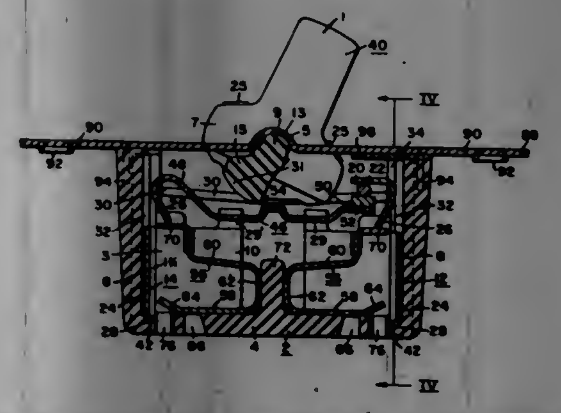
7. A high voltage switch comprising, in combination, an elongated support, a stationary insulator stack at each end of said support carrying a line terminal, a pair of intermediate insulator stacks rotatably mounted on said support between the end insulator stacks, a shaft extending from each intermediate insulator stack and rotatable therewith, a switch blade on each intermediate insulator stack connected to the respective shaft to rotate conjointly therewith about its axis for movement into or out of contact engagement with one another at the distal ends thereof, a metallic mechanism housing rotatably mounting each shaft and electrically connected to the respective switch blade, a circuit interrupter mounted on each stationary insulator stack and interconnecting the line terminal thereof and the mechanism housing adjacent thereto, means for operating each circuit interrupter by rotation of the respective shaft, and means for simultaneously rotating said intermediate insulator stacks to operate said circuit interrupters and open the circuit between said line terminals at two places followed by disengagement of said distal ends of said switch blades.

3,194,929
BIASING MECHANISM FOR SILENT TOGGLE ACTION SWITCH

Vincent L. Carissimi, Fairfield, Conn., and Owen L. Taylor, Mansfield, Ohio, assignors to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Application Dec. 23, 1958, Ser. No. 782,588, which is a continuation of application Ser. No. 484,811, Jan. 28, 1955. Divided and this application Mar. 16, 1964, Ser. No. 352,162

4 Claims. (Cl. 200—153)



1. An electric switch comprising, a rectangular cup-shaped insulating housing, an elongated spring located within said housing and extending transversely between one pair of opposed walls of said housing, means in each of said one pair of opposed walls for supporting opposed ends of said spring, a body member pivotally supported above said spring by the other pair of opposed walls of said housing, said body member including a lower surface having a central apex with an inclined surface at each side of said apex, said spring and said body member being located with respect to each other in said housing so that when one of said inclined surfaces engages said spring said spring is stressed, said body member being pivotally movable so that said apex further stresses said spring and causes said spring to engage the other of said inclined surfaces in the same manner, each of said inclined surfaces being formed to curve upwardly away from said apex in a transverse direction with respect thereto on a radius longer than the distance of each point on said lower surface from the pivot point of said body member so that progressive engagement of each of said inclined surfaces with said spring provides resilient stopping action for said body member, separable electrical contact means located within said housing and means on said body member for moving said contacts into and out of electrical engagement in response to said pivotal movement of said body member.

3,194,930
KNIFE SWITCH WITH CLOSURE RESISTING AND SHIELDING SPRING

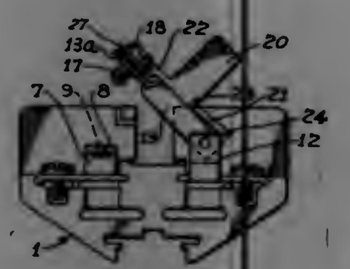
Erik J. Nielsen, Mequon, and Robert D. Boley, Milwaukee, Wis., assignors to Square D Company, Park Ridge, Ill., a corporation of Michigan

Filed Oct. 16, 1962, Ser. No. 230,961

9 Claims. (Cl. 200—158)

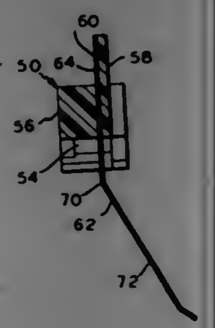
1. A knife switch comprising a body of insulating material, a stationary contact thereon, a switch blade support on the body, a switch blade pivotally mounted on the

blade support for swinging forwardly into, and rearwardly out of, contact with the stationary contact, a finger grip of insulating material connected to the blade, a leaf spring disposed rearwardly of the blade and having a first portion secured in fixed relation to the blade at a location spaced endwise of the blade from the pivotal axis, and having a second resilient portion movable forwardly and rearwardly relative to the blade and extending from the first portion endwise of the blade back to the support, said second portion being in resilient pressure engagement with the support in an open position of the blade and yieldably resisting movement of the blade from said open position toward closed position, and said spring being of electrically insulating material and being disposed rearwardly of the blade in shielding relation to the blade support and blade.



3,194,931
IMPROVED BLOCK-ELECTRICAL BRUSH ASSEMBLY

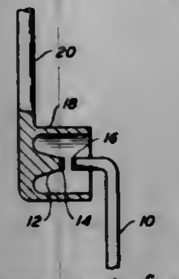
Emil R. Plasko, Walled Lake, and Maynard E. Anderson, Southfield, Mich., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed May 10, 1961, Ser. No. 109,174
1 Claim. (Cl. 200—166)



In a brush assembly for use with a printed circuit board: a one piece molded di-electric block formed to include a relatively thick mounting portion and a relatively thin plug-on portion extending therefrom and adapted to receive a female connector, said plug-on portion having first and second closely spaced parallel flat faces formed thereon; a series of parallel spaced electrically-conductive strips embedded in said block; said strips being formed of flat thin gage sheet material, and all of said strips having the longest cross sectional dimension of their embedded portions disposed in the same plane; said strips having first portions thereof disposed in the plane of said first flat face of the plug-on portion, whereby to make electrical connection with connectors in the aforementioned female connector; said strips having second portions extending through the relatively thick mounting portion, and third reed-like elongated portions extending freely of the block bent at an appreciable angle to the second portions for swinging movement, whereby when the block is located in a stationary position adjacent a rotary printed circuit board the reed-like portions are deformed by the board surface to effect pressure engagement between the board and the reed-like portions.

3,194,932
CONTACTS FOR MERCURY SWITCHES INCLUDING MERCURY RECOVERY COWLS

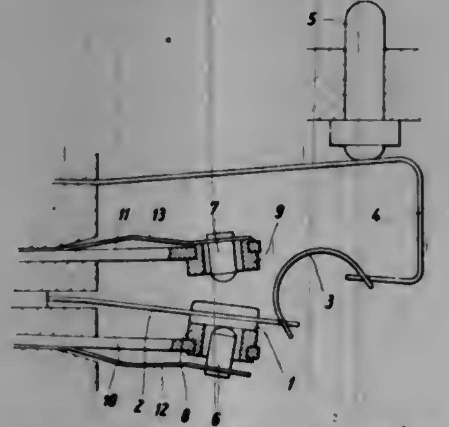
Jeofry S. Courtney-Pratt, Springfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed May 7, 1963, Ser. No. 278,728
3 Claims. (Cl. 200—166)



1. A contacting arrangement for mercury switches comprising a pair of mercury-wetted contacts adapted to open and close an electrical circuit and a cowl of rigid material mechanically integral with one of said contacts, the cowl surrounding and partially enclosing said pair of contacts to intercept particles of mercury leaving said compacts, the cowl being adapted to return intercepted particles of mercury to said one of said contacts.

3,194,933
ARC REDUCING SNAP SWITCH

Rudolf Ramstetter, 6 Am Wiesengrund, Starnberg am See, near Munich, Germany
Filed June 10, 1963, Ser. No. 286,585
Claims priority, application Germany, June 20, 1962, P 29,660
3 Claims. (Cl. 200—166)



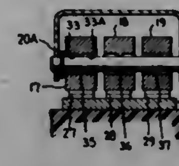
1. A snap switch comprising a leaf spring, a movable contact carried by said spring for movement between two positions, a switch operating member, a snap member connecting said operating member and said spring, whereby upon actuation of said operating member said spring and movable contact will be moved from either of said two positions to the other with a snap action, a fixed annular contact disposed at one of said two positions and providing a stop for said movable contact at said one position, a second leaf spring, and an auxiliary contact carried by said second spring, said auxiliary contact being surrounded by and of a length to project through said fixed contact, said auxiliary contact being electrically connected to said fixed contact.

3,194,934
SEGMENTED CONTACT ASSEMBLY HAVING PIVOTAL AND SIDEWISE-ROTATABLE CONTACT SEGMENTS

George E. Gauthier, Plainville, Conn., assignor to General Electric Company, a corporation of New York
Filed Dec. 12, 1963, Ser. No. 330,126
3 Claims. (Cl. 200—166)

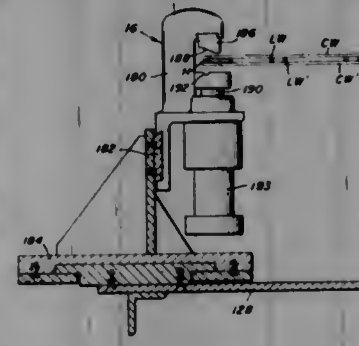
2. A movable contact assembly comprising:
(a) a contact arm;
(b) a pivot pin carried by said contact arm;

(c) a plurality of individual contact members supported on said pivot pin;
(d) each of said contact members having a hole therethrough for said pivot pin, said hole having enlarged portions at each end thereof and a reduced diameter central portion, and each of said contact members contacting said pivot pin substantially entirely at said reduced diameter central portion;
(e) whereby each of said contact members is rotatable in a plane perpendicular to the axis of said pivot pin and also rotatable in at least one plane parallel to said axis of said pivot pin.



3,194,935
METHOD AND APPARATUS FOR MANUFACTURING HINGED PANELS OF WIRE FABRIC

Albert L. Stoeckel, Euclid, Ohio, assignor to United States Steel Corporation, a corporation of New Jersey
Filed Oct. 29, 1962, Ser. No. 233,687
13 Claims. (Cl. 219—56)

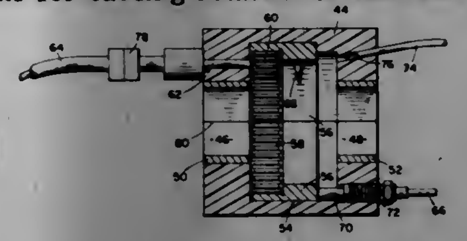


1. Apparatus for forming hinged wire fabric comprising, a welder having an upper and a lower set of electrodes each set being adapted to weld cross wires to line wires to form welded wire fabric, means to deliver a set of upper line wires to the upper set of electrodes and a set of lower line wires to the lower set of electrodes, means to feed upper cross wire to the upper set of electrodes in position for welding to the upper line wires and means to feed lower cross wire to the lower set of electrodes in position for welding to the lower line wires, means to actuate said electrodes for welding to thereby form an upper wire fabric strip and a lower wire fabric strip in superposed relationship, said upper and lower sets of electrodes being offset to position cross wires for forming into hinges, means to advance said upper and lower fabric strips from said welder, and means to hingedly interconnect said upper and lower fabric strips while in superposed relationship.

3,194,936
WELDED CONNECTION, METHOD AND APPARATUS

Roderick G. Rohrberg, Inglewood, and Harry J. Heckler, Torrance, Calif., assignors to North American Aviation Co., Inc.
Filed Mar. 30, 1962, Ser. No. 183,891
15 Claims. (Cl. 219—60)

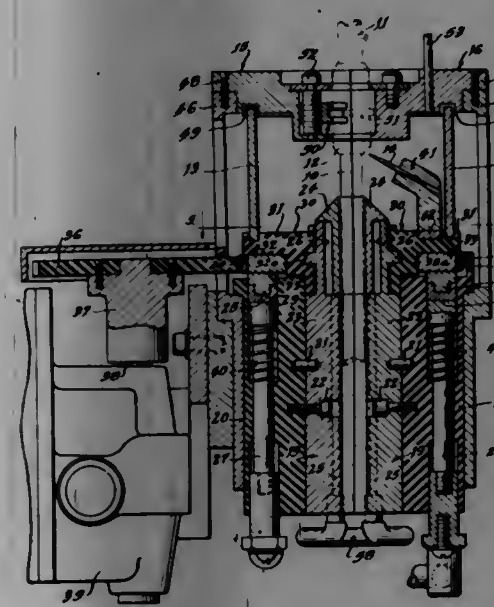
1. In welding apparatus for forming an annular weld bead on a substantially cylindrical workpiece portion; stationary chamber means including a chamber for surrounding the weld area with an inert gas, movable support means mounted within said chamber for rotation relative to said chamber means and said workpiece, a source of welding heat mounted on said movable support means, means for supplying inert gas to said chamber, and means for causing rotation of said movable support



means during the application of welding heat to said portion by said source whereby said annular weld bead is formed on said workpiece portion.

3,194,937
PORTABLE ELECTRIC WELDER

Charles D. Brons, Richland, and Walter W. Gaither and Louie J. Rousseau, Kennewick, Wash., assignors to The United States of America as represented by the United States Atomic Energy Commission
Filed May 26, 1964, Ser. No. 370,385
3 Claims. (Cl. 219—60)

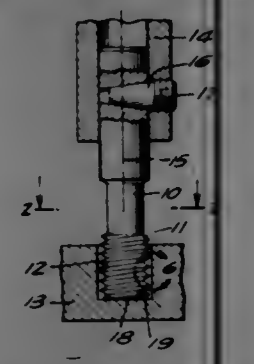


1. A welder for embracing and welding two tubes and a coupling, said welder comprising two complementary conducting members embracing one of the tubes to be welded, two complementary insulating members cooperating to embrace the conducting members, two complementary shell parts extending axially beyond the conducting members and being radially outward thereof and cooperating to enclose a welding space, means for holding one conducting member, one insulating member, and one shell part fixed to one another in a unit, means for holding the other conducting member, the other insulating member, and the other shell part fixed to one another in a second unit, means for pivotally connecting the units to one another to permit insertion of the tubes and coupling, an annular unit rotatable with respect to the conducting members, insulating members, and shell parts when brought together to embrace the tubes and coupling to be welded, each annular unit being formed of complementary halves each comprising a nonconducting section engaging the shell parts and conducting members so as to ride thereon during rotation of the annular unit, a conducting section mounted on the nonconducting section so as to be insulated from the conducting members and to face the insulating members at one end, and gear teeth provided on the conducting sections for rotating the annular unit, the annular unit further comprising a welding electrode positioned within the shell parts and mounted on one of the complementary halves in conducting relationship with the conducting section thereof, the welding electrode rotating about the

tubes and coupling during rotation of the annular unit, and brushes mounted in the insulating members so as to have sliding contact with the conducting section.

3,194,938
METHOD FOR PRODUCING PARTS BY ELECTRICAL EROSION

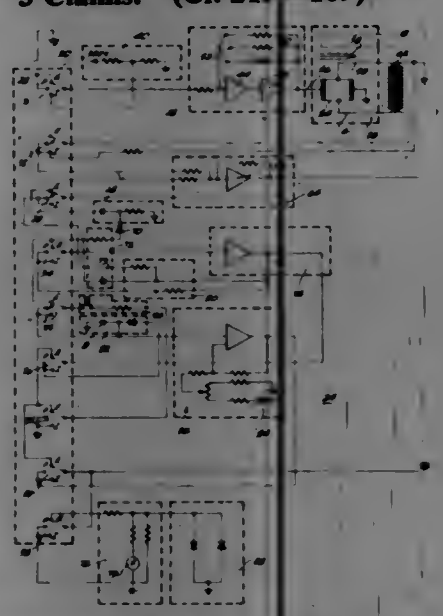
Donald E. Smith, Los Angeles, Calif., assignor to L. C. Miller Company, Monterey Park, Calif., a corporation of California
Filed Oct. 9, 1962, Ser. No. 229,337
14 Claims. (Cl. 219—69)



1. The method of producing a desired shape in or on a work member by electrical erosion, the work member being formed of electrically conducting material, comprising the steps of: positioning a shaped electrode member with respect to the work member so that one of said members encircles a portion of the other member and with the shaped portion of the electrode member adjacent the portion of the work member to be shaped, causing relative orbital movement between the electrode member and the work member without relative rotation or axial feed, and causing an electric erosion current to flow between the electrode member and the work member.

3,194,939
RESISTANCE WELDING PROCESS INDICATING SYSTEM

William H. Hill, Carlsbad, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Sept. 28, 1962, Ser. No. 226,803
3 Claims. (Cl. 219—109)



1. In combination with an electric resistance welding system, including a power supply, a load circuit including a pair of welding electrodes, a pair of conductors electrically connecting said electrodes to said power supply, and a constant signal source, a welding process indicating device comprising:

a multicontact switch having first, second and third positions representing different welding parameters and having said power supply connected to said first and second positions and said constant signal source connected to said third position;

a Hall effect device electrically connected to said switch and adapted to have said power supply coupled thereto when said switch is in either said first or second position and to have said constant power supply coupled thereto when said switch is in said third position, said Hall device being juxtaposed to one of said conductors to be responsive to a magnetic field when said power supply is actuated;

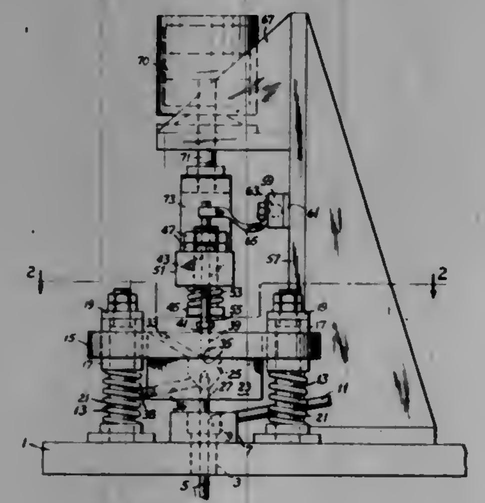
an integrating circuit means electrically connected to said switch and adapted to be energized only when said switch is in said first position for totalizing with respect to time the power developed in the weld being monitored;

a peaking circuit means and an inverter amplifier circuit means electrically connected to said switch and adapted to be energized only when said switch is in either its second or third position for developing a signal representative of the instantaneous magnitude of the selected parameter; and

a meter circuit coupled to said switch to indicate the magnitude of the welding parameters represented by the selected position of said switch.

3,194,940
BALL-ASSEMBLY APPARATUS

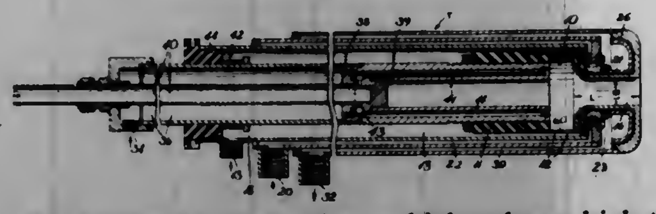
Arthur James Thomson, Cranston, R.I., and Gerard R. Achin, North Attleboro, and Frank Rynhart, Taunton, Mass., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Sept. 1, 1961, Ser. No. 135,636
10 Claims. (Cl. 219—117)



1. Welding apparatus comprising a base, a first electrode extending upward from the base, a reciprocable platen movable between upper and lower limits, said platen comprising a bowl having a first opening through the bottom through which said first electrode extends and adapted to contain a mass of balls covering the inner end of the first electrode when the platen is at its upper limit, said inner end of the first electrode being formed as a socket adapted to contain a single ball, said platen also having a guide passage adapted for movement of a conductive strip across the bowl, said platen also having a second opening communicating with said passage, a second electrode extending through the second opening, reciprocating means adapted to move the second electrode against the strip and to move the platen downward relative to the first electrode a sufficient distance to free the end of said first electrode of all but one ball and to force the strip against the last-named ball, and electric circuit means connected with said electrodes adapted to be completed when a ball and the strip are engaged.

3,194,941
HIGH VOLTAGE ARC PLASMA GENERATOR

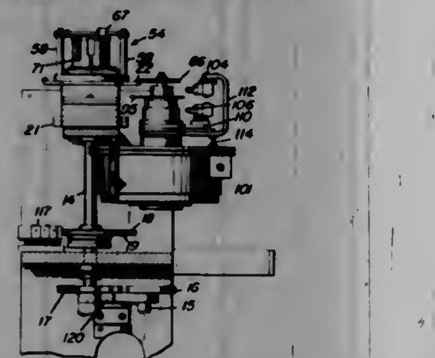
Robert J. Baird, Indianapolis, Ind., assignor to Union Carbide Corporation, a corporation of New York
Filed Sept. 13, 1962, Ser. No. 223,484
4 Claims. (Cl. 219—121)



1. Apparatus for producing a high-voltage high-temperature arc plasma between such apparatus and a metal connected in arc circuit relation therewith which comprises a cup-shaped electrode, a gas-directing nozzle having a L/I.D. of at least about 1.2, said nozzle being in axial alignment with but spaced from said cup-shaped electrode, a chamber surrounding the space between said cup-shaped electrode and nozzle and having means for introducing an arc gas into such chamber to produce a vortical flow in such chamber and said gas-directing nozzle.

3,194,942
AUTOMATIC RELAY WELDING MACHINE

Mark F. Gouran, North Hills, Clyde A. Cobb, Feasterville, and Leon Kazan, Philadelphia, Pa., assignors to Mark F. Gouran Co., Glenside, Pa.
Filed Sept. 19, 1961, Ser. No. 139,583
20 Claims. (Cl. 219—124)

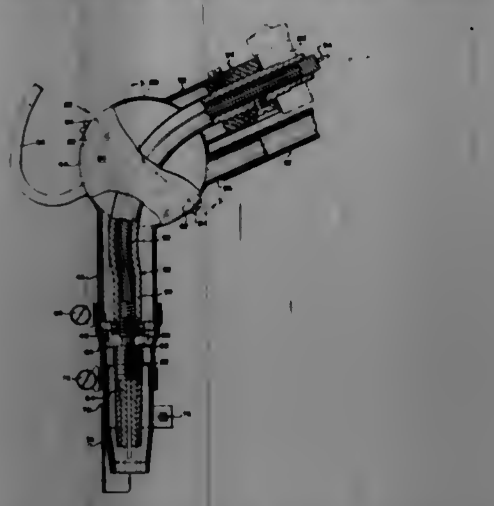


11. An automatic welding machine for welding a workpiece having a symmetrical shape with an even number of straight sides wherein the opposite sides are parallel and the arc shaped corners have radii which are constant and equal comprising means for holding said workpiece, a welding torch, means for moving said holding means with said workpiece in a fixed plane past said torch at a predetermined distance therefrom, cam means controlling said moving means to move said workpiece through distinct individual steps which may be exactly repeated and means for supplying a welding current to said torch.

3,194,943
SEMI-AUTOMATIC WELDING GUN

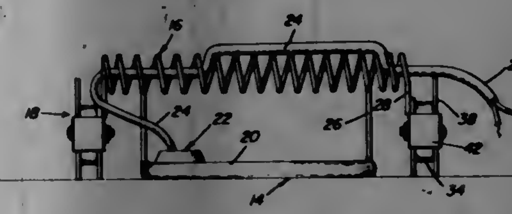
Russell T. Flora, Tipp City, Ohio, assignor to Hobart Brothers Company, Troy, Ohio, a corporation of Ohio
Filed Oct. 22, 1962, Ser. No. 232,140
10 Claims. (Cl. 219—130)

1. A welding gun for supplying welding wire and granular flux material to a welding region comprising; a tubular portion forming a nozzle for the gun, a cylindrical portion at the end of said tubular portion, guide means extending through said cylindrical portion and said tubular portion and terminating in the region of the end of said nozzle portion for conveying wire to said welding region, conduit means connected to said cylindrical portion for the supply thereto of granular flux material, said flux material being adapted for flowing by gravity through said nozzle portion to said welding region, said cylindrical portion comprising an end wall of transparent material for observation of the flow of flux material through said cylindrical portion, said flux material being conveyed through said conduit means by air, and holes in the periphery of said cylindrical portion spaced from the connection thereto of said nozzle portion for the escape of air from the cylindrical portion.



3,194,944
MAGNETICALLY ATTACHED ENGINE HEATER

Stephen J. Papp, 5655 W. 2nd Ave., Denver 26, Colo.
Filed June 18, 1963, Ser. No. 288,833
5 Claims. (Cl. 219—205)



1. A magnetic warming unit comprising a generally flat heater means having one face thereof positionable against an engine surface, a handle in the form of an elongated loosely wound slightly flexible coil spring extending transversely across the heater means and beyond the opposite sides thereof, said coil spring being in a plane spaced above the heater means, means fixing the heater means to the coil spring inwardly of the ends thereof extending beyond the heater means, and magnet means secured to each end of the coil spring and projecting therefrom, in outwardly spaced relation to the adjoining side of the heater means, into substantially the plane of said one face of the flat heater for engagement with the engine surface, the slightly flexible coil spring enabling an accommodation of the magnet means to surface irregularities on the engine.

3,194,945
RANGE

Eugene J. Barnett, Mansfield, Ohio, assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 21, 1963, Ser. No. 260,117
10 Claims. (Cl. 219—446)

1. A range platform unit comprising;

a platform member,

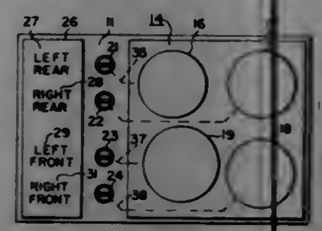
a group of surface type heating elements carried thereby,

a group of manually operable control members positioned adjacent a side of said group of heating elements and including a control member for each of said heating elements,

means operably associating each control member with the heating element controlled thereby,

and an indicia-carrying member positioned adjacent said group of control members for identifying the heating element controlled by each control member,

the arrangement of the heating elements and their respective control members being such that, when the range platform with its heating elements and control members are relocated by turning 180° in a horizontal plane, the indicia-carrying member may be

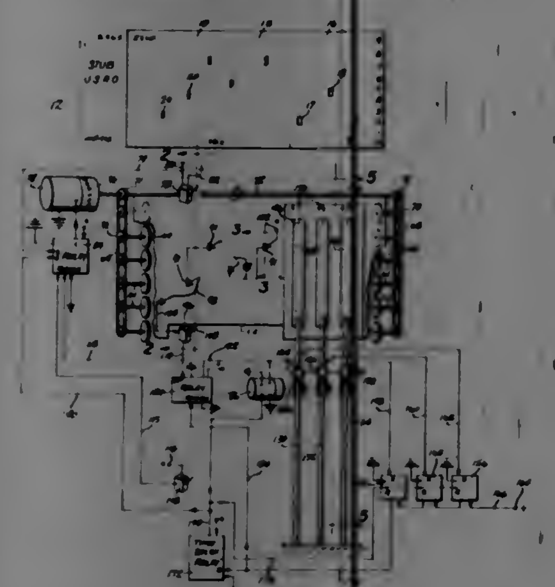


relocated adjacent the group of control members in their new location without the turning thereof and still correctly identify the heating element controlled by the respective control members.

3,194,946
POSTAGE METER SET BY CARDS

Jacob Rabinow, Takoma Park, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed June 20, 1961, Ser. No. 124,762
8 Claims. (Cl. 235—61.6)



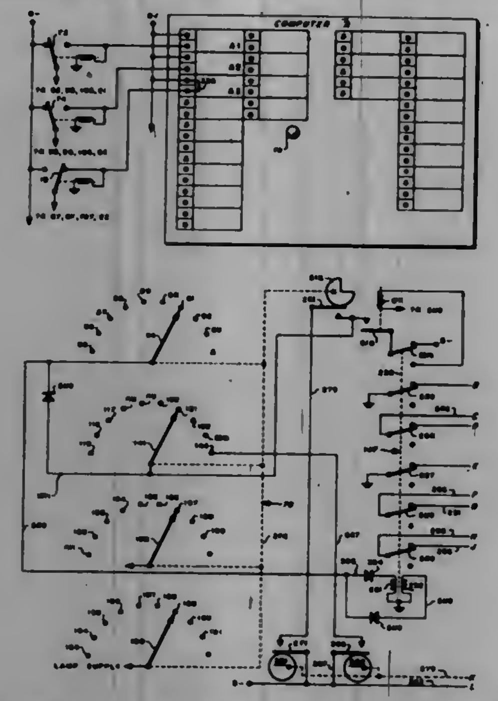
5. In combination with counters of a postage meter, a card controlled device to adjust said counters where the card contains data signifying the amount of adjustment of said counters, said card controlled device including card handling means, means to examine said card and read said data to adjust said counters in accordance therewith, said examining means including a plurality of probes, means for moving said probes over the surface of the card, means to provide an electrical signal in response to code data detection by said probes, means responsive to said electrical signal for disabling said probe moving means, and means including unidirectional motion transmitting means for coupling said probes to said counters.

3,194,947
AUTOMATIC SELECTOR FOR POOLED ANALOG COMPUTER COMPONENTS IN A MULTI-COMPUTER INSTALLATION

Sidney Sperling, Southampton, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed July 15, 1960, Ser. No. 43,251
9 Claims. (Cl. 235—150)

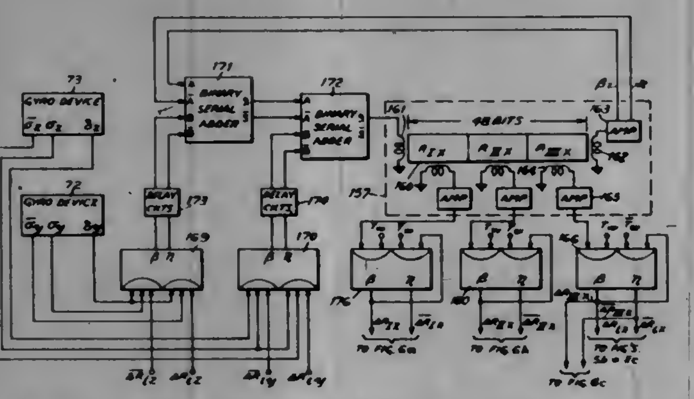
1. An automatic selector for pooled electrical analog computer components in a multiple computer installation for signaling the availability of a requested component at a prepatch panel comprising, a prepatch panel having a pair of query terminals and provided with the necessary number of electrical terminals for permitting the selected component to be suitably interconnected into the electrical analog computer being made up, selector switch means for each of the components, latching relay means controlling each of said selector switch means, means conducting an electrical query signal from said query terminals to each of said selector switch means, means for systematically interrogating each of said selector switch means in a predetermined order in response to said query signal, means for disabling each of said selector switch means that are in use and not available for assignment, and individual means for signalling when each selector switch is disabled.



3,194,948
VELOCITY AND POSITION COMPUTER

Ben Alexander, Nutley, N.J., and Georges A. Deschamps, New York, N.Y., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Aug. 7, 1958, Ser. No. 753,692
12 Claims. (Cl. 235—151)

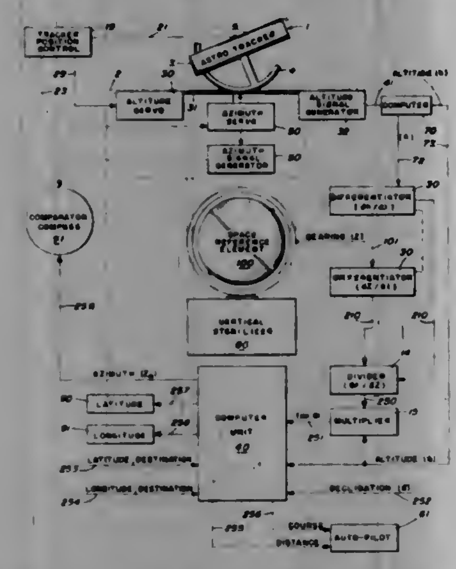


1. A system for producing digital signals representing the attitude, velocity and position of a body with respect to a reference spatial frame comprising a body, means, including a plurality of rotation-sensing devices and a plurality of translational acceleration sensing devices coupled to said body, for producing signals some representative of components of angular rotation of said body about their rotation-sensitive axes and others representative of increments of velocity of said body parallel to their sensitive directions, means for mounting said sensing devices on said body with rotation-sensitive axes and sensitive directions fixed with respect to said body, each of said rotation-sensitive axes being aligned with a different one of said sensitive directions, and each of said sensitive axes and sensitive directions being orthogonally related with respect to each other, first digital computer means adapted to store a first plurality of signals each signal representing only one, and a different one of the separate angles formed by different combinations of ones of the sensitive axes with ones of the reference frame axes, all of said first plurality of signals together representing each of the angles formed by all the combinations of each of said sensitive axes with each of the reference frame axes, second digital computer means responsive to said signals representative of increments of velocity and said first plurality of signals for computing and storing a second and a third plurality of signals representative of the velocity and position, respectively, of said body with respect to said reference frame axes and means coupled to said signal producing means for applying said signals therefrom to modify the signals in said first, second and third storage means so that the signals in said storage means continuously represent the attitude, velocity and position of said body with respect to that of the reference frame.

3,194,949
AUTOMATIC ONE-STAR TRACKING NAVIGATION DEVICE

Robert E. Jasperson, Ferry Farms, Annapolis, Md.

Filed May 8, 1961, Ser. No. 108,681
6 Claims. (Cl. 235—151)
(Granted under Title 35, U.S. Code (1952), sec. 266)



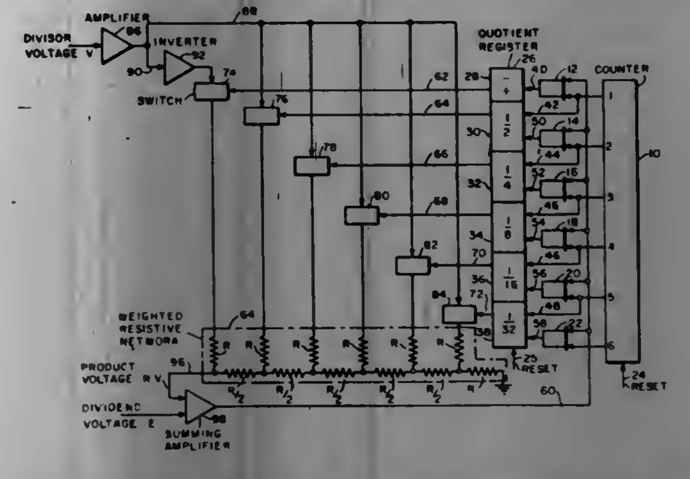
1. A navigation device comprising a stabilized platform, an astro-tracker connected to said stabilized platform, control means connected to said astro-tracker being adapted to follow one star, signal means connected to said astro-tracker for determining the altitude of the star, and means responsive to the altitude of the star for determining the geographic position of said stabilized platform.

3,194,950
ANALOG TO DIGITAL DIVIDER APPARATUS

Allen B. Walls, Baltimore, and James E. Thompson, Severna Park, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 31, 1961, Ser. No. 113,712
3 Claims. (Cl. 235—154)

1. In analog to digital divider apparatus for producing digital signals representing the quotient of analog dividend signals and analog divisor signals, said apparatus being capable of handling either one of negative divisor and negative dividend signals, the combination of: quotient means operative to supply quotient signals in digital form; multiplying means operatively connected to receive said divisor signals in analog form and said quotient signals, and being operative to provide product signals of said quotient and divisor signals; feedback comparing means operatively connected to receive said dividend signals in analog form and said product signals, and being operative to supply error signals to correct said quotient signals to be indicative of the algebraic sign and magnitude of the quotient of said dividend and divisor signals; and sensing means operatively connected

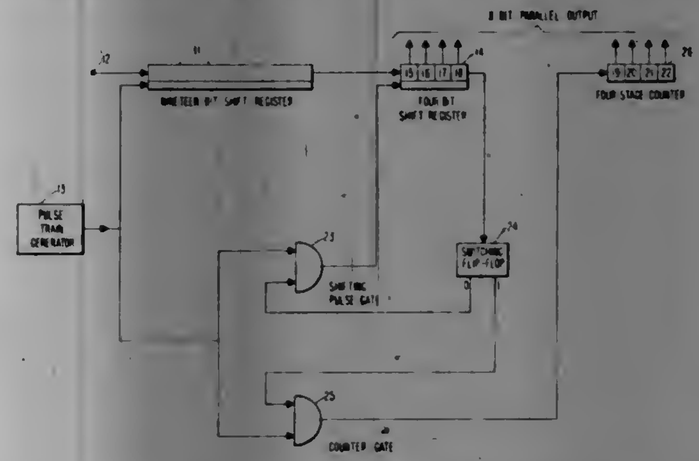


to said comparing means and being responsive to cause said dividend and product signals applied to said comparing means to be of opposite polarities.

3,194,951
LOGARITHMIC CONVERTER

David H. Schaefer, Oxon Hill, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed May 24, 1962, Ser. No. 197,553
8 Claims. (Cl. 235—154)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A converter for compressing a nineteen or less digit binary number into an eight digit binary number which is approximately equal to the logarithm of the nineteen or less digit binary number where the nineteen or less digit binary number is represented by pulses containing nineteen bits of information and by a group of nineteen clock pulses synchronized with the nineteen bits of information, said converter comprising: a four stage shift register with a signal output for each of its four stages; means connecting the pulses containing the nineteen bits of information to said shift register; a four stage binary counter with a signal output for each of its four stages; shifting pulse gate means connected to apply the group of nineteen clock pulses to said shift register to shift the pulses containing nineteen bits of information into and through the shift register when the shifting pulse gate means is unblocked; counter gate means connected to apply the source of nineteen pulses to said four stage binary counter to be counted when the counter gate means is unblocked; and control means connected between said shift register and said shifting pulse gate means and counter gate means for unblocking said shifting pulse gate means and blocking said counter gate means before the most significant bit is received from said shift register and for blocking said shifting pulse gate means and unblocking said counter gate means when the most significant bit is received from said shift register.

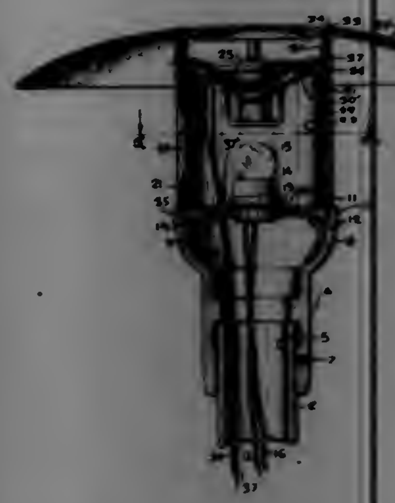
3,194,952

PATIO LIGHT AND SPEAKER COMBINATION

Orville C. Wells, Bonner Springs, Kans., assignor to Drive-In Theatre Mfg. Co., Inc., Edwardsville, Kans., a corporation of Missouri

Filed Dec. 23, 1963, Ser. No. 332,778

7 Claims. (Cl. 240—2)



1. A combined speaker and lamp for outdoor use comprising,
(a) a support,
(b) a fitting on said support having a top portion,
(c) a light socket including a bulb mounted substantially in the center of said top portion,
(d) a cylindrical globe having top and bottom rims, the bottom rim resting on said top portion of the fitting,
(e) spaced posts secured to said top portion of the fitting and extending vertically thereabove outside said globe,
(f) a loud speaker element,
(g) means engaging said posts for mounting said speaker element above said light socket and bulb, and
(h) a cover member mounted on said posts and spaced above said speaker element.

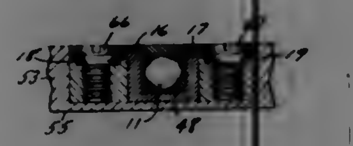
3,194,953

ENCAPSULATED LAMP CONSTRUCTION

Samuel J. Friedland, Bayside, N.Y., assignor to Collectron Corporation, New York, N.Y., a corporation of New York

Filed Oct. 1, 1962, Ser. No. 227,184

2 Claims. (Cl. 240—8.16)



2. Instrument panel construction comprising: a generally planar light-transmitting lamina, said lamina having a cylindrical recess therein and an outer surface; a sleeve element permanently secured within said recess, said sleeve having a pair of axially aligned threaded bores therein; said recess being located on said outer surface of said lamina, a lamp capsule element, a lamp element encapsulated by transparent epoxy resin within said lamp capsule element, said lamp capsule element having a cylindrical flange thereon and having a pair of through openings corresponding to said threaded bores; threaded means symmetrically interconnecting said sleeve element and said lamp capsule element within said recess, thereby allowing rapid and simple interchangeability of said lamp capsule element containing said lamp element for said recess within the front of said panel.

3,194,954

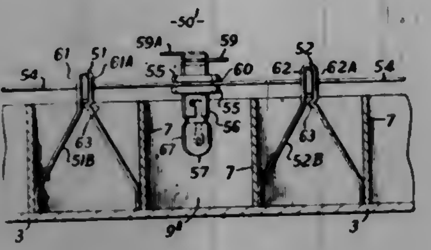
BACK-LIGHTED DISPLAY PANELS

John David Ivor Locke, Warnham, England, assignor to Communications Patents Limited

Filed July 2, 1962, Ser. No. 206,807

Claims priority, application Great Britain, July 6, 1961, 24,424/61; Dec. 29, 1961, 46,715/61

3 Claims. (Cl. 240—10)



1. A back-lighted display panel comprising a translucent screen, at least one cellular grid member including partition walls extending from a front face to a rear face of the grid member and bounding open-ended cells, the grid member being bonded to the rear face of the screen along the forward edges of the partition walls, at least one electric lamp, at least one electric lamp holder unit, each lamp holder unit including at least two retaining parts, each retaining part being located in one of the cells of the grid member, said retaining parts being comprised of spring members of generally Y-shape having arms engaging said partition walls to retain the lamp holder unit in place in relation to at least two cells in a row of cells of the grid member, and an intermediate part engaging a coupling piece, each said coupling piece being engaged by and spacing apart a plurality of said spring members and carrying a plurality of supply wires for connecting said electric lamp to a source of electricity, and said electric lamp being carried in a holder supported by a pair of said supply wires.

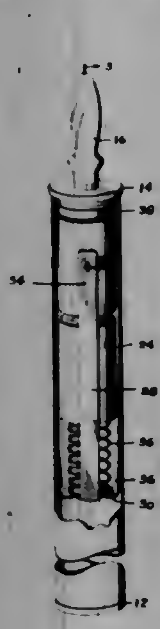
3,194,955

ARTIFICIAL CANDLE

Roderic M. Koch, P.O. Box 358, Evansville, Ind.

Filed Aug. 7, 1962, Ser. No. 215,377

2 Claims. (Cl. 240—10.64)



1. An imitation ceremonial candle comprising, an elongated tubular housing of non-conductive material, a cap fixed in the bottom of said housing, a metallic cap removably plugging the top end of said housing, a metallic cage suspended from said top cap telescopically within said housing, said cage consisting of two U-shaped metallic strips seated one within the other and at right angles thereto, a metallic spring secured to the inside bottom face of said cage, a plurality of dry cell batteries supported vertically in said cage with the lowermost battery seating on said spring, an insulating collar interposed between said top cap and the uppermost battery in said cage, and a flame simulating lamp bulb screw seated in said top cap and contacting a terminal of the uppermost battery in said cage.

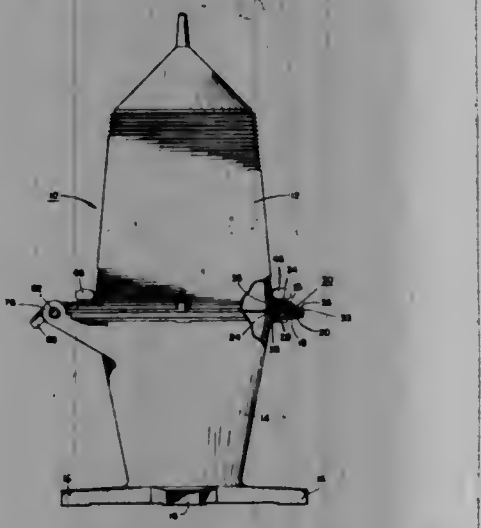
3,194,956

MARINE LANTERN

Arthur M. Troccoli, Old Bridge, N.J., assignor to Elastic Stop Nut Corporation of America, Union, N.J., a corporation of New Jersey

Filed Apr. 3, 1963, Ser. No. 270,331

2 Claims. (Cl. 240—11.2)



1. A lantern comprising,
(a) a base having an upwardly facing annular flange surface of predetermined outer diameter,
(b) a lens having an outwardly extending annular peripheral flange of smaller outer diameter than said predetermined diameter and having an upwardly facing annular flange surface and a downwardly facing annular flange surface confronting but spaced from the radially inner portion of the flange surface of said base,
(c) a resilient annular sealing member between and engaging the radially inner portion of the flange surface of said base and the downwardly facing flange surface of said lens, and
(d) a mounting ring having an outer flange portion in engagement with the radially outer portion of the flange surface of said base and an inner flange portion overlapping and engaging and conforming in shape to the upwardly facing flange surface of said lens and urging said lens flange toward the radially inner portion of the flange surface of said base to deform said resilient annular member thus to effect a seal between said lens and said base, there being an annular clearance space radially between the flange of said lens and said mounting ring and extending between said mounting ring and said flange surface of said base.

3,194,957

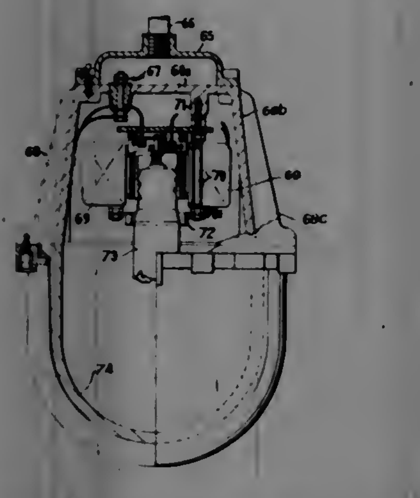
ELECTRIC LIGHTING APPARATUS

James Caldwell, Olive Cottage, Hayes Lane, Timperley, Cheshire, England; Charles Hubert Hodgson, Oak Bungalow, Longhurst Lane, Mellor, Marple, England; and John Thomas Hopwood, 7 Dartford Road, Urmston, Manchester, England

Filed Jan. 4, 1961, Ser. No. 80,650

9 Claims. (Cl. 240—11.4)

1. In a symmetrical, annular, electric lighting fitting the combination of
terminal block means adapted to be affixed to a support;
a lamp holder in said fitting, electrically connected to said terminal block means;
an electric discharge lamp bulb detachably mounted in said lamp holder, said lamp, lamp holder and terminal block means having a common longitudinal axis;
an annular upper housing associated with said terminal block means, said housing encircling said common axis at a spaced lateral distance therefrom, proximate said lamp holder, and defining an annular space therearound for receiving a choke;
an annular choke electrically connected to said lamp holder, said choke having a plurality of multi-section, co-planar, plates defining an inner cylindrical wall encircling said common axis at a spaced distance therefrom and being fitted in said annular space;
an annular heat resistant encapsulation in intimate contact with the entire exterior of said choke, said encapsulation including an integral inner, cylindrical wall covering the said inner wall of said choke and said encapsulated choke having at least two holes therein for detachably affixing the same to said terminal block means.



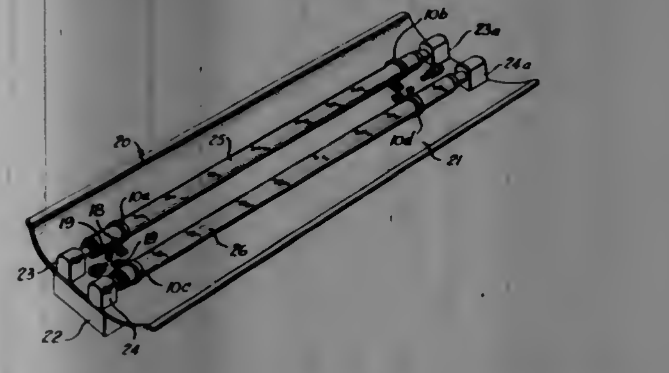
3,194,958

FLUORESCENT LAMP GUARD

Eli Schneiderman, 1446 Carlsen Drive, Union, N.J.

Filed Apr. 11, 1963, Ser. No. 272,341

1 Claim. (Cl. 240—102)



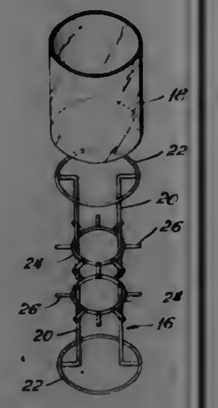
A safety guard for use on fluorescent tubes in fluorescent lamp fixtures, said safety guard comprising a ring portion adapted to concentrically enclose a fluorescent tube and having spaced apart ends, flanges firmly connected with each of said ends and extending radially outwardly of said ring portion in parallel spaced relation, and an angular stem piece for attaching said safety guard to a fluorescent lamp fixture, said stem piece having a shorter leg portion located intermediate said flanges and firmly permanently connected therewith, said stem piece further having a longer leg portion having a U-shaped slot near the end thereof, said U-shaped slot extending in the direction of the central axis of said ring portion.

3,194,959
LAMP SHADE

Robert Niles Bashaw, Freeport, and Billy Gene Harper, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 24, 1962, Ser. No. 232,802

2 Claims. (Cl. 240—108)



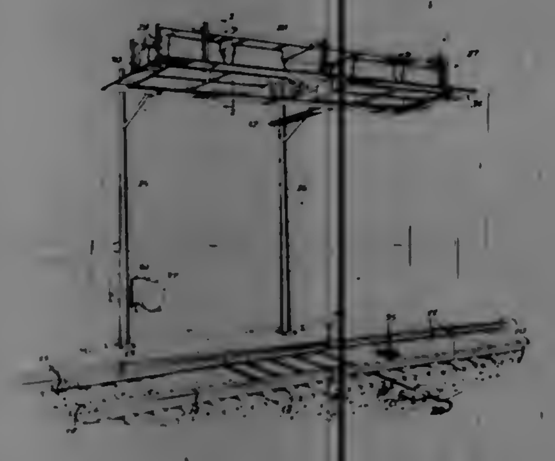
1. A shade for a lamp comprising a shade framework having spaced ring members and a plurality of support members extending therebetween, means on said framework for attaching the framework to said lamp, and a tight-fitting seamless cover substantially the same diameter as the outside diameter of said framework shrunk onto said framework and fixedly attached thereto, said cover comprising a seamless tube of shrunken polymer film.

3,194,960
RAILROAD TRACK APPLIANCE

John C. Tuttle, Albuquerque, N. Mex., assignor to Blanco Manufacturing Co., Inc., Albuquerque, N. Mex., a corporation of New Mexico

Filed Oct. 30, 1961, Ser. No. 148,568

5 Claims. (Cl. 246—428)



1. A device for automatically preventing the occurrence of frozen moisture on a railroad track, comprising:
- an infrared generator;
- means for supporting the generator above the track so as to clear railroad trains;
- means for directing infrared radiation from the generator to the track;
- means for sensing temperatures favorable to the freezing of moisture, and for signaling the occurrence thereof;
- means for sensing the presence of moisture at the track and signaling such presence;
- and means responsive only to simultaneous signals from both sensing means for starting the generator.

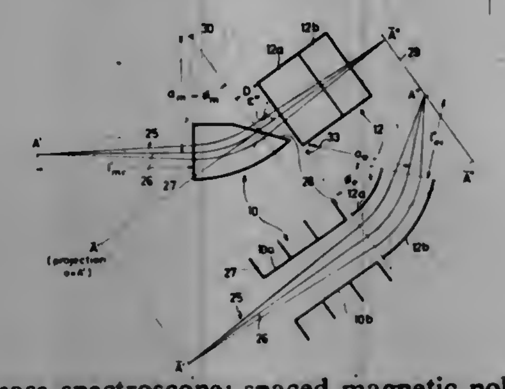
3,194,961
DOUBLE DEFLECTION SYSTEM FOR FOCUSING IONS OF SELECTED MASS AND CHARGE AT A PREDETERMINED POINT

Heinz Ewald, Feichthofstrasse 96, Munich-Obermenzing, Germany, and Siegfried Neumann, Munich, Germany; said Neumann assignor to said Ewald

Filed Feb. 27, 1963, Ser. No. 261,538

Claims priority, application Germany, Feb. 28, 1962, E 22,471

4 Claims. (Cl. 250—41.9)



1. In a mass spectroscope; spaced magnetic pole shoes establishing therebetween a substantially uniform magnetic field for deflecting an ion beam in a plane of magnetic deflection, condenser plate means establishing an electrostatic field for deflecting the ion beam in a plane of electrostatic deflection, said deflection planes are perpendicular to each other wherein the magnetic field and the electrostatic field are arranged in sequence along the path of the beam such that the particles first pass through the magnetic field and subsequently pass through the electrostatic field, said pole shoes having mutually inclined entry and exit surfaces of the magnetic field so as to form a sector magnetic field to focus ions of like mass and energy in said plane of magnetic deflection at a predetermined point a certain distance beyond the field combination in the direction of ion travel, said condenser plate means providing the electrostatic field defined by inner and outer boundaries of an arcuate passage through which the beam travels and forming an electrostatic sector field to focus ions of the mentioned mass and energy in said plane of electrostatic deflection at said predetermined point, whereby said fields together provide stigmatic point focusing for these ions.

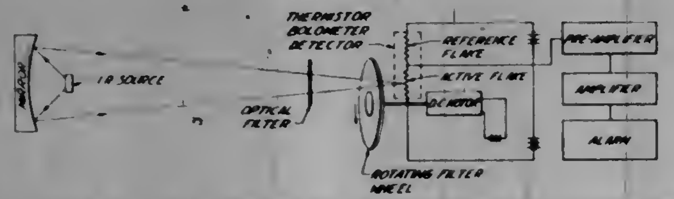
3,194,962
PORTABLE INFRARED DETECTOR COMPRISING A FILTER WHEEL

Hugh R. Carlon, 110 Cherry Road, Edgewood, Md., and Harvey Tannenbaum, 3405 Washington Ave., Baltimore, Md.

Original application Mar. 16, 1961, Ser. No. 96,337. Divided and this application Dec. 5, 1963, Ser. No. 333,252

1 Claim. (Cl. 250—43.5)

(Granted under Title 35, U.S. Code (1952), sec. 266)



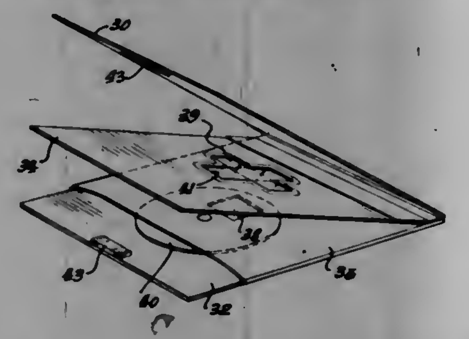
Apparatus for the detection of compounds containing a pentavalent phosphorus ester linkage in the atmosphere comprising a source of infrared radiation, a filter wheel made up of alternating sectors of polyethylene film impregnated with a fine mineral powder and polyethylene film covered by polytrifluoromonochloroethylene film, driving means to turn said wheel, detector means located so as to receive said radiation after it passes through said filter wheel, and to receive and respond to variations in the intensity of the infrared reaching it, amplifier and indicator means connected to said detector means adapted to amplify the variations received and convert it to an aural-visual signal whereby upon passage of samples of said phosphorus compound containing between the infrared source and the detector the normally balanced amount of energy received by the detector is altered by the absorption of some of the infrared radiation by said phosphorus compounds.

3,194,963
LIGHT INTENSITY MEASURING DEVICE AND METHOD USING 2-(2′,4′-DINITROBENZYL)-PYRIDINE

William E. McKee, Woodland Hills, Calif., assignor to Sundstrand Corporation, Rockford, Ill., a corporation of Illinois

Filed July 17, 1961, Ser. No. 124,452

9 Claims. (Cl. 250—83)



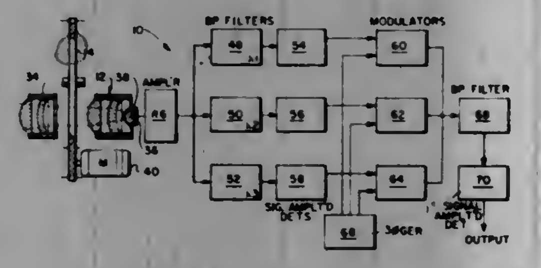
3. A process for measuring light intensity comprising:
- exposing 2-(2′,4′-dinitrobenzyl)-pyridine in its solid form to an ultraviolet-containing radiation, said pyridine compound upon exposure to ultraviolet light acquiring a blue color, the intensity of which is dependent upon light quantity;
- interrupting exposure of said pyridine compound before it has reached its full characteristic blue color; and
- comparing the color of the exposed pyridine compound with color swatches having colors typical of different degrees of ultraviolet radiation, said comparison being made after placing a transparency capable of absorbing light in the wave range of 2800 to 5500 angstroms over the pyridine compound and the color swatches.

3,194,964
INFRARED DETECTING SYSTEM

Melvin H. Larson, Bradbury, Calif., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 16, 1962, Ser. No. 188,928

7 Claims. (Cl. 250—83.3)



1. In an infrared optical scanning system, a plural frequency reticle positioned at the focus of the optical system whereby the image of a radiating object viewed by the optical system is focused on the reticle, an infrared senstive detector associated with said reticle for receiving radiation passing therethrough. means for causing the image on the detector to move over the surface of the detector whereby the radiation passing through the reticle is interrupted and the frequencies at which the radiation is interrupted depends on the size of the image on the reticle, the output of said infrared senstive detector generating pulsating signals at frequencies corresponding to the frequencies at which the radiation is interrupted, and means connected to said detector for determining when less than all the frequencies of radiation for which the reticle was designed are falling on the detector to indicate that the optical system is viewing a point source of radiation.

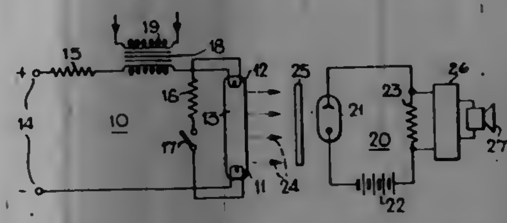
3,194,965
VISUAL SIGNALLING SYSTEMS UTILISING MODULATED LIGHT

Harold R. Ruff, George K. Lambert, and Frederick E. Large, Leicester, England, assignors to Associated Electrical Industries Limited, London, England, a British company

Filed Feb. 19, 1963, Ser. No. 259,754

Claims priority, application Great Britain, Feb. 19, 1962, 6,353/62, 6,354/62

8 Claims. (Cl. 250—199)



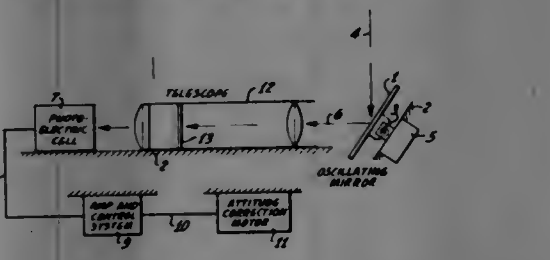
1. A signalling system comprising a light source consisting of at least one sodium vapour electric discharge lamp, means for concentrating the substantially monochromatic radiation from said light source to a limited solid angle, a source of electrical power connectible to said light source to cause said source to emit said radiation, electrical heating means for said light source, means for varying the power input to said light source from said source of electrical power and thereby modulating said monochromatic radiation from said light source to produce signals, means for controlling the power input to said heating means from said source of electrical power whereby to maintain substantially constant the sodium vapour pressure in said light source when the power input to said light source is varied, and filter means adapted to pass substantially only said modulated monochromatic radiation constituting said signals, said filter means being interposed in the path between said light source and a detector of said monochromatic radiation in the vicinity of said detector.

3,194,966
PHOTOSENSITIVE STAR TRACKING SYSTEM

Henry R. Hulett, Portola Valley, Calif., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware

Filed July 6, 1961, Ser. No. 122,284

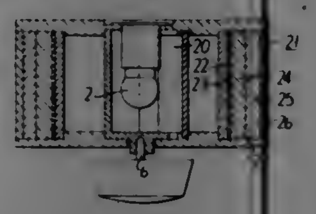
2 Claims. (Cl. 250—203)



1. A space vehicle attitude-sensing system comprising: a frame; a photoelectric tube mounted on said frame; a mirror pivoted to said frame in line with said photoelectric tube on a fixed axis for reflecting a beam of light from a point source of light to said photoelectric tube; means for oscillating said mirror about said fixed axis at a predetermined amplitude and frequency; a telescope associated with said mirror; a window frame in the focal plane of said telescope mirror assembly disposed between said photoelectric tube and said mirror and having an opening therein asymmetrical relative to an axis in the plane of said window normal to said fixed axis; and having no more than one side parallel to said fixed axis;

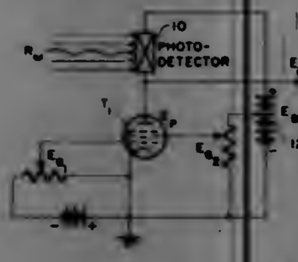
the size of said opening and the amplitude of said oscillation being so correlated that the reflected beam moves through an amplitude at the plane of said opening greater than the maximum size of said opening in the direction of movement of said beam and so correlated that said reflected beam will always cut across at least a portion of said window.

3,194,967
VARIABLE ELECTRICAL IMPEDANCES
Derek Hubert Mash, Harlow, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Feb. 16, 1961, Ser. No. 89,736
Claims priority, application Great Britain, Feb. 26, 1960, 6,865/60
3 Claims. (Cl. 250—211)



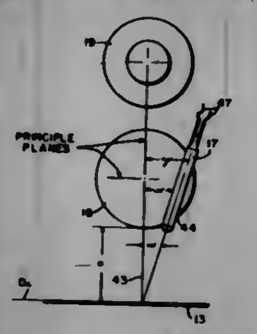
3. A variable capacitor comprising a light-tight enclosure, a composite member located within said enclosure, said member consisting of a glass cylinder, a layer of light transmissive electrically conducting material supported on the outer surface of said cylinder, a layer of photoconductive material supported on said layer of conducting material, a layer of dielectric material supported on said layer of photoconductive material and a layer of conducting material supported on said layer of dielectric material, an electric incandescent lamp located within said cylinder and two opaque semi-cylinders concentric with said lamp and positioned between said lamp and said cylinder, one of said semi-cylinders being fixed and the other semi-cylinder being rotatable about its longitudinal axis to provide a variable gap between adjacent ends of said semi-cylinders to enable a beam of light of variable width to be directed from the lamp on to said layer of photoconductive material to provide a conducting region between said layer of light transmissive material and said layer of dielectric material.

3,194,968
PHOTODETECTOR CIRCUIT FOR THE DETECTION OF WEAK RADIANT SIGNALS IN THE PRESENCE OF A LARGE SIGNAL BACKGROUND
George F. Masin, Anaheim, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Sept. 20, 1962, Ser. No. 225,959
7 Claims. (Cl. 250—214)
(Granted under Title 35, U.S. Code (1952), sec. 266)



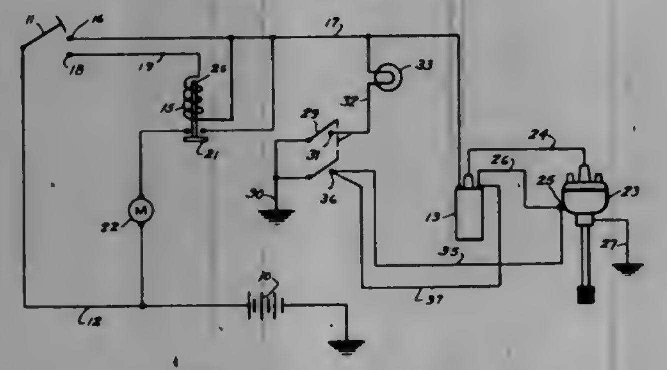
6. A photodetector circuit for improving the detection of weak radiant signals in the presence of large signal background, comprising:
- (a) a photodetector,
- (b) a photodetector load impedance consisting of a transistor circuit having high collector A.C. impedance and relatively low D.C. impedance connected in series with said photodetector,
- (c) a source of D.C. bias supply voltage connected to said photodetector and said transistor and in series therewith,
- (d) a positive feadback network included in said transistor circuit for increasing the impedance thereof over a narrow band of frequencies with improvement in signal to noise ratio,
- (e) said photodetector being operable to detect radiant energy signals which impinge thereon and generate an output in response to said radiant energy signals,
- (f) any short circuit weak signal current of said photodetector not being significantly affected by the presence of a large stead state radiant signal background and degradation of said weak signal to where the said weak signal becomes less detectable and finally degrades to virtually zero being lacking.

3,194,969
OPTICAL READER WITH INTEGRAL LENS AND LIGHT RESPONSIVE DEVICE
Robert D. Chute, Southfield, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 12, 1962, Ser. No. 172,453
6 Claims. (Cl. 250—216)



1. An optical system projecting light on and responsive to light reflected from an object, comprising a source of illumination, a lens located between said source and said object and focusing diverging light rays impinging thereon from said source on said object in a converging light beam on both sides of and containing an optical axis of the lens normal to the object, said lens having an opening therein located off-centrally and to one side of the said optical axis thereof a distance that is less than the radius of curvature of the lens as measured along a principal plane of the lens normal to the aforesaid optical axis thereof, and a light response device secured in said opening in said lens and having a light sensitive surface facing said object at an acute angle to the plane of the object to receive illumination reflected therefrom.

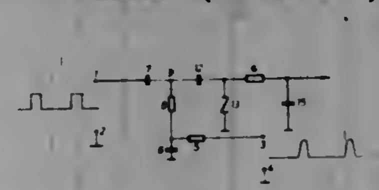
3,194,970
THEFT PROOF SYSTEM FOR AUTOMOTIVE IGNITION SYSTEMS
Albert L. Claps, Elkgrove, Ill., assignor to Magnatronics, Villa Park, Ill., a corporation of Illinois
Filed Aug. 15, 1962, Ser. No. 217,010
1 Claim. (Cl. 307—10)



In a theft proof system for automotive vehicles,
an ignition system including a battery,
an ignition switch,

an ignition coil and a distributor,
said ignition coil having a primary and a secondary,
a first conductor connecting said battery to said ignition switch,
a second conductor connecting said ignition switch to the primary of said ignition coil,
a third conductor connecting the secondary of said ignition coil to said distributor,
a fourth conductor connecting the output side of the primary of said ignition coil to said distributor,
a fifth conductor connecting said distributor to ground,
and a safety switch remote from said ignition switch and operable independently of said ignition switch having at least two terminals, one being connected to said fourth conductor and the output of the primary for said ignition coil and the other being connected to ground, whereby said coil is grounded and said distributor is short circuited from the ignition circuit, upon the closing of said safety switch, and a pilot light connected from said second conductor to said safety switch and energized through said safety switch to signal when the safety switch is closed, upon the closing of said ignition switch.

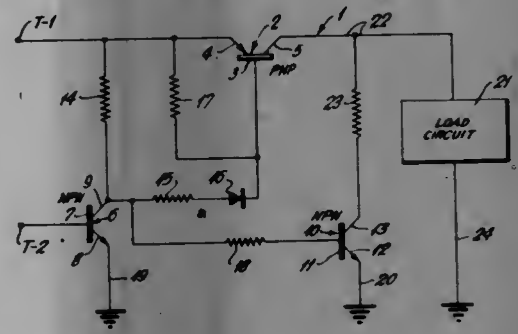
3,194,971
CIRCUIT FOR PRODUCING A DIRECT VOLTAGE AS A FUNCTION OF THE PHASE DIFFERENCE BETWEEN TWO A.C. VOLTAGES
Gerhard-Günter Gassmann, Berkheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 30, 1960, Ser. No. 18,710
Claims priority, application Germany, Apr. 4, 1959, St 14,961; Mar. 11, 1960, St 16,224
7 Claims. (Cl. 307—72)



1. A circuit arrangement for producing a direct voltage as a function of the phase difference between two A.C. voltages comprising means supplying first and second A.C. voltages, means combining said two A.C. voltages to produce a resultant voltage having opposite polarity peak values which are dependent upon the phase difference of the two A.C. voltages, and a polarization-independent bidirectional rectifier means symmetrically responsive to said opposite polarities of said resultant voltage and producing a direct voltage having an amplitude and polarity dependent upon the phase difference between said two A.C. voltages.

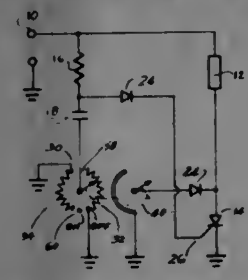
3,194,972
TRANSISTORIZED RELAY CIRCUIT
Henry W. Buchmeyer, Dallas, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Dec. 10, 1959, Ser. No. 858,614
1 Claim. (Cl. 307—88.5)

A transistorized relay circuit comprising:
- (a) a D.C. voltage source having first and second terminals,
- (b) a load having two terminals,
- (c) first, second and third transistors each having a collector, an emitter, and a base,
- (d) conductive means connecting the emitter and collector of the first transistor and the load in series in the named order between the first and second terminals of the D.C. voltage source,
- (e) the collector and emitter of the second transistor being connected in shunt across the terminals of the load,
- (f) one of the first and second transistors being of the PNP type and the other being of the NPN type, the third transistor being of the same type as the second transistor,
- (g) a resistor connecting the collector of the third transistor to the terminal of the D.C. voltage source which is connected to the emitter of the first transistor, the emitter of the third transistor being connected to the remaining terminal of the D.C. voltage source,



- (h) means including a Zener diode directly connecting the collector of the third transistor to the base of the first transistor, the diode being poled for conduction in its forward direction opposite to that of the base and emitter of the first transistor,
- (i) resistive means connecting the collector of the third transistor to the base of the second transistor,
- (j) and means for driving the base of the third transistor at two distinct levels, one corresponding to an on condition for the third transistor and the other corresponding to an off condition.

3,194,973
POWER CONTROLLER
Thomas G. Belt, Garland, and Jearld L. Hutson, Richardson, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Aug. 22, 1960, Ser. No. 50,995
4 Claims. (Cl. 307—88.5)

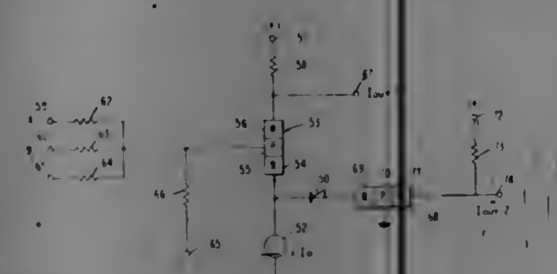


1. A circuit for effecting full wave control of the power supplied to a load comprising a thyratron type switch in the load circuit, resistive means connected to the input of said load circuit, reactance means capable of storing energy, means to vary the charging and discharging rate of said reactance means, means connecting said reactance means to the control electrode of said switch, and switching means responsive to conditions causing said thyratron type switch to conduct for substantially one-half cycle, to provide a low impedance path around said thyratron type switch during the opposite one-half cycle and to reduce the conduction time of said thyratron type switch during said one-half cycle.

3,194,974
HIGH SPEED LOGIC CIRCUITS
Eugene J. Rymaszewski, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 28, 1961, Ser. No. 98,574
12 Claims. (Cl. 307—88.5)

9. A high speed logical circuit for providing an output signal indicative of the sum modulo two logic function from a three-way current input signal, each way of said

input signal being expressed in binary form as a ONE or a ZERO, indicative of the presence or absence of an individual input signal, comprising a two terminal device having a negative resistance attribute in the forward conducting region, a unidirectional conducting device including at least one rectifying diode, means series connecting in like polarity one terminal of the first mentioned device to the unidirectional conducting device, said devices having a combined volt-ampere characteristic with a negative resistance attribute in the forward conducting region, means to establish a monostable operating load line for said combined volt-ampere characteristic, the position of said load line with respect to said characteristics depending on the number of individual ONE and ZERO input signals of said current input signal, means including a signal responsive device having emitting, collecting and control electrodes for establishing said load line position, said emitting electrode being coupled to the other terminal of said device and said control electrode being responsive to said current input signal, and means for deriving an output signal determined by the position of said load line with respect to said characteristic from said circuit.

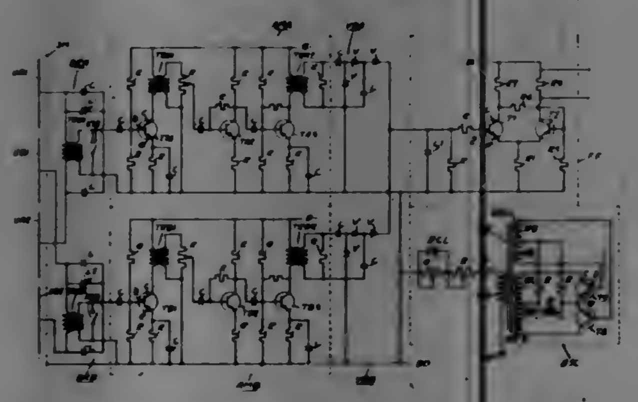


3,194,975

PROXIMITY DETECTOR CIRCUITRY FOR ELEVATOR CLOSURES

Lew H. Diamond, Massapequa, N.Y., assignor to Otis Elevator Company, New York, N.Y., a corporation of New Jersey

Filed Mar. 30, 1961, Ser. No. 99,514
4 Claims. (Cl. 307—88.5)



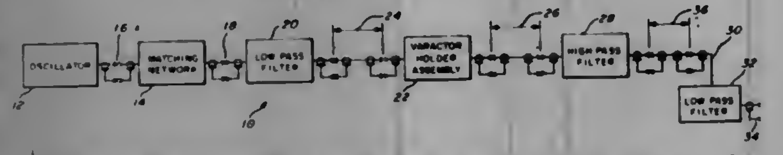
1. In a proximity detector circuit, in combination, two capacitive type bridge circuits, each one of which has a pair of antennas electrically connected directly to opposite ends of the diagonal of the bridge to form two of its oppositely disposed arms; a source of periodic voltage connected across each of said bridges; means for balancing each bridge under static conditions; amplifying means individual to each of said bridges, said amplifying means including three semi-conductor elements, each one of which has base, emitter and collector electrodes, said elements being series coupled to provide three stages of amplification, the first said element of said series having its collector electrode transformer coupled to the base-emitter circuit of the second element of said series, said second element having its collector electrode condenser coupled to the base-emitter circuit of the third element of said series; means biasing the base electrodes of said elements negative with respect to their respective emitter electrodes; transformer coupling means individual to each of said bridge circuits coupling the diagonal of its bridge to the base-emitter circuit of the corresponding said first elements, whereby under conditions where its corresponding bridge is unbalanced a periodic signal is produced and applied to such first element base-emitter circuit for amplification; and signal utilization means electrically coupled to the collector electrodes of both the last ones of said series coupled elements for controlled operation in response to said amplified signals.

3,194,976

COAXIAL BROADBAND FREQUENCY MULTIPLIER EMPLOYING VARACTOR DIODE

David R. Ludwig, Randolph, and David A. Sherman, Sudbury, Mass., assignors to General Electronics Laboratories, Inc., Cambridge, Mass., a corporation of Massachusetts

Filed Apr. 7, 1961, Ser. No. 101,441
5 Claims. (Cl. 307—88.5)



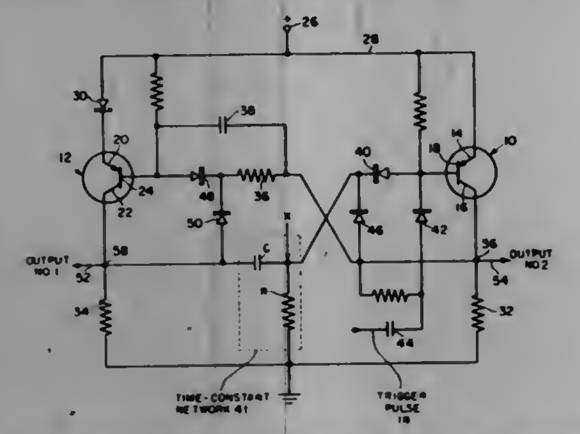
1. In combination, a coaxial input circuit means for oscillatory electric signals, voltage variable capacitor means having a non-linear response characteristic to voltage excitation in a coaxial housing, coaxial output circuit means, the input circuit means being coupled to said voltage variable capacitor housing for passing for excitation of said voltage variable capacitor means by said oscillatory signals over a selected frequency range and including a coaxial coupling to the voltage variable capacitor of a length to reflect a voltage minimum to the voltage variable capacitor means at a selected harmonic of excitation frequencies, and the output circuit means being coupled to said voltage variable capacitor housing for passing from said voltage variable capacitor means a selected harmonic of all excitation frequencies within said selected range.

3,194,977

TEMPERATURE-STABILIZED TRANSISTOR MULTIVIBRATOR

Philip J. Anzalone, Mount Ephraim, N.J., and Akiva D. Mayer, Tel Aviv, Israel, assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 26, 1961, Ser. No. 105,827
1 Claim. (Cl. 307—88.5)



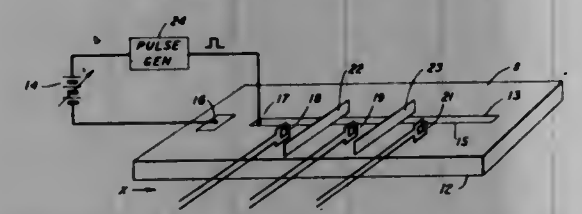
In a transistorized multivibrator of the monostable type, wherein each of the two P-N-P transistors of the multivibrator have emitter, base and collector electrodes, with the collector electrode of each transistor being electrically coupled to the base electrode of the other transistor, and wherein a time-constant network is incorporated in said multivibrator to establish the interval during which the multivibrator remains in one of its steady-state conditions, the improvement which comprises stabilizing means for precluding an appreciable change in the interval during which the said multivibrator remains in its said one steady-state condition in the face of variations in the ambient temperature of the multivibrator, said stabilizing means including a first semiconducting device one terminal of which is connected directly to the emitter electrode of one of said transistors and the other terminal of which is connected to a point of positive potential, and a second semiconducting device, having operating characteristics similar to those of said first semiconducting device, one terminal of said second semiconducting device being connected to the base electrode of said second transistor and the other terminal of said second semiconducting device being connected to said time-constant network, and with the output of said time-constant network being applied to the base electrode of said other transistor through said second semiconducting device, the electrical resistance of each of said semiconducting devices being chosen to change in essentially identical fashion in response to similar variations in the operating temperature thereof so that the voltage drop thereacross also changes by the same amount, the connection of said two semiconducting devices to their respective transistors thus producing opposite effects on the operating period of the multivibrator, the voltage drop across one of said semiconducting devices tending to increase the interval during which said multivibrator remains in its said one steady-state condition, while the voltage drop across the other of said two semiconducting devices tends to decrease the interval during which the said multivibrator remains in its said one steady-state condition, the over-all effect being that said interval remains essentially constant and the operation of said multivibrator is stabilized.

3,194,978

STRIP LINE TUNNEL DIODE DEVICE UTILIZED AS SINGLE POLE, MULTIPLE THROW SWITCH

Charles A. Lee, New Providence, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Aug. 29, 1961, Ser. No. 134,679
5 Claims. (Cl. 307—88.5)



1. In combination, a circuit element comprising a tunnel diode having an elongated p-n junction, a control circuit connected to said diode, said control circuit including means for varying the voltage difference across said junction along the length thereof, and a plurality of means adjacent said junction and distributed along its length responsive to current flow through said junction for producing a signal indicative of the conduction state of said junction at different regions along its length.

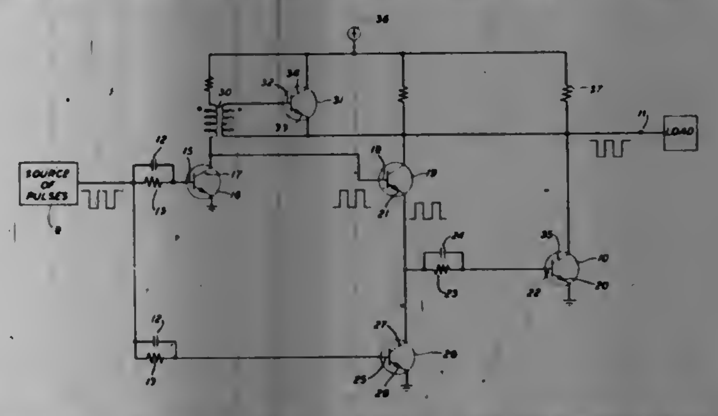
3,194,979

TRANSISTOR SWITCHING CIRCUIT

Wing N. Toy, Berkeley Heights, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 29, 1961, Ser. No. 141,822
2 Claims. (Cl. 307—88.5)

1. A transistor switching circuit comprising, in combination, a first transistor of a given conductivity type having a base electrode, an emitter electrode, and a collector electrode, a source of collector voltage, a biasing resistor connecting said source of collector voltage to said collector electrode of said first transistor, means connecting said emitter electrode of said first transistor to ground potential, means connecting a source of substantially rectangular pulses between said base and said emitter electrodes of said first transistor, the amplitude of said pulses applied between said base and emitter electrodes of said first transistor being sufficient to drive said transistor into a condition of collector current saturation in which minority carriers are stored, means to reduce the minority carrier storage time in said first transistor comprising a second transistor of the same conductivity type as said first transistor having a base electrode, an emitter electrode, and a collector electrode, means connecting said source of substantially rectangular pulses between said base and said emitter electrodes of said second transistor so that said second transistor conducts upon the termination of a pulse from said source of pulses, means connecting the collector electrode of said second transistor to said source of collector voltage, means connecting the emitter electrode of said second transistor to said collector electrode of said first transistor so that upon the termination of a pulse from said source of pulses the collector electrode of said first transistor is connected to said source of collector voltage, a third transistor of the same conductivity type as said first and second transistors having a base electrode, an emitter electrode and a collector electrode, said base electrode of said third transistor being connected to said source of pulses, said emitter electrode of said third transistor being connected to ground potential, and said collector electrode of said third transistor being connected to said base electrode of said first transistor to connect said base electrode of said first transistor to ground potential upon the termination of a pulse from said source of pulses.

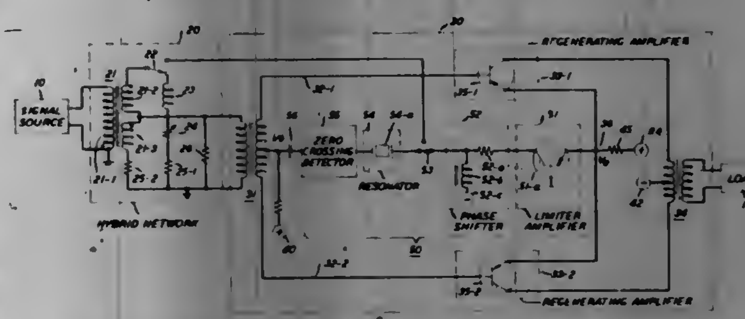


3,194,980

TIMING OF PULSE REGENERATION

James V. Scattaglia, Plainfield, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

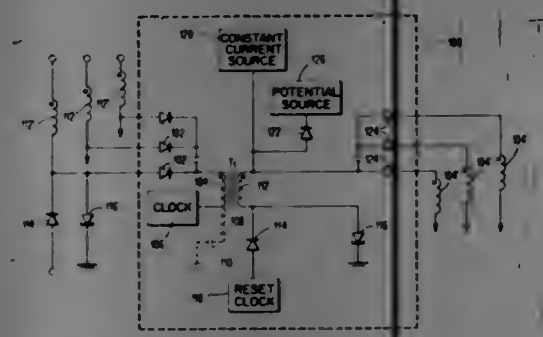
Filed Oct. 20, 1961, Ser. No. 146,656
16 Claims. (Cl. 307—88.5)



1. In combination with a pulse repeater having an input and an output constituted of a transistor for regenerating pulse signals of an incoming train under the control of a timing wave, said transistor having an emitter electrode, a base electrode connected to said input and a collector electrode connected to said output, means for deriving said timing wave from said pulse signals and for limiting the current flow in said transistor comprising a

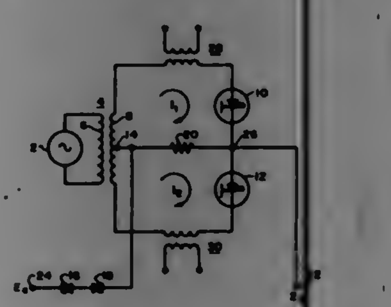
transistor having an emitter, base and collector electrodes of which the collector electrode is connected to said input and the emitter electrode is connected directly to the base emitter electrode of the first named transistor and biasing means interconnecting the emitter and base electrodes of the second named transistor.

3,194,981
TUNNEL DIODE LOGIC CIRCUIT FOR PERFORMING THE NOR FUNCTION
Jack Saul Cubert, Haddonfield, N.J., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 31, 1961, Ser. No. 149,099
7 Claims. (Cl. 307—88.5)



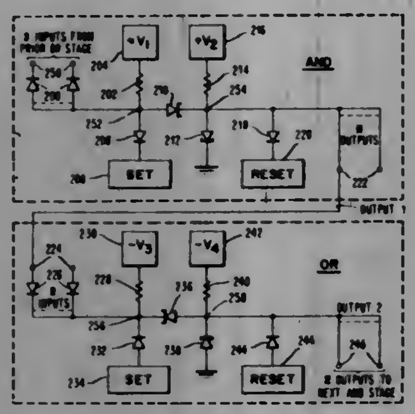
1. A logic circuit comprising, a tunnel diode having two stable conduction states, a transformer, an energy source, the secondary winding of said transformer connected between said tunnel diode and said energy source, a first pulse source for supplying signals to said tunnel diode for determining the conduction state thereof, a second pulse source, said first and second pulse sources adapted to produce pulses at different times, input signal supplying means, the primary winding of said transformer connected between said input signal supplying means and said second pulse source, said primary winding adapted to pass a signal therethrough and thereby generate a signal in said secondary winding only in response to a pulse supplied by said second pulse source in the absence of a signal supplied by said input supplying means which signal by said input supplying means effectively blocks said pulse at said second pulse source and inhibits the passage of a signal through said primary winding, and means connected to said secondary winding for producing output signals.

3,194,982
VOLTAGE COMPARATOR CIRCUIT
John M. Bentley, Glen Burnie, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 3, 1961, Ser. No. 150,064
10 Claims. (Cl. 307—88.5)



1. A voltage comparator circuit comprising, in combination; a pair of semiconductor devices each having a characteristic I–V curve exhibiting a current breakover level and a negative resistance region for a preselected forward voltage thereacross; each said device having a reverse breakdown level of larger magnitude than said forward voltage for a preselected reverse voltage thereacross; means for connecting said semiconductor devices in circuit relationship with mutually opposite terminals being commonly coupled together; means for connecting an alternating waveform having a substantially constant amplitude across said semiconductor devices, said constant amplitude selected to be a predetermined amount less than the current breakover levels of said devices; means responsive to the difference between an input signal and a reference value for providing a signal having a magnitude proportional to the difference and a polarity determined by their relative magnitudes; means for combining said alternating waveform and said difference signal across said semiconductor devices whereby the combination selectively exceeds the current breakover level of said semiconductor devices in accordance with the polarity of said difference signal; and output means responsive to the reduction in current through one of said devices as the combination exceeds its current breakover level.

3,194,983
LOGIC CIRCUIT EMPLOYING CURRENT SELECTIVELY CONTROLLED FOR SWITCHING TUNNEL DIODE
Brian Elliott Sear, Oreland, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Feb. 13, 1962, Ser. No. 173,096
6 Claims. (Cl. 307—88.5)

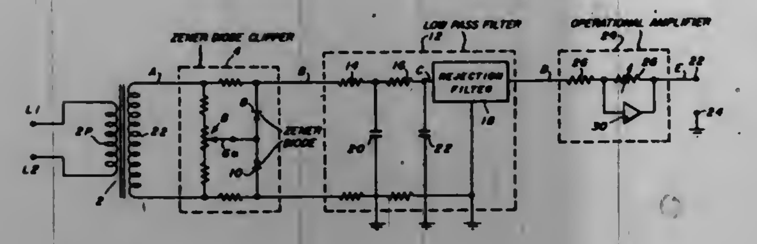


1. A logic circuit comprising, a first current source, a second current source, a tunnel diode connected to said second current source such that bias current flows in said tunnel diode, input means adapted to have signals applied thereto, reference means connected to said first current source such that a substantially constant current is produced, said input means connected to said first current source, coupling means connected between the connection of said first current source and said input means and said tunnel diode, said coupling means exhibiting different conducting capabilities in accordance with the application of different signals to said input means, and control means connected to said first current source and to said reference means connected to said first source to selectively cause current flow in said input means or in said coupling means mutually exclusively in accordance with the application of different signals to said input means.

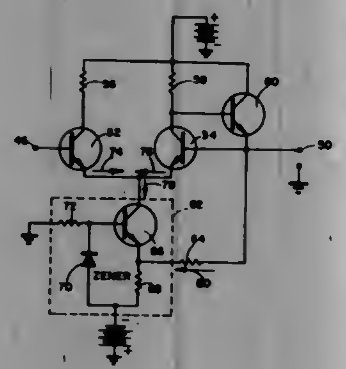
3,194,984
STABLE-SIGNAL PRODUCING CIRCUIT EMPLOYING ZENER DIODE CLIPPER AND TEMPERATURE-STABLE LOW-PASS AND SINGLE FREQUENCY REJECTION FILTERS
Frank F. Cilyo, Export, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Apr. 26, 1962, Ser. No. 190,343
4 Claims. (Cl. 307—88.5)

1. Apparatus for providing a stable alternating current voltage from an unstable alternating current power supply comprising a symmetrical clipper for removing the peak

voltages from the power source signal, means for isolating the power source from said clipper, and a temperature-stable low-pass filter connected to the output of said clipper, said temperature-stable low-pass filter including two resistors connected in series to a single frequency-rejection filter, a first temperature-stable capacitor connected between said resistors to ground and a second temperature-stable capacitor having one side connected between said single frequency-rejection filter and the resistor adjacent thereto and the other side connected to ground.

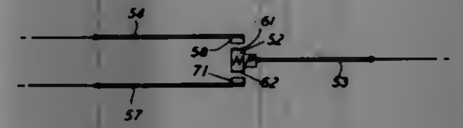


3,194,985
MULTIPLEXING CIRCUIT WITH FEEDBACK TO A CONSTANT CURRENT SOURCE
Elroy C. Smith, Jr., La Mirada, and James L. Thomas, La Habra, Calif., assignors to North American Aviation, Inc.
Filed July 2, 1962, Ser. No. 206,816
7 Claims. (Cl. 307—88.5)



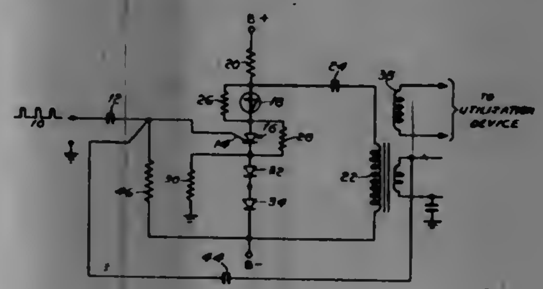
1. A semiconductor circuit for translating a voltage signal from an input terminal to a load comprising,
- first and second semiconductor signal translating devices, each comprising at least one P-N junction with first and second electrodes, connected thereto in like manner,
- means for connecting said input terminal to the first electrode of said first device,
- means for connecting the first electrode of said second device to said load,
- means for directly connecting the second electrode of said first device to the second electrode of said second device,
- biasing means comprising a constant current source connected to said first and second devices for causing said second device to transmit to said load an output voltage signal equal to a voltage signal at said input terminal, said means including a non-inverting current amplifier of substantially unity voltage gain having its input terminal coupled to the first electrode of said second device and its output terminal connected to said load for translating said output signal to said load,
- and a current path from the output terminal of said amplifier to said constant current source to maintain the current through said devices equal.

3,194,986
ELECTROMECHANICAL SWITCH EMPLOYING SEMICONDUCTIVE DIODES FORMED AT THE CONTACTS TO SIMULTANEOUSLY CONTROL DIRECTION OF PLURAL SIGNALS
Emil Belek, New Hyde Park, and Anthony Majlinger, Long Island City, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Nov. 28, 1962, Ser. No. 240,602
7 Claims. (Cl. 307—88.5)



1. A switching device comprising a pair of spring contact members mounted in parallel relationship with their opposed contact portions normally held in separated position by inherent spring bias, a third spring contact member mounted with its free end positioned between the respective contact portions of said pair of spring contact members, a diode element positioned on both major surfaces of said free end of said third spring contact member, and means for drawing together said opposed contact portions of said pair of spring members whereby to attain engagement of said diode elements and said opposed contact portions.

3,194,987
CONTROL CIRCUIT UTILIZING AVALANCHE CHARACTERISTIC DEVICES HAVING DIFFERENT MINIMUM HOLDING CURRENT
Mark Mandel, West Orange, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Feb. 4, 1963, Ser. No. 255,868
12 Claims. (Cl. 307—88.5)

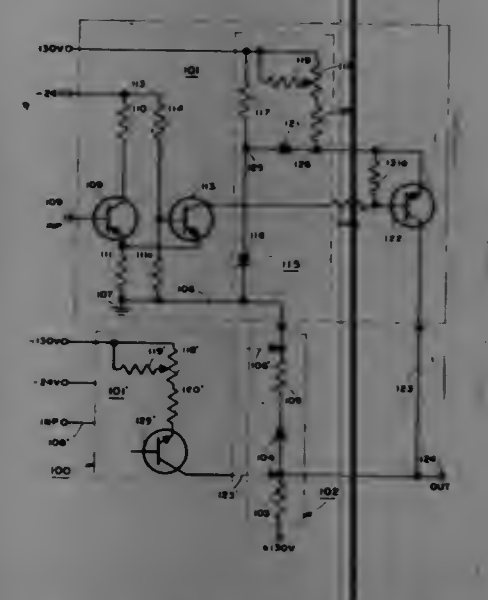


1. A control circuit comprising:
- first semiconductor means having an avalanche voltage breakdown characteristic including a minimum current requirement for maintaining conduction after breakdown substantially independent of input signal, said means being extinguished when said current is reduced below said requirement;
- second semiconductor means having an avalanche voltage breakdown characteristic connected in series with said first means for controlling the conduction and cut-off of said first and second series means, said second means having a higher minimum current requirement than said first means;
- means to maintain said series means in a normally cut-off condition and to permit said second semiconductor to conduct at desired times;
- input signal means coupled to said first semiconductor means to cause conduction of said series means at said desired times; and
- output means responsive to said input signal means and second means to supply an output signal when said first and second semiconductors are in the conducting state.

3,194,988
HUB DRIVER UTILIZING CLAMPING NETWORK AND MEANS TO CONTROLLABLY ISOLATE HUB CIRCUIT FROM CLAMPING NETWORK

Robert A. Couturier, Stamford, Conn., assignor to Stelma, Incorporated, Stamford, Conn., a corporation of Connecticut

Filed Feb. 7, 1963, Ser. No. 256,999
12 Claims. (Cl. 307—88.5)

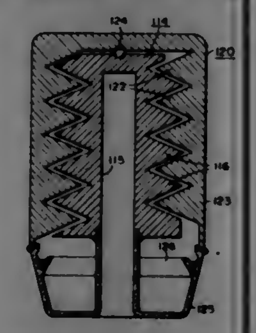


1. Means for driving a hub circuit comprising first means for receiving digital information in the form of mark and space signals; said first means selectively generating current and no current conditions at its output responsive to said mark and space signals; clamping means;. second means having a first input terminal connected to the output of said first means and a second input terminal connected to said clamping means; said second means electrically connecting said clamping means to the hub circuit responsive to said current condition and isolating the hub circuit from said clamping means responsive to said no current condition.

3,194,989
THERMIONIC POWER CONVERSION DEVICES

Max Garbuny, Pittsburgh, Milton Gottlieb, Forest Hills, and Robert J. Zollweg, Monroeville, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 27, 1961, Ser. No. 120,063
3 Claims. (Cl. 310—4)

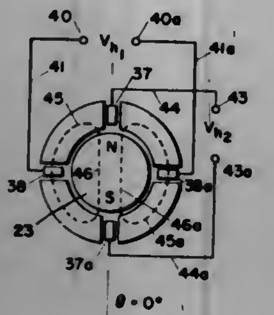


1. A thermionic power conversion device capable of achieving relatively high power generation in a compact unit comprising: an electron emitter having a substantially cylindrical configuration with a first set of screw threads on the external surface thereof, said first set of screw threads having electron emissive surfaces; an electron collector having a substantially cylindrical configuration with a second set of screw threads on the inner surface thereof; means to maintain the surfaces of said screw threads in closely spaced and electrically insulated arrangement so that the surfaces of said second set of screw threads extend parallel to and closely spaced from the electron emissive surfaces of said first set of screw threads.

3,194,990
HALL PLATE SOLID STATE RESOLVER

James D. Kendall, Oakland, N.J., assignor to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Sept. 22, 1961, Ser. No. 139,900
6 Claims. (Cl. 310—10)



1. A synchro comprising:

a hollow cylindrical stator member containing a plurality of radial slots symmetrically distributed about its circumference and sub-dividing the stator member into arcuate sectors constituting magnetic flux paths;

a rotor member, disposed within said stator member for coaxial rotation relative thereto, having magnetic poles of unlike polarity at diametrically opposed regions on its periphery, the flux paths between said poles traversing the shortest route through said rotor sections;

a Hall generator plate disposed in each of said slots with its major planar surfaces intercepting the flux paths between respective adjacent sectors of the stator;

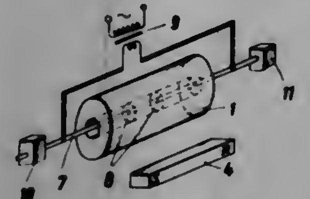
means including current contacts on one pair of parallel edges of each of said Hall generator plates for causing a flow of electrical current through the plates; and

means including voltage contacts on the other pair of parallel edges of each of said Hall generator plates for deriving a Hall voltage output generated in response to magnetic flux flowing through said stator and intercepted by said plates.

3,194,991
MAGNETOSTRICTIVE TRANSDUCER INCLUDING WIRE SUPPORTED RESONATOR

Manfred Börner, Ulm (Danube), and Hans Schüssler, Ulm, Germany, assignors to Telefunken Patentverwertungs-G.m.b.H., Elisabethenstrasse, Ulm (Danube), Germany

Filed Feb. 13, 1963, Ser. No. 258,321
Claims priority, application Germany, Feb. 21, 1962, T 21,632; Nov. 27, 1962, T 23,082
17 Claims. (Cl. 310—26)



17. In a transducer arrangement, the combination which comprises:

(a) a magnetostrictive tubular resonator oscillatable in torsional mode;

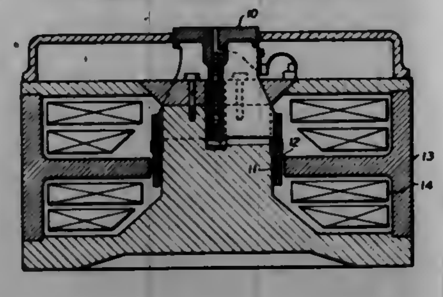
(b) a ring core winding consisting of a single turn, said winding having a wire extending through said tubular resonator; and

(c) means attaching said wire to the inner surface of said tubular resonator, said wire being sufficiently massive and stiff to constitute the means for supporting said resonator.

3,194,992
ELECTRODYNAMIC TYPE VIBRATION GENERATOR

Allen L. Brown, New Haven, Conn., assignor to Textron Electronics, Inc., Providence, R.I., a corporation of Delaware

Filed June 14, 1962, Ser. No. 202,573
7 Claims. (Cl. 310—27)

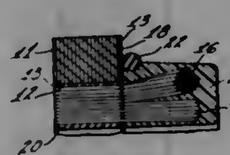


2. An armature assembly for a vibration exciter comprising a table structure and a driving coil assembly, said coil assembly including a winding disposed in part along the outer and in part along the inner longitudinal surfaces of a hollow cylindrical core member and bonded thereto by a resinous adhesive medium, said core member having an exposed end in telescoping relation to a cylindrical portion of said table structure and secured thereto by a resinuous adhesive medium.

3,194,993
ENCAPSULATED DYNAMOELECTRIC MACHINES

Carl B. Hackney, Bethel, and Vernon B. Honsinger, Cincinnati, Ohio, assignors to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.

Filed Oct. 3, 1960, Ser. No. 60,183
1 Claim. (Cl. 310—43)



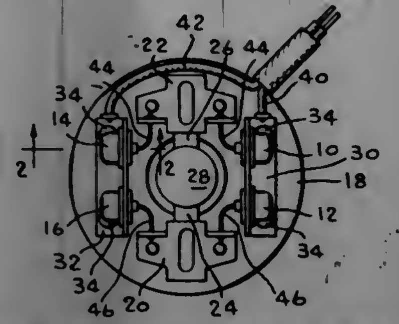
A member for a dynamoelectric machine comprising a core having end surfaces and wall surfaces defining a plurality of arcuately spaced winding slots therein, said end surfaces and slot defining wall surfaces being coated with a first thermoreactive electric insulating material, windings positioned in said slots in direct contact with said insulating material, said insulating material completely separating said windings from said core, the portion of said windings extending beyond the end of said core being formed into loops, the curvature of said loops beginning abruptly at the edge of said core in compressive engagement with the portion of said insulating material covering the junction of said end walls and said slot defining wall surfaces, said loops being bent toward said core, said windings being encapsulated in a different thermoreactive material, resilient sealing material interposed between said first thermoreactive material and said encapsulating material and being radially spaced outward from said windings.

3,194,994
ELECTRIC MOTOR

Edward Latta, Owosso, Mich., assignor to Controls Company of America, Schiller Park, Ill., a corporation of Delaware

Filed Apr. 19, 1962, Ser. No. 188,809
6 Claims. (Cl. 310—68)

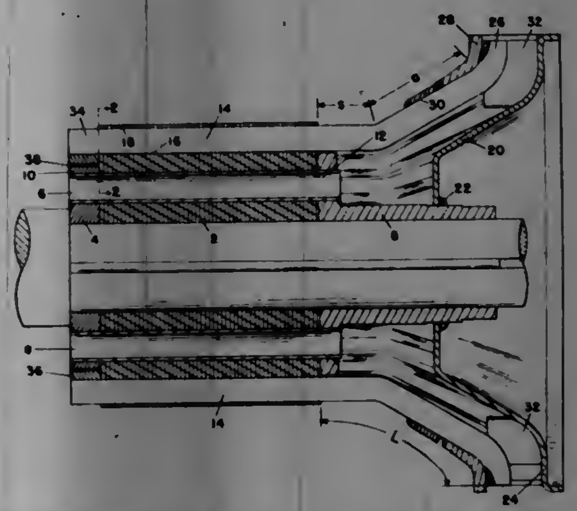
1. In an electric motor the combination comprising, a brush card, at least two brushes mounted on said brush card, a pair of electrically conductive brackets mounted on said brush card, a pair of diodes mounted on each of said brackets, whereby said brushes and diodes are mounted on a single brush card, one of said diodes in each of said pairs electrically connected to and arranged to conduct electricity toward one of said brushes and the other of said diodes in each of said pairs electrically connected to and arranged to conduct electricity away from the other of said brushes, and a motor lead electrically connected to each of said brackets.



3,194,995
ELECTRIC MOTOR

Wayne H. McGlade, Peoria, Ill., assignor to LeTourneau-Westinghouse Company, Peoria, Ill., a corporation of Illinois

Filed June 27, 1960, Ser. No. 39,129
7 Claims. (Cl. 310—211)



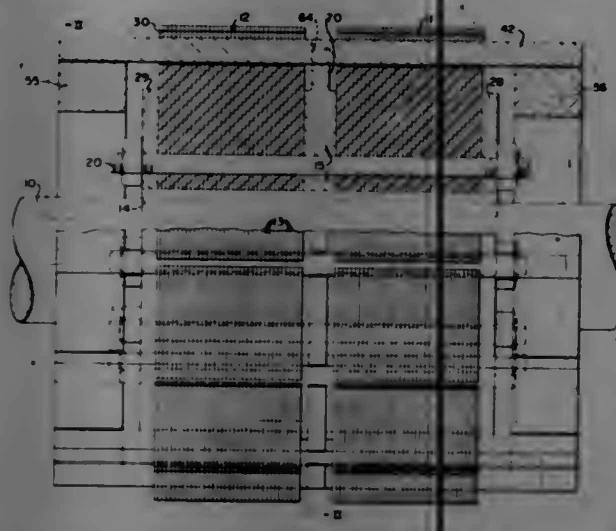
7. An induction motor rotor comprising: a basic supporting structure including a slotted stack of laminations, a first end ring at one end of the stack, a second end ring at the other end of the stack, and means securing the end rings together and clamping said stack between the end rings; an electric circuit structure including a conductor bar lying in each of the slots of said slotted stack, each such bar having an extremity overlying said first end ring and a substantial length overlying and extending beyond said second end ring, a conductor ring electrically connecting said extremities of the bars, the conductor ring being coaxial and coplanar with said first end ring and structurally independent thereof, and another conductor ring electrically connecting said substantial lengths of the bars; the laminations having portions overlying the bars to restrain the bars radially; support means secured to the basic supporting structure and spaced from said stack; and fan blades securing said other conductor ring to the support means.

3,194,996
INDUCTION MOTOR ROTOR

Lawrençe B. Lynn, Buffalo, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Mar. 19, 1963, Ser. No. 266,391
1 Claim. (Cl. 310—211)

A rotor member for an induction motor comprising a laminated core member divided into two sections and having a plurality of peripheral slots, a disc support member clamped between the two sections of the core member and having a plurality of peripheral slots, the root depths of the slots of said sections of the core member being greater than the root depths of the slots of said disc member, a plurality of conductor bars disposed in the slots of the core member and fastened in the slots of said support member, and a resistance ring joined to the ends of the conductor bars at each end of the core member, the bars being supported by the support member and resistance rings, the radial depth of the slots in the sections of said core member being greater than the radial thickness of the conductor bars and the bars being movable radially and axially in the slots upon thermal expansion of the resistance rings and support member, said bars and said disc support member together with said resistance rings being comprised of materials having substantially the same coefficients of thermal expansion.

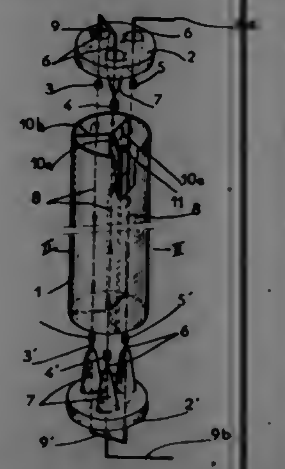


3,194,997
ELECTROLUMINESCENT LIGHTING DEVICE AND LAMP SYSTEMS EQUIPPED THEREWITH

Moustapha Waly, Geneva, Switzerland, assignor to Anicet Anstalt, Vaduz, Liechtenstein, a body corporate organized under the laws of Liechtenstein

Filed Aug. 1, 1962, Ser. No. 214,110

5 Claims. (Cl. 313—109)



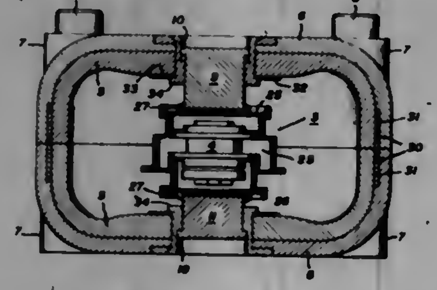
1. An electroluminescent lighting device embodying at least one tightly sealed electric multiple-discharge lamp of the low-pressure mercury-vapor type, comprising a transparent, elongated, substantially cylindrical, tubular, closed envelope the inner wall of which is coated with fluorescent materials having maximum excitation photosensitivity substantially corresponding to the 2537. A. wave-length of ultraviolet resonance radiation, an equal number of at least three inwardly projecting electrodes provided at opposite ends of said envelope and substantially aligned by pairs of confronting opposite registering electrodes, conducting means electrically interconnecting said electrodes by separate pairs at each envelope end, while leaving two of the total number of electrodes electrically disconnected from the remaining electrodes, two input lead-in wires electrically connected to said two disconnected electrodes respectively and brought out of said envelope for connection with a source of electric power supply, whereby said electrodes are so interconnected that they produce a plurality of substantially parallel arc streams connected in series through said electrodes and said conducting means, at least one arc-stream separator member of insulating material transparent to said radiation, located inside and extending substantially the full inner length of said envelope, said separator member being coated on all sides with a layer of said fluorescent materials and formed with a plurality of continuous, radially outwardly extending, longitudinal partition fins providing said separator member with a substantially star-shaped cross-sectional contour and dividing the interior of said envelope into separate longitudinal, substantially parallel and adjacent compartments enclosing each a pair of said registering electrodes together with the arc struck therebetween so as to insulate said arc streams from each other, said partition fins having substantially parallel peripheral edges conforming in shape to and freely engaging in abutting relationship said inner envelope wall along fluid-pervious joints leaving some intercommunication between said compartments to promote pressure balance therebetween.

3,194,998
MAGNETIC TEMPERATURE-COMPENSATING STRUCTURE

Andrew M. Marfut, Scotia, N.Y., assignor to General Electric Company, a corporation of New York

Filed Dec. 13, 1961, Ser. No. 159,002

6 Claims. (Cl. 313—156)



1. A permanent magnet structure comprising a continuous permanent magnet yoke, a pair of opposed pole pieces supported coaxially by said yoke to define a single opposed polarity gap in said magnet structure, the intermediate portion of said yoke being substantially removed from said gap to define an open space therebetween, and means for compensating said structure for variations in flux strength of a magnetic field in said gap tending to result from temperature variations of said magnet, comprising at least one magnetic shunt strip element engaging an outer surface of said yoke, said element comprising a non-permanent magnetic material having a negative temperature coefficient of magnetic permeability, being in intimate substantial area contact with said surfaces of said magnet and being located remote from said gap to avoid alterations in the configuration of said field therebetween.

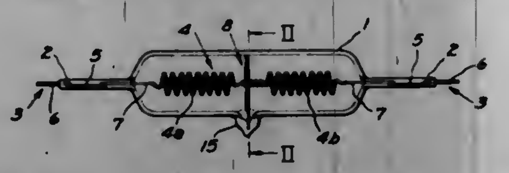
3,194,999
FILAMENT SUPPORT FOR TUBULAR LAMPS

Leon T. Heinlein, Euclid, Ohio, assignor to General Electric Company, a corporation of New York

Filed Oct. 28, 1963, Ser. No. 319,213

8 Claims. (Cl. 313—271)

5. In an electric incandescent lamp comprising a tubular envelope containing an axially extending helically coiled coil filament, said filament being interrupted at a point intermediate its ends thereby defining separate filament segments, and a support member joining the interrupted adjacent ends of said filament segments and supporting them from the envelope wall, said support member comprising a pair of wire spuds having overlapping leg portions extending substantially axially of said envelope and terminating at opposite free ends in helically coiled wire portions of a coil diameter and pitch corresponding substantially to the diameter and pitch of the secondary coiling of said coiled coil filament, said helically coiled wire portions being fitted as mandrels in the primary coiling of respective interrupted adjacent ends of said filament sections, and a wire portion having an end coiled around said overlapping leg portions and binding them together and extending therefrom to a loop portion of a size to be circumferentially engageable with the inner wall of said envelope around at least half its circumference.

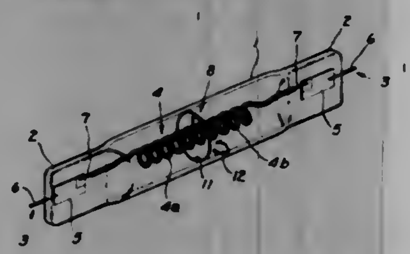


3,195,000
TUBULAR LAMP FILAMENT SUPPORT

Stanley G. Reidenbach, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York

Filed Oct. 28, 1963, Ser. No. 319,214

3 Claims. (Cl. 313—271)



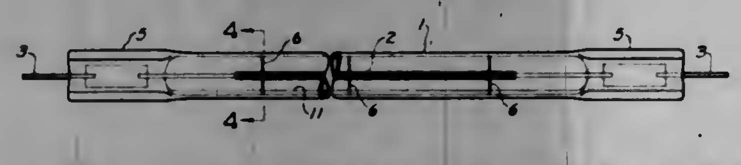
1. In an electric lamp comprising a tubular envelope containing an axially extending helically coiled coil filament, said filament being interrupted at a point intermediate its ends thereby defining separate filament segments, and a support member joining the interrupted adjacent ends of said filament segments and supporting them from the envelope wall, said support member comprising a helically coiled wire portion of a coil diameter and pitch corresponding substantially to the diameter and pitch of the secondary coiling of said coiled coil filament, and helically coiled wire portion having portions thereof fitted as a mandrel in the primary coiling of respective interrupted adjacent ends of said filament sections and thereby interconnecting them, and another portion of said support member secured to said helically coiled wire portion at a location intermediate its ends and between the terminal ends of said filament sections and supporting said helically coiled wire portion from the wall of said envelope with its axis substantially coincident with the envelope axis.

3,195,001
TUBULAR INCANDESCENT LAMP

William F. Hodge, Lyndhurst, Ohio, assignor to General Electric Company, a corporation of New York

Filed Mar. 17, 1961, Ser. No. 96,531

3 Claims. (Cl. 313—279)



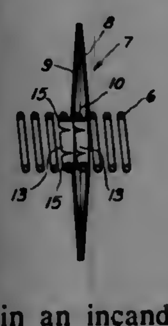
1. In an electric incandescent lamp comprising a tubular envelope of essentially circular cross-section, a helically coiled wire filament extending axially of said envelope, and a plurality of supporting circular wafer members disposed transversely of and at spaced intervals along said filament and engageable at their peripheries with the inner wall of said envelope, said wafer members being centrally apertured and engaging the filament coil between adjacent turns thereof to support it in the axis of said envelope but being rotatable with respect to said filament coil, said envelope having an integral portion of its inner wall deformed from the circular cross section in an angularly localized zone extending uniformly the length of the envelope, and said wafer members having at their peripheries angularly localized zones deformed from the circular in matching conformance to the said localized zone of the envelope inner wall whereby to hold said wafers against rotation relative to the inner envelope wall.

3,195,002
FILAMENT SUPPORTS FOR ELECTRIC LAMPS

Richard H. Holcomb, South Euclid, Ohio, assignor to General Electric Company, a corporation of New York

Filed Sept. 19, 1962, Ser. No. 224,743

4 Claims. (Cl. 313—279)



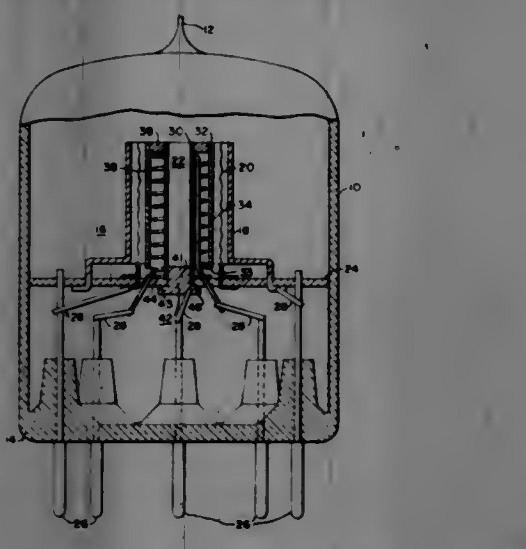
1. In combination, in an incandescent lamp comprising a hermetically sealed envelope containing a helically coiled lamp filament of refractory wire and a support member comprising a pair of refractory sheet metal discs disposed transversely of the coil and at opposite sides of a turn of said coil, said discs being of sheet metal substantially thinner than the spacing between turns of said coiled filament wire, said discs being secured together at their peripheries at a number of points sufficient to firmly clamp them to said coil turn.

3,195,003
ELECTRON DISCHARGE DEVICE

Anton van der Jagt, Wheeler Township, Steuben County, N.Y., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Nov. 16, 1962, Ser. No. 238,229

5 Claims. (Cl. 313—337)

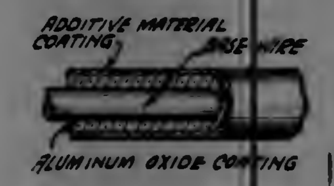


2. An electron discharge device comprising an electrode cage assembly including an electron emissive thermionic cathode, said cathode comprising inner and outer tubular members. said outer tubular members being made of a material having a higher heat conductivity than the material of said inner tubular member, said outer member being positioned around and spaced from

said inner member, a heater disposed within the spacing between said tubular members, an electron emissive coating on the outer surface of said outer member, means at one end of said tubular members for closing off the space between said members, said means formed as an annular disc interposed between said tubular members and made of a highly heat conductive material to establish a heat conducting path from said inner tubular member to said outer tubular member, and shield means disposed at the opposite end of said members and extending in a direction transverse to the axis thereof, said shield means being secured to said inner member and being spaced with respect to the end of said outer member.

3,195,004
CATHODE HEATER FOR ELECTRON DISCHARGE DEVICES

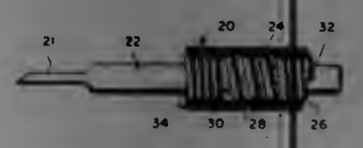
William A. Hassett, Reading, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Aug. 19, 1960, Ser. No. 50,706
1 Claim. (Cl. 313—340)



A heater adapted to be used in a cathode of an electron tube, said cathode comprising a hollow member in which said heater is to be received, said heater comprising a wire structure having an insulating coating thereon comprising a first layer consisting of aluminum oxide in contact with portions of said wire structure and a second layer covering substantially all of said first layer, said second layer comprising an admixture of aluminum oxide and metallic tungsten particles.

3,195,005
ELECTRODE AND COMPONENT THEREFOR

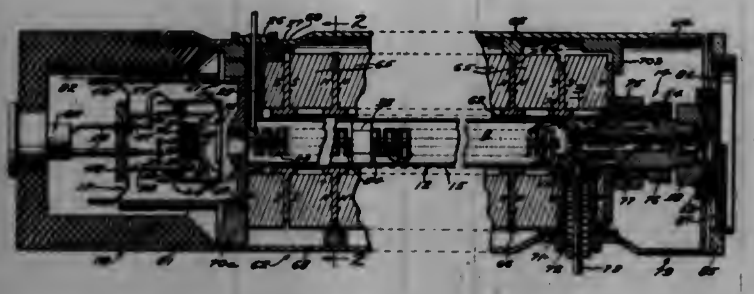
George A. Freeman, East Orange, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Original application Dec. 22, 1959, Ser. No. 861,339, now Patent No. 3,132,409, dated May 12, 1964. Divided and this application Dec. 2, 1960, Ser. No. 73,386
4 Claims. (Cl. 313—344)



1. As an article of manufacture, an inner coil component for an electric discharge lamp electrode wherein a tightly wound outer coil is threaded over and interlocked with said inner coil component to form a composite electrode, said inner coil component comprising a length of tungsten wire wound into a helix of linear configuration having at least one intermediate turn and a pair of spaced end turns of substantially the same outside diameter as said intermediate turn, said intermediate turn comprising an expanded medial section that is wound at a different pitch than the turns of said outer coil, one of said end turns being terminated by an uncoiled substantially straight end segment that protrudes laterally beyond the helix a distance at least equivalent to the diameter of said wire and constitutes a rigid stop for automatically locating the outer coil in its position of use on said helix.

3,195,006
TRAVELLING WAVE TUBE OUTPUT COUPLING

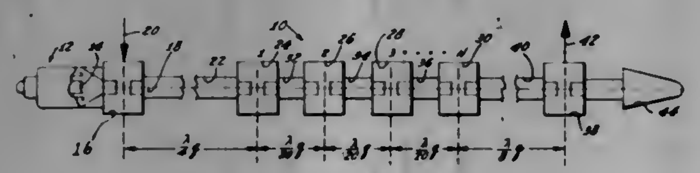
John W. Sullivan, Sunnyvale, and William L. Rorden, Palo Alto, Calif., assignors to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Apr. 8, 1960, Ser. No. 20,983
6 Claims. (Cl. 315—3.5)



1. In a travelling wave tube a tubular metallic envelope disposed about and thereby defining an elongated longitudinal axis along which an electron beam travels, said envelope being provided with means for directing electromagnetic wave energy therethrough, a tubular extension on the end of said envelope, said extension being made of material which is permeable to said electromagnetic wave energy, said tubular extension being disposed around at least a portion of the axial extent of said elongated longitudinal axis and forming a part of the vacuum envelope of said travelling wave tube in conjunction with said tubular metallic envelope and coupling means for coupling electromagnetic wave energy from the means for directing the electromagnetic wave energy through the envelope through said electromagnetic wave permeable tubular extension, the outside diameter of said tubular extension and said coupling means being no greater than the outside diameter of said envelope.

3,195,007
STAGGER-TUNED KLYSTRON WITH CAVITIES RESONANT OUTSIDE PASSBAND

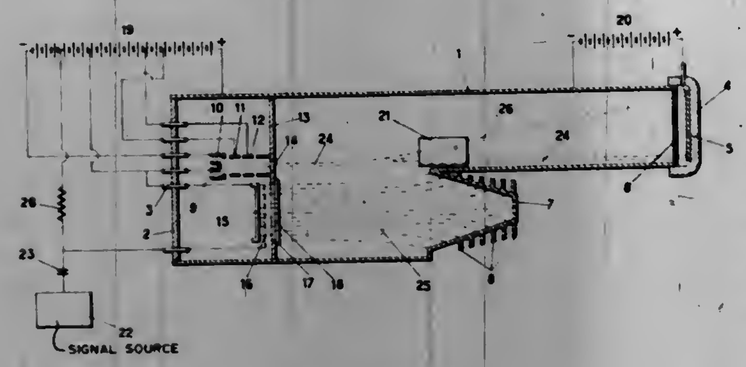
Wilbur H. Watson, Palo Alto, and Reed E. Holaday, Belmont, Calif., assignors to Litton Precision Products, Inc., a corporation of Delaware
Filed Oct. 28, 1960, Ser. No. 65,807
6 Claims. (Cl. 315—5.43)



6. A high power amplifier tube of the velocity modulation type for amplifying an input signal over a wide operating frequency band, said tube having a predetermined axis and comprising: means for producing a beam of electrons along said axis of said tube; an input resonant cavity disposed to receive said electron beam and impose thereon a radio frequency input signal to velocity modulate said beam, said input cavity including means to present a substantially capacitive reactance to said beam for all frequencies within said operating frequency band; and a plurality of intermediary resonant cavities disposed to receive said modulated beam, each of said intermediary cavities including means to present a substantially inductive reactance to said beam for all frequencies within said operating frequency band.

3,195,008
CATHODE RAY TUBE DEFLECTION SYSTEM UTILIZING AN AUXILIARY ELECTRON BEAM

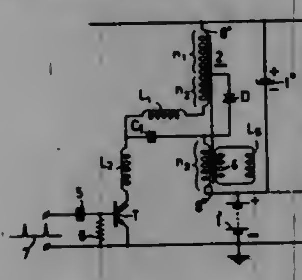
Daniel Charles, Paris, France, assignor to CSF-Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Apr. 9, 1963, Ser. No. 271,639
Claims priority, application France, Apr. 12, 1962, 894,195
10 Claims. (Cl. 315—18)



1. A cathode ray tube comprising:
a target and collector means axially spaced from said target in said cathode ray tube,
a portion of the tube forming a space devoid of any electric field,
an electron gun for producing a first electron beam propagating through said space toward said target,
means for producing a second electron beam and having a substantially greater cross sectional area than said first beam propagating side-by-side with said first-mentioned beam toward said collector means,
and means for modulating the perveance of said second beam in accordance with high frequency signals to thereby vary the angle of expansion of said second beam for deflecting said first beam.

3,195,009
TIME-BASE CIRCUIT FOR CATHODE-RAY TUBE

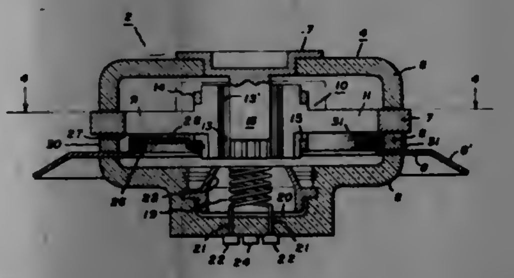
Teunis Poorter, Emmasingel, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed July 16, 1962, Ser. No. 209,982
Claims priority, application Netherlands, Aug. 17, 1961, 268,352
9 Claims. (Cl. 315—27)



1. A deflection circuit for producing a sawtooth current in a deflection coil, said sawtooth current having a stroke period and a flyback period, comprising a source of direct voltage, a transformer having a core and first, second and third windings wound thereon in the same sense, the number of turns of said first and third windings being determined by the ratio between the flyback period and the total period of said sawtooth current, means coupling said deflection coil to a portion of said transformer, switching means having a control terminal for controlling conduction thereof, a capacitor, an impedance element and a diode, means connecting said first and second windings, said impedance element and said capacitor to said voltage source thereby establishing a charge current path from said source to said capacitor by means of said first and second windings, means for coupling a control signal to said control terminal of said switching means to render said switching means conductive during said flyback period, means connecting said switching means in circuit with said capacitor and said third winding so as to provide a discharge path for said capacitor through said third winding whereby the energy accumulated on said capacitor is coupled to said transformer and said deflection coil and converted into magnetic energy which is stored in the fields thereof, means for cutting off said switching means thereby rendering said diode conductive during said stroke period, means connecting said diode to said first winding so as to provide a current path through said diode by which the magnetic energy accumulated in the transformer field is returned to said voltage source as a current flow through said first winding in a direction opposite to the direction of capacitor charge current flow through said winding, said last named connecting means and said diode further providing a shunt path around said second winding which prevents the current flow produced by the return of energy from said transformer field from flowing through said second winding, the number of turns of said second winding being chosen such that bias magnetization of said transformer core is substantially compensated.

3,195,010
MAGNETRON DEVICE WITH OUTPUT COUPLING

Richard G. Lock, Albany, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 9, 1962, Ser. No. 229,319
13 Claims. (Cl. 315—39.53)



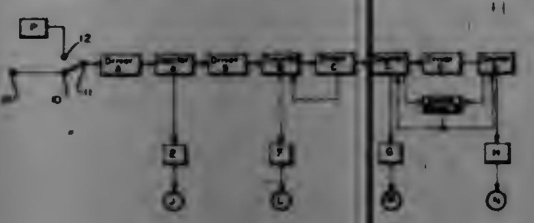
10. In combination, a rectangular waveguide section, a magnetron device including a plurality of annular insulators and a plurality of generally annular terminals arranged in alternate butt-sealed relation and providing a generally cylindrical envelope for said device, one of said terminals being rigid and the other relatively flexible, said waveguide section having an aperture therethrough defining a pair of rim surfaces, each said terminal making circumferential contact with a respective rim of said aperture in said waveguide for thereby R.F. coupling said device to said waveguide section, an anode structure supported from said rigid one of said terminals within said envelope and comprising a plurality of circumferentially spaced radially extending segments, R.F. output means comprising a conductive element interconnecting the inner portion of said flexible terminal and said anode structure and cooperating with one of said anode segments to define a transmission line extending radially toward the insulator between said terminals and coaxially aligned with the longitudinal axis of said waveguide section, and said insulator between said terminals having the surface thereof completely coated with a conductive material except for an axea axially aligned with said transmission line and waveguide section and constituting an R.F. output window therebetween.

3,195,011
ELECTRONIC CLOCKS

Herbert S. Polin, Veyrier, near Geneva, Switzerland, assignor to P. Vogel and Company, Geneva, Switzerland, a corporation of Switzerland
Filed Aug. 6, 1962, Ser. No. 214,882
6 Claims. (Cl. 315—84.6)

1. An electronic clock comprising a counter array comprising a plurality of counters connected in series with one another, said series connected counter array having

an input, the counters in said array having separate outputs respectively connected to display indicators arranged to provide a time indication, a primary pulse source coupled to said input of said series connected counters for stepping said counters and for operating said display indicators at a predetermined rate and in a predetermined sequence, a secondary source of pulses operative to produce pulses at a repetition rate in excess of said primary pulse source, and switch means for selectively disconnecting said primary pulse source from said input and for applying pulses from said secondary source to the input of said series connected counters thereby to permit the time indication effected by said display indicators to be readily set to a desired indication.

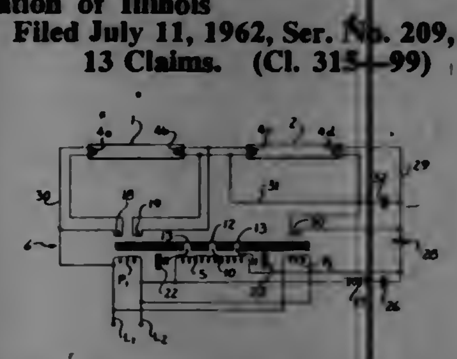


3,195,012
BALLAST APPARATUS HAVING A PORTION TUNED TO A HARMONIC FREQUENCY

Albert E. Feinberg and Paul Berger, Chicago, Ill., assignors to Advance Transformer Co., Chicago, Ill., a corporation of Illinois

Filed July 11, 1962, Ser. No. 209,118

13 Claims. (Cl. 315—99)



1. In combination with low pressure gaseous discharge apparatus having negative resistance characteristics, a device for operating said apparatus from a source of substantially sinusoidal alternating voltage of a given frequency, said device having an input circuit adapted to be connected to said source and an output circuit adapted to be connected to said apparatus, said device comprising a transformer and means for accentuating in said transformer an odd harmonic above the third to an extent over all the other harmonics of said frequency so that the harmonic of maximum accentuation is an odd harmonic above the third, said means for accentuating said harmonic comprising a condenser and inductive means in circuit with one another, the inductive means being at least a part of said transformer, said transformer including an iron core having a high reluctance gap with a saturating magnetic bridge thereacross with the bridge located in the magnetic circuit of the inductive means, said condenser and inductive means being substantially tuned to said harmonic, and a reactor in series with the condenser and carrying substantially none of the current flowing through the output circuit during normal operation of the discharge apparatus.

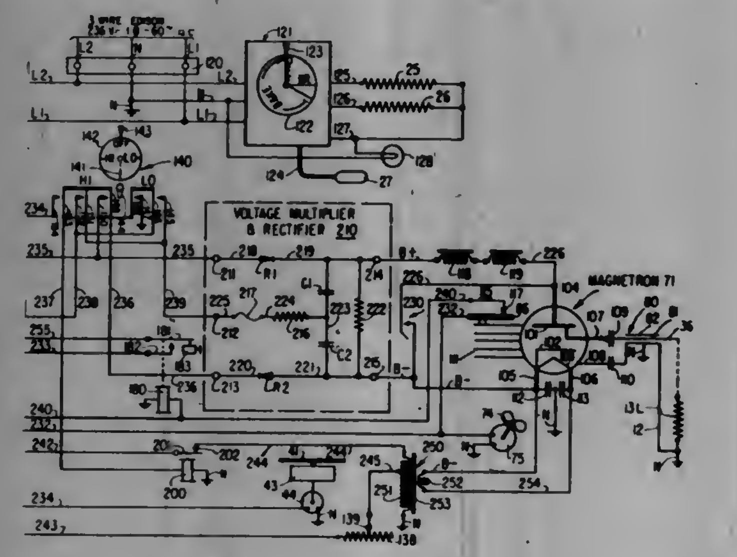
3,195,013
POWER SUPPLY SYSTEMS FOR MAGNETRON DEVICES

Herbert L. Thal, Jr., Rotterdam, N.Y., assignor to General Electric Company, a corporation of New York

Filed May 24, 1962, Ser. No. 197,526

9 Claims. (Cl. 315—205)

1. An ultra-high frequency generator comprising a 3-wire Edison A.C. supply source of low frequency including a pair of ungrounded line conductors and a grounded neutral conductor, wherein the amplitude of the peak voltage line-to-neutral of said source is approximately V and the amplitude of the peak voltage line-to-line of said source is approximately 2V, a voltage multiplier and rectifier circuit including three input terminals and a pair of output terminals, a first connection between a first of said circuit input terminals and one of said line conductors, a second connection between a second of said circuit input terminals and the other of said line conductors, a power selector switch having a high position and a low position, said power selector switch in its high position completing a third connection between a third of said circuit input terminals and said one line conductor and in its low position completing a fourth connection between said third circuit input terminal and said neutral conductor, said circuit being characterized by the production of a D.C. output voltage across the output terminals thereof having an amplitude of approximately 4V in response to the completion of said third connection and by the production of a D.C. output voltage across the output terminals thereof having an amplitude of approximately 3V in response to the completion of said fourth connection, a magnetron including a pair of input terminals and a pair of output terminals, and additional connections between said circuit output terminals and said magnetron input terminals, said magnetron being characterized by the production of an A.C. voltage of ultra-high frequency across the output terminals thereof in response to the application of a D.C. voltage across the input terminals thereof, said magnetron being further characterized by the delivery of relatively high R.F. power from the output terminals thereof in response to the application of said D.C. voltage of 4V across the input terminals thereof and by the delivery of relatively low R.F. power from the output terminals thereof in response to the application of said D.C. voltage of 3V across the input terminals thereof.



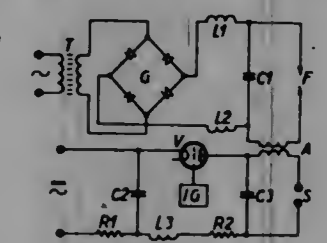
3,195,014
ELECTRONICALLY CONTROLLED SPECTROSCOPIC LOW VOLTAGE SPARK SOURCE AND INTERRUPTED ARC SOURCE

Arpád Bardócz, 4 Orlay Utca, Budapest, Hungary

Filed June 28, 1961, Ser. No. 146,023

5 Claims. (Cl. 315—232)

1. A low voltage spectroscopic spark and arc source comprising, in combination, a source of low frequency A.C. potential; a device having an input connected to said potential source, an output, and means producing, at its output, relatively sharp output voltage pulses in one-to-one correspondence with half cycle voltage surges of said source and respectively of duration which is short in comparison with the duration of the half cycle of said potential source; rectifying means connected to the output of said device; a low voltage energy storage means; a charging circuit including said energy storage means and connected to the output of said rectifying means; said rectifying means charging said energy storage means to peak voltage during each pulse and interrupting the charging current at the end of each pulse while maintaining said energy storage means charged to peak voltage; an analytical spark gap; a power circuit connecting said gap in series across said energy storage means; the peak voltage of said energy storage means being incapable of breaking down said spark gap; an igniter circuit including a control spark gap; a high voltage condenser; a discharge circuit including said high voltage condenser across said control spark gap and operable upon charging of said high voltage condenser for the voltage thereof to break down said control spark gap and for said high voltage condenser to discharge across said control spark gap; and means coupling said discharge circuit and said power circuit for transfer of energy from said high voltage condenser discharge to said power circuit whereby said transferred energy breaks down said analytical spark gap for discharge of said energy storage means through said power circuit and across said analytical spark gap; said igniter circuit further comprising circuit means for charging said high voltage condenser including a source of direct voltage; an inductance; a controllable electron tube which is normally current blocking and which is triggerable into conductivity and which then remains conductive when the current therethrough is above a specified value; and means for triggering said controllable electron tube operable at the conclusion of the charging pulse on said energy storage means to trigger said controllable electron tube for current flow therethrough; said control spark gap shunting said high voltage condenser in the charging circuit thereof and the inductance opposition to the current resulting from the control spark gap breakdown being sufficient to cause said controllable electron tube to cease passing current prior to the beginning of recharging of said energy storage means.



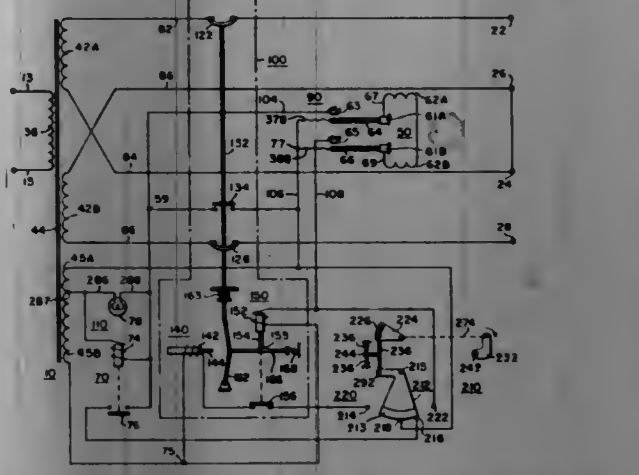
3,195,015
PROTECTED ELECTRICAL APPARATUS

John J. Astleford, Jr., Sharon, Pa., and Thomas P. Henry, Masury, and Merrill G. Leonard, Fowler, Ohio, assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of applications Ser. No. 812,632, May 12, 1959, now Patent No. 3,126,500, dated Mar 24, 1964, and Ser. No. 812,633, May 12, 1959. This application Sept. 22, 1960, Ser. No. 57,772

9 Claims. (Cl. 317—14)

1. A protected transformer comprising an insulated high voltage winding, an insulated low voltage winding, a casing, a fluid dielectric in said casing, said windings being disposed in said dielectric, leads connected to said low voltage winding and passing out of said casing, a reclosable circuit interrupter disposed within said casing and having contacts in series circuit relation with at least one of said leads, said interrupter including electrically operated tripping means for opening said contacts when energized, a coil loosely coupled in inductive relation with said high voltage winding for supplying electric current, first individually adjustable thermally responsive means for connecting said coil to said tripping means to open said contacts in response to a predetermined temperature condition of said fluid dielectric, a signalling means, and second individually adjustable thermally responsive means operable independently of the first thermally responsive means for connecting said signalling means to said coil to energize said signalling means in responsise to a lower temperature condition of said fluid dielectric.

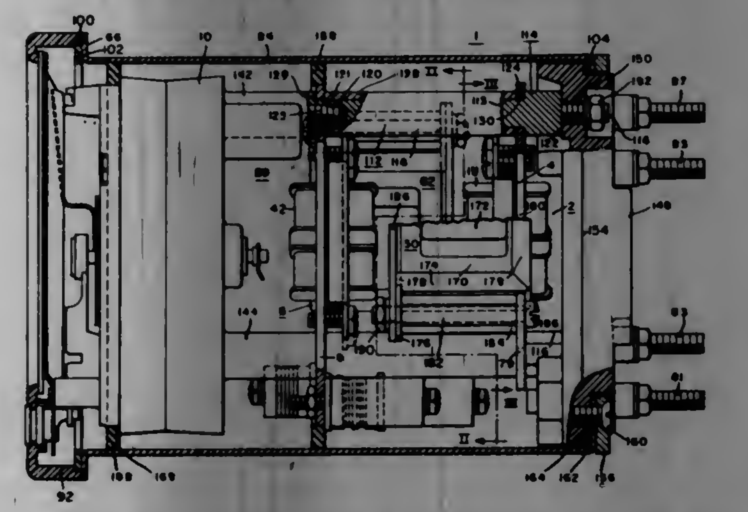


3,195,016
SHOCK-RESISTANT STRUCTURE

Theodore Barabutes, Morris Township, Morris County, N.J., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed June 14, 1960, Ser. No. 36,047

5 Claims. (Cl. 317—99)



3. A polyphase instrument for mounting an instrument panel subject to shocking loads comprising a circularly cylindrical hollow casing having an outturned flange at a first end portion thereof and an inturned flange at a second end portion thereof opposite to said first end portion, means carried by said outturned flange and adapted to secure said casing to said panel, an assembled apparatus extending between said end portions and having a supporting base, said base having a seating surface of a configuration and area to seat against the internal surface of said inturned flange, a ring-like reinforcing member seating against the external surface of said flange, clamping means extending between said base and said ring-like member for tightly clamping said base and said ring-like member to said inturned flange, a first electrical responsive unit, said unit including a substantially circular disc member, a transformer and a Hall device carried by said disc member, said transformer having a core member with first and second end surfaces, said transformer having outwardly extending feet forming outward extensions of said first end surface, a pair of post-like structures carried by and extending outwardly of said disc member, means securing one end portion of each said structure to said disc member, a plate-like reinforcing member seating against said first end surface and against said feet, means securing said plate-like reinforcing member against

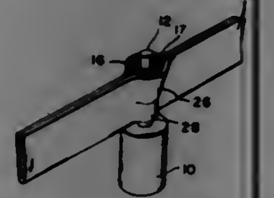
said feet and said feet against said post-like structures, said second end surface of said transformer being located closely adjacent said disc member, means limiting lateral movement between said second end surface and said disc member, said Hall device being carried by said disc member adjacent said transformer and extending outwardly from the same side of said disc member as said transformer, said Hall device extending outwardly a lesser distance than said transformer, a second said unit substantially identical to said first unit and having a transformer and a Hall device, means securing said units in face-to-face relationship with said transformer of said first unit extending outwardly of said first unit disc member toward said Hall device of said second unit and said transformer of said second unit extending outwardly of said second unit disc member toward said Hall device of said first unit, means securing said second unit to said base member with said second unit located intermediate said first unit and said base member, a controlled device carried by said first unit and spaced thereby from said second unit, and a bumper ring encircling said disc member of said first unit and cooperable with said casing to limit movement of said first unit transversely of said casing.

3,195,017
CONNECTOR FOR SUBMINIATURE ELECTRONIC COMPONENTS

William L. Callahan, Los Angeles, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware

Filed Feb. 1, 1963, Ser. No. 255,599

4 Claims. (Cl. 317—99)



1. A device interconnecting electronic components each having a lead comprising:

an elongated metallic conductor strip having two parts in mutual contact along a plane bisecting the conductor longitudinally and a plurality of apertures each at a predetermined location along said strip and circumscribing a lead, said apertures being formed by displacing said parts transversely to said plane into a frusto-conical portion and a cylindrical portion beginning at the end of the frusto-conical portion having the least diameter, and

a ring of electrical conductive bonding material circumscribing each of said leads for engagement therewith and with the periphery of said frusto-conical portion electrically connecting said component to said conductor.

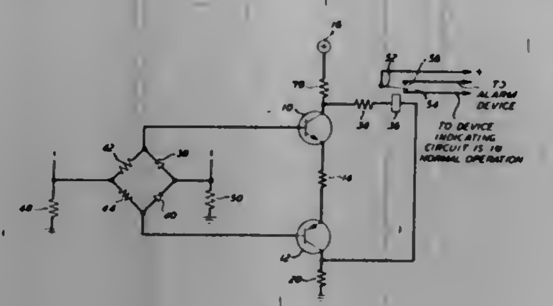
3,195,018
TRANSISTOR AMPLIFIER

Adolf J. Giger, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Sept. 27, 1961, Ser. No. 141,196

10 Claims. (Cl. 317—148.5)

1. An amplifier for signals from a source of symmetrically varying signal energy having undesired single-sided components comprising first and second transistors having input, output, and control electrodes, a first impedance interconnecting said input electrodes, a source of direct current potential with respect to ground connected to the output electrode of said first transistor, a second impedance connecting the output electrode of said second transistor to ground, means connecting the control electrodes of said transistors to receive signals from said source, said source comprising two impedances connected in series, two asymmetrical conducting means connected in series and two voltage sources, means connecting said two series impedances in parallel with said two series asymmetrical conducting means, means connecting the control electrode of one transistor to one of the junctions of an impedance and an asymmetrical conducting means, means connecting the control electrode of the other transistor to the other junction of an impedance and an asymmetrical conducting means, one of said sources being connected to the junction of said two impedances, the other of said sources being connected to the junction of said two asymmetrical conducting means.



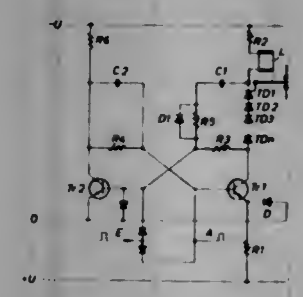
3,195,019
MULTISTABLE STORAGE DEVICE

Friedrich Ulrich, Stuttgart-Bad Cannstatt, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 29, 1961, Ser. No. 163,314

Claims priority, application Germany, Jan. 4, 1961, St 17,311

6 Claims. (Cl. 317—148.5)



1. A multistable flip-flop storage device for actuation by a series of input pulses, said storage device comprising a series connection of several tunnel diodes characterized by various respective peak and valley currents; a first transistor through which a basic current can be impressed upon said series connection of tunnel diodes, said basic current being greater than the greatest respective valley current but smaller than the smallest respective peak current of all said series-connected tunnel diodes; a second transistor which is conducting in its normal condition, said second transistor having its collector coupled to the base of said first transistor and its base coupled to the collector of said first transistor; means for supplying said basic current to said series connection of tunnel diodes, thereby to produce a voltage jump within said series connection when the current therein rises in excess of the peak current of any of said tunnel diodes; and means for applying input pulses to the respective base electrodes of said first and second transistors whereby said voltage jump within said series connection of tunnel diodes produces an output signal from said flip-flop storage device only after the occurrence of a predetermined number of said input pulses.

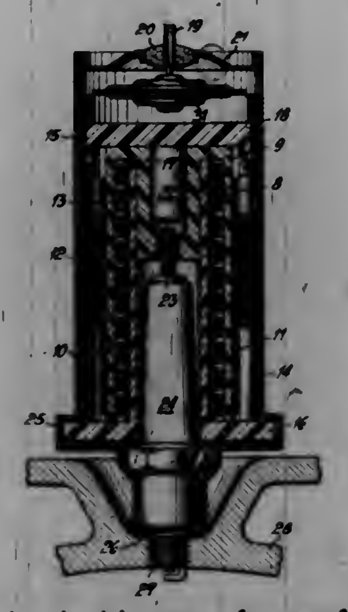
3,195,020
HIGH TENSION IMPULSE TRANSFORMER

Kurt Willutzki, Gehlengraben 6B, Hamburg-Langenhorn, Germany

Filed Nov. 7, 1961, Ser. No. 150,795

Claims priority, application Germany, Nov. 9, 1960, W 28,872

17 Claims. (Cl. 317—157.62)



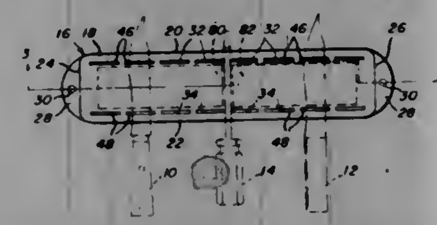
1. A high tension ignition transformer for the production of instantaneous impulses, particularly for igniting fuel/air mixtures, comprising a primary winding wound on an iron core supported by a cylindrical former having an upper end and a lower end, a flange projecting radially outwards from said lower end and forming a base; a secondary winding of multiple layers surrounding the primary winding and supported by a pot shaped former having a lower open portion in contact with said base and whose upper portion is in contact with the upper end of the primary coil former and is provided with a depending cylindrical projection extending inwardly of the primary coil former; the low tension ends of the primary and secondary windings being grounded and being located in proximity to the flange while the high tension end of the secondary winding is disposed in the depending cylindrical projection, one portion of each secondary winding layer being separated by insulation from adjacent layers, another portion of said secondary winding layers being overlapped by a portion of an adjacent overlapping layer, each secondary layer being wound in a direction opposite to the preceding underlapped layer, the last winding layer being joined to the wound capacitor.

3,195,021
MAGNETIC HOLDER

John F. Martin, East Longmeadow, Mass., assignor to Phelon Magnagrip Company, Inc., East Longmeadow, Mass., a corporation of Massachusetts

Filed Nov. 26, 1962, Ser. No. 240,473

8 Claims. (Cl. 317—159)



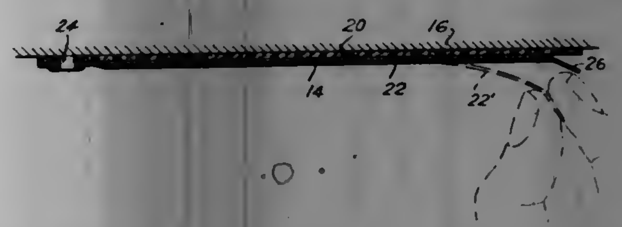
1. In a holder for articles of magnetic material, the combination of an elongated housing of nonmagnetic material adapted to be mounted on a room wall surface and having an elongated flat front wall formed integrally with parallel elongated top and bottom walls and opposing end walls, said front wall being provided with vertically spaced upper and lower series of longitudinally aligned and longitudinally spaced horizontal slots, a spacer member at a central portion of said housing, a one-piece elongated generally U-shaped pole bar of magnetic material having a flat generally rectangular body portion and integral flat upper and lower arm portions which extend in the same direction and each of which is provided with a longitudinally spaced series of notches defining a longitudinal series of teeth, said pole bar being disposed behind said front wall of the housing with its body portion spaced rearwardly from said front wall and with the teeth on said upper and lower arms thereof projecting forwardly respectively through the slots in said upper and lower series of slots so that the front end surfaces of the teeth can engage and hold articles of magnetic material, means detachably connecting the body portion of said pole bar to said housing, and similar first and second elongated generally rectangular ceramic magnets having opposite parallel flat pole faces at the front and rear, said magnets being disposed respectively on opposite sides of said spacer member and between said front wall of the housing and the body portion of said pole bar with the rear pole faces of the magnets in engagement with said body portion of the pole bar and with the sides of the magnets in spaced relationship with the said upper and lower arms of the pole bar.

3,195,022
MAGNETIC SHEET HOLDER

Edward F. Staver, Westport, N.Y., assignor to Staver Westport Incorporated, Westport, N.Y., a corporation of New York

Filed Jan. 2, 1964, Ser. No. 335,145

7 Claims. (Cl. 317—159)



1. A magnetic holder for sheet material, said holder comprising a strip of a plastic sheet material which is loaded with magnetizable particles and which is permanently magnetized, a thin flexible ferrous metal strip overlying the plastic strip, said strips being secured together at one end, the free end of the metal strip having a finger tab.

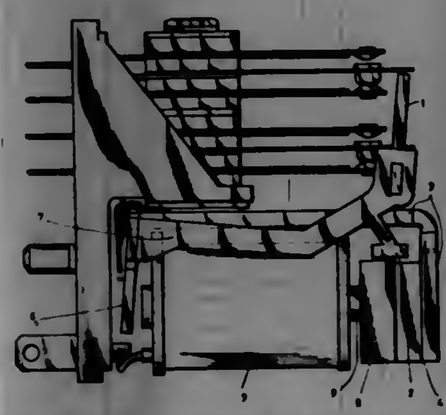
3,195,023
ELECTROMAGNETIC RELAY

Albert Ueberschuss and Helmut Mielert, both of Munich, Germany, assignors to Siemens & Halske Aktiengesellschaft, Berlin and Munich, a German corporation

Filed Apr. 9, 1962, Ser. No. 186,122

Claims priority, application Germany, Apr. 28, 1961, S 73,748

2 Claims. (Cl. 317—172)



1. An electromagnetic relay having a permanent magnet which coacts with the control flux produced by the electromagnetic system so that the armature is by super-

position of the control flux and the permanent flux actuatable to assume its two respective end positions and being upon cessation of the control flux held in the attained end position, comprising an auxiliary armature extending from the main armature for deriving from the permanent magnet disposed in the control flux circuit an auxiliary flux which produces a restoring force, always acting in the same direction, said auxiliary flux exerting a holding force upon the armature in the normal position thereof, with the armature being held in one end position thereof by the restoring force, while being held in the other end position by the force exerted by the permanent magnet.

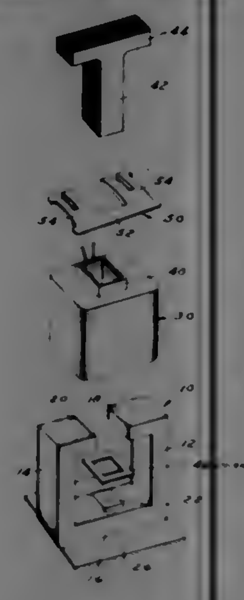
3,195,024

SHOCK MOUNTING AND COIL RETAINING STRUCTURE FOR SOLENOIDS

Louis R. Conrath, Huntington Woods, Mich., assignor to Detroit Coil Company, Ferndale, Mich., a corporation of Michigan

Filed Aug. 2, 1963, Ser. No. 299,657

4 Claims. (Cl. 317—191)



1. In a solenoid, a generally C-shaped stator having opposed arms spaced apart providing a coil assembly-receiving space therebetween, said arms connected at one end by the bight portion of the C-shaped stator and provided at the end opposite to said bight portion with inturned arm portions terminating spaced apart providing an armature-receiving opening therebetween, said bight portion of the stator provided with a lug spaced between the stator arms and projecting upwardly, a coil assembly positioned between the stator arms seated upon the bight portion of the stator and spaced below the inturned ends of the stator arms and having a passageway therethrough received at one end over said lug and at the opposite end aligned with the armature-receiving opening between said inturned ends of the arms and a coil liner lining the walls of said passageway and having a portion extending beyond the coil toward the space between the inturned ends of the stator arms, a T-shaped armature having its shank portion reciprocably extending through the armature-receiving opening between said inturned ends of the stator arms and into said coil passageway, a resilient pad interposed between the bight portion of the stator and the coil assembly, and a generally U-shaped resilient clip removably deformably positioned in the space between the inturned arm portions of the stator and the coil assembly with the clip embracing that portion of the coil liner projecting toward the space between the inturned stator arms, said clip having longitudinally bowed arm portions and a base portion with the base portion and the extremities of said arm portions bearing against the upper end of the coil assembly on opposite sides of the stator arms respectively and with an intermediate portion of each arm bowed upwardly bearing against the underside of a respective overhanging stator arm portion tensioning the coil assembly yieldingly toward said resilient pad whereby said coil assembly is floatingly held between said pad and said clip within the stator.

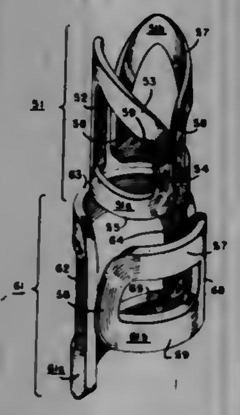
3,195,025

MAGNETIC DEFLECTION YOKE

John Marley, Wayne, N.J., assignor to Hazeltine Research, Inc., Chicago, Ill., a corporation of Illinois

Original application Apr. 25, 1956, Ser. No. 580,600, now Patent No. 3,115,544, dated Dec. 24, 1963. Divided and this application Oct. 15, 1963, Ser. No. 316,310

11 Claims. (Cl. 317—200)



1. A magnetic deflection yoke for use with a cathode-ray tube image-reproducing system where oblique incidence of energy on an image surface causes image distortion, the deflection yoke comprising: a set of yoke coils for controlling deflection of the electron beam of the cathode-ray tube in one direction, said set of yoke comprising longitudinal groups of conductors which are to be positioned alongside of the longitudinal axis of the cathode-ray tube, the effective axial length of the conductor groups on one side of the tube axis being different from the effective axial length of the conductor groups on the other side of the tube axis to produce an oblique end boundary of the magnetic deflection field for minimizing the image distortion seen by the viewer.

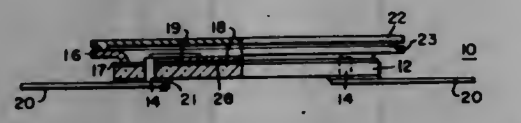
3,195,026

HERMETICALLY ENCLOSED SEMICONDUCTOR DEVICE

Mary W. Wegner and Kendall K. Conger, Camarillo, Calif., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 21, 1962, Ser. No. 225,353

5 Claims. (Cl. 317—234)



1. A semiconductor device comprising a relatively thin, substantially flat base member of good thermal conductivity and having a plurality of vertically disposed terminal pins passing therethrough, a flanged metallic frame member disposed on and joined to the outer periphery of the upper surface of the base member, at least one semiconductor element joined to the upper surface of the base member within the frame member and having portions electrically connected to one end of the terminal pins, the thermal expansion characteristics of the base member and the semiconductor member being closely similar, a plurality of flat surfaced electrical leads joined to the lower surface of the base member and electrically connected to the other end of each of the terminal pins and a relatively flat, substantially thin cover plate joined to the flange of the frame member to provide a hermetic enclosure for the semiconductor element.

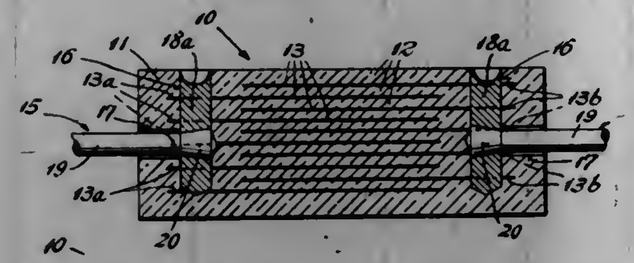
3,195,027

TERMINAL LEAD CONNECTION AND METHOD OF MAKING SAME

Roger C. Vandermark, Sandy Hook, and Barton L. Weller, Monroe, Conn., assignors to Vitramon, Incorporated, Monroe, Conn., a corporation of Delaware

Filed Apr. 27, 1962, Ser. No. 190,627

12 Claims. (Cl. 317—242)



1. In an electrical unit comprising a laminated body of parallel layers bonded together throughout their coextensive surfaces, said layers including at least two electrically conductive layers lying wholly within said body and a plurality of layers having different specific electrical characteristics, said electrically conductive layers being separated by at least one of said layers having said different specific electrical characteristics and forming two electrically distinct groups, and a terminal means for each group, said terminal means connecting all of the electrically conductive layers of one group to form an electrode of the electrical unit and electrically communicating the electrode outwardly of said body; the improvement in which at least one of said terminal means comprises electrically conductive means extending through at least some of said layers transversely thereto and spaced inwardly of the edges of said body for electrically connecting all of the electrically conductive layers of one group for forming one of the electrodes of the electrical unit and an electrically conductive terminal lead means having an upset inner end extending into said body substantially parallel to said layers and electrically connected to said electrically conductive means for communicating the electrode outwardly of the body, said body being shrunk upon said terminal lead means for gripping the same so that said upset inner end interlocks with said body.

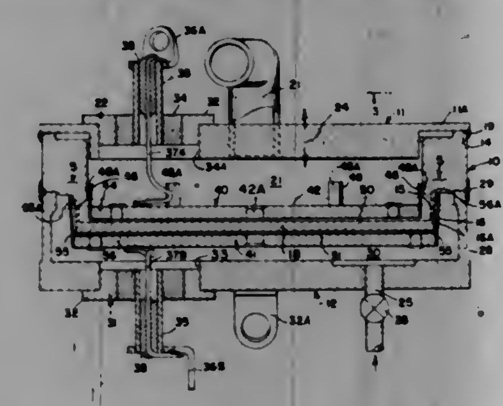
3,195,028

CAPACITANCE PRESSURE GAGE

Frank D. Werner, Minneapolis, and Robert L. Geronime, Rosemount, Minn., assignors to Rosemount Engineering Company, Minneapolis, Minn., a corporation of Minnesota

Filed Feb. 13, 1961, Ser. No. 89,027

12 Claims. (Cl. 317—246)



2. A pressure sensitive capacitative electrical transducer comprising a pressure responsive diaphragm and a capacitance elements, said diaphragm and element each being circular, means attached to the peripheral edges of the diaphragm and to the peripheral edges of the capacitance element mounting them with one electrically insulated from the other and substantially parallel to each other and spaced apart, said diaphragm and capacitance element together forming an electrical capacitor, said diaphragm and capacitance element together with their respective mounting means having substantially equal rigidity in axial direction, and closures forming a closed spaced covering each face of the diaphragm, and pressure inlet means into at least one of said spaces.

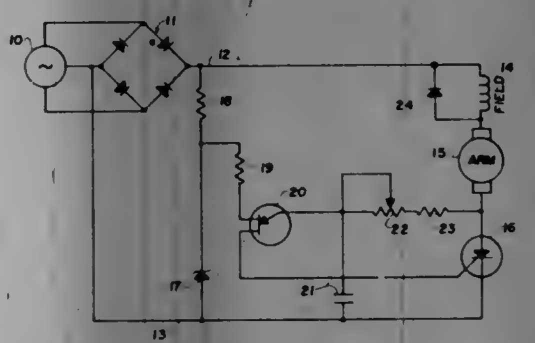
3,195,029

SERIES MOTOR CONTROL

Benjamin F. Gilbreath, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Sept. 10, 1962, Ser. No. 222,706

5 Claims. (Cl. 318—246)



1. A control circuit for a motor wherein a field winding and an armature winding are connected in series comprising:

(a) a controlled rectifier having anode, cathode and gate electrodes,

(b) a pair of terminals adapted to be connected to a source of full-wave rectified alternating current,

(c) means connecting the motor in a series circuit with the anode and cathode of the controlled rectifier and for connecting the series circuit across the pair of terminals, the anode being adjacent the armature winding,

(d) resistance means and a capacitor connected across the anode and cathode electrodes,

(e) a resistor and a Zener diode connected in series across the pair of terminals, and

(f) a unijunction transistor having one base connected to the juncture of the resistor and Zener diode and having a second base connected to the gate electrode, the emitter of the transistor being connected to the juncture of the capacitor and the resistance means.

3,195,030

GLASS AND METHODS OF DEVITRIFYING SAME AND MAKING A CAPACITOR THEREFROM

Andrew Herczog, Painted Post, and Stanley D. Stookey, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed June 26, 1964, Ser. No. 378,468

32 Claims. (Cl. 317—258)

18. A semicrystalline ceramic body comprising, on the oxide basis, 30–90 cationic mole percent of the constituents of $BaTiO_3$, at least 30 cationic mole percent of the said body comprising said $BaTiO_3$ as a crystalline phase uniformly dispersed in another phase, said crystalline phase being crystallized in situ in a homogeneous glass having the same oxide composition as the body and including at least one glass forming oxide selected from the class consisting of SiO_2, Al_2O, B_2O_3 and P_2O_5.

23. A capacitor comprising a plurality of electrically conducting layers each separated by a semicrystalline ceramic dielectric, input and output terminals respectively connected to two of said electrically conducting layers, the remaining electrically conducting layers each being connected to one of said terminals, the semicrystalline dielectric comprising a body as defined in claim **18**.

3,195,031

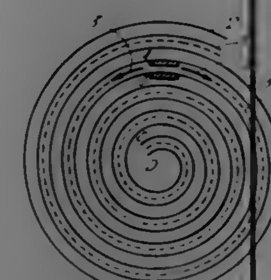
ROLLED FOIL CAPACITORS

Richard Anthony Fitch, Mortimer, and Vernon Thomas Seymour Howell, Newbury, England, assignors to United Kingdom Atomic Energy Authority, London, England

Filed May 14, 1962, Ser. No. 195,049

Claims priority, application Great Britain, May 18, 1961, 18,137/61

3 Claims. (Cl. 317—260)



1. A rolled foil electrical capacitor comprising first and second conductor foils of opposite polarity and first and second dielectric foils, said conductor and dielectric foils being arranged alternately and wound into a roll in which the conductor foils are insulated from each other by the dielectric foils, first capacitor discharge terminal means in electrical contact with the first conductor foil, said electrical contact being made at two locations on the first conductor foil, which locations are spaced apart along the foil by a distance substantially equal to one turn of the winding of the roll with not more than two thicknesses of dielectric foil and one thickness of the second conductor foil lying between them, a second capacitor discharge terminal electrically connected at a single location to the second conductor foil, the said single location lying between the two contact locations on the first conductor foil.

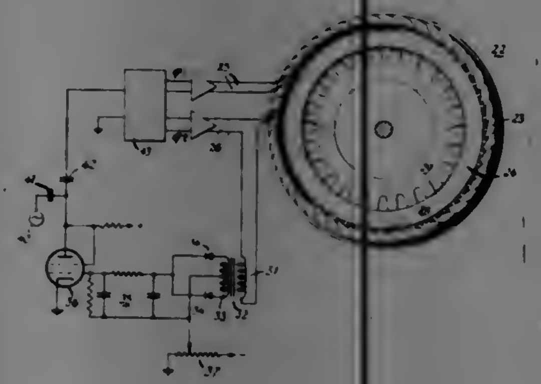
3,195,032

STABILIZING SYSTEM FOR SYNCHRONOUS MOTOR OR GENERATOR

John R. Shonnard, Montclair, N.J., and Robert L. Easson, Valley Stream, N.Y., assignors to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed May 25, 1961, Ser. No. 112,710

2 Claims. (Cl. 318—175)



1. In a stabilizing system for a synchronous motor having a rotor, a stator and stator windings to produce a rotating field coupled to said rotor, a source of current for said motor, line conductors connecting said source to said stator windings, a transformer having a primary winding in series relation with one of said line conductors and a secondary winding inductively coupled to said primary winding, rectifying means connected to said secondary winding for deriving a control potential which varies with changes in the amplitude of the current in said primary winding of the transformer, anti-hunting means for minimizing oscillations of said rotor controlled by said control potential and a low pass filter connected between said rectifying means and said anti-hunting means, said low pass filter including a D.C. resistance path coupling said anti-hunting means and rectifying means.

3,195,033

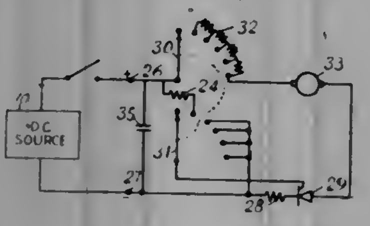
OVERLOAD PROTECTION CIRCUIT FOR A MOTOR

Peter David Jones, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England

Filed Aug. 31, 1962, Ser. No. 220,637

Claims priority, application Great Britain, Sept. 6, 1961, 31,976/61

7 Claims. (Cl. 318—447)



6. A D.C. overload protection circuit comprising in combination a D.C. source, positive and negative terminals connected to said source, a switchable rectifier having an anode, a cathode and a gate, said switchable rectifier being turned on, to permit flow of current from anode to cathode, by positive current flowing from its gate to its cathode when a predetermined positive gate-cathode voltage is exceeded, and said switchable rectifier being turned off, to prevent flow of current from anode to cathode, by negative current flowing from its gate to its cathode when a predetermined negative gate-cathode voltage is exceeded, a resistor connected between the cathode of the switchable rectifier and the negative terminal, a load connected between the anode of said switchable rectifier and said positive terminal, said load comprising the armature of a motor and a variable resistor in series, a first wiper connected to said positive terminal and having a first position in which no connection is made to said armature, a second position in which said positive terminal is connected to said armature through said variable resistor, and further positions in which portions of said variable resistor are removed from the circuit to said armature to increase the current flow therein, and a second wiper connected to the gate of the switchable rectifier and movable in synchronism with the first wiper between a first position in which said second wiper is disconnected from said D.C. source, a second position and further positions, a resistor through which said second wiper is connected to said positive terminal when the second wiper is in said second position so that positive current flows from said gate to said cathode to turn said switchable rectifier on, and means connecting said second wiper to said negative terminal in each of said further positions of the second wiper, the gate voltage of said switchable rectifier being negative with respect to the cathode voltage of said switchable rectifier when the switchable rectifier is on and the magnitude of said negative gate-cathode voltage increasing with current flow through the load so that said predetermined negative gate-cathode voltage is exceeded and said switchable rectifier turned off when the current flowing in the load reaches a predetermined value.

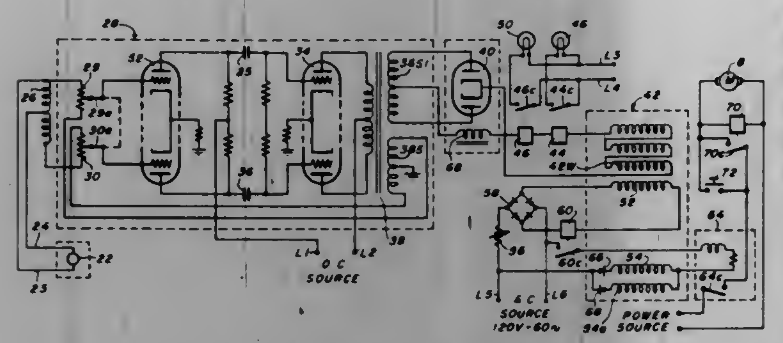
3,195,034

APPARATUS FOR MONITORING VIBRATIONS OF A FAN

Eugene Bensema, Chicago, Ill., assignor to United States Steel Corporation, a corporation of New Jersey

Filed Apr. 20, 1962, Ser. No. 189,182

2 Claims. (Cl. 318—460)



1. Apparatus for monitoring vibrations of a member comprising a vibration pickup having an output proportional to the amplitude of vibrations and adapted to measure vibrations of said member, a phase inverting transformer connected to the output of said vibration pickup, an amplifier connected to the output of said transformer, means associated with said amplifier for providing an adjustable feedback voltage thereto, a rectifier connected to the output of said amplifier, a self-saturating magnetic amplifier including a control winding, a bias winding and two load windings connected in parallel, a rectifier connected in series with each load winding, the last named rectifiers being oppositely disposed with respect to one another, means connecting the output of said first named rectifier to said control winding, an induction relay connected to an A.C. power source in series with said load windings and last named rectifiers, and means operable by said induction relay when the amplitude of the vibrations exceeds a predetermined level.

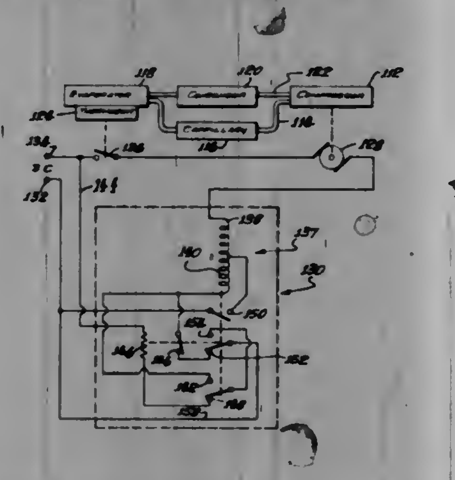
3,195,035

MOTOR CONTROL SYSTEM

Gustav H. Sudmeier, 2768 Torrance Blvd., Torrance, Calif.

Original application May 13, 1958, Ser. No. 735,008, now Patent No. 3,080,495. Divided and this application June 7, 1961, Ser. No. 115,364

5 Claims. (Cl. 318—472)



1. An electrical system adapted to be connected to a source of electrical energy, for use in conjunction with electrical motive means which is subject to encounter loaded and no-load conditions, said system for temporarily disconnecting said electrical motive means from said source of electrical energy, upon occurrence of said no-load condition, comprising: an electromagnetic relay drive, connected to be energized under control of electrical energy passing from said source to said motive means; a thermo relay drive operative after a predetermined period of delay; and switching means controlled by said electromagnetic relay drive and said thermo relay drive, for connecting only said motive means and said electromagnetic relay drive to receive energy from said source when said motive means is loaded, for connecting only said thermo relay drive to receive energy from said source when said motive means becomes not loaded, and for isolating said energy source for a delay interval after said thermo relay drive has received energy from said source for a predetermined period of delay after which said motive means and said electromagnetic relay drive are connected to receive energy from said source.

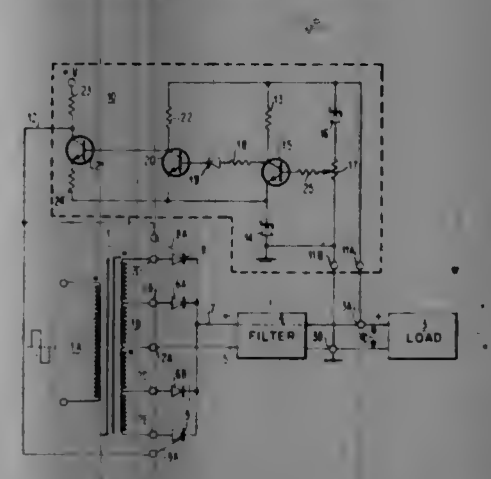
3,195,036

REGULATED POWER SUPPLY

Edward R. McNulty, Saugerties, and Edward A. Menard, Ruby, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 21, 1962, Ser. No. 246,530

2 Claims. (Cl. 321—16)



1. In a supply to deliver direct current to first and second input terminals of a load,

a transformer having a primary winding coupled to an alternating current source and a secondary winding,
said secondary winding having a common return tap as well as first and second taps to furnish current of like polarity and phase at a first voltage and a second, higher voltage, respectively.
means to directly connect said common tap to said first load terminal and to directly connect said first and said second transformer taps to said second load terminal,
said means including a diode serially connected between said first tap and said second load terminal normally effective to conduct current therethrough in a forward direction to said load,
said means also including a rectifier having a control anode,
means connected across said load terminals effective in response to the reduction of voltage thereat below a predetermined value to apply a signal to said control anode,
said rectifier being serially connected between said second transformer tap and said second load terminal and effective upon the application of a signal to said electrode to conduct current therethrough in the same direction with respect to said load as said diode,
said rectifier being effective in conductive state to provide current to said load,
and means coupling said rectifier to said diode to apply reverse voltage to said first diode during the time said rectifier is conducting current.

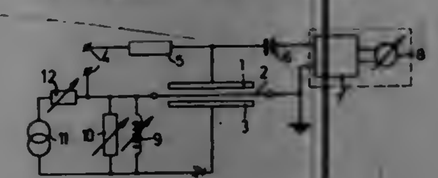
3,195,037
SIGNAL MEASURING APPARATUS INCLUDING A VARIABLE RESONANT CIRCUIT

Aart Gerard van Nie, Eindhoven, Netherlands, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Mar. 28, 1961, Ser. No. 98,900

Claims priority, application Netherlands, Apr. 6, 1960, 250,241

12 Claims. (Cl. 321—45)



1. Electrical apparatus for modifying a characteristic of an electrical signal applied thereto comprising a stationary electrode and a vibratile electrode in capacitive relationship, means for applying said signal to said electrodes, input means for a source of electrical energy at a given frequency, an inductance-capacitance circuit connected to said input means and having a nominal resonant frequency different from that of said energy source, and means for vibrating said vibratile electrode thereby to periodically vary the position thereof relative to said stationary electrode, said vibrating means constituting a component of said inductance-capacitance circuit and undergoing changes in the electrical reactance thereof as determined by the position of said vibratile electrode with respect to said stationary electrode thereby to produce variations of the resonant frequency of said circuit as determined by changes in the position of said vibratile electrode.

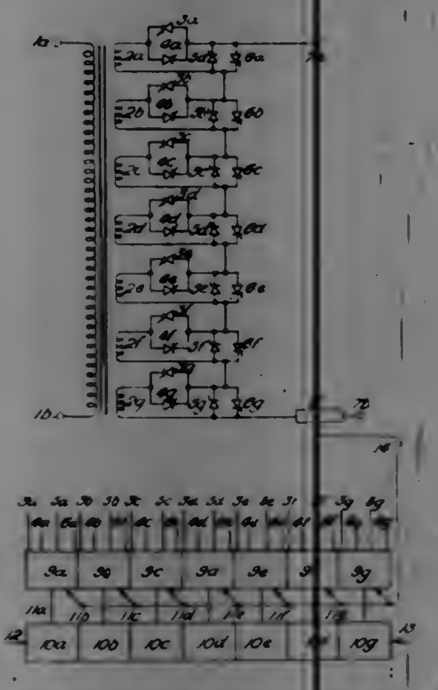
3,195,038
VOLTAGE OR CURRENT REGULATOR APPARATUS

Michael George Joseph Fry, Sussex, England, assignor to Brentford Electric Limited, Crawley, England, a British company

Filed May 14, 1962, Ser. No. 195,047

Claims priority, application Great Britain, May 15, 1961, 17,646/61

12 Claims. (Cl. 323—25)



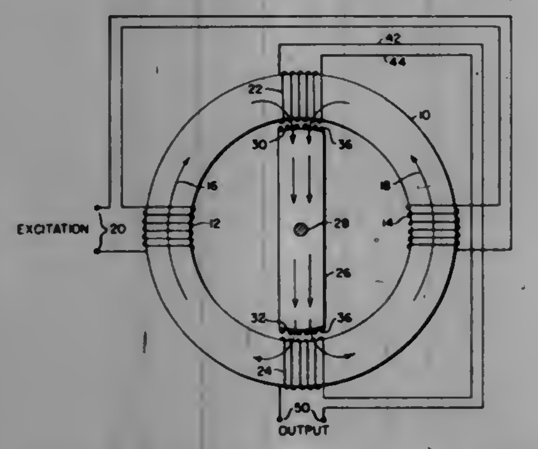
1. Voltage or current regulator apparatus for regulating the voltage or current in a circuit in which an alternating current flows, comprising at least one electrical current source; switch means associated with the said source, which switch means is triggerable into a condition in which it connects the source into the circuit; said switch means comprising a switch device which requires to be triggered in each cycle of the said alternating current to maintain the switch means in the said condition, and control means operatively connected to the said device and responsive to the zero current instants of the alternating current in the said circuit to repeatedly trigger the said device in predetermined time relationship with the said zero current instants to connect the said source in the circuit for substantially the whole cycle of each of selected cycles of the alternating current in the said circuit.

3,195,039
ELECTROMAGNETIC TRANSDUCER

Menno G. Koning, Dover, Mass., assignor to Northrop Corporation, Beverly Hills, Calif., a corporation of California

Filed Apr. 28, 1960, Ser. No. 25,359

4 Claims. (Cl. 323—51)



1. A transducer comprising a circular stator ring of magnetic material, at least a pair of excitation coils wound on said ring at equally spaced points, means for energizing said excitation coils to set up opposing magnetic fluxes in said ring, a rotor element having at least a pair of pole faces, said rotor element being disposed within said stator ring and providing a return path for said magnetic fluxes, points of flux reversal being established in said stator ring opposite said pole faces, each said pole face having the shape of an arc of a circle concentric with said stator ring, at least a torquer winding on said rotor and at least a pick-off coil wound on said stator ring between said excitation coils.

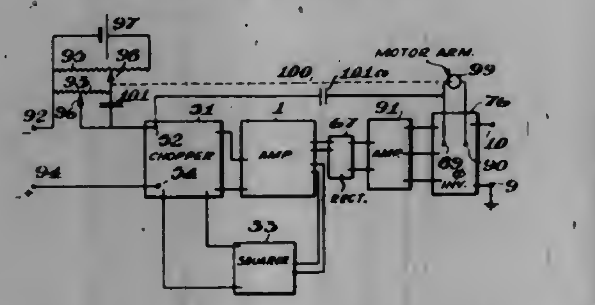
3,195,040
ELECTRONIC OSCILLATORS AND SELF-BALANCING POTENTIOMETER MEANS INCORPORATING SUCH OSCILLATORS

John Ernest Fielden, Bowden, England, and Arthur Worland, Bangor, Wales, assignors to Fielden Electronics Limited, Manchester, England, a British company

Filed Feb. 8, 1961, Ser. No. 87,832

Claims priority, application Great Britain, Feb. 8, 1960, 4,324/60

7 Claims. (Cl. 323—66)



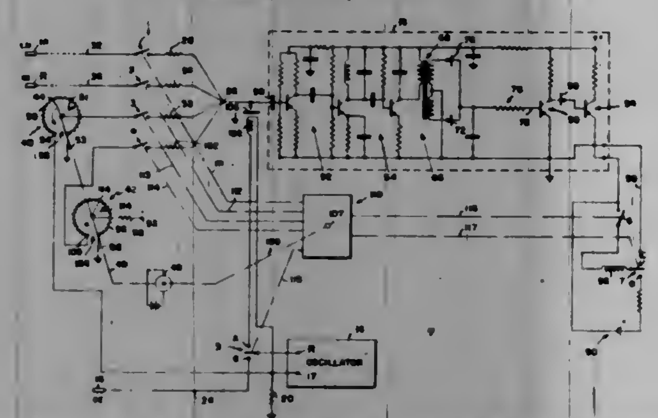
1. An electronic oscillator comprising an amplifier arranged to be self-oscillatory and having input terminals and an inductive output winding, a chopper having input, output and control terminals, said output winding of said amplifier being coupled to the control terminals of said chopper so that said chopper provides at its output terminal a train of pulses of an amplitude dependent upon the magnitude of a unidirectional input signal applied to said input terminals, of a phase dependent upon the polarity of said input signal and of a frequency equal to the frequency of oscillation of the amplifier, said output terminals of said chopper being coupled to the input terminals of said amplifier and the arrangement being such that the amplitude of oscillation of said amplifier departs from a predetermined magnitude in proportion to the magnitude of said input signal to said chopper and in a sense corresponding to the polarity of said input signal.

3,195,041
BORE HOLE LOGGING APPARATUS INCLUDING MEANS FOR REPRODUCING A MULTIPLEXED LOG RECORD

Fred M. Mayes, Richardson, Tex., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

Filed Mar. 5, 1962, Ser. No. 177,625

17 Claims. (Cl. 324—1)



1. Apparatus for the logging of bore holes comprising means for providing an exciting current to the earth in the vicinity of the apparatus, means for providing a first potential responsive to said exciting current, means providing a second potential responsive to said exciting current, means providing a third potential which varies cyclically and has, during each cycle of variation, the same predetermined wave form, means sensitive to a predetermined relationship during each cycle of variation between said third and first potentials and between said third and second potentials, means controlled by said sensitive means for recording the phase relationship of said predetermined relationships occurring in each cycle of variation to a cycle of variation of said third potential in the form of a pulse time modulated record, and means for connecting said first and second potentials sequentially to said sensitive means whereby said recording means sequentially records each of said predetermined relationships.

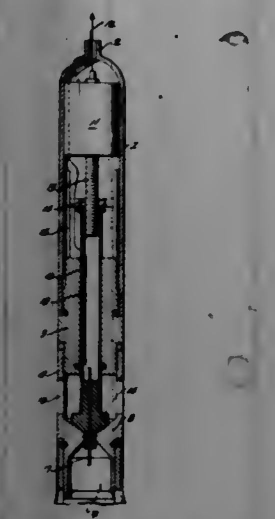
3,195,042
OIL LEVEL LOCATION TOOL WITH ELECTRICAL CONTACT MEANS DEPENDING FROM A RECIPROCATING VALVE

James J. Glenn, Jr., 4716 Sunfield Ave., Long Beach, Calif., and Dale E. Willis, 5938 N. Whitewood Ave., Lakewood, Calif.

Filed Sept. 11, 1961, Ser. No. 137,374

5 Claims. (Cl. 324—2)

1. An oil level location tool for an oil well comprising an elongated tubular housing, said housing having an inverted cup receptacle mounted on the lower end thereof, the bottom of said cup being open to receive fluid from the well, a valve seat in the housing above said cup, a valve mounted on said seat, an electrical metal terminal conductor depending from and mounted on the valve and extending into the cup in one position of the parts, and power means extending to the valve and attached thereto to raise and lower said valve with relation to the valve seat, said housing having outlet ports therein positioned above the valve seat, and deflection plates mounted on the housing at the lower end thereof to deflect fluid into said cup.

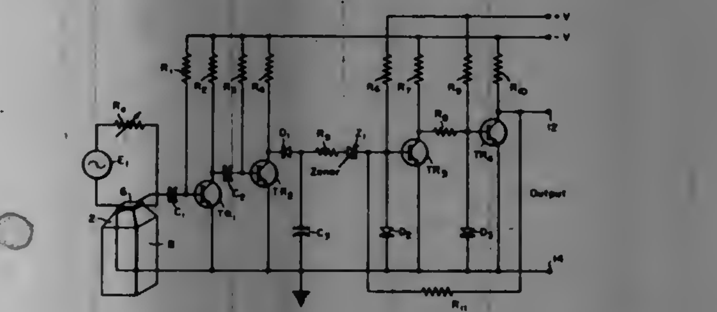


3,195,043
HALL EFFECT PROXIMITY TRANSDUCER

Robert G. Burig, McKeesport, and Edward A. Petrocelli, Murrysville, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed May 19, 1961, Ser. No. 111,311

3 Claims. (Cl. 324—45)



1. A proximity transducer including, a Hall generator device operative to provide an output signal proportional to the product of the current and magnetic field applied thereto, means for applying current to said device, magnetic means operative to provide a magnetic field across said device, said magnetic means including a permanent magnet and a tapered pole piece comprising a soft magnetic material having low residual magnetism, monostable switching means normally providing no output and being operative to change states when actuated to provide an output, and sensing means operative to activate said switching means to its output state when the magnetic field through said Hall generator device is concentrated above a predetermined magnetic field strength by the presence of an object desired to be detected, said sensing means including a Zener diode being operative to breakdown when the output signals of said Hall generator device exceed a predetermined value in response to an increase in magnetic field strength.

3,195,044
RESISTANCE-CHANGE TEMPERATURE-MEASURING APPARATUS FOR MOTOR WINDINGS AND THE LIKE

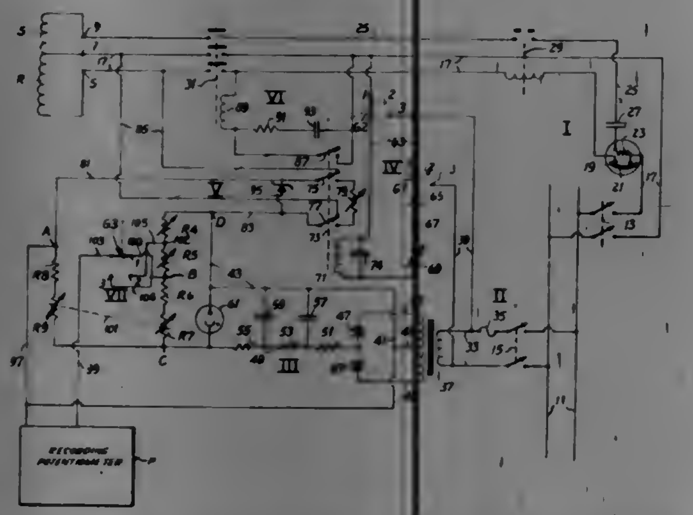
Charles D. Flanagan, Attleboro, Mass., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Mar. 29, 1960, Ser. No. 18,429

8 Claims. (Cl. 324—62)

1. Resistance-change temperature-measuring apparatus for a conductive device, comprising a potentiometer, a resistance bridge, said bridge including first, second, third

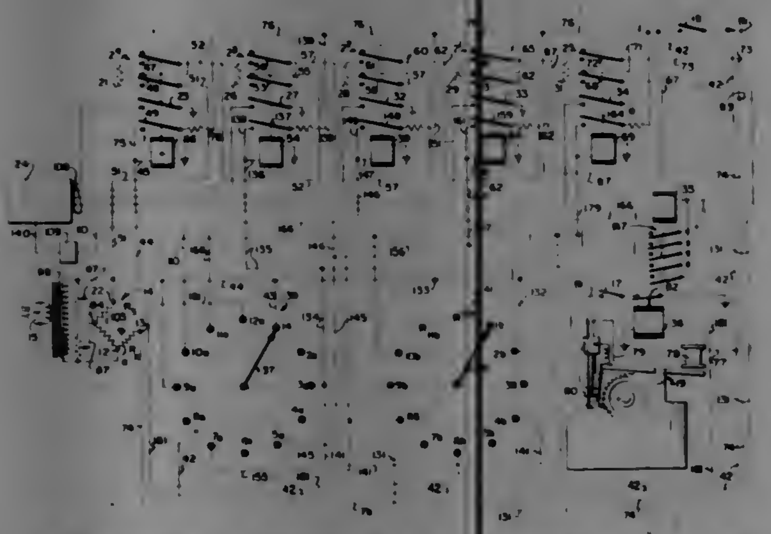
and fourth conductive arms having first, second, third and fourth junctions therebetween, a power circuit which when energized passes heating current through said device, a ballast resistance, a time-delay relay circuit responsive to energization of said power circuit for inserting said ballast resistance into the first arm of the resistance bridge when said power circuit is energized and removing the ballast resistance from said first arm of the resistance bridge and, with time delay, transferring said device from the power circuit to said first bridge arm when said power circuit is deenergized, two series-connected resistances forming said second arm between the second and third junctions, pairs of series-connected resistances one of which pairs forms a third arm between the third and fourth junctions and the other of which pairs forms a fourth arm between the first and fourth junctions, voltage supply leads attached to the second and fourth junctions, a voltage supply circuit connected between said voltage supply leads and said power circuit, potentiometer leads attached to the first and third junctions and extending to said potentiometer, and a bypass switch adapted to form a by-pass connection from a point between said resistances in the second arm and the potentiometer lead connected with the third junction.



3,195,045
SYSTEM FOR MEASURING THE RESISTANCE VALUE OF A RESISTOR IN BINARY DIGITAL FORM

Robert C. Ward, Winston-Salem, N.C., assignor to Western Electric Company, Incorporated, a corporation of New York

Filed Nov. 4, 1960, Ser. No. 67,245
1 Claim. (Cl. 324—62)



In a system for measuring the resistance value of an unknown resistor;

bridge circuit means having the unknown resistor to be measured in one branch thereof;

a series of resistors each having a succeedingly smaller and binary related known resistance value;

a plurality of binary indicating normally open contacts individual to each resistor;

relay means individual to each resistor for closing said contacts and for connecting the known resistors into a balancing arm of said bridge circuit means either to establish a first condition of balance wherein the resistance value of the sum of the known resistors connected into the bridge circuit means is equal to or smaller than the resistance value of the unknown resistor, or to establish a second condition of balance wherein the resistance value of the sum of the known resistors connected into the bridge circuit means is larger than the resistance value of the unknown resistor;

holding circuit means for, and operable by, each relay means;

a phase sensitive null detector including a pair of electronic tubes responsive to said conditions of balance;

stepping switch means,

  having a first plurality of positions contacted by a first sweep arm for successively closing the binary indicating contacts and for successively operating each relay means to connect successively each of the known resistors into the bridge circuit means and to operate said holding circuit means, and

  having a second plurality of alternate positions contacted by a second sweep arm to connect successively the output of the bridge circuit means to the detector for operating the first of said tubes after each known resistor is connected within the bridge circuit means upon said bridge circuit means reaching the first condition of balance, and for operating the second of said tubes after each known resistor is connected within the bridge circuit means upon said bridge circuit means reaching the second condition of balance;

means, operated by said first tube, for releasing said holding circuit means, for disconnecting each known resistor from the bridge circuit means and for opening the binary indicating contacts;

means, operated by said second tube, for preventing the opening of the binary indicating contacts and the disconnection of each connected known resistor from the bridge circuit means by not releasing said holding circuit means;

means, operated by the first sweep arm contacting the next to the last position of the first plurality of positions of said stepping switch means, for resetting said relay means by shunting said relay means; and

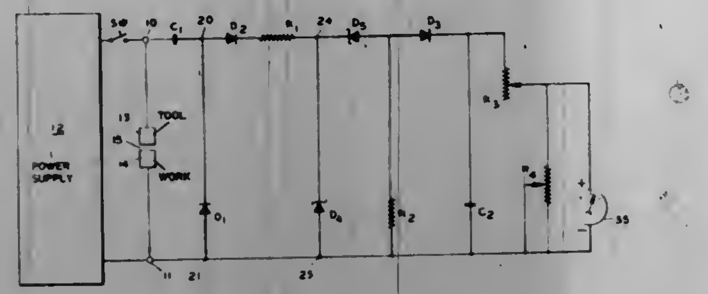
means, operated by the first sweep arm contacting the last position of the first plurality of positions of said stepping switch means, for deenergizing said stepping switch, whereby the condition of the binary indicating contacts represents the resistance value of the unknown resistor to be measured in the binary number system.

3,195,046
SPARK VOLTAGE ANALYZER UTILIZING AMPLITUDE DISCRIMINATION

Robert L. Henry, Cincinnati, Ohio, assignor to The Cincinnati Milling Machine Co., Cincinnati, Ohio, a corporation of Ohio

Filed Feb. 27, 1961, Ser. No. 91,815
2 Claims. (Cl. 324—72)

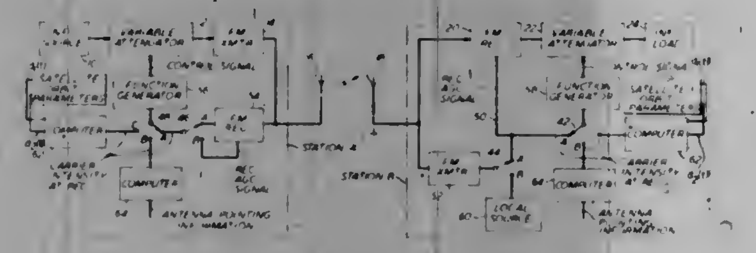
2. An instrument for indicating the operating efficiency of an electro-spark discharge apparatus having a pair of electrodes separated by a spark gap and a source of electrical energy for supplying charging current to said electrodes, said instrument comprising a storage capacitor, a first circuit for imparting a charge to said capacitor during charging of said electrodes with current from said energy source, a second circuit connected with the capacitor for discharging said capacitor each time the gap is rendered conductive, said second circuit including a voltage dropping resistor for receiving current from said capacitor, means for limiting the voltage drop across said resistor to a predetermined value, said means including a first Zener diode connected in series with said resistor and a second Zener diode connected in shunt across said first diode and said resistor, an integrator capacitor connected across said resistor and adapted to be charged in accordance with the voltage drop across said resistor, and a discharge circuit for said integrator capacitor including a current operated meter for indicating the average level of charge on said capacitor and, thereby, the condition of sparking across the gap.



3,195,047
FREQUENCY MODULATION COMMUNICATION SYSTEM HAVING AUTOMATIC FREQUENCY DEVIATION ADJUSTING MEANS

Clyde L. Ruthroff, Fair Haven, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 29, 1961, Ser. No. 163,262
4 Claims. (Cl. 325—46)

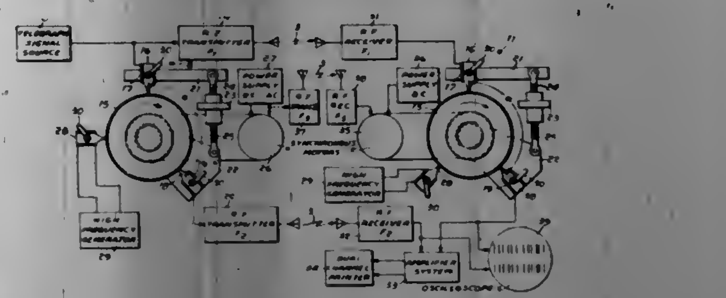


1. A frequency modulation communication system comprising a first station and a second station, a bilateral transmission path between said stations the loss introduced thereby being subject to variations, a transmitter and a receiver located at each of said stations and accessible to said transmission path, a first source of signals to be conveyed from said first station to said second station connected to the transmitter located at said first station, means for extracting said first signal from the receiver at said second station, a second source of signals to be conveyed from said second station to said first station connected to the transmitter at said second station, means available at said first station to extract said second signal at the receiver of said first station, means for deriving an indication of the carrier intensity at the input to said receiver at said first station, and means responsive to said indication for altering the frequency deviation of the frequency modulated signal generated by said transmitter at said first station to maintain equality between the signal-to-thermal noise ratio and the signal-to-modulation noise ratio at the output of said receiver at said second station.

3,195,048
TIME DIVERSITY COMMUNICATION SYSTEM

Robert T. Adams, Short Hills, and Karel J. Staller, Rutherford, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed June 4, 1962, Ser. No. 199,896
17 Claims. (Cl. 325—56)



10. A diversity communication system comprising:

a radio frequency transmission medium;

a first radio frequency transmitter coupled to one end of said medium for transmitting a first radio frequency signal having a first radiation characteristic through said medium;

a first radio frequency receiver coupled to the other end of said medium for receiving only said first radio frequency signal;

a second radio frequency transmitter coupled to said one end of said medium for transmitting a second radio frequency signal having a second radiation characteristic distinct from said first radiation characteristic through said medium;

a second radio frequency receiver coupled to said other end of said medium for receiving only said second radio frequency signal;

said first and second radiation characteristics providing two distinct communication paths through said medium;

a source of information signal;

a first means coupled between said source and said first transmitter to couple said information signal directly to said first transmitter for transmission by said first radio frequency signal to said first receiver;

a second means coupled between said source and said second transmitter to couple said information signal to said second transmitter after a time delay equal to a predetermined time for transmission by said second radio frequency signal to said second receiver;

said predetermined time being sufficient to provide uncorrelated signals with respect to fading in each of said paths;

a third means coupled to the output of said first receiver to time delay said information signal received by said first receiver an amount equal to said predetermined time to produce time coincidence between said information signal at the output of said third means and said received information signal at the output of said second receiver; and

a fourth means coupled to the output of said third means and the output of said second receiver to separately utilize said time concident information signals.

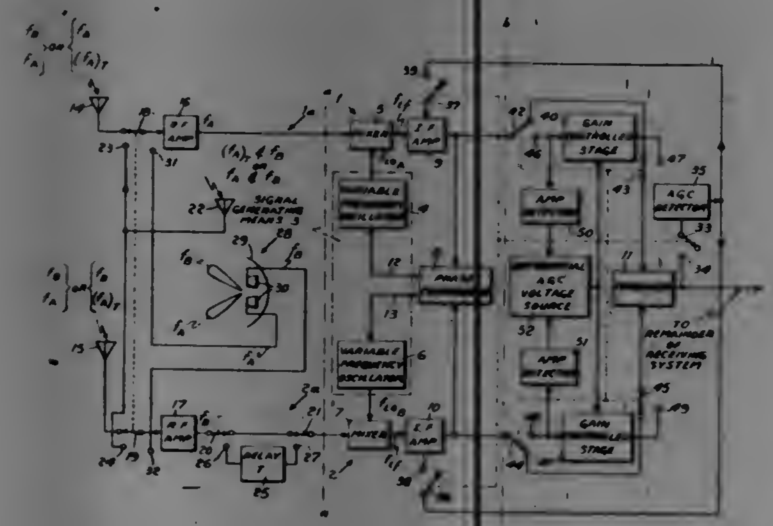
3,195,049
RADIO DIVERSITY RECEIVING SYSTEM WITH AUTOMATIC PHASE CONTROL

Frederick J. Altman, Ridgewood, and Alex T. Brown III, Wayne, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed May 4, 1960, Ser. No. 26,817
29 Claims. (Cl. 325—305)

1. A diversity receiving system comprising a plurality of sources of signals, the signals of each of said sources

having random phase relation with respect to each other, a signal generating means to produce a plurality of oscillatory signals each associated with respectively ones of said sources, a plurality of heterodyne means each coupled to respective ones of said sources and its associated one of said oscillatory signals to produce an intermediate frequency signal at the output thereof, the intermediate frequency signals at the output of each of said heterodyne means having the same frequency, a phase control means responsive to said intermediate frequency signals coupled to the output of each of said heterodyne means and said signal generating means to frequency control at



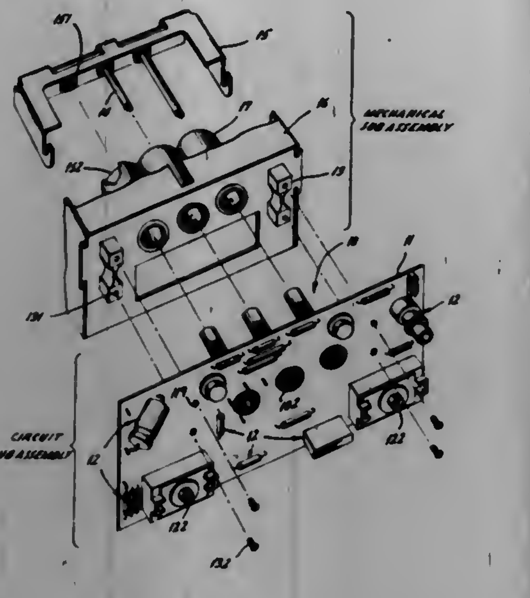
least one of said oscillatory signals for phase adjustment thereof to vary the phase relation of said intermediate frequency signals with respect to each other to maintain said intermediate frequency signals in a predetermined phase relationship, means coupled to the output of each of said heterodyne means to combine substantially in phase said intermediate frequency signals, and means coupled to the output of each of said heterodyne means to control in accordance with a predetermined relationship the amplitude of each of said intermediate frequency signals relative to the amplitude of the signal of the respective one of said sources of signals.

3,195,050

ELECTRICAL APPARATUS AND METHOD OF FABRICATING IT

Ralph Bray, Philadelphia, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Dec. 21, 1962, Ser. No. 246,414
2 Claims. (Cl. 325—363)

1. A method of fabricating a radio tuner, comprising:
(A) as an operation of the component inserting and connecting type, the steps of:
  (a) inserting substantially all circuit components of a tuner, other than the tuning coils, on one and only one side of a printed circuit board, with lead wires of said components extending through the board for connection with printed connector strips on the other side of the board;
  (b) then dip soldering the inserted lead wires to said connector strips on said other side of the board;
  (c) thereafter mounting the tuning coils on said other side of the board, at predetermined points thereof, and connecting them to the proper connector strips to complete a circuit panel; and,
(B) as an operation of the mechanical machine assembling type, the steps of:
  (a) providing a tuner housing with a tuner carriage shiftable therein and with magnetic tuning cores mounted upon said carriage at locations disposed for spatial alignment with said tuning coils; and

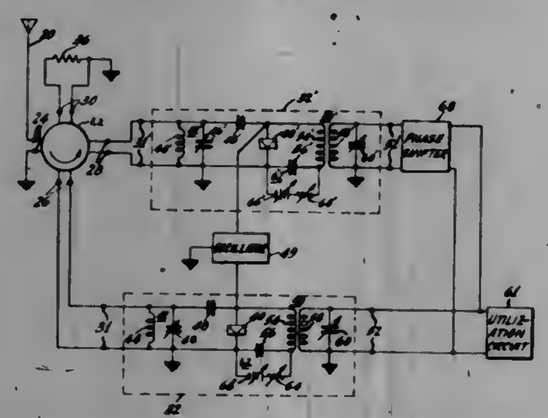


  (b) assembling said housing and carriage with the completed circuit panel in such a way as to insert said cores shiftably within said coils.

3,195,051

LOW-NOISE HIGH-GAIN STABILIZED NEGATIVE CONDUCTANCE DIODE FREQUENCY CONVERTER

Kern K. N. Chang, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Nov. 28, 1961, Ser. No. 155,380
7 Claims. (Cl. 325—449)



1. An electrical circuit for frequency converting signals from a source of radio frequency waves comprising in combination, a plurality of negative conductance diode mixer circuits, means for unidirectionally applying radio frequency waves from said source to each of said mixer circuits in succession, means for applying local oscillatory waves to each of said mixer circuits, and means coupled to each of said mixer circuits for deriving beat frequency waves produced by the interaction of said radio frequency signals and said local oscillatory waves in each of said mixer circuits.

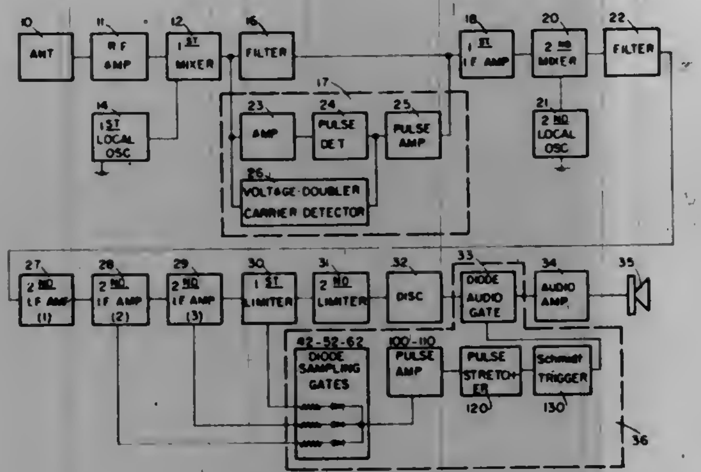
3,195,052

RADIO RECEIVER CIRCUIT WITH AUDIO NOISE BLANKER FOR SUSTAINED IMPULSES

Jona Cohn, Morton Grove, and Orville M. Eness, Chicago, Ill., assignors to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Jan. 19, 1962, Ser. No. 168,032
10 Claims. (Cl. 325—478)

1. In a superheterodyne receiver including intermediate frequency amplifier, limiter and audio stages and having radio frequency noise blanking means coupled ahead of such stages which may cause voids to appear in the carrier

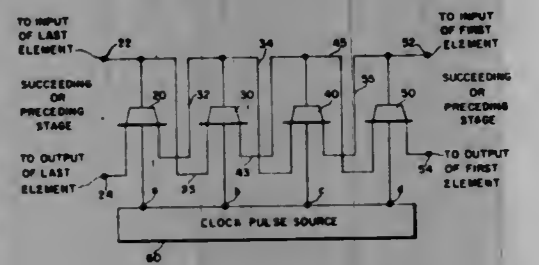
wave in the intermediate frequency amplifier and limiter stages; supplementary audio frequency noise blanking means responsive to carrier voids for decoupling said receiver audio stage during the occurrence of such voids, said supplementary audio frequency noise blanking means including in combination, sampling means coupled to at least one of the receiver intermediate frequency amplifier stages for producing pulse signals in response to said carrier voids, pulse amplifier means, means applying pulse signals from said sampling means to said pulse amplifier means, and means coupled to said pulse amplifier means and to the receiver audio stage to prevent translation of signals through such audio stages in response to an amplified pulse signal.



3,195,053

NOR SHIFT REGISTER

Terry A. Jeeves, Penn Hills Township, Allegheny County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Apr. 29, 1963, Ser. No. 276,248
5 Claims. (Cl. 328—37)


TO INPUT OF LAST ELEMENT
SUCCEEDING OR PRECEDING STAGE
TO OUTPUT OF LAST ELEMENT
TO INPUT OF FIRST ELEMENT
SUCCEEDING OR PRECEDING STAGE
TO OUTPUT OF FIRST ELEMENT
CLOCK PULSE SOURCE

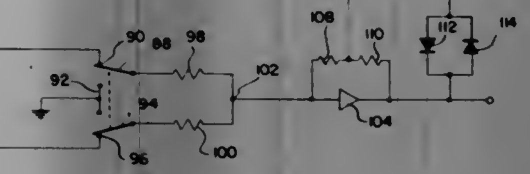
1. A two-way shift register comprising, a plurality of NOR logic elements connected in a flip-flop chain, each of said elements being operatively connected to receive as input signals output signals from the next preceding and succeeding elements in the chain and to supply its output signals to the next preceding and succeeding elements in the chain, and control means operatively connected to each of said elements to supply clock pulses as input signals to said elements in a predetermined manner so that information may be transferred along said chain in either direction.

3,195,054

PRECISION COMPARISON DEVICE

Peter L. Richman, Lexington, Mass., assignor, by mesne assignments, to Weston Instruments, Inc., Newark, N.J., a corporation of Texas
Filed Jan. 2, 1963, Ser. No. 248,956

1. A precision device for comparing a datum voltage signal with a D.C. reference voltage, said device comprising in combination:
means for alternately sampling said datum voltage signal and a ground potential for providing a first waveform therefrom;
means for alternately sampling said reference voltage and said ground potential for providing a second waveform therefrom;
means for combining said waveforms for forming a third waveform in which said datum voltage signal and said reference voltage are summed together, and

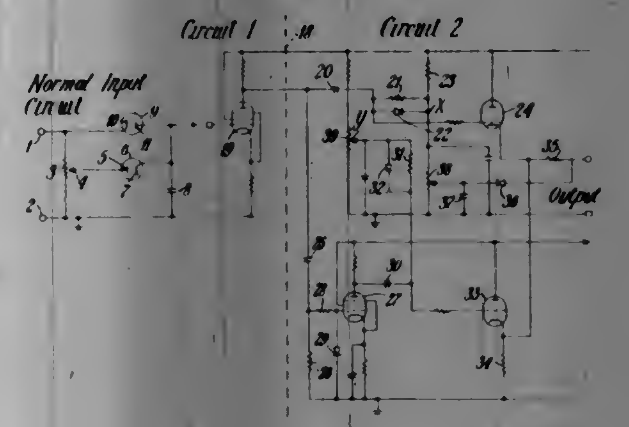


means for limiting and amplifying said third waveform for provdiing a periodic signal in which the peak values of said summed voltages are clipped within predetermined limits on at least one side of said potential and the resolution between the value of said ground potential and said peak values is enhanced.

3,195,055

WAVEFORM RESTORING CIRCUIT FOR STEEPENING FRONT AND REAR EDGES AND FLATTENING THE TOP OF SIGNAL

Reginald Douglas Albert William Dean, Beckenham, Kent, England, assignor to Muirhead & Co. Limited, Beckenham, England
Filed Sept. 17, 1962, Ser. No. 223,874
Claims priority, application Great Britain, Aug. 24, 1962, 32,665/62
6 Claims. (Cl. 328—162)



1. A circuit arrangement for steepening the edges and flattening the top of an electric signal having a front and a rear edge comprising means for deriving a higher level and a lower level signal from the input signal in relation to a common potential, a diode having an anode and a cathode, means for supplying the lower level signal to the anode of the diode, a capacitor connecting the cathode back to the common potential, a second diode having an anode and a cathode, means for supplying the higher level signal to the cathode of the second diode, the anode of which is connected through the capacitor to the common potential to flatten the top and steepen the rear edge of the signal, means for amplifying the waveform derived from the capacitor, means for differentiating the output of the amplifying means to provide a pulse from the front edge of the signal, means for amplifying the said pulse and means for combining the amplified pulse with the amplified signal to steepen the front edge thereof.

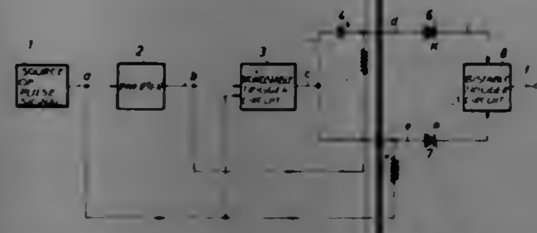
3,195,056
CIRCUIT TO ELIMINATE NOISE PULSES IN PULSE SIGNALS

Gustav Trautwein, Pforzheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 19, 1962, Ser. No. 224,765

Claims priority, application Germany, Oct. 4, 1961, St 18,395

11 Claims. (Cl. 328—165)



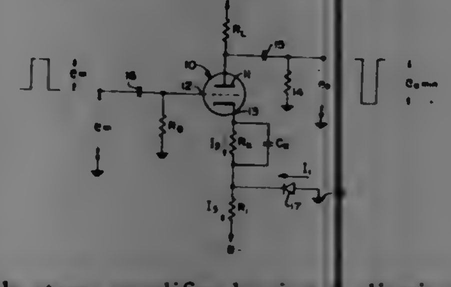
1. A circuit to eliminate noise in a pulse signal comprising:
- a source of pulse signal containing interference;
- first means coupled to said source responsive to said pulse signal and an inverted version of said pulse signal to produce a predetermined waveform;
- second means coupled to said first means to produce a first composite signal including said predetermined waveform and said inverted version of said pulse signal;
- third means coupled to said first means to produce a second composite signal including said predetermined waveform and said pulse signal; and
- fourth means coupled in common to said second and third means responsive to said first and second composite signals to reproduce said pulse signal free of said interference.

3,195,057
WIDE BANDWIDTH LIMITING CIRCUIT

Robert N. Longuemare, Jr., Halethorpe, Md., and Joseph Canzoneri III, Houston, Tex., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 10, 1961, Ser. No. 130,699

10 Claims. (Cl. 328—168)



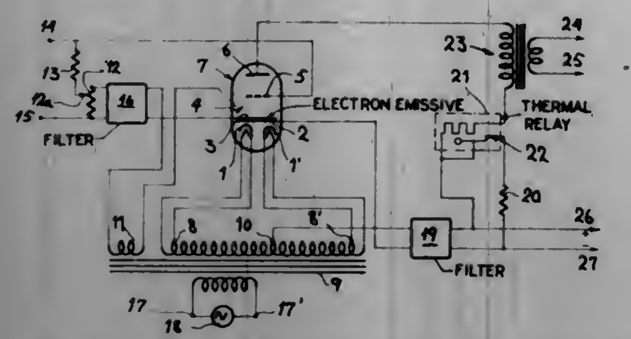
1. A single stage amplifier having a clipping circuit for limiting the amplitude of the output of the amplifier while presenting a low loading factor to the input signal source comprising an amplifier having an anode, a cathode and a grid, a source of potential having a positive terminal, a negative terminal and an intermediate terminal, a first resistor connected between said positive terminal and said plate, a second resistor and a third resistor connected in series between said cathode and said negative terminal in a manner to form a junction between the resistors, a capacitor connected in parallel with said second resistor, an input circuit connected to said grid and said intermediate potential, an output circuit connected to said plate and said intermediate terminal, and means connected to said intermediate terminal and said junction whereby said junction is held near the potential of said intermediate terminal until the output signal reaches a predetermined amplitude and whereby the incremental gain of said amplifier is reduced after said predetermined amplitude is reached.

3,195,058
ELECTRON TUBE WITH ANODE-HEATED CATHODE

Zygmunt N. Hof, 9 Willow Place, Mount Vernon, N.Y.

Filed June 5, 1963, Ser. No. 285,811

5 Claims. (Cl. 328—252)



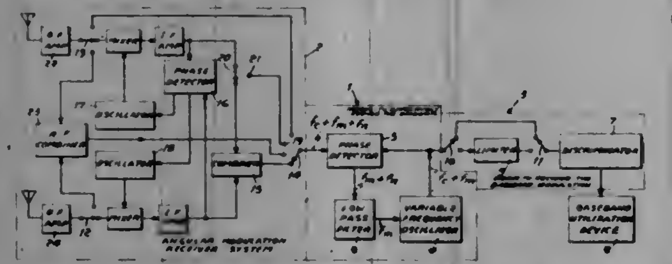
2. In an electron tube having an evacuated envelope, in combination, a first tube section and a second tube section in said envelope, said first tube section including two electron-emissive first cathodes and a first anode, said second tube section including an electron-emissive second cathode and a second anode, said first anode being disposed adjacent said second cathode in heat-transmitting relationship therewith, an energizing circuit including a source of alternating current connected across said first cathodes and returned to said first anode, said energizing circuit being provided with a direct-current first output connection, and a load circuit including a second output connection connected across said second cathode and said second anode, said first anode being substantially in the shape of an elliptical cylinder, said first cathodes being in the form of rods substantially disposed along the focal axes of said cylinder.

3,195,059
DEMODULATOR SYSTEM FOR ANGULARLY MODULATED SIGNALS HAVING IMPROVED NOISE IMMUNITY

Robert T. Adams, Short Hills, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed July 8, 1960, Ser. No. 41,590

12 Claims. (Cl. 329—122)



1. A demodulator system for angularly modulated signals comprising:
- a source of angularly modulated signals including a carrier signal angularly modulated by both baseband and random noise, said baseband frequency deviating said carrier signal a large amount to provide a relatively large noise immunity and a given threshold level for said demodulator system;
- means coupled to said source responsive to said modulated signals to remove that portion of said angular modulation noise above the frequency band of said baseband to provide a threshold level for said demodulator system lower than said given threshold level and yet maintain said large noise immunity for said demodulator system due to the large amount of frequency deviation of said carrier signal by said baseband;
- means coupled to said means to remove to recover said baseband.

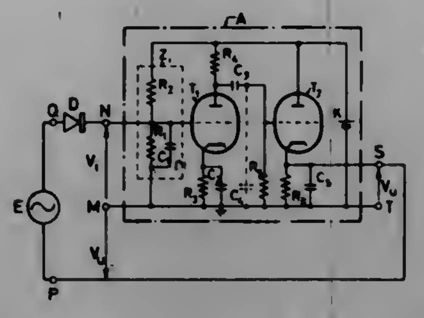
3,195,060
AMPLITUDE DETECTING DEVICE

Basilio Catania, Milan, Italy, assignor to Marelli Lenkurt S.p.A.

Filed Oct. 17, 1962, Ser. No. 231,188

Claims priority, application Italy, Oct. 20, 1961, 19,037/61

2 Claims. (Cl. 329—192)



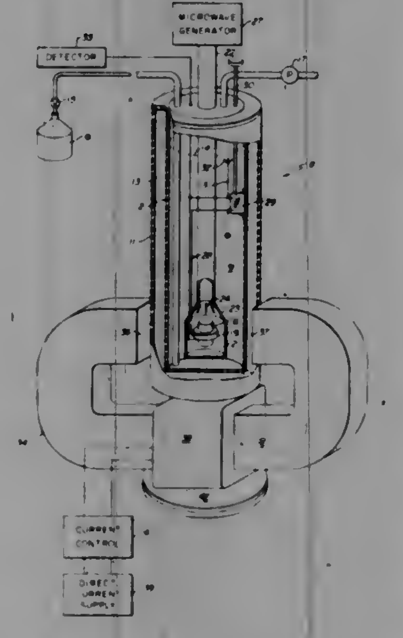
1. An amplitude detecting device including a nonlinear element, an amplifier having a pair of input and a pair of output terminals, an input signal generator coupled to the input of the element, a connection from one side of the generator through said element to one terminal of the input of the amplifier, another connection from the other side of the generator to one of the output terminals of the amplifier, a circuit connection the other terminal of the input of the amplifier to the other output terminal of the output circuit of the amplifier, said latter circuit between an input terminal and said other output terminal being isolated from the remainder of the circuit, whereby the output signal from the amplifier is carried back to the input of the amplifier in opposite polarity with respect to the input signal.

3,195,061
RADIO FREQUENCY AMPLIFICATION BY STIMULATED EMISSION OF RADIATION

Carson D. Jeffries, Owen Chamberlain, Claude H. Schultz, and Gilbert Shapiro, Berkeley, Calif., assignors to the United States of America as represented by the United States Atomic Energy Commission

Filed May 28, 1963, Ser. No. 284,302

7 Claims. (Cl. 330—4)



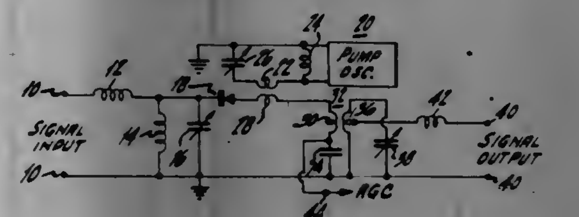
1. An amplifier having a very low noise level comprising, in combination, means forming a low temperature chamber, an anisotropic crystal disposed in said low temperature chamber, said crystal containing lanthanum magnesium double nitrate in which a portion of the lanthanum atoms thereof have been replaced by even isotopes of neodymium, and electromagnetic pumping signal generator coupled to said crystal, a signal input source coupled to said crystal, an output circuit coupled to said crystal, and means producing a magnetic field through said crystal.

3,195,062
AGC PARAMETRIC AMPLIFIER USING NEGATIVE BIAS AND DETUNED CIRCUITS

Tomomi Murakami, Haddonfield, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Jan. 19, 1961, Ser. No. 83,809

3 Claims. (Cl. 330—4.9)



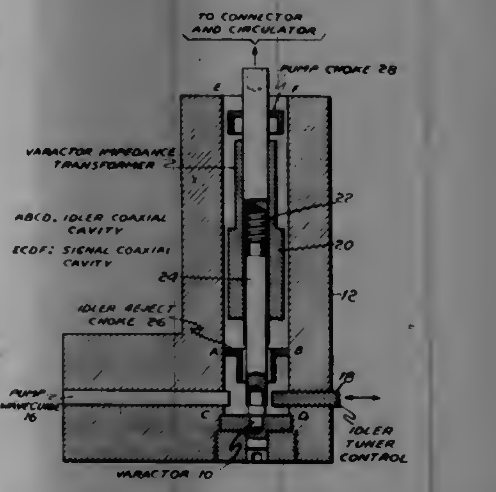
1. A parametric amplifier comprising the combination of a variable capacitance junction diode, a signal input circuit coupled to said diode, a pump oscillator coupled to said diode, an idler circuit tuned to the difference frequency produced by the interaction of signals from said signal input circuit and said pump oscillator, said idler circuit coupled to said diode, and means including a gain controlling voltage source for applying a relatively fixed amount of reverse bias voltage to said diode for signals applied to said input circuit below a predetermined threshold level and increasing values of reverse bias voltage to said diode for increasing levels above said threshold level of signals applied to said input circuit.

3,195,063
PARAMETRIC AMPLIFIER WITH LUMPED CONSTANT TURNABLE RESONANT LOOP IN IDLER CAVITY

Jacques R. G. Collard and Zdzislaw A. Wojtowicz, Nutley, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed Nov. 21, 1962, Ser. No. 239,223

2 Claims. (Cl. 330—4.9)


TO CONNECTOR AND CIRCULATOR
PUMP CHOKE 28
VARACTOR IMPEDANCE TRANSFORMER
ABCD: IDLER COAXIAL CAVITY
ECDF: SIGNAL COAXIAL CAVITY
IDLER REJECT CHOKE 26
IDLER TUNER CONTROL
VARACTOR 10

1. A parametric amplifier structure comprising a coaxial line providing the signal and idler frequencies resonant circuits,
- a closure member at one end of said line, a variable reactance element having a self-resonance frequency mounted between said closure member and the end of the inner conductor of said line in series with and aligned with said inner conductor,
- means forming a lumped constant tunable resonant loop in said coaxial line for tuning over a frequency band including the self-resonance frequency of said element, said loop including:

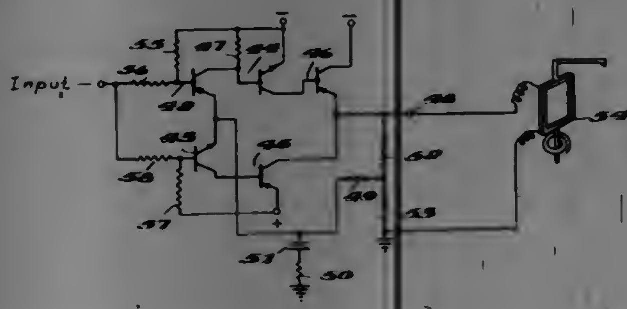
(1) said variable reactance element,
(2) a movable tuning plunger extending through the outer conductor of said coaxial line towards the terminal of said element adjacent said inner conductor, and forming a reactance at the idler frequency in series therewith,
and (3) the portions of said closure member and said outer conductor lying within the angle defined by said plunger and said element,

and a waveguide for the pump frequency energy extending through said outer conductor into the coaxial cavity at a level adjacent said tuning plunger, said waveguide having a cut-off frequency characteristic blocking propagation of said signal and idler frequencies therethrough, said pump frequencies being higher than either said idler or signal frequencies.

3,195,064
TRANSISTOR POWER AMPLIFIER EMPLOYING COMPLEMENTARY SYMMETRY AND NEGATIVE FEEDBACK

Franklin F. Offner, 1890 Telegraph Road, Deerfield, Ill. Original application Feb. 2, 1959, Ser. No. 790,498. Divided and this application May 28, 1964, Ser. No. 370,881

2 Claims. (Cl. 330—13)



1. A power amplifier of the transistor type comprising a first PNP power transistor having its collector connected to a source of negative voltage and its emitter connected to the load terminal, a second PNP power transistor having its emitter connected to a source of positive voltage and its collector connected to said load terminal, an NPN transistor having its collector connected to the base of said first power transistor and its emitter connected to a source of negative voltage, a PNP transistor having its collector connected to the base of said NPN transistor, a second NPN transistor having its collector connected to the base of said second PNP power transistor, a circuit connection between the emitter of said second NPN transistor and the emitter of said PNP transistor, and a source of signal voltage connected to the base of said second NPN transistor and to said PNP transistor.

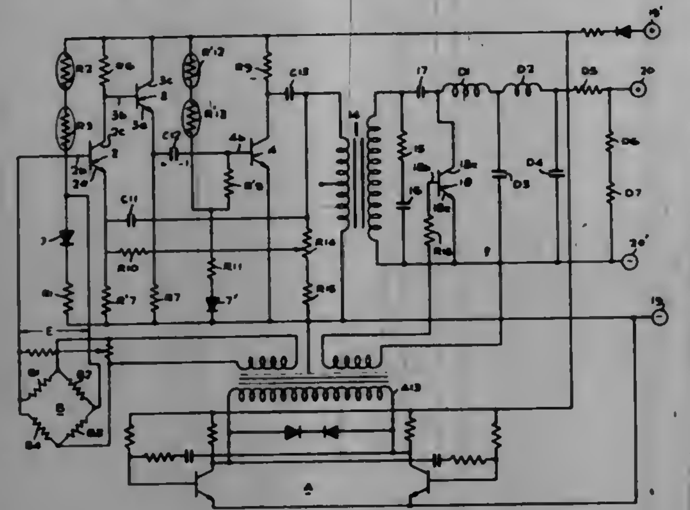
3,195,065
TEMPERATURE STABILIZATION OF TRANSISTOR AMPLIFIERS

Earl W. Grant, Los Angeles, Calif., assignor to Statham Instruments, Inc., Los Angeles, Calif., a corporation of California

Filed June 26, 1963, Ser. No. 290,822

3 Claims. (Cl. 330—19)

1. An amplifier comprising a driver transistor stage and an output transistor, said driver stage connected in a common emitter configuration, a transistor connected in a common collector configuration, the base of the common collector transistor directly coupled to the collector of the driver transistor, said output transistor coupled to said common collector transistor, power input terminals connected to the emitters and collectors of said transistors, means to apply a signal to the base of the driver transistor, a voltage divider temperature compensating network coupled to said emitters and collectors and to said power terminals, one leg of said network comprising a solid state diode having a temperature resistance characteristic of the same kind as the temperature characteristics of resistance of said transistors, and a resistor whose resistance does not change substantially with temperature connected in series with said diode, and the other leg of said diode having a resistor whose resistance changes with temperature in a direction opposite to that of the said diode, the base of said driver transistor coupled to the voltage divider between said legs, whereby the emitter potential in said output transistor is maintained substantially constant, at zero signal levels and with constant voltage across said power input terminals, substantially irrespective of temperature changes.

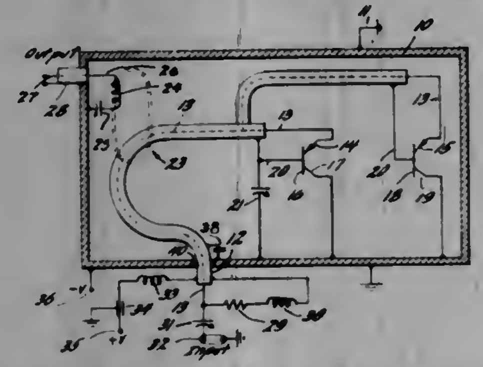


3,195,066
HIGH FREQUENCY CIRCUIT

Charles J. Weidknecht, Willow Grove, Pa., assignor, by mesne assignments, to United Aircraft Corporation, a corporation of Delaware

Filed Oct. 24, 1960, Ser. No. 64,464

13 Claims. (Cl. 330—23)



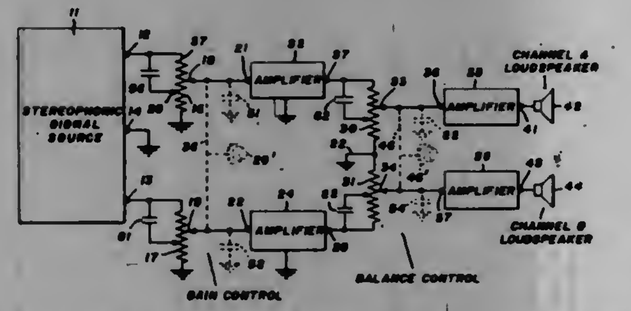
1. A high frequency transistor power circuit comprising: an outer hollow container of high electrical and thermal conductivity, a transistor within the container and having a power carrying electrode adapted to pass all current flow through the transistor and at least a second and third electrode, coupling means having high thermal and electrical conductivity providing a short-circuit path between said power electrode and said container for both alternating current and direct current signals, an elongated transmission member having an outer conducting shield having a first end thereof terminating within said container and the second opposite end thereof projecting through an opening in the container without making direct current contact to the container, said transmission member having an arcuately formed portion located inside the container to provide a distributed inductance, means transmitting an input signal inside the transmission member from the second end thereof to the first end thereof and coupling said signal to said second electrode, means coupling the shield of said transmission member to the third electrode near the first end thereof, a tuning capacitor coupling the shield near the first end thereto to the container, an output means within the container inductively coupled to the distributed inductance provided by the arcuately shaped shield of the transmission member and directing an output signal outside the container, and direct current coupling means for applying a direct current potential between said third electrode and said power electrode and a lesser biasing potential between said second electrode and said power electrode, said direct current coupling means including a choke inductance for applying a direct current potential between the shield and said container and including a second choke inductance and an impedance for applying a direct current biasing potential between said container and inner transmission means.

3,195,067
FREQUENCY COMPENSATED GAIN CONTROL CIRCUIT

John A. Klein and Siegfried J. Zuerker, Utica, N.Y., assignors to General Electric Company, a corporation of New York

Filed July 22, 1960, Ser. No. 44,711

9 Claims. (Cl. 330—126)



1. A balance control circuit for a dual channel stereophonic amplifier adapted to receive stereophonically related signals respectively at signal inputs of said channels, comprising a pair of potentiometers respectively connected in each of said channels for controlling the gain thereof, each of said potentiometers having a resistance element provided with a variable tap thereon, means to apply the signal of each channel to a first end of the resistance element of the respective potentiometer in the channel, signal return means connected to the remaining ends of said resistance elements, means for adjusting said variable taps simultaneously in opposite directions of gain control, there being a capacitance between each of said variable taps and said signal return means which tends to cause an unbalanced change in the frequency responses of said channels when said variable taps are adjusted to achieve balanced gains for said channels, and a pair of frequency compensation networks respectively connected to each of said resistance elements between the first end thereof and a point thereon between the ends thereof independently of said variable tap, said frequency compensation networks having frequency characteristics to compensate for said unbalanced change in frequency responses in said channels thereby providing substantially identical frequency responses for said channels for all settings of said balance control.

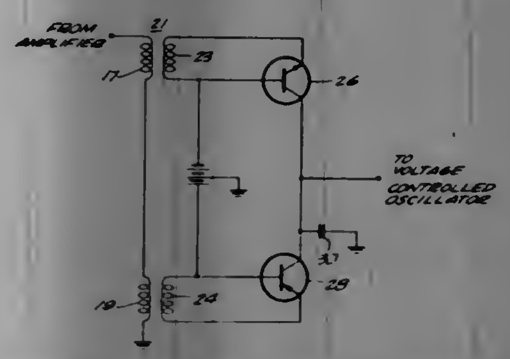
3,195,068
AUTOMATIC FREQUENCY CONTROL

Wilbur E. Du Vall, Gardena, Calif., assignor to The W. W. Henry Company, Huntington Park, Calif., a corporation of California

Filed Nov. 19, 1962, Ser. No. 238,526

1 Claim. (Cl. 331—27)

A tracking oscillator circuit arrangement, for tracking an input signal having a waveshape which periodically crosses a reference axis, comprising sampling gate means to which said input signal is applied for deriving pulse signals at recurrent sampling intervals which are representative of the input signal amplitude during said sample interval, an integrator circuit, said integrator circuit including a first transistor of one impurity type, a second transistor an opposite impurity type, said first transistor having emitter collector and base electrodes, said second transistor having emitter base and collector electrodes, an input transformer having first and second series connected primary windings and first and second secondary windings, means connecting said first secondary windings between said first transistor emitter and base, means connecting said secondary winding between said second transistor emitter and base, means connecting said first and second transistor collectors together, a capacitor, means connecting one end of said capacitor to said connected together collectors, means for applying operating potential between the other end of said capacitor and the bases of said first and second transistors, means for applying pulses to said series connected first and second primary windings whereby an integrated signal is developed across said capacitor, means for applying said pulse signals to said integrator circuit to provide an integrated output signal, a voltage-controlled oscillator, means for connecting the output of said voltage-controlled oscillator to said sampling gate means for determining the frequency of occurrence of said recurrent sampling interval responsive thereto, and means for applying the integrated output signal to said voltage-controlled oscillator to control the frequency of the output thereof to cause said sampling gate to establish the sampling interval about the time said input signal waveshape crosses said reference level.



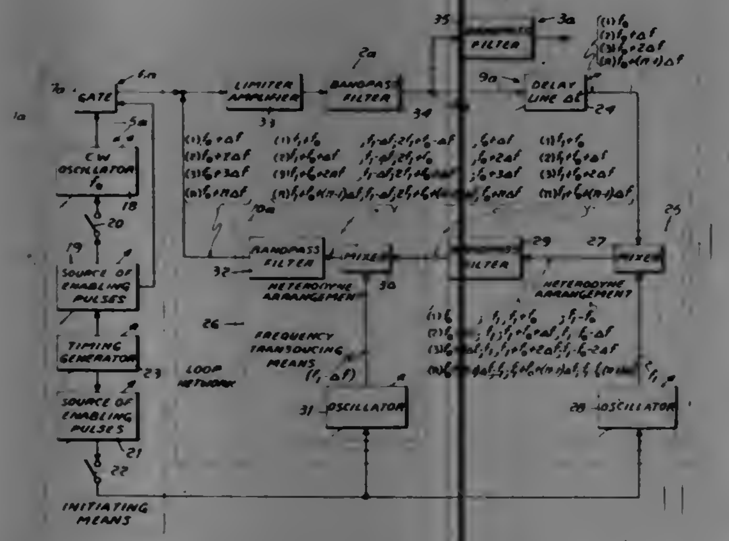
3,195,069
SIGNAL GENERATOR HAVING A CONTROLLABLE FREQUENCY CHARACTERISTIC

Robert T. Adams, Short Hills, and Jack B. Harvey, Clifton, N.J., assignors to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland

Filed July 20, 1960, Ser. No. 44,062

1 Claim. (Cl. 331—39)

A signal generator comprising a loop network for the recurrent circulation therein of a signal having a given frequency characteristic, including time-offsetting means to offset said signal a predetermined time interval during each of said circulations and a frequency-transducing means to vary said given frequency characteristic in a predetermined manner during each of said circulations, means to initiate said signal within said loop network for said recurrent circulation, and output means coupled to said loop network to extract said signal during preselected ones of said circulations to provide an output signal for said signal generator, said frequency-offsetting means including a heterodyning arrangement to vary said given frequency characteristic, said heterodyning arrangement including a first oscillator to produce at the output thereof a signal having a first preselected frequency characteristic, a first means coupled to said first oscillator and in a series relation with said time-offsetting means to mix said circulating signal and the signal of said first oscillator during each of said circulations, a first frequency-selective means coupled to said first mixing means to pass therethrough a signal having a given frequency related to the frequencies of the signals coupled to said mixing means, a second oscillator to produce at the output thereof a signal having a second preselected frequency characteristic, a second means coupled to said first frequency-selective means and said second oscillator to mix the signals at the output of said first frequency-selective means and the signals of said second oscillator, and a second frequency-selective means coupled to the output of said second mixing means to pass therethrough a signal having a given frequency related to the frequencies of the signals coupled to said second mixing means for circulation in said loop network, said means to initiate said signal including an initiating oscillator, a timing generator, a first source of enabling pulses controlled by said timing generator, gating means controlled by pulses from said first source of enabling pulses to admit oscillations from said initiating oscillator to said loop network, and a second source of enabling pulses controlled by said timing generator, the pulses from said second source of enabling pulses being fed to said first oscillator and to said second oscillator.

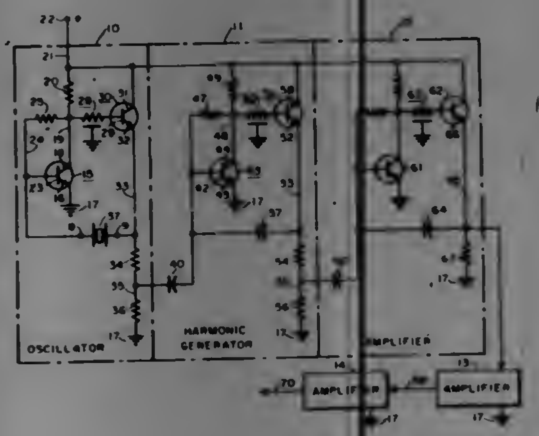


3,195,070
WIDE BAND SIGNAL SOURCE SYSTEM

Irving F. Barditch, Charles G. Brooks, and Roland G. Lascola, Baltimore, Md., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 6, 1961, Ser. No. 136,322

4 Claims. (Cl. 331—52)



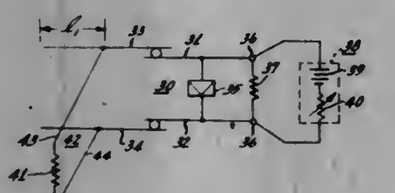
1. A wide band source of radio frequency comprising a plurality of semiconductor signal translation stages connected in cascade, each of said stages including a transistor connected as a grounded emitter and distributed RC means for shifting the phase of a selected band of frequencies by 360° between the input and the output of the respective stages, all of said stages having a feedback circuit between the input and the output of the stage to provide selective regenerative feedback for the selected band of frequencies, the feedback circuit of said first stage including a piezoelectric crystal for providing a low impedance path for signals of the series-resonant frequency of said crystal, each of the other stages being tuned to different frequency bands the respective center frequencies of which are displaced from each other but have their gain-vs.-frequency response characteristics overlapping to provide the effect of a bandpass characteristic.

3,195,071
CONSTANT POWER OUTPUT HIGH FREQUENCY TUNING CIRCUIT AND APPARATUS

Reynold Steinhoff, Livingston, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Aug. 12, 1960, Ser. No. 49,260

8 Claims. (Cl. 331—107)



7. In a high frequency circuit tunable over a range of frequencies, the combination comprising,

a transmission line including, a first fixed transmission line section and a second transmission line section movable with respect to said first fixed section to provide a variable length composite transmission line section so that said transmission line is resonant at a frequency which is a function of the length of said composite transmission line section, and

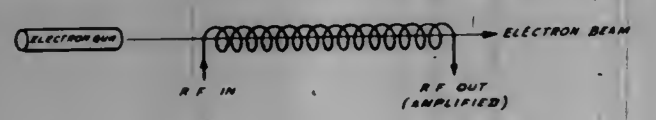
power output coupling means connected to said second transmission line section at a fixed distance from one end thereof to provide a relatively constant output power throughout said range of frequencies.

3,195,072
RADIO FREQUENCY AMPLIFYING AND MODULATING DEVICES

Ernst E. Steinbrecher, 57 Essex Ave., Montclair, N.J.

Filed Jan. 25, 1960, Ser. No. 4,369

23 Claims. (Cl. 332—7)



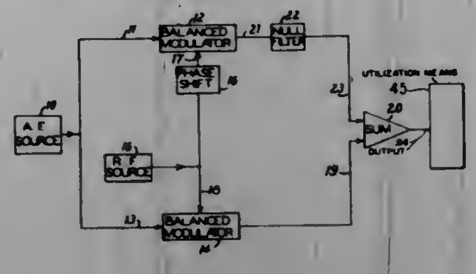
1. In an electronic discharge device, means for directing electrons along a predetermined path, input means for applying a modulating signal to said electrons, means for producing mechanical waves of a frequency substantially below the frequency range of said modulating signal, means including a gas extending along said path, for applying said waves to said gas to produce along said path a predetermined sequence of points of minimum and maximum gas pressure causing said gas to be bunched at said points, and means for deriving from said electrons an output signal.

3,195,073
SINGLE-SIDEBAND SUPPRESSED CARRIER SIGNAL GENERATOR

Thomas Clifton Penn, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed July 26, 1961, Ser. No. 127,024

8 Claims. (Cl. 332—45)



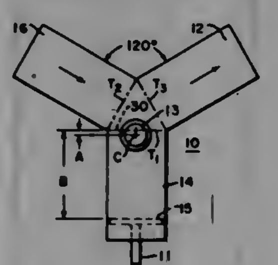
8. Apparatus for modulating a carrier signal with an audio signal to produce a single sideband suppressed carrier output, comprising means for providing first and second carrier signals in phase quadrature with each other, an audio signal source, a first balanced modulator, a second balanced modulator, said first balanced modulator being connected to said audio signal source and to said means, thereby to mix said first carrier signal with said audio signal, said second balanced modulator being connected to said source of audio signal and also to said means, thereby to mix said second carrier signal with said audio signal, means connected to the output of said first balanced modulator, said output exhibiting a signal comprising a suppressed carrier frequency and two sidebands, said second-mentioned means shifting the phase of one sideband by +90° and the other sideband by −90°, and combining means having inputs connected to the outputs of the second mentioned means and the second balanced modulator for adding signals present at such inputs to produce a single sideband suppressed carrier output.

3,195,074
WAVEGUIDE SWITCH HAVING A DIODE MOUNTED IN THE SIDE ARM OF A THREE PORT JUNCTION

Donald L. Rebsch, Glen Burnie, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Jan. 2, 1962, Ser. No. 163,696

5 Claims. (Cl. 333—7)



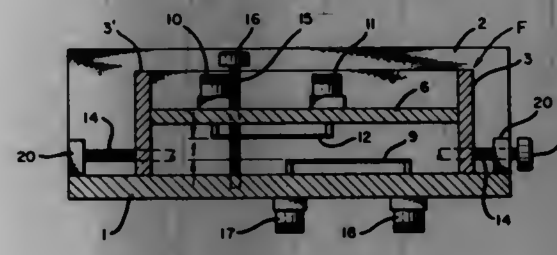
1. Apparatus for controlling microwave power comprising: a three port microwave junction having three waveguide members; a tunable shorting plate disposed within a first said waveguide member at a substantially $n\lambda/4$ distance from a terminal plane as defined by the intersection of said first waveguide member with the second and third waveguide members, where n equals an odd whole number and λ represents the wavelength of said microwave power; one semiconductor diode means located within said first waveguide member between said shorting plate and said first port coincident with said terminal plane, said diode means being electrically operative in a first bias condition for permitting substantially complete transmission of microwave energy between the remainder of said waveguide members but electrically operative in a second bias condition for permitting said shorting plate to prevent the flow of microwave energy between said remaining waveguide members; and bias means for applying a bias voltage to said diode means.

3,195,075
VARIABLE DIRECTIONAL COUPLER

Robert G. Veltrop, Sunnyvale, Calif., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Aug. 20, 1962, Ser. No. 217,978

1 Claim. (Cl. 333—10)



A variable directional coupler for coupling electromagnetic energy at microwave frequencies over a frequency band, said coupler comprising

an electrically conducting base member,

a first conductor supported on and insulated from said base member,

said first conductor having a straight portion of predetermined length spaced from and extending parallel to one side of said base member,

an electrically conducting frame supported on said base member for parallel movement relative thereto and forming an enclosure therewith,

said frame comprising side plates projecting from said one side of the base member and an upper plate having an inner side spaced from said base plate,

a second conductor supported on and insulated from said upper plate,

said second conductor having a straight portion of predetermined length spaced from and extending parallel to said one side of the upper plate and being parallel to and overlying said straight portion of said first conductor in a common plane whereby the straight portions of said first and second conductors are totally enclosed by said enclosure,

means for moving said frame parallel to said base member in a direction parallel to said straight portions of said conductors for changing the length that said straight portions overlie each other while maintaining said straight portions parallel and in the common plane whereby to shift the midband frequency of the band over which the energy is coupled, and

means for moving said second conductor relative to said base plate and said first conductor in a direction normal to the said parallel movement to equally change the spacing between the said first and said second conductors at all points along the said conductors whereby the amount of energy coupled between the conductors is changed.

3,195,076
IMPEDANCE MATCHING BALUN EMPLOYING A FERRITE CORE

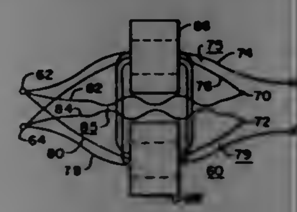
Heber J. Morrison, Ellicott City, Md., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 37,920, June 22, 1960. This application July 7, 1961, Ser. No. 129,894

5 Claims. (Cl. 333—26)

1. In a transmission system for electric currents of high frequency in which energy flows between balanced

and unbalanced circuits, the combination comprising, first circuit means for converting a voltage which is unbalanced with respect to ground to a voltage which is balanced with respect to ground comprising a main winding comprising several turns of a coaxial line having an inner conductor and an outer conductor, an auxiliary winding having the same number or conductor turns as said main winding, and a first magnetic core on which said main winding and said auxiliary winding are inductively disposed, said first magnetic core being formed from ferrite magnetic material to reduce the losses in said magnetic core at higher frequencies; second circuit means for matching the impedance of said blanced and unbalanced circuits connected in series circuit relationship with said first circuit means and comprising several additional windings of balanced transmission line, at least two of said windings having the same number of turns, and a second magnetic core on which only two of said additional windings are inductively disposed, said additional windings being connected in parallel circuit relationship with respect to the connection to said main winding of said first circuit means and in series circuit relationship with respect to a balanced circuit at the other end of said additional windings, said main winding of said first circuit means being connected to said second circuit means at one end and to an unbalanced circuit at the other end, and said auxiliary winding of said first circuit means being connected to said outer conductor of said main winding at the connection to an unbalanced circuit and to said inner conductor of said main winding at the connection to the second circuit means.

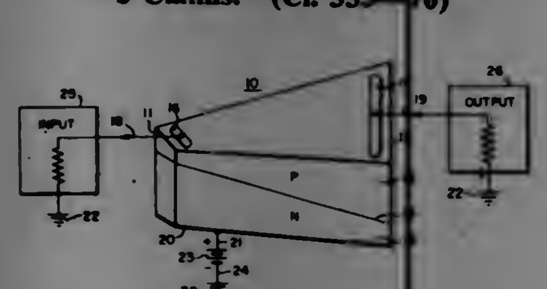


3,195,077
SEMICONDUCTOR MULTISECTION R-C FILTER OF TAPERED MONOLITHIC CONSTRUCTION HAVING PROGRESSIVELY VARIED VALUES OF IMPEDANCE PER SECTION

Irving F. Barditch, Baltimore, and Robert P. Donovan, Severna Park, Md., and Robert Bento, Tiverton, R.I., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 6, 1960, Ser. No. 54,070

5 Claims. (Cl. 333—70)



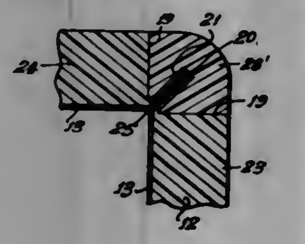
4. A monolithic semiconductor multisection filter device comprising two semiconductor regions of opposite conductivity type forming a p-n junction which when reverse biased provides a capacitance, the regions tapering in width along the length of the device whereby the capacitance per unit length of the reverse biased junction progressively varies along the length of the device, at least one of the semconductor regions tapering in depth along the length of the device to provide a progressively varying value of resistance. varying in the sense opposite to the sense of the variation of the capacitance along the length of said device.

3,195,078
MICROWAVE DEVICE

Robert H. Hartman, Williamsport, Pa., assignor, by mesne assignments, to Litton Industries, Inc., Beverly Hills, Calif., a corporation of Delaware

Filed Oct. 29, 1962, Ser. No. 233,708

4 Claims. (Cl. 333—81)



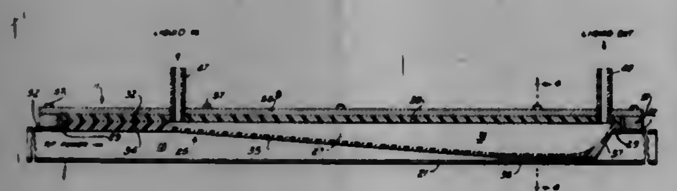
1. A calorimetric fluid load device for the measurement of microwave power comprising in combination:
- a section of rectangular waveguide having a centrally defined longitudinal slot in a broad wall thereof, said slot having a convergently formed end portion facing the incoming power,
- an externally tapered hollow blade of low loss dielectric material formed to seat in said slot and gradually perpendicularly penetrate said waveguide wall to extend substantially toward the opposite wall, said hollow being substantially in the form of a fluid-containing slit of consistent width having a gradual internal taper conforming substantially with said externally taper to effect a hollow of increasing volume,
- inlet and outlet fluid connection means provided for the hollow of said blade, said inlet being located at the incoming power end of said blade, said outlet being longitudinally located at the opposite end of said hollow, and
- a defined high loss fluid dielectric disposed for circulation through said hollow blade as a sheet of moving fluid to absorb the microwave power carried by said waveguide.

3,195,079
BUILT UP NONMETALLIC WAVE GUIDE HAVING METALLIC COATING EXTENDING INTO CORNER JOINT AND METHOD OF MAKING SAME

Jerry Burton, Los Angeles, Joseph Burton, Sherman Oaks, and Paul Ginder, Lakewood, Calif., assignors to Burton Silverplating, Culver City, Calif., a corporation of California

Filed Oct. 7, 1963, Ser. No. 314,425

4 Claims. (Cl. 333—95)



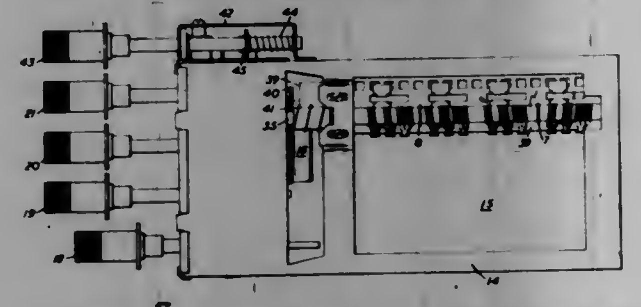
1. A method of fabricating a wave guide, including the following steps: preparing a sheet of non-metallic material with a flat face; applying to said flat face a metallic undercoating having a smooth exposed surface; bright-plating a surface coating of noble metal on said undercoating to provide an internal metal coating having a finish surface of a high degree of smoothness; providing in said sheet of non-metallic material a plurality of laterally spaced parallel grooves extending from the side thereof opposite said metallic coating to a depth closely adjacent said metallic coating so as to provide a plurality of side panels joined by thin webs including said metallic coating, bending said thin webs so as to position said panels in the form of a polyhedral tube with said webs as several corners thereof and with external corner recesses defined between the side faces of said grooves; bringing free side margins of the lateral panels into adjoining relation to form another corner of said tube; filling said corner recesses with non-metallic material bonded to said side faces of said grooves to reinforce the filled corners; joining said free margins to one another to constitute said other corner, whereby to form a corner joint; providing at the inner extremity of said corner joint a metallic joint integrally joining the coatings of said adjoined panels; said free side margins being defined by marginal faces normal to the side faces of the respective lateral panels and defining an external 90 degrees corner recess in said tube; and including the further steps of providing, at said other corner, extensions of said metallic coating beyond said marginal faces in the form of narrow marginal lips; bending said lips at acute dihedral angular relation to said marginal faces; bringing the bent lips together; providing a metallic bond between the exposed metallic faces of said lips; and filling said external corner recess with a strip of material of channel form binding said lips to one another and bonded to said marginal faces to reinforce said corner joint.

3,195,080
RADIO AND TELEVISION TUNERS

Richard G. Kenwright, Warsash, Rexham A. Mann, Southampton, and Robert Knox, Park Gate, near Southampton, England, assignors to The Plessey Company Limited, Ilford, England, a British company

Filed Nov. 2, 1962, Ser. No. 235,158

2 Claims. (Cl. 334—7)



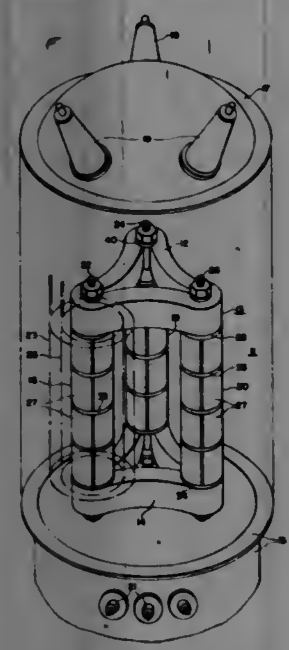
1. An inductive tuner device, capable of being tuned to a plurality of frequency channels in each of at least two frequency bands comprising a hollow longitudinally extending common former, said former carrying sets of tuning coils, each set including at least one tuning coil for each of the frequency bands, the tuning coils for different bands being adjacent to one another and being correspondingly positioned in the same order in each set, and a longitudinally extending common tuning member, said member being slidably mounted within the common former and carrying a plurality of spaced apart tuning elements, one of which elements being associated with each set of tuning coils, whereby in a first position of the tuning member the tuning elements are tunably associated with tuning coils of one frequency band and in a second position of the tuning member the tuning elements are tunably associated with the tuning coils of another of the frequency bands, and wherein at least one tuning coil in each of said sets of tuning coils is constituted by at least two windings connected in parallel and spaced apart longitudinally in adjacent relationship along the common former.

3,195,081
ELECTRICAL TRANSFORMER HAVING DOUBLY-ORIENTED AND RANDOM-ORIENTED LAMINATIONS

James J. Kunes, Sharpsville, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 190,364, Apr. 26, 1962. This application Nov. 4, 1963, Ser. No. 321,314

8 Claims. (Cl. 336—5)



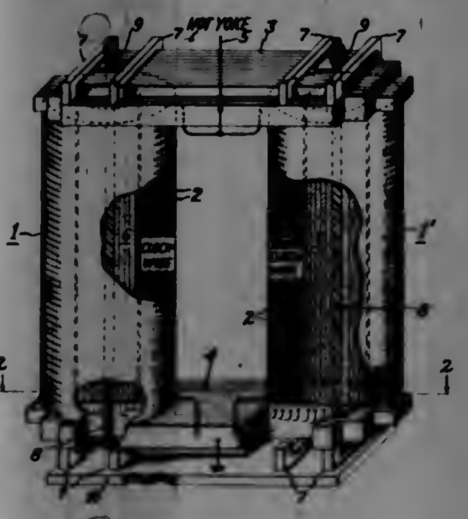
5. A three phase magnetic core structure for electrical inductive apparatus comprising two yoke members and three leg members, said yoke members connecting said leg members in magnetic relation forming closed magnetic loops, each of said yoke and leg members being wound from a magnetic strip material having a preferred direction of magnetic orientation substantially perpendicular to the direction of rolling said magnetic strip material and a preferred direction of magnetic orientation substantially parallel to the direction of rolling, each of said yoke members being formed into a substantially triangular configuration, and means holding said leg and yoke members in assembled relation.

3,195,082
ELECTRICAL REACTOR

Lynn Wetherill and Harry C. Stanley, Pittsfield, Mass., assignors to General Electric Company, a corporation of New York

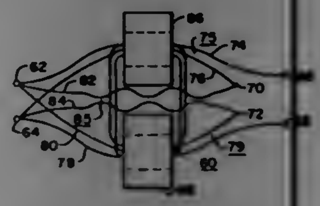
Filed Feb. 27, 1963, Ser. No. 261,289

6 Claims. (Cl. 336—12)



1. A shunt reactor having a voltage rating of the order of at least 200 kilovolts for connection across an electric circuit comprising, in combination, duplicate circular cross-section cylindrical conductive coils mounted with their axes in parallel spaced apart relation and their ad-

and unbalanced circuits, the combination comprising, first circuit means for converting a voltage which is unbalanced with respect to ground to a voltage which is balanced with respect to ground comprising a main winding comprising several turns of a coaxial line having an inner conductor and an outer conductor, an auxiliary winding having the same number or conductor turns as said main winding, and a first magnetic core on which said main winding and said auxiliary winding are inductively disposed, said first magnetic core being formed from ferrite magnetic material to reduce the losses in said magnetic core at higher frequencies; second circuit means for matching the impedance of said balanced and unbalanced circuits connected in series circuit relationship with said first circuit means and comprising several additional windings of balanced transmission line, at least two of said



windings having the same number of turns, and a second magnetic core on which only two of said additional windings are inductively disposed, said additional windings being connected in parallel circuit relationship with respect to the connection to said main winding of said first circuit means and in series circuit relationship with respect to a balanced circuit at the other end of said additional windings, said main winding of said first circuit means being connected to said second circuit means at one end and to an unbalanced circuit at the other end, and said auxiliary winding of said first circuit means being connected to said outer conductor of said main winding at the connection to an unbalanced circuit and to said inner conductor of said main winding at the connection to the second circuit means.

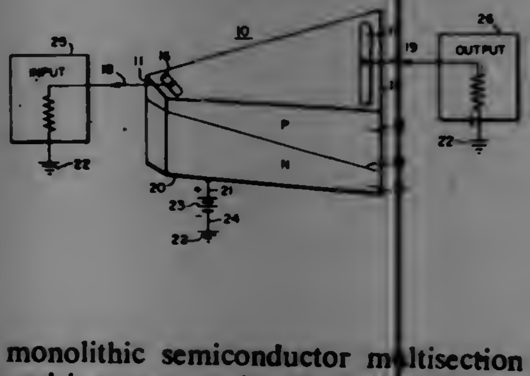
3,195,077

SEMICONDUCTOR MULTISECTION R-C FILTER OF TAPERED MONOLITHIC CONSTRUCTION HAVING PROGRESSIVELY VARIED VALUES OF IMPEDANCE PER SECTION

Irving F. Barditch, Baltimore, and Robert P. Donovan, Severna Park, Md., and Robert Bento, Tiverton, R.I., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Sept. 6, 1960, Ser. No. 54,070

5 Claims. (Cl. 333—70)



4. A monolithic semiconductor multisection filter device comprising two semiconductor regions of opposite conductivity type

along the length of the device to provide a progressively varying value of resistance. varying in the sense opposite to the sense of the variation of the capacitance along the length of said device.

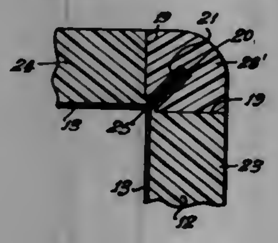
3,195,078

MICROWAVE DEVICE

Robert H. Hartman, Williamsport, Pa., assignor, by mesne assignments, to Litton Industries, Inc., Beverly Hills, Calif., a corporation of Delaware

Filed Oct. 29, 1962, Ser. No. 233,708

4 Claims. (Cl. 333—81)



1. A calorimetric fluid load device for the measurement of microwave power comprising in combination:

a section of rectangular waveguide having a centrally defined longitudinal slot in a broad wall thereof, said slot having a convergently formed end portion facing the incoming power,

an externally tapered hollow blade of low loss dielectric material formed to seat in said slot and gradually perpendicularly penetrate said waveguide wall to extend substantially toward the opposite wall, said hollow being substantially in the form of a fluid-containing slit of consistent width having a gradual internal taper conforming substantially with said externally taper to effect a hollow of increasing volume,

inlet and outlet fluid connection means provided for the hollow of said blade, said inlet being located at the incoming power end of said blade, said outlet being longitudinally located at the opposite end of said hollow, and

a defined high loss fluid dielectric disposed for circulation through said hollow blade as a sheet of moving fluid to absorb the microwave power carried by said waveguide.

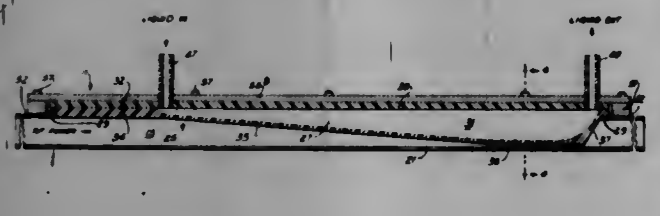
3,195,079

BUILT UP NONMETALLIC WAVE GUIDE HAVING METALLIC COATING EXTENDING INTO CORNER JOINT AND METHOD OF MAKING SAME

Jerry Burton, Los Angeles, Joseph Burton, Sherman Oaks, and Paul Ginder, Lakewood, Calif., assignors to Burton Silverplating, Culver City, Calif., a corporation of California

Filed Oct. 7, 1963, Ser. No. 314,425

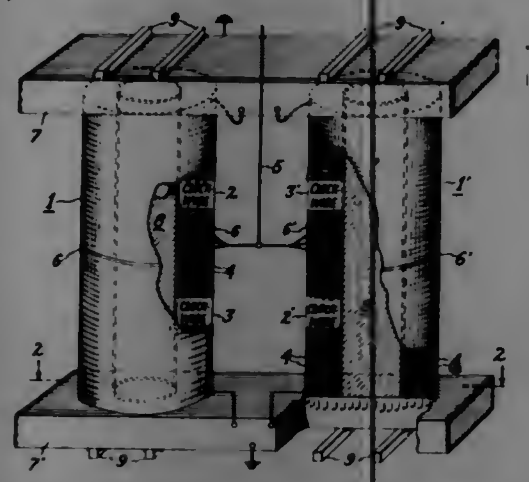
4 Claims. (Cl. 333—95)



jacent pairs of end faces in coplanar relation, each said coil comprising a plurality of serially connected coaxial pancake sections and being provided with opposite end terminals, separate magnetic steel yoke members bridged across each coplanar pair of said end faces, each said yoke member being at least as wide as the outside diameter of one of said coils and at least as long as the axial spacing therebetween plus a diameter of one of said coils, said coils being oppositely wound and electrically connected in parallel circuit relation between opposite pairs of said end terminals, means connecting said opposite pairs of end terminals respectively to said separate yoke members for electrical operation of said yoke members at opposite line voltages of said electric circuit, and separate structural columns of compressively strong paramagnetic electrical insulating material in the windows of said coils for bearing the attractive magnetic force between said yoke members and keeping it from being applied to said coils, said yoke members magnetically shielding said coils in the sense that they prevent cross axial direction flux in said coils near their ends which would produce high axial electromagnetic compressive forces in said coils and create vibration of destructive amplitude, said yoke members also electrostatically shielding said coils in the sense that their capacitances favorably influence the distribution of voltage in said coils under impulse conditions.

3,195,083
ELECTRICAL SHUNT REACTOR

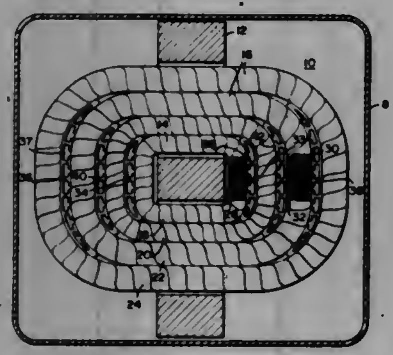
Lynn Wetherill, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Feb. 27, 1963, Ser. No. 261,292
3 Claims. (Cl. 336—12)



1. A shunt reactor having a voltage rating of the order of at least 200 kilovolts comprising, duplicate side-by-side cylindrical conductive coils with their axes parallel, said coils each having a central window corresponding in cross-sectional extent to the inner diameter of said coils and having opposite end faces, solid cores formed of high reluctance paramagnetic material structurally rigid in compression and disposed in said windows, said cores having their ends flush with the end faces of said coils, and a pair of electrically conductive laminated yoke members of low reluctance magnetic material positioned across the adjacent end faces of said coils and cores at opposite ends thereof respectively with their laminations edgewise to said end faces, the width of said yoke portions adjacent the end faces of said coils being at least equal to the outside diameter of said coils, said coils having interconnected center taps comprising the line terminal of said reactor and having their axially opposite ends electrically connected to said yoke members, said yoke members being electrically connected together and to ground thereby to provide four electrically parallel current paths through said reactor, the turns of each coil being oppositely wound between its center tap and its axially opposite ends so that said four current paths produce additive magnetomotive forces in a common magnetic circuit consisting of said coils and yoke members magnetically in series, said yoke members acting as magnetic and electrostatic shields for said coils and said cores alone serving as mechanical separators for said yoke members.

3,195,084
ELECTRICAL APPARATUS HAVING FOIL WOUND WINDINGS AND METALLIC DUCT FORMERS

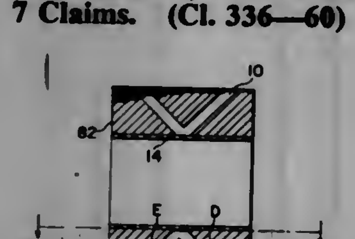
Herbert W. Book, Hickory Township, Mercer County, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 23, 1962, Ser. No. 197,144
5 Claims. (Cl. 336—60)



1. A metal duct former for circulating a cooling fluid through foil wound electrical coils, said duct former comprising a flat sheet with a plurality of flat strips connected to said flat sheet by structural webs, said webs being substantially at right angles to both said flat sheet and to said flat strips, said flat strips being separated by air gaps from adjacent flat strips.

3,195,085
COOLING DUCTS FOR WOUND COILS

Curtis L. Moore, Hickory Township, Mercer County, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 29, 1963, Ser. No. 284,232
7 Claims. (Cl. 336—60)



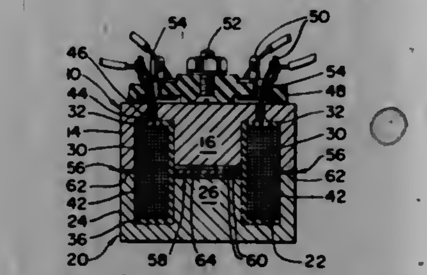
1. A winding for electric inductive apparatus, including at least one sheet conductor having electrical insulation adjacent to at least one side of said sheet conductor, said sheet conductor having a plurality of holes so spaced that when said sheet conductor is wound into a coil the holes in said sheet conductor are placed in staggered juxtaposition to form at least one duct through said winding.

3,195,086
TEMPERATURE COMPENSATED INDUCTOR

Roland C. Taylor, Ridgewood, N.J., assignor to The Western Union Telegraph Company, New York, N.Y., a corporation of New York
Filed May 16, 1962, Ser. No. 195,134
3 Claims. (Cl. 336—83)

1. An inductor of the character described having a substantially constant inductance over a wide temperature range, comprising a pair of cup-shaped core members formed of a paramagnetic material having a temperature coefficient of permeability of one polarity, each of said

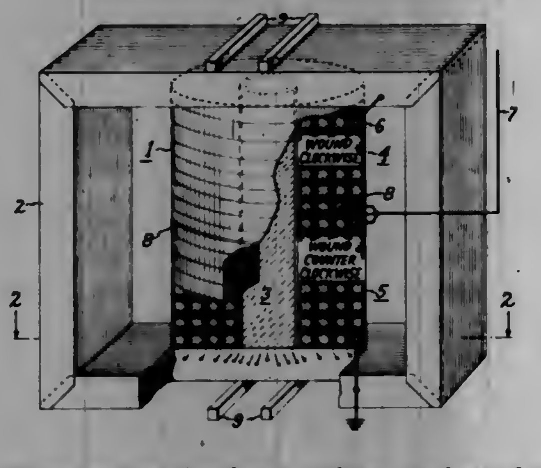
core members having an outer cylindrical wall and a central cylindrical, axial projection, said core members being disposed in axial alignment, the central projections being axially aligned with and opposing each other with a circular first gap between facing ends of the central projections and an annular second gap between facing edges of the cylindrical walls, the first gap being wider than the second gap, the wider first gap controlling permeability of said core members while the narrow second gap prevents stray flux leakage beyond said walls, a coil spool having a pair of annular end flanges positioned in a space between said core projections and cylindrical walls, a wire coil wound on said spool, said core members having circumferentially spaced end openings communicating with said space, said end flanges having circumferentially spaced slots register-



ing with said end openings, said coil having a plurality of leads each passing through one of the slots and a registering end opening of a core member, a solid circular sheet of insulation material having a temperature coefficient of permeability opposite in polarity to that of said paramagnetic material over said temperature range, said sheet being disposed between the facing ends of said central projections, and thin layers of adhesive material bonding opposite surfaces of said sheet to facing ends of said core projections whereby the core members are secured together, the adhesive layers having substantially negligible modifying effect upon the temperature coefficient of permeability of said sheet and core members, said annular second gap containing only air, whereby the temperature coefficients of permeability of said core members and sheet compensate for each other so that the inductance of said inductor remains substantially constant over said temperature range.

3,195,087
ELECTRICAL SHUNT REACTOR

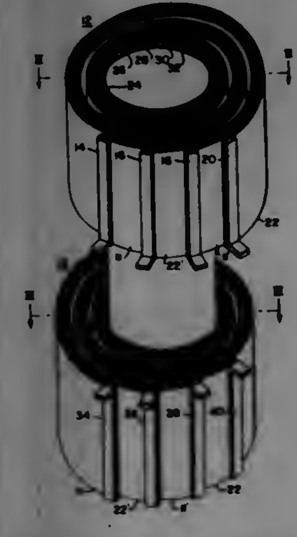
Alanson U. Welch, Pittsfield, Mass., assignor to General Electric Company, a corporation of New York
Filed Feb. 27, 1963, Ser. No. 261,294
5 Claims. (Cl. 336—84)



1. A shunt reactor having a voltage rating of the order of at least 200 kilovolts comprising, in combination, a conductive winding having a pair of oppositely wound coils axially juxtaposed on a common core and having a common external magnetic circuit, said core being formed of a high reluctance structurally strong electrical insulating material and said common external magnetic circuit being formed of a low reluctance electrical conducting material, means electrically connecting juxtaposed ends of said coils together and opposite end points of said coils to said low reluctance conducting material thereby to connect said coils electrically in parallel and magnetically in series, said low resistance electrical conducting material acting as both magnetic and electrostatic shielding means for said coils, said high reluctance insulating core acting as a structural column for preventing said low reluctance external magnetic circuit from applying magnetically produced mechanically compressive force to said coils.

3,195,088
HIGH CURRENT WINDING FOR ELECTRICAL INDUCTIVE APPARATUS

Frank Rolland Sandoz, Villeurbanne, Rhone, France, assignor to Le Materiel Electrique S.W., Paris, France, a corporation of France
Filed Nov. 23, 1962, Ser. No. 239,477
Claims priority, application France, Nov. 23, 1961, 879,806, Patent 1,313,959
4 Claims. (Cl. 336—180)



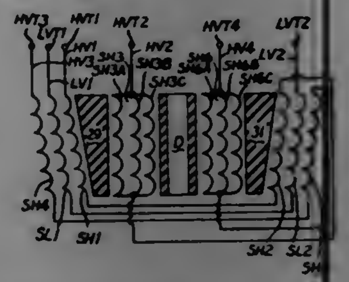
1. A winding for electrical inductive apparatus including at least two superposed coils, each of said coils comprising a plurality of spiral shaped sheet conductors of metal separated by electrical insulating material, the direction of the conductor spirals alternating in successive coils between a clockwise and a counterclockwise direction, the ends of said conductors being staggered at both the inside and the outside ends of said coils, said coils being aligned with one another with the inside ends of the conductors of one coil being disposed substantially opposite the inside ends of the conductors of an adjacent coil, electrical conductor means joining said oppositely disposed inside ends of said adjacent coils to form a plurality of series connected conductors, means electrically connecting certain of the outside ends of said series connected conductors to form a plurality of parallel circuits through said coils, said winding being adapted for connection to an external circuit by terminal means attached to the outside ends of the first and last coils.

3,195,089
HIGH VOLTAGE TRANSFORMER WITH ENHANCED HIGH FREQUENCY BAND-PASS CHARACTERISTICS

Carl J. Sievers, St. Louis, Mo., and Donald H. Houston, Herrin, Ill., assignors to Moloney Electric Company, St. Louis, Mo.
Filed Aug. 22, 1962, Ser. No. 218,617
13 Claims. (Cl. 336—183)

1. In a transformer having first and second pairs of terminals and a core of magnetic material with a winding leg, a winding structure comprising a primary winding including first and second sections, each section comprising a coil of electrical conductor of a first cross-sectional area progressively wound about said core leg uni-

directionally from one end thereof, said coils being connected across said first pair of transformer terminals, and a secondary winding including first and second secondary winding sections each comprising a coil of electrical conductor having a cross-sectional area not greater than said first cross-sectional area and progressively wound about said core leg unidirectionally from one end thereof, each of said first and second secondary winding section coils being respectively positioned contiguous said primary winding section coils, each of said primary and secondary coils having an equal number of turns and being of substantially equal length along said leg whereby adjacent turns of the contiguous primary and secondary

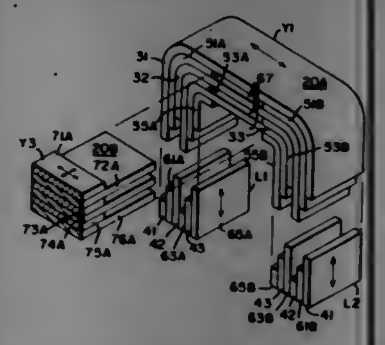


coils are at substantially the same potential, said secondary winding further including a third winding section comprising at least two coils of electrical conductor having a cross-sectional area not greater than said first cross-sectional area and progressively wound about said core leg unidirectionally from one end thereof, each of said third winding section coils being of a length along said leg substantially equal to that of said primary and other secondary winding coils, said third secondary winding section coils being parallel-connected one with the others and positioned side-by-side relative thereto, and means for connecting said three secondary winding sections in series across said second pair of terminals.

3,195,090

MAGNETIC CORE STRUCTURES

Charles E. Burkhardt, Sharon, and Belvin B. Ellis, Shenango Township, Mercer County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed June 7, 1961, Ser. No. 115,336
13 Claims. (Cl. 336—218)

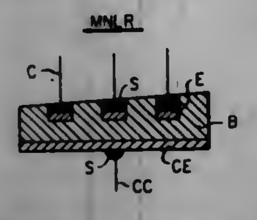


1. A three-phase magnetic core comprising a substantially rectangular closed loop member including a plurality of layers of laminations formed from magnetic strip material and assembled in nested relationship, two parallel sides of said rectangular loop member forming first and second leg portions of said core and the other parallel sides forming yoke portions connecting said leg portions, alternate layers of laminations in each of said yoke portions including recesses therein, and a half loop member including a plurality of layers of laminations formed from magnetic strip material having at least two preferred direction of magnetic orientation and assembled in superposed relation to form a substantially straight third leg portion and connecting yoke portions at substantially right angles to the third leg portion, the yoke portions of said half loop member being disposed at substantially a right angle with respect to said closed loop member with the ends of alternate layers of laminations in the yoke portions of said half loop member being disposed in the recesses of the yoke portions of said closed loop member to form a series of butt-lap joints with the laminations of said closed loop member.

3,195,091

NON-LINEAR RESISTANCE DEVICES

Richard L. Kujawa, Westchester, and Max S. Macrander, Wheaton, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed May 13, 1963, Ser. No. 279,948
3 Claims. (Cl. 338—20)

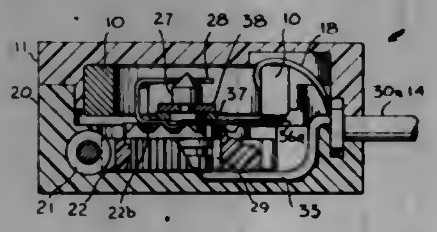


1. A non-linear resistance device comprising: a base of non-linear resistance material having at least two sides, a top side and a bottom side, said top side having a plurality of indentations therein, the bottom surface of each of said indentations which is spaced from said top side being the same distance from said bottom side; a common electrode affixed to said bottom side of said base; and a plurality of other electrodes each affixed to the bottom surface of separate ones of said indentations, thereby to insure that said non-linear resistance material between said other electrodes and said common electrode forms individual non-linear resistances of the same value regardless of non-uniformities in said top side.

3,195,092

POTENTIOMETER

Edward H. Tumbusch, Sepulveda, Calif., assignor to Techno-Components Corp., Northridge, Calif.
Filed May 31, 1963, Ser. No. 284,745
1 Claim. (Cl. 338—148)

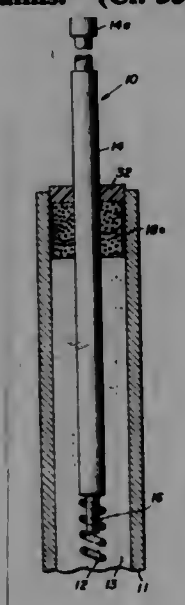


A potentiometer, the internal structure of said potentiometer comprising: a rigidly mounted circular resistance element; a shaft-like pivot member rigidly mounted perpendicular to and along the axis of said resistance element, said pivot member including cylindrical sections and a conical section above said cylindrical sections, a wiper mechanism having an L-shaped section, an annular section integral with and extending from the small side of said L-shaped section parallel to the long side thereof, said annular section including a pair of dimples in its surface and a tab extending vertically from it, and a V-shaped section integral with and normally extending at an angle from said annular section in a direction away from said long side, said wiper mechanism respectively having a pair of co-lined openings through said L-shaped and annular sections, said wiper mechanism being mounted on said pivot member in such a manner that said pivot member extends through said openings with the long side of said L-shaped section resting on the conical section of said pivot member and said annular section ringing the cylindrical section thereof, whereby said mechanism is rotatable about and in electrical contact with said pivot member, the apex of said V-shaped section being pressed against said resistance element which pushes said V-shaped section out of its normal position for good electrical contact therewith; input means for applying a potential difference between the ends of said resistance element; output means electrically connected to said pivot member for developing an output potential corresponding to the point of contact between said wiper mechanism and said resistance element between the ends thereof; means for rotating said wiper mechanism to selectively obtain different points of contact between said mechanism and said resistance element, said means including an annular serrated member whose serrations mesh with said dimples for yieldably locking said wiper mechanism in position at a point of contact, and a stop blade mounted between the ends of said resistance element and in the path of said tab for preventing said wiper mechanism from losing contact with said resistance element during rotation of the former.

3,195,093

SHEATHED ELECTRIC HEATING UNITS

Eugene F. Dillon, Chicago, Ill., assignor to General Electric Company, a corporation of New York
Filed Nov. 1, 1961, Ser. No. 149,381
18 Claims. (Cl. 338—273)

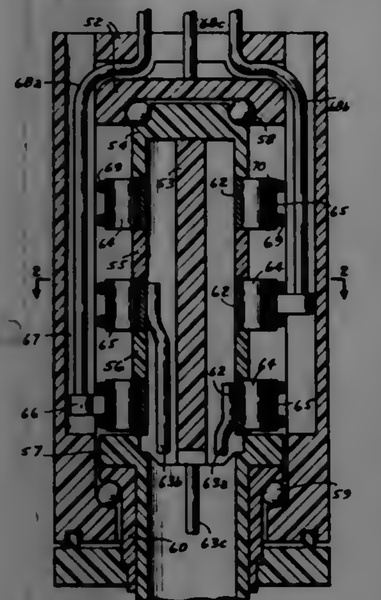


1. An electric heating unit comprising an elongated tubular metal sheath, an elongated electrical resistance conductor arranged within said sheath and spaced therefrom, an elongated metal terminal arranged at one end of said sheath, the inner end of said terminal being disposed interiorly of said one end of said sheath and spaced therefrom and electrically connected to the adjacent end of said resistance conductor and the outer end of said terminal being disposed exteriorly of said one end of said sheath, a compacted mass of granular heat-conducting and electrical-insulating material arranged within said sheath and embedding both said resistance conductor and the inner end of said terminal and retaining the same in place in spaced relation with said sheath, a metal ferrule arranged at said one end of said sheath, the inner end of said ferrule being disposed in closely surrounding relation with said one end of said sheath and welded thereto to provide an hermetic seal therebetween and the outer end of said ferrule being disposed outwardly of said one end of said sheath, a metal tube arranged in closely surrounding relation with the outer end of said terminal and welded thereto to provide an hermetic seal therebetween, the inner end of said tube being disposed interiorly of the outer end of said ferrule and spaced therefrom and the outer end of said tube being disposed exteriorly of the outer end of said ferrule, a body of fused glass arranged within the outer end of said ferrule and surrounding the inner end of said tube and providing an hermetic seal therebetween, and a charge of inert gas hermetically sealed within said sheath and permeating said compacted mass of granular material.

3,195,094

ROTARY ELECTRIC CABLE COUPLING

Karl Mohr, Aschaffenburg (Main), Germany, assignor to Ultra-Prazisionswerk G.m.b.H., Aschaffenburg (Main), Germany, a firm
Original application June 6, 1960, Ser. No. 34,083, now Patent No. 3,089,113, dated May 7, 1963. Divided and this application Feb. 7, 1963, Ser. No. 256,899
3 Claims. (Cl. 339—8)



1. An antifriction cable coupling for transmitting current between two relatively revolving multiple-lead members, said coupling comprising an outer and an inner substantially cylindrical insulation member arranged concentrically one within the other radially spaced apart to define an annular chamber therebetween; two antifriction bearings of the deep-groove ball race type adapted to sustain high radially and axially directed loads, said bearings being disposed between said cylindrical members one at each end of said chamber; a plurality of current-transmitting means corresponding in number to the number of cable leads of the members to be connected by said coupling, said current-transmitting means being disposed between said antifriction bearings, each of said current-transmitting means comprising a first and a second sleeve-shaped contact element, the first contact element being mounted on said outer cylindrical member and having a greater inside diameter than the outside diameter of the second contact element, said second contact element being mounted on said inner cylindrical member and arranged concentrically within said first contact element; a plurality of metal rollers for transmitting current disposed between said contact elements, said first contact element being made of resilient material and having a slot extending through its wall, the inside diameter of said first contact element being less than the sum of the outside diameter of said second contact element plus twice the diameter of said rollers, thereby resiliently urging said rollers into rolling contact engagement with said contact elements.

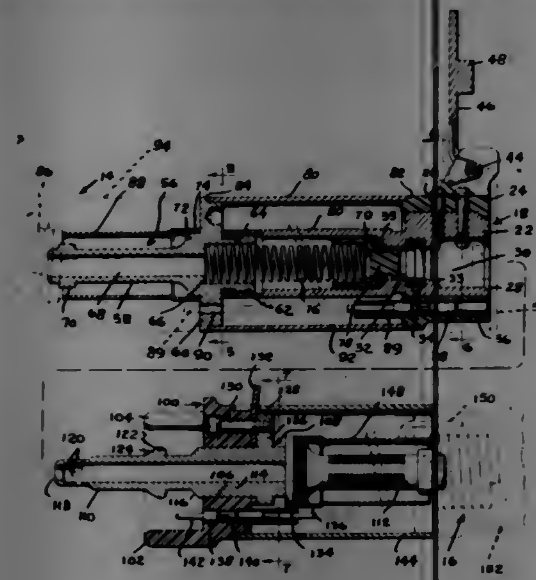
3,195,095

COMBINATION GAS-ELECTRIC COUPLING

James H. Field, Potomac, Md., assignor to R. E. Darling Co., Inc., a corporation of Maryland
Filed Aug. 23, 1962, Ser. No. 219,017
6 Claims. (Cl. 339—16)

1. In combination with two separate sections of flexible hose each having a gas conduit axially therethrough

and plural electric leads extending longitudinally within the walls thereof and projecting from the remote ends thereof, a gas-electric coupling composed of a female and a male conponent; said female component comprising a body member having an axial passage therethrough communicating with a tubular extension projecting axially from one face thereof, plural conductive pin sockets secured in insulated condition in said body member concentrically about the axial passage therein and opening outwardly through that face of said body member remote to the tubular extension thereon, said pin sockets having terminal ends projecting from said body member concentrically about the tubular extension thereon, a tubular hose insert stem removably secured to said body member extension and secured in the gas conduit in the adjacent end of one section of said flexible hose, the electric leads projecting from said adjacent hose end being secured to the terminal ends of said conductive sockets; and a tubular casing projecting from the body member to said hose removably enclosing the electric leads and terminal ends of said pin sockets; said male component comprising, a body element having a tubular stem extending therethrough and projecting from one face thereof, a tubular hose insert extension projecting axially from that face of the body element remote to the projecting stem and secured in the gas conduit in the adjacent end of the second hose section, plural conductive pins secured in insulated condition in said body element concentrically about and projecting in parallel with said stem, said conductive pins having terminal ends projecting from said body element concentrically about said tubular hose insert extension, the electric leads projecting from said adjacent hose end being secured to the terminal ends of said pins, and a tubular casing removably secured between said body element and said hose section enclosing the electric leads and the terminal ends of said pins.



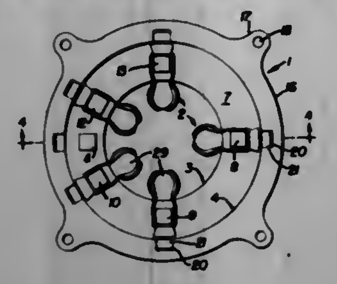
3,195,096
SOCKET FOR ELECTRON TUBES

Augustine M. Campo, San Mateo, and Jerzy Szkup, San Bruno, Calif., assignors to Eitel-McCullough, Inc., San Carlos, Calif., a corporation of California

Filed Apr. 30, 1962, Ser. No. 191,232

10 Claims. (Cl. 339—31)

2. Socket for electron tubes, comprising a tubular dielectric shell having a small diameter end and a large diameter end and an annular shoulder intermediate said ends, six circumferentially spaced projections on said shoulder and extending toward said large diameter end, four of said projections being positioned at 90° intervals from each other, electrically conductive contact members mounted on at least four of said projections and extending toward the center of said shell, each of said contact members having wall structure forming pin-receiving slots extending parallel to the axis of the shell, each of said slots being located inwardly of the inner edge of said shoulder adjacent each of said contact members, an outwardly projecting mounting rim on said large diameter end of the shell, and said projections and contact members being so spaced and dimensioned that five contact members is the maximum usable number.

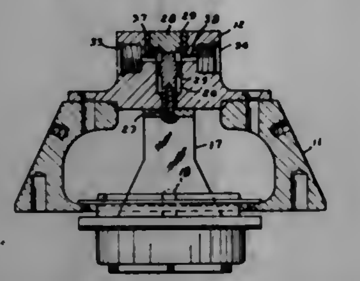


3,195,097
ELECTRICAL DISCONNECT DEVICE

George E. McLain, San Jose, Calif., assignor to the United States of America as represented by the Secretary of the Air Force

Filed July 16, 1963, Ser. No. 295,571

1 Claim. (Cl. 339—45)



An explosively energized mechanically operated electrical disconnect device comprising: a plug body support member; a first means on said plug body support member for holding a first plug; a second means adjacent said plug body support member for holding a second matching plug member; a pair of lock wires for securing said first plug holding means to said second plug holding means to thereby retain said first plug and said matching plug in electrical engagement; an ejector housing member attached to said plug body support member; a cylindrical chamber within said ejector housing member; a piston within said cylindrical chamber; an ejector member having two elongated side members and a cross member interconnecting said side members to thereby provide a substantially U-shaped member; said elongated side members being flared at the end remote from said cross member; said flared end being located in abutting relation to said second plug holding means; means for attaching said cross member to said piston; means, within said ejector housing member, for holding an electrically operated explosive squib and a communicating passage between said squib holding means and said cylindrical chamber.

3,195,098
COAXIAL CABLE CONNECTOR

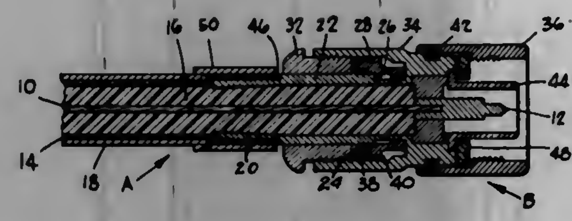
Harold E. Miller and Robert C. Twomey, Los Angeles, Calif., assignors to Douglas Aircraft Company, Inc., Santa Monica, Calif.

Continuation of application Ser. No. 34,800, June 8, 1960. This application Aug. 5, 1963, Ser. No. 303,465

4 Claims. (Cl. 339—103)

4. In a connector arrangement for the terminal portion of a coaxial cable having a core consisting of a central conductor and a dielectric surrounding the conductor, and a flexible outer conductor encompassing the dielectric, the combination comprising;

a first tubular, radially compressible sleeve to be disposed between the inner face of the inner end portion of the outer conductor and the dielectric; said sleeve comprising a split-collet-chuck having a radial flare, the cross-section dimension of the material of said sleeve increasing toward the outer end of said sleeve, and slots of a predetermined width limiting the degree of radial and peripheral deformation said first sleeve can undergo to limit the compressive force said collet-chuck can exert when fully peripherally contracted,



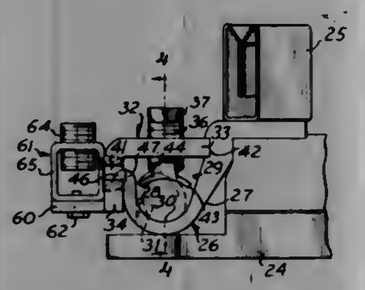
a second tubular radially compressable sleeve for mounting outwardly adjacent said first sleeve and substantially diametrically opposite said first sleeve with said outer conductor positioned therebetween whereby when said second sleeve is deformed radially inwardly said outer conductor is gripped between said sleeves and said outer sleeve is deformed radially inwardly beyond it elastic limit so as to grip and immobilize said dielectric and said central conductor against thermal and tensile forces tending to move them axially.

3,195,099
TERMINAL FOR A METER SOCKET

Clifford E. Sloop, 2230 10th St., Columbus, Ga.

Filed July 17, 1961, Ser. No. 124,730

8 Claims. (Cl. 339—113)



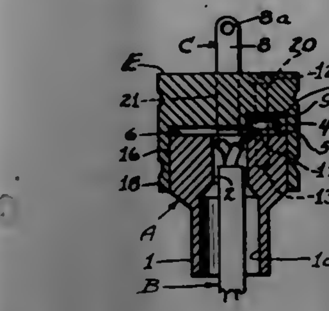
4. In a meter socket including a box having enclosed sides, an enclosed back, and a removable cover to close the front of said box, a terminal block mounted on said back, and a plurality of terminals for receiving conductors, said terminals being of the class having a pair of jaws including a cradle with opposed, downwardly converging side walls and a concaved bottom surface merging with said side walls, and a removable cap forming an upper jaw, said cap comprising a bracket received on said cradle, a set screw protruding through and threadedly engaging said bracket, and a foot pivotally carried by the end of said set screw and adapted to be moved between said side walls toward and away from said bottom surface of said cradle upon rotation of said set screw for cooperating with said bottom surface when moved toward said bottom surface to clamp a conductor therebetween, the combination therewith of a guide mounted on the end portion of said foot in spaced parallel relationship with respect to said set screw for maintaining said foot in proper orientation for moving between said side walls when said set screw is rotated, said guide being engageable upon any appreciable rotation of said foot with a portion of said bracket when said foot is in a retracted position adjacent said bracket.

3,195,100
ELECTRIC PLUG COUPLING

Hop Lee, 779 Commercial St., San Francisco 8, Calif.

Filed Nov. 12, 1963, Ser. No. 323,027

6 Claims. (Cl. 339—191)



5. In a device of the type described; a socket comprising:

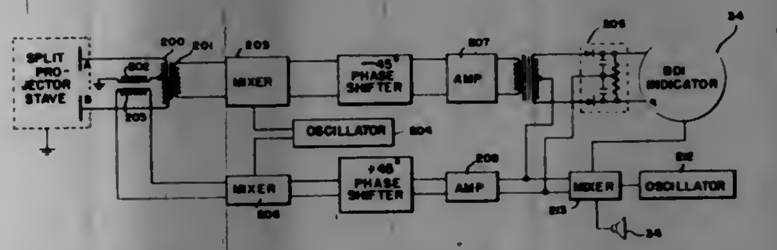
(a) a body member made of insulating material and having an end and a bore extending longitudinally through said body for receiving electric wires;
(b) a plurality of electrodes secured to the end of said body;
(c) each electrode having a base with a bent back portion that is spaced away from and parallels said base; the connecting part between said bent back portion and said base of each electrode being adapted to have one of said wires wrapped therearound for forming an electrical connection therewith;
(d) said body having an outer periphery with recesses therein that extend from said end, said recesses receiving the ends of the wires that extend beyond the wrapped around portions of the wires;
(e) each electrode having an outwardly-extending terminal, the terminals of said electrodes paralleling each other;
(f) an insulating cap having slots therein for receiving said terminals;
(g) said cap having a sleeve-like portion for slidably receiving the periphery of said body so that said sleeve-like portion will retain the wire ends in said body grooves; and
(h) means for securing said cap to said body.

3,195,101
INTEGRATED SONAR SYSTEM

Oscar Hugo Schuck, Minneapolis, Minn., and Robert B. Watson, Austin, Tex., assignors to the United States of America as represented by the Secretary of the Navy

Filed Oct. 29, 1952, Ser. No. 317,382

10 Claims. (Cl. 340—3)

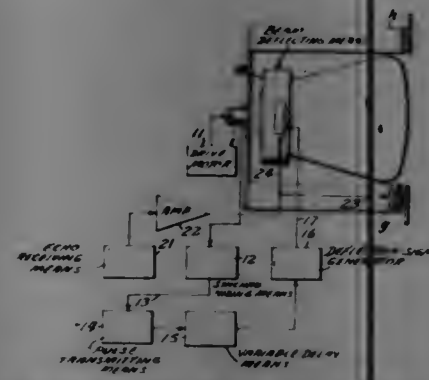


1. In a sonar system, the combination of a pair of split projector staves for each transducer element, a sum and difference type transformer connected to said pair of staves, a first mixer channel connected to the difference secondary of said transformer, a second mixer channel connected to the sum secondary of the transformer, an oscillator feeding a fixed frequency signal in mixing relation into said channels to modify the signals from said secondaries, means shifting the phase of at least one of the mixed signals in said channels to phase identity therebetween, amplifying means for the resulting phase equalized signals, signal amplitude comparing means connected to said amplifying means, and means responsive to said

amplitude comparing means for indicating the relative amplitude, whereby the difference in signals from said pair of staves provides a bearing deviation indication.

3,195,102
DEVICE USING THE ECHO SOUNDING METHOD FOR THE INDICATION OF REFLECTING OBJECTS

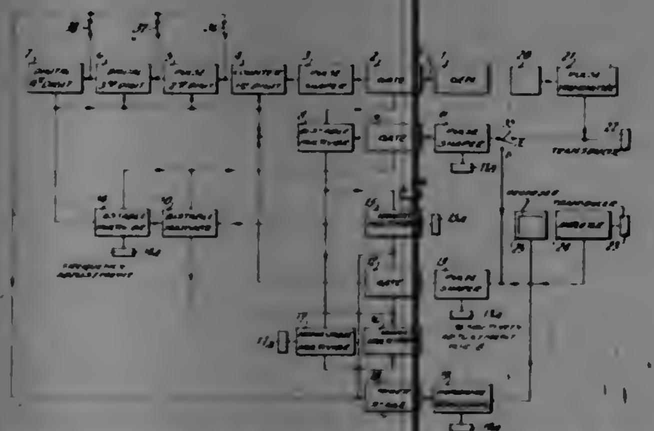
Willy Kunze, 44 Alten Eichen, Bremen, Germany
Filed Nov. 6, 1961, Ser. No. 151,141
1 Claim. (Cl. 340—3)



A method of visually displaying echo signals including the steps of rotating a neon bulb at constant rotational velocity about the periphery of a cathode-ray tube, applying said echo signals to said bulb to provide a visual indication of receipt of said signals, the position of said bulb about the periphery of said tube upon receipt of an echo signal being indicative of the distance to an external object from which that echo signal emanates, and simultaneously displaying the waveform of the latter echo signal upon the face of said cathode ray tube, thereby simultaneously presenting a visual representation of the character of and distance to said object.

3,195,103
ECHO-SOUNDING SYSTEM

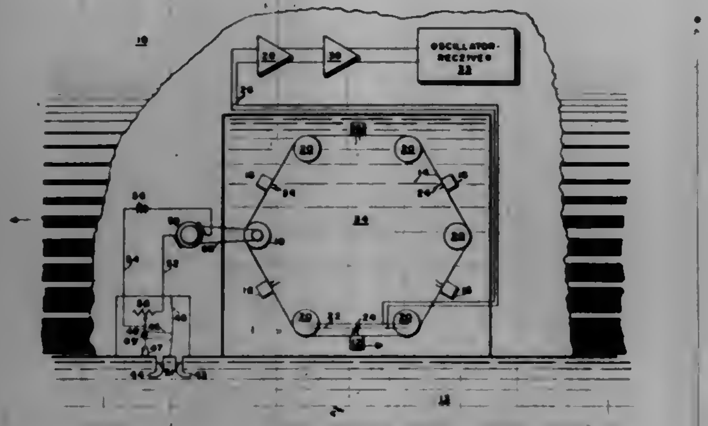
Hans Drenkelfort, Kiel-Elmschenhagen, Germany, assignor to Electroacustic Gesellschaft mit beschränkter Haftung, Kiel, Germany, a German corporation
Filed Aug. 2, 1962, Ser. No. 214,426
Claims priority, application Germany, Nov. 25, 1960, E 20,237
10 Claims. (Cl. 340—3)



1. A pulse-type echo-sounding system, comprising pulse transducer means for transmitting and receiving sonic signals, a digital-indication pulse counter, a recording instrument having a recording surface for producing an echogram thereon and connected to said transducer means, electronic gate means connecting said counter with said transducer means for causing the counter to respond in accordance with the time interval between transmitted and echo pulses, and circuit means connected between said counter and said instrument for controlling said instrument to add to the echogram a number of indications showing the sequence and magnitude of the distances measured by said counter.

3,195,104
SYSTEM FOR ELIMINATING OWN DOPPLER

Richard O. Rowlands, State College, Pa., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Aug. 28, 1962, Ser. No. 220,108
6 Claims. (Cl. 340—5)



1. In a submarine vehicle having a velocity with respect to the water medium in which it is traveling, and in combination with said vehicle, a sound signal communication system adapted for continuous communication with a second submarine vehicle having a similar communication system, the communication system comprising:

(a) an endless belt;

(b) a belt-moving means connected to said belt and causing said belt to move in a prescribed path at a speed and in a direction approximately equal and opposite to the velocity of said vehicle;

(c) transducer means, for transmitting and receiving said sound signals, carried by and moving with said belt, whereby said transducer means moves at a speed and in a direction approximately equal and opposite to the velocity of said vehicle;

(d) an oil-filled container enclosing said belt and transducer means and acoustically positioned within said vehicle so as to receive and transmit acoustical vibration from and to said water medium;

(e) said oil being acoustically similar to said water medium through which said vehicle is traveling, so that acoustical vibration will be effectively coupled between said water medium and said transducer means; and

(f) electrical amplification means connected to said transducer means for amplifying said sound signals;

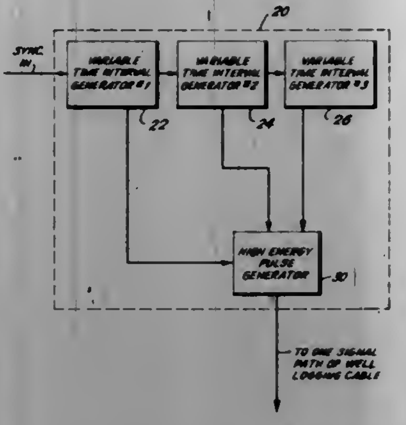
(g) the combination thereby eliminating the Doppler shift in frequency.

3,195,105
REMOTE CONTROL SYSTEM FOR WELL LOGGING INSTRUMENTS

Adrian P. Brokaw, Stillwater, Okla., assignor, by mesne assignments, to Dresser Industries, Inc., Dallas, Tex., a corporation of Delaware
Filed Mar. 17, 1960, Ser. No. 15,720
2 Claims. (Cl. 340—18)

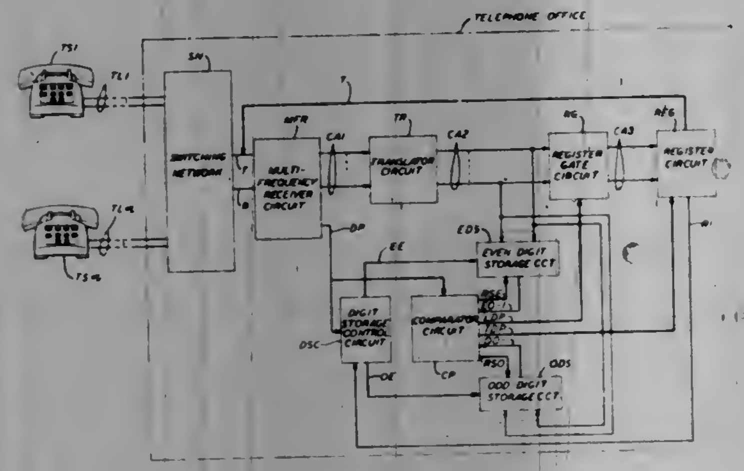
1. A remote control apparatus for well logging systems comprising surface means for producing a repetitive series of pulses, one pulse of said series being a characteristic synchronizing pulse; means for varying the interval between respective successive pulses in accordance with control information; and subsurface means comprising a plurality of bistable multivibrators responsive to said pulses by changing state on receipt of each of said pulses and responsive to each of said synchronizing pulses to attain an unique state regardless of its state prior

thereto, means interconnecting said multivibrators to derive a control signal related in duration to the state of said multivibrators, and means utilizing said control signal to control a parameter of a well logging instrument.


20
SYNC IN
VARIABLE TIME INTERVAL GENERATOR #1
VARIABLE TIME INTERVAL GENERATOR #2
VARIABLE TIME INTERVAL GENERATOR #3
22
24
26
HIGH ENERGY PULSE GENERATOR
30
TO ONE SIGNAL PATH OF WELL LOGGING CABLE

3,195,106
INFORMATION CHECKING SYSTEM

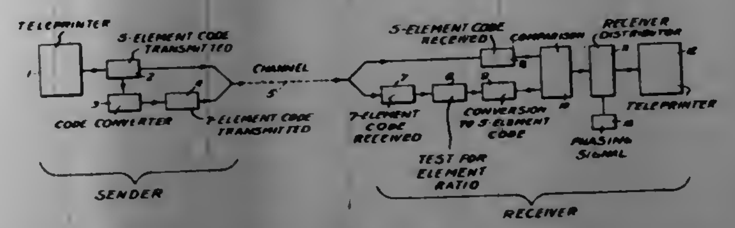
William B. Macurdy, Belmont, Mass., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 30, 1960, Ser. No. 79,886
12 Claims. (Cl. 340—146.1)



4. A checking system comprising means for sequentially recieving binary bits representing the odd and even order digits of a number; a pair of bit storage circuits; storage control means sequentially controlling the application of recieved bits of a plurality of odd order digits to one of the storage circuits and received bits of a plurality of even order digits to the other storage circuit for storage; each of said storage circuits including bit registers each having an input and a pair of outputs, and a group of input gates each having an output connected to said input of one of said registers, a first input connected to said receiving means and a second input connected to said control means for controlling the application of a digit bit to the associated register for storage; a comparator controlled by said control means for comparing stored bits of each of the pairs of adjacent odd and even order digits; means in said comparator responsive to the comparison of stored bits for indicating the acceptability of digits represented thereby; and reset means in said control means activated by said receiving means after each received digit interval for selectively resetting said circuits to erase stored bits therefrom prior to the application of other digit bits thereto.

3,195,107
SECURED TRANSMISSION OF CODED BINARY SYMBOLS

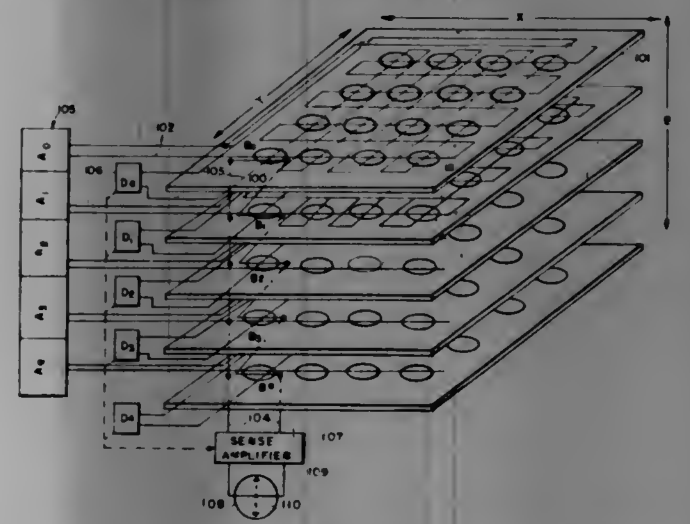
Hans Rudolph, Munich-Solln, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, a corporation of Germany
Filed Jan. 24, 1961, Ser. No. 84,591
1 Claim. (Cl. 340—146.1)



A transmission system for the secured transmission from a sender of binary coded teleprinter symbols to a receiver, comprising means for transmitting each symbol at least twice, namely, first in customary and preferably not error indicated multiple element teleprinter code, and second in an error indicating multiple element code containing a different number of elements than said first-mentioned code, converting means operatively related to said first means for effecting conversion of the symbol to such second code, a receiver for receiving the transmitted symbols, and testing means in the receiver for checking the symbols as to the presence of code requirements, namely, the absence of an error indication in said second-mentioned error indicating code, and identity of the transmitted symbol in both codes.

3,195,108
COMPARING STORED AND EXTERNAL BINARY DIGITS

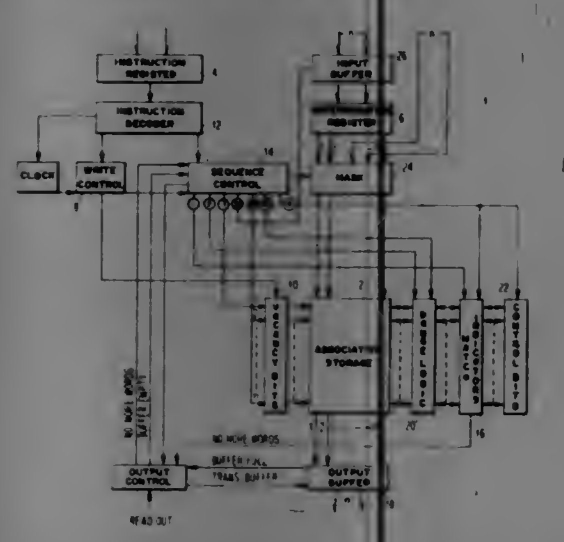
Abraham Franck, Richfield, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 29, 1960, Ser. No. 18,334
38 Claims. (Cl. 340—146.2)



1. Apparatus for comparing the numerical value of a stored binary digit and an external binary digit comprising a first magnetic core which has two stable magnetic states by which said stored binary digit is represented with said states being the result of the core magnetization being in either of two different directions along a remanent magnetization axis, a magnetically biasable second magnetic core whose magnetization is biased from a given direction in either of opposite manners in accordance with the instant state of the first core, means coupling to said second core a binary biasing field representative of the instant value of said external digit for increasing or decreasing the bias on the second core magnetization in accordance with the instant binary value of the biasing field and the instant state of the first core, and means applying to said second core during the exist-

ence of said biasing field a drive field for causing a reversible magnetization change in the second core of first or second opposite polarities or of substantially neither of such polarities in accordance with the instant state of the first core and the instant binary value of the biasing field to indicate equality and inequality between the instant values of the external and stored binary digits.

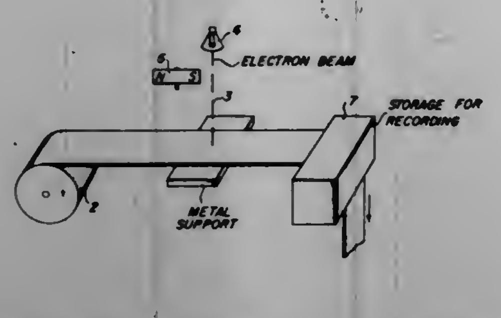
3,195,109
ASSOCIATIVE MEMORY MATCH INDICATOR CONTROL
Floyd A. Behnke, Ruby, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 2, 1962, Ser. No. 184,329
5 Claims. (Cl. 340—172.5)



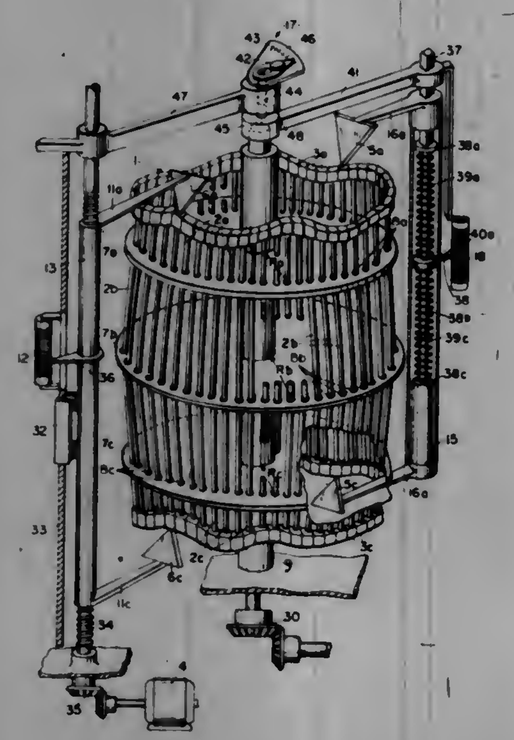
5. In an information retrieval system employing a memory unit comprising a plurality of word registers,
an interrogation register,
means for performing a simultaneous multi-field comparison of the content of each of said word registers with the content of said interrogating register,
indicating means associated with each word in said memory unit for indicating whether each such individual word matches or does not match the content of the interrogation register,
said indicating means including two superconducting current-carrying parallel paths, one path including a single cryotron element and the second path including two cryotron elements in series with each other, wherein superconducting current in the path containing the two cryotrons represents the OFF state of said indicating means and superconducting current in the path containing the single cryotron represents the ON state of said indicating means,
means for driving one of said series-connected cryotrons to the resistive state so as to set said indicating means to its ON state,
and means for conditioning said indicating means so as to turn said indicating means to or retain it in its ON state when there is a match or to turn said indicating means to its OFF state when there is a mismatch.

3,195,110
ELECTRON BEAM RECORDING
Nelson R. Nail, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed June 17, 1959, Ser. No. 821,023
9 Claims. (Cl. 340—173)

1. A method of recording the path of a beam from a source of radiation which comprises passing the beam into contact with asymmetrically strained uncoated plastic film the beam being passed in contact with the film to contact only portions thereof whereby the energy from the radiation where it contacts the film reduces the local strain and forms an observable image in the film and passing the film thus treated through a device whereby read-out may be accomplished.

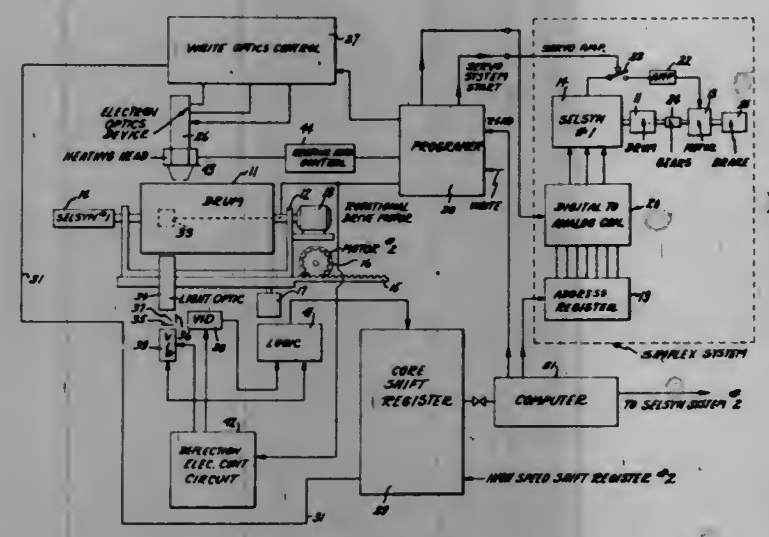


3,195,111
MECHANICAL STORAGE APPARATUS FOR CONTROLLING PERIODIC PROCESSES
Jürgen Kunkel, Oberhausen, Germany, assignor to Hüttenwerk Oberhausen A.G., Oberhausen, Rhineland, Germany, a corporation of Germany
Filed May 22, 1962, Ser. No. 197,196
Claims priority, application Germany, May 24, 1961, H 42,689
13 Claims. (Cl. 340—173)



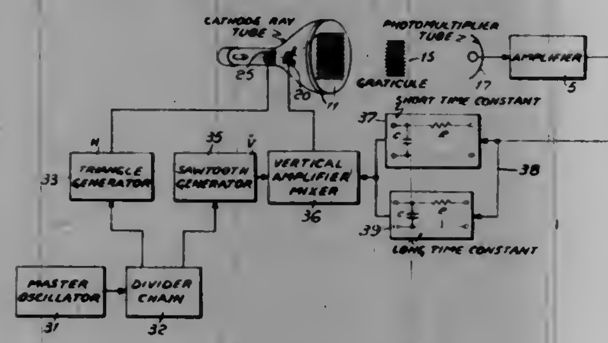
2. A mechanism for analog recording of a variable of a cyclical process, comprising support means rotatable about an axis; a plurality of substantially contiguous elongated members shiftably mounted on said support means for displacement in generally axial direction and extending along respective generatrices of a surface of revolution centered on said axis, said elongated members being formed with corresponding faces defining an annular curve characteristic of said variable; axially shiftable setting means cammingly engageable with said members for axially displacing them in accordance with fluctuations in said variable upon displacement of said members on said support means along a closed path; and read-out means along said path cammingly displaceable by said faces upon said displacement of said support means; at least one of said setting and read-out means being provided with a carrier swingable about said axis relatively to the other for adjusting the mutual angular spacing between said setting and read-out means.

3,195,112
THERMOPLASTIC FILM DRUM DATA STORAGE EQUIPMENT
William C. Hughes, Scotia, and John E. Wolfe, Schenectady, N.Y., assignors to General Electric Company, a corporation of New York
Original application Aug. 25, 1958, Ser. No. 757,083. Divided and this application Mar. 12, 1963, Ser. No. 264,571
20 Claims. (Cl. 340—173)



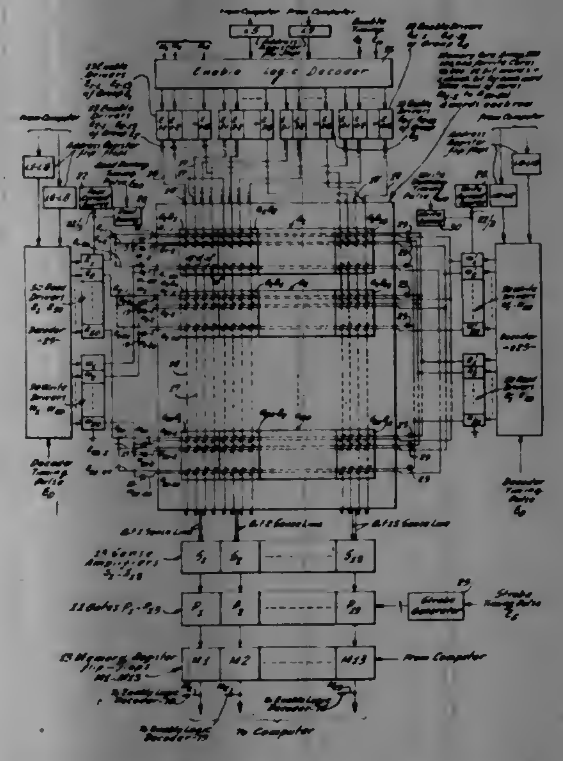
1. In a digital data information storage device the combination of a rotatable drum having an impressionable solid thermoplastic recording medium secured to the surface thereof, a readout device for inspecting discrete areas of the thermoplastic recording medium and deriving an output electric signal indicative of the intelligence impressed on the thermoplastic recording medium by electron writing, automatic positioning means for accurately positioning said drum rotationally and longitudinally in any desired location with respect to said readout device, position control means for accurately controlling the operation of said positioning means, and readout logical circuit means operatively coupled to said readout device for controlling the operation of the readout device in accordance with a preset schedule, said readout logical circuit means including data block edge recognition means for identifying the beginning edge of a data block during readout.

3,195,113
HIGH DENSITY DATA STORAGE SYSTEM
Ames F. Giordano, Newark, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Oct. 24, 1963, Ser. No. 319,925
11 Claims. (Cl. 340—173)



7. A data storage system comprising:
a storage medium;
a flying spot scanning system adapted to scan said medium in a coarse scanning pattern;
means defining a precise scanning pattern coarsely corresponding to said coarse pattern;
means for transferring binary digital pulse signals recurring at a predetermined minimum rate relative to said medium, said transferred signals being characterized in that each digit signal element includes at least two pulse signal conditions; and
feedback circuit means responsive to a given one of said two signal conditions in said transferred signal to control said scanning system in accordance with the difference between the actual position of said flying spot and a corresponding position in said precise pattern, said means being insensitive to signal fluctuations recurring at a rate greater than or equal to said predetermined minimum rate, but sensitive to slower signal fluctuations accompanying departures of said flying spot from said precise pattern.

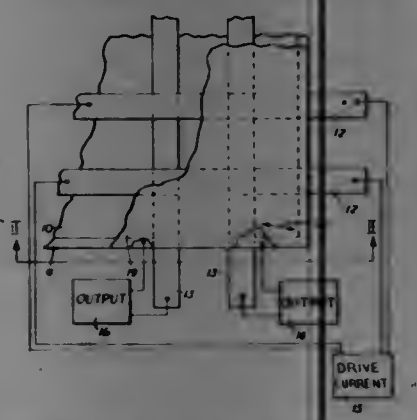
3,195,114
DATA-STORAGE SYSTEM
Robert O. Gunderson, Torrance, Edmund F. Klein, San Pedro, and Paul Higashi, Los Angeles, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland
Filed Feb. 23, 1961, Ser. No. 91,123
16 Claims. (Cl. 340—174)



1. Magnetic data-storage means comprising: an array of bistable magnetic elements functionally arranged to be driven in rows and columns, row and column coercing windings coupled to respective rows and columns of said elements, each element being coercible from either one to the other of its two stable states by an applied coercing current denoted by I in one direction and —I in the opposite direction, and each element being relatively undisturbed by application of a coercing current having a magnitude of $I/3$, means for applying a coercing current of $2I/3$ during a reading interval and $-2I/3$ during a writing interval to the elements in a selected row of said array via their respective row windings, said selected row containing a plurality of multi-bit words in which only a single selected multi-bit word is to be read out and written into during respective reading and writing intervals; logical circuit means for indicating which elements of the selected row correspond to the selected word; means responsive to said logical circuit means for applying a coercing current of $I/3$ during respective reading and writing intervals in either the read or write direction to each column of elements in said array via its respective column windings, said direction being determined by whether the column contains an element of the selected word; means controlling the time of application and the direction of the coercing current applied by the two last mentioned means so that during a reading interval the selected elements in the selected row receive a resultant coercing current of I, while

unselected elements in the selected row receive a resultant coercing current of $I/3$, and all other unselected elements in unselected rows of the array receive a coercing current of either $I/3$ or $-I/3$, and so that during a writing interval those elements of the selected elements in a selected row in which one binary digit is to be stored receive a resultant coercing current of $-I$, while the other selected elements in the selected row in which the other binary digit is to be stored as well as all unselected elements in the selected row receive a resultant coercing current of $-I/3$, and all other unselected elements in unselected rows in the array receive a coercing current of either $I/3$ or $-I/3$; and means coupled to the elements in said array for providing an electrical indication in response to the switching of at least one of the selected elements during the reading interval.

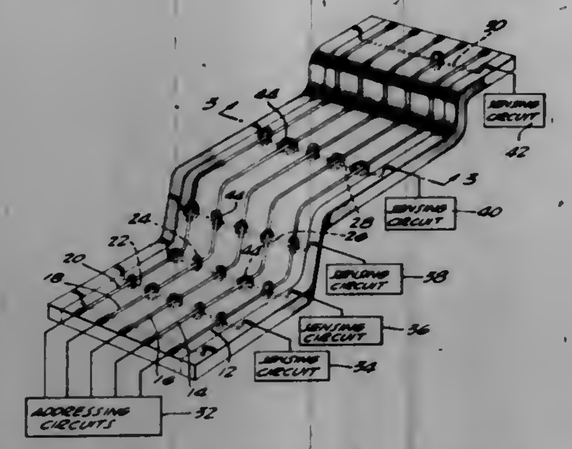
3,195,115
MAGNETIC DATA STORAGE DEVICES
Edward Michael Bradley, Stevenage, England, assignor to International Computers and Tabulators Limited
Filed July 13, 1962, Ser. No. 209,574
Claims priority, application Great Britain, July 19, 1961, 26,141/61
4 Claims. (Cl. 340—174)



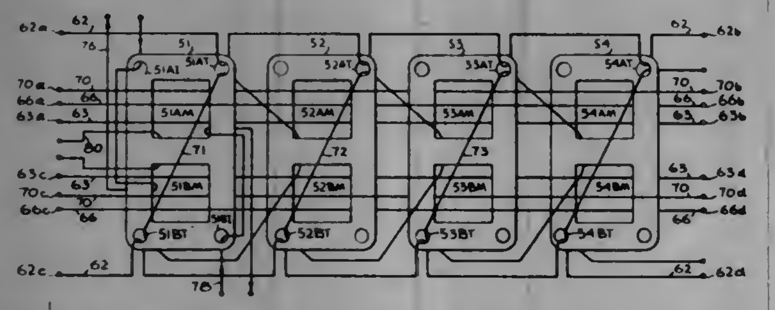
1. A non-erasable store for binary information including a group of storage elements, each storage element consisting of an area of thin ferromagnetic film with mutually perpendicular hard and easy axes of magnetisation and which is switchable primarily by domain rotation; a separate sense conductor coupled to each of the storage elements respectively, each sense conductor being responsive to change of magnetic flux in the direction of the easy axis of the storage element coupled thereto; a plurality of elements of permanently magnetised material positioned one adjacent each storage element to apply to each storage element a bias field having a component aligned with the easy axis; and means to apply a drive field having a major component in the hard axis direction to all the storage elements to induce signals in the sense conductors representative of the previous magnetic states of the elements, the bias field being effective to return the storage elements to their previous magnetic states on termination of the drive field.

3,195,116
NONDESTRUCTIVE READOUT MEMORY
Robert S. Weisz, Pacific Palisades, Los Angeles, Salvadore J. Zuccaro, Santa Monica, and Mario Semeraro, Sherman Oaks, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed July 25, 1962, Ser. No. 212,204
2 Claims. (Cl. 340—174)

1. A data storage device comprising a sheet of nonmagnetic material, a plurality of first wires disposed on one surface of said sheet spaced parallel to one another, along a first coordinate, a plurality of second wires disposed on the opposite surface of said sheet spaced and parallel from one another and disposed orthogonally relative to said plurality of first wires to provide a plurality of crossings therewith, and a plurality of staples made of magnetic material, each of said staples being bent around and enclosing a different one of said plurality of crossings of said first and second wires along a diagonal passing through said crossing.



3,195,117
BIPOLAR MAGNETIC CORE CIRCUIT
Douglas C. Engelbart, Palo Alto, Calif., assignor to AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey
Filed Nov. 5, 1962, Ser. No. 235,454
4 Claims. (Cl. 340—174)



1. A shift register comprising a plurality of stages arranged in sequence, each of said stages comprising magnetic ferrite means, each said magnetic ferrite means comprising a magnetic ferrite core having first and second adjacent input apertures separated by a ferrite cross member to provide a substantially figure eight shaped core, a first and second input aperture disposed at opposite corners of said figure eight shaped core, each said magnetic ferrite means having two separable said clear states of magnetic remanence, two separable set states of magnetic remanence, each said stage storing a one data bit when said magnetic ferrite means is in a clear and set state and storing a zero data bit when said magnetic ferrite means is reversed to a set and clear state, a separate transfer winding means coupling the magnetic ferrite means in a preceding shift register stage to the magnetic ferrite means in a succeeding shift register stage for transferring the respective clear and set states of magnetic remanence of the magnetic ferrite means in a preceding stage to the magnetic ferrite means in a succeeding stage, each said separate transfer winding means comprising a winding passing through the first and second output apertures with a respective opposite coupling sense and thereafter passing through one of said input apertures around said ferrite cross member and then through the other of said input apertures, first means for driving to their two separable clear states of remanence the magnetic ferrite means in all alternate stages of said shift registers wherein the states of remanence are transferred by the transfer winding means to the magnetic ferrite means in the remaining shift register stages, and means for driving the magnetic ferrite means simultaneously in all the remaining shift register stages to their two separable clear states of remanence to effectuate a transfer through said transfer winding means of the states of magnetic remanence of said magnetic ferrite means to the magnetic ferrite means in the alternate stages of the shift register.

3,195,118
DATA STORAGE TIMING SYSTEM
Hal K. St. Clair, Los Gatos, Calif., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 24, 1961, Ser. No. 133,719
9 Claims. (Cl. 340—174.1)

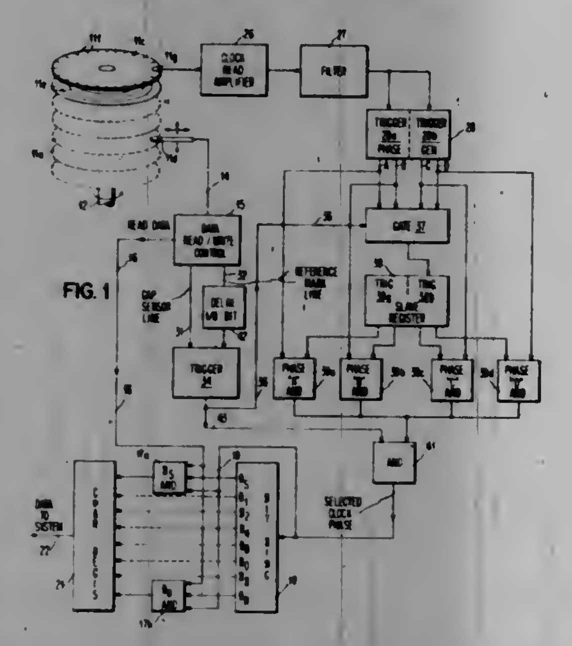
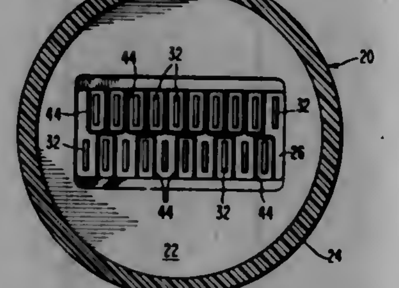


FIG. 1

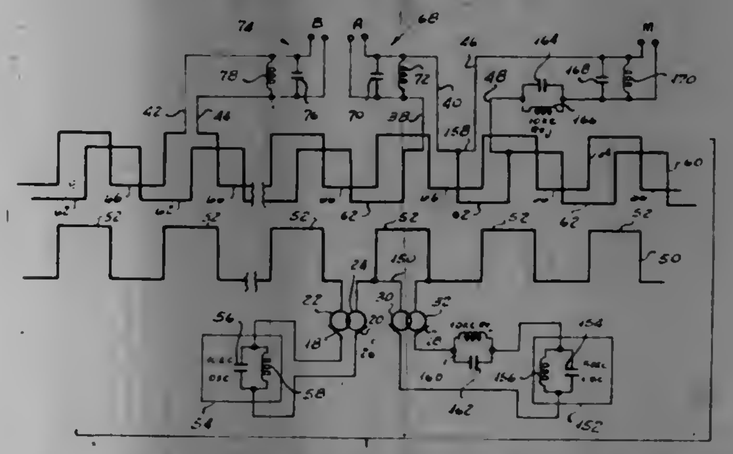
1. Apparatus for controlling the flow of data relative to a cyclically moving recording medium on which said data may be recorded and from which said recorded data may be reproduced, said data being in the form of binary bits having a predetermined period and frequency and arranged in different combinations to represent different alpha-numeric characters, comprising a source of master clock pulses said master clock pulses having a frequency at least equal to the frequency of said bits, means for deriving from said master clock pulse a plurality of auxiliary clock pulse trains, each of said auxiliary clock pulse trains having the same frequency as said bit frequency and being shifted in time relative to each other by equal amounts within one of said bit periods, means for selecting one of said auxiliary clock pulse trains for controlling the clocking of data relative to said medium, and means for repeatedly re-selecting one of said auxiliary clock pulse trains at intervals during operation of said medium.

3,195,119
MAGNETIC TRANSDUCER HEAD ASSEMBLY
Harry L. Worosz, Dearborn, Mich., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 31, 1962, Ser. No. 248,516
4 Claims. (Cl. 340—174.1)



1. A magnetic transducer assembly comprising a body having a wall provided with two spaced apart parallel rows of openings therethrough with the openings of one row in staggered relationship to the openings of the other row, two spaced apart parallel rows of magnetic transducers positioned within said body with the transducer magnetic flux areas respectively positioned within and facing outwardly of said openings, and a plurality of separate channel-shaped shield members arranged in two groups respectively associated with said two rows of transducers within said body with the webs of the shield members of the two groups in back-to-back relationship between said rows of transducers and with the sides of said shield members extending between adjacent ones of said transducers, said shield members being less in number than said transducers and the shield members of one group being positioned in side-by-side relationship and the shield members of the other group being positioned about alternate ones of its corresponding row of transducers.

3,195,120
MULTIPLE POLE PAIR RESOLVER MARKER GENERATOR
Stanislaw V. Lazecki, Stamford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Feb. 12, 1963, Ser. No. 257,919
5 Claims. (Cl. 340—196)

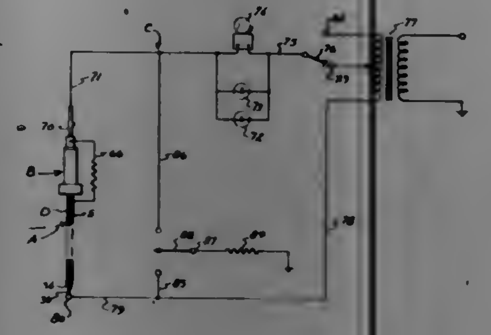


1. A device for producing a signal indicating the relative position of a pair of relatively movable members including in combination an input winding carried by one of said members, an output winding carried by the other of said members, a source of a signal of a certain frequency, means for energizing said input winding from said source to cause said output winding to produce a signal having a predetermined number of cyclic variations for a predetermined movement of said members relative to each other, a marker input loop carried by one of said members, a marker output loop carried by the other of said members, a second source of a frequency different from said certain frequency and means for energizing said input loop from said second source to cause said output loop to produce a marker signal at a predetermined relative position of said members.

3,195,121
APPARATUS FOR HEAT DETECTION
John E. Lindberg, Jr., 1211 Upper Happy Valley Road, Lafayette, Calif.
Filed Feb. 29, 1960, Ser. No. 11,710
18 Claims. (Cl. 340—229)

12. A critical-temperature detection system comprising a plurality of generally filamentary electrically conductive enclosures of extended length; means in each said enclosure responsive to heat for increasing the pressure within that said enclosure by a substantial amount; a plurality of electrical circuits, each employing a said enclosure as a portion thereof and incorporating a warning device, an electrical switch, and an impedance in parallel with said switch; a corresponding plurality of pressure-

actuated means for actuating each said switch in response to the pressure in the said enclosure that is associated with that switch, all said circuits being joined in parallel with each other and single electrical test means for sending enlarged current through all said impedances simultaneously, independently of said switches, in magnitude sufficient to actuate said warning devices.

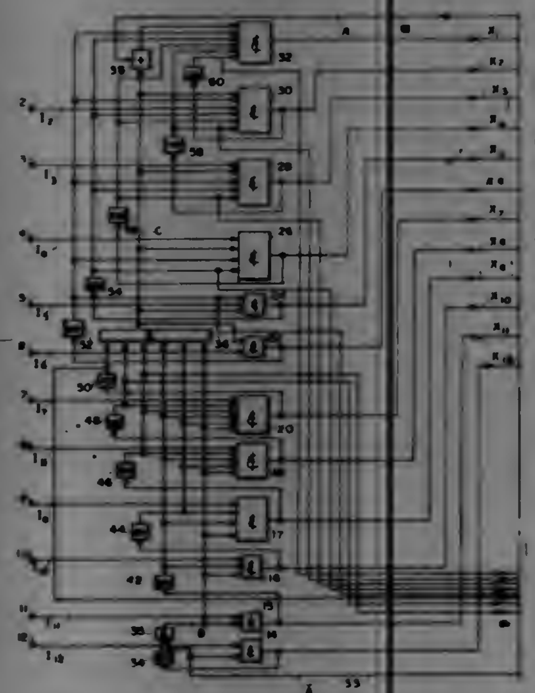


3,195,122
CODE TRANSLATOR

Ray Lorenz, Culver City, Calif., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed July 7, 1960, Ser. No. 41,278

10 Claims. (Cl. 340—347)



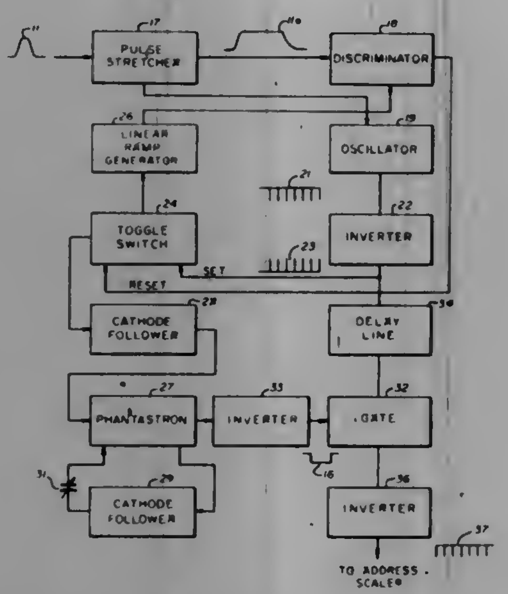
1. Translating apparatus for changing a predetermined code of up to at least 2 out of n digits each representable as input signals $I_1 \ldots I_n$ to a signal in one of a plurality of X output lines $1 \ldots n$ and a simultaneous signal on one of a plurality of Y output lines $1 \ldots m$, where m is not greater than n, comprising n input terminals for respectively receiving said input signals as they appear up to at least 2 at a time, said X and Y output lines $1 \ldots n$ and $1 \ldots m$ respectively, a plurality of X And circuits $1 \ldots (n-1)$ each having an output coupled to a respective one of the X output lines, means coupling the $I_2 \ldots I_{n-1}$ input signals one each to a respective one of the X And circuits, means effectively coupling the I_n input signal to the X_n output line, a plurality of circuit means each receiving the signal appearing on a respective one of the X output lines $n \ldots 2$ and producing an inverted output, means coupling each of the said inverted outputs as an effective input to each succeeding X And circuits $(n-1) \ldots 1$, a plurality of Y And circuits $2 \ldots (m-1)$ each having an output effectively coupled to a respective one of the Y output lines, means effectively coupling the I_1 input signal to the Y_1 output line, means also coupling the $I_2 \ldots I_{m-1}$ input signals to a respective Y And circuit, means coupling the said inverted output appearing on each of the X output lines $2 \ldots (m-1)$ as an input to each of the corresponding Y And circuits, means including an Or circuit and having an inverted output coupled to the Y_m output line, and means coupling the outputs appearing on all preceding Y output lines $1 \ldots (m-1)$ as inputs to the last mentioned means, whereby one of each of the X and Y output lines is selected for each predetermined code of up to at least 2 out of said n digits including none.

3,195,123
ANALOGUE TO DIGITAL CONVERTER

Harry I. West, Jr., Livermore, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed June 8, 1961, Ser. No. 115,829

6 Claims. (Cl. 340—347)



6. In a device for converting analogue information to digital information employing a time modulation scheme, the combination comprising:

(a) a pulse stretcher responsive to the analogue information to be converted by generating both a voltage step representative of the maximum amplitude of said analogue information and a gate signal;

(b) a pulse train generator responsive to said gate signal by generating a train of pulses for the duration of the gate signal;

(c) means for generating a voltage ramp in response to a first pulse from said pulse train generator, said voltage ramp having a nonlinear portion;

(d) bias means electrically connected to said voltage ramp generator, said bias means being adjusted to establish the initial potential level of said voltage ramp below a predetermined reference voltage level so that the beginning of the linear portion of said voltage ramp coincides with said predetermined reference voltage level;

(e) a phantastron pulse generator responsive to the first pulse of said pulse train by the output of a positive gating pulse;

(f) a cathode follower circuit and variable capacitor connected in series and in feedback relation to said pulse generator;

(g) an inverter circuit receiving the output of said pulse generator to reverse the polarity of the gating pulse;

(h) electronic gating means for receiving said gating pulse and through which said pulse train passes, said gating means responsive to said gating pulse by preventing the passage of the pulses of said pulse train generated during the nonlinear portion of said voltage ramp;

(i) electronic delay means interposed said pulse train generator and said gating means, said delay means causing a delay time substantially equal to the time of four pulses of said pulse train; and

(j) a discriminator circuit receiving said voltage ramp and said voltage step to compare the amplitude of said voltage ramp to the amplitude of said voltage step and generate an electrical signal when the amplitudes are equal, said generated electrical signal electrically introduced to said voltage ramp generating means and said pulse stretcher to terminate the generation of said voltage ramp, said voltage step and gate signal.

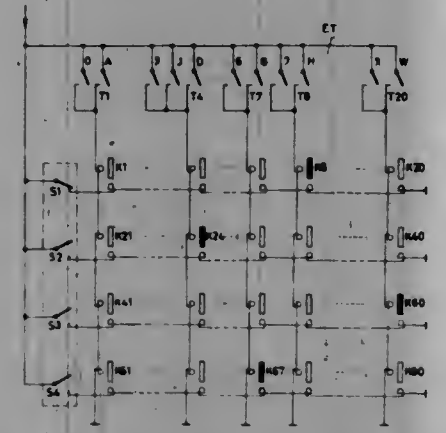
3,195,124
CONVERTING PLURAL-ELEMENT INFORMATION

Hartmut Gebhardt, Grosshesselohe, near Munich, Germany, assignor to Siemens & Halske Aktiengesellschaft, Berlin and Munich, a German corporation

Filed Feb. 12, 1962, Ser. No. 172,585

Claims priority, application Germany, Feb. 17, 1961, S 72,586

8 Claims. (Cl. 340—347)



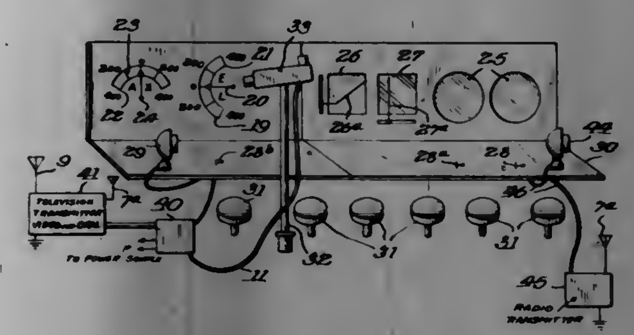
1. A circuit arrangement for converting a first information which is represented by the activation respectively of one of m elements in x groups, whereby m may vary from group to group, into a second information which is represented by the magnetization of one of n magnet cores disposed in a field of cores having wires extending therethrough, a plurality of said wires passing through the respective cores, comprising means forming x stages corresponding to the x groups, each stage comprising switches connected in parallel relationship, said switches provided respectively with serially disposed writing wires, the switches of the respective stages being respectively assigned to the m elements of the corresponding group of the first information and being operatively closed upon activation of the corresponding element, the series circuit of said stages being disposed in series with a blocking wire extending through all cores, said blocking wire passing $(x-1)$ times through each core in a direction opposite to the direction of the writing wires, whereby an individual current circuit is formed responsive to closure of a switch, which circuit extends over x writing wires and the blocking wire, said individual circuit passing x-times only through one of the n cores and being owing to opposing energization effected by said blocking wires operative to change the magnetization of only such core to which is assigned the second information.

3,195,125
TELEVISION AID TO AIRCRAFT INSTRUMENT LANDING

Henry L. Reitler, Chicago, Ill.
(203 White Bridge Road, Nashville, Tenn.)

Filed Oct. 12, 1961, Ser. No. 147,407

2 Claims. (Cl. 343—6)



1. A ground controlled approach aircraft instrument landing system comprising, first precision approach radar indicating means for indicating aircraft azimuth, second precision approach radar indicating means for indicating aircraft elevation, third precision approach radar indicating means duplicating said second precision approach radar indicating means in presentation for indicating aircraft range, first movable tracking cursor means for said first indicating means for comparing the actual azimuth with a predetermined path for an aircraft on final landing approach, first error metering means motivated by said first tracking cursor means for indicating the azimuth error in the landing path of the aircraft, second movable tracking cursor means for said second indicating means for comparing the actual elevation with a predetermined path for an aircraft on final landing approach, second error metering means separate from said first error metering means motivated by said second tracking cursor means for indicating the elevation error in the glide path of the aircraft, third movable tracking means for said third indicating means, third metering means separate from said first and second error metering means for indicating the aircraft range, television video camera means viewing said first, second and third metering means, and television transmitter means for transmitting television video to an aircraft thereby enabling guidance of the aircraft on landing approach.

3,195,126
TRAFFIC SUPERVISORY SYSTEM

John L. Barker, Norwalk, Conn., assignor, by mesne assignments, to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware

Filed May 13, 1957, Ser. No. 658,704

8 Claims. (Cl. 343—7)

1. A traffic surveillance system for surveying vehicular traffic speed and volume conditions over a highway facility and comprising

a traffic sampling station having

vehicular speed and passage detection apparatus for producing electrical signals indicative of the speed and passage of moving vehicles,

means for combining the speed and passage signals to produce a composite electrical signal, said combining means including

make-before-break relay circuit means activated responsive to the said passage sensing detection apparatus output signals,

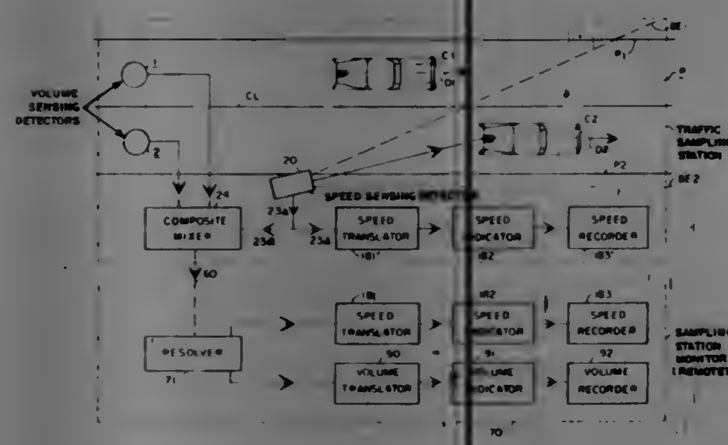
oscillation means operably responsive to the activated relay means for producing an oscillatory signal output,

and output circuit means for receiving the oscillatory signal indicative of the traffic passage and the speed signal indicative of the vehicle speed and producing therefrom the output composite electrical signal,

means for transmitting the composite electrical signal along a pre-determined transmission path,

a remote sampling station monitor for receiving the transmitted composite electrical signal and comprising

a signal resolver for receiving and resolving the composite signal into the traffic passage electrical signals and speed electrical signals,



means for receiving the speed electrical signals and producing a voltage therefrom proportional to the speed of the moving vehicles,

means responsive to said voltage for producing a visual speed indication,

means for receiving the passage electrical signals and producing a further voltage therefrom proportional to the traffic volume level of the moving vehicles,

and means responsive to said further voltage for producing a visual traffic volume level indication.

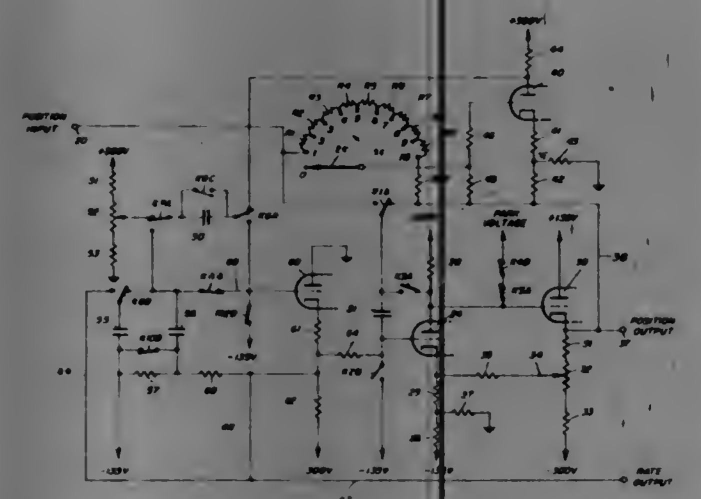
3,195,127

RATE-AIDED MANUAL TRACKING CIRCUIT

Marvin C. Iwerks, Basking Ridge, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 17, 1962, Ser. No. 188,289

6 Claims. (Cl. 343—7)



1. A rate-aided manual target tracking channel for use in a radar system comprising storage means for storing the target rate, integrating means responsive to the stored target rate for predicting future target positions, computing means responsive to said integrating means and target position input signals for deriving a corrective rate signal, and means responsive to said corrective rate signal for altering the stored target rate whereby predicted target positions will more nearly correspond to future target positions.

3,195,128

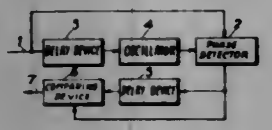
MOVING TARGET INDICATING SYSTEMS

Guy Le Parquier, Henri Poinsard, and Robert Ducrotoy, Paris, France, assignors to C.S.F.-Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Mar. 8, 1963, Ser. No. 263,876

Claims priority, application France, Mar. 9, 1962, 890,514

6 Claims. (Cl. 343—7.7)



1. In a radar system, a device for discriminating the echoes from moving targets, said device comprising: a general input; means for applying the radar echoes to said general input; phase responsive means having a first input directly coupled to said general input, a second input and an output; delay means having an input connected to said general input, and an output; and an oscillator having a phase control input coupled to the output of said delay means and an output coupled to said second input of said phase responsive means.

3,195,129

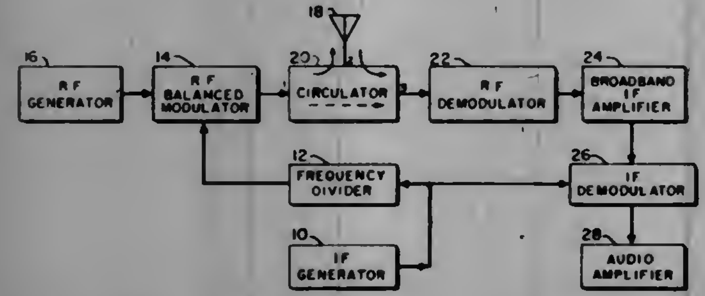
CW RADAR SYSTEM

William Fishbein, New Shrewsbury, and Otto E. Rittenbach, Neptune, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed May 4, 1962, Ser. No. 192,608

12 Claims. (Cl. 343—8)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A CW Doppler radar sysem comprising,

means for generating an IF signal at a prescribed frequency such that its period is a function of the maximum range of targets to be detected,

a source of RF energy having a prescribed frequency,

means responsive to said IF signal and said RF energy for producing a continuous wave of RF signal energy having its phase alternately reversed 180° at a rate corresponding to one-half the frequency of said prescribed IF signal,

a common antenna for reception and transmission,

duplexer means coupled to said antenna and responsive to said RF signal energy whereby at any instant a portion of said RF signal energy is coupled to said antenna for transmission and a portion of said RF signal energy leaks through said duplexer means to an output port thereof, said duplexer means being also responsive to the RF signal energy reflected from a moving target in the path of the transmitted RF signal energy such that the reflected RF signal energy is combined with said leak-through energy in said output port,

means for producing a video-form beat signal from said combined reflected and leak-through energy,

a broad-band amplifier for amplifying said video-form beat signal,

means responsive to said amplified video-form beat signal and said prescribed IF signal for producing a beat signal having a current component corresponding to the Doppler frequency of said detected moving target,

and means for amplifying said current component.

3,195,130

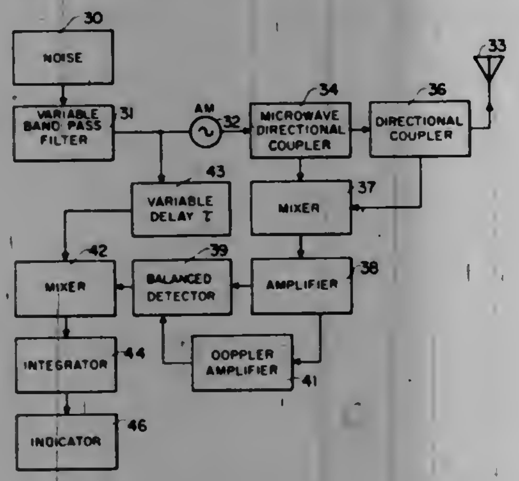
AM RADAR WITH NOISE CORRELATION

Donald J. Adrian, Corona, Calif., assignor to the United States of America as represented by the Secretary of the Navy

Filed Feb. 23, 1961, Ser. No. 91,286

3 Claims. (Cl. 343—12)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In a radar system the combination comprising: noise modulated transmitter means for generating and transmitting a radio frequency noise signal; receiver means including a first mixer circuit for recovering said noise signal which includes a Doppler frequency band, amplifier means coupled to said receiver means for amplifying only the Doppler frequency portion of said received signal, balanced detector means coupled to said Doppler amplifier means and to said receiving means for detecting a combined signal consisting of said amplified Doppler signal and said received signal, second mixer means for mixing said detected signal with a noise signal from said transmitter means for generating output pulses which represent the target from which said transmitted signal has been reflected.

3,195,131

DISTANCE MEASURING SYSTEM UTILIZING OCEANIC INVERSION DUCT

Norman R. Ortwein, 4857 Orchard Ave., and Paul L. Voss, 6338 E. Lake Drive, both of San Diego, Calif.

Filed Jan. 10, 1963, Ser. No. 250,721

3 Claims. (Cl. 343—13)

(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A distance measuring system utilizing oceanic inversion ducts comprising:

(a) a first station having a transmitter connected to a triggering means for transmitting radio frequency pulses in an oceanic inversion duct;

(b) a second station having a receiver for receiving said first transmissions and a transmitter for retransmitting said first transmissions;

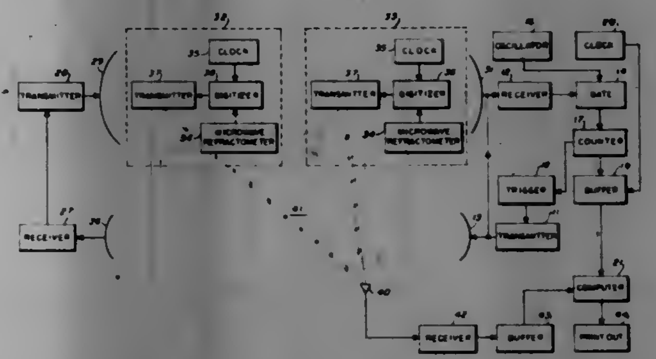
(c) receiving means at said first station for receiving said first transmissions and said retransmitted transmissions;

(d) a gate, the output of said receiver connected to an input of said gate;

(e) an oscillator connected to another input of said gate;

(f) counting means, the output of said gate connected to said counting means for counting the gated output of said oscillator, said counting means having first and second outputs, said first output connected to said trigger means;

(g) computing means, said second output of said counter operationally connected to one input of said computing means;



(h) and means for introducing into said computing means successive readings of refractive index in said duct together with the geographic position of said refractive index, wherein said computer computes the velocity of propagation from said refractive index readings and the transit time of transmission between stations from said counter readings and further computes the distance between said first and second stations.

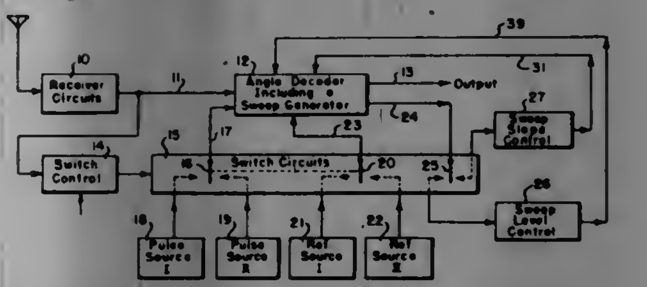
3,195,132

AUTOCALIBRATION OF DECODING RECEIVERS

Frederick H. Battle, Jr., Seaford, and Thomas Barlam, Syosset, N.Y., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Jan. 16, 1962, Ser. No. 166,624

8 Claims. (Cl. 343—106)



1. In a receiver for receiving a scanning beam coded by pulse modulations transmitted at intervals varying with the beam direction angle, the receiver including a decoder having a sweep generator and means for utilizing the time variation in the sweep amplitude to produce a signal representing the beam direction angle, an autocalibration circuit which comprises means for producing a first series of test pulses having a first repetition interval representing a first beam direction angle modulation, means for producing a second series of test pulses having a second repetition interval representing a second beam direction angle modulation, means for alternatively supplying said first and second test pulses series to said decoder during intervals between receptions of the scanning beam by the receiver, means for producing a first calibration signal corresponding to said first test pulse series, means for producing a second calibration signal corresponding to said second test pulse series, means for supplying said first calibration signal to said decoder while said first test pulse

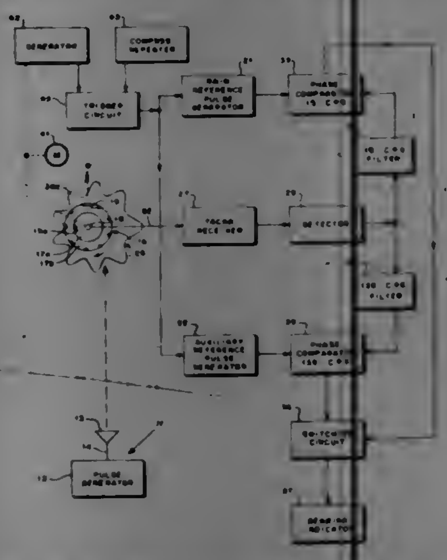
series is supplied thereto to produce a first error signal, means for supplying said second calibration signal to said decoder while said second test pulse series is supplied thereto to produce a second error signal, means for utilizing said first error signal to control the level of the sweeps of the sweep generator, and means for utilizing said second error signal to control the slope of the sweeps.

3,195,133

AIR-TO-AIR BEARING SYSTEM

Oscar Shames, Philadelphia, Pa., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 27, 1962, Ser. No. 227,665
4 Claims. (Cl. 343—106)
(Granted under Title 35, U.S. Code (1952), sec. 266)



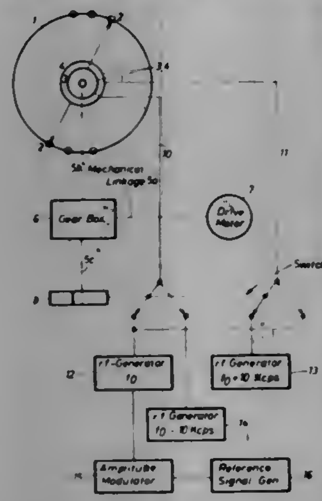
1. In an air-to-air bearing system for use in a receiver aircraft:
an antenna system in said receiver aircraft having a nine lobed radiation pattern superimposed on a cardioid radiation pattern,
synchronous motor means connected to said antenna system rotating said antenna system at a predetermined rate for amplitude modulating a signal from a pulse transmitter at a first and second cyclic rate,
first pulse generator means connected to said synchronous motor means generating a main reference pulse each time a predetermined lobe of said radiation pattern passes a predetermined direction,
second pulse generator means connected to said first pulse generator means generating an auxiliary reference pulse each time one of said lobes passes said predetermined direction,
receiver means connected to said antenna system receiving said first and second amplitude modulated signals,
first circuit means connected to said first pulse generator means and said receiver means providing an output voltage proportional to the difference in phase between said main reference pulse and said first amplitude modulated signal,
second circuit means connected to said second pulse generator means and said receiver means providing an output voltage proportional to the difference in phase between said second amplitude modulated signal and said auxiliary reference pulses,
indicator means,
switching circuit means connecting said first circuit means to said indicator means responsive to zero phase difference between said main reference pulse and said first amplitude modulated signal to automatically connect said second circuit means to said indicator means whereby said indicator displays the bearing of the receiver aircraft relative to the pulse transmitter.

3,195,134

WIDE BASE DOPPLER RADIO NAVIGATION SYSTEM

Fritz Steiner, Pforzheim, Germany, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 2, 1963, Ser. No. 248,934
Claims priority, application Germany, Jan. 11, 1962, St 18,749
4 Claims. (Cl. 343—106)



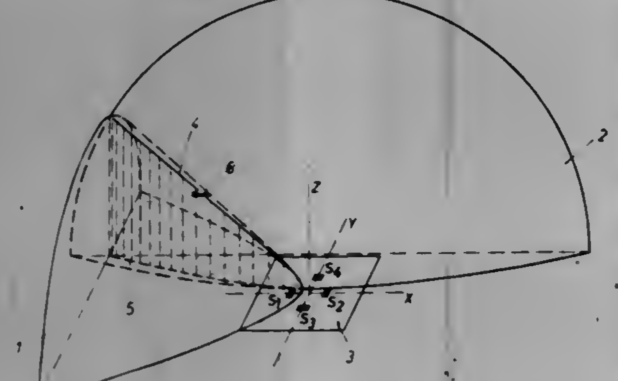
1. A wide base Doppler radio navigation system with a circular antenna system consisting of a number of individual antennas, in which two individual antennas located diametrically opposite to each other, will be cyclically connected to the transmitter whereby one individual antenna will be fed with the carrier and the other one with a modulation sideband to provide at the receiver-end a frequency-modulated wave for phase comparison with a reference voltage to determine the direction, comprising, a first source of upper sideband signals and a second source of lower sideband signals, a source of carrier signals, and switching means coupling said source of upper and lower sideband signals and said carrier source to said antennas and means connected to said switching means for coupling alternatively and successively to each one respectively of a pair of antennas, said carrier signal and one of said sideband signals, and at each switching cycle the position of carrier and sideband will be interchanged whereby in one position the upper sideband signal and carrier signal and in the other position the lower modulation sideband signal and carrier signal will be radiated.

3,195,135

APPARATUS FOR GUIDING VTOL AIRCRAFT TO A RESTRICTED LANDING SURFACE

Leo Fleuchaus, Munich, Germany, assignor to Messerschmitt AG., Augsburg, Germany, a company of Germany

Filed Apr. 27, 1961, Ser. No. 105,982
Claims priority, application Germany, June 2, 1960, M 45,519
7 Claims. (Cl. 343—108)



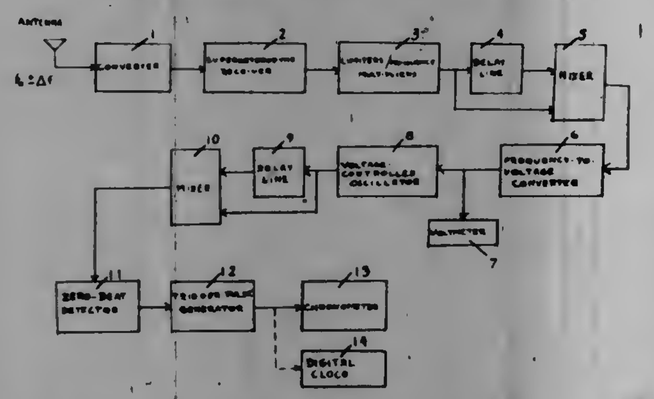
1. A navigational system adapted to guide aircraft, especially VTOL-aircraft, along a directrix to a landing area of very limited size, and to land said aircraft vertically, comprising a ground transmitting station and a receiving apparatus within the aircraft; said ground station comprising four antennas positioned as an array of two pairs of opposed antennas within the region of said landing area, means for radiating over each antenna a modulated electromagnetic high frequency carrier wave in such manner that each pair of opposed antennas produces, in reference to the modulation frequency of said carrier, a family of hyperbolic surfaces of equal transit time differences, with the transverse axes of said hyperbolic surfaces being directed substantially horizontally, said pairs of antennas being positioned in a generally square array whereby said hyperbolic surfaces of equal transit time differences respectively produced by said two pairs of opposed antennas intersect one another to form a plurality of three-dimensional curves of intersection of equal transit time differences passing substantially perpendicularly through the plane containing said landing area, said curves of intersection comprising directrices, and means within said receiving apparatus for selecting and tracking one of said directrices to provide a flight path curve thereby to control and guide the flight of said aircraft along an approach path extending substantially perpendicularly into said landing area.

3,195,136

TIME AND DISTANCE OF CLOSEST APPROACH DETECTOR OF MOVING OBJECT

Perry I. Klein, Bethesda, Md. (Moore School of Electrical Engineering, University of Pennsylvania, Philadelphia, Pa.)

Filed Sept. 20, 1962, Ser. No. 224,996
6 Claims. (Cl. 343—112)



5. A system, comprising means for receiving a frequency which changes as a function of time, means for converting the signal to produce an intermediate frequency, means for multiplying slopes along the received curve through frequency multiplication, means for delaying the signal by a small time interval, means for mixing the un-delayed portion of the signal with the delayed portion to obtain a frequency which varies as the first derivative of the original curve, combination of means to read the slope of the original curve as a function of time.

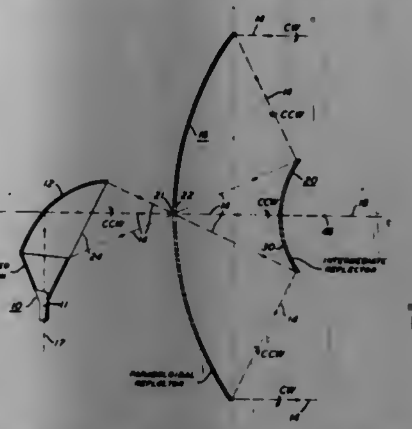
3,195,137

CASSEGRAINIAN ANTENNA WITH APERTURE BLOCKING CORRECTION

William C. Jakes, Jr., Middletown Township, Monmouth County, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 27, 1960, Ser. No. 78,364
8 Claims. (Cl. 343—756)

1. In an antenna system for radiating and receiving circularly-polarized signals, a paraboloidal reflector having a focus and a vertex, said paraboloid having a hole located at said vertex a horn reflector located behind said paraboloid, said horn reflector having an ellipsoidal reflecting surface with one focus near the apex of said horn reflector, and a second reflector facing said paraboloid and located to create a virtual source and collector of signals at said focus of said paraboloid, said second reflector reflecting without changing the direction of rotation circularly-polarized signals rotating in one direction and transmitting circularly-polarized signals rotating in the opposite direction, said horn reflector oriented to permit coupling of signals between it and said second reflector through said hole.

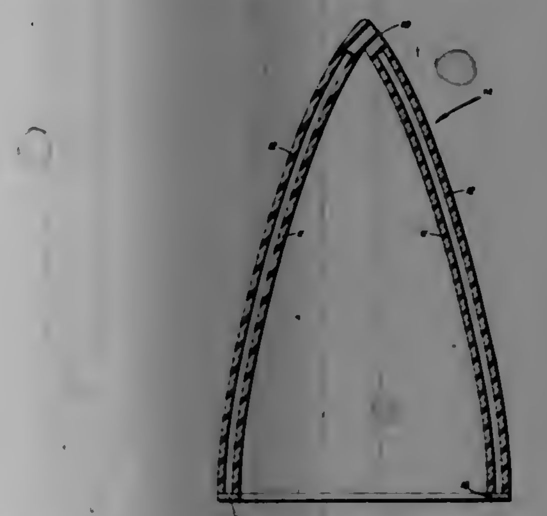


3,195,138

RADOME WITH PARTICULAR APEX AND WALL STRUCTURE

Emanuel A. Beck, Silver Spring, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Dec. 26, 1963, Ser. No. 333,776
4 Claims. (Cl. 343—872)



1. A projectile shaped radome comprising,
a solid apex portion,
a sidewall depending from said apex portion, said sidewall being formed of two wall sections arranged in a sandwich configuration, said sidewall having the same overall thickness as said apex portion, whereby the inner and outer surfaces of the radome are smooth.

3,195,139

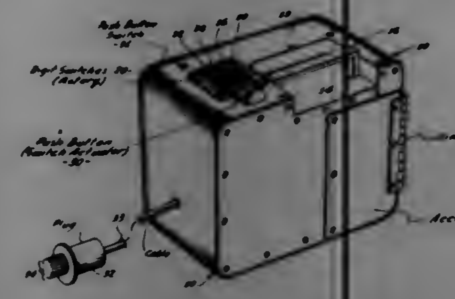
DATA RECORDING APPARATUS

R. T. Hood, Jr., 4705 W. 191st St., Torrance, Calif.

Filed Jan. 25, 1963, Ser. No. 253,955
6 Claims. (Cl. 346—33)

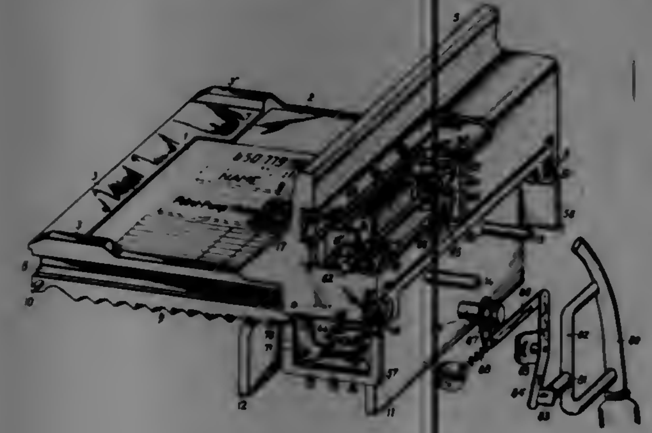
1. A portable recording apparatus including: a housing; drive means mounted in said housing for drawing a magnetic recording medium along a predetermined path; an electro-magnetic recording head mounted in said housing in position to be magnetically coupled to said magnetic recording medium; means for introducing binary-coded data to said electro-magnetic recording head to be recorded on said magnetic recording medium; switching means for causing said drive means to be activated; manually operated means for actuating said switching means

from a stand-by position to an activating position; means for returning said switching means to its stand-by position after a predetermined movement of said drive means; a synchronizing wheel rotatably mounted in said housing; means mechanically coupling said wheel to said drive means to cause said wheel to be driven by said drive means; and means coupled to said wheel for producing electrical pulses indicative of the angular movement of said wheel.



3,195,140
LOCKING ARRANGEMENT FOR PRINTING APPARATUS

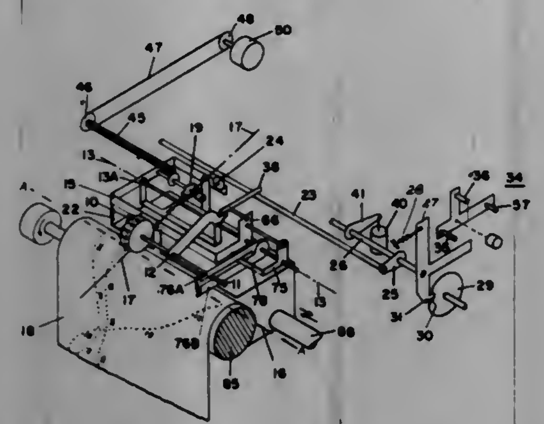
Eduard Schuh, Villingen, Black Forest, and Franz Strobel, Klengen, Germany, assignors to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Sept. 18, 1963, Ser. No. 309,797
Claims priority, application Germany Sept. 22, 1962
16 Claims. (Cl. 346—43)



1. In a printing apparatus for printing data related to a fluid dispensing operation, in combination, support means; a mechanism mounted on said support means and including number printing wheels having number printing positions; drive means for operating said mechanism to register by said number printing wheels data related to the amount of the fluid dispensed during a dispensing operation; aligning means having an aligning position for moving said number printing wheels to number printing positions; operating means for operating said aligning means to move to said aligning position at the end of a dispensing operation; carriage means mounted on said support for movement over said number printing wheels in a printing direction from a first end position to a second end position and in a return direction from said second end position to said first end position; impression means mounted on said carriage means for causing a printing operation by said number printing wheels during movement of said carriage means between said end positions; and locking means having a normal locking position for locking said carriage means in said first end position and being controlled and operated by said operating means to move to a releasing position to release said carriage means for movement in said printing direction when said aligning means is in said aligning position and has moved said number printing wheels to number printing positions.

3,195,141
MULTIPLE-POINT RECORDERS

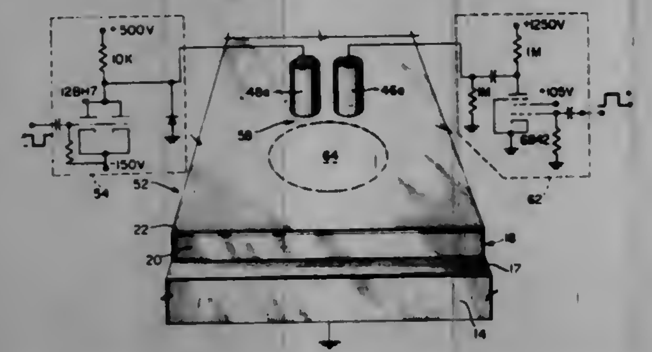
Robert N. Brown, Lansdale, Curtis R. A. Johnson, Flourtown, and Albert E. Paschkis, Gwynedd Valley, Pa., assignors to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed May 6, 1963, Ser. No. 277,995
20 Claims. (Cl. 346—61)



1. A multiple-point recorder comprising
a carriage linearly movable with respect to the printing line of a recorder chart,
a print wheel supported from said carriage for positioning of its axis of rotation both about a first pivotal axis and about a second pivotal axis, said print wheel having sets of markers angularly spaced about its periphery,
continuously rotating cam means periodically rocking the axis of rotation of said print wheel about said first pivotal axis to provide for engagement of the print wheel with said printing line of the chart,
means operative in synchronism with said cam means to rotate the print wheel about its axis of rotation to a new angular position in the interval between successive printings to present the sets of markers in succession to the chart, and
means for tilting the axis of rotation of the print wheel about said second pivotal axis to determine which marker or markers of the sets thereof engage the chart.

3,195,142
ELECTROGRAPHIC RECORDING PROCESS AND APPARATUS

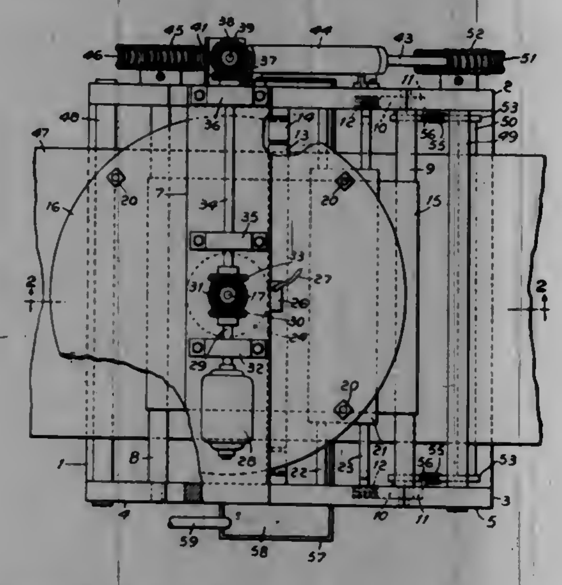
Robert E. Benn, Broomall, and Richard S. Sakurai, Wayne, Pa., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Apr. 21, 1958, Ser. No. 729,847
9 Claims. (Cl. 346—74)



1. In combination: an electrographic recording printing head having a print face, a print electrode having an end substantially at said print face; an initiating electrode having an end substantially at said print face, the ends of said initiating and print electrodes being closely spaced and separated by electrical insulating means, a back electrode having a support face; means mounting said back electrode so that the support face is substantially uniformly spaced from the print face of the print head; means for establishing a voltage difference between the print electrode and the back electrode, the magnitude of said voltage being less than that necessary to introduce charged particles into the space between print electrode and the back electrode by the field effect, and means for establishing a potential difference between the initiating electrode and print electrode to cause a very short disruptive electrical discharge to occur between the initiating electrode and the printing electrode.

3,195,143
MAGNETIC DUPLICATING DEVICE

Claude E. Jones, Jr., West Caldwell, N.J., assignor to International Telephone and Telegraph Corporation, Nutley, N.J., a corporation of Maryland
Filed Dec. 13, 1962, Ser. No. 244,303
6 Claims. (Cl. 346—74)

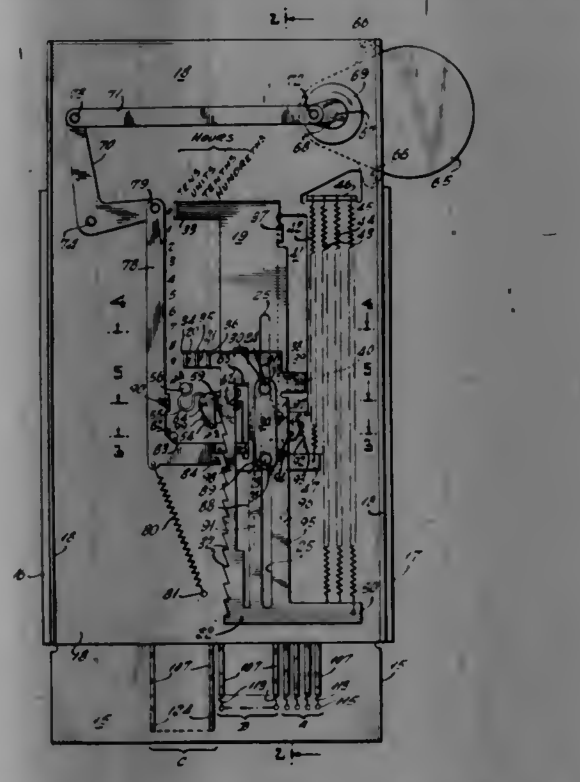


1. A printing apparatus comprising a thin sheet of magnetizable material, means for recording intelligence magnetically on said sheet whereby elemental areas of said sheet are magnetized, a record blank on which the intelligence is to be printed, means for bringing said magnetizable sheet into contact with said record blank, a magnetic ink containing finely divided magnetic particles, means for applying said ink to the opposite side of said record blank from said magnetizable sheet whereby magnetic particles in said ink will be attracted to said record blank at areas corresponding to magnetized elemental areas of said magnetizable sheet, and means for causing said magnetic particles to adhere to said record blank, said magnetizable sheet being in the form of an endless belt, said means for recording intelligence magnetically on said sheet comprising at least one recording head and means for causing said recording head to scan repeatedly across the width of said magnetizable sheet to record intelligence in successive substantially parallel lines across said magnetizable sheet, said record blank having an adhesive surface against which said ink is applied on successive areas of said record blank, and said means for causing said magnetic particles to adhere to said record blank comprising means for pressing said particles into the material of said record blank.

3,195,144
TIME OF DAY TAB CARD PUNCH MECHANISM

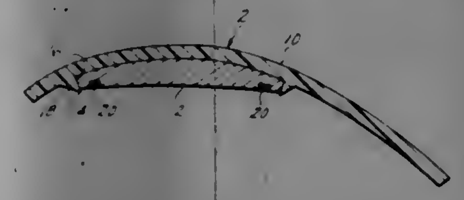
Nathaniel B. Wales, Jr., Sharon, Conn., assignor to Business Research and Engineering Corporation, Ardmore, Pa., a corporation of Delaware
Filed Oct. 30, 1963, Ser. No. 320,010
3 Claims. (Cl. 346—82)

1. A digital clock comprising: a chassis; a synchronous electric motor secured to said chassis; a first plurality of ratchet plates slideably secured to said chassis for parallel motion relative thereto and arranged in a consecutive series of digital orders; a second plurality of drive pawl members corresponding to said first plurality of ratchet plates and proximate thereto; a plurality of ratchet teeth secured to each of said ratchet plates; drive means actuated by said synchronous motor to simultaneously reciprocate said drive pawl members in a direction parallel to said parallel ratchet plate motion; a third plurality of holding pawls each pivotally secured to said chassis and each adapted to engage the said ratchet teeth of one of said ratchet plates; first spring means to urge each of said holding pawls into engagement with its ratchet plate teeth; means to disable said first spring means for each of said holding pawls; second spring means to urge each of said ratchet plates in a common direction toward a home position; third spring means to urge each of said drive pawl members into engagement with its corresponding said ratchet teeth; cam means to disengage each of said drive pawl members from engagement with its ratchet teeth at the beginning of each reciprocation drive stroke; means responsive to the position of the next lower order said ratchet plate to disable the engagement of each said drive pawl member with its corresponding said ratchet plate teeth; and means responsive to the position of each of said ratchet plates to actuate the corresponding said first spring disabling means.



3,195,145
SPECTACLE LENS SYSTEM HAVING PROTECTIVE MAJOR LENS AND DETACHABLE POSTERIOR CORRECTIVE LENS

Paul W. Tisher and Harry Kramer, New Britain, Conn., assignors, by mesne assignments, to Dr. William Smith, Los Angeles, Calif., and Younger Manufacturing Co., Los Angeles, Calif., a corporation of California
Filed June 10, 1964, Ser. No. 375,972
10 Claims. (Cl. 351—159)



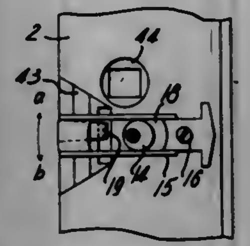
1. A corrective lens system comprising a transparent protective lens of major dimension fabricated of synthetic plastic material, said protective lens having a body portion dimensioned to overlie the orbital region and being substantially curvilinear in cross section with a concave

posterior surface, said protective lens having an annular lip portion on the posterior surface of said body portion and integral therewith, said lip portion being spaced inwardly from the periphery of said body portion and projecting posteriorly therefrom; and a corrective lens releasably mounted within said lip portion, said lip portion providing a seal about the periphery of said corrective lens and the underlying surface of the body portion to prevent contamination and soiling of the opposed surfaces thereof, said body portion of said protective lens being continuous and extending across the annular lip portion and the anterior surface of said corrective lens.

3,195,146
INTERMITTENT FILM-FEEDING MEANS FOR MOTION PICTURE CAMERAS

Mutsumi Misawa, Tokyo, Japan, assignor to Seiko Denki Kogyo Kabushiki Kaisha, Tokyo, Japan
Original application Oct. 24, 1960, Ser. No. 64,601. Divided and this application Nov. 13, 1962, Ser. No. 236,839
1 Claim. (Cl. 352—196)

In a motion picture camera, in combination, an elongated channel member having a pair of parallel side walls and a third wall interconnecting said parallel side walls, said elongated channel member forming a claw of the camera; rotary eccentric cam means located between and engaging said side walls of said elongated channel member; pivot means operatively connected to said elongated channel member adjacent one end portion thereof to support the latter for turning movement about a given axis, whereby during rotation of said eccentric cam means while the latter engages said pair of side walls said elongated channel member will be oscillated about the pivot axis provided by said pivot means; and tooth means carried by said elongated channel member at an end portion thereof distant from said pivot means, said tooth means being adapted to cooperate with a film strip to intermittently advance the latter, said third wall of said elongated channel member being formed with a cutout for accommodating said cam means, said tooth means being in the form of an elongated extension of said third wall of said channel member curved backwardly upon itself and terminating in a tooth which extends away from said third wall of said channel member.

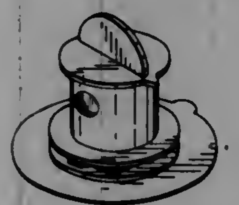


DESIGNS

JULY 13, 1965

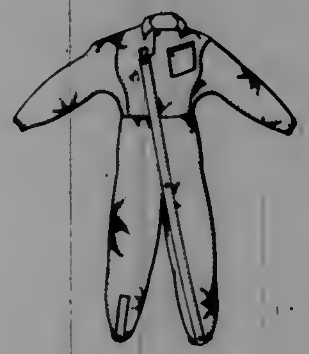
201,610
TAP

Roy Symonds, Croydon, Surrey, and Percy Beauchamp, Ewell, Surrey, England, assignors to Waddington & Duval (Holdings) Limited, London, England, a British company
Filed Aug. 3, 1964, Ser. No. 81,134
Claims priority, application Great Britain Feb. 14. 1964
Term of patent 14 years
(Cl. D2—3)



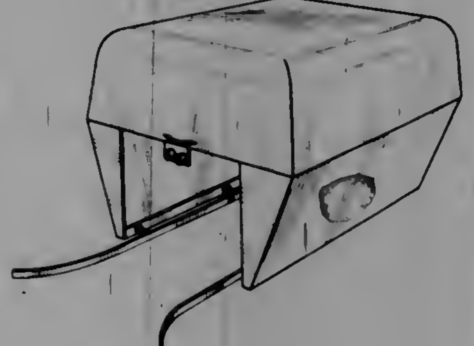
201,611
COVERALL

Clarence Lapedes, Dayton, Ohio, assignor to Lion Uniform, Inc., Dayton, Ohio, a corporation of Ohio
Filed Apr. 9, 1964, Ser. No. 79,422
Term of patent 14 years
(Cl. D3—17)



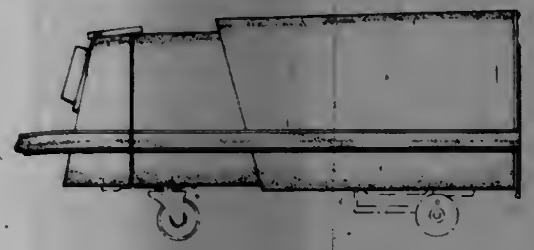
201,612
SPRAY CABINET FOR DISINFECTING BEVERAGE CASES

Eugene P. Reagan, 3848 Blaisdell Ave., Minneapolis, Minn.; Eileen Reagan, special administratrix of said Eugene P. Reagan, deceased
Filed Aug. 26, 1963, Ser. No. 76,351
Term of patent 14 years
(Cl. D9—2)



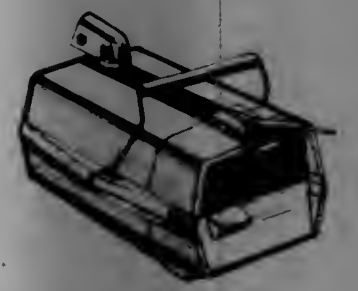
201,613
CANISTER VACUUM CLEANER OR THE LIKE

George H. Frost, Ashland, and Robert S. Waters, Lexington, Ohio, assignors to Westinghouse Electric Corporation, a corporation of Pennsylvania
Filed Mar. 23, 1964, Ser. No. 79,120
Term of patent 14 years
(Cl. D9—2)



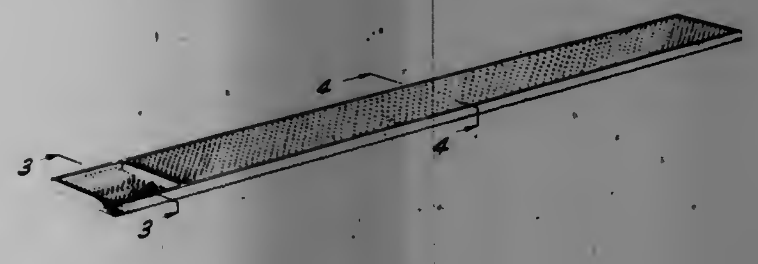
201,614
VACUUM CLEANER

Klaas Tienen Oord, The Hague, Netherlands, assignor to Verenigde Stofzuigerfabrieken N.V., Leeuwarden, Netherlands, a corporation of the Netherlands
Filed July 29, 1964, Ser. No. 81,055
Term of patent 14 years
(Cl. D9—2)



201,615
COCKTAIL BAR DISPENSING MAT

Charles P. Titherley, 558 Parkhill St., Colusa, Calif.
Filed Nov. 29, 1963, Ser. No. 77,603
Term of patent 14 years
(Cl. D9—6)



201,616

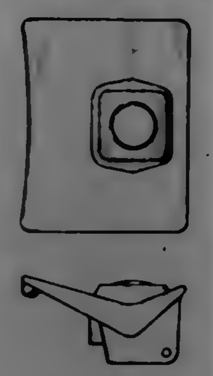
LATCH HANDLE

John J. Hughes, Jr., Milwaukee, Wis., assignor to E. R. Wagner Manufacturing Company, Milwaukee, Wis., a corporation of Wisconsin

Filed Feb. 18, 1963, Ser. No. 73,602

Term of patent 14 years

(Cl. D10—8)



201,617

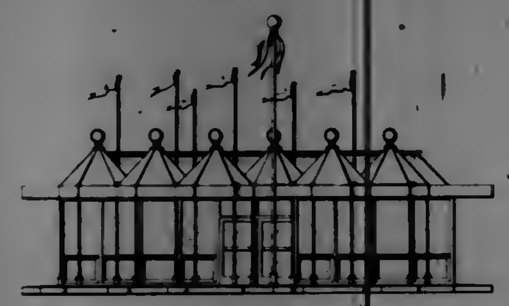
BUILDING

Charles P. Reay, St. Louis, Mo., assignor to Wydown Investment Corporation, St. Louis, Mo., a corporation of Missouri

Filed Oct. 29, 1964, Ser. No. 82,378

Term of patent 14 years

(Cl. D13—1)



201,618

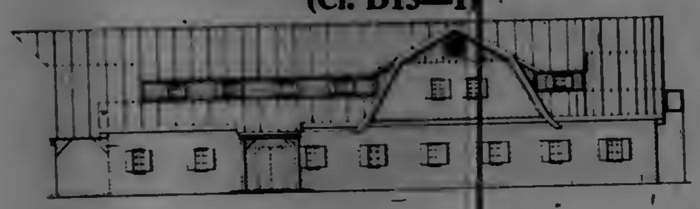
BUILDING

Howard D. Wolfe, P.O. Box 4596, Richmond, Va.

Filed Nov. 25, 1964, Ser. No. 82,779

Term of patent 14 years

(Cl. D13—1)



201,619

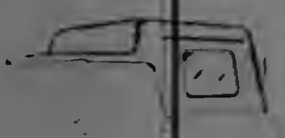
TRUCK BED CANOPY

Alfred F. Easter, 13045 26th NE., Seattle, Wash.

Filed Oct. 29, 1964, Ser. No. 82,372

Term of patent 14 years

(Cl. D14—27)



201,620

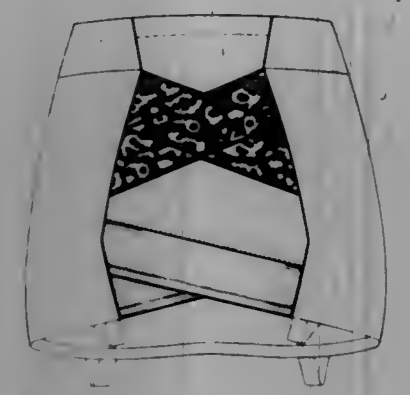
GIRDLE

Carl R. Glines, Dover, Del., assignor to Sarong, Inc., Dover, Del., a corporation of Delaware

Filed May 17, 1963, Ser. No. 74,936

Term of patent 14 years

(Cl. D20—2)



201,621

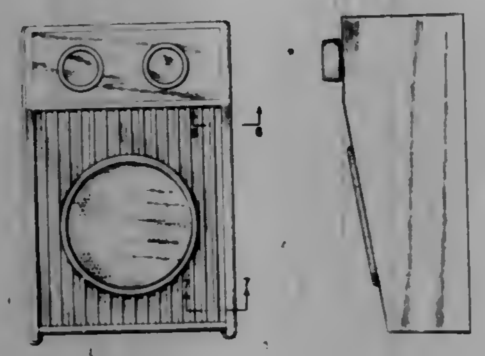
COMBINED TUNING CONTROL AND SPEAKER

Robert D. Kahn, Hewlett Harbor, N.Y., assignor to Fedtro, Inc., Rockville Centre, N.Y.

Filed May 11, 1964, Ser. No. 79,932

Term of patent 14 years

(Cl. D26—13)



201,622

SWITCH KNOB

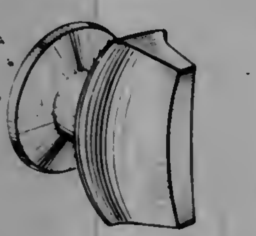
Melvin Boldt, Chicago, Ill., assignor to Moffats, Limited, Weston, Ontario, Canada, a corporation of Ontario, Canada

Filed Dec. 7, 1964, Ser. No. 82,936

Claims priority, application Canada Oct. 22, 1964

Term of patent 7 years

(Cl. D26—13)



201,623

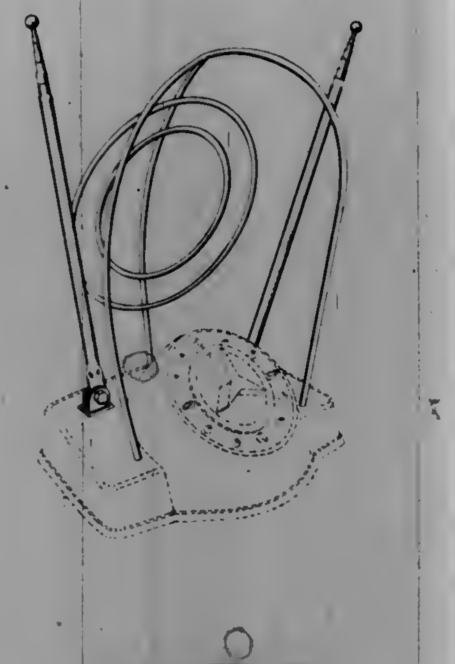
TELEVISION ANTENNA FOR INDOOR USE

Marvin P. Middlemark, 99—05 63rd Drive, Rego Park, New York 74, N.Y.

Filed June 16, 1964, Ser. No. 80,429

Term of patent 14 years

(Cl. D26—14)



201,624

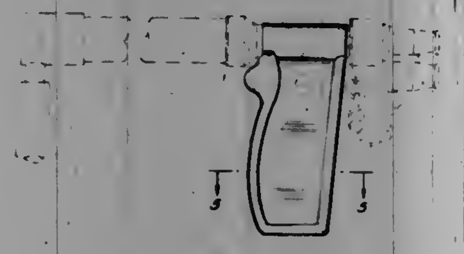
SPRAYER PUMP HANDLE OR SIMILAR ARTICLE

August Herman Pinke and Walter Eugene Petersen, Hastings, Minn., assignors to H. D. Hudson Manufacturing Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 29, 1963, Ser. No. 77,187

Term of patent 14 years

(Cl. D31—3)



201,625

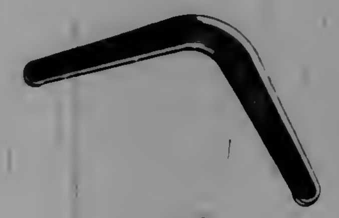
BOOMERANG

Arnold H. Marler, 8 Wendell Ave., Weston, Ontario, Canada

Filed May 19, 1964, Ser. No. 80,064

Term of patent 14 years

(Cl. D34—15)



201,626

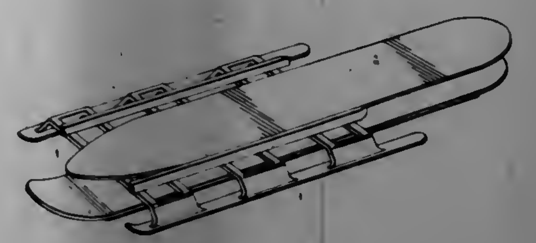
SNOW SLED

Jimmy A. Gust, 3231 Santa Fe Ave., Long Beach, Calif.

Filed Apr. 2, 1965, Ser. No. 84,577

Term of patent 14 years

(Cl. D34—15)



201,627

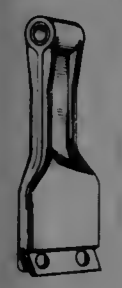
FLAIL FOR MATERIAL SPREADERS

Jacob Henry Lepp, 16 Cherry Drive, Grimsby, Ontario, Canada, and Edward Kuta, 117 Wise Crescent, Hamilton, Ontario, Canada

Filed Sept. 28, 1964, Ser. No. 81,899

Term of patent 14 years

(Cl. D35—2)



201,628

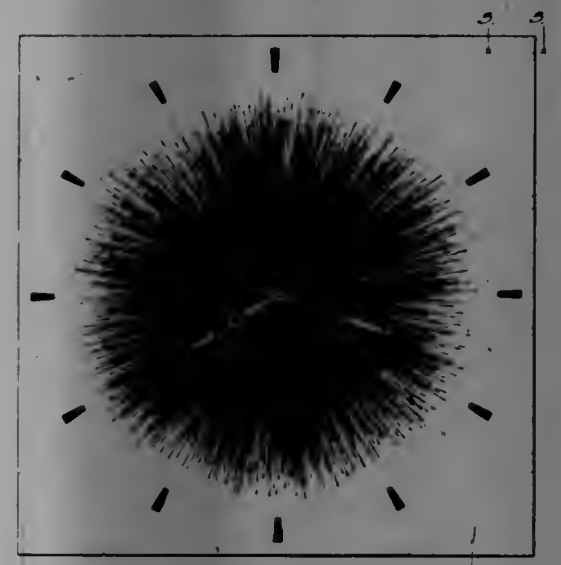
CLOCK

Charles A. McLeod, Oak Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Dec. 29, 1964, Ser. No. 83,209

Term of patent 14 years

(Cl. D42—7)



201,629

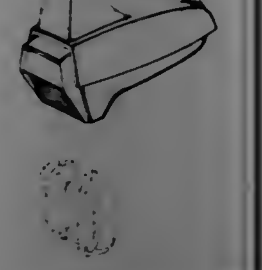
MIXER

Alfred W. Madl, Mequon, Wis., assignor to John Oster Manufacturing Co., Milwaukee, Wis., a corporation of Wisconsin

Filed Jan. 7, 1965, Ser. No. 83,323

Term of patent 14 years

(Cl. D44—1)



201,630

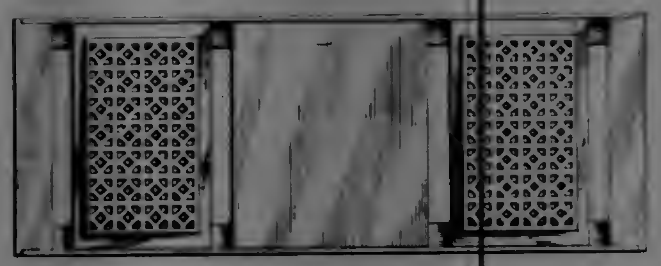
TRIVET TRAY

William B. MacKrell, Mendota Heights, Minn., assignor to Standard Packaging Corporation, New York, N.Y., a corporation of Virginia

Filed Oct. 26, 1964, Ser. No. 82,369

Term of patent 14 years

(Cl. D44—10)



201,631

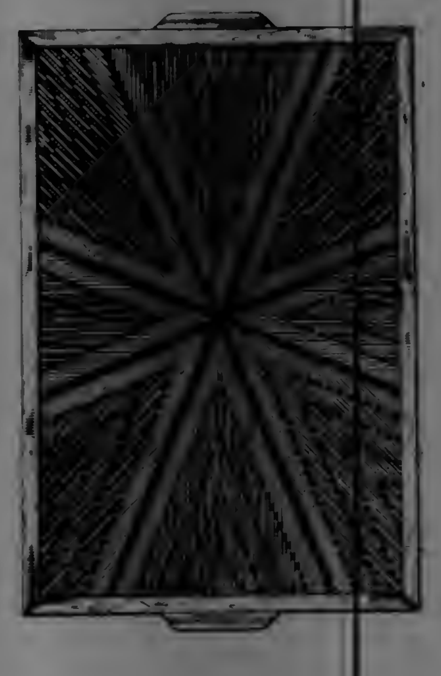
TRAY OR THE LIKE

Esther M. Quarltere, 67 N. Howells Point Road, Bellport, N.Y.

Filed Dec. 16, 1964, Ser. No. 83,059

Term of patent 14 years

(Cl. D44—10)



201,632

COVERED PITCHER OR THE LIKE

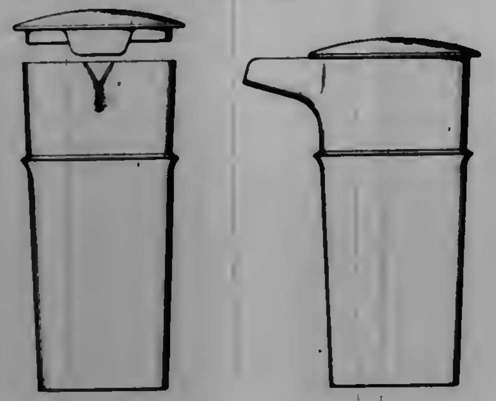
Tapio Wirkkala, Maamonlahdentie, Lauttasaari, Finland, assignor to Rosenthal-Porzellan Aktiengesellschaft, Selb, Bavaria, Germany, a corporation of Germany

Filed June 22, 1964, Ser. No. 80,515

Claims priority, application Germany Jan. 22, 1964

Term of patent 14 years

(Cl. D44—21)



201,633

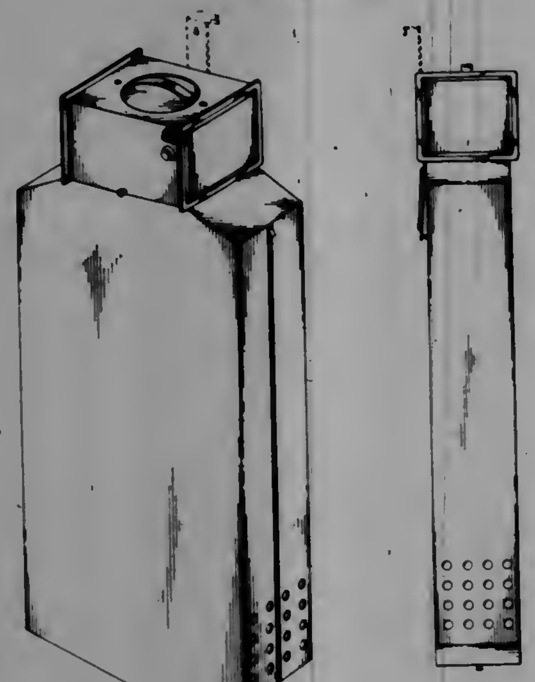
CLOTHES DRIER

Robert E. Little, % Arvin Industries, Inc., Columbus, Ind.

Filed Sept. 29, 1964, Ser. No. 81,930

Term of patent 14 years

(Cl. D49—1)



201,634

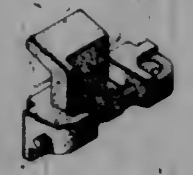
PUSHBUTTON LOCKING DEVICE

Charles C. Davis and Raymond L. Erickson, Brookfield, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed Aug. 4, 1964, Ser. No. 81,162

Term of patent 14 years

(Cl. D50—5)



201,635

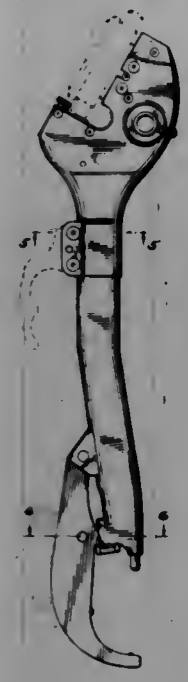
GRINDING GAUGE

James C. Fisk, G-3219 E. Bristol Road, Flint, Mich.

Filed Apr. 13, 1964, Ser. No. 79,473

Term of patent 14 years

(Cl. D52—6)



201,636

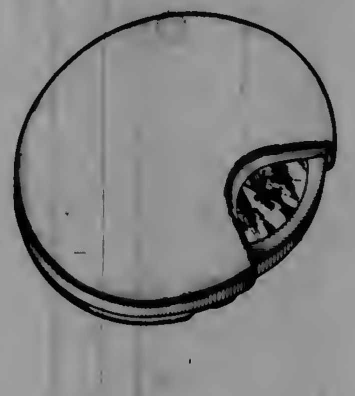
BATHROOM SCALE

Nolan K. Rhoades, Beloit, Wis., assignor to The Brearley Company, Rockford, Ill., a corporation of Illinois

Filed May 25, 1964, Ser. No. 80,113

Term of patent 14 years

(Cl. D52—10)



201,637

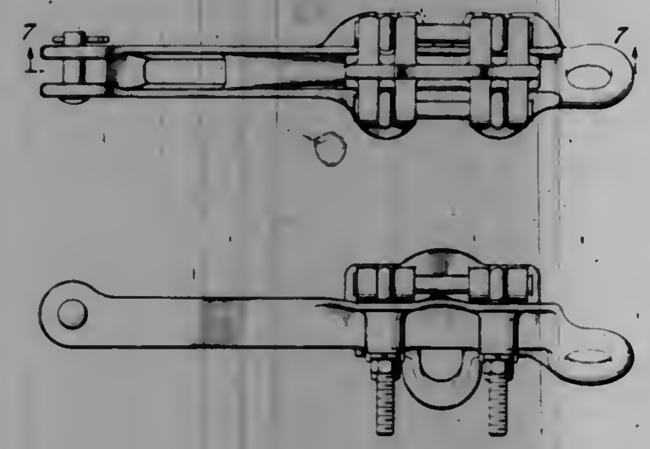
CABLE CLAMP

L. E. Lindsey, 222 Vista Ave., Pasadena, Calif.

Filed Nov. 10, 1964, Ser. No. 82,545

Term of patent 14 years

(Cl. D54—1)



201,638

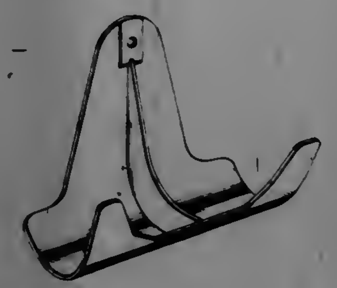
HANGER BRACKET FOR GUITARS AND THE LIKE

Herbert L. Fenburr and Edward Baier, Columbus, Ohio, assignors to Reed-O-Matic, Inc., Columbus, Ohio, a corporation of Ohio

Filed Dec. 8, 1964, Ser. No. 82,954

Term of patent 14 years

(Cl. D54—1)



201,639

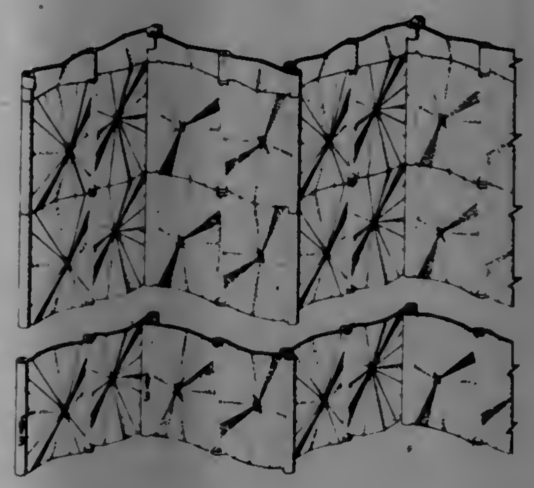
PLASTIC DRAPERY

Bernard J. Sadoff, Jr., 11801 Paso Robles Ave., Granada Hills, Calif., and Gerald D. Appel, 17813 Malden, Northridge, Calif.

Filed Feb. 11, 1964, Ser. No. 78,816

Term of patent 14 years

(Cl. D54—2)



201,640

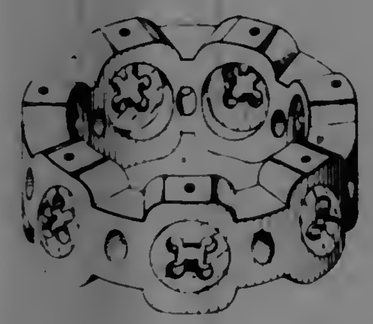
RING DIE STOCK

Sam D. Wallace, 4792 E. San Gabriel, Fresno, Calif.

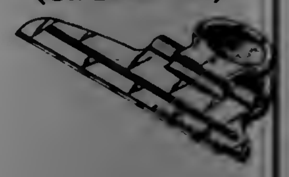
Filed Nov. 19, 1964, Ser. No. 82,694

Term of patent 14 years

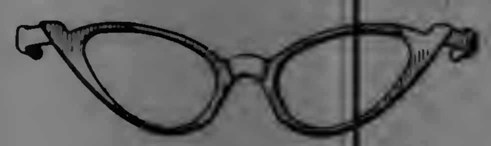
(Cl. D54—4)



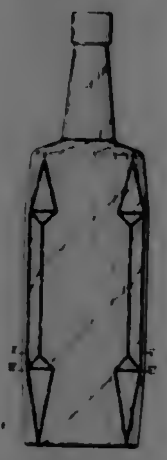
201,641
ARROW FLETCHING CLAMP
Henry A. Bitzenburger, 8920 Arrington Ave., Downey, Calif.
Filed Mar. 31, 1964, Ser. No. 79,287
Term of patent 14 years
(Cl. D54—13)



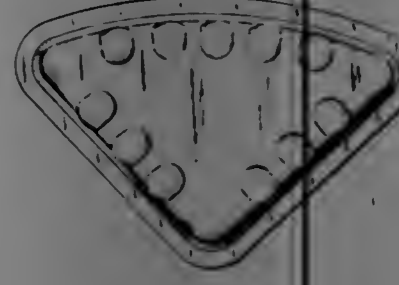
201,642
EYEGLASS FRAME OR SIMILAR ARTICLE
Alexander Kono, Woodside, N.Y., assignor to Kono Manufacturing Co. Inc., Woodside, N.Y., a corporation of New York
Filed Aug. 3, 1964, Ser. No. 81,124
Term of patent 14 years
The portion of the term of the patent subsequent to Feb. 9, 1979, has been disclaimed
(Cl. D57—1)



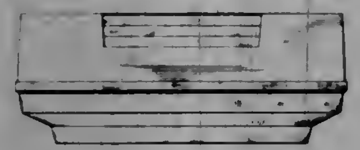
201,643
BOTTLE
Robert Stuart Lang, Glasgow, Scotland, assignor to Lang Brothers Limited
Filed Oct. 9, 1964, Ser. No. 82,119
Claims priority, application Great Britain Apr. 23, 1964
Term of patent 14 years
(Cl. D58—6)



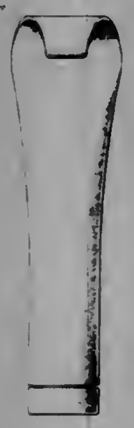
201,644
PACKAGING CONTAINER
Robert L. Cave, Manhattan, Kans., assignor to Buckeye Bait Corporation, Council Grove, Kans., a corporation of Ohio
Filed July 29, 1963, Ser. No. 76,001
Term of patent 14 years
(Cl. D58—12)



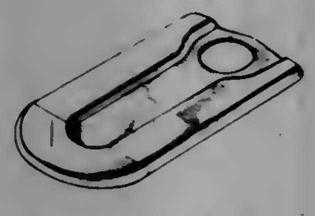
201,645
DISPLAY BOX
Samuel Braun, Rye, N.Y., assignor to B.C.N. Design Products, Inc., Amityville, N.Y., a corporation of New York
Filed Jan. 6, 1965, Ser. No. 83,292
Term of patent 14 years
(Cl. D58—12.7)



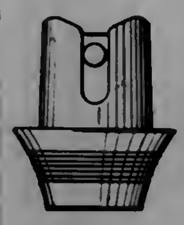
201,646
COLLAPSIBLE TUBE OR THE LIKE
Gordon K. Woodard, 14155 Magnolia Blvd., Apt. 354, Van Nuys, Calif.
Filed Mar. 16, 1964, Ser. No. 79,020
Term of patent 14 years
(Cl. D58—17)



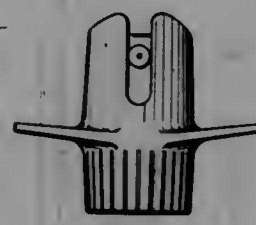
201,647
PULL TAB FOR A CONTAINER OR THE LIKE
John S. Bozek, Chicago, and Justin Simpson, Elmhurst, Ill., assignors to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Dec. 3, 1963, Ser. No. 77,650
Term of patent 14 years
(Cl. D58—26)



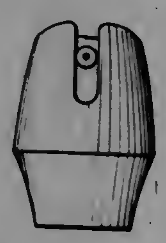
201,648
DISPENSING CAP
Douglas Long, New York, N.Y., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed Aug. 18, 1964, Ser. No. 81,338
Term of patent 14 years
(Cl. D58—26)



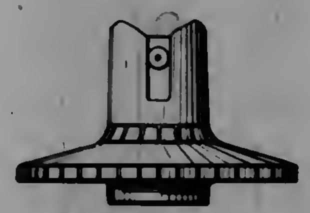
201,649
DISPENSING CAP
Douglas Long, New York, N.Y., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed Aug. 18, 1964, Ser. No. 81,347
Term of patent 14 years
(Cl. D58—26)



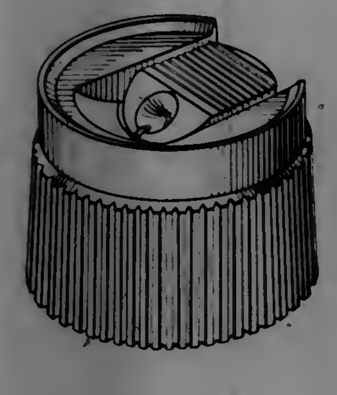
201,650
DISPENSING CAP
Douglas Long, New York, N.Y., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed Aug. 18, 1964, Ser. No. 81,348
Term of patent 14 years
(Cl. D58—26)



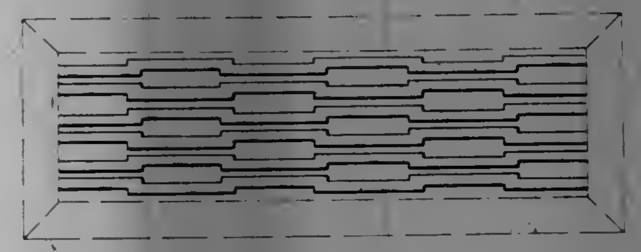
201,651
DISPENSING CAP
Douglas Long, New York, N.Y., assignor to Valve Corporation of America, Bridgeport, Conn., a corporation of Delaware
Filed Aug. 18, 1964, Ser. No. 81,349
Term of patent 14 years
(Cl. D58—26)



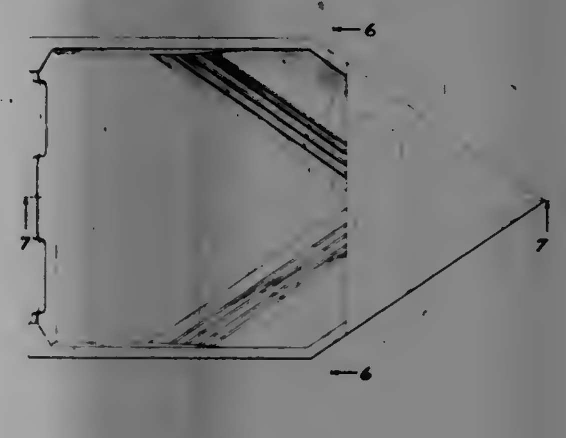
201,652
DISPENSER CAP
Robert Podall, Chicago, Ill., assignor to Aerosol Research Company, a corporation of Illinois
Filed Aug. 20, 1964, Ser. No. 81,381
Term of patent 14 years
(Cl. D58—26)



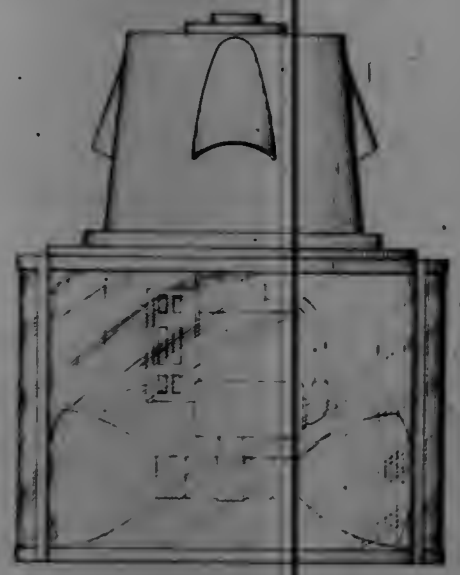
201,653
DIFFUSER GRILLE
Ernest Hjalmar Person, New Britain, Conn., assignor to Allied Thermal Corporation, New Britain, Conn., a corporation of Connecticut
Filed Dec. 13, 1963, Ser. No. 77,788
Term of patent 14 years
(Cl. D62—4)



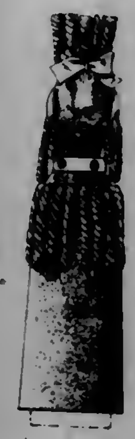
201,654
BOAT HULL
Rogenald J. Keller, Casco Point, Rte. 1, Wayzata, Minn.
Filed May 4, 1964, Ser. No. 79,803
Term of patent 14 years
(Cl. D71—1)



201,655
COMBINED WARNING LIGHT AND SIREN
Jefferson C. Gibson, 217 E. Cullerton Ave., Chicago, Ill.
Filed Aug. 19, 1963, Ser. No. 76,265
Term of patent 14 years
(Cl. D72—1)



201,656
LIPSTICK HOLDER
Irene M. Abess, Box 675, South Miami, Fla.
Filed Sept. 30, 1964, Ser. No. 81,948
Term of patent 7 years
(Cl. D86—10)



LIST OF PLANT PATENTEES
TO WHOM
PATENTS WERE ISSUED ON THE 13TH DAY OF JULY, 1965

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Szerszen, Charles. Oregon grape holly shrub. 2,544, 7–13–65, Cl. 54.

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- Abess, Irene M. Lipstick holder. 201,656, 7–13–65, Cl. D86–10.
- Aerosol Research Co.: *See*—
  - Podall, Robert. 201,652.
- Allied Thermal Corp.: *See*—
  - Person, Ernest H. 201,653.
- Appel, Gerald D.: *See*—
  - Sadoff, Bernard J., Jr., and Appel. 201,639.
- B.C.N. Design Products Inc.: *See*—
  - Braun, Samuel. 201,645.
- Baier, Edward: *See*—
  - Fenburr, Herbert L., and Baier. 201,638.
- Beauchamp, Percy: *See*—
  - Symonds, Roy, and Beauchamp. 201,610.
- Bitzenburger, Henry A. Arrow fletching clamp. 201,641, 7–13–65, Cl. D54—13.
- Boldt, Melvin, to Moffats Ltd. Switch knob. 201,622, 7–13–65, Cl. D26—13.
- Bozek, John S., and J. Simpson, to Continental Can Co., Inc. Pull tab for a container or the like. 201,647, 7–13–65, Cl. D58—26.
- Braun, Samuel, to B.C.N. Design Products Inc. Display box. 201,645, 7–13–65, Cl. D58—12.7.
- Brearley Co., The: *See*—
  - Rhoades, Nolan K. 201,636.
- Buckeye Bait Corp.: *See*—
  - Cave, Robert L. 201,644.
- Cave, Robert L., to Buckeye Bait Corp. Packaging container. 201,644, 7–13–65, Cl. D58—12.
- Continental Can Co., Inc.: *See*—
  - Bozek, John S., and Simpson. 201,647.
- Cutler-Hammer, Inc.: *See*—
  - Davis, Charles C., and Erickson. 201,634.
- Davis, Charles C., and R. L. Erickson, to Cutler-Hammer, Inc. Pushbutton locking device. 201,634, 7–13–65, Cl. D50—5.
- Easter, Alfred F. Truck bed canopy. 201,619, 7–13–65, Cl. D14—27.
- Erickson, Raymond L.: *See*—
  - Davis, Charles C., and Erickson. 201,634.
- Fedtro, Inc.: *See*—
  - Kahn, Robert D. 201,621.
- Fenburr, Herbert L., and E. Baier, to Reed-O-Matic, Inc. Hanger bracket for guitars and the like. 201,638, 7–13–65, Cl. D54—1.
- Fisk, James C. Grinding gauge. 201,635, 7–13–65, Cl. D52—6.
- Frost, George H., and R. S. Waters, to Westinghouse Electric Corp. Canister vacuum cleaner or the like. 201,613, 7–13–65, Cl. D9—2.
- Gibson, Jefferson C. Combined warning light and siren. 201,655, 7–13–65, Cl. D72—1.
- Glines, Carl R., to Sarong, Inc. Girdle. 201,620, 7–13–65, Cl. D20—2.
- Gust, Jimmy A. Snow sled. 201,626, 7–13–65, Cl. D34—15.
- Hudson, H. D., Mfg. Co.: *See*—
  - Pinke, August H., and Petersen. 201,624.
- Hughes, John J., Jr., to E. R. Wagner Mfg. Co. Latch handle. 201,616, 7–13–65, Cl. D10—8.
- Kahn, Robert D., to Fedtro, Inc. Combined tuning control and speaker. 201,621, 7–13–65, Cl. D26—13.
- Keller, Rogenald J. Boat hull. 201,654, 7–13–65, Cl. D71—1.
- Kono, Alexander, to Kono Mfg. Co., Inc. Eyeglass frame or similar article. 201,642, 7–13–65, Cl. D57—2.
- Kono Mfg. Co., Inc.: *See*—
  - Kono, Alexander. 201,642.
- Kuta, Edward: *See*—
  - Lepp, Jacob H., and Kuta. 201,627.
- Lang Bros. Ltd.: *See*
  - Lang, Robert S. 201,643.
- Lang, Robert S., to Lang Bros. Ltd. Bottle. 201,643, 7–13–65, Cl. D58—6.
- Lapedes, Clarence, to Lion Uniform, Inc. Coverall. 201,611, 7–13–65, Cl. D3—17.
- Lepp, Jacob H., and E. Kuta. Flail for material spreaders. 201,627, 7–13–65, Cl. D35—2.
- Lindsey, L. E. Cable clamp. 201,637, 7–13–65, Cl. D54—1.
- Lion Uniform, Inc.: *See*—
  - Lapedes, Clarence. 201,611.
- Little, Robert E. Clothes drier. 201,633, 7–13–65, Cl. D49—1.
- Long, Douglas, to Valve Corp. of America. Dispensing cap. 201,648, 7–13–65, Cl. D58—26.
- Long, Douglas, to Valve Corp. of America. Dispensing cap. 201,649, 7–13–65, Cl. D58—26.
- Long, Douglas, to Valve Corp. of America. Dispensing cap. 201,650, 7–13–65, Cl. D58—26.
- Long, Douglas, to Valve Corp. of America. Dispensing cap. 201,651, 7–13–65, Cl. D58—26.
- MacKrell, William B., to Standard Packaging Corp. Trivet tray. 201,630, 7–13–65, Cl. D44—10.
- Madl, Alfred W., to John Oster Mfg. Co. Mixer. 201,629, 7–13–65, Cl. D44—1.
- Marler, Arnold H. Boomerang. 201,625, 7–13–65, Cl. D34—15.
- McLeod, Charles A., to Sunbeam Corp. Clock. 201,628, 7–13–65, Cl. D42—7.
- Middlemark, Marvin P. Television antenna for indoor use. 201,623, 7–13–65, Cl. D26—14.
- Moffats Ltd.: *See*—
  - Boldt, Melvin. 201,622.
- Oord, Klaas T., to Verenigde Stofzuigerfabrieken N. V. Vacuum cleaner. 201,614, 7–13–65, Cl. D9—2.
- Oster, John, Mfg. Co.: *See*—
  - Madl, Alfred W. 201,629.
- Person, Ernest H., to Allied Thermal Corp. Diffuser grille. 201,653, 7–13–65, Cl. D62—4.
- Petersen, Walter E.: *See*—
  - Pinke, August H., and Petersen. 201,624.
- Pinke, August H., and W. E. Petersen, to H. D. Hudson Mfg. Co. Sprayer pump handle or similar article. 201,624, 7–13–65, Cl. D31—3.
- Podall, Robert, to Aerosol Research Co. Dispenser cap. 201,652, 7–13–65, Cl. D58—26.
- Quarltere, Ester M. Tray or the like. 201,631, 7–13–65, Cl. D44—10.
- Reagan, Eileen: *See*—
  - Reagan, Eugene P. 201,612.
- Reagan, Eugene P., deceased, by E. Reagan, special administratrix of said E. Reagan. Spray cabinet for disinfecting beverage cases. 201,612, 7–13–65, Cl. D9—2.
- Reay, Charles P. Building. 201,617, 7–13–65, Cl. D13—1.
- Reed-O-Matic, Inc.: *See*—
  - Fenburr, Herbert L., and Baier. 201,638.
- Rhoades, Nolan K., to The Brearley Co. Bathroom scale. 201,636, 7–13–65, Cl. D52—10.
- Rosenthal-Porzellan Aktiengesellschaft: *See*—
  - Wirkkala, Tapio. 201,632.
- Sadoff, Bernard J., Jr., and G. D. Appel. Plastic drapery. 201,639, 7–13–65, Cl. D54—2.
- Sarong, Inc.: *See*—
  - Glines, Carl R. 201,620.
- Simpson, Justian: *See*—
  - Bozek, John S., and Simpson. 201,647.
- Standard Packaging Corp.: *See*—
  - MacKrell, William B. 201,630.
- Sunbeam Corp.: *See*—
  - McLeod, Charles A. 201,628.
- Symonds, Roy, and P. Beauchamp, to Waddington & Duval (Holdings) Ltd. Tap. 201,610, 7–13–65, Cl. D2—3.
- Titherley, Charles P. Cocktail bar dispensing mat. 201,615, 7–13–65, Cl. D9—6.
- Valve Corp. of America: *See*—
  - Long, Douglas. 201,648.
  - Long, Douglas. 201,649.
  - Long, Douglas. 201,650.
  - Long, Douglas. 201,651.
- Verenigde Stofzuigerfabrieken N. V.: *See*—
  - Oord, Klaas T. 201,614.
- Waddington & Duval (Holdings) Ltd.: *See*—
  - Symonds, Roy, and Beauchamp. 201,610.
- Wagner, E. R., Mfg. Co.: *See*—
  - Hughes, John J., Jr. 201,616.
- Wallace, Sam D. Ring die stock. 201,640, 7–13–65, Cl. D54—4.
- Waters, Robert S.: *See*—
  - Frost, George H., and Waters. 201,613.
- Westinghouse Electric Corp.: *See*—
  - Frost, George H., and Waters. 201,613.
- Wirkkala, Tapio, to Rosenthal-Porzellan Aktiengesellschaft. Covered pitcher or the like. 201,632, 7–13–65, Cl. D44—21.
- Wolfe, Howard D. Building. 201,618, 7–13–65, Cl. D13—1.
- Woodard, Gordon K. Collapsible tube or the like. 201,646, 7–13–65, Cl. D58—17.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 13TH DAY OF JULY, 1965

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- ACF Industries, Inc.: *See*—
  - Eisenberg, Robert M. 3,194,86[illegible].
  - Kemp, Willard E., and Barbier. 3,194,420.
- AMP Inc.: *See*—
  - Collier, John C. 3,194,877.
  - Engelbart, Douglas C. 3,195,1[illegible]7.
- Abbott, Daniel B., and R. J. Kin[illegible]ler, to Ross Operating Valve Co. Device for preventing momentary transmission of pressure through normally open valve. 3,194,266, 7-13-65. Cl. 137—596.16.
- Abbott Laboratories: *See*—
  - Freiberg, Leslie A., and Cole. 3,194,821.
  - Freifelder, Morris, and Meltsner. 3,194,833.
  - Robinson, Ralph M., and Sundbe[illegible]g. 3,194,839.
- Abercrombie & Finch Co.: *See*—
  - Linarello, Domenico. 3,193,961
- Abernathy, Frank W.: *See*—
  - Raynolds, David W., Smith, and Abernathy. 3,194,002.
- Accumulateurs Fixes et de Traction (Societe Anonyme), Societe des: *See*—
  - Deschamps, Robert M. 3,194,6[illegible].
- Achin, Gerard R.: *See*—
  - Thomson, Arthur J., Achin, and Rynhart. 3,194,940.
- Ackermann, Otto: *See*—
  - Cameron, Frank L., and Ackermann. 3,194,923.
- Acme Steel Co.: *See*—
  - Hall, Marchand B. 3,194,904.
  - Kocian, James A. 3,194,541.
- Acrometal Products, Inc.: *See*—
  - Harris, Edward H. 3,194,210.
- Adam, Vaclav, to Vyzkumny a Z[illegible]usebni Letecky ustav. Device for shaping and hardening plane surfaces. 3,194,042, 7-13-65, Cl. 72—76.
- Adams, James W., and H. W. Hof[illegible]iezer, to Tee-Pak, Inc. Preparation of hydrolyzed polymer-deposited on cellulosic material and the resulting product. 3,194,727, 7-13-65, Cl. 162—168.
- Adams, Richard F., to Olin Mathieson Chemical Corp. Heat exchange structure. 3,194,309, 7-13-65, Cl. 165—170.
- Adams, Robert T., to International Telephone and Telegraph Corp. Demodulator system for angularly modulated signals having improved noise immunity. 3,195,059, 7-13-65, Cl. 329—122.
- Adams, Robert T., and K. J. Staller, to International Telephone and Telegraph Corp. Time diversity communication system. 3,195,048, 7-13-65, Cl. 3[illegible]5—56.
- Adams, Robert T., and J. B. Harvey, to International Telephone and Telegraph Corp. Signal generator having a controllable frequency characteristic. 3,195,069, 7-13-65, Cl. 331—39.
- Adkins-Phelps Co.: *See*—
  - Phelps, David M. 3,194,194.
- Admiral Corp.: *See*—
  - Olson, Thor F. 3,194,080.
- Adrian, Donald J., to United States of America, Navy. AM radar with noise correlation. 3,195,130, 7-13-65, Cl. 343—12.
- Advance Transformer Co.: *See*—
  - Feinberg, Albert E., and Berger. 3,195,012.
- Aeroprojects Inc.: *See*—
  - Jones, James B., and Tarpley. 3,194,855.
- Agfa Aktiengesellschaft: *See*—
  - Winkler, Friedrich, and Zanner. 3,194,714.
  - Winkler, Alfred, Hofmann, Maas, and Stierstorfer. 3,194,140.
- Ainley, David G., M. Cox, and J. [illegible]. Flint, to Power Jets (Research and Development) Ltd. Closed cycle gas turbine system. 3,194,744, 7-13-65, Cl. 1[illegible]6—60.
- Air Products and Chemicals, Inc.: *See*—
  - Cornelius, Edward B., and Cosgrove. 3,194,755.
  - Kurzinski, Edward F. 3,194,65[illegible].
  - McEvoy, James E., and Milliken. 3,194,636.
- Ajem Laboratories, Inc.: *See*—
  - Jamison, Robert M., and Arnold. 3,194,544.
- Aksnes, Nils, P. C. Smith, and O. Sunde, to Drammens Glassverk. Apparatus for breaking off and removing glass sheets from an advancing band of glass. 3,194,464, 7-13-65, Cl. 225—96.5.
- Alamance Industries, Inc.: *See*—
  - Keziah, John W., Sr. 3,194,030
- Albert, Donald J., to Eastman Kodak Co. Laminated tape structure. 3,194,717, 7-13-65, Cl. 161—113.
- Alburn, Harvey E., N. H. Grant, and H. Fletcher III, to American Home Products Corp. [illegible]-(1-aminocycloalkanoylamino)-penicillanic acid. 3,194,802, 7-13-65, Cl. 260—239.1.
- Alco Chemical Corp.: *See*—
  - Coe, Bernard. 3,194,297.
- Alexander, Ben, and G. A. Deschamps, to International Telephone and Telegraph Corp. Velocity and position computer. 3,194,948, 7-13-65, Cl. 235—151.
- Alexander, David O., 25% to S. [illegible]. Wiczer. Pressurized membrane container. 3,193,853, 7-13-65, Cl. 9—8.
- Alexander, James R.: *See*—
  - Redfarn, Cyril A., Apley, and Alexander. 3,194,787.
- Alexandrou, George A. Opening means for envelopes. 3,194,483, 7-13-65, Cl. 229—86.

- Allegheny Steel Band Co.: *See*—
  - Frey, Charles W., and Zerby. 3,194,281.
- Allen-Harper, Inc.: *See*—
  - Allen, Kenneth M., and Harper. 3,194,390.
- Allen, Kenneth M., and C. H. Harper, to Allen-Harper, Inc. Fluid pressure controlled vibrating conveyor. 3,194,390, 7-13-65, Cl. 198—220.
- Allen, Robert T. Vertical coin counting tube. 3,194,393, 7-13-65, Cl. 206—.83.
- Aller, Willis F., to The Sheffield Corp. Gaging device. 3,193,937, 7-13-65, Cl. 33—169.
- Aller, Willis F., to The Sheffield Corp. Gaging device. 3,193,938, 7-13-65, Cl. 33—172.
- Allied Chemical Corp.: *See*—
  - Blaga, Aurel. 3,194,846.
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  - Taub, Bernard, and Hino. 3,194,845.
- Allied Plastics Co.: *See*—
  - Crane, Walton B. 3,194,472.
- Allina, Stanley F., to The Perfection Mfg. Co. Grass catcher. 3,193,997, 7-13-65, Cl. 56—202.
- Allinquant, Fernand S. Motor and compressor set applicable, in particular, to pneumatic suspension systems. 3,194,486, 7-13-65, Cl. 230—58.
- Allis-Chalmers Mfg. Co.: *See*—
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  - Storchheim, Samuel. 3,194,858.
- Alos AG: *See*—
  - Knus, Jean A. 3,194,113.
- Altman, Fred E., to Eastman Kodak Co. Triplet objective having a negative element formed of a copolymer of acrylonitrile and styrene. 3,194,116, 7-13-65, Cl. 88—57.
- Altman, Frederick J., and A. T. Brown III, to International Telephone and Telegraph Corp. Radio diversity receiving system with automatic phase control. 3,195,049, 7-13-65, Cl. 325—305.
- Aluminium Laboratories Ltd.: *See*—
  - Rochester, Stanley H. 3,193,888.
- Amat Bargues, Miguel. Solar heater. 3,194,228, 7-13-65, Cl. 126—271.
- Ambili, Pierre. Self-clamping suspension. 3,194,599, 7-13-65, Cl. 294—80.
- American Chicle Co.: *See*—
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- American Flange & Mfg. Co., Inc.: *See*—
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  - Thomas, Paul P. 3,194,614.
- American Mine Door Co., The: *See*—
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  - Watson, Wayne C. 3,194,380.
- American Pipe and Construction Co.: *See*—
  - Lee, Herbert S., and O'Conner. 3,193,901.
- American Radiator & Standard Sanitary Corp.: *See*—
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  - Kogan, Henry W., Wisniewski, and Cialek. 3,194,272.
  - Noakes, Thomas E., and Bahrani. 3,194,499.
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- American Seating Co.: *See*—
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Beyl, Jean J. A. Safety ski binder. 3,194,574, 7–13–65, Cl. 280—11.35.

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Bloem, Jan, to North American Philips Co., Inc. Method of treating bodies of semiconductive material by chemically etching with an acid etching liquid. 3,194,703, 7–13–65, Cl. 156—17.

Blumberg, Gladys. Mailing container. 3,194,477, 7–13–65, Cl. 229—40.

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Bowen, Rafael L., to United States of America, Commerce. Silica-resin direct filling material and method of preparation. 3,194,784, 7–13–65, Cl. 260—41.

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Breece, Lee K., Jr., to Robertson Boulevand Plastic Corp. Urinary device. 3,194,238, 7–13–65, Cl. 128—295.

Breitenstein, Charles T., and N. A. Gecewicz, to Automatic Canteen Co. of America. Vending machine. 3,194,432, 7–13–65, Cl. 221—82.

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Brokaw, Adrian P., to Dreser Industries, Inc. Remote control system for well logging instruments. 3,195,105, 7–13–65, Cl. 340—18.

Brons, Charles D., W. W. Gaither, and L. J. Rousseau, to United States of America, Atomic Energy Commission. Portable electric welder. 3,194,937, 7–13–65, Cl. 219—60.

Brooker, Leslie G. S., and F. G. Webster, to Eastman Kodak Co. Merocyanine and holopolar dyes containing arylene-chain substitution. 3,194,805, 7–13–65, Cl. 260—240.

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Altman, Frederick J., and Brown. 3,195,049.

Brown, Allen L., to Textron Electronics, Inc. Electrodynamic type vibration generator. 3,194,992, 7–13–65, Cl. 310—27.

Brown, Curt, and L. B. Oliver. Portable mixing mechanism. 3,194,639, 7–13–65, Cl. 23—285.

Brown, Francis B.: *See*—
Coberly, Clarence J., Brown, and Williams. 3,194,174.

Brown, Frank E., to The De Vilbiss Co. Atomizer pump. 3,194,447, 7–13–65, Cl. 222—321.

Brown, Gerald, to Westinghouse Electric Corp. Method and apparatus for making a harness for electrical apparatus. 3,194,279, 7–13–65, Cl. 140—92.1.

Brown, Keevil L. Dispensing cap for tubular containers. 3,194,441, 7–13–65, Cl. 222—148.

Brown, Lynn E., Jr. Laterally interlocked containers. 3,194,426, 7–13–65, Cl. 220—23.4.

Brown, Northrop, to E. I. du Pont de Nemours and Co. Copolymers of formaldehyde and vinyl-nitrogen compounds. 3,194,790, 7–13–65, Cl. 260—67.5.

Brown, Richard W., to Honeywell Inc. Control apparatus. 3,194,296, 7–13–65, Cl. 158—122.

Brown, Robert N., C. R. A. Johnson, and A. E. Paschkis, to Leeds and Northrup Co. Multiple-point recorders. 3,195,141, 7–13–65, Cl. 346—61.

Brown, Russell, and R. Brown. Drive-in food tray. 3,194,186, 7–13–65, Cl. 108—46.

Brown, Ruth: *See*—
Brown, Russell and R. 3,194,186.

Brown, Steffen A. Centrifugal switch embodying magnets. 3,194,914, 7–13–65, Cl. 200—80.

Brown, Thomas W. F., to The British Ship Research Association. Mechanism for controlling the rate of rise of pressure and the maxium pressures in highly-rated internal combustion engines. 3,194,222, 7–13–65, Cl. 123—33.

Browne, Lindsay H., to De Laval Turbine Inc. Pumps. 3,194,169, 7–13–65, Cl. 103—152.

Browning, Joe L., and A. J. Colli, to United States of America, Navy. Continuous mixing apparatus. 3,193,991, 7–13–65, Cl. 55—185.

Brudney, Harry, to Jacoby-Bender, Inc. Tear duct device for sleeping doll eye. 3,193,968, 7–13–65, Cl. 46—135.

Brueder, Antoine, to Andre Citroen Societe Anonyme. Anti-roll devices for automobile vehicles. 3,194,581, 7–13–65, Cl. 280—112.

Brunell, Richard L., and S. R. Holly, to Combustion Engineering, Inc. Apparatus for disassembling a rotor from its support bearing. 3,193,916, 7–13–65, Cl. 29—240.

Bruner Corp.: *See*—
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Brunner, Gordon F.: *See*—
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Brunswick Corp.: *See*—
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Bruzzone, Mario: *See*—
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Buchanan Electrical Products Corp.: *See*—
Ustin, George. 3,194,926.

Buchmeyer, Henry W., to Texas Instruments Inc. Transistorized relay circuit. 3,194,972, 7–13–65, Cl. 307—88.5.

Buchwald, Fritz, to International Standard Electric Corp. Arrangement for avoiding double pull-offs in systems serving singling-out of flat articles. 3,194,552, 7–13–65, Cl. 271—26.

Buck, Lloyd P., and R. H. Hess. Punch confetti remover. 3,194,095, 7–13–65, Cl. 83—100.

Buckey, Don L., and H. Lankford, to McDonnell Aircraft Corp. Keyed connector for plugs and sockets having non-interchangeable coupling means. 3,194,588, 7–13–65, Cl. 285—18.

Budd Co., The: *See*—
Eggert, Walter S., Jr., and Schane. 3,194,047.
Herring, James M., Jr. 3,194,365.

Buell Engineering Co., Inc.: *See*—
Mylting, Lauritz E. 3,194,445.

Bulke, George W., to Holley Carburetor Co. Self-tightening aircleaner attaching device. 3,193,994, 7–13–65, Cl. 55—507.

Bullock, Giles E. Pin carriage to clutch interlock mechanism in a ten-key adding and subtracting machine. 3,194,496, 7–13–65, Cl. 235—130.

Burchett, Ray L., to Jacques Kreisler Mfg. Corp. Valve shut-off device for gas fuel reservoir. 3,194,435, 7–13–65, Cl. 222—3.

Burgess, George A., to The Globe-Wernicke Co., Division of Globe-Wernicke Industries, Inc. Drawer suspension retainer. 3,194,623, 7–13–65, Cl. 312—333.

Burig, Robert G., and E. A. Petrocelli, to Westinghouse Electric Corp. Hall effect proximity transducer. 3,195,043, 7–13–65, Cl. 324—45.

Burkhardt, Charles E., and B. B. Ellis, to Westinghouse Electric Corp. Magnetic core structures. 3,195,090, 7–13–65, Cl. 336—218.

Burns & Russell Co. of Baltimore City, The: *See*—
Sergovic, John A. 3,194,724.

Burroughs Corp.: *See*—
Benn, Robert E., and Sakurai. 3,195,142.
Chute, Robert D. 3,194,969.
Davis, Daniel H., Jr. 3,194,155.
Sakurai, Richard S. 3,194,674.
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Burton, Jerry and Joseph, and P. Ginder, to Burton Silverplating. Built up nonmetallic wave guide having metallic coating extending into corner joint and method of making same. 3,195,079, 7–13–65, Cl. 333—95.

Burton, Joseph: *See*—
Burton, Jerry and Joseph, and Ginder. 3,195,079.

Burton Silverplating: *See*—
Burton, Jerry and Joseph, and Ginder. 3,195,079.

Bush, Freeman: *See*—
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Bush, Raymond W., and F. E. Hilliker. String cutter having reciprocating gripper means to feed strings to the cutter. 3,194,101, 7–13–65, Cl. 83—277.

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Butka, John, and A. J. Nelson, to Butkin Tool and Mfg. Corp. Automatic marker buoy. 3,193,854, 7–13–65, Cl. 9—9.

Butkin Tool and Mfg. Corp.: *See*—
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Butler, Alfonse. Means for sealing the edge of a panel to frame means. 3,194,299, 7–13–65, Cl. 160—40.

Butler, Maurice C.: *See*—
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Butterfield, Lloyd H., ½ to J. H. Stewart. Mounting device for pressure gauge. 3,194,077, 7–13–65, Cl. 73—420.

Butzler, George J., G. B. Sterling, and R. E. Lee, to The Dow Chemical Co. Vinylidene chloride polymer-diolefin, low alkyl alkacrylate copolymer blend having improved low temperature properties. 3,194,778, 7–13–65, Cl. 260—31.8.

Byam, Erwin B., to Textron Inc. Toggle grip mechanism. 3,194,048, 7–13–65, Cl. 72—405.

Byrd, Glen M. Surface degreasing and cleaning gun. 3,194,500, 7–13–65, Cl. 239—8.

Byrnes, John J., to Continental Can Co., Inc. Rotary multiple reverse flexing device. 3,194,043, 7–13–65, Cl. 72—163.

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Kemp, Kenneth A. W. 3,194,225.

CSF-Compagnie Generale de Telegraphie Sans Fil: *See*—
Charles, Daniel. 3,195,008.
Le Parquier, Guy, Poinsard, and Ducrotoy. 3,195,128.

Caldwell, James, C. H. Hodgson, and J. T. Hopwood. Electric lighting apparatus. 3,194 957, 7–13–65, Cl. 240—11.4.

Caldwell, John R., to Eastman Kodak Co. Polymers cross-linked with sulfur dioxide, fabrics coated therewith, and coating method. 3,194,678, 7–13–65, Cl. 117—62.1.

Caldwell, John R., to Eastman Kodak Co. Polymeric plasticizers of dimethylmalonic acid and a glycol. 3,194,776, 7–13–65, Cl. 260—31.6.

Caldwell, John R., and R. Gilkey, to Eastman Kodak Co. Process of preparing polymers of nuclearly polychlorinated aromatic dicarboxylic acids and diamines having at least 4 carbons. 3,194,794, 7–13–65, Cl. 260—78.

Caldwell, John R., and E. H. Hill, to Eastman Kodak Co. Hydrazo group containing polymers. 3,194,797, 7–13–65, Cl. 260—85.5.

Callahan, William L., to Hughes Aircraft Co. Connector for subminiature electronic components. 3,195,017, 7–13–65, Cl. 317—99.

Callies, Amanda P. Hairpin having handle for facilitating opening. 3,194,248, 7–13–65, Cl. 132—50.

Callow, Russell J. Fruit gathering device. 3,194,375, 7–13–65, Cl. 193—7.

Calweld, Inc.: *See*—
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Camarero, George L.: *See*—
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Cambria Spring Co.: *See*—
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Cameron, Frank L., and O. Ackermann, to Westinghouse Electric Corp. Current limiting fuse. 3,194,923, 7–13–65, Cl. 200—120.

Camloc Fastener Corp.: *See*—
Wheeler, Frank, and Beehner. 3,194,595.

Campo, Augustine M., and J. Szkup, to Eitel-McCullough, Inc. Socket for electron tubes. 3,195,096, 7–13–65, Cl. 339—31.

Canadian Westinghouse Co., Ltd.: *See*—
Canfor, Kenneth, and Hulls. 3,194,036.

Canfor, Kenneth, and L. R. Hulls, to Canadian Westinghouse Co., Ltd. Material thickness control apparatus. 3,194,036, 7–13–65, Cl. 72—11.

Cannon, Peter, to General Electric Co. Generator of cleansing medium for washing machine. 3,194,628, 7–13–65, Cl. 8—137.

Canzoneri, Joseph III: *See*—
Longuemare, Robert N., Jr., and Canzoneri. 3,195,057.

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Cape, Arthur T., to Powder Melting Corp. Powder melting torch. 3,194,501, 7-13-65, Cl. 239—[illegible]5.
Capistrant, Eugene J., and R. E. Olson, to Paul E. Hawkinson Co. Tire retreading mold and lifting means therefor. 3,193,880, 7-13-65, Cl. 18—18.
Caplan, David M., to H. K. Porter Co., Inc. Method and apparatus for making reinforced corrugated hose. 3,194,705, 7-13-65, Cl. 156—143.
Capp, Clifford W., G. W. Godin, R. F. Neale, J. B. Williamson, and B. W. Harris, to The Distillers Co. Ltd. Process for the production of halo-substituted olefins. 3,194,847, 7-13-65, Cl. 260—656.
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Caracciolo, Anthony. Massage apparatus. 3,194,231, 7-13-65, Cl. 128—41.
Carissimi, Vincent L., and O. L. Taylor, to Westinghouse Electric Corp. Biasing mechanism for silent toggle action. 3,194,929, 7-13-65, Cl. 200—153.
Carlisle, Willis C., and J. H. McCarvell, to Macco Oil Tool Co., Inc. Fluid-operated gas lift apparatus. 3,194,175, 7-13-65, Cl. 103—232.
Carlon, Hugh R., and H. Tannenbaum. Portable infrared detector comprising a filter wheel. 3,194,962, 7-13-65, Cl. 250—43.5.
Carrier Corp.: *See—*
  Bell, William W., Jr. 3,194,028.
Carrigan, William B.: *See—*
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Carter, Daniel T., and G. H. Rendel, to United States Steel Corp. Method for applying a decorative coating to a metal strip. 3,194,675, 7-13-65, Cl. 117—[illegible]6.
Carusi, Alexander, and R. F. Kolec, to Olympic Screw & Rivet Corp. Blind rivet assembly. 3,194,106, 7-13-65, Cl. 85—72.
Casey, Charles L., to Reliable Engineering Co. Dispensing machine for articles. 3,194,430, 7-13-65, Cl. 221—11.
Cassidy, Irwin B. Continuous feed paint roller. 3,193,868, 7-13-65, Cl. 15—553.
Castelli, Charles, to Johnson & Johnson. Container with sifter top. 3,194,455, 7-13-65, Cl. 222—545.
Catania, Basilio, to Marelli Lenkurt S.p.A. Amplitude detecting device. 3,195,060, 7-13-65, Cl. 329—192.
Cates, Lawrence J. Alignment gauge. 3,193,942, 7-13-65, Cl. 33—180.
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  Ross, Alvan R., and Thompson. 3,193,893.
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  Lewis, Harry S., Capper, and Harris. 3,194,906.
Chamberlain, Owen: *See—*
  Jeffries, Carson D., Chamberlain, Schultz, and Shapiro. 3,195,061.
Chaney, Paul W. Aircraft with non-combustion air reaction engine. 3,194,011, 7-13-65, Cl. 60—35.5.
Chang, Kern K. N., to Radio Corp. of America. Low-noise high-gain stabilized negative conductance diode frequency converter. 3,195,051, 7-13-65, Cl. 329—449.
Chang, Winston H., to General Electric Co. Heat treatment of refractory metals. 3,194,697, 7-13-65, Cl. 148—133.
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Charles, Daniel, to CSF-Compagnie Generale de Telegraphie Sans Fil. Cathode ray tube deflection system utilizing an auxiliary electron beam. 3,195,008, 7-13-65, Cl. 315—18.
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Chemische Fabrik Kalk G.m.b.H.: *See—*
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Cheney, Alwyn H. Vehicle supported concrete moulding machine. 3,193,902, 7-13-65, Cl. 25—32.
Cherba, Samuel, to Container Corp. of America. Liquid dispensing closure arrangement. 3,194,453, 7-13-65, Cl. 222—521.
Chesley Industries, Inc.: *See—*
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Chesley, Robert G., to Chesley Industries, Inc. Shelf structure. 3,194,528, 7-13-65, Cl. 248—350.
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Christopher Coal Co.: *See—*
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Chrysler Corp.: *See—*
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Chudner, Joseph, to American Safety Table Co., Inc. Thread severing mechanism. 3,194,198, 7-13-65, Cl. 112—252.
Church, Frank D., 50% to J. C. Glick. Wrist watch protector. 3,194,004, 7-13-65, Cl. 58—105.
Chute, Robert D., to Burroughs Corp. Optical reader with integral lens and light responsive device. 3,194,969, 7-13-65, Cl. 250—216.
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Cilyo, Frank F., to United States Steel Corp. Stable-signal producing circuit employing Zener diode clipper and temperature-stable low-pass and single frequency rejection filters. 3,194,984, 7-13-65, Cl. 307—88.5.
Cimochowski, Anthony E.: *See—*
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Cincinnati Milling Machine Co., The: *See—*
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  Martin, Henry N. 3,193,977.
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Claps, Albert L., to Magnatronics. Theft proof system for automotive ignition systems. 3,194,970, 7-13-65, Cl. 307—10.
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Clarke, Allan B., to Philip Morris, Inc. Method of forming a tobacco product of increased wet strength. 3,194,245, 7-13-65, Cl. 131—140.
Clarke, Robert L., to Sterling Drug Inc. Alpha-aryl or aralkyl furfurylamines. 3,194,818, 7-13-65, Cl. 260—347.7.
Clary, Harry E., and J. A. O'Neill, to Thompson Ramo Wooldridge Inc. Apparatus for casting centrifugal type pumps. 3,193,890, 7-13-65, Cl. 22—68.
Clauss, Julius A., Jr.: *See—*
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Clifford, Joseph, to Square D Co. Three-pole circuit breaker for use in a single-phase panelboard for protecting a three-phase load. 3,194,908, 7-13-65, Cl. 200—51.
Clifford, Warren E., L. A. McClaine, J. H. B. George, and C. E. O'Neill, to The International Nickel Co., Inc. Removal of metal contaminants from nickel-containing process solutions. 3,194,652, 7-13-65, Cl. 75—119.
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Cobel, George B., and W. R. Fronk, to The Dow Chemical Co. Process of producing high purity arsenic trichloride from a slurry of As_2O_3. 3,194,631, 7-13-65, Cl. 23—98.
Coberly, Clarence J., F. B. Brown, and C. P. Williams, to Kobe, Inc. High speed triplex pump. 3,194,174, 7-13-65, Cl. 103—204.
Cochrane, Reuel A. Rock lock type fifth wheel locking mechanism. 3,194,585, 7-13-65, Cl. 280—437.
Cockerell, Christopher S., to Hovercraft Development Ltd. Ground effect machines with supply and recovery ports in a common duct. 3,194,333, 7-13-65, Cl. 180—7.
Coe, Bernard, to Alco Chemical Corp. Method and apparatus for film drying of viscous compositions. 3,194,297, 7-13-65, Cl. 159—7.
Cohan, Sidney, to Northrop Corp. Jet aircraft structure for engine removal. 3,194,515, 7-13-65, Cl. 244—54.
Cohen, Abraham B., to E. I. du Pont de Nemours and Co. Silver image transfer polymerization process. 3,194,661, 7-13-65, Cl. 96—48.
Cohen, Donald B., to Goodyear Aerospace Corp. Vehicle guidance system and electron image matcher. 3,194,511, 7-13-65, Cl. 244—14.
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Cohen, Murray S., and C. E. Pearl, to Thiokol Chemical Corp. Preparation of alkylated decarboranes. 3,194,842, 7-13-65, Cl. 260—606.5.
Cohn, Jona, and O. M. Eness, to Motorola, Inc. Radio receiver circuit with audio noise blanker for sustained impulses. 3,195,052, 7-13-65, Cl. 325—478.
Cole, E. K., Ltd.: *See—*
  Cox, Victor J. 3,194,925.
Cole, John W.: *See—*
  Freiberg, Leslie A., and Cole. 3,194,821.
Coleman, Jacob J.: *See—*
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Collard, Jacques R. G., and Z. A. Wojtowicz, to International Telephone and Telegraph Corp. Parametric amplifier with lumped constant turnable resonant loop in idler cavity. 3,195,063, 7-13-65, Cl. 330—4.9.
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Collier, John C., to AMP Inc. Electrical connector for connecting an electrical lead to the braid of a braid-shielded electrical cable. 3,194,877, 7-13-65, Cl. 174—88.
Collins, Lowell J. Curd producing apparatus. 3,193,928, 7-13-65, Cl. 31—48.
Collins, Lowell J. Apparatus for agitating the curd of cottage cheese during the manufacturing process. 3,193,929, 7-13-65, Cl. 31—48.

Colonius, Ray E., and C. R. Onsrud, to Onsrud Machine Works, Inc. Power operated workpiece and pattern holding fixture for router machines. 3,194,121, 7-13-65, Cl. 90—13.2.
Colton, Frank B., to G. D. Searle & Co. Process and intermediates for the manufacture of 3-keto-$\Delta^{4,6}$ steroids. 3,194,803, 7-13-65, Cl. 260—239.57.
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  Hanzalek, Frederick J. 3,194,020.
  Hanzalek, Frederick J. 3,194,219.
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Comet, Ralph L., to Mask-O-Matic, Inc. Machine for cutting sheet materials. 3,194,096, 7-13-65, Cl. 83—103.
Comet, Ralph L. Flexible tape-dispensing and severing device. 3,194,463, 7-13-65, Cl. 225—16.
Comet, Ralph L. Apparatus for dispensing and applying tape to a cylindrical article. 3,194,713, 7-13-65, Cl. 156—446.
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  Wacker, Albert R. 3,194,859.
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Conrath, Louis R., to Detroit Coil Co. Shock mounting and coil retaining structure for solenoids. 3,195,024, 7-13-65, Cl. 317—191.
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Cooke, Edith A. Shielding device for intravenous feeding apparatus. 3,194,235, 7-13-65, Cl. 128—132.
Coolidge, John K., to The Gunn Co., Inc. Life preserver and method of making same. 3,193,856, 7-13-65, Cl. 9—337.
Coover, Harry W., Jr., to Eastman Kodak Co. Three-component aluminum-titanium tetrahalide catalysts for olefin polymerization. 3,194,799, 7-13-65, Cl. 260—93.5.
Coover, Harry W., Jr., and W. C. Wooten, Jr., to Eastman Kodak Co. Acrylonitrile spinning solutions and method of producing filaments therefrom. 3,194,862, 7-13-65, Cl. 264—206.
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Coppock, George D., Jr. Hand drying device. 3,193,869, 7-13-65, Cl. 15—564.
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Corbett, Herbert O., to National Distillers and Chemical Corp. Extrusion device. 3,193,879, 7-13-65, Cl. 18—14.
Cornelius, Edward B., and L. A. Cosgrove, to Air Products and Chemicals Inc. Dehalided platinum on alumina catalyst and reforming process therewith. 3,194,755, 7-13-65, Cl. 208—139.
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- Dice, John R., and M. L. Black, to Parke, Davis & Co. Trifluoropropene-pyridine compounds and methods for their production. 3,194,809, 7-13-65, Cl. 260—290.
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- Dikhoff, Johannes A. M., to North American Philips Co., Inc. Method of manufacturing rod-shaped crystals of semiconductor material. 3,194,691, 7-13-65, Cl. 148—1.6.
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- Grant, Richard W., to Zila Mfg. Corp. Float operated valve. 3,194,258, 7-13-65, Cl. 137—414.
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34 : 2,544

U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
July 13, 1965 Volume 816 Number 2

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 155,951 (ALFRED DUNHILL in script), Alfred Dunhill of London, Inc., Tobacco—manufactured or unmanufactured, cigars and cigarettes; **Reg. No. 203,732** (UNIQUE DUNHILL LIGHTER AND DESIGN), same, Portable and pocket cigar and cigarette lighters; **Reg. No. 419,717** (ALFRED DUNHILL in script), Alfred Dunhill Limited, Cosmetic preparations—namely, powder, rouge, lipstick, etc.; **Reg. No. 421,429**, same, Soaps and shaving creams; **Reg. No. 527,207** (DUNHILL), same, Pyrophoric lighters; **Reg. No. 527,208**, same, Tobacco pipes, cigar and cigarette holders; **Reg. No. 534,705**, same, Tobacco pouches made of leather; **Reg. No. 539,892**, same, Raw tobacco, smoking and chewing tobacco, snuff, cigars, and cigarettes; **Reg. No. 540,389**, same, Billfolds, purses, handbags, document cases and wallets, all being goods made of leather; **Reg. No. 541,949** (DUNHILL DOUBLE-CLARO), Alfred Dunhill of London, Inc., Tobacco products, particularly cigars; **Reg. No. 634,071** (ALFRED DUNHILL), same, Men's ties, filed Mar. 5, 1965, D.C., S.D. Ohio (Columbus), Doc. 7394, *Alfred Dunhill of London, Inc.* v. *Dunhill Clothiers et al.* Same, filed May 14, 1965, D.C., S.D. Ohio (Dayton), Doc. 8183, *Alfred Dunhill of London, Inc.* v. *Dunhill's Inc.*

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1965

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)]	16,012
Date of oldest new application	Oct. 12, 1964
Date of oldest amended application	Sept. 29, 1964

J. H. MERCHANT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	10-12-64	10-5-64
(II) H. E. KASCHUB, Classes 1, 3, 6, 7, 9, 10, 18, 22, 27, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	11-2-64	9-29-64
Renewals (All Classes)	4-28-65	5-24-65
Sec. 12 (c) Publications (All Classes)	5-14-65	--------

Applications filed during the month of May 1965—2,363

Registrations Issued	337—No. 792,413 to No. 792,749
Renewals Issued	70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 164,780. Morton Salt Company, Chicago, Ill., assignee, by mesne assignment of Adcote Chemicals, Inc., Elk Grove Village, Ill. Filed Mar. 18, 1963.

ADCOTE

Owner of Reg. No. 749,280.

Class 6—Chemicals and Chemical Compositions

For Chemicals—Namely, Organisols and Plastisols.
First use July 11, 1959.

Class 16—Protective and Decorative Coatings

For Lacquers and Paints.
First use July 31, 1959.

SN 172,718. Baskin-Robbins Inc., Burbank, Calif. Filed July 10, 1963.

31

Owner of Reg. Nos. 710,670 and 71 ,570.

Class 100—Miscellaneous

For Retail Ice Cream Fountain and Store Services.

Class 101—Advertising and Business

For Rendering Technical Advice and Assistance in the Leasing of Desirable Locations for Retail Ice Cream Outlets, in the Advertising and Promoting of the Services of Retail Ice Cream Outlets, and in the Establishment and Operation of Ice Cream Manufacturing Plants and Retail Ice Cream Outlets.

First use in or about October 1953.

SN 185,231. Nadella S.A., Rueil-Malmaison, Seine et Oise, France. Filed Jan. 23, 1964.

DELTA

Priority claimed under Sec. 44(d) on French Reg. No. 7,908; dated July 24, 1963 (Versailles); Natl. Inst. No. 210,616.

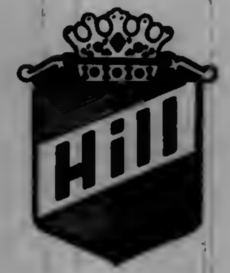
Class 19—Vehicles

For Carrying Bearing, Rollers and Bearing Springs, All for Vehicles, Axle Bearings for Vehicle Wheels.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Rollers and Bearing, and Parts, Fittings and Mountings Therefor, Motor Vehicle Drive Trains Comprising Drums, Clutch Thrust Bearings, Drive Shafts, Universals and Related Couplings.

SN 188,012. Hill Manufacturing Company, Atlanta, Ga. Filed Mar. 5, 1964.



Class 4—Abrasives and Polishing Materials

For Polishes.

Class 6—Chemicals and Chemical Compositions

For Industrial Deodorants, Room Deodorants, Insect Spray, Insecticide and Concrete Curing Compounds.

Class 52—Detergents and Soaps

For Cleaning Compounds, Degreasers, and Detergents.

First use on or about Jan. 1, 1938.

SN 192,197. Neely Manufacturing Co., Inc., Corydon, Iowa. Filed Apr. 28, 1964.

NMCO

Class 2—Receptacles

For Garment Covers.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Folding Travel Cases.

First use on or about Mar. 13, 1964.

SN 197,287. Historic Enterprises, Inc., Rockville Centre, N.Y. Filed July 7, 1964.

HISTORIC ORIGINALS

Applicant disclaims exclusive rights in the word "Originals" alone apart from its use in the mark as a whole.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Key Chains.

Class 28—Jewelry and Precious-Metal Ware

For Men's and Women's Jewelry—Namely, Cufflinks and Tie Tacs.

Class 40—Fancy Goods, Furnishings, and Notions

For Buttons and Button Sets.

First use Sept. 10, 1963.

SN 200,667. The Sonotone Corporation, Elmsford, N.Y. Filed Aug. 26, 1964.

SONAFONE

Class 21—Electrical Apparatus, Machines, and Supplies

For Phonograph Cartridge Assemblies, Microphones and Parts Therefor.

Class 44—Dental, Medical, and Surgical Appliances

For Hearing Aid Receivers, Hearing Aids and Parts Therefor.

First use July 9, 1964.

SN 205,224. John H. Breck, Inc., Springfield, Mass. Filed Nov. 2, 1964.

Pre-Lite

Class 51—Cosmetics and Toilet Preparations

For Hair Rinse, Hair Tint, and Hair Lightener Preparations.

Class 52—Detergents and Soaps

For Hair Shampoo.

First use Oct. 13, 1964.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 187,707. Allen & Rankin Nurseries, West Monroe, La. Filed Mar. 2, 1964.

"FROSTPROOF"

For Various Varieties of Gardenia Jasminoides.
First use Sept. 13, 1962.

SN 192,692. Farbwerke Hoechst Aktiengesellschaft, vormals Meister Lucius and Bruning, Frankfurt am Main, Germany. Filed May 5, 1964.

GENOLON

Owner of German Reg. No. 700,372, dated Mar. 3, 1956.
For Plastics as Semi-Finished Products in the Form of Powders, Chips, and Films.

SN 201,263. American Cyanamid Company, Wayne, N.J. Filed Sept. 4, 1964.

CYBOND

For Synthetic Resin.
First use July 27, 1964.

SN 204,607. W. R. Grace & Co., New York, N.Y., assignee of Rudy-Patrick Seed Company, Kansas City, Mo. Filed Oct. 22, 1964.

MOR TIM

For Field Seed.
First use July 1962.

SN 204,640. Cornell Seed Company, St. Louis, Mo. Filed Oct. 23, 1964.

KEYSELECT

For Esculent Vegetable Seeds.
First use Oct. 15, 1964.

SN 205,389. Carl Freudenberg Kommanditgesellschaft, Weinheim, Bergstrasse, Germany. Filed Nov. 3, 1964.

SHAPELON

Priority claimed under Sec. 44(d) on German application filed July 14, 1964; Reg. No. 793,570, dated Aug. 28, 1964.
For Non-Woven Fabrics, i.e. Fleeces the Fibers of Which Are Bonded Together at Their Crossing Points.

SN 207,885. Harvey Jennings Hurst, Colmesneil, Tex. Filed Dec. 10, 1964.

TY-CO

For Quarter Horses and Herefords.
First use at least as early as May 12, 1964.

SN 208,740. Hartz Mountain Products Corp., New York, N.Y. Filed Dec. 23, 1964.

HARTZ MOUNTAIN

Owner of Reg. Nos. 754,823 and 767,330.
For Birds.
First use September 1926.

SN 210,882. Kay Brothers Limited, Cheshire, England. Filed Jan. 28, 1965.

ZIP

Owner of British Reg. No. 571,296, dated Sept. 2, 1936.
For Firelighters of the Solid Type.

SN 213,863. Freeport Sulphur Company, New York, N.Y. Filed Mar. 11, 1965.

BUCA

For Clay.
First use 1942.

SN 213,865. Freeport Sulphur Company, New York, N.Y. Filed Mar. 11, 1965.

CATALPO

For Clay.
First use 1924.

SN 213,866. Freeport Sulphur Company, New York, N.Y. Filed Mar. 11, 1965.

TRANSLINK

For Clay.
First use Oct. 19, 1960.

SN 213,868. Freeport Sulphur Company, New York, N.Y. Filed Mar. 11, 1965.

WHITETEX

For Clay.
First use 1941.

SN 213,960. Freeport Sulphur Company, New York, N.Y. Filed Mar. 12, 1965.

COLUMBIA

For Clay.
First use 1924.

Class 2 — Receptacles

SN 189,193. Mead Johnson & Company, Evansville, Ind. Filed Mar. 20, 1964.

SEQUENCE

For Plastic Dispensing Container for Patient Prescribed Medicine.
First use on or prior to Jan. 18, 1964.

SN 203,823. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Oct. 12, 1964.

FLAVOR SAVER

For Plastic Household Containers and Covers Therefor.
First use August 1962.

SN 204,651. Gaylord Bros., Inc., Syracuse, N.Y. Filed Oct. 23, 1964.

GAYLORD

For Glass Lined Metal Containers, Bookbox-Slipcases, Pamphlet File Boxes and Cases, and Tape Dispensers for Library Use, and Components Therefor.
First use on or about Jan. 1, 1922.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 209,429. Ever-Wear, Inc., Chicago, Ill. Filed Jan. 6, 1965.

ROYALSHIRE

For Luggage and Traveling Goods—Namely, Fitted Cases, Wardrobe Cases, and Attaché Cases.
First use June 21, 1937.

Class 4 — Abrasives and Polishing Materials

SN 192,624. S. C. Johnson & Son, Inc., Racine, Wis., assignee, by mesne assignment, of Puritan Chemical Company, Atlanta, Ga. Filed May 4, 1964.

BRAVO

Owner of Reg. No. 669,410.
For Waxless Floor Polish for Producing a Colorless, Tough, Slip-Resistant, Water-Resistant, Buffable Floor Coating.
First use on or about May 15, 1961.

Class 5 — Adhesives

SN 204,453. Crown Industrial Products Company, Hebron, Ill. Filed Oct. 21, 1964.

COLOR TRACE

For General Line of Industrial Aerosol Adhesives.
First use Apr. 17, 1964.

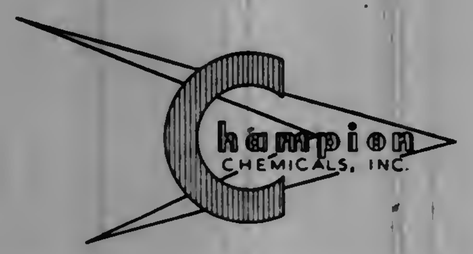
Class 6 — Chemicals and Chemical Compositions

SN 136,406. Technic, Inc., Cranston, R.I. Filed Jan. 23, 1962.

TECHNIC, INC

For Precious Metal Plating Solution and Chemicals for Maintaining Precious Metal Plating Bath.
First use Dec. 15, 1944.

SN 171,758. Champion Chemicals, Inc., Odessa, Tex. Filed June 25, 1963.



The drawing is lined for the color red. Applicant disclaims the words "Chemicals, Inc."
For Foaming Agent for Oil Well Drilling and Production; Chemical Composition for Solution in Oil Field Fluids for Inhibiting Corrosion and Scale on Piping and Containers; Chemical Agent for Stimulating Petroleum Wells; Paraffin Solvent for Pipes and Containers in Oil Field Use; Chemical Composition for Dissolving and Suspending Paraffin in Petroleum Products; and Agricultural Insecticides and Pesticides.
First use Dec. 1, 1959.

SN 185,052. Lee Patten Seed Company, Moonachie, N.J., assignee of Lee Patten Seed Company, Moonachie, N.J. Filed Jan. 21, 1964.

VEG-A-KILL

For Lawn Desiccant.
First use Dec. 16, 1963.

SN 185,783. Onyx Chemical Corporation, Jersey City, N.J., assignee of Johnson & Johnson, d.b.a. Refined Products Company, New Brunswick, N.J. Filed Jan. 31, 1964.

KARA WET

Applicant disclaims any exclusive rights to the word "Wet" except as shown. Owner of Reg. Nos. 739,234, 748,614, and others.
For Wetting Agent and Penetrant for Textiles.
First use Nov. 24, 1963.

SN 185,853. Apollo Chemical Corp., New York, N.Y. Filed Feb. 3, 1964.

MSI-5

For Marine Slag Inhibitor for High Pressure Boilers and Motor Vessels Burning Residual Fuels.
First use June 24, 1963.

SN 192,269. Chemische Werke Albert, Wiesbaden-Biebrich, Germany. Filed Apr. 29, 1964.

EXOLIT

Owner of German Reg. No. 710,343, dated Dec. 12, 1956.
For Chemical Fire Retardants.

SN 195,047. Allied Chemical Corporation, New York, N.Y. Filed June 8, 1964.

SULFOSOL

For Dyestuffs.
First use Apr. 14, 1964.

SN 196,654. Geigy Chemical Corporation, Ardsley, N.Y. Filed June 29, 1964.

SELLEGAL

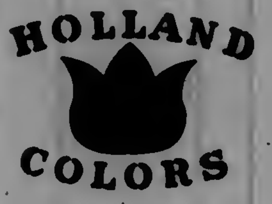
Owner of Reg. Nos. 721,205, 695,139, and others.
For Chemical Product Suitable for Use in Connection With Dyeing.
First use June 3, 1964.

SN 196,914. Standard Chemical Products, Inc., Hoboken, N.J. Filed July 1, 1964.

NY-WHITE

For Yarn Lubricating, Processing, and Finishing Agent.
First use Jan. 25, 1960.

SN 197,290. Holland-Suco Color Company, Holland, Mich., by change of name from Holland Color and Chemical Company, Holland, Mich. Filed July 7, 1964.



The word "Colors" is disclaimed apart from the mark as shown. Owner of Reg. Nos. 550,018, 569,261, 574,706, and 574,707.
For Chemical Colors—Namely, Pigments, Lakes, and Toners in Both Dry and Liquid Forms, and Chemical Intermediates for the Same.
First use about April 1959.

SN 198,277. Gaston Johnston Corporation, Long Island City, N.Y. Filed July 21, 1964.

NO-ROACH

Owner of Reg. No. 304,755.
For Insecticide.
First use November 1946.

SN 199,990. Chas. Pfizer & Co., Inc., New York, N.Y., assignee of The Gibsonburg Lime Products Company, Gibsonburg, Ohio. Filed Aug. 17, 1964.

DOLO-TECT

Owner of Reg. Nos. 603,819 and 654,615.
For Metallurgical Grade Lime, Specifically, Adapted for Use as a Slag Forming Ingredient in Steel Making Processes.
First use June 27, 1963.

SN 200,177. Gerald Skidmore, d.b.a. Skidmore Enterprises, Cincinnati, Ohio. Filed Aug. 19, 1964.

ASSAY PROTEIN C-1

Applicant disclaims the exclusive right to use the words "Assay Protein" apart from their use in the mark as shown.
For Isolated Soy Protein.
First use Sept. 17, 1963.

SN 201,168. American Cyanamid Company, Wayne, N.J. Filed Sept. 3, 1964.

CYTOX

For Compound for the Control of Bacteria, Fungi, and Algae in Industrial Applications.
First use Aug. 28, 1964.

SN 205,652. American Cyanamid Company, Wayne, N.J. Filed Nov. 6, 1964.

CYANOGAS

Owner of Reg. Nos. 215,224 and 193,386.
For Insecticide and Rodenticide for Agricultural and Horticultural Application.
First use June 1, 1924.

SN 207,756. Thompson-Hayward Chemical Company, Kansas City, Kans. Filed Dec. 8, 1964.

PYRTOX

For Insecticides.
First use June 22, 1950.
Subj. to Intf. with SN 200,840.

SN 209,271. Industrial Water Chemicals, Inc., Chattanooga, Tenn. Filed Jan. 4, 1965.

COAG

For Liquid Additive for Use in Water in Steam Generating Plants for Prevention of Mineral Deposits.
First use Dec. 1, 1957.

SN 209,384. American Cyanamid Company, Wayne, N.J. Filed Jan. 6, 1965.

RETRO

For Pigment.
First use July 30, 1964.

SN 209,534. The Procter & Gamble Company, Cincinnati, Ohio. Filed Jan. 7, 1965.

SEAL-A-POND

For Chemical Soil Sealant.
First use Nov. 13, 1964.

SN 209,779. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 12, 1965.

OMNI-TOX

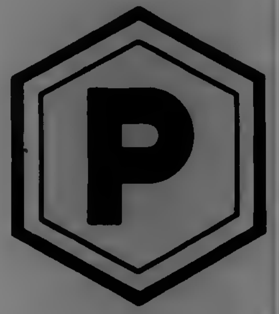
Owner of Reg. No. 758,655.
For Chemical Compound Used as an Ingredient of Insecticides.
First use Sept. 21, 1964.

SN 210,031. The Mullen Company, Skokie, Ill. Filed Jan. 15, 1965.

PS

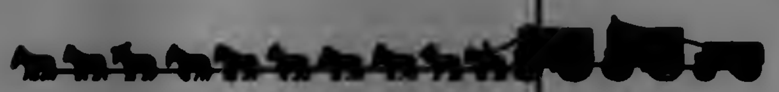
For Chemicals for Use in Photocopying Machines.
First use on or about Jan. 31, 1964.

SN 210,345. Pittsburgh Activated Carbon Company, Pittsburgh, Pa. Filed Jan. 21, 1965.



For Activated Carbon.
First use Nov. 30, 1964.

SN 213,071. United States Borax & Chemical Corporation, Los Angeles, Calif. Filed Mar. 1, 1965.



Owner of Reg. Nos. 775,116, 773,451, and 623,825.
For Insecticides and Melting Compound for Removing Ice From Stairs, Walks, and Driveways.
First use Nov. 11, 1964.

SN 213,450. The Mennen Company, Morristown, N.J. Filed Mar. 5, 1965.

BABY MAGIC

Owner of Reg. No. 580,657.
For Disinfectant and Deodorizer Spray for the Nursery.
First use Feb. 9, 1965.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 189,993. Dynamit Nobel-Genschow G.m.b.H., Cologne-Niehl, Germany. Filed Mar. 31, 1964.

RWS - Magnum

The word "Magnum" is disclaimed apart from the mark as shown. Owner of German Reg. No. 779,196, dated Aug. 3, 1962; and U.S. Reg. No. 740,808.
For Small Arms Ammunition.

SN 200,570. Hercules Powder Company, Wilmington, Del. Filed Aug. 25, 1964.

HERCOMIX

Owner of Reg. Nos. 225,253, 718,798, and others.
For Nitro Carbo Nitrate Blasting Agent.
First use Apr. 22, 1963.

SN 202,430. Foodland, Inc., Cleveland, Ohio. Filed Sept. 23, 1964.

FOODLAND

Owner of Reg. Nos. 326,478, 785,369, and others.
For Matches.
First use Feb. 18, 1962.

SN 202,760. Chemical Ordnance Corporation, Pittsburgh, Pa. Filed Sept. 28, 1964.

TGASI

For Non-Explosive Defensive Weapons in the Nature of Tear Gas Packaged in Aerosol Containers.
First use June 15, 1964.

Class 10 — Fertilizers

SN 206,424. The Davey Tree Expert Company, Kent, Ohio. Filed Nov. 18, 1964.

Davey-Green

Owner of Reg. Nos. 508,415 and 579,534.
For Lawn Food.
First use Aug. 1, 1964.

SN 209,439. International Minerals & Chemical Corporation, Skokie, Ill. Filed Jan. 6, 1965.

GOLD CUP

For Fertilizers.
First use Sept. 1, 1964.

Class 11 — Inks and Inking Materials

SN 204,247. Embossograph Process Company, Incorporated, Brooklyn, N.Y. Filed Oct. 19, 1964.

PERMA GOLD

The drawing is lined for the color gold.
For Thermographic Metallic Raising Powder.
First use July 10, 1964.

SN 206,298. Harold B. Sherfy, d.b.a. Halotone, San Francisco, Calif. Filed Nov. 16, 1964.

halotone

For Printing and Mimeograph Inks in Paste, Semi-Paste, and Liquid Form.
First use July 29, 1964.

Class 12 — Construction Materials

SN 172,735. The Flintkote Company, New York, N.Y. Filed July 10, 1963.

PYROSET

For Plastic Coated Asbestos-Cement Siding Panels Which Have Undergone a Heat Treating Process.
First use June 15, 1962.

SN 198,188. Mapes and Co., Lincoln, Nebr. Filed July 20, 1964.

SHADOPANEL

For Porcelain Finished Aluminum Decorative Exterior Wall Facing, Sometimes Used as a Solar Screen.
First use June 22, 1964.

SN 203,135. Barry Wright Corporation, Watertown, Mass. Filed Oct. 1, 1964.

BARRY B CONTROLS

No claim is made to the word "Controls" apart from the mark as shown. Owner of Reg. Nos. 587,542, 769,915, and others.
For Prefabricated Shelves, Mounting Bases for Stable Platforms Used in Ground-To-Air Missiles, Supports for Countermeasure Systems in Aircraft and Test Fixtures, and Plates, I-beams, Channels, Angles and Other Construction Materials Made of Combinations of Metal and Viscoelastic Materials for Use in Making the Aforesaid Articles, and Also for Use in Making Boxes, for Housing Stable Platforms in Ground-To-Air Missiles and Electronic and Electromechanical Equipment; Ducts, Buildings, Rooms, Machinery Foundations, Airplane and Missile Structures and Chassis and Parts for Electrical and Electronic Equipment.
First use May 22, 1963.

SN 205,267. Epoxy Armorbond Corp. of America, South Gate, Calif. Filed Nov. 2, 1964.

ARMORCRETE

For Concrete, Surface Coating and Adhesive Mix Kit, Comprising a Cement-Sand Mix, an Emulsion, and a Catalyst; and Cement-Sand Mix Sold Separately as a Component of Said Kit.
First use Aug. 25, 1964.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

SN 194,771. Amerock Corporation, Rockford, Ill. Filed June 3, 1964.

HEIRLOOM

For Cabinet Hardware Such as Knobs, Pulls, Hinges, and the Like.
First use December 1962.

SN 194,772. Amerock Corporation, Rockford, Ill. Filed June 3, 1964.

PATRICIAN

For Cabinet Hardware Such as Knobs, Pulls, Hinges, and the Like.
First use December 1963.

SN 202,215. American Sterilizer Company, Erie, Pa. Filed Sept. 21, 1964.

UNI. TIZED AUTO MATIC

For Sinks for Use in Hospitals and Clinics.
First use July 13, 1964.

SN 208,878. American Pipe Fittings Association, New York, N.Y. Filed Dec. 28, 1964.

MEMBER
apfa
AMERICAN PIPE FITTINGS ASSOCIATION

For Cast Iron and Malleable Iron Fittings, Malleable Iron Unions, Brass Fittings and Unions, Iron and Brass Nipples, Steel Pipe Fittings, and Pipe Hangers.
First use Dec. 1, 1964.

Class 14 — Metals and Metal Castings and Forgings

SN 214,588. Superior Steel Castings Company, Benton Harbor, Mich. Filed Mar. 19, 1965.

SHELMET

For Ferrous Metal Castings.
First use Mar. 10, 1965.

SN 214,797. Southern Steel Company, San Antonio, Tex. Filed Mar. 23, 1965.

BINON

For Tool-Resisting Steel Round Bars for Jails.
First use June 2, 1927.

Class 16—Protective and Decorative Coatings

SN 171,294. Humble Oil & Refining Company, Houston, Tex. Filed June 18, 1963.

ELOMA

Owner of Reg. No. 315,954.

For Protective Coatings—Namely, Industrial Anti-Corrosive and Anti-Oxidative Protective Varnish-Like Coatings for Metallic Surfaces Such as Pipes, Plates, Rods, Rails, Sheets, and the Like.

First use at least as early as January 1939.

SN 180,942. Morton Salt Company, Chicago, Ill. Filed Nov. 12, 1963.

BARAVYN

For Water, Grease, and Chemical Resistant Coating Material for Paper, Paperboard, and Other Flexible or Rigid Surfaces.

First use on or about Sept. 23, 1963.

SN 194,977. Flood & Conklin Mfg. Co., Newark, N.J. Filed June 5, 1964.

RANGER

For Varnishes for Use on Interior and Exterior Wood Surfaces.

First use April 1964.

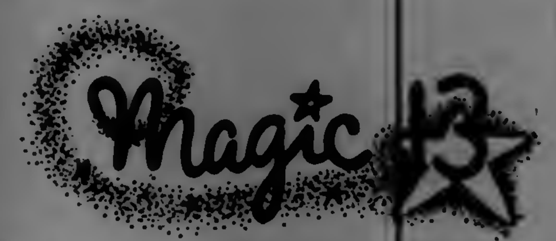
SN 200,080. DBA Products Co., Inc., Deerfield, Ill. Filed Aug. 18, 1964.

DECK-TITE

For Clear Plastic Coating Used in Bowling Alleys To Protect and Rejuvenate Kickbacks and Pin Decks, Prevent Splintering, Chipping, and Cracking.

First use Feb. 17, 1964.

SN 201,850. The Martin-Senour Company, Chicago, Ill. Filed Sept. 14, 1964.



For Multi-Purpose Tinting Colors for Protective and Decorative Coatings.

First use Feb. 7, 1961.

Class 17—Tobacco Products

SN 204,263. Anton Justman (Amsterdam & London) Limited, London, England. Filed Oct. 19, 1964.

ANTON JUSTMAN'S

"Anton Justman" is the name of an individual now deceased. Owner of British Reg. No. B.8[illegible],708, dated May 3, 1963; and U.S. Reg. No. 769,050.

For Smoking Tobacco.

SN 208,263. Liggett & Myers Tobacco Company, New York, N.Y. Filed Dec. 16, 1964.

HARMONY

For Smoking Tobacco.

First use in or about 1918.

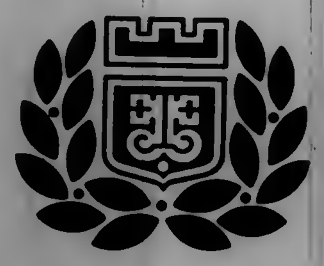
SN 208,310. The American Tobacco Company, New York, N.Y. Filed Dec. 17, 1964.

WESTBROOK

For Cigarettes.

First use Dec. 11, 1964.

SN 208,986. The American Tobacco Company, New York, N.Y. Filed Dec. 29, 1964.



Owner of Reg. No. 675,595.

For Cigarettes.

First use Dec. 21, 1964.

SN 209,614. Liggett & Myers Tobacco Company, New York, N.Y. Filed Jan. 8, 1965.

MASTERPIECE

Owner of Reg. No. 755,811.

For Cigarettes.

First use Dec. 18, 1964.

SN 209,615. Liggett & Myers Tobacco Company, New York, N.Y. Filed Jan. 8, 1965.

VELVET

Owner of Reg. No. 136,516.

For Cigarettes.

First use Nov. 23, 1964.

SN 211,101. St. James's Tobacco Company Limited, London, England. Filed Jan. 29, 1965.

FIRST LORD

Owner of British Reg. No. 625,490, dated Sept. 27, 1943.

For Tobacco, Cigars, and Cigarettes.

Class 18—Medicines and Pharmaceutical Preparations

SN 154,756. Nutrilite Products, Inc., Buena Park, Calif. Filed Oct. 8, 1962.

NUTRILOCK

For Clear or Opaque Film-Type Coating Incorporated on Medicinal Tablets.

First use May 28, 1962.

SN 189,359. Pi-Lon Laboratories, Incorporated, Detroit, Mich. Filed Mar. 23, 1964.

AMSULES

For Sustained Release Medication in Tablet and Capsule Form.

First use Sept. 25, 1962.

SN 199,476. Shield Laboratories, Inc., Yonkers, N.Y. Filed Aug. 7, 1964.

DERMOIL

For Preparation for the Relief of the Symptoms of Psoriasis.

First use at least as early as 1934.

SN 200,593. Pentapharm AG, Basel, Switzerland. Filed Aug. 25, 1964.

HEMOSTASE

For Antihermorrhagic.

First use May 21, 1957; in commerce May 21, 1957.

SN 202,949. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Sept. 29, 1964.

SETHOTOPE

For Diagnostic Radio Selenomethionine Se 75 Pharmaceutical.

First use Aug. 22, 1963.

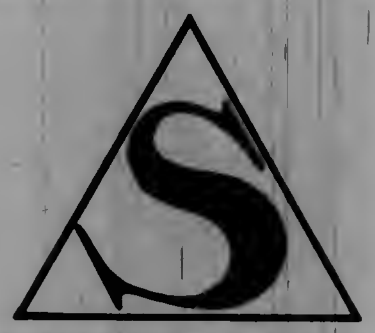
SN 204,514. G. D. Searle & Co., Skokie, Ill. Filed Oct. 21, 1964.

COMPACK

For Pharmaceutical Preparations Having Progestational and Other Hormonal Properties Arranged and Presented for Cyclic Administration.

First use Sept. 15, 1964.

SN 205,855. Sandoz, Inc., Hanover, N.J. Filed Nov. 9, 1964.



For Pharmaceuticals Other Than Vitamins.

First use Jan. 2, 1925.

SN 206,061. Mundo Products, Inc., White Plains, N.Y. Filed Nov. 12, 1964.

CURBETTES

For Tablets To Help Break the Cigarette Habit.

First use Sept. 25, 1964.

SN 206,679. Animal Nutritional Service Co., Inc., Madison, Wis. Filed Nov. 23, 1964.

AnSco

For Vitamin and Mineral Feed Supplements for Animal Use.

First use Sept. 21, 1964.

SN 206,680. Animal Nutritional Service Co., Inc., Madison, Wis. Filed Nov. 23, 1964.

MIN-PLEX

For Mineral Feed Supplement for Animal Use.

First use Sept. 21, 1964.

SN 209,649. American Home Products Corporation, New York, N.Y. Filed Jan. 11, 1965.

ECHOPHENYLINE

For Ophthalmic Preparation.

First use June 12, 1964.

SN 210,524. Biber Pharmacal Co., Inc., Newark, N.J. Filed Jan. 25, 1965.

QUADRIBARBS

For Sedative Preparation.

First use Oct. 15, 1957.

SN 212,244. Pritchard Pharmaceutical Products, Inc., Kansas City, Mo. Filed Feb. 17, 1965.

ESTROLAC

For Vaginal Suppository.

First use Feb. 5, 1965.

SN 212,816. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories, Los Angeles, Calif. Filed Feb. 25, 1965.

CONADIL

For Anticonvulsant Preparation.

First use Jan. 21, 1965.

SN 213,338. Medicinal Research Laboratories Inc., Philadelphia, Pa. Filed Mar. 4, 1965.

MAGSILICATE

For Antacid-Adsorbent.

First use March 1938.

SN 213,451. The Mennen Company, Morristown, N.J. Filed Mar. 5, 1965.

BABY MAGIC

Owner of Reg. No. 580,657.

For Rash Ointment.

First use Feb. 9, 1965.

Class 19—Vehicles

SN 186,734. Magnolia Mobile Homes Manufacturing Corporation, Vicksburg, Miss. Filed Feb. 14, 1964.

LEISURAMA

For Mobile Homes.

First use January 1962.

SN 194,736. Dennis Mitchell Industries, Inc., d.b.a. Dennis Mitchell Industries, Philadelphia, Pa. Filed June 2, 1964.

Safe-Guard

For Children's Automobile Seats.

First use on or about Feb. 17, 1964.

SN 205,403. The Greyhound Corporation, Chicago, Ill. Filed Nov. 3, 1964.

mcl
The Mark of Responsibility

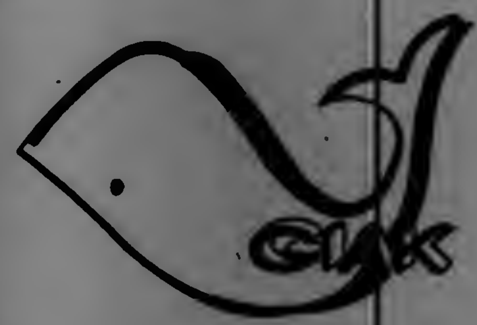
The words "The Mark of Responsibility" are disclaimed apart from the mark as shown.
For Motor Buses.
First use Dec. 15, 1962.

SN 209,134. Charles H. Krueger, Jr., d.b.a. Krueger & Company, Mishawaka, Ind. Filed Dec. 29, 1964.

Wheelacan

For Cart.
First use Oct. 2, 1964.

SN 209,141. Frederick D. Blake, Menomonie, Wis. Filed Dec. 31, 1964.



For Boats.
First use Sept. 15, 1964.

Class 21 — Electrical Apparatus, Machines, and Supplies

SN 176,784. Electri-Flex Company, Roselle, Ill. Filed Sept. 12, 1963.

FLEXIBOND

For Anchoring for Flexible Electrical Conduit.
First use on or about Aug. 8, 1963.

SN 179,704. Eltra Corporation, Toledo, Ohio. Filed Oct. 24, 1963.

ACTION

Owner of Reg. No. 315,682.
For Generators, Alternators, Motors, Storage Batteries, Spark Plugs, Wire and Cable, Voltage Regulators, Electric Storaging, Generating, Engine Starting, Ignition, Indicating and Regulating Apparatus, Electric Wiring, Switching and Controlling Devices, Components and Accessories Therefor, Particularly Adapted for Automotive Engines, Electric Lighting Devices, Electrically Actuated Apparatus for Producing Visual-Audible Warning and Direction Signals and Parts Therefor, Particularly Adapted for Use With Self-Propelled Vehicles.
First use Mar. 26, 1934, on electric storage batteries.

SN 181,359. International Electronics Corporation, New York, N.Y. Filed Nov. 18, 1963.

10 M
Series

For Electron Tubes.
First use Oct. 1, 1955.

SN 194,139. Compagnie Francaise Thomson-Houston, Paris, France. Filed May 25, 1964.

EXPLORICON

Priority claimed under Sec. 44(d) on French Reg. No. 517,633, dated Dec. 4, 1963 (Seine); Natl. Inst. No. 215,704.
For Electron Tubes for Medical Apparatus and Television Apparatus and Especially for Television Apparatus Used in Aerospace Applications and in Devices for Utilizing or Observing Nuclear Reactions, Particularly Television Camera Tubes, Image Tubes, Amplifiers, Converters and Scanners, Travelling Wave Tubes, Tubes Incorporating a Photoelectric Cell, and Storage Tubes.

SN 195,881. The Muter Company, Chicago, Ill. Filed June 17, 1964.

ΔDELTA

For Loudspeakers.
First use Feb. 17, 1964.

SN 197,179. Ronson Corporation, Woodbridge, N.J. Filed July 6, 1964.

RONSON
automatically better

No registration rights are claimed for the words "Automatically Better" apart from the mark shown; but applicant waives none of its common law rights in the mark shown or any feature thereof. Owner of Reg. Nos. 160,372, 768,070, and others.
For Electric Knife.
First use May 1, 1964.

SN 198,534. Carlton Controls Corporation, Worcester, Mass. Filed July 27, 1964.

CARLTON C/N CONTROLS

The word "Controls" is hereby disclaimed apart from the mark as shown.
For Electrically Actuated Programming Controls and Control Panels for Machinery.
First use May 20, 1964.

SN 198,906. Star-Lite Electronics Corporation, New York, N.Y. Filed July 30, 1964.

MASTER-CRAFT

For Radios, Portable and Electric; Radio Transmitters and Receivers, Portable and Electric; and Public Address Systems, Portable and Electric.
First use on or about Jan. 15, 1964.

SN 199,700. Rothenbuhler Engineering, Sedro Woolley, Wash. Filed Aug. 11, 1964.

TALKIE TOOTER

For Radio Transmitter and Receiver Used for Remote Signalling Purposes.
First use 1954.

SN 201,328. George Alfred Partridge, d.b.a. Partridge Electronics, Broadstairs, Kent, England. Filed Sept. 1, 1964.

JOYSTICK

Owner of British Reg. No. 839,458, dated Sept. 20, 1962.
For Antennas for the Transmission and Reception of Radio Signals Over Medium and Short Wave Bands.

SN 203,090. Hoosier Industries, Inc., La Porte, Ind. Filed Oct. 1, 1964.

top temp

For Electric Water Heaters.
First use Aug. 21, 1964.

SN 203,792. National Presto Industries, Inc., Eau Claire, Wis. Filed Oct. 12, 1964.
Owner of Reg. Nos. 236,795, 420,205, and others.

PRESTO

For Electric Can Openers, Knife Sharpeners, and Toasters.
First use July 22, 1964.

SN 203,945. Novo Industrial Corporation, New York, N.Y., assignee of Delta Electric Company, Marion, Ind. Filed Oct. 14, 1964.

DELTA-MATIC

For Electrical Switches for Water Pumps.
First use Aug. 28, 1964.

Class 22 — Games, Toys, and Sporting Goods

SN 162,467. Mattel, Inc., Hawthorne, Calif. Filed Feb. 11, 1963.

CHATTY SKATE 'N SLIDE

Owner of Reg. Nos. 742,639, 768,394, and others.
For Equipment Sold as a Unit for Playing a Board-Type Parlor Game for Children.
First use Apr. 3, 1963.

SN 165,479. Sifo Company, St. Paul, Minn. Filed Mar. 1, 1963.

KIDDIE KARY CAGE

For Building Blocks and Container Therefor.
First use Mar. 1, 1957.

SN 176,405. Stowe-Woodward, Inc., Newton Upper Falls, Mass. Filed Sept. 5, 1963.

REGENCY 300

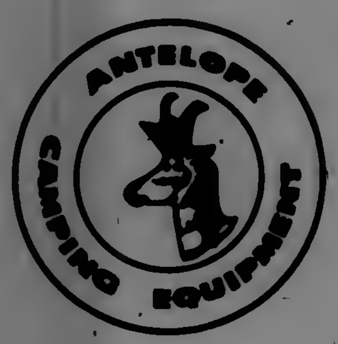
For Bowling Balls.
First use June 20, 1963.

SN 179,349. Robert F. Morgan, Jr., d.b.a. Tik-A-Tab Products, Westwood, N.J. Filed Oct. 18, 1963.

SKI-TAB

For Novelty, Ski Lift Ticket Holder.
First use Aug. 20, 1963.

SN 187,863. Edward H. Goddard, d.b.a. Antelope Camping Equipment Manufacturing Company, Monte Vista, Calif. Filed Mar. 3, 1964.



No claim of exclusive right is made to "Camping Equipment" for the goods recited.
For Back Pack Camping Equipment, Such as Knapsacks, Pack Frames, and Pack Frame Bags.
First use May 1, 1962.

SN 189,327. La Mecanique Halieutique Etablissements Dubert, Grisolles, Tarn-et-Garone, France. Filed Mar. 23, 1964.

RU-MER

Owner of French Reg. No. 518, dated Jan. 20, 1961 (Montauban); Natl. Inst. No. 158,080.
For Fishing Reels, Fishing Rods, and Fishing Threads.

SN 191,600. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Apr. 20, 1964.

TUP-O-TOY

No claim of exclusive right is made to "Toy" for the goods recited. Owner of Reg. Nos. 500,050 and 652,341.
For Novelty Plastic Toy.
First use Mar. 26, 1964.

SN 191,601. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Apr. 20, 1964.

TUP-TOT-TOY

Owner of Reg. Nos. 500,050 and 652,341.
For Novelty Plastic Toy.
First use Mar. 26, 1964.

SN 191,602. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Apr. 20, 1964.

TOT-TUP

Owner of Reg. Nos. 500,050 and 652,341.
For Novelty Plastic Toy.
First use Mar. 26, 1964.

SN 193,400. Robert L. Petrowsky, d.b.a. Parsec Labs, Chicago, Ill. Filed May 13, 1964.

ELECTRO-WIT

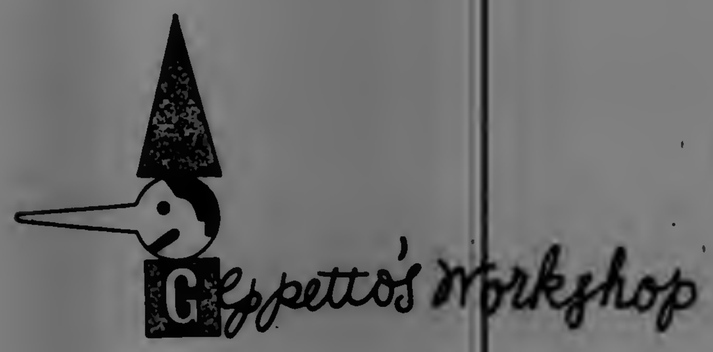
For Equipment Sold as a Unit for Playing an Amusement and/or Educational Parlor Game.
First use on or about Sept. 21, 1963.

SN 194,423. Roth Schlenger Incorporated, d.b.a. R & S Auto Stores, Union, N.J. Filed May 27, 1964.

GRAND PRIX

For Fishing Supplies—Namely, Fishing Rods, Fishing Reels, Fishing Lines, Bait in Packaged Form, Lures, Sinkers, Creels, Landing Nets, Flies, and Leaders.
First use Jan. 7, 1964.

SN 194,726. Harry Kislevitz, River Edge, N.J. Filed June 2, 1964.



The name feature of the mark, "Geppetto's," is fanciful.
For Toys—Namely, Marionettes, Hobby Horses, Dolls, Rocking Horses, Toy Work Shops, Pull Toys, and Jack-In-The-Box.
First use Feb. 28, 1964.

SN 198,481. Elmer L. Jernigan, Detroit, Mich. Filed July 24, 1964.

For Arrowheads.
First use Mar. 10, 1962.

SN 199,503. Sherbrooke Paper Products Limited, Lachine, Quebec, Canada. Filed Aug. 7, 1964.

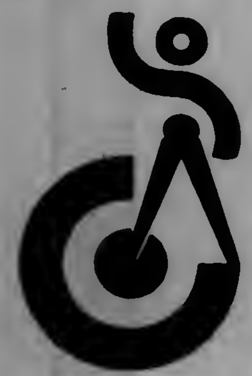
Applicant disclaims the word "Toy" apart from the mark.
For Toys Consisting of Playhouse, TV Chair, TV Table, Large Blocks, Toy Chests, Play Store, Play Gas Station, and the Like.
First use Apr. 1, 1963; in commerce Apr. 1, 1963.

SN 200,060. American Machine & Foundry Company, New York, N.Y. Filed Aug. 18, 1964.

MOTOROAR-R

For Motor Sound Makers for Bicycles, Velocipedes and Juvenile Vehicles.
First use at least as early as June 1964.

SN 200,871. Saunders Archery Target Company, Columbus, Nebr. Filed Aug. 28, 1964.



For Archery Target Butts and Archery Accessories.
First use July 1, 1941.

SN 204,438. Amsco Industries, Inc., Hatboro, Pa. Filed Oct. 21, 1964.

HOOPER-DOOPER

For Toys—Namely, Manipulative Hoop Devices.
First use on or about Sept. 14, 1964.

SN 204,439. Amsco Industries, Inc., Hatboro, Pa. Filed Oct. 21, 1964.

GULLIVER'S BOOTS

For Toys—Namely, Platform Stilts.
First use on or about Oct. 8, 1964.

SN 204,440. Amsco Industries, Inc., Hatboro, Pa. Filed Oct. 21, 1964.

TEN LEAGUE BOOTS

For Toys—Namely, Platform Stilts.
First use on or about Oct. 8, 1964.

SN 204,441. Amsco Industries, Inc., Hatboro, Pa. Filed Oct. 21, 1964.

GIANT BOOTS

For Toys—Namely, Platform Stilts.
First use on or about Sept. 14, 1964.

SN 205,575. De Luxe Reading Corporation, Elizabeth, N.J. Filed Nov. 5, 1964.

SUPER-HELMET SEVEN

For the purpose of this application only, applicant disclaims the words "Super" and "Helmet" apart from the mark as shown.
For Toy Helmet.
First use Sept. 11, 1964.

SN 205,642. Wolverine Shoe and Tanning Corporation, Rockford, Mich. Filed Nov. 5, 1964.

FREE LOADER

For Sporting Goods—Namely, Ski and Ski Boot Carriers.
First use on or about Oct. 21, 1964.

SN 206,183. Romeo Robert, Charlesbourg, Quebec, Canada. Filed Nov. 13, 1964.

STOCK BRIDGE

For Equipment for Playing a Card Game.
First use Oct. 14, 1963; in commerce July 10, 1964.

SN 206,370. Model Products Corporation, Mount Clemens, Mich. Filed Nov. 17, 1964.

GANGBUSTERS

For Toy Model Vehicle Kits and Accessories Therefor.
First use Oct. 14, 1964.

SN 207,020. De Luxe Reading Corporation, Elizabeth, N.J. Filed Nov. 27, 1964.

JOHNNY EXPRESS

The word "Express" is disclaimed apart from the mark as shown.
For Toy Trucks.
First use Oct. 21, 1964.

SN 208,887. Brunswick Corporation, Chicago, Ill. Filed Dec. 28, 1964.

TRAC-MASTER

For Bowling Balls.
First use Aug. 13, 1964.

SN 209,064. Coleco Industries, Inc., Hartford, Conn. Filed Dec. 30, 1964.

SNO-*JET*

For Snow Vehicles—Namely, Sleds, Toboggans, Coasters, and Skis.
First use on or before Aug. 31, 1959.

SN 209,103. Louis Marx & Co. Inc., New York, N.Y. Filed Dec. 30, 1964.

THE BIG PARADE

For Battery Operated Mechanical Toy Soldier Sets.
First use Apr. 23, 1964.

SN 209,672. R. Dakin & Company, San Francisco, Calif. Filed Jan. 11, 1965.

DREAM PETS

Owner of Reg. No. 662,180.
For Stuffed Animal Toys.
First use Apr. 25, 1957.

SN 209,812. Darrel W. Smith, d.b.a. Cardinal Indus., and D. W. Smith & Co., Minneapolis, Minn. Filed Jan. 12, 1965.

GLURP

For Stuffed Figures Having Grotesque Appearance.
First use Dec. 28, 1964.

SN 209,813. Darrel W. Smith, d.b.a. Cardinal Indus., and D. W. Smith & Co., Minneapolis, Minn. Filed Jan. 12, 1965.

SLURP

For Stuffed Figures Having Grotesque Appearance.
First use Dec. 28, 1964.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 156,676. Speedfast Corporation, Long Island City, N.Y. Filed Nov. 5, 1962.

SPEED

Owner of Reg. Nos. 646,770, 670,188, and others.
For Fastening Devices.
First use July 10, 1936.

SN 172,049. Continental Sensing Inc., Melrose Park, Ill. Filed June 28, 1963.

CON-O-SAW

For Portable, High Speed, Cut-Off Saws Employing Abrasive Wheels for Cutting Intractable Materials, Including Precious Metals, Ceramics, Plastics, and Tungsten.
First use Apr. 27, 1963.

SN 176,123. Sunbeam Equipment Corporation, Meadville, Pa. Filed Aug. 30, 1963.

SUNBEAM

For Metal Parts Washing, Rinsing, and Drying Apparatus, and Parts Thereof.
First use Sept. 10, 1962.

SN 184,510. Regent-Sheffield, Ltd., Whitestone, N.Y. Filed Jan. 13, 1964.

MIRACLE WORKER

For Carving Knife Particularly Useful in Cutting Frozen Foods.
First use on or about Aug. 15, 1963.

SN 188,121. Ford McKenzie MacElvain, d.b.a. Horticultural Engineers, Lafayette, Ala. Filed Mar. 6, 1964.

HYDRA-SPADE

For Deep-Watering Device of the Nature of a Pipe or Tube Hand-Insertable in the Ground in the Vicinity of the Roots of Plants.
First use June 1, 1960.

SN 191,290. Independent Manufacturing Co., Inc., Neodesha, Kans. Filed Apr. 16, 1964.

IMCO

The drawing is lined for red, but no claim is made to any particular color.

For Farm Implements and Machinery—Namely, Disc Plows, Disc Harrows, Grader Blades, Landscrapers, Post Hole Diggers, and Tillers.

First use during June 1958.

SN 192,551. Blair Equipment Company, Flushing, Mich. Filed May 4, 1964.

BLAIRCUTTER

For Cutter Kits Consisting of an Arbor and a Plurality of Interchangeable Reversible Cutters for Attachment Thereto.

First use Dec. 9, 1956.

SN 209,092. KVP Sutherland Paper Company, Kalamazoo, Mich. Filed Dec. 30, 1964.

LUNCHPAK

Owner of Reg. No. 788,311.

For Packaging Equipment, Pauch Formers, Pouch Folders, Pouch Closers, Feeders, Sealers, and Packaging Lines Embodying a Plurality of the Foregoing.

First use Oct. 23, 1964.

Class 25—Locks and Safes

SN 213,016. Independent Lock Company, Fitchburg, Mass. Filed Mar. 1, 1965.

ILCO

Owner of Reg. Nos. 159,382, 556,511, and others.

For Key Blanks, Locks and Components Thereof, Lock Combination Change Keys, and Key Blank Display Boards.

First use Nov. 10, 1964.

Class 26—Measuring and Scientific Appliances

SN 170,264. The Plastic Coating Corporation, Holyoke, Mass. Filed May 29, 1963.

STATIGRAPH

Owner of Reg. No. 687,937.

For Expendable Photoelectrostatic Paper for Reproduction Purposes.

First use Nov. 19, 1958.

SN 182,647. Pathe Products, Incorporated, Providence, R.I. Filed Dec. 9, 1963.

BTL

For Light Measuring Devices for Motion Picture Cameras.

First use Mar. 1, 1963.

SN 193,117. Colight, Inc., Minneapolis, Minn. Filed May 11, 1964.

SCANEX

For Photographic Exposure Apparatus for Printed Plates.

First use Mar. 2, 1964.

SN 195,548. Radiant Manufacturing Corporation, Morton Grove, Ill. Filed June 12, 1964.

MICRO·FLECT

Owner of Reg. Nos. 435,535 and 560,734.

For Projection Screen Fabric.

First use Feb. 27, 1963.

SN 196,489. Waugh Controls Corporation, Van Nuys, Calif. Filed June 25, 1964.

RATIODYNE

For Flow Ratio Control Instruments and Blending Devices.

First use June 18, 1964.

SN 197,045. Bloomingdale Instruments, Inc., Hicksville, N.Y. Filed June 26, 1964.

VISICOM

For Electronic Equipment for Furnishing and Displaying Information, Such as Race Track Odds, Football Results, and Airport Information; and for Similar Purposes for Reading Like Information.

First use Feb. 8, 1964.

SN 199,418. Union Carbide Corporation, New York, N.Y. Filed Aug. 6, 1964.

EVEREADY

Owner of Reg. No. 516,924.

For Electric Equipment and Controls for Testing Batteries.

First use on or about Mar. 27, 1961.

SN 201,249. Veeco Instruments Inc., Plainview, N.Y., by change of name from Vacuum-Electronics Corp., Plainview, N.Y. Filed Sept. 3, 1964.

Veeco

Owner of Reg. Nos. 619,030 and 661,632.

For Vacuum Gauging Devices, Valves, Pumps, Controls; Electronic Systems and Parts Therefor for High Vacuum Systems, Ultra-High Vacuum Systems, Leak Detectors, Gas Analysis, and Evaporators.

First use July 1, 1946.

SN 203,641. Atlantic Research Corporation, Alexandria, Va. Filed Oct. 9, 1964.

ARCASONDE

Owner of Reg. No. 757,714.

For Telemetering Apparatus and Instruments, Radiosondes, and Transponders.

First use April 1961.

SN 203,875. Kalvar Corporation, New Orleans, La. Filed Oct. 13, 1964.

KALVAFICHE

Owner of Reg. Nos. 691,242, 745,414, and others.

For Photographic Film of the Light-Scattering Heat Developable Type.

First use Sept. 14, 1964.

SN 205,328. Niezoldi and Kramer GmbH, Munich, Germany. Filed Nov. 2, 1964.

NIZO

For Motion Picture Cameras and Projectors and Film Splicers.

First use at least as early as July 1950; in commerce at least as early as July 1950.

SN 205,372. Textron Electronics, Inc., d.b.a. Spectrolab, Sylmar, Calif. Filed Nov. 2, 1964.

SPECTROSCAN

For High Aperture Monochromator.

First use on or before June 26, 1963.

SN 205,764. Bell & Howell Company, Chicago, Ill. Filed Nov. 9, 1964.

PERPETUA

For Motion Picture Cameras.

First use prior to 1959.

SN 206,412. Botany Industries, Inc., d.b.a. Sea & Ski Company, Reno, Nev. Filed Nov. 18, 1964.

GIRL WATCHERS

For Sunglasses.

First use Oct. 8, 1964.

SN 206,416. Botany Industries, Inc., d.b.a. Sea & Ski Company, Reno, Nev. Filed Nov. 18, 1964.

BOY WATCHERS

For Sunglasses.

First use Oct. 8, 1964.

SN 206,446. General Microwave Corporation, Farmingdale, N.Y. Filed Nov. 18, 1964.

TFT

For Electric Power Measuring Devices—Namely, Power Heads.

First use July 20, 1964.

SN 207,860. Bissell, Inc., Grand Rapids, Mich. Filed Dec. 10, 1964.

TOP FIT

For Bathroom Scales.

First use Nov. 5, 1964.

SN 208,722. Chromatography Corporation of America, Chicago, Ill. Filed Dec. 28, 1964.

CCA

Analytical Systems and Apparatus and Accessories Therefor for Use in Liquid Chromatographic Analytical Procedures.

First use on or about Feb. 16, 1962.

SN 209,859. Instrumentation Laboratory, Inc., Watertown, Mass. Filed Jan. 13, 1965.

PORTO-MATIC

For pH Measuring Instruments.

First use Dec. 29, 1964.

SN 210,387. The Victoreen Instrument Company, Cleveland, Ohio. Filed Jan. 21, 1965.

PICOMETER

For Dynamic Capacitor Electrometers.

First use November 1964.

Class 27—Horological Instruments

SN 212,348. Popper Industries, Inc., New York, N.Y. Filed Feb. 18, 1965.

MILLION

For Watches.

First use July 1, 1964.

SN 214,184. Sheffield Watch, Inc., New York, N.Y. Filed Mar. 15, 1965.

BLINKIE

For Watches and Clocks.

First use Jan. 28, 1965.

Class 28—Jewelry and Precious-Metal Ware

SN 203,204. The Richelieu Corp., Holbrook, N.Y. Filed Oct. 2, 1964.

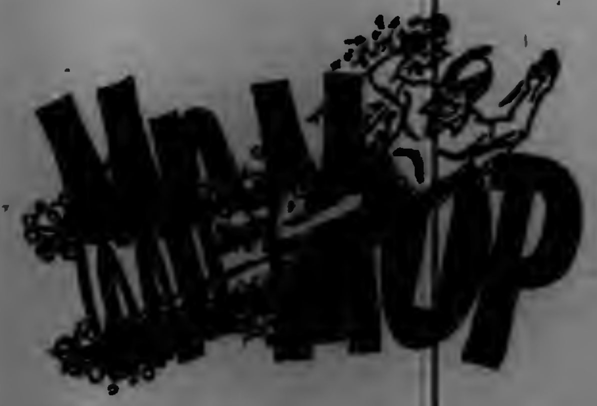
TRÉZA

For Necklaces, Bracelets, and Earrings.

First use August 1964.

Class 29 — Brooms, Brushes, and Dusters

SN 202,677. Du-Fold, Inc., Cleveland, Ohio. Filed Sept. 25, 1964.



The word "Mop" in this instance is disclaimed apart from the mark as shown.
For Mops.
First use at least as early as Aug. 26, 1964.

SN 213,995. The Lowden Company, Savannah, Ga. Filed Mar. 12, 1965.

AQUASPONGE

For Fountain-Supplied Cleaning Sponge.
First use on or about Nov. 6, 1964.

Class 31 — Filters and Refrigerators

SN 203,377. K. G. Brown Manufacturing Co., Inc., Mattituck, N.Y. Filed Oct. 6, 1964.

GROCERMAT

For Coin-Operated, Refrigerated Vending Machines for Food Products.
First use Mar. 26, 1963.

SN 207,376. Farr Company, El Segundo, Calif. Filed Dec. 3, 1964.

HP 200

For Industrial Air Filters.
First use Dec. 14, 1961.

SN 207,379. Farr Company, El Segundo, Calif. Filed Dec. 3, 1964.

HP 100

For Industrial Air Filters.
First use Nov. 14, 1961.

SN 208,119. San-O-Frost Corp., Mount Laurel Township, Moorestown, N.J. Filed Dec. 14, 1964.

SAN-O-FROST

For Refrigeration Equipment, Specifically a Device for Chilling and Frosting Glassware.
First use Nov. 14, 1964.

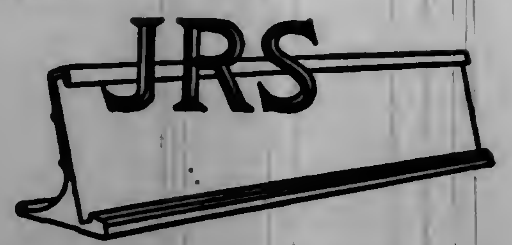
Class 32 — Furniture and Upholstery

SN 189,036. Barker Bros. Corp., Los Angeles, Calif. Filed Mar. 19, 1964.

MONTEREY

Owner of Reg. No. 261,589.
For Mattresses and Box Springs.
First use June 1, 1951.

SN 207,157. John R. Schmidgall, Temple City, Calif. Filed Nov. 30, 1964.



The representation of the goods is disclaimed apart from the mark as shown.
For Nameplate Holders and Advertising Poster Frames.
First use Jan. 10, 1960.

SN 208,589. Kolcraft Products, Inc., Chicago, Ill. Filed Dec. 21, 1964.

PEARL-ON

For Crib Mattresses and Parts Therefor—Namely, Cover Fabrics as Part of the Crib Mattress.
First use Jan. 6, 1964.

SN 209,595. Diks & Coenen N.V., Uden, Netherlands. Filed Jan. 8, 1965.

DICO

Owner of Dutch Reg. Nos. 114,820, dated Feb. 28, 1953; 130,032, dated Jan. 14, 1958; and 145,260, dated July 30, 1962.

For Tubular Steel Beds, Including Bedsteads, Folding Beds, Divans, Twin Beds, Convertible Beds, and Wire Mattresses; Tubular Steel Furniture, Tubular Steel Occasional Furniture; Mattresses, Bedsteads, Folding Beds, Divans, Twin Beds and Convertible Beds; Upper Mattresses, Including Interior Spring Mattresses, Kapok, Foam Plastic, and Foam Rubber Mattresses, Pillows and Bolsters Filled, Among Other Things, With Kapok, Foam Plastic, and Foam Rubber.
First use 1939; in commerce 1957

SN 210,255. B-C Sales Corporation, Tacoma, Wash. Filed Jan. 21, 1965.

STORYBOOK

For Room Divider Screens With Pictorial Decorations for Children's Rooms.
First use Dec. 15, 1964.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 170,222. Robert D. Rose, Phoenix, Ariz. Filed June 3, 1963.

MAGIC WHITTLE STICK

For Fire Starter Consisting Essentially of a Metal Rod From Which Burning Metal May Be Scraped.
First use Mar. 15, 1963.

SN 198,514. Atlas Metal Industries, Inc., Hialeah, Fla. Filed July 24, 1964.

SET-N-SERVE

For Counter-Like Unit for Cooking, Refrigerating and Maintaining Food in a Chilled or Heated Condition.
First use Apr. 1, 1964.

SN 207,316. Miller Electric Mfg. Co., Appleton, Wis. Filed Dec. 2, 1964.

FIREBALL

For Arc Welders.
First use Apr. 30, 1958.

SN 207,318. Miller Electric Mfg. Co., Appleton, Wis. Filed Dec. 2, 1964.

ROUSTABOUT

For Arc Welders.
First use Apr. 30, 1958.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 195,293. Goshen Rubber Co., Inc., Goshen, Ind. Filed June 10, 1964.

TETRASEALS

For Rubber Sealing Rings.
First use 1955.

SN 195,294. Goshen Rubber Co., Inc., Goshen, Ind. Filed June 10, 1964.

ANG-L-SEALS

For Rubber Sealing Rings.
First use October 1961.

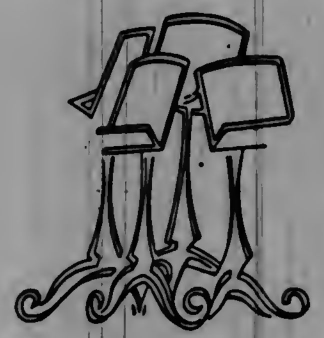
SN 207,056. Johns-Manville Corporation, New York, N.Y. Filed Nov. 27, 1964.

WILDCAT

Owner of Reg. No. 629,521.
For Friction Blocks and Linings.
First use at least in or about December 1960.

Class 36 — Musical Instruments and Supplies

SN 100,785. Sterone Corporation, New York, N.Y., assignee of Samuel Josefowitz, New York, N.Y. Filed July 13, 1960.



For Phonograph Records of the Circular Disk Type.
First use June 22, 1960.

SN 178,851. Jennings Musical Industries Limited, Dartford, Kent, England. Filed Oct. 11, 1963.

VOX

For Guitars, Guitar Accessories—Namely, Shoulder Straps, Guitar Covers, Guitar Cases, Tremolo Arms, Tremolo Units, Echo Units, Echo Reverberation Units, and Guitar Amplifiers.
First use Feb. 28, 1959; in commerce Apr. 30, 1960.

SN 184,730. Otis M. Larsen, d.b.a. Wigley & Associates, Minneapolis, Minn. Filed Jan. 16, 1964.

CHORD-COMBO

For Slide Rule-Type Device for Selecting Chord Forming Musical Notes.
First use Oct. 7, 1963.

SN 198,040. The Gray Manufacturing Company, Tecumseh, Mich. Filed July 17, 1964.

Owner of Reg. Nos. 604,238, 647,036, and others.
For Recording Machines, Dictation Machines, Transcribing Machines, and Accessories Therefor.
First use on or about July 17, 1963, on accessories.

SN 199,579. Kamaka & Sons Enterprises, Honolulu, Hawaii. Filed Aug. 10, 1964.

No claim is made to the word "Ukulele," apart from the mark shown. Owner of Reg. No. 239,259.
For Ukuleles.
First use Feb. 1, 1958.

SN 200,555. Edgar E. Dopera, d.b.a. Original Instruments, El Monte, Calif. Filed Aug. 25, 1964.

DOBRO

For Stringed Instruments—Namely, Guitars, Mandolins, and Banjos.
First use Jan. 28, 1963.

SN 202,646. Webcor, Inc., Chicago, Ill. Filed Sept. 24, 1964.

GEMINI D II

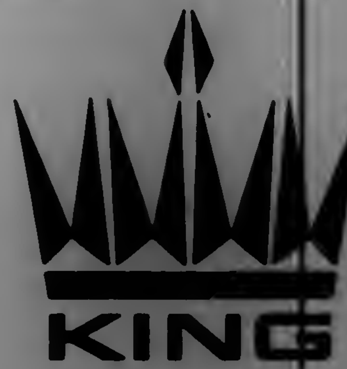
For Tape Recorders.
First use July 5, 1963.

SN 202,957. Remo, Inc., North Hollywood, Calif. Filed Sept. 29, 1964.

WEATHER KING

For Drum Heads.
First use June 11, 1957.

SN 202,974. The H. N. White Company, Cleveland, Ohio. Filed Sept. 29, 1964.



Owner of Reg. Nos. 165,363 and 756,44
For Trumpets, Cornets, Trombones, Saxophones, Flutes, Piccolos, Clarinets, French Horns, Baritones, Tromboniums, Altoniums, Sousaphones, Symphony Basses, String Basses, and Cellos.
First use Aug. 31, 1964.

Class 37 — Paper and Stationery

SN 182,524. Zip-Mark Corp., Jersey City, N.J. Filed Dec. 6, 1963.

YANKEE DOODLE

For Felt-Tipped Pens.
First use Aug. 19, 1963.

SN 182,534. Codo Manufacturing Corporation, Leetsdale, Pa. Filed Dec. 6, 1963.

CARBON-GRIPPER

For Backing Sheets for an Assembly of Carbon and Typewritten Sheets.
First use April 1935.

SN 191,354. Avrick and Company, Inc., Long Island City, N.Y. Filed Apr. 17, 1964.

ENDICOTT

For Envelopes, Paper, and Stationery.
First use Oct. 1, 1947.

SN 193,920. Bankers & Merchants, Inc., Chicago, Ill. Filed Feb. 17, 1965.

MARVY

For Marking Pens.
First use Dec. 5, 1963.

SN 199,901. Gulf States Paper Corporation, Tuscaloosa, Ala. Filed Aug. 14, 1964.

PERFECTION

Owner of Reg. Nos. 622,742, 623,507, and 737,690.
For Paper Tissue—Namely, Paper Towels, Napkins, Toilet Tissue, and Facial Tissue.
First use July 29, 1964.

SN 203,382. The Drawing Board, Inc., Dallas, Tex. Filed Oct. 6, 1964.

MEMO·GRAMS

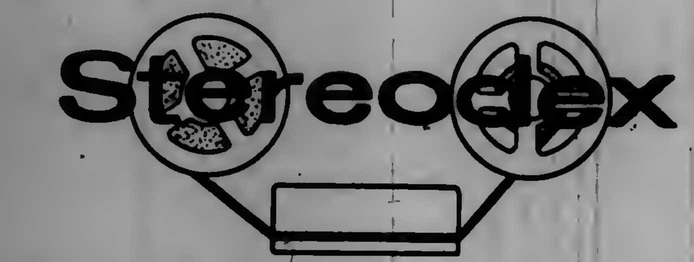
For Self-Duplicating Business Message Forms.
First use June 7, 1964.

SN 203,383. The Drawing Board, Inc., Dallas, Tex. Filed Oct. 6, 1964.

PHONE·O·GRAMS

For Self-Duplicating Message Forms.
First use June 7, 1964.

SN 203,895. Richard A. Singleton, Seattle, Wash. Filed Oct. 13, 1964.



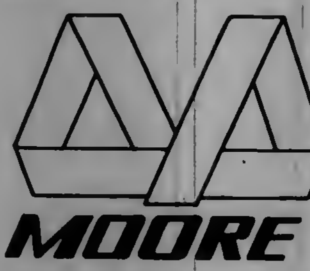
For Printed Forms for Indexing Magnetic Tapes.
First use on or about July 15, 1964.

SN 204,816. Natser Corporation, d.b.a. Acco Products, Ogdensburg, N.Y. Filed Oct. 26, 1964.

PIVOTABS

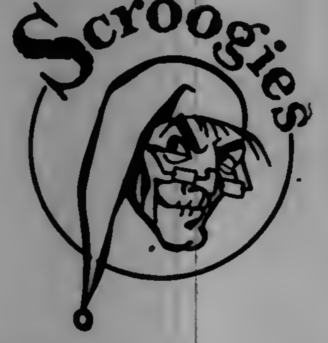
For Index Tabs.
First use Sept. 30, 1964.

SN 206,168. Moore Business Forms, Inc., Niagara Falls, N.Y. Filed Nov. 13, 1964.



Owner of Reg. Nos. 634,045, 645,766, and 774,141.
For Printed Business Forms.
First use Sept. 25, 1964; Aug. 9, 1946, as to "Moore."

SN 206,363. Kurt Klein, Buffalo, N.Y. Filed Nov. 17, 1964.



For Paper and Stationery.
First use Nov. 12, 1964.

SN 207,215. Jade Products, New York, N.Y. Filed Dec. 1, 1964.

TYPE-AID

For Correction Material in the Form of Tape and Sheets for Use in Correcting Typewriter Errors.
First use Feb. 5, 1964.

SN 207,298. International Paper Company, New York, N.Y. Filed Dec. 2, 1964.

RAP-ROUND

For Corrugated Paperboard Wrappers.
First use November 1964.

Class 38 — Prints and Publications

SN 194,805. Marian J. Johnston, d.b.a. Jones Book-A-Day Tests Co., Hot Springs, S. Dak. Filed June 3, 1964.

JONES BOOK-A-DAY TESTS

For Written Test Materials on Knowledge of Subject Matter of Particular Books.
First use May 1939.

SN 197,255. Automated Building Components, Inc., Miami, Fla. Filed July 7, 1964.

GANG-NAIL NEWSLETTER

The word "Newsletter" is disclaimed.
For Periodical Newsletters.
First use at least as early as November 1957.

SN 207,582. Electronic Engineering Company of California, Santa Ana, Calif. Filed Dec. 7, 1964.

⇒Digitimes

The drawing is lined for brown, but color is not claimed as a feature of the mark.
For Trade Bulletin.
First use May 17, 1962.

SN 207,895. The Music Trades Corporation, New York, N.Y. Filed Dec. 10, 1964.

THE MUSIC TRADES

For Monthly Trade Periodical.
First use Jan. 3, 1891.

SN 208,022. The America Press, New York, N.Y. Filed Dec. 14, 1964.

AMERICA

Owner of Reg. No. 336,306.
For Magazine.
First use Apr. 17, 1909.

Class 39 — Clothing

SN 180,786. Teenform, Inc., New York, N.Y. Filed Nov. 8, 1963.

DAINTI-TEEN

For Brassieres and Sanitary Panty-Belts.
First use Dec. 1, 1958.

SN 181,360. F. Jacobson & Sons, Inc., New York, N.Y. Filed Nov. 18, 1963.

BENTLEY

For Men's Shirts.
First use Jan. 4, 1956.

SN 184,506. Puritan Fashions Corp., New York, N.Y. Filed Jan. 13, 1964.

PEEK-A-BOOTH

For Women's and Misses' Wearing Apparel—Namely, Coats, Suits, Shirts, Jackets, Shorts, Slacks, Underwear, Sleepwear, Smoking Jackets, Casual Pajamas, and Pajamas.
First use Oct. 28, 1963.

SN 186,303. Wilson Sporting Goods Co., River Grove, Ill. Filed Feb. 7, 1964.

Wilson

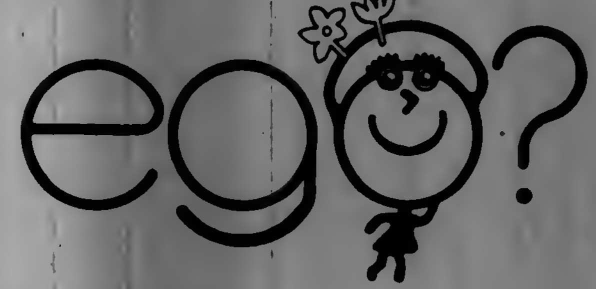
Owner of Reg. Nos. 382,480 and 760,275.
For Athletic Clothing—Namely, Golf Shoes, Socks, Jackets, Trousers, Rubbers, Caps, and Shirts; Tennis Jackets, Shirts, Shorts, Caps, and Shoes; Baseball Caps, Jackets, Dickies, Undershirts, and Belts; Track Pants and Shirts; T-Shirts; Gym Pants; Sweat Shirts; Sweat Pants; Football Jerseys, Belts, Warm-Up Jackets, Sideline Capes and Sideline Coats; Basketball Uniforms, Warm-Up Jackets, Warmp-Up Pants, Shoes and Socks; Athletic Socks; Football Officials' Shirts, Knickers, Jackets, Arm Bands, Caps, and Hose; Skirts; Sweaters; Jackets; Shoes; Jerseys and Pants; Boxing and Wrestling Robes; Boxing Trunks; Wrestling Shirts, Trunks, and Tights; and Gymnastic Clothing.
First use 1917 on golf socks and golf jackets.

SN 189,709. Kinney Shoe Corporation, New York, N.Y. Filed Mar. 26, 1964.

KINNEY Kapers

Owner of Reg. Nos. 234,611, 235,149, 717,220, and others.
For Girls' and Women's Shoes.
First use May 1956.

SN 192,231. Swan Shoe Company, Incorporated, Baltimore, Md. Filed Apr. 28, 1964.



For Shoes and Slippers.
First use Dec. 26, 1963.

SN 193,801. Harry Matsil & Sons, New York, N.Y. Filed May 19, 1964.

LORD ARLINGTON

For Men's and Boys' Bathrobes.
First use Mar. 20, 1964.

SN 194,628. Maggi Stover Corp., New York, N.Y. Filed June 1, 1964.

MAGGI STOVER

The name "Maggi Stover" is fanciful and is not the name of a particular living individual.

For Women's and Misses' Dresses and Suits Made of Woven and/or Knitted Fabrics.

First use December 1953.

SN 197,256. Ballston Knitting Co., Inc., Ballston Spa, N.Y. Filed July 7, 1964.

LASTING WEAR IN EVERY PAIR

Owner of Reg. No. 711,660.

For Socks.

First use Dec. 4, 1957.

SN 200,839. Oscar Freezman, Philadelphia, Pa. Filed Aug. 28, 1964.

F. GOBAL

For Nylon Hosiery.

First use June 9, 1964.

SN 202,014. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Sept. 16, 1964.

MYSTERIE

Owner of Reg. No. 280,358.

For Ladies' Hosiery, Lingerie, and Pajamas.

First use July 28, 1930, ladies' hosiery.

SN 202,015. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Sept. 16, 1964.

twenty four karat

Owner of Reg. Nos. 269,362 and 269,368.

For Ladies' Lingerie.

First use Apr. 20, 1964.

SN 203,038. Supowitz Bros., Pittsburgh, Pa. Filed Sept. 30, 1964.

IRON CITY

Owner of Reg. Nos. 411,473 and 604,271.

For Work Shoes.

First use at least as early as Sept. 1, 1954.

SN 203,632. Jerome DeMott, d.b.a. Watkins Appliance Co., New York, N.Y. Filed Oct. 8, 1964.

CO-TAIL

For Party Aprons.

First use June 1, 1964.

SN 204,914. Charles Navasky & Co., Inc., Philipsburg, Pa. Filed Oct. 27, 1964.

Dino GIOVANNI *Originals*

The word "Originals" is disclaimed apart from the mark as shown, without disclaiming any common law rights therein. The mark is fanciful.

For Men's, Students', and Boys' Suits, Sports Jackets, Slacks, and Outerwear—Namely, Jackets, Surcoats, and Raincoats.

First use at least as early as June 1, 1964.

SN 205,064. S. S. Kresge Company, Detroit, Mich. Filed Oct. 29, 1964.

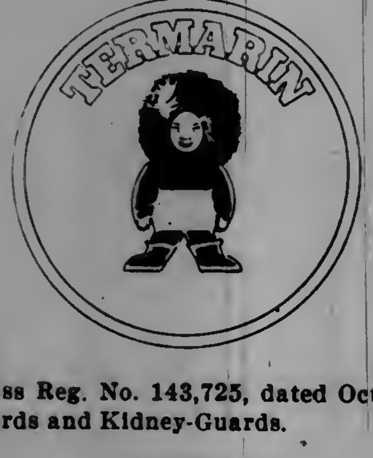
Kmart

Owner of Reg. No. 743,912.

For Hosiery.

First use February 1964.

SN 205,639. Paul Virchaux, Saint-Blaise, Neuchatel, Switzerland. Filed Apr. 5, 1965.



Owner of Swiss Reg. No. 143,725, dated Oct. 9, 1952.

For Knee-Guards and Kidney-Guards.

SN 205,852. S.A. des Chaussures "Sirius," Romand, Drome, France. Filed Nov. 9, 1964.

SIRIUS

For Shoes.

First use May 4, 1918; in commerce Nov. 2, 1952.

SN 206,224. Burma-Bibas, Inc., New York, N.Y. Filed Nov. 16, 1964.

B/B

BURMA-BIBAS

Owner of Reg. No. 664,760.

For Garments for Men—Namely, Neckties, Sport Shirts and Jackets; and Garments for Ladies—Namely, Knitted Dresses and Blouses, Skirts, Jackets, Sweaters, Slacks, and Suits.

First use Aug. 28, 1964.

SN 207,633. Max Factor & Co., d.b.a. Max Factor, Hollywood, Calif. Filed Dec. 7, 1964.

MAX FACTOR

The name "Max Factor" identifies the founder of applicant, now deceased.

For Women's Hosiery.

First use Nov. 27, 1964.

SN 208,538. Byer-Rolnick Corporation, Garland, Tex. Filed Dec. 21, 1964.

CHURCHILL

Owner of Reg. No. 634,089.

For Men's Hats.

First use April 1928.

SN 209,516. William B. Kessler, Inc., Hammonton, N.J. Filed Jan. 7, 1965.

CRUSHED ICE

For Men's Clothing—Namely, Suits, Jackets, Topcoats, Trousers, and Sportcoats.

First use Feb. 4, 1963.

SN 210,098. Consolidated National Shoe Corporation, d.b.a. Ware Shoe Co., Boston, Mass. Filed Jan. 18, 1965.

CONSOLIDATED NATIONAL SHOE CORPORATION C

For Shoes.

First use May 1961.

SN 210,291. Formaid Co., Boston, Mass. Filed Jan. 21, 1965.

MY BARE LADY

For Brassieres.

First use Jan. 4, 1965.

SN 213,156. Peter Pan Foundations, Inc., New York, N.Y. Filed Mar. 2, 1965.

Nude-Tral

For Brassieres, Girdles, and Panty Girdles.

First use Jan. 5, 1965.

SN 213,212. N. Edelson Sons Corp., New York, N.Y. Filed Mar. 3, 1965.

miss Broadway

For Women's and Misses' Slips, Nightgowns, Pajamas, and Chemises.

First use Jan. 2, 1941.

Class 40—Fancy Goods, Furnishings, and Notions

SN 204,377. Charles E. Fritsch, d.b.a. Fritsch Imports, Chicago, Ill. Filed Oct. 20, 1964.

No claim is made to the word "Fashions'" apart from the mark as shown.

For Wigs.

First use on or about July 1, 1964.

SN 209,102. Richard Lockman, New York, N.Y. Filed Dec. 30, 1964.

FEATHER DUSTERS

For False Eyelashes.

First use Dec. 24, 1964.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 201,312. J. P. Stevens & Co., Inc., New York, N.Y. Filed Sept. 4, 1964.

STEVENSET

Owner of Reg. Nos. 84,763, 676,400, and others.

For Piece Goods of One or More Natural Fibers, Including Wool and Cotton or of Synthetic Fibers or Blends of the Foregoing Treated With a Chemical Agent.

First use Jan. 11, 1958.

SN 205,320. Munsingwear, Inc., Minneapolis, Minn. Filed Nov. 2, 1964.

TEXSPAND

For Stretchable Knit Wearing Apparel Fabric.

First use Oct. 19, 1964.

SN 210,138. Earl L. Kopp, d.b.a. Kopp's Rug Co., Kansas City, Mo. Filed Jan. 18, 1965.

For Rugs and Carpets.

First use Sept. 14, 1964.

SN 211,053. Fieldcrest Mills, Inc., Spray, N.C. Filed Feb. 1, 1965.

Revereau

For Textile Rugs and Carpeting.
First use Jan. 21, 1965.

SN 211,867. H.B. (Campbell) Pty. Limited, Marrickville, New South Wales, Australia. Filed Feb. 12, 1965.

JANILAINE

Owner of Australian Reg. No. 109,90[illegible], dated May 16, 1952.
For Jersey Fabric From Wool.

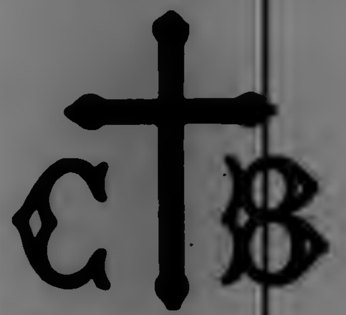
SN 212,124. Klopman Mills, Inc., Rockleigh, N.J. Filed Feb. 16, 1965.

LANDSLIDE

For Greige and Finished Fabrics in the Piece of All Types for Use in Men's, Women's, and Children's Apparel, in Home Furnishings, and in the Industrial Field.
First use Feb. 14, 1951.

Class 43 — Thread and Yarn

SN 183,890. Dollfus-Mieg & Cie, Societe Anonyme, Paris, France. Filed Jan. 2, 1964.



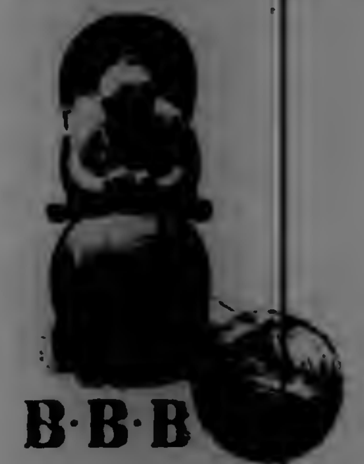
Owner of Reg. No. 439,552.
For Threads.
First use 1840 ; in commerce 1882.

SN 207,872. Dover Yarn Mill Company, d.b.a. The Dover Group, Shelby, N.C. Filed Dec. 10, 1964.

PUFFLON

For Bulky Yarn for Producing Novelty Effects in Fabrics.
First use Nov. 27, 1964.

SN 210,143. Manifatture Lane Pettinate Angelo Borghi S.p.A., Monza, Milan, Italy. Filed Jan. 18, 1965.



Owner of Italian Reg. No. 105,829, dated May 25, 1951.
For Woolen Yarns.

Class 44 — Dental, Medical, and Surgical Appliances

SN 182,940. Dunhill International, Inc., Ravenna, Ohio. Filed Dec. 13, 1963.

SURE SEAL

For Nursing Nipples.
First use on or before Sept. 4, 1959.

SN 207,768. Adolph D. Wiseman, d.b.a. Pick-A-Dent Corporation, San Francisco, Calif. Filed Dec. 8, 1964.

TIP-A-DENT

For Toothpicks.
First use Oct. 2, 1964.

SN 208,106. Practical Electric Products Corporation, Elizabeth, N.J. Filed Dec. 14, 1964.

COOL WAY

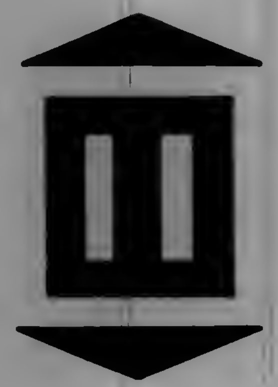
For Electric Vaporizers for Medical Purposes.
First use Dec. 1, 1964.

SN 209,326. AGA Corporation of America, South Plainfield, N.J. Filed Jan. 5, 1965.

ROTO-VISION

For Dental Mirrors.
First use at least as early as Dec. 7, 1964.

SN 210,900. Richard-Allan Company, Inc., Evanston, Ill. Filed Jan. 28, 1965.



For Hypodermic Syringes and Parts Therefor.
First use on or about Dec. 17, 1964.

Class 45 — Soft Drinks and Carbonated Waters

SN 207,436. Side Kick Citric Products Co., Woodmere, N.Y. Filed Dec. 3, 1964.

SNOW-TOP

For Non-Alcoholic Imitation Lemon Flavored Concentrate Used in the Preparation of Alcoholic and Non-Alcoholic Beverages So As To Impart a Creamy and Foamy Appearance Thereto.
First use March 1964.

Class 46 — Foods and Ingredients of Foods

SN 37,269. The E. Kahn's Sons Co., Cincinnati, Ohio. Filed Sept. 16, 1957.

THE WIENER THE WORLD AWAITED

Applicant disclaims exclusive right to use the word "Wiener" apart from the mark.
For Sausage and Bacon.
First use on or about Oct. 12, 1953.

SN 126,189. The Kelling Nut Co., Chicago, Ill, assignee, by mesne assignment, of Sesa-Kraft, Inc., Paris, Tex. Filed Aug. 17, 1961.

SESA-CORN

Owner of Reg. Nos. 678,590 and 696,501.
For Mixture of Sesame Seed Flour and Corn Flour.
First use May 23, 1961.

SN 149,080. Hanover Canning Company, Hanover, Pa. Filed July 16, 1962.

GUEST QUALITY

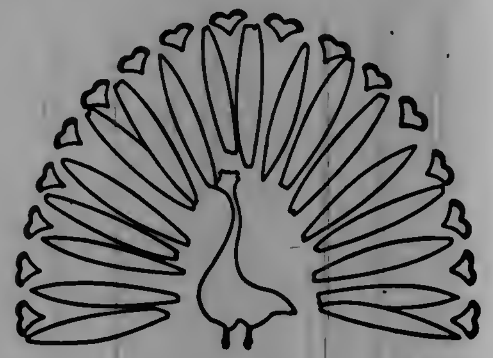
No registration rights are claimed for the word "Quality" apart from the mark as shown. Owner of Reg. Nos. 661,719, 698,706, and 725,125.
For Canned and Frozen Vegetables, and Potato Chips.
First use 1948 on canned vegetables.

SN 171,878. Home Juice Company, Melrose Park, Ill. Filed June 26, 1963.

DAIRY-HI

For Fresh Fruit Juices, Fruit Juice Extracts and Concentrates, and Fruit Juice Drinks Prepared Therefrom.
First use Nov. 26, 1962.

SN 175,550. Carter Products, Inc., New York, N.Y. Filed Aug. 22, 1963.



Owner of Reg. No. 780,006.
For Line of Food Products—Namely, Celery Base, Garlic Juice, Good Gravy Base, Onion Juice, Ready Mix Dill and Steak Baste.
First use Oct. 30, 1958.

SN 178,391. Service Industries, Philadelphia, Pa. Filed Oct. 2, 1963.

CHU-Z-GUD

For Meat Tenderizer.
First use Sept. 6, 1963.

SN 181,778. I.C.A. Industria Conserve Alimentari S.p.A., Milan, Italy. Filed Nov. 22, 1963.

De Rica raccoglie dove c'è il meglio:

De Rica

Priority claimed under Sec. 44(d) on Italian Reg. No. 162,701, dated Nov. 12, 1963. The translation of the Italian phrase in the drawing, "De Rica Raccoglie Dove c'è il Meglio," means "De Rica reaps where the best is found."
For Meat, Fish, Poultry and Game; Meat Extracts; Fruit and Vegetables Whether Preserved, Dried or Cooked; Jellies, Jams; Eggs, Milk, and Other Dairy Products; Edible Oils and Fats; Tinned or Pickled Foods; Coffee, Tea, Cocoa, Sugar, Rice, Tapioca, Sago, Coffee Surrogates; Flour and Cereal Products, Bread, Biscuits, Cakes, Confectionery and Sweets; Ice-Cream; Honey, Molasses Syrup; Yeast, Baking Powder; Salt, Mustard, Pepper, Vinegar, Sauces; Spices; Fresh Fruit and Vegetables; Foods for Animals; and Malt.

SN 182,582. Central Soya Company, Inc., Fort Wayne, Ind. Filed Dec. 9, 1963.

MORNING GLORY

For Fresh Eggs.
First use July 1, 1936.

SN 183,387. Stein, Hall & Co., Inc., New York, N.Y., assignee of T. M. Duche & Sons, Inc., Clifton, N.J. Filed Dec. 23, 1963.

ALGALOID

For Carrageenan Used as Stabilizers for Ice Cream; Milk, Cream, Condensed Milk, Chocolate Milk, Cheese Products, and Syrups.
First use June 13, 1946.

SN 186,173. International Milling Company Inc., Minneapolis, Minn. Filed Feb. 6, 1964.

ULTRA ANGEL

For Flour.
First use Feb. 4, 1960.

SN 186,186. Nodaway Valley Foods Inc., Corning, Iowa. Filed Feb. 6, 1964.

QUILK

For Concentrated Whole and Non-Fat Milk.
First use Nov. 4, 1963.

SN 187,204. The Nestlé Company, Inc., White Plains, N.Y., Filed Feb. 21, 1964.

NESTLÉ's
SUGAIRE

Owner of Reg. Nos. 11,709, 745,934, and others.
For Low Calorie Sugar Substitute.
First use Dec. 23, 1963.

SN 188,542. Home Juice Company, Melrose Park; Ill. Filed Mar. 12, 1964.

TIME
FOR BREAKFAST

For Bottled Fruit Juices and Bottled Fruit Juice Drinks.
First use Dec. 2, 1963.
Subj. to Intf. with SN 194,574.

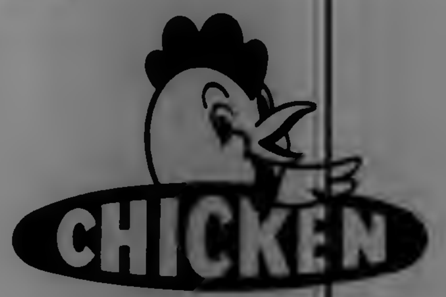
SN 192,006. Thomas Carvel, Yonkers, N.Y. Filed Apr. 27, 1964.

FRUIT CHARADE

Applicant disclaims the word "Fruit" apart from the mark as shown.

For Comminuted Fruit and Fruit Purees for Use as Toppings and Flavorings for Ice Cream, Frozen Custards, Fruit Ices, and Other Frozen Desserts.
First use Feb. 1, 1964.

SN 192,444. Western Farmers Association, Seattle, Wash. Filed Apr. 30, 1964.



The exclusive right to the word "Chicken" is disclaimed, apart from the trademark as shown.

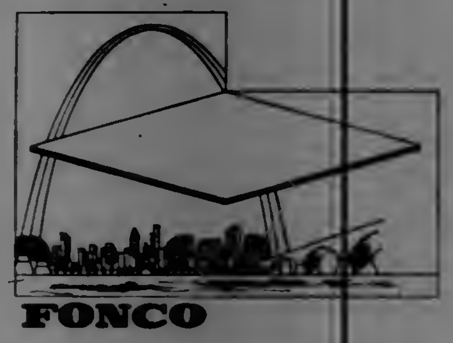
For Freshly Battered Fried Chicken Skins.
First use Mar. 13, 1964.

SN 193,892. Murray-Allen Imports, Inc., New Rochelle, N.Y. Filed May 20, 1964.

REGAL

For Confections, To Wit, Uncoated Hard Candy, Chocolate Bars, and Chocolate Covered Candy.
First use in or about 1952.

SN 194,242. St. Louis Fondant Company, St. Louis, Mo. Filed May 25, 1964.



For Icings and Icing Bases; Glazes; Jellies; Candies; Glace Fruits; Food Flavors and Emulsions; Roasted Peanuts; Nut Mixes; Edible Cake and Cookie Decorations Consisting of Crystallized Sugar in Ornamental Colors; and Nut Crunches for Ice Cream and Bakers Use.
First use Oct. 8, 1962.

SN 194,574. Capitol Food Industries, Inc., d.b.a. Green Spot Co., Chicago, Ill. Filed June 1, 1964.

breakfast
✿ time ✿

For Fruit Juice Drink Concentrate.
First use on or about Oct. 26, 1962.
Subj. to Intf. with SN 188,542.

SN 196,648. Emerald Foods, Inc., Emerald, Wis. Filed June 29, 1964.

SWEET TOOTH

For Fruit and Pumpkin Pie Fillings, Fruit Preserves and Jellies, Honey, Table Syrup, and Peanut Butter.
First use Sept. 24, 1958, on pie fillings.

SN 198,668. L. D. Schreiber Cheese Co., Inc., Green Bay, Wis. Filed July 28, 1964.

DARI COUNTRY

For Natural Cheese, Pasteurized Process American Cheese Food, Pasteurized Processed Cheese Spread, Pasteurized Processed Imitation Cheese Spread, and Pasteurized Processed American Cheese.
First use not later than 1948.

SN 198,730. Golden Grain Macaroni Company, d.b.a. Ghirardelli Chocolate Co., San Francisco, Calif. Filed July 29, 1964.

Owner of Reg. No. 189,040.
For Chocolate for Cooking and Food Beverage Purposes.
First use on or about May 1, 1963.

SN 199,259. Benvenuto Sociedad Anonima Comercial e Industrial, Buenos Aires, Argentina. Filed Aug. 5, 1964.

BENVENUTO

The word "Benvenuto" is an Italian word meaning "welcome."

For Canned Fish, Canned Vegetables, Canned and Fresh Fruit.
First use June 18, 1964; in commerce June 18, 1964.

SN 199,473. Independent Grocers' Alliance Distributing Co., Chicago, Ill. Filed Aug. 7, 1964.

TABLETREAT

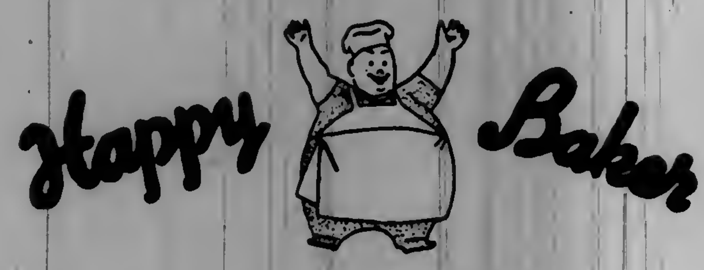
For Baked Goods—Namely, Bread, Buns, Rolls, Doughnuts; and Sweet Goods—Namely, Danish Rolls, Cinnamon Rolls, Pecan Rolls, and Coffee Cake of Various Flavors.
First use in or about May 1961 on bread.

SN 199,698. Regal Stores Inc., Indianapolis, Ind. Filed Aug. 11, 1964.

HEART
OF
INDIANA

For Canned Tomatoes, Tomato Puree, Tomato Catsup, Tomato Juice, and Early June Peas.
First use 1923.

SN 199,922. The Jos. T. Shufltowski, Inc., Chicago, Ill. Filed Aug. 14, 1964.



For Pure and Imitation Emulsions, Flavors, Bismarck Pastry Cream Fillings, Icing Bases, and Prepared Flour Mixes for Making Bread, Doughnuts, Sweet Rolls, Danish Rolls, Coffee Cakes, and the Like, Which Are Sold in Wholesale Lots in Bags, Boxes, Jars, Jugs, Barrels, Drums, and Other Suitable Containers to the Institutional Trade and Commercial Bakers.
First use early in the year 1947.

SN 199,923. The Jos. T. Shufltowski, Inc., Chicago, Ill. Filed Aug. 14, 1964.

DOTTY LOU

For Pure and Imitation Emulsions, Flavors, Bismarck Pastry Cream, Custard, Fruit and Nut Fillings and Icing Bases, Which Are Sold in Wholesale Lots in Bags, Boxes, Jars, Jugs, Barrels, Drums, and Other Suitable Containers to the Institutional Trade and Commercial Bakers.
First use early in the year 1947.

SN 199,926. Stiefvaters', Incorporated, d.b.a. Stiefvaters', San Francisco, Calif. Filed Aug. 14, 1964.

The drawing is lined for red, but no claim is made to color.

Ok

For Pure and Imitation Baking Flavors, Extracts, Citrus Oils, Emulsions, Spices, Pastes, Stabilizers, Icing and Icing Bases, Meringue Powder, Pie and Pudding Powders, Glazed Doughnut Powder, Jelly Powder, Prepared Flours for Bread Mixes, Cake Mixes, Sweet Roll Mixes, Doughnut Mixes, Danish Pastry Mixes and Muffin Mixes, and Cheese Cake Base, Which Are Sold in Wholesale Lots in Bags, Boxes, Jars, Jugs, Barrels, Drums, and Other Suitable Containers to the Institutional Trade and Commercial Bakers.
First use Oct. 4, 1898.

SN 200,355. Evelyn M. Johnson, d.b.a. Morris Enterprises, New York, N.Y. Filed Aug. 21, 1964.

ERB-B-Q

For Condiment Sauce To Be Used on Foods, Such as Meats, Fish, etc.
First use Apr. 14, 1964.

SN 201,284. Fin 'n Feather Farm, Inc., Dundee, Ill. Filed Sept. 4, 1964.

FIN 'N FEATHER

Owner of Reg. Nos. 437,932, 440,922, and 634,931.

For Hickory Smoked Summer Sausage, Smoked Ham, Smoked Rock Cornish Game Hens, Cheese Spread, Scrapple, Aged Cheddar Cheese, Wine Mustard, Midget Sweet Pickles, Rum Flavored Ice Cream Topping, Blueberry Jam, Peanut Butter, Dobosh Torte, Frozen Baked Beans, Frozen Bean Soup, Whole Cranberry Sauce, Canned Jumbo Shrimp, Pumpernickel Bread, Pure Vermont Maple Syrup, Blueberry Syrup, Clover Honey, French Dressing Peanut Candy, Canned Salted Mixed Nuts, Canned Ringneck Pheasant, Frozen Ringneck Pheasant, Canned Mallard Duck, Frozen Mallard Duck, Frozen Barbecued Chicken, Chicken Concentrate Soup Base, Canned Smoked Rainbown Trout Pate, and Canned Smoked Turkey Liver Pate.
First use 1941.

SN 201,408. Fin 'n Feather Farm, Inc., Dundee, Ill. Filed Sept. 8, 1964.

FIN 'N FEATHER FARM

Owner of Reg. No. 440,922.

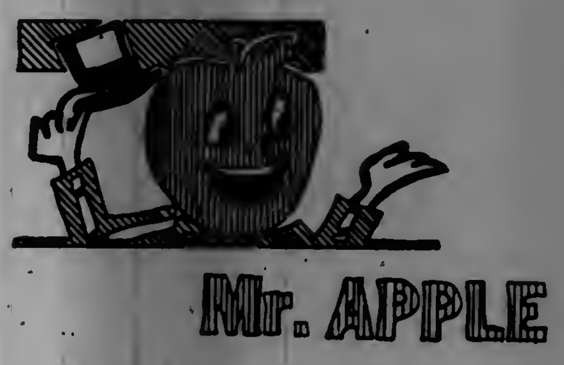
For Summer Sausage, Ringneck Pheasants, Wine Mustard, Sweet Pickled Beets, Corn Relish, Cashew Butter, Chutney Salad Dressing, Midget Sweet Pickles, Breakfast Syrup, Vermont Maple Syrup, and Pure Crabapple Jelly.
First use October 1948.

SN 201,468. Re-Dan Packing Co., Inc., Middle Village, N.Y. Filed Sept. 8, 1964.

CADET

Owner of Reg. No. 419,627.
For Dog Food and Cat Food.
First use Jan. 1, 1944.

SN 201,709. Joe Lowe Corporation, Englewood, N.J. Filed Sept. 11, 1964.



The word "Apple" is disclaimed apart from the mark as shown. The drawing is lined for the colors red and green, but no claim is made to such colors.

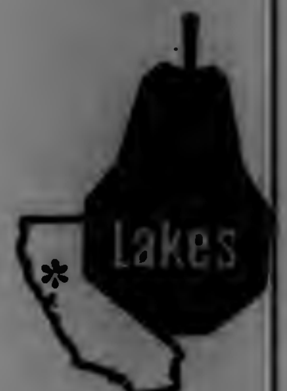
For Frozen Confections on Sticks and Liquid Concentrates for Making the Same.
First use Aug. 28, 1964.

SN 202,685. Ida K. Feil, d.b.a. Kimbe Co., Hebron, N. Dak. Filed Sept. 25, 1964.

KimBe

For Cake and Cookie Frostings.
First use Jan. 20, 1964.

SN 202,697. Lake County Pear Association, Finley, Calif. Filed Sept. 25, 1964. COLLECTIVE MARK.



No claim is made to the representation of a pear or to the geographical representation of the map apart from the association shown.
For Fresh Pears.
First use Aug. 13, 1964.

SN 203,267. Edible Golden Crosses Limited, Catford, London, England. Filed Oct. 5, 1964.

EDOGOLD

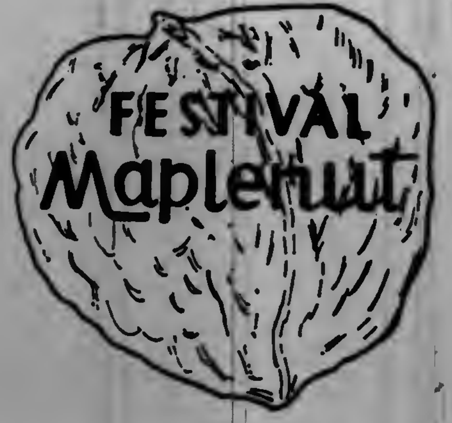
Owner of British Reg. No. 854,470, dated Sept. 24, 1963.
For Edible Wafer Rice Paper in the Shape of Crosses, Sold to Commercial Bakers for Placement on Top of Hot Cross Buns When the Latter Are Baked; and Flour Confectionery—Namely, Cakes, Pastries, Sweet Buns, and Sweet Biscuits.

SN 203,437. Spring Glen Farm Kitchens, Inc., Ephrata, Pa. Filed Oct. 6, 1964.

Spring Glen
FARM KITCHEN

Owner of Reg. No. 678,972.
For Pepper Cabbage, Chow-Chow, Horse Radish, Potato Salad, Macaroni Salad, Baked Beans, Noodles, Cup Cheese, Corn Relish, Chicken Pot Pie, Rice Pudding, Tapioca Pudding, Cole Slaw, Creamed Cabbage, Country Sauce, Gelatin Salad, Red Beet Eggs, Bacon Salad Dressing, Chicken Corn Soup, and Bread Filling.
First use Sept. 1, 1947.

SN 203,491. Festival Foods, Los Angeles, Calif. Filed Oct. 7, 1964.



No claim is made to the representation of a walnut. Owner of Reg. No. 703,631.
For Maple and Black Walnut Flavored Syrup for Food Purposes.
First use Sept. 11, 1964.

SN 203,545. True Taste Corporation, Edcouch, Tex. Filed Oct. 7, 1964.

RIO Star

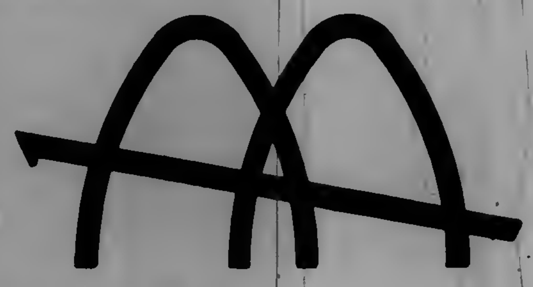
For Frozen Vegetables.
First use 1945.

SN 203,604. Ocean Spray Cranberries, Inc., Hanson, Mass. Filed Oct. 8, 1964.

CRANBERRY HOUSE

Applicant disclaims the word "Cranberry" apart from the mark.
For Cranberry Fruit Nut Bread.
First use Aug. 31, 1964.

SN 203,878. McDonald's Corporation, Chicago, Ill. Filed Oct. 13, 1964.



Owner of Reg. No. 762,441.
For Hamburger, Cheeseburger, and Fish Sandwiches, Fresh French Fried Potatoes, Hot Coffee, Fresh Milk, and Milk Shakes.
First use on or about Aug. 1, 1961.

SN 204,221. Allied Mills, Inc., Chicago, Ill. Filed Oct. 19, 1964.

DIXIE WHITE

Owner of Reg. No. 618,744.
For Poultry and Fowl, Fresh Dressed and Frozen, and Fresh Eggs.
First use June 25, 1964.

SN 204,227. A. M. Axelrod & Son, Inc., Paterson, N.J. Filed Oct. 19, 1964.

Long MEADOW

For Fluid Milk, Fluid Cream, Butter, Cheeses, and Fresh Eggs.
First use June 1, 1962.

SN 204,612. Standard Brands Incorporated, New York, N.Y. Filed Oct. 22, 1964.

SOUTHERN BELLE

Owner of Reg. No. 284,624.
For Shelled and Unshelled Nuts.
First use Oct. 20, 1930.

SN 204,862. Wilbur-Ellis Company, San Francisco, Calif. Filed Oct. 26, 1964.

SOUTHERN SEAS

Owner of Reg. Nos. 522,874, 607,378, and others.
For Frozen Shellfish, Frozen Fresh Fish, and Canned Fish.
First use May 1946.

SN 205,700. S. S. Kresge Company, Detroit, Mich. Filed Nov. 6, 1964.

Kmart

Owner of Reg. No. 743,912.
For Fluid Milk.
First use Oct. 29, 1964.

SN 207,640. National Biscuit Company, New York, N.Y. Filed Dec. 7, 1964.

MELODY

Owner of Reg. No. 77,556.
For Cake and Doughnuts.
First use Sept. 7, 1964.

SN 208,499. Sternco Industries, Inc., Allendale, N.J. Filed Dec. 18, 1964.

ROSA-FLAKES

For Food for Aquarium Fish.
First use June 10, 1957.

SN 208,681. Richard A. Glass Company, Inc., d.b.a. Richard A. Glass Co., Indio, Calif. Filed Dec. 22, 1964.

"HANDY RABBIT"

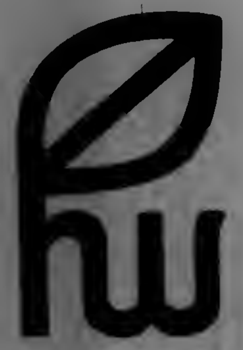
For Fresh Vegetables.
First use Dec. 8, 1964.

SN 209,925. Good Humor Corporation, Englewood Cliffs, N.J. Filed Jan. 14, 1965.

EXCALIBUR

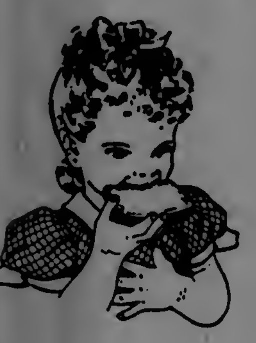
For Frozen Confections on a Stick.
First use Nov. 12, 1964.

SN 210,125. Hunt Foods and Industries, Inc., d.b.a. Hunt Foods, Inc., Fullerton, Calif. Filed Jan. 18, 1965.



The mark consists of the letters "HW" and design.
For Tomato Products—Namely, Tomato Sauce, Tomato Catsup, and Chili Sauce.
First use Dec. 7, 1964.

SN 213,479. Quality Bakers of America Cooperative, Inc., New York, N.Y. Filed Mar. 5, 1965. COLLECTIVE MARK.



The representation of a little girl is fanciful and does not relate to any known person. Applicant disclaims any rights in the representation of the goods apart from the mark as a whole. Owner of Reg. No. 783,290.
For Bread.
First use Sept. 14, 1942.

SN 213,516. American Home Products Corporation, New York, N.Y. Filed Mar. 8, 1965.

CHEF BOY-AR-DEE

Owner of Reg. No. 436,809.
For Canned and Frozen Combinations of Meat, Fish, Cheese, and Vegetables, Farinaceous and Alimentary Paste Products, Canned Soups, and Dehydrated Sauces and Seasonings.
First use September 1929.

Class 47 — Wines

SN 203,693. Schenley Distillers, Inc., d.b.a. Weston Winery, New York, N.Y. Filed Oct. 9, 1964.

GRAPE ROCK

Exclusive Rights to the word "Grape," apart from the mark as shown, are hereby disclaimed. Owner of Reg. No. 780,690.
For Wine.
First use July 2, 1964.

SN 204,347. H. P. Bulmer & Company Limited, Hereford, England. Filed Oct. 20, 1964.

WOODPECKER

Owner of British Reg. No. 836,368, dated July 2, 1962.
For Hard Cider.

Class 48 — Malt Beverages and Liquors

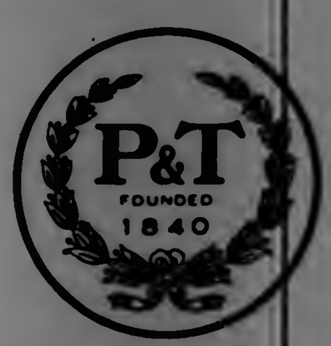
SN 204,169. Kalamazoo Spice Extraction Company, Kalamazoo, Mich. Filed Oct. 16, 1964.

HYDROLONE

For Ale or Beer Flavoring Additive.
First use Oct. 8, 1964.

Class 49 — Distilled Alcoholic Liquors

SN 203,611. Schenley Distillers, Inc., New York, N.Y. Filed Oct. 8, 1964.



Applicant disclaims the exclusive right to use the phrase "Founded 1840," apart from the mark as shown. Owner of Reg. Nos. 76,493 and 329,572.
For Whiskies, Blended Scotch Whisky, Blended Canadian Whisky, Gin, Brandy, and Vodka.
First use in or about Oct. 1907.

SN 205,511. Frank C. Judt, d.b.a. Trailwest Products, Mandan, N. Dak. Filed Nov. 4, 1964.

OLD FOUR EYES

For Bourbon Whiskey.
First use January 1963.

Class 50 — Merchandise Not Otherwise Classified

SN 182,516. Gabriel Tauber, d.b.a. G. G. Tauber Company, Washington, D.C. Filed Dec. 6, 1963.

IDENTI-KIT

For Badge Holder for Holding Identity Cards and Other Printed Material for Use by People Attending Conventions, Meetings, and the Like.
First use May 31, 1963.

SN 210,599. Roberts and Porter, Inc., Chicago, Ill. Filed Jan. 25, 1965.

TRU-DOT

For Blankets for Offset Printing Presses.
First use November 1952.

SN 211,011. Kurt S. Adler, Inc., New York, N.Y. Filed Feb. 1, 1965.

Santa's World

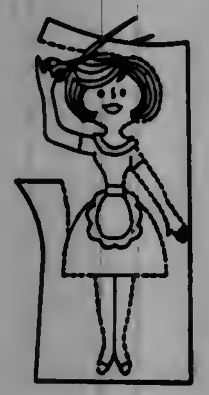
For Christmas Glass Ornaments, Garlanding, and Novelties.
First use Jan. 7, 1965.

SN 214,787. Pogo Trimmer Company, Dallas, Tex. Filed Mar. 23, 1965.

"TREE-RITE"

For Plant Stake Comprising a Rod Arranged To Be Inserted in the Ground to Which a Plant May Be Anchored.
First use Mar. 16, 1965.

SN 215,461. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Mar. 31, 1965.



Connie Con-Tact

Owner of Reg. Nos. 681,247, 615,845, and others.
For Adhesive Coated, Paper Backed, Flexible Plastic Sheeting in the Form of a Roll, Sold by the Yard, for Application as a Protective or Decorative Covering.
First use Aug. 31, 1964.

SN 215,689. Anna Bell's, Inc., Waco, Tex. Filed Apr. 5, 1965.

Cloud 9

For Peg Board Panels, Wall Plaques, and Merchandise Display Panels.
First use Oct. 31, 1963.

Class 51 — Cosmetics and Toilet Preparations

SN 154,309. Triumph Products Company, Chicago, Ill. Filed Oct. 1, 1962.

TRY-ME

For Hair Conditioner, Hair Awakener, and Hair Tonic.
First use May 22, 1962.

SN 164,054. J. Laurent Corp., New York, N.Y. Filed Mar. 6, 1963.

JANUS MANN

The name "Janus Mann" identifies a living individual, whose consent is of record. Owner of Reg. No. 767,284.
For Cleansing Creams, Night Creams, Skin-Tonic, Moisture Lotion, Eye Oil, Eyelash Cream, Facial Masques, Liquid Make-Up, Creme Rouge, Powder, Lipsticks, Eye Shadows, Eye Liners, Milk Bath, Bath Oil, Cologne, and Perfume.
First use Nov. 1, 1962.

SN 167,798. Chap-O-Lene, Inc., St. James, Minn. Filed Apr. 30, 1963.

CHAP-O-LENE

For Cosmetic Lotion.
First use during 1943.

SN 200,700. H. Bronnley & Co., Limited, London, England. Filed Aug. 27, 1964.

BRONNLEY

Owner of Reg. No. 780,458.
For Hand Lotions.
First use July 1, 1930; in commerce Apr. 1, 1963.

SN 204,849. The Sinclair Manufacturing Company, Toledo, Ohio. Filed Oct. 26, 1964.

LE CHATEAU

For Bath Oil.
First use Feb. 4, 1964.

SN 204,858. Kenneth Tye, d.b.a. Trol-Ette Product Company, Chicago, Ill. Filed Oct. 26, 1964.

TROL-ETTE

For Hair Conditioner.
First use Mar. 4, 1964.

SN 204,885. Beecham Products Inc., Clifton, N.J. Filed Oct. 27, 1964.

MUSCLE

For Men's Toiletries and Grooming Preparations—Namely, Personal Deodorants, Hair Dressings, and Shaving Preparations.
First use Sept. 21, 1964.

SN 211,145. Avon Products, Inc., New York, N.Y. Filed Feb. 2, 1965.

IN OTHER WORDS

For Dusting Powder, Perfume, Perfume Oil, Solid Perfume, Cologne, Cream Sachet, and Powder Sachet.
First use Jan. 15, 1965.

SN 212,461. Thalberg International Ltd., New York, N.Y. Filed Feb. 19, 1965.

VEGAS

For Cologne, Shave Lotion for After Shave Use, and Sun Tan Lotion.
First use Feb. 11, 1965.

SN 212,462. Thalberg International Ltd., New York, N.Y. Filed Feb. 19, 1965.

LAS VEGAS

For Cologne, Shave Lotion for After Shave Use, and Sun Tan Lotion.
First use Feb. 11, 1965.

Class 52 — Detergents and Soaps

SN 175,873. Pilot Chemical Company, Santa Fe Springs, Calif. Filed Aug. 27, 1963.

CALSUDS

For Detergent Concentrate Sold in Bulk Lots, for Use in the Manufacture of Detergents for Household Use.
First use May 29, 1963.

SN 188,400. Sybil Ives Incorporated, White Plains, N.Y. Filed Mar. 10, 1964.

sham BLU

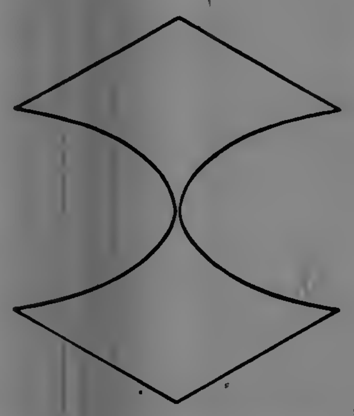
Applicant disclaims "Blu" apart from the mark as shown.
For Hair Shampoo.
First use Sept. 17, 1963.

SN 197,422. Pennsalt Chemicals Corporation, Philadelphia, Pa. Filed July 8, 1964.

AE-20

Owner of Reg. Nos. 621,914 and 621,915.
For Strongly Alkaline Composition Especially Adapted for Cleaning and Etching Aluminum.
First use April 1961.

SN 205,509. S. C. Johnson & Son, Inc., Racine, Wis. Filed Nov. 4, 1964.



Owner of Reg. Nos. 694,407, 707,948, and 709,498.
For Cleaners for Use on Hard, Soft and Flexible Surfaces and All Purpose Cleaners With Combination Sanitizing, Deodorizing, and Germicidal Characteristics.
First use in or about September 1958.

SN 207,011. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 27, 1964.

SPOOKY

Owner of Reg. No. 517,990.
For Children's Fun Bath Having Cleaning Action.
First use Nov. 17, 1964.

SN 207,177. Whirlpool Corporation, Benton Harbor, Mich. Filed Nov. 30, 1964.

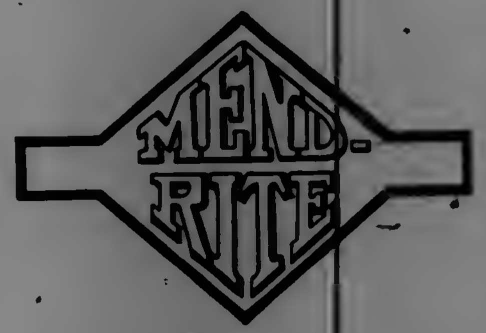
WHIRLPOOL

Owner of Reg. Nos. 226,129, 581,48[illegible], and others.

For Detergent for Laundry, Marine, Industrial, and General Household Cleaning.

First use Oct. 22, 1964.

SN 207,611. Knick's Mend-Rite Co., North Kansas City, Mo. Filed Dec. 7, 1964.



Owner of Reg. No. 194,200.

For Car Washing Compound and Waterless Hand Cleaner.

First use January 1947.

SN 208,777. Son-Dar Corporation, Newark, N.J. Filed Dec. 23, 1964.

POLY-MATE

For All Purpose Cleanser for Marine Equipment.

First use September 1964.

SN 209,236. E. L. Bruce Co. (Incorporated), Memphis, Tenn. Filed Jan. 4, 1965.

SUMMIT

For All-Purpose Liquid Cleaner, Disinfectant, and Deodorant for Use on Floors, Walls, Fixtures, and the Like.

First use Aug. 7, 1964.

SN 209,641. West Chemical Products, Inc., Long Island City, N.Y. Filed Jan. 8, 1965.

CARTE BLANCHE

For Liquid Floor Cleaner and Wax Stripper for Use in Power Scrubbers.

First use Dec. 2, 1964.

SN 209,971. Windsor Wax Company, Inc., Hoboken, N.J. Filed Jan. 14, 1965.

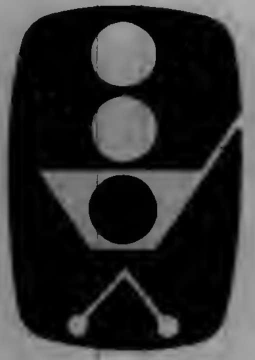
Windsor

Owner of Reg. Nos. 196,190, 718,0[illegible]0, and others.

For All-Purpose Detergent Cleaner for Floors, Walls, Glass, Plastics, Metals, Machines, Painted Surfaces; Wax Remover and Paste Wax Cleaner.

First use 1923.

SN 210,909. Stop & Shop, Inc., d.b.a. Stop & Shop, Boston, Mass. Filed Jan. 28, 1965.



For Household Cleaners and Detergents.

First use Mar. 16, 1964.

SN 211,146. Avon Products, Inc., New York, N.Y. Filed Feb. 2, 1965.

IN OTHER WORDS

For Toilet Soap.

First use Jan. 15, 1965.

SN 211,705. Carter Products, Inc., New York, N.Y. Filed Feb. 10, 1965.

PLAY

For Oven Cleaner.

First use Jan. 26, 1965.

SN 212,503. Colgate-Palmolive Company, New York, N.Y. Filed Feb. 23, 1965.

NO-DOUBT

For Toilet Soap.

First use Dec. 9, 1964.

SN 212,969. Carter Products, Inc., New York, N.Y. Filed Mar. 1, 1965.

DOUBLE PLAY

For Oven Cleaner.

First use Feb. 11, 1965.

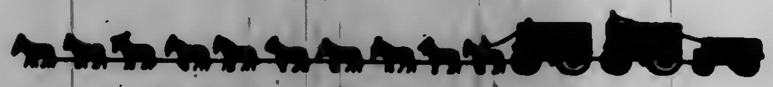
SN 212,985. Dun-Kwik Company, Inc., Wenatchee, Wash. Filed Mar. 1, 1965.

DUN-KWIK

For Wall Cleaner and Cleaner-Impregnated Disposable Pad.

First use Apr. 2, 1945.

SN 213,072. United States Borax & Chemical Corporation, Los Angeles, Calif. Filed Mar. 1, 1965.



Owner of Reg. Nos. 50,555, 770,564, and 775,116.

For Special Purpose Cleapers—Namely, Glass Cleaner, Bowl Cleaner, Rug and Upholstery Shampoo, and Paste Cleaner for Tile and Porcelain.

First use Nov. 20, 1964.

SN 213,107. Gamlen Chemical Company, South San Francisco, Calif. Filed Mar. 2, 1965.

SEACLEAN

For Preparation for Cleaning Oil and Sludge From Deep Tanks at Sea.

First use 1951.

SERVICE MARKS

Class 100 — Miscellaneous

SN 182,627. S. S. Kresge Company, Detroit, Mich. Filed Dec. 9, 1963.

MR. GROWIT ALL

For Rendering Advice and Assistance in the Selection, Planting, Cultivation, and Treatment of Plants, Shrubs, and Other Horticultural Items.

First use May 1, 1963.

SN 185,178. Waid's Restaurants, Inc., Kansas City, Mo., assignee of Robert L. Waid, Sr., Kansas City, Mo. Filed Jan. 22, 1964.

WAID'S

For Restaurant Services.

First use May 15, 1953.

SN 186,650. Sports Car Club of America, Incorporated, Westport, Conn. Filed Feb. 13, 1964.

SCCA

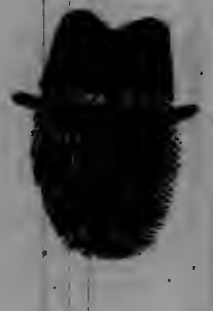
Owner of Reg. No. 672,953.

For Encouraging the Ownership and Operation of Sports Cars, Disseminating Information Concerning Sports Cars and Sports Car Activities, Organizing and Regulating Events and Exhibitions for Sports Car Enthusiasts and Promoting Public Interest in Sports Cars and Sports Car Racing Throughout the United States and in Foregin Countries.

First use as early as about 1944.

SN 194,886. Isaac Detectives, Inc., d.b.a. Isaac and Vinson Detectives, New Orleans, La. Filed June 4, 1964.

ISAAC AND VINSON DETECTIVES



Applicant disclaims the words "Isaac and Vinson Detectives" apart from the mark as shown.

For Service of Furnishing Investigations and Uniformed Guards.

First use Jan. 31, 1964.

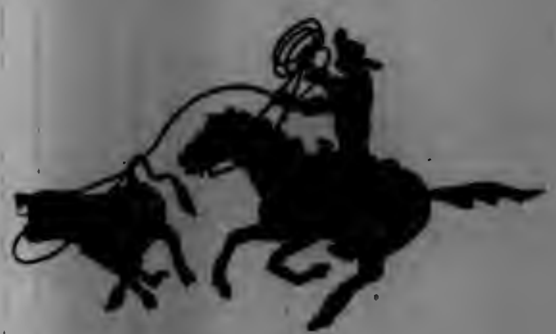
SN 197,724. Laboratory for Electronics, Inc., Boston, Mass. Filed July 13, 1964.

WATCHDOG

For Providing Laboratory Personnel With Badges Designed To Detect Exposure to Radiation and Checking Said Badges for Indications of Such Exposure.

First use May 25, 1964.

SN 198,815. Ulysses G. Auger, d.b.a. Blackie's House of Beef, Washington, D.C. Filed July 30, 1964.



The mark includes the letters "BHB."

Owner of Reg. No. 655,350.

For Restaurant Service.

First use Dec. 23, 1952.

SN 199,223. Radio Shack Corporation, Boston, Mass. Filed Aug. 4, 1964.

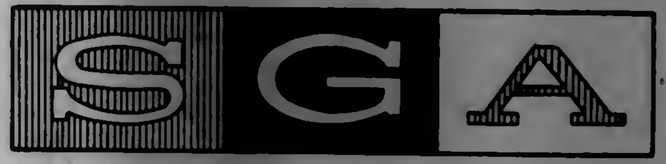
RADIO SHACK

Owner of Reg. Nos. 679,159, 706,962, and 712,296.

For Retail Department Store Services and Mail Order Retail Services Including Services Specializing in Radio and Sound Reproduction Equipment, Electrical and Electronic Devices and Instruments, Mechanical Devices, Tools, and Other Hardware.

First use about 1924.

SN 201,886. Soybean Growers of America, Inc., Decatur, Ill. Filed Sept. 14, 1964.

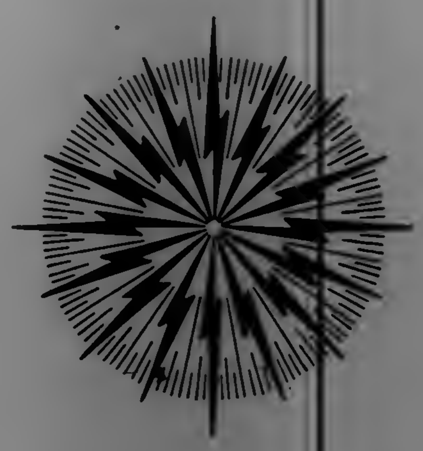


The drawing is lined for the color red.

For Services Rendered to Member Soybean Growers in Matters of Legislation, Market Development, and Research.

First use Feb. 13, 1963.

SN 205,384. American Public Power Association, Washington, D.C. Filed Nov. 3, 1964.



For Promoting Cooperation Between Public Entities Which Own or Operate Electric Light or Power Systems or Facilities; Promoting the Mutual Improvement of Its Members; Rendering Service to Its Members, Particularly in the Fields of (*a*) Management and Operation; (*b*) Engineering, Design, Construction, Operation and Research; (*c*) Accounting and Commercial Practice; (*d*) Legal Policy; and (*e*) Such Other Problems as May Be Common to Public Power Systems.
First use Jan. 1, 1964.

Class 101—Advertising and Business

SN 139,518. Nelson & Brittain, Incorporated, d.b.a. Nelson Employment Service, Akron, Ohio. Filed Mar. 9, 1962.

HELP-O-GRAM

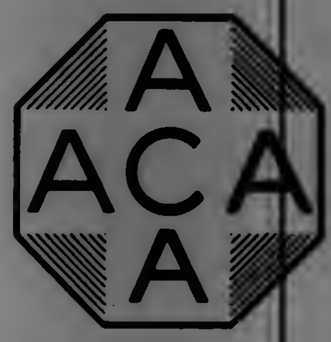
For Employment Agency Services.
First use June 1, 1950.

SN 139,519. Nelson & Brittain, Incorporated, d.b.a. Nelson Employment Service, Akron, Ohio. Filed Mar. 9, 1962.

RUBBERGRAM

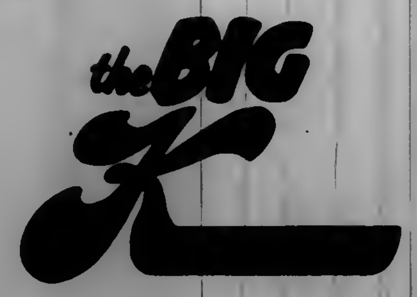
For Employment Agency Services.
First use June 1, 1950.

SN 187,940. Kenneth H. Krause, d.b.a. Associated Commercial Attorneys List, New York, N.Y. Filed Mar. 4, 1964.



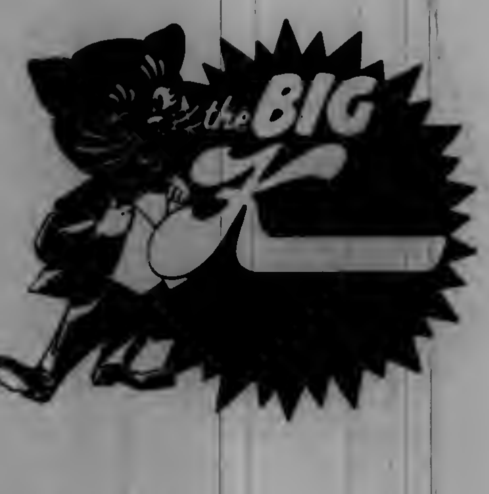
For Delinquent Account Collection Services.
First use Oct. 1, 1931.

SN 188,768. Katz Drug Company, Kansas City, Mo. Filed Mar. 16, 1964.



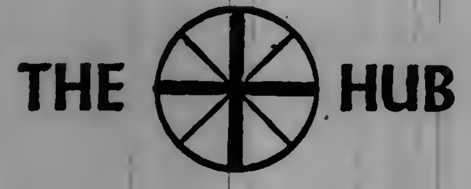
For Retail Drug Store and Household Appliance Store Services.
First use Mar. 4, 1964.

SN 188,770. Katz Drug Company, Kansas City, Mo. Filed Mar. 16, 1964.



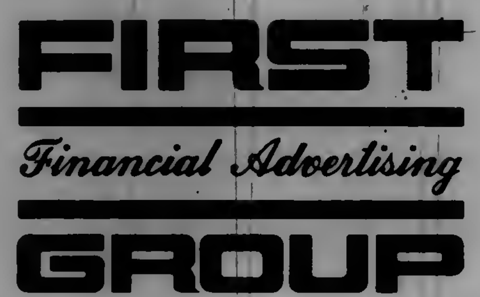
For Retail Drug Store Services.
First use Mar. 4, 1964.

SN 191,400. David G. Kennedy, d.b.a. The Hub, Palo Alto, Calif. Filed Apr. 17, 1964.



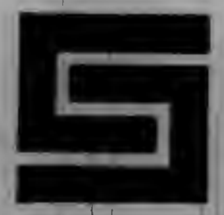
For Searching and Finding Particular Books; Mimeographing; Direct Mail Advertising; Bookbinding and Repairing; and Manuscript Services Including Proofreading, Printing, and Binding.
First use Nov. 1, 1963.

SN 196,268. First Financial Advertising Group, Brookline, Mass. Filed June 23, 1964.



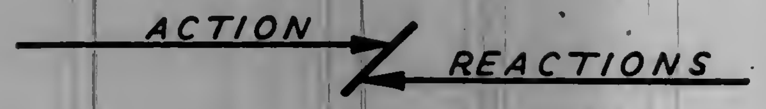
Applicant disclaims "Financial Advertising Group" apart from the mark as shown.
For Advertising Services for Banks.
First use May 10, 1962.

SN 200,386. S. M. Sachs & Associates, Inc., New York, N.Y. Filed Aug. 21, 1964.



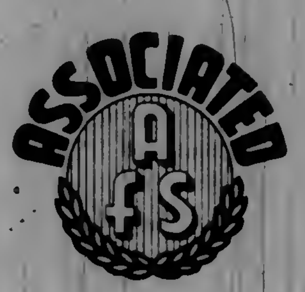
For Advertising Services.
First use May 1963.

SN 203,331. Reactions, Inc., Kennebunk, Maine. Filed Oct. 5, 1964.



For Obtaining for Manufacturers by Means of Confidential Questionnaires a Detailed Report of How Their Distributors View Their Method of Doing Business.
First use Aug. 14, 1964; Sept. 28, 1962, in a different style.

SN 205,138. Associated Food Stores, Inc., Jamaica, N.Y. Filed Oct. 30, 1964.



The drawing is lined for the color red. Owner of Reg. Nos. 594,322, 745,000, and others.
For Retail Grocery Store Services.
First use January 1955.

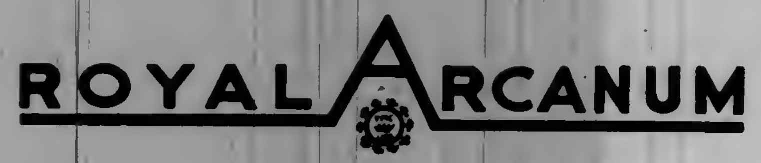
Class 102—Insurance and Financial

SN 140,525. Bank of America National Trust and Savings Association, San Francisco, Calif. Filed Feb. 23, 1962.

MAN-ON-THE-SPOT

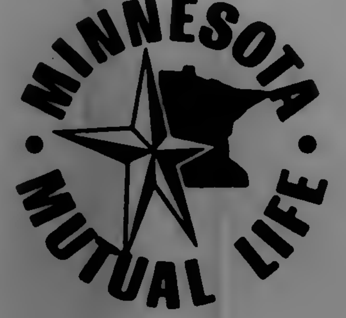
For Furnishing Information to and Liaison Between American and Foreign Businessmen, and Banking Services to Such Businessmen.
First use Feb. 15, 1957.

SN 191,625. Supreme Council of the Royal Arcanum, d.b.a. Royal Arcanum, New York, N.Y. Filed Apr. 20, 1964.



For Underwriting of Insurance.
First use in or about September 1947; in or about 1877 as to the design and word portion used separately.

SN 194,061. The Minnesota Mutual Life Insurance Company, St. Paul, Minn. Filed May 22, 1964.



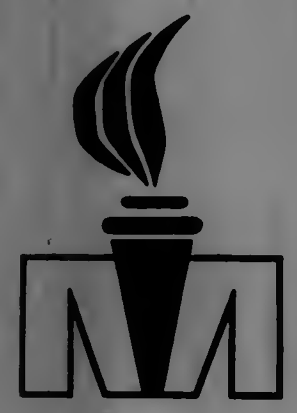
Applicant hereby disclaims any right to the exclusive use of the wording which appears in the mark. Owner of Reg. No. 780,740.
For Underwriting of Life Insurance.
First use Apr. 14, 1964.

SN 198,310. The Aetna Casualty and Surety Company, Hartford, Conn. Filed July 22, 1964.

COMMODORE

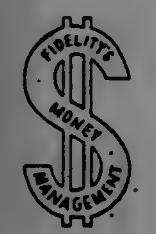
For Underwriting of Boat Casualty Insurance.
First use Mar. 20, 1964.

SN 199,521. Midwestern Life and Health Insurance Corporation, Green Bay, Wis. Filed Aug. 7, 1964.



For Underwriting of Life and Health Insurance.
First use Dec. 1, 1962.

SN 200,429. The Fidelity Mutual Life Insurance Company, Philadelphia, Pa. Filed Aug. 24, 1964.



Applicant disclaims the words "Money" and "Management," and the representation of the dollar mark.
For Financial Planning Services as a Part of Its Estate Planning Service in Connection With the Sale of Life and Health Insurance Policies.
First use July 25, 1964.

Class 103 — Construction and Repair

SN 202,111. Lee Turzillo Contracting Company, Brecksville, Ohio. Filed Sept. 17, 1964.

AUGERCAST

For Engineering and Installation Services, Such as the Design and Placement of Concrete Piles, Underpinning, Foundations, Dams, Cut-Off Walls, and Other Earth-Consolidating or Earth-Retaining Structures in Situ.
First use June 3, 1963.

Class 105 — Transportation and Storage

SN 199,350. Canadian National Railway Company, Montreal, Quebec, Canada. Filed Aug. 6, 1964.

RED, WHITE & BLUE FARE PLAN

The words "Fare Plan" are disclaimed apart from the mark as a whole. Owner of Canadian Reg. No. 134,050, dated Jan. 3, 1964.
For Transportation of Passengers and Related Services Such as Providing Passengers With Reserved Seats, Berths, Meals, and Beverages, at All Inclusive Rates Which Vary According to the Days on Which the Trip Begins.
First use May 1, 1962; in commerce June 19, 1962.

SN 202,663. American Export Isbrandtsen Lines, Inc., New York, N.Y. Filed Sept. 25, 1964.

AEIL

For Transportation by Water of Cargo and Persons.
First use July 13, 1964.

SN 204,925. Sandberg Travel Bureau, Inc., d.b.a. Sandberg Travel Tours, Los Angeles, Calif. Filed Oct. 27, 1964.

EUROPAK

For Travel Plan Package Service.
First use Oct. 9, 1964.

Class 106 — Material Treatment

SN 186,502. American Laminators, Inc., Brooklyn, N.Y., by change of name from American Laminators & Finishers Corp., Brooklyn, N.Y. Filed Feb. 12, 1964.

AMERI-BOND

For Laminating the Textiles, Fabrics, and Goods of Others.
First use Nov. 13, 1963.

SN 202,524. Vactite, Palo Alto, Calif. Filed Sept. 23, 1964.

VUCOTE

For Coating the Surfaces of Optics and Ophthalmics With a Protective and Anti-Reflective Layer.
First use Mar. 1, 1964.

Class 107 — Education and Entertainment

SN 186,515. Charm, Incorporated, Revere, Mass. Filed Feb. 12, 1964.

HOBBY-RAMA

Owner of Reg. Nos. 699,581 and 706,139.
For Instructional Lectures and Displays on Hobbies.
First use Dec. 31, 1956.

SN 186,516. Charm, Incorporated, Revere, Mass. Filed Feb. 12, 1964.

FASHION-RAMA

Owner of Reg. Nos. 699,581 and 706,139.
For Instructional Lectures and Displays on Fashion.
First use Dec. 31, 1954.

SN 200,462. Glenn Miller Productions, Inc., New York, N.Y. Filed Aug. 24, 1964.

GLENN MILLER ORCHESTRA

The mark consists of the name of the musician "Glenn Miller," now deceased. The word "Orchestra" is disclaimed apart from the mark as a whole.
For Entertainment Services—Namely, Music Rendered by an Orchestra.
First use June 6, 1956.

SN 208,149. Video Music Company, Nashville, Tenn. Filed Dec. 14, 1964.

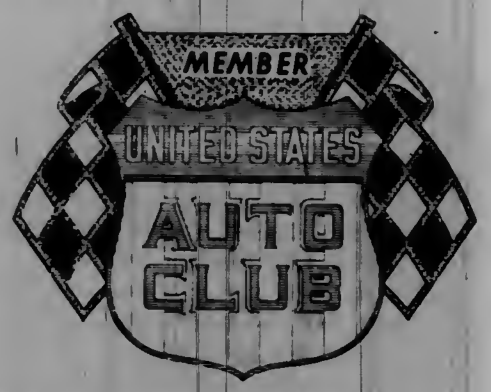
NIGHT TRAIN

For Title of a Musical Variety Television Program.
First use Oct. 23, 1964.

COLLECTIVE MEMBERSHIP MARKS

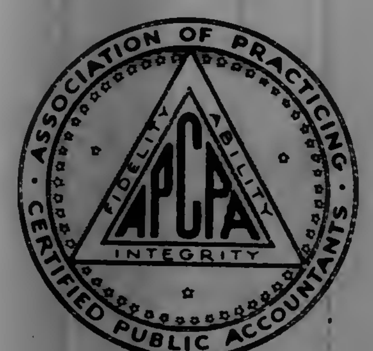
Class 200

SN 193,826. United States Auto Club, Inc., Indianapolis, Ind. Filed May 19, 1964.



The mark is lined for blue, red, and gold.
For Indicating Membership in Applicant.
First use Apr. 1, 1962.

SN 205,653. Association of Practicing Certified Public Accountants, Washington, D.C. Filed Nov. 6, 1964.


ASSOCIATION OF PRACTICING CERTIFIED PUBLIC ACCOUNTANTS
FIDELITY
ABILITY
APCPA
INTEGRITY

The drawing is lined for red, gold, and blue.
For Indicating Membership in Applicant Association.
First use Mar. 30, 1964.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

792,413. MV. John L. Montgomery, d.b.a. J. L. Montgomery & Sons. SN 179,649. Pub. 4–27–65. Filed 10–23–63.

792,414. JUST RIGHT. Halstead Distributing Corporation. MULTIPLE CLASS (Classes 1 and 6). SN 184,231. Pub. 4–27–65. Filed 1–8–64.

792,415. ENKRON. American Enka Corporation. SN 184,681. Pub. 4–27–65. Filed 1–16–64.

792,416. TINY TRIM TREE AND DESIGN. Great Lakes Nursery Corp. SN 186,037. Pub. 4–27–65. Filed 12–23–63.

792,417. SUPELA. Armour and Company. SN 186,046. Pub. 4–27–65. Filed 2–5–64.

792,418. ARMGLO. Armour and Company. SN 186,047. Pub. 4–27–65. Filed 2–5–64.

792,419. WICA. Wica Chemicals, Incorporated. MULTIPLE CLASS (Classes 1, 5, 6, 15 and 52). SN 190,462. Pub. 4–27–65. Filed 4–6–64.

792,420. ALLIANCE. Dominion Tar & Chemical Company, Limited. SN 193,641. Pub. 4–27–65. Filed 5–18–64.

792,421. BARRETTA. The Barr Corporation. SN 196,240. Pub. 4–27–65. Filed 6–23–64.

792,422. MORIMER. Morimeric, Inc. SN 201,956. Pub. 4–27–65. Filed 9–15–64.

Class 2 — Receptacles

792,423. GRANU-FLOR. The B. F. Goodrich Company, assignee of Granu-Flow Equipment, Ltd. SN 162,942. Pub. 4–27–65. Filed 2–18–63.

792,424. GRANU-FLATOR. The B. F. Goodrich Company, assignee of Granu-Flow Equipment, Ltd. SN 162,943. Pub. 4–27–65. Filed 2–18–63.

Class 4 — Abrasives and Polishing Materials

792,425. COIN WAX. John R. Huffman, d.b.a. Guard Sales Company. SN 190,618. Pub. 4–27–65. Filed 4–8–64.

792,426. LIQUICK LUSTRE. The Metloid Company, Inc. SN 199,752. Pub. 4–27–65. Filed 8–12–64.

792,427. GO STIK AND DESIGN. Kenneth F. Mayes. SN 201,715. Pub. 4–27–65. Filed 9–11–64.

Class 5 — Adhesives

792,419. (See Class 1 for this trademark.)

792,428. HOLO-LOCK. Veeder-Root Incorporated, d.b.a. Holo-Krome Company. SN 204,110. Pub. 4–27–65. Filed 10–15–64.

Class 6 — Chemicals and Chemical Compositions

792,414. (See Class 1 for this trademark.)

792,419. (See Class 1 for this trademark.)

792,429. TEXSPERSE. The Harshaw Chemical Company. SN 137,437. Pub. 4–27–65. Filed 2–7–62.

792,430. EASY MONDAY. Household Products Franchisers. SN 147,281. Pub. 4–27–65. Filed 6–20–62.

792,431. CYCLODOXINE. Commercial Solvents Corporation. SN 160,605. Pub. 4–27–65. Filed 1–14–63.

792,432. THE FAMOUS TYPO RUST AWAY AND DESIGN. Manlius W. Noble, d.b.a. Noble Oil Products Co. SN 163,166. Pub. 4–27–65. Filed 2–20–63.

792,433. HIZYME. Southern Biochemical Corporation. SN 174,617. Pub. 4–27–65. Filed 8–7–63.

792,434. WEDCO. Western Chemical and Manufacturing Company. MULTIPLE CLASS (Classes 6 and 16). SN 178,071. Pub. 4–27–65. Filed 9–30–63.

792,435. ANDIMERIC ANHYDRIDE. Sohio Chemical Company. SN 181,696. Pub. 4–27–65. Filed 11–21–63.

792,436. ANDIMERIC ACID. Sohio Chemical Company. SN 181,698. Pub. 4–27–65. Filed 11–21–63.

792,437. FLEXADYNE. North American Aviation, Inc. SN 182,108. Pub. 4–27–65. Filed 11–29–63.

792,438. FLUORIDYNE. North American Aviation, Inc. SN 182,109. Pub. 4–27–65. Filed 11–29–63.

792,439. TASK. Shell Oil Company. SN 182,120. Pub. 4–27–65. Filed 11–29–63.

792,440. CAN-NU. The Diversey Corporation. SN 186,159. Pub. 4–27–65. Filed 2–6–64.

792,441. POLAMID. Metro-Atlantic, Inc. SN 188,123. Pub. 4–27–65. Filed 3–6–64.

792,442. STA-GOOD. Mattox and Moore, Inc. SN 188,255. Pub. 4–27–65. Filed 3–9–64.

792,443. ARMOSLIP. Armour and Company. SN 189,424. Pub. 4–27–65. Filed 3–24–64.

792,444. SPEEDLITE. Patek & Co. MULTIPLE CLASS (Classes 6 and 52). SN 191,071. Pub. 4–27–65. Filed 4–14–64.

792,445. RUB-O-MATIC. Technical Rubber Company, Inc. SN 192,857. Pub. 4–27–65. Filed 5–6–64.

792,446. COLORFULL. Rodeffer Industries, Inc. SN 193,704. Pub. 4–27–65. Filed 5–18–64.

792,447. CYPREX-MR. American Cyanamid Company. SN 194,855. Pub. 4–27–65. Filed 6–4–64.

792,448. DUOFRAC. The Dow Chemical Company. SN 195,075. Pub. 4–27–65. Filed 6–8–64.

792,449. FABRIC LIFE. Hodges Research & Development Company. SN 195,528. Pub. 4–27–65. Filed 6–12–64.

792,450. BRUSH OFF AND DESIGN. Wood Treating Chemicals Co. SN 195,571. Pub. 4–27–65. Filed 6–12–64.

792,451. SNIFF. Boyer Chemical Company. SN 198,454. Pub. 4–27–65. Filed 7–24–64.

792,452. AIR PRODUCTS AND DESIGN. Air Products and Chemicals, Inc. SN 198,996. Pub. 4–27–65. Filed 8–3–64.

Class 7 — Cordage

792,453. RIPPL-TIE. Chicago Printed String Co. MULTIPLE CLASS (Classes 7, 37 and 40). SN 201,097. Pub. 4–27–65. Filed 9–2–64.

Class 9 — Explosives, Firearms, Equipments, and Projectiles

792,454. FIELD TRIAL. Seaford Associates Inc. SN 166,604. Pub. 4–27–65. Filed 4–10–63.

792,455. G-AEROJET-GENERAL, ETC. Aerojet-General Corporation. SN 184,596. Pub. 4–27–65. Filed 1–15–64.

792,456. COMANCHE. Stoeger Arms Corporation. SN 195,171. Pub. 4–27–65. Filed 6–8–64.

792,457. SHEEP'S HEAD IN A CIRCLE (DESIGN). Buddy Schoellkopf Products Inc. SN 203,378. Pub. 4–27–65. Filed 10–6–64.

Class 10 — Fertilizers

792,458. PRODUCT OF NATURE AND DESIGN. Conrad Fafard, Inc. SN 193,001. Pub. 4–27–65. Filed 5–8–64.

Class 12 — Construction Materials

792,459. PEMKO. Pemko Manufacturing Company. SN 172,611. Pub. 4–27–65. Filed 7–8–63.

792,460. REPRESENTATION OF A HUMAN FEMALE FIGURE. Aquarius Industries, Incorporated. SN 173,727. Pub. 4–27–65. Filed 7–25–63.

792,461. TRU-TRIM. Diamond National Corporation. SN 176,635. Pub. 4–27–65. Filed 9–10–63.

792,462. MISCELLANEOUS DESIGN. National Gypsum Company. SN 178,628. Pub. 4–27–65. Filed 10–9–63.

792,463. VIZ-MAC. Frank Lumber Co., Inc. SN 189,458. Pub. 4–27–65. Filed 3–24–64.

792,464. VINYLIFE. Glaros Products Inc. SN 195,401. Pub. 4–27–65. Filed 6–11–64.

792,465. THE KAUL KIND. Kaul Lumber Company. SN 202,489. Pub. 4–27–65. Filed 9–23–64.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

792,466. SHIELD DESIGN. Carlton Screw Co. SN 180,369. Pub. 4–27–65. Filed 11–4–63.

792,467. REED & PRINCE 100 PAK. Reed & Prince Mfg. Co. SN 198,879. Pub. 4–27–65. Filed 7–30–64.

792,468. ULTRA-TORR. Cajon Company. SN 204,636. Pub. 4–27–65. Filed 10–23–64.

792,469. AMERICAN DUCTILE IRON. American Cast Iron Pipe Company. SN 204,742. Pub. 4–27–65. Filed 10–26–64.

792,470. HILTON. Harold S. Hilton, d.b.a. Hilton Products Company. SN 207,045. Pub. 4–27–65. Filed 11–27–64.

Class 14 — Metals and Metal Castings and Forgings

792,471. SUPERSEED. Union Carbide Corporation. SN 208,506. Pub. 4–27–65. Filed 12–18–64.

792,472. MULTIGAGE. The Beryllium Corporation. SN 209,231. Pub. 4–27–65. Filed 1–4–65.

792,473. TAMPEASE. American Brake Shoe Company. SN 209,329. Pub. 4–27–65. Filed 1–5–65.

792,474. QUIET-METAL. American Cyanamid Company. SN 209,575. Pub. 4–27–65. Filed 1–8–65.

Class 15 — Oils and Greases

792,419. (See Class 1 for this trademark.)

792,475. TL-126. Liquid Nitrogen Processing Corporation. SN 185,221. Pub. 4–27–65. Filed 1–23–64.

792,476. TL-115. Liquid Nitrogen Processing Corporation. SN 185,223. Pub. 4–27–65. Filed 1–23–64.

792,477. NU SEAL. Nationwide Industries, Inc. SN 191,871. Pub. 4–27–65. Filed 4–23–64.

792,478. MOTOR TITE. Nationwide Industries, Inc. SN 191,872. Pub. 4–27–65. Filed 4–23–64.

792,479. DORO. Texaco Inc. SN 194,259. Pub. 4–27–65. Filed 5–25–64.

792,480. BENEFIT. Wyandotte Chemicals Corporation. SN 206,801. Pub. 4–27–65. Filed 11–23–64.

792,481. SILKO. James Alfred Martin, d.b.a. Silko New Improved Products Company. SN 207,139. Pub. 4–27–65. Filed 11–30–64.

792,482. STARLIGHT. Witco Chemical Company, Inc. SN 207,352. Pub. 4–27–65. Filed 12–2–64.

Class 16 — Protective and Decorative Coatings

792,434. (See Class 6 for this trademark.)

792,483. ZINODIC. Koppers Company, Inc. SN 182,189. Pub. 4–27–65. Filed 12–2–63.

792,484. OVER & UNDER. S. C. Johnson & Son, Inc. SN 200,648. Pub. 4–27–65. Filed 8–26–64.

Class 18 — Medicines and Pharmaceutical Preparations

792,485. OS-CAL-GESIC. Marion Laboratories Inc. (Delaware corporation), assignee of Marion Laboratories, Inc. (Missouri corporation). SN 182,342. Pub. 4–27–65. Filed 12–4–63.

792,486. KAOPLUS. The Purdue Frederick Company. SN 191,881. Pub. 1–19–65. Filed 4–23–64.

792,487. NALLINE. Merck & Co., Inc. SN 192,191. Pub. 4–27–65. Filed 4–28–64.

792,488. A-SEC. The William A. Webster Company. SN 193,518. Pub. 5–4–65. Filed 5–14–64.

792,489. IRIGATE. Sterimed, Inc. SN 193,821. Pub. 4–27–65. Filed 5–19–64.

792,490. TRICAPHOS. Onoda Chemical Industry Company, Ltd., by change of name from Onoda Hiryo Co., Ltd. SN 194,337. Pub. 4–27–65. Filed 11–8–63.

792,491. KETO-AID. Southern States Cooperative Incorporated. SN 197,191. Pub. 4–27–65. Filed 7–6–64.

792,492. DEPTRIN. N.V. Koninklijke Pharmaceutische Fabrieken V/H Brocades-Stheeman & Pharmacia. SN 198,429. Pub. 4–27–65. Filed 7–23–64.

792,493. RAY-D. Neoco Corporation. SN 208,837. Pub. 4–27–65. Filed 12–24–64.

792,494. CALCICAPS. Nion Corporation. SN 208,839. Pub. 4–27–65. Filed 12–24–64.

792,495. CALCIWAFER. Nion Corporation. SN 208,840. Pub. 4–27–65. Filed 12–24–64.

792,496. HEMONUTRON. Nion Corporation. SN 208,841. Pub. 4–27–65. Filed 12–24–64.

792,497. PAN-NUTRON-M. Nion Corporation. SN 208,843. Pub. 4–27–65. Filed 12–24–64.

792,498. SUPER ENDURANCE. Frank A. Viscio, d.b.a. Anthony Products Company. SN 209,210. Pub. 4–27–65. Filed 12–31–64.

Class 19 — Vehicles

792,499. RAINBOW. Rainbow Corporation. SN 196,808. Pub. 4–27–65. Filed 6–30–64.

792,500. F AND DESIGN. Fleetwood Enterprises, Inc. SN 202,142. Pub. 4–27–65. Filed 9–18–64.

792,501. RESORTER. Lone Star Boat Company. SN 202,820. Pub. 4-27-65. Filed 9-28-64.

792,502. BEDFORD. Lone Star Boat Company. SN 202,822. Pub. 4-27-65. Filed 9-28-64.

792,503. SOUTHWIND. Lone Star Boat Company. SN 202,823. Pub. 4-27-65. Filed 9-28-64.

792,504. WESTPORT. Lone Star Boat Company. SN 202,825. Pub. 4-27-65. Filed 9-28-64.

792,505. DEL RAY. Lone Star Boat Company. SN 202,826. Pub. 4-27-65. Filed 9-28-64.

Class 20 — Linoleum and Oiled Cloth

792,506. HACIENDA. Congoleum-Nairn Inc. SN 188,616. Pub. 4-27-65. Filed 3-13-64.

Class 21 — Electrical Apparatus, Machines, and Supplies

792,507. YOUNGSTOWN KITCHENS. Mullins Manufacturing Corporation. SN 180,600. Pub. 4-27-65. Filed 11-6-63.

792,508. MISCELLANEOUS DESIGN. Aktiebolaget Electrolux. SN 183,015. Pub. 4-27-65. Filed 12-16-63.

792,509. WESTON AND DESIGN. Weston Instruments, Inc., by change of name from Daystrom, Incorporated, d.b.a. Weston Instruments. MULTIPLE CLASS (Classes 21 and 26). SN 184,443. Pub. 4-27-65. Filed 1-13-64.

792,510. HAM·M. Cornell-Dubilier Electric Corporation. SN 192,011. Pub. 4-27-65. Filed 4-27-64.

792,511. GAMEWELL PYRO/SMOKE AND DESIGN. E. W. Bliss Company. SN 200,407. Pub. 4-27-65. Filed 8-24-64.

792,512. SENS-ALARM. Trolz & Wibling Control Corp. SN 201,494. Pub. 4-27-65. Filed 9-8-64.

792,513. ULTRA-MERC. Jefferson Electric Company. SN 204,475. Pub. 4-27-65. Filed 10-21-64.

Class 22 — Games, Toys, and Sporting Goods

792,514. MONARCH AND DESIGN. Royal Tops Manufacturing Co., Inc. SN 160,974. Pub. 4-27-65. Filed 1-18-63.

792,515. PAL. The H. C. Cook Company. SN 172,156. Pub. 4-27-65. Filed 7-1-63.

792,516. COMET AND DESIGN. Nelson Sales Company. SN 172,606. Pub. 4-27-65. Filed 7-8-63.

792,517. SPYDER METALLIC. Sohler Corporation. SN 176,755. Pub. 4-27-65. Filed 9-11-63.

792,518. ABCD AND DESIGN. Collette Toy Novelty Co., Inc. SN 184,702. Pub. 4-27-65. Filed 1-16-64.

792,519. SIMPLEX. Hannes Marker. SN 185,969. Pub. 4-27-65. Filed 1-15-64.

792,520. COLBY ETC. AND DESIGN. Merchants Buying Syndicate, Inc. SN 186,098. Pub. 4-27-65. Filed 2-5-64.

792,521. PLAY THE MARKET. Play the Market, Inc. SN 186,115. Pub. 4-27-65. Filed 2-5-64.

792,522. KRIG. Carl Eugene Freid. SN 186,839. Pub. 4-27-65. Filed 2-17-64.

792,523. KETCH-A-MIT. Mego Corp. SN 189,195. Pub. 4-27-65. Filed 3-20-64.

792,524. ADIRONDACK. Adirondack Bats, Inc. SN 192,969. Pub. 4-27-65. Filed 5-8-64.

792,525. MAGIC-POWER. Northwestern Golf Company. SN 193,396. Pub. 4-27-65. Filed 5-13-64.

792,526. VOLKL AND DESIGN. Franz Völkl Ohg. Ski-Spezialfabrik. SN 196,216. Pub. 4-27-65. Filed 6-22-64.

792,527. FORMEX 7. Emenee Industries, Inc. SN 196,369. Pub. 3-9-65. Filed 6-24-64.

792,528. ROTO ROCKET AND DESIGN. Astro-Products Corporation. SN 196,418. Pub. 4-27-65. Filed 6-25-64.

792,529. ROLL-A-PAR. E. S. Lowe Company, Inc. SN 196,683. Pub. 4-27-65. Filed 6-29-64.

792,530. MR. ISOMETRIC. Minute Home-Gym, Inc. SN 198,195. Pub. 4-27-65. Filed 7-20-64.

792,531. MR. FLIP. Edwin A. Dawson, Jr., d.b.a. Sanwin Products Co. SN 199,179. Pub. 4-27-65. Filed 8-4-64.

792,532. FLEX PLUG. Burke Flexo-Products Company. SN 200,408. Pub. 4-27-65. Filed 8-24-64.

792,533. BAT. Gayla Industries. SN 200,842. Pub. 4-27-65. Filed 8-28-64.

792,534. "SCOOTLES." Cameo Doll Products Co., Inc. SN 201,006. Pub. 4-27-65. Filed 9-1-64.

792,535. SEA PEARL. C & E Sportfishing Design and Mfg. Co. SN 201,271. Pub. 4-27-65. Filed 9-4-64.

792,536. CRITIC'S-CHOICE. Atlantic Lures, Inc. SN 201,358. Pub. 4-27-65. Filed 9-8-64.

792,537. FUZZIE. Flutter Bug Tackle Co. SN 201,409. Pub. 4-27-65. Filed 9-8-64.

792,538. AIRFOBAIT AND DESIGN. Mike C. Blume. SN 201,513. Pub. 4-27-65. Filed 9-9-64.

792,539. SHASTA. Anderson & Thompson Ski Co., Inc. SN 201,784. Pub. 4-27-65. Filed 9-14-64.

792,540. CHAMPION. Anderson & Thompson Ski Co., Inc. SN 201,785. Pub. 4-27-65. Filed 9-14-64.

792,541. SQUAW VALLEY. Anderson & Thompson Ski Co., Inc. SN 201,787. Pub. 4-27-65. Filed 9-14-64.

792,542. SPACEBALL. Nissen Corporation. SN 201,857. Pub. 4-27-65. Filed 9-14-64.

792,543. MEDALIST. Brunswick Corporation. SN 202,005. Pub. 4-27-65. Filed 9-16-64.

792,544. VARSITY. Brunswick Corporation. SN 202,007. Pub. 4-27-65. Filed 9-16-64.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

792,545. HYTRON. Acme Industrial Company. SN 200,994. Pub. 3-9-65. Filed 9-1-64.

792,546. INDUSTRIALIZED. Industrial Tool & Machine Co. SN 202,272. Pub. 4-27-65. Filed 9-21-64.

792,547. CAN-CAR. Hawker Siddeley Canada Ltd. SN 203,124. Pub. 4-27-65. Filed 10-1-64.

792,548. SPACE-LITE. P & C Tool Company. SN 203,605. Pub. 4-27-65. Filed 10-8-64.

792,549. C AND DESIGN. Waukesha Rubber Company, Inc. SN 204,426. Pub. 4-27-65. Filed 10-20-64.

792,550. RE-NU-MATIC. Mine and Smelter Supply Co. SN 204,490. Pub. 4-27-65. Filed 10-21-64.

792,551. COLLECTO-CARD. The Bahnson Company. SN 204,877. Pub. 4-27-65. Filed 10-27-64.

792,552. RUMBA DANCER (DESIGN). Hutchison Manufacturing Company. SN 204,979. Pub. 4-27-65. Filed 10-28-64.

792,553. INSTAFLARE. Parker-Hannifin Corporation. SN 205,333. Pub. 4-27-65. Filed 11-2-64.

792,554. AURORA. Breneman-Hartshorn Inc. SN 206,693. Pub. 4-27-65. Filed 11-23-64.

792,555. RENFROE. J. C. Renfroe & Sons, Inc. SN 207,836. Pub. 4-27-65. Filed 12-9-64.

792,556. RENFROE AND DESIGN. J. C. Renfroe & Sons, Inc. SN 207,837. Pub. 4-27-65. Filed 12-9-64.

Class 25 — Locks and Safes

792,557. FLEX-ACE. Chicago Lock Company. SN 209,063. Pub. 4-27-65. Filed 12-30-64.

Class 26 — Measuring and Scientific Appliances

792,509. (See Class 21 for this trademark.)

792,558. S/P. American Hospital Supply Corporation. SN 184,127. Pub. 4-27-65. Filed 1-7-64.

792,559. PYRO-STILL. International Telephone and Telegraph Corporation, assignee of ITT Bell & Gossett Inc. SN 186,358. Pub. 4-27-65. Filed 2-10-64.

792,560. SENTRY. Laucks Laboratories, Inc. SN 202,819. Pub. 4-27-65. Filed 9-28-64.

Class 27 — Horological Instruments

792,561. RAUBRY. Tateisi Electronics Co. SN 209,467. Pub. 4-27-65. Filed 1-6-65.

Class 28 — Jewelry and Precious-Metal Ware

792,562. AVANTI AND DESIGN. Benkay Jewelry Co., Inc. SN 209,060. Pub. 4-27-65. Filed 12-30-64.

792,563. ADG. Associated Dry Goods Corporation. SN 209,138. Pub. 4-27-65. Filed 12-31-64.

792,564. YOUNG AMERICA. Jerry De Nicola, Inc. SN 209,712. Pub. 4-27-65. Filed 1-11-65.

Class 31 — Filters and Refrigerators

792,565. AQUASPRING. American Machine & Foundry Company, assignee, by mesne assignment, of American Machine & Foundry Company. SN 172,142. Pub. 4-27-65. Filed 7-1-63.

Class 32 — Furniture and Upholstery

792,566. SPAN-RACK. Sol-Rac Company. SN 189,953. Pub. 4-27-65. Filed 3-30-64.

792,567. DIAL-A-TIE. Zoo-Line, d.b.a. Schooline Corporation. SN 190,307. Pub. 4-27-65. Filed 4-3-64.

792,568. SLIM-JIM. Shelfmaker Products Corporation. SN 197,850. Pub. 4-27-65. Filed 7-14-64.

Class 34 — Heating, Lighting, and Ventilating Apparatus

792,569. POWER PAK. Orr & Sembower, Inc. SN 168,215. Pub. 4-27-65. Filed 5-6-63.

792,570. SUNTEMP IMPERIAL. Suntemp Industries, Inc. SN 188,927. Pub. 4-27-65. Filed 3-17-64.

792,571. LAMIFLOW. The Babcock & Wilcox Company. SN 197,939. Pub. 4-27-65. Filed 8-11-64.

792,572. DEARBORN AND DESIGN. Dearborn Stove Company. SN 204,146. Pub. 4-27-65. Filed 10-16-64.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

792,573. GLADE. Rexall Drug and Chemical Company, d.b.a. Action Plastics, assignee of Colorite Plastics, Inc., d.b.a. Action Plastics. SN 188,727. Pub. 4-27-65. Filed 3-16-64.

792,574. FLEETWOOD. Rexall Drug and Chemical Company, d.b.a. Action Plastics, assignee of Colorite Plastics, Inc., d.b.a. Action Plastics. SN 188,728. Pub. 4-27-65. Filed 3-16-64.

792,575. WINTERLANE. The B. F. Goodrich Company. SN 202,589. Pub. 4-27-65. Filed 9-24-64.

792,576. AUTOBAHN. The Kelly Springfield Tire Company. SN 202,696. Pub. 4-27-65. Filed 9-25-64.

Class 36 — Musical Instruments and Supplies

792,577. PENNCREST. J. C. Penney Company. SN 192,316. Pub. 4-27-65. Filed 4-29-64.

792,578. EXECUMATIC. Dejur-Amsco Corporation. SN 202,558. Pub. 4-27-65. Filed 9-24-64.

792,579. ELECTRAMATIC. Dejur-Amsco Corporation. SN 202,559. Pub. 4-27-65. Filed 9-24-64.

Class 37 — Paper and Stationery

792,453. (See Class 7 for this trademark.)

792,580. FANCIFUL S (DESIGN). Sonoco Products Company. SN 183,995. Pub. 4-27-65. Filed 1-3-64.

792,581. SONOCO AND DESIGN. Sonoco Products Company. SN 183,996. Pub. 4-27-65. Filed 1-3-64.

792,582. FANCIFUL S (DESIGN). Sonoco Products Company. SN 186,024. Pub. 4-27-65. Filed 2-4-64.

792,583. SONOCO AND FANCIFUL S. Sonoco Products Company. SN 186,025. Pub. 4-27-65. Filed 2-4-64.

792,584. CROWN RESEALABLE. Crown Zellerbach Corporation. SN 195,517. Pub. 4-27-65. Filed 6-12-64.

792,585. MULTIFLEX. Multiforms, Inc. SN 202,496. Pub. 4-27-65. Filed 9-23-64.

Class 38 — Prints and Publications

792,586. MODERN OFFICE PROCEDURES. Pittsburgh Railways Company, assignee of The Industrial Publishing Corporation. SN 166,281. Pub. 4-27-65. Filed 4-8-63.

792,587. PARAMETERS. Aero Service Corporation. SN 168,997. Pub. 4-27-65. Filed 5-16-63.

792,588. PORTS O CALL THE SPORTSMAN'S HANDBOOK AND DESIGN. Sportsman's Handbook, Inc. SN 174,714. Pub. 4-27-65. Filed 8-8-63.

792,589. TAXRITE. Robert A. Walz, d.b.a. Taxrite Division Executax Company. SN 183,484. Pub. 4-27-65. Filed 12-23-63.

792,590. BUDGET ME MONTHLY AND DESIGN. Richard R. Steel. SN 184,406. Pub. 4-27-65. Filed 1-10-64.

792,591. CERAMATIC. Avery Products Corporation, assignee of Avery Adhesive Products, Inc. SN 184,426. Pub. 4-27-65. Filed 1-13-64.

792,592. SURVIVAL. Official Films, Inc. SN 185,069. Pub. 4-27-65. Filed 1-21-64.

792,593. KEYS TO CHELATION. The Dow Chemical Company. SN 188,210. Pub. 4-27-65. Filed 3-9-64.

792,594. THE AIRCONDITIONING & REFRIGERATION BUSINESS. Pittsburgh Railways Company, assignee of The Industrial Publishing Corporation. SN 188,880. Pub. 4-27-65. Filed 3-17-64.

792,595. THE CRICKETEER. Texaco Experiment Incorporated. SN 189,740. Pub. 4-27-65. Filed 3-26-64.

792,596. MEDINDEX. Medindex Directories Limited. SN 190,635. Pub. 4-27-65. Filed 4-8-64.

792,597. OMC OFFICE MASTER CATALOG. Tech Publishers, Inc. SN 195,825. Pub. 4-27-65. Filed 6-16-64.

792,598. REPRESENTATION OF A NINE-POINTED ROSETTE (DESIGN). National Spiritual Assembly of the Baha'is of the United States, d.b.a. Baha'i Publishing Trust. SN 197,315. Pub. 4-27-65. Filed 7-1-64.

792,599. MINI-PRINT. Mini-Print Corporation. SN 199,590. Pub. 4-27-65. Filed 8-10-64.

792,600. SENIOR SERVICES AND DESIGN. Senior Services Corporation. SN 200,118. Pub. 4-27-65. Filed 8-18-64.

792,601. DROLLS. Hallmark Cards, Incorporated. SN 201,423. Pub. 4-27-65. Filed 9-8-64.

Class 39 — Clothing

792,602. MINUETTS. Lester Pincus Shoe Corporation. SN 183,279. Pub. 4-27-65. Filed 12-19-63.

792,603. PRISS-TEENS. The Juvenile Mfg. Co., Inc. SN 184,295. Pub. 4-27-65. Filed 1-9-64.

792,604. FIRE ISLANDER AND DESIGN. Tru-Fit Mfg. Co., Inc. SN 197,445. Pub. 4-27-65. Filed 7-8-64.

792,605. LEE-PREST. The H. D. Lee Company, Incorporated. SN 201,447. Pub. 4-27-65. Filed 9-8-64.

792,606. PICKLE PUSS. Joseph Schultz and Sons, Inc. SN 201,880. Pub. 4-27-65. Filed 9-14-64.

792,607. STENOS. International Shoe Company. SN 202,693. Pub. 4-27-65. Filed 9-25-64.

792,608. CLIFTERS. International Shoe Company. SN 202,694. Pub. 4-27-65. Filed 9-25-64.

792,609. J.R.J. Julius Jacobson, d.b.a. Manhasset Products Co. SN 202,695. Pub. 4-27-65. Filed 9-25-64.

792,610. HI SCORE. Morton's Shoe Stores, Inc. SN 202,701. Pub. 4-27-65. Filed 9-25-64.

792,611. FLUFFY-TITES. Freitag Mfg. Co., Inc. SN 202,923. Pub. 4-27-65. Filed 9-29-64.

792,612. THE YOUNG INDIVIDUALIST. City Stores Company. SN 203,073. Pub. 4-27-65. Filed 10-1-64.

792,613. SHEEP'S HEAD IN A CIRCLE (DESIGN). Buddy Schoellkopf Products Inc. SN 203,4[illegible]2. Pub. 4-27-65. Filed 10-6-64.

792,614. SPOTLIGHT DEBS. Spotlight Yarns Corporation. SN 204,304. Pub. 4-27-65. Filed 10-19-64.

792,615. M.V.P. SLAX. Barrow Manufacturing Company. SN 204,547. Pub. 4-27-65. Filed 10-22-64.

792,616. DOLLYROCKERS. Samuel Sherman, Limited. SN 205,109. Pub. 4-27-65. Filed 10-29-64.

792,617. WOOLRICH AND DESIGN. Woolrich Woolen Mills. SN 205,553. Pub. 4-27-65. Filed 11-4-64.

Class 40 — Fancy Goods, Furnishings, and Notions

792,453. (See Class 7 for this trademark.)

792,618. LUSTRE PUFF-BOW. Norcross, Inc. SN 156,324. Pub. 4-27-65. Filed 10-31-62.

Class 41 — Canes, Parasols, and Umbrellas

792,619. BELT BRELLA. Polan, Katz & Company, Incorporated. SN 204,191. Pub. 4-27-65. Filed 10-16-64.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

792,620. RIEGEL. Riegel Textile Corporation. SN 190,973. Pub. 4-27-65. Filed 4-13-64.

792,621. CREASE 'N TACK. Chicopee Mills, Inc. SN 193,333. Pub. 4-27-65. Filed 5-13-64.

792,622. HEATHERWOOD. Burlington Industries, Inc. SN 198,935. Pub. 4-27-65. Filed 7-31-64.

792,623. THE FABRIC WITH REFLEX ACTION. Erwin Mills, Inc. SN 200,174. Pub. 4-27-65. Filed 8-19-64.

792,624. DUNES. Crompton Company. SN 204,359. Pub. 4-27-65. Filed 10-20-64.

792,625. HARPSICHORD. Crompton Company. SN 204,360. Pub. 4-27-65. Filed 10-20-64.

792,626. NORTHPORT. Crompton Company. SN 204,363. Pub. 4-27-65. Filed 10-20-64.

792,627. TRUEPENNY. Crompton Company. SN 204,365. Pub. 4-27-65. Filed 10-20-64.

Class 43 — Thread and Yarn

792,628. SIRDAR FONTEIN. Harrap Bros. (Sirdar Wools) Limited. SN 200,930. Pub. 4-27-65. Filed 8-31-64.

792,629. SIRDAR PULLMAN. Harrap Bros. (Sirdar Wools) Limited. SN 200,992. Pub. 4-27-65. Filed 8-31-64.

Class 44 — Dental, Medical, and Surgical Appliances

792,630. PHONOTEL. International Rectifier Corporation, d.b.a. Dallons Laboratories. SN 179,340. Pub. 4-27-65. Filed 10-18-63.

792,631. DERMA DRI. Harlemark International, Inc. SN 185,506. Pub. 4-27-65. Filed 1-28-64.

792,632. CERVO-UNITRAY. The Weber Dental Manufacturing Company. SN 205,640. Pub. 4-27-65. Filed 11-5-64.

792,633. TROCATH. Don Baxter, Inc. SN 205,763. Pub. 4-27-65. Filed 11-9-64.

792,634. MASTIGUN. Whitmoyer Laboratories, Inc. SN 205,904. Pub. 4-27-65. Filed 11-9-64.

Class 46 — Foods and Ingredients of Foods

792,635. SHIELD DESIGN. Callet & Cie. SN 143,004. Pub. 4-27-65. Filed 4-25-62.

792,636. CHEF PIERRE. Chef Pierre, Inc. SN 159,697. Pub. 4-27-65. Filed 12-26-62.

792,637. THE FARMER IN THE DELL. The Farmer in the Dell. SN 161,545. Pub. 4-27-65. Filed 1-28-63.

792,638. BONNIE. Bonnie Baking, Inc. SN 162,139. Pub. 4-27-65. Filed 2-6-63.

792,639. CHEF PIERRE AND DESIGN. Chef Pierre, Inc. SN 165,116. Pub. 4-27-65. Filed 12-21-62.

792,640. PAN DANDY AND DESIGN. Standard Market Company. SN 167,176. Pub. 4-27-65. Filed 4-19-63.

792,641. ANFIMON. Dr. Fernando Cuenca Villoro. SN 170,181. Pub. 4-27-65. Filed 6-3-63.

792,642. DOROTHY LAMOUR HI-PROTEIN HI-ENERGY. Dorothy Lamour Enterprises, Ltd. SN 170,482. Pub. 4-27-65. Filed 6-6-63.

792,643. AMERICAN BEAUTY. Trautmann Bros. Co. of Laredo, Texas, Inc. SN 171,725. Pub. 4-27-65. Filed 6-24-63.

792,644. PIONEER PASTURMIX. Hales & Hunter Co. SN 172,739. Pub. 4-27-65. Filed 7-10-63.

792,645. HARVEY'S. Market Decorators, Inc., d.b.a. Harvey's Products. SN 172,750. Pub. 4-27-65. Filed 7-10-63.

792,646. H-P-S. Market Decorators, Inc., d.b.a. Harvey's Products. SN 172,751. Pub. 4-27-65. Filed 7-10-63.

792,647. MISTER MONTMORENCY. Great Lakes Cherry Producers Marketing Cooperative, Inc. SN 172,988. Pub. 4-27-65. Filed 7-15-63.

792,648. RED LINK. Meat Industry Suppliers, Inc. SN 173,475. Pub. 4-27-65. Filed 7-22-63.

792,649. PINK LINK. Meat Industry Suppliers, Inc. SN 173,476. Pub. 4-27-65. Filed 7-22-63.

792,650. LINE OF DANCING FIGURES (DESIGN). Hoffman Bros. Packing Co., Inc. SN 180,507. Pub. 4-27-65. Filed 11-5-63.

792,651. CIRCLE OF DANCING FIGURES (DESIGN). Hoffman Bros. Packing Co., Inc. SN 180,508. Pub. 4-27-65. Filed 11-5-63.

792,652. TABLE TENDER. John Morrell & Co. SN 181,658. Pub. 4-27-65. Filed 11-21-63.

792,653. MAGIC. Basic Vegetable Products, Inc. SN 182,022. Pub. 4-27-65. Filed 11-29-63.

792,654. GRO 'N SHOW. Southern States Cooperative, Incorporated. SN 182,747. Pub. 4-27-65. Filed 12-10-63.

792,655. MR. CRUSTY AND DESIGN. Crusty Pie Company, Inc. SN 184,608. Pub. 4-27-65. Filed 1-15-64.

792,656. THREE DIAMONDS. Mitsubishi Shoji Kaisha, Ltd. SN 186,549. Pub. 4-27-65. Filed 2-12-64.

792,657. CIRCLE J. Hi-Acres Concentrate, Inc. SN 187,580. Pub. 4-27-65. Filed 2-27-64.

792,658. CITRA VITA. Hi-Acres Concentrate, Inc. SN 187,581. Pub. 4-27-65. Filed 2-27-64.

792,659. HI-FRIES. Lamb-Weston, Inc. SN 191,778. Pub. 4-27-65. Filed 4-22-64.

792,660. SUNDAY BEST. The Procter & Gamble Company. SN 192,616. Pub. 4-27-65. Filed 5-4-64.

792,661. DR. OLIVER INVENTOR AND DESIGN. Cater, Stoffell & Fortt Limited. SN 193,260. Pub. 4-27-65. Filed 5-12-64.

792,662. FORTT'S ORIGINAL BATH OLIVER AND DESIGN. Cater, Stoffell & Fortt Limited. SN 193,261. Pub. 4-27-65. Filed 5-12-64.

792.663. ROMA AND DESIGN. Roma Macaroni Factory, d.b.a. Roma Macaroni Company. SN 193,985. Pub. 4-27-65. Filed 5-21-64.

792,664. DOROTHY MAY. The Read Drug and Chemical Company of Baltimore City. SN 196,308. Pub. 4-27-65. Filed 6-23-64.

792,665. MERIT. Robert A. Johnston Company. SN 196,677. Pub. 4-27-65. Filed 6-29-64.

792,666. BELL FRIES. Bell Brand Foods, Ltd. SN 198,529. Pub. 4-27-65. Filed 7-27-64.

792,667. DORITOS. Frito-Lay, Inc. SN 198,545. Pub. 4-27-65. Filed 7-27-64.

792,668. CLIFF HOUSE. Red Line Commercial Co., Inc., d.b.a. Cliff House Distributors. SN 198,878. Pub. 4-27-65. Filed 7-30-64.

792,669. HYDE PARK AND DESIGN. Malone & Hyde, Inc. SN 199,081. Pub. 4-27-65. Filed 8-3-64.

792,670. MELE KOI. Joseph C. Ulick, d.b.a. Londonderry Farms Ltd. SN 203,843. Pub. 5-11-65. Filed 10-12-64.

792,671. MISCELLANEOUS DESIGN. Arkansas Grain Corporation. SN 199,786. Pub. 4-27-65. Filed 8-13-64.

792,672. CHIPS AHOY. National Biscuit Company. SN 200,022. Pub. 4-27-65. Filed 8-17-64.

792,673. SYMPHONETTES. Chesterton Candy Company, d.b.a. Mrs. Leland's Kitchens. SN 201,373. Pub. 4-27-65. Filed 9-8-64.

792,674. ULTRA ZYME. Breddo Food Products Corporation. SN 201,804. Pub. 4-27-65. Filed 9-14-64.

792,675. PURE GOLD. The J. Weller Company. SN 201,986. Pub. 4-27-65. Filed 9-15-64.

Class 47 — Wines

792,676. HARVEYS OF BRISTOL. John Harvey & Sons Limited. SN 192,912. Pub. 4-27-65. Filed 5-7-64.

792,677. HARVEYS OF BRISTOL AND DESIGN. John Harvey & Sons Limited. SN 193,364. Pub. 4-27-65. Filed 5-13-64.

Class 49 — Distilled Alcoholic Liquors

792,678. CALVERT EXTRA AND DESIGN. Joseph E. Seagram & Sons, Inc. SN 175,693. Pub. 4-27-65. Filed 8-23-63.

792,679. ANGUS McKAY. The Riverside Scotch Whisky Company Limited. SN 194,317. Pub. 4-27-65. Filed 5-26-64.

792,680. REGENT STREET. Heublein, Inc. SN 199,279. Pub. 4-27-65. Filed 8-5-64.

792,681. 1786. Glen Keith-Glenlivet Distillery Company, Limited. SN 201,318. Pub. 4-27-65. Filed 8-4-64.

Class 50 — Merchandise Not Otherwise Classified

792,682. CCC AND DESIGN. Cumberland Case Company. SN 165,212. Pub. 4-27-65. Filed 3-22-63.

792,683. THE MARK-MASTER HOME TEACHER AND DESIGN. Universal Electronics Laboratories Corporation. SN 167,504. Pub. 4-27-65. Filed 4-24-63.

792,684. NYC'EN NEET. Michael P. Nyssen, d.b.a. Nyc'en Neet Board Co. SN 183,100. Pub. 4-27-65. Filed 12-16-63.

792,685. PERMACOLOR. Kirby-Cogeshall-Steinau Co., Inc. SN 186,254. Pub. 4-27-65. Filed 2-7-64.

792,686. FABRICO AND DESIGN. Fabrico Manufacturing Corporation. SN 186,345. Pub. 4-27-65. Filed 2-10-64.

792,687. MASTER CLETUS CLAUS. General Plastics Corporation. SN 198,155. Pub. 4-27-65. Filed 7-20-64.

792,688. POLYFAB. Carson-Saeks, Inc. SN 199,027. Pub. 4-27-65. Filed 8-3-64.

792,689. FLAPPERS. Puppet Mannequins, Inc. SN 200,204. Pub. 4-27-65. Filed 8-19-64.

792,690. RAINBOW WHIRL. Gaylane Enterprises. SN 200,841. Pub. 4-27-65. Filed 8-28-64.

792,691. VISU-STEEL. Gamco, Inc. SN 210,772. Pub. 4-27-65. Filed 1-27-65.

792,692. KLIK-SEAL. Samuel Mallinger Company. SN 211,079. Pub. 4-27-65. Filed 2-1-65.

792,693. BREATH-LESS BY NEE-LON AND DESIGN. Nee-Lon Products Company, Inc. SN 161,548. Pub. 8-27-63. Filed 1-28-63.

Class 51 — Cosmetics and Toilet Preparations

792,694. NU-COLOR. Walgreen Laboratories, Inc. SN 164,483. Pub. 4-27-65. Filed 3-12-63.

792,695. "LA PARISIENNE." Revlon, Inc. SN 175,609. Pub. 3-17-64. Filed 8-22-63.

792,696. CLEAR 'N' COVER. Avon Products, Inc. SN 186,682. Pub. 4-27-65. Filed 2-14-64.

792,697. LINE AWAY. Chas. Pfizer & Co., Inc. SN 191,950. Pub. 11-10-64. Filed 4-24-64.

792,698. SUN SILK. Richard Hudnut. SN 194,492. Pub. 4-27-65. Filed 5-28-64.

792,699. TRAVL'N MAN. Colonial Dames Company, Ltd., d.b.a. Colonial Dames Limited. SN 196,766. Pub. 4-27-65. Filed 6-30-64.

792,700. DENTA-GARD. Colgate-Palmolive Company. SN 201,519. Pub. 4-27-65. Filed 9-9-64.

792,701. TEK. Johnson & Johnson. SN 201,601. Pub. 4-27-65. Filed 9-10-64.

792,702. EVR-GARD. Evr-Gard Coatings Corporation. SN 201,931. Pub. 4-27-65. Filed 9-15-64.

792,703. ALBION. Albion Cosmetics Company Limited. SN 201,996. Pub. 4–27–65. Filed 9–10–64.

Class 52—Detergents and Soaps

792,419. (See Class 1 for this trademark.)

792,444. (See Class 6 for this trademark.)

792,704. PRIX D'OR. International Research Consultants, Inc. SN 176,659. Pub. 4–27–65. Filed 9–10–63.

792,705. GROTESQUE MAN WITH SPRAY CAN. Holland Kleen-All, Inc. SN 185,290. Pub. 4–27–65. Filed 1–24–64.

792,706. RENEWAL. V. Mueller & Company. SN 187,782. Pub. 4–27–65. Filed 3–2–64.

792,707. GREAT DAY. Clairol Incorporated. SN 188,339. Pub. 4–27–65. Filed 3–10–64.

792,708. SANEL. Wyandotte Chemicals Corporation. SN 189,829. Pub. 4–27–65. Filed 3–27–64.

792,709. ASIDOUX. L'Oreal. SN 197,892. Pub. 4–27–65. Filed 7–15–64.

729,710. CC WOW! ETC. AND DESIGN. Century Chemical Corporation. SN 200,323. Pub. 4–27–65. Filed 8–21–64.

792,711. MISCELLANEOUS DESIGN. Colgate-Palmolive Company. SN 201,663. Pub. 4–27–65. Filed 9–11–64.

Service Marks

Class 100—Miscellaneous

792,712. V.P.A. ETC. AND DESIGN. The Society of the People, Inc. SN 132,107. Pub. 4–27–65. Filed 11–15–61.

792,713. BEAUTY BAZAAR. Beauty Bazaar, Inc. SN 150,319. Pub. 4–27–65. Filed 8–2–62.

792,714. MF AND DESIGN. Mountain Fuel Supply Company. SN 180,426. Pub. 4–27–65. Filed 11–4–63.

792,715. VIP AND DESIGN. HMH Publishing Co., Inc. (Delaware corporation), by merger and change of name from HMH Publishing Co., Inc. (Illinois corporation). SN 182,481. Pub. 4–27–65. Filed 12–6–63.

792,716. CHICAGO MOTOR CLUB. Chicago Motor Club. SN 186,040. Pub. 11–3–64. Filed 1–31–64.

792,717. CHICAGO MOTOR CLUB AND DESIGN. Chicago Motor Club. SN 186,041. Pub. 11–3–64. Filed 2–4–64.

792,718. SOLOCAST. The Solocast Company. SN 187,531. Pub. 4–27–65. Filed 2–26–64.

792,719. S AND DESIGN. The Solocast Company. SN 187,532. Pub. 4–27–65. Filed 2–26–64.

792,720. NEPCO ETC. AND DESIGN. National Export Packing Company. SN 192,068. Pub. 4–27–65. Filed 4–27–64.

792,721. AIA. The American Institute of Architects. SN 193,612. Pub. 4–27–65. Filed 5–18–64.

792,722. TURKEY HEAVEN. Ma Perkins Turkey Heaven. SN 195,239. Pub. 4–27–65. Filed 6–9–64.

Class 101—Advertising and Business

792,723. GOOD NEIGHBOR HARDWARE & HOUSEWARE STORES AND DESIGN. Drug Store Council, Inc. Collective Mark. SN 124,263. Pub. 4–27–65. Filed 7–19–61.

792,724. HOM-DEL AND DESIGN. Hom-Del Corp. SN 144,727. Pub. 4–27–65. Filed 5–16–62.

792,725. CORRUGRAPHIC. Jas. H. Matthews & Co. SN 176,664. Pub. 4–27–65. Filed 9–10–63.

792,726. PETIT PIGEON AND DESIGN. Petit Pigeon. SN 183,702. Pub. 4–27–65. Filed 12–27–63.

792,727. LAURENTIDE LEASING AND DESIGN. Laurentide Finance Corporation of America, d.b.a. Laurentide Leasing Company. SN 185,522. Pub. 4–27–65. Filed 1–28–64.

792,728. BPA AND DESIGN. Business Publications Audit of Circulation, Inc. SN 188,719. Pub. 4–27–65. Filed 3–16–64.

792,729. W AND DESIGN. Western Federal Savings and Loan Association. SN 194,009. Pub. 4–27–65. Filed 5–21–64.

792,730. TUG-O-WAR. Tug-O-War, Inc. SN 195,026. Pub. 4–27–65. Filed 6–5–64.

792,731. WOOLCO ETC. AND DESIGN. F. W. Woolworth Co. SN 199,151. Pub. 4–27–65. Filed 8–3–64.

792,732. WOOLCO DEPARTMENT STORES AND DESIGN. F. W. Woolworth Co. SN 199,152. Pub. 4–27–65. Filed 8–3–64.

Class 102—Insurance and Financial

792,733. INVESTOOL COMPANY AND DESIGN. Gunnar C. F. Asker, d.b.a. Investool Company. SN 120,478. Pub. 4–27–65. Filed 5–22–61.

792,734. COMPUDATA. Compudata, Inc. SN 185,194. Pub. 4–27–65. Filed 1–23–64.

792,735. CAMEO-LIKE PROFILES OF AN ELDERLY MAN AND WOMAN (DESIGN). Western 65 Health Insurance Association. SN 187,836. Pub. 4–27–65. Filed 3–2–64.

792,736. FORTUNAIRE. Lutheran Mutual Life Insurance Company. SN 195,420. Pub. 4–27–65. Filed 6–11–64.

792,737. PICA AND DESIGN. The Poulsen Insurance Company of America. SN 197,901. Pub. 4–27–65. Filed 7–15–64.

792,738. REPRESENTATION OF THE ROCK OF GIBRALTAR. The Prudential Insurance Company of America. SN 199,610. Pub. 4–27–65. Filed 8–10–64.

Class 103—Construction and Repair

792,739. UNDERWATER SERVICES, INC. USI AND DESIGN. Underwater Services, Inc. SN 141,767. Pub. 4–27–65. Filed 4–6–62.

792,740. DEEP ROCK. Kerr-McGee Oil Industries, Inc. SN 187,932. Pub. 4–27–65. Filed 3–4–64.

Class 105—Transportation and Storage

792,741. FIN, FUR AND FEATHER CLUB. Air Canada, by change of name from Trans-Canada Air Lines. SN 177,832. Pub. 4–27–65. Filed 9–26–63.

792,742. TECTROL. Whirlpool Corporation. SN 181,583. Pub. 4–27–65. Filed 11–20–63.

792,743. PACIFIC AIR LINES. Pacific Air Lines. SN 187,141. Pub. 4–27–65. Filed 2–20–64.

Class 106—Material Treatment

792,744. BMCO AND DESIGN. Boonton Molding Company, Inc. SN 165,295. Pub. 4–27–65. Filed 3–25–63.

792,745. MEDIPAK METHOD AND DESIGN. Demander Bookbindery, Inc. SN 193,134. Pub. 4–27–65. Filed 5–11–64.

Class 107—Education and Entertainment

792,746. SQUARE DANCE CAPITAL OF THE WORLD, ETC. AND DESIGN. Chamber of Commerce of La Crosse, Inc. SN 170,375. Pub. 4–27–65. Filed 6–5–63.

792,747. PRIME. American Management Association, Inc. SN 170,512. Pub. 4–27–65. Filed 6–7–63.

792,748. THE TROPHIES. John M. Dunham. SN 196,366. Pub. 4–27–65. Filed 6–24–64.

Collective Membership Mark

Class 200

792,749. SLMA ETC. AND DESIGN. Southeastern Lumber Manufacturer's Association. SN 182,293. Pub. 4–27–65. Filed 12–3–63.

TRADEMARK REGISTRATIONS RENEWED

44,421. NEUROSINE. Cl. 18. 7–4–05.
44,488. SIR PRIZE. Cl. 29. 7–11–05.
44,490. DUX. Cl. 29. 7–11–05.
44,559. RATIONAL. Cl. 29. 7–11–05.
45,143. CN. Cl. 6. 8–8–05.
45,853. KNABE. Cl. 36. 8–29–05.
46,162. RIDGE ON ELECTRICAL CONDUCTOR (DESIGN). Cl. 21. 9–5–05.
46,735. AB CO AND DESIGN. Cl. 38. 10–3–05.
46,829. CRYSTAL SPRING. Cl. 49. 10–10–05.
47,391. MASON & HAMLIN AND DESIGN. Cl. 36. 10–31–05.
47,457. FLORIDA WATER AND DESIGN. Cl. 51. 11–7–05.
47,467. CLOVERINE. Cl. 18. 11–7–05.
196,873. MULBERRY MIXED. Cl. 46. 3–31–25.
198,338. C-THRU. Cl. 44. 5–12–25.
199,071. THE WINTON WATCH GUARDIAN OF THE FLIGHT OF TIME AND DESIGN. Cl. 27. 6–2–25.
199,320. IC AND DESIGN. Cl. 12. 6–9–25.
199,387. POMMAC. Cl. 45. 6–9–25.
199,805. ONYX DUB-L WEAR AND DESIGN. Cl. 39. 6–16–25.
200,461. FOG. Cl. 23. 6–30–25.
200,667. AUTO-SAN. Cl. 52. 7–7–25.
200,903. BON SOIR. Cl. 51. 7–14–25.
201,034. RADEEN. Cl. 42. 7–14–25.
201,144. VOGUE PATTERN BOOK. Cl. 38. 7–21–25.
203,086. Y-26. Cl. 21. 9–8–25.
203,122. ATRAUMATIC. Cl. 44. 9–8–25.
203,276. PY-CO-PAY. Cl. 51. 9–15–25.
204,092. TYFON. Cl. 23. 10–6–25.
204,094. REPRESENTATION OF A BEAR (DESIGN). Cl. 1. 10–6–25.
204,454. NEMCO. Cl. 21. 10–20–25.
411,964. FREMOUNT TRAIL. Cl. 46. 2–13–45.
412,233. VALLO. Cl. 11. 2–27–45.
412,457. SKYLARK. Cl. 22. 3–6–45.
412,990. ROBOT AND DESIGN. Cl. 6. 4–3–45.
413,466. BILLBOARD. Cl. 46. 4–24–45.
413,467. SALESMAKER. Cl. 46. 4–24–45.
413,797. REPRESENTATION OF A BUILDING (DESIGN). Cl. 12. 5–15–45.
413,807. JACK-LOCK. Cl. 23. 5–15–45.
413,877. F.M. CO. Cl. 28. 5–15–45.
413,881. ANTARA. Cl. 26. 5–15–45.
414,100. "ONE SPOT AND DESIGN. Cl. 26. 5–29–45.
414,452. LILY. Cl. 40. 6–12–45.
414,478. WHITE WINE. Cl. 42. 6–12–45.
414,488. LAV-GLASS AND DESIGN. Cl. 26. 6–12–45.
414,539. AMINOSOL. Cl. 18. 6–12–45.
414,768. RESLOOM. Cl. 6. 6–12–45.
415,199. SUPER-WARD. Cl. 44. 7–31–45.
415,219. INNER SANCTUM. Cl. 3. 7–31–45.
415,392. P.C.A. THE SALT OF THE EARTH. Cl. 10. 8–7–45.
415,408. LEDERPLEX. Cl. 18. 8–7–45.
415,517. RODEX. Cl. 39. 8–7–45.
415,692. MONO THIURAD. Cl. 6. 8–14–45.
415,693. SANTOWHITE. Cl. 6. 8–14–45.
415,869. DENISETTE. Cl. 42. 8–21–45.
416,511. LUCY LARCOM. Cl. 39. 9–18–45.
416,553. SMARTONE. Cl. 39. 9–18–45.
416,609. CLIMAX. Cl. 21. 9–25–45.
416,623. LITTLE GIANT. Cl. 25. 9–25–45.
416,628. COLOR DYNAMICS. Cl. 38. 9–25–45.
416,845. PHILCO. Cl. 12. 10–2–45.
416,885. ABBOCILLIN. Cl. 18. 10–2–45.
416,896. ROYAL IMPERIAL. Cl. 39. 10–2–45.
416,898. FANCY FREE. Cl. 51. 10–2–45.
416,899. LEDERCILLIN. Cl. 18. 10–2–45.
417,095. QUAKESTER. Cl. 6. 10–16–45.
417,107. SCHWOBILT SUITS THE SOUTH. Cl. 39. 10–16–45.
417,284. TEX-SPAR. Cl. 52. 10–23–45.
417,326. "WHY NOT." Cl. 52. 10–23–45.
417,353. DUCKY. Cl. 44. 10–23–45.
417,448. GONADO-TRONE. Cl. 6. 10–30–45.
417,477. WILBUR AND DESIGN. Cl. 38. 10–30–45.

TRADEMARK REGISTRATIONS CANCELED

Section 8

The following registrations issued May 26, 1959

679,059. FORMUL. Cl. 1.
679,061. LANACRIL. Cl. 1.
679,062. VANESSA. Cl. 1.
679,065. MISTER FLOWERS AND DESIGN. Cl. 1.
679,066. CUP CADDY BY ROLEFF AND DESIGN. Cl. 2.
679,072. LAUXITE. Cl. 5.
679,082. THOR-O-BRED. Cl. 7.
679,088. STRAN-LITE. Cl. 12.
679,089. STRAN-SATIN. Cl. 12.
679,090. PANELOK. Cl. 12.
679,092. DECRADALL. Cl. 12.
679,095. WEATHER-KING. Cl. 12.
679,101. FORMSTONE. Cl. 12.
679,123. DAIRYPAK WAX. Cl. 15.
679,126. RAZZLE BLACK. Cl. 16.
679,133. GUIDE. Cl. 16.
679,146. LITTLE CHUM AND DESIGN. Cl. 19.
679,149. STEWART. Cl. 21.
679,153. WYNCREST. Cl. 21.
679,155. KLEEN KING. Cl. 21.
679,162. TC AND DESIGN. Cl. 21.
679,170. TRANS COM AND DESIGN. Cl. 21.
679,173. NAUTILUS. Cl. 21.
679,181. FASTEST GUN. Cl. 22.
679,182. BENROSS BRAND TIGER AND DESIGN. Cl. 22.
679,183. TRIGIT. Cl. 22.
679,187. HUCK FINN. Cl. 22.
679,188. PRI-THILLA. Cl. 22.
679,191. ROTO-BALL. Cl. 23.
679,194. SALTY. Cl. 23.
679,208. COMPTO-PAK. Cl. 23.
679,211. FASTCUT N-MILL. Cl. 23.
679,219. NORSEMAN. Cl. 23.
679,220. EPPY'S NON-CLOG. Cl. 23.
679,221. ENSI-MATIC. Cl. 23.
679,227. VISI-COIN-COUNTER. Cl. 25.
679,228. WILCORP. Cl. 26.
679,234. IMP. Cl. 26.
679,235. MICRO-VIEWER. Cl. 26.

679,237. COMFORT GROOVED. Cl. 26.
679,241. BRAUN AND DESIGN. Cl. 26.
679,245. NORTHRONICS AND DESIGN. Cl. 26.
679,254. I AND DESIGN. Cl. 26.
679,255. SHARP-LITE. Cl. 26.
679,257. VIDITAL. Cl. 26.
679,270. LINK. Cl. 32.
679,272. MASTER MATIC AND DESIGN. Cl. 32.
679,273. BO-KAY BY LILI ETC. AND DESIGN. Cl. 32.
679,275. BUNNY WALKER. Cl. 32.
679,278. HEATMAKER. Cl. 34.
679,287. RETURN-O-MATIC. Cl. 38.
679,291. BATS FLIGHT PACK AND DESIGN. Cl. 38.
679,305. ISONET. Cl. 39.
679,308. KEYSTONE. Cl. 39.
679,309. TERRY ROGERS AND DESIGN. Cl. 39.
679,312. WEATHERFAIR. Cl. 39.
679,313. BOBBY BLAIR. Cl. 39.
679,317. SUIXTIL. Cl. 39.
679,321. STAG. Cl. 39.
679,322. PATTI LEWIS. Cl. 39.
679,325. BULL WHIP. Cl. 39.
679,326. CRAZY CAGE. Cl. 39.
679,330. SUPER RICH. Cl. 39.
679,335. WELSLIPS. Cl. 39.
679,336. FABRITROL. Cl. 39.
679,337. COLLEGE WAY AND DESIGN. Cl. 39.
679,342. FORT HYDRY. Cl. 42.
679,343. SEVENTH HEAVEN SLEEPER. Cl. 42.
679,346. LUSTERTWEED. Cl. 42.
679,347. MAPLE. Cl. 42.
679,355. ELTIKON AND DESIGN. Cl. 43.
679,357. DISPENSOREEL. Cl. 44.
679,358. LUM-BAR. Cl. 44.
679,359. LONDON RUBBER CO. LTD. ETC. AND DESIGN. Cl. 44.
679,372. HAVAPINE. Cl. 49.
679,376. BOIACH. Cl. 49.
679,378. BUCKEYE GRASS INCUBATOR AND DESIGN. Cl. 50.
679,380. KID-EASE. Cl. 50.
679,401. SHUR NOX. Cl. 52.
679,409. CITY CAMERA. Cl. 107.
679,410. PENTARIZADO. Cl. A.
679,413. COMMENDED PARENTS' MAGAZINE ETC. AND DESIGN. Cl. B.
679,414. PREMIUM GEL. Cl. 1.
679,421. AVON PINK LACE. Cl. 51.
679,422. MELROSE AND DESIGN. Cl. 52.

Section 7(d)

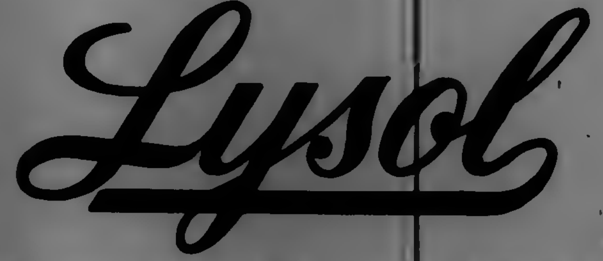
427,390. ELECTROGUARD. Cl. 21. 2-11-47.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

46,957. ATLAS. Cl. 12. 9-5-05. The Atlas Portland Cement Company. United States Steel Corporation, Pittsburgh, Pa. Amended: In the statement, column 1, line 15, "sur-" is deleted and lines 16 and 17 are deleted, and the drawing is amended to appear:

ATLAS

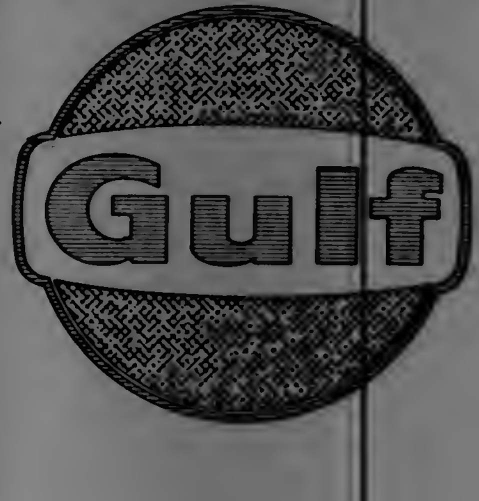
381,120. LYSOL. Cl. 6. 9-10-40. Lehn & Fink Products Corporation, Bloomfield, N.J. Amended to appear:



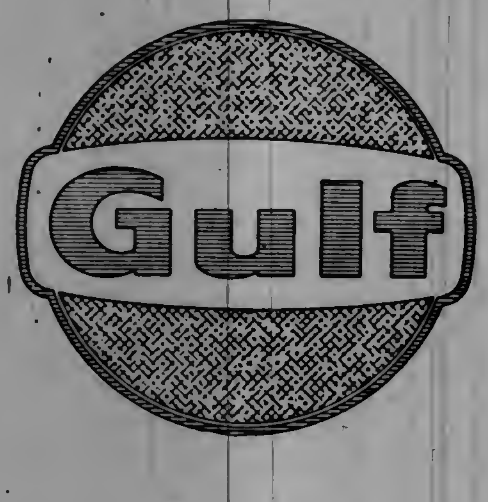
411,026. CROCHERE. Cl. 42. 1-2-45. Everfast Fabrics, Inc., New York, N.Y. Corrected: In the certificate, line 5 and in the statement, column 1, line 3, "New York" should be deleted and *Delaware* should be inserted.

413,165. SUNMERE. Cl. 42. 4-10-45. Everfast Fabrics, Inc., New York, N.Y. Corrected: In the certificate, line 5 and in the statement, column 1, line 3, "New York" should be deleted and *Delaware* should be inserted.

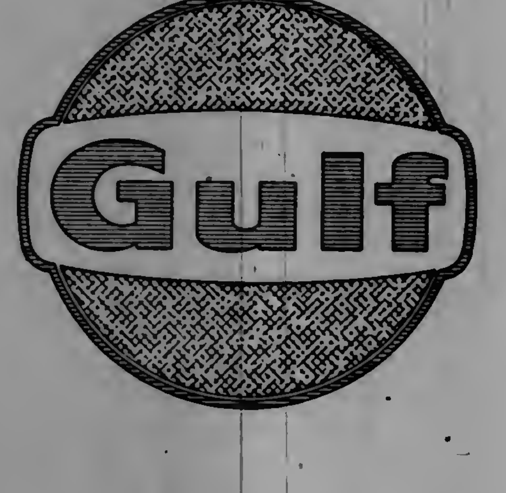
614,688. GULF AND DESIGN. Cl. 6. 10-25-55. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, line 5 is deleted and *Owner of Reg. No. 621,650 and others.* is inserted, and the drawing is amended to appear:



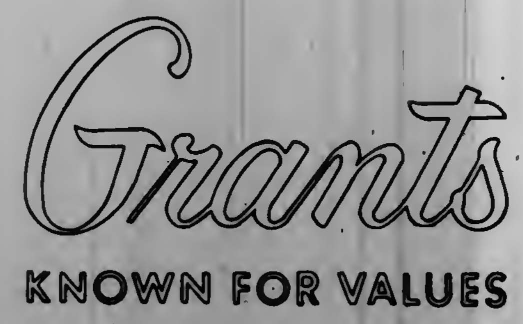
615,086. GULF AND DESIGN. Cl. 15. 11-1-55. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, line 6 is deleted and *Owner of Reg. No. 621,650 and others.* is inserted, and the drawing is amended to appear:



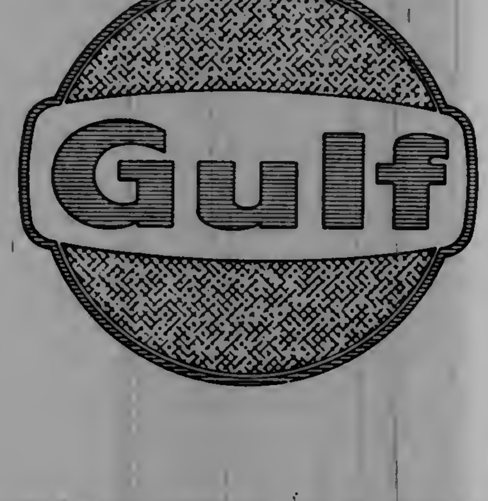
619,075. GULF AND DESIGN. Cl. 35. 1-10-56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, after line 6, *Owner of Reg. No. 621,650 and others.* is inserted, and the drawing is amended to appear:



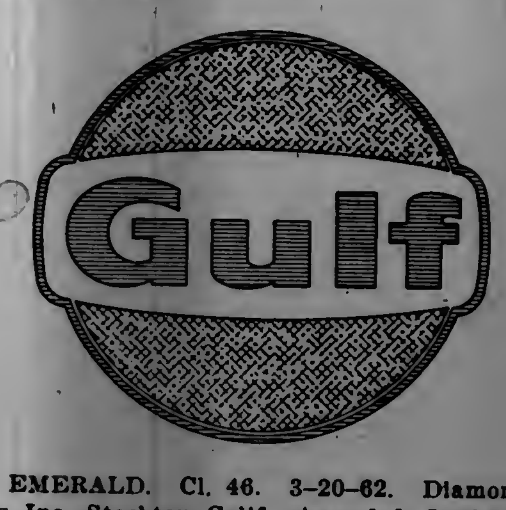
622,341. GRANTS KNOWN FOR VALUES. Cl. 39. 2-28-56. W. T. Grant Company, New York, N.Y. Amended to appear:



632,985. GULF AND DESIGN. Cl. 6. 8-21-56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, line 4 is deleted and *Owner of Reg. No. 621,650 and others.* is inserted, and the drawing is amended to appear:



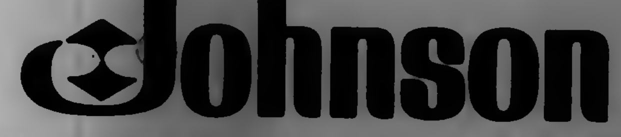
710,758. GULF AND DESIGN. Cl. 6. 2-7-61. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, line 12, "Nos." is deleted and *No.* is inserted and "624,274" is deleted and *others* is inserted, and the drawing is amended to appear:



728,907. EMERALD. Cl. 46. 3-20-62. Diamond Walnut Growers, Inc., Stockton, Calif. Amended: In the statement, column 2, line 1, "com-" is deleted and lines 2 and 3 are deleted.

729,615. UNITRUSS AND DESIGN. Cl. 12. 4-10-62. Unit Structures, Inc. Koppers Company, Inc., Pittsburgh, Pa. Amended: In the statement, column 2, line 1, "beams and" is deleted and *wood* is inserted.

780,726. JOHNSON. Cl. 52. 11-24-64. S. C. Johnson & Son, Inc., Racine, Wis. Amended to appear:



789,126. KUHNE AND DESIGN. Cl. 46. Carl Kühne KG, Hamburg, Altona, Germany. Corrected: In the statement, column 1, line 1, "Kuhne" should be deleted and *Kühne* should be inserted.

789,670. THREE POINTED STAR IN CIRCLE (DESIGN). Cl. 35. 5-18-65. Daimler-Benz Aktiengesellschaft, Stuttgart-Unter-Tuerkheim, Germany. Corrected: In the statement, column 2, line 5, "material" should be deleted and *materials* should be inserted and in line 10, "278,464" should be deleted and *278,454* should be inserted.

INDEX OF REGISTRANTS

JULY 13, 1965

(Registered ; Renewed ; Canceled ; Amended, Disclaimed, Corrected, etc. ; New Certificates ; 12c Publications.)

Abbott Laboratories, North Chicago, Ill. 414,539, ren. 7-13-65. Cl. 18.
Abbott Laboratories, North Chicago, Ill. 416,885, ren. 7-13-65. Cl. 18.
Acme Industrial Co., Chicago, Ill. 792,545, pub. 3-9-65. Cl. 23.
Action Plastics: *See*—
  Rexall Drug and Chemical Co.
Ad-Craft, Inc., Washington, D.C. 679,287, canc. Cl. 38.
Adirondack Bats, Inc., Dolgeville, N.Y. 792,524, pub. 4-27-65. Cl. 22.
Aeolian American Corp.: *See*—
  Knabe, Wm., & Co., Mfg. Co., of Baltimore City.
  Mason & Hamlin Co.
Aero Service Corp., Philadelphia, Pa. 792,587, pub. 4-27-65. Cl. 38.
Aerojet-General Corp., El Monte, Calif. 792,455, pub. 4-27-65. Cl. 9.
Air Canada, from Trans-Canada Air Lines, Montreal, Quebec, Canada. 792,741, pub. 4-27-65. Cl. 105.
Air Products and Chemicals, Inc., Allentown, Pa. 792,452, pub. 4-27-65. Cl. 6.
Air Reduction Co., Inc., New York, N.Y. 679,357, canc. Cl. 44.
Aktiebolaget Electrolux, Stockholm, Sweden. 792,508, pub. 4-27-65. Cl. 21.
Aktiebolaget Fructus Fabriker: *See*—
  Lindahl, Anders.
Albion Cosmetics Co. Ltd., Chuo-ku, Tokyo, Japan. 792,703, pub. 4-27-65. Cl. 51.
Aldger, Ltd.: *See*—
  Peake, W. O., Ltd.
American Book Co., to American Book Co., New York, N.Y. 46,735, ren. 7-13-65. Cl. 38.
American Brake Shoe Co., New York, N.Y. 792,473, pub. 4-27-65. Cl. 14.
American Cast Iron Pipe Co., Birmingham, Ala. 792,469, pub. 4-27-65. Cl. 13.
American Colloid Co., Skokie, Ill. 679,414, canc. Cl. 1.
American Cyanamid Co.: *See*—
  Davis & Geck, Inc.
  Lederle Laboratories, Inc.
American Cyanamid Co., Wayne, N.J. 792,447, pub. 4-27-65. Cl. 6.
American Cyanamid Co., Wayne, N.J. 792,474, pub. 4-27-65. Cl. 14.
American Enka Corp., Enka, N.C. 792,415, pub. 4-27-65. Cl. 1.
American Hospital Supply Corp., Evanston, Ill. 792,558, pub. 4-27-65. Cl. 26.
American Institute of Architects, The, Washington, D.C. 792,721, pub. 4-27-65. Cl. 100.
American Machine & Foundry Co., from American Machine & Foundry Co., New York, N.Y. 792,565, pub. 4-27-65. Cl. 31.
American Management Association, Inc., New York, N.Y. 792,747, pub. 4-27-65. Cl. 107.
Anderson & Thompson Ski Co., Inc., Seattle, Wash. 792,539-41, pub. 4-27-65. Cl. 22.
Anthony Products Co.: *See*—
  Viscio, Frank A.
Applicazioni Chimiche S.p.A. A.C.S.A., Milan, Italy. 679,061, canc. Cl. 1.
Aquarius Industries, Inc., Oscoda, Mich. 792,460, pub. 4-27-65. Cl. 12.
Aristocrat Leather Products, Inc., to S. E. Knee, New York, N.Y., to Evans-Aristocrat Industries, Inc., Elizabeth, N.J. 415,219, ren. 7-13-65. Cl. 3.
Arkansas Grain Corp., Stuttgart, Ark. 792,671, pub. 4-27-65. Cl. 46.
Armour and Co., Chicago, Ill. 679,062, canc. Cl. 1.
Armour and Co., Chicago, Ill. 792,417, pub. 4-27-65. Cl. 1.
Armour and Co., Chicago, Ill. 792,418, pub. 4-27-65. Cl. 1.
Armour and Co., Chicago, Ill. 792,443, pub. 4-27-65. Cl. 6.
Asker, Gunnar C. F., d.b.a. Investool Co., Princeton, N.J. 792,733, pub. 4-27-65. Cl. 102.
Associated Dry Goods Corp., New York, N.Y. 792,563, pub. 4-27-65. Cl. 28.
Astro Products Corp., Manassas, Va. 792,528, pub. 4-27-65. Cl. 22.
Atlantic Lures, Inc., Providence, R.I. 792,536, pub. 4-27-65. Cl. 22.
Atlantic Mills, Providence, R.I., to United Merchants and Mfg., Inc., New York, N.Y. 201,034, ren. 7-13-65. Cl. 42.
Atlas Portland Cement Co., The. United States Steel Corp., Pittsburgh, Pa. 46,057. Am. 7(d). Cl. 12.
Avery Adhesive Products, Inc.: *See*—
  Avery Products Corp.
Avery Products Corp., from Avery Adhesive Products, Inc., San Mariono, Calif. 792,591, pub. 4-27-65. Cl. 38.
Avon Products, Inc., New York, N.Y. 679,421, canc. Cl. 51.
Avon Products, Inc., New York, N.Y. 792.696 pub. 4-27-65. Cl. 51.
Babcock & Wilcox Co., The, New York, N.Y. 792,571, pub. 4-27-65 Cl. 34.
Baha'i Publishing Trust: *See*—
  National Spiritual Assembly of the Baha'is of The United States.
Bahnson Co., The, Winston-Salem, N.C. 792,551, pub. 4-27-65. Cl. 23.
Barr Corp., The, Clifton, N.J. 792,421, pub. 4-27-65. Cl. 1.
Barrow Mfg. Co., Winder, Ga. 792,615, pub. 4-27-65. Cl. 39.
Basic Vegetable Products, Inc., Vacaville, Calif. 792,653, pub. 4-27-65. Cl. 46.
Baxter, Don, Inc., Glendale, Calif. 792,633, pub. 4-27-65. Cl. 44.
Beacon Mfg. Co., Swannanoa, N.C. 679,347, canc. Cl. 42.
Beauty Bazaar, Inc., Washington, D.C. 792,713, pub. 4-27-65. Cl. 100.
Becton, Dickinson and Co., East Rutherford, N.J. 415,199, ren. 7-13-65. Cl. 44.
Bell Brand Foods, Ltd., Los Angeles, Calif. 792,666, pub. 4-27-65. Cl. 46.
Bell Products Co., St. Louis, Mo. 679,170, canc. Cl. 21.
Benkay Jewelry Co., Inc., New York, N.Y. 792,562, pub. 4-27-65. Cl. 28.
Beryllium Corp., The, Reading, Pa. 792,472, pub. 4-27-65. Cl. 14.
Bliss, E. W., Co., Newton Upper Falls, Mass. 792,511, pub. 4-27-65. Cl. 21.
Block Drug Co., Inc.: *See*—
  Eureka Pyorrhea Products Co.
Blume, Mike C., Hialeah, Fla. 792,538, pub. 4-27-65. Cl. 22.
Bo-Kay Designs, Inc., Woodside, N.Y. 679,273, canc. Cl. 32.
Bonewitz Chemicals, Inc., Burlington, Iowa. 679,191, canc. Cl. 23.
Bonnie Baking, Inc., Laporte, Ind. 792,638, pub. 4-27-65. Cl. 64.
Boonton Molding Co., Inc., Boonton, N.J. 792,744, pub. 4-27-65. Cl. 106.
Boyer Chemical Co., Evanston, Ill. 792,451, pub. 4-27-65. Cl. 6.
Breddo Food Products Corp., Kansas City, Kans. 792,674, pub. 4-27-65. Cl. 46.
Breneman-Hartshorn, Inc., Cincinnati, Ohio. 792,554, pub. 4-27-65. Cl. 23.
Brunswick Corp., Chicago, Ill. 792,543, pub. 4-27-65. Cl. 22.
Brunswick Corp., Chicago, Ill. 792,544, pub. 4-27-65. Cl. 22.
Buckeye Corp., The, Springfield, Ohio. 679,378, canc. Cl. 50.
Bunny Bear Inc., Everett, Mass. 679,275, canc. Cl. 32.
Burke Flexo-Products Co., Traverse City, Mich. 792,532, pub. 4-27-65. Cl. 22.
Burlington Industries, Inc., New York, N.Y. 792,622, pub. 4-27-65. Cl. 42.
Business Publications Audit of Circulation, Inc., New York, N.Y. 792,728, pub. 4-27-65. Cl. 101.
C & E Sportfishing Design and Mfg. Co., Tewksbury, Mass. 792.535, pub. 4-27-65. Cl. 22.
Cajon Co., Solon, Ohio. 792,468, pub. 4-27-65. Cl. 13.
Callet & Cie, Rouen (Seine Maritime), France. 792,635, pub. 4-27-65. Cl. 46.
Cameo Doll Products Co., Inc., Port Allegheny, Pa. 792,534, pub. 4-27-65. Cl. 22.
Carlton Screw Co., Chicago, Inc. 792,466, pub. 4-27-65. Cl. 13.
Carson-Saeks, Inc., Dayton, Ohio. 792,688, pub. 4-27-65. Cl. 50.
Cater, Stoffell & Fortt, Ltd., Bath, Somerset, England. 792,661, pub. 4-27-65. Cl. 46.
Cater, Stoffell & Fortt, Ltd., Bath, Somerset, England. 792,662, pub. 4-27-65. Cl. 46.
Century Chemical Corp., Houston, Tex. 792,710, pub. 4-27-65. Cl. 52.
Chadbourn Gotham, Inc.: *See*—
  Emery & Beers Co., Inc.
Chamber of Commerce of La Crosse, Inc., La Crosse, Wis. 792,746, pub. 4-27-65. Cl. 107.
Chef Pierre, Inc., Elk Rapids, Mich. 792,636, pub. 4-27-65. Cl. 46.
Chef Pierre, Inc., Elk Rapids, Mich. 792,639, pub. 4-27-65. Cl. 46.
Cherry, Preston E., Washington, D.C. 679,358, canc. Cl. 44.
Chesterton Candy Co., d.b.a. Mrs. Leland's Kitchens, Chicago, Ill. 792,673, pub. 4-27-65. Cl. 46.
Chicago Lock Co., Chicago, Ill. 792,557, pub. 4-27-65. Cl. 25.
Chicago Motor Club, Chicago, Ill. 792,716, pub. 11-3-64. Cl. 100.
Chicago Motor Club, Chicago, Ill. 792,717, pub. 11-3-64. Cl. 100.
Chicago Printed String Co., Chicago, Ill. 792,453, pub. 4-27-65. Multiple class (Classes 7, 37, and 40).
Chicopee Mills, Inc., New York, N.Y. 792,621, pub. 4-27-65. Cl. 42.
City Stores Co., New York, N.Y. 792,612, pub. 4-27-65. Cl. 39.
Clairol Inc., New York, N.Y. 792,707, pub. 4-27-65. Cl. 52.
Cliff House Distributors: *See*—
  Red Line Commercial Co., Inc.
Climax Engineering Co., assor. to General Finance Corp., Clinton, Iowa, to Waukesha Motor Co., Waukesha, Wis. 416,609, ren. 7-13-65. Cl. 21.
Close-Up, Inc.: *See*—
  M.L.J. Magazines.

Cloverine, Inc.: *See*—
  Wilson, Gerge C.
Colgate-Polmolive Co., New York, N.Y. 792,700, pub. 4-27-65. Cl. 51.
Colgate-Palmolive Co., New York, N.Y. 792,700, pub. 4-27-65. Cl. 52.
Collette Toy Novelty Co., Inc., Brooklyn, N.Y. 792,518, pub. 4-27-65. Cl. 22.
Colonial Dames Ltd.: *See*—
  Colonial Dames Co., Ltd.
Colonial Dames C., Ltd., d.b.a. Colonial Dames Ltd., Montebello, Calif. 792,699, pub. 4-27-65. Cl. 51.
Commercial Solvents Corp., New York, N.Y. 792,431, pub. 4-27-65. Cl. 6.
Comptometer Corp., Chicago, Ill. 679,208, canc. Cl. 23.
Compudata, Inc., Akron, Ohio. 792,734, pub. 4-27-65. Cl. 102.
Conde Nast Publications, Inc., The, New York, N.Y. 201,144, ren. 7-13-65. Cl. 38.
Congoleum-Nairn Inc., Kearny, N.J. 792,506, pub. 4-27-65. Cl. 20.
Cook, H. C., Co., The, Ansonia, Conn. 792,515, pub. 4-27-65. Cl. 22.
Cornell-Dubilier Electric Corp., Newark, N.J. 792,510, pub. 4-27-65. Cl. 21.
Craftint Mfg. Co., The, Cleveland, Ohio. 679,380, canc. Cl. 50.
Crompton Co., New York, N.Y. 792,[illegible]24-27, pub. 4-27-65. Cl. 42.
Crown Zellerbach Corp., San Francisco, Calif. 792,584, pub. 4-27-65. Cl. 37.
Crusty Pie Co., Inc., Washington, D.C. 792,635, pub. 4-27-65. Cl. 46.
Cumberland Case Co., Chattanooga, Tenn. 792,682, pub. 4-27-65. Cl. 50.
Daimler-Benz Aktiengesellschaft, Stuttgart-Unter-Tuerkheim, Germany. 789,670, cor. Cl. 35.
Dairypak Butler, Inc., from Dairypak, Inc., Olmsted Falls, Ohio. 679,123, canc. Cl. 15.
Dairypak, Inc.: *See*—
  Dairypak Butler, Inc.
Dallons Laboratories: *See*—
  International Rectifier Corp.
Davis & Geck, Inc., Brooklyn, N.Y., to American Cyanamid Co., Wayne, N.J. 203,122, ren. 7-13-65. Cl. 44.
Dawson, Edwin A., Jr., d.b.a. Sanwin Products Co., Evanston, Ill. 792,531, pub. 4-27-65. Cl. 22.
Dearborn Stove Co., Dallas, Tex. 792,572, pub. 4-27-65. Cl. 34.
De Jur-Amsco Corp., Long Island City, N.Y. 792,578, pub. 4-27-65. Cl. 36.
De Jur-Amsco Corp., Long Island City, N.Y. 792,579, pub. 4-27-65. Cl. 36.
Denlander Bookbindery, Inc., New Haven, Conn. 792,745, pub. 4-27-65. Cl. 106.
De Nicola, Jerry, Inc., New York, N.Y. 792,564, pub. 4-27-65. Cl. 28.
Diamond National Corp., New York, N.Y. 792,461, pub. 4-27-65. Cl. 12.
Diamond Walnut Growers, Inc., Stockton, Calif. 728,907. Am. 7(d). Cl. 46.
Dios Chemical Co., to Dios Chemical Co., St. Louis, Mo. 44,421, ren. 7-13-65. Cl. 18.
Diversey Corp., The, Chicago, Ill. 792,440, pub. 4-27-65. Cl. 6.
Dominion Tar & Chemical Co., Ltd., Montreal, Quebec, Canada. 792,420, pub. 4-27-65. Cl. 1.
Dow Chemical Co., The, Midland, Mich. 792,448, pub. 4-27-65. Cl. 6.
Dow Chemical Co., The, Midland, Mich. 792,593, pub. 4-27-65. Cl. 38.
Drug Store Council, Inc., New York, N.Y. 792,723, pub. 4-27-65. Cl. 101.
Duncanwyllo's: *See*—
  Gillis, Duncan L.
Dunham, John M., West Brattleboro, Vt. 792,748, pub. 4-27-65. Cl. 107.
Dunhill International, Inc.: *See*—
  Pyramid Rubber Specialty Co., The.
Dunkirk Hosiery Co., New York, N.Y. 679,322, canc. Cl. 39.
Earthmaster Gardens, Hysham, Mont. 679,182, canc. Cl. 22.
Eastland Shoe Corp., Freeport, Maine. 679,337, canc. Cl. 39.
Electrolux Corp., New York, N.Y. 42[illegible]390, canc. Cl. 21.
Emenee Industries, Inc., New York, N.Y. 792,527, pub. 3-9-65. Cl. 22.
Emery & Beers Co., Inc., from Onyx Hosiery, Inc., to Chadbourn Gotham, Inc., New York, N.Y. 199,805, ren. 7-13-65. Cl. 39.
Epifanio, Joseph, Sr., Paulsboro, N.J. 679,220, canc. Cl. 23.
Eureka Pyorrhea Products Co., Tulsa, Okla., to Block Drug Co., Inc., Jersey City, N.J. 203,276, ren. 7-13-65. Cl. 51.
Evans-Aristocrat Industries, Inc.: *See*—
  Aristocrat Leather Products, Inc.
Everfast Fabrics, Inc., New York, N.Y. 411,026, cor. Cl. 42.
Everfast Fabrics, Inc., New York, N.Y. 413,165, cor. Cl. 42.
Evr-Gard Coatings Corp., Los Angeles, Calif. 792,702, pub. 4-27-65. Cl. 51.
Fabrico Mfg. Corp., Chicago, Ill. 792,686, pub. 4-27-65. Cl. 50.
Fafard, Conrad, Inc., Agawam, Mass. 792,458, pub. 4-27-65. Cl. 10.
Farmer in the Dell, The, Neenah, Wis. 792,637, pub. 4-27-65. Cl. 46.
Fashion Park, Inc., New York, N.Y. 416,553, ren. 7-13-65. Cl. 39.
Fashion Park, Inc., New York, N.Y. 416,896, ren. 7-13-65. Cl. 39.
Fastcut Tool Co., Detroit, Mich. 679,211, canc. Cl. 23.
Feboe Perfumers, to Roux Laboratories, Inc., New York, N.Y. 416,898, ren. 7-13-65. Cl. 51.

Felton & Son, to Felton & Son, Inc., Boston, Mass. 46,829, ren. 7-13-65. Cl. 49.
Finberg Mfg. Co., Attleboro, Mass. 413,877, ren. 7-13-65. Cl. 28.
Firm of K. Rievers, The, Charlottenlund, Denmark. 679,305, canc. Cl. 39.
Fleetwood Enterprises, Inc., Riverside, Calif. 792,500, pub. 4-27-65. Cl. 19.
Florence Mfg. Co., Northampton, to Pro-Phy-Lac-Tic Brush Co., Florence, Mass. 44,488, ren. 7-13-65. Cl. 29.
Florence Mfg. Co., Northampton, to Pro-Phy-Lac-Tic Brush Co., Florence, Mass. 44,490, ren. 7-13-65. Cl. 29.
Florence Mfg. Co., Northampton, to Pro-Phy-Lac-Tic Brush Co., Florence, Mass. 44,559, ren. 7-13-65. Cl.29.
Flutter Bug Tackle Co., Independence, Iowa. 792,537, pub. 4-27-65. Cl. 22.
Formstone Co., The, Baltimore, Md. 679,101, canc. Cl. 12.
Frank Lumber Co., Inc., Portland, Oreg. 792,463, pub. 4-27-65. Cl. 12.
Freid, Carl E., Inglewood, Calif. 792,522, pub. 4-27-65. Cl. 22.
Freitag Mfg. Co., Inc., New York, N.Y. 792,611, pub. 4-27-65. Cl. 39.
Frito-Lay, Inc., Dallas, Tex. 792,667, pub. 4-27-65. Cl. 46.
Furlow, Vernon, Co.: *See*—
  Furlow, Vernon.
Furlow, Vernon, d.b.a. Vernon Furlow Co., Amarillo, Tex. 679,422, canc. Cl. 52.
Gamco, Inc., Big Spring, Tex. 792,691, pub. 4-27-65. Cl. 50.
Gayla Industries, Houston, Tex. 792,533, pub. 4-27-65. Cl. 22.
Gaylane Enterprises, Knoxville, Tenn. 792,690, pub. 4-27-65. Cl. 50.
Gaynor, Adrian J., Los Angeles, Calif. 679,343, canc. Cl. 42.
General Aniline & Film Corp., New York, N.Y. 413,881, ren. 7-13-65. Cl. 26.
General Finance Corp.: *See*—
  Climax Engineering Co.
General Mills, Inc., Minneapolis, Minn. 679,059, canc. Cl. 1.
General Plastics Corp., Marion, Ind. 792,687, pub. 4-27-65. Cl. 50.
Gilbert, Isidor H., d.b.a. Progressive Laboratory Specialties Co., to Progressive Laboratory Specialties Corp., Jamaica, N.Y. 414,488, ren. 7-13-65. Cl. 26.
Gillis, Duncan L., d.b.a. Duncanwyllo's, Clawson, Mich. 679,065, canc. Cl. 1.
Glaros Products Inc., Pittsburgh, Pa. 792,464, pub. 4-27-65. Cl. 12.
Glen Keith-Glenlivet Distillery Co., Ltd., Keith, Scotland. 792,681, pub. 4-27-65. Cl. 49.
Goodrich, B. F., Co., The, Akron, Ohio, from Granu-Flow Equipment, Ltd., Seattle, Wash. 792,423, pub. 4-27-65. Cl. 2.
Goodrich, B. F., Co., The, Akron, Ohio, from Granu-Flow Equipment, Ltd., Seattle, Wash. 792,424, pub. 4-27-65. Cl. 2.
Goodrich, B. F., Co., The, Akron, Ohio. 792,575, pub. 4-27-65. Cl. 35.
Grant, W. T., Co., New York, N.Y. 622,341. Am. 7(d). Cl. 39.
Granu-Flow Equipment, Ltd.: *See*—
  Goodrich, B. F., Co., The.
Great Lakes Cherry Producers Marketing Cooperative, Inc., Grand Rapids, Mich. 792,647, pub. 4-27-65. Cl. 46.
Great Lakes Nursery Corp., Waukesha, Wis. 792,416, pub. 4-27-65. Cl. 1.
Grossman Music Co., Cleveland, Ohio. 412,457, ren. 7-13-65. Cl. 22.
Gross-Sydney, Inc., New York, N.Y. 679,309, canc. Cl. 39.
Guard Sales Co.: *See*—
  Huffman, John R.
Gulf Oil Corp., Pittsburgh, Pa. 614,688. Am. 7(d). Cl. 6.
Gulf Oil Corp., Pittsburgh, Pa. 615,086. Am. 7(d). Cl. 15.
Gulf Oil Corp., Pittsburgh, Pa. 619,075. Am. 7(d). Cl. 35.
Gulf Oil Corp., Pittsburgh, Pa. 632,985. Am. 7(d). Cl. 6.
Gulf Oil Corp., Pittsburgh, Pa. 710,758. Am. 7(d). Cl. 6.
Guss, Louis F., Chicago, Ill. 679,183, canc. Cl. 22.
HMH Publishing Co., Inc., from HMH Publishing Co., Inc., Chicago, Ill. 792,715, pub. 4-27-65. Cl. 100.
Hales & Hunter Co., Chicago, Ill. 792,644, pub. 4-27-65. Cl. 46.
Hallmark Cards, Inc., Kansas City, Mo. 792,601, pub. 4-27-65. Cl. 38.
Halstead Distributing Corp., Mount Kisco, N.Y. 792,414, pub. 4-27-65. Multiple class (Classes 1 and 6).
Harlemark International, Inc., Natick, Mass. 792,631, pub. 4-27-65. Cl. 44.
Harrap Bros. (Sirdar Wools) Ltd., Alverthorpe, Wakefield, England. 792,628-9, pub. 4-27-65. Cl. 43.
Harris LeBus Ltd., London, England. 679,270, canc. Cl. 32.
Harshaw Chemical Co., The, Clevtland, Ohio. 792,429, pub. 4-27-65. Cl. 6.
Harvey, John, & Sons Ltd., Bristol, England. 792,676-7, pub. 4-27-65. Cl. 47.
Harvey's Products: *See*—
  Market Decorator's, Inc.
Hawley & Hoops, New York, N.Y., to Henry Heide, Inc., New Brunswick, N.J. 196,873, ren. 7-13-65. Cl. 46.
Heide, Henry, Inc.: *See*—
  Hawley & Hoops.
Herring-Hall-Marvin Safe Co., Hamilton, Ohio. 679,227, canc. Cl. 25.
Heublein, Inc., Hartford, Conn. 792,680, pub. 4-27-65. Cl. 49.
Hi-Acres Concentrate, Inc., Orlando, Fla. 792,657-8, pub. 4-27-65. Cl. 46.

Hilton, Harold S., d.b.a. Hilton Products Co., Seattle, Wash. 792,470, pub. 4-27-65. Cl. 13.
Hilton Products Co.: *See*—
  Hilton, Harold S.
Hinds, O. L., Co., New York, N.Y. 679,312-3, canc. Cl. 39.
Hipp. Didisheim Co., Inc., to Winton Watch Co., Inc., New York, N.Y. 199,071, ren. 7-13-65. Cl. 27.
Hodges Research & Development Co., New York, N.Y. 792,449, pub. 4-27-65. Cl. 6.
Hoffman Bros. Packing Co., Inc., Los Angeles, Calif. 792,650-1, pub. 4-27-65. Cl. 46.
Holland, Kleen-All, Inc., Lubbock, Tex. 792,705, pub. 4-27-65. Cl. 52.
Holo-Krome Co.: *See*—
  Veeder-Root, Inc.
Hom-Del Corp., Hagerstown, Md. 792,724, pub. 4-27-65. Cl. 101.
Houghton, Robert S., d.b.a. Micro-Viewers, Orlando, Fla. 679,235, canc. Cl. 26.
Household Products Franchisers, Fort Lauderdale, Fla. 792,430, pub. 4-27-65. Cl. 6.
Hudnut, Richard, Morris Plains, N.J. 792,698, pub. 4-27-65. Cl. 51.
Hudson, H. D., Mfg. Co.: *See*—
  Hudson Mfg., The.
Hudson Mfg. Co., The, Minneapolis, Minn., to H. D. Hudson Mfg. Co., Chicago, Ill. 200,461, ren. 7-13-65. Cl. 23.
Huffman, John R., d.b.a. Guard Sales Co., Wichita, Kans. 792,425, pub. 4-27-65. Cl. 4.
Huntington Laboratories, Inc., Huntington, Ind. 200,667, ren. 7-13-65. Cl. 52.
Hutchison Mfg. Co., Houston, Tex. 792,552, pub. 4-27-65. Cl. 23.
ITT Bell & Gossett, Inc.: *See*—
  International Telephone and Telegraph Corp.
Incera Hermanos S. en C., Havana, Cuba. 679,372, canc. Cl. 49.
Indiana Gear Works, Inc., Indianapolis, Ind. 679,291, canc. Cl. 38.
Industrial Instruments Engineering Corp., Cedar Grove, N.J. 679,254, canc. Cl. 26.
Industrial Publishing Corp., The: *See*—
  Pittsburgh Railways Co.
Industrial Tool & Machine Co., Georgiaville, R.I. 792,546, pub. 4-27-65. Cl. 23.
International Creosoting and Construction Co., Galveston, Tex. 199,320, ren. 7-13-65. Cl. 12.
International Rectifier Corp., d.b.a. Dallons Laboratories, El Segundo, Calif. 792,630, pub. 4-27-65. Cl. 44.
International Research Consultants, Inc., Detroit, Mich. 792,704, pub. 4-27-65. Cl. 52.
International Shoe Co., St. Louis, Mo. 792,607-8, pub. 4-27-65. Cl. 39.
International Telephone and Telegraph Corp., New York, N.Y., from ITT Bell & Gossett, Inc., Morton Grove, Ill. 792,559, pub. 4-27-65. Cl. 26.
International Twines, Inc., New York, N.Y. 679,082, canc. Cl. 7.
Investool Co.: *See*—
  Asker, Gunnar C. F.
Iron Fireman Mfg. Co., Portland, Oreg. 679,278, canc. Cl. 34.
Jacobson, Julius, d.b.a. Manhasset Products Co., Bayside, N.Y. 792,609, pub. 4-27-65. Cl. 39.
Janitors Supply and Chemical Co., Inc., Greenville, S.C. 679,133, canc. Cl. 16.
Jefferson Electric Co., Bellwood, Ill. 792,513, pub. 4-27-65. Cl. 21.
Johnson & Johnson, New Brunswick, N.J. 792,701, pub. 4-27-65. Cl. 51.
Johnson, S. C., & Son, Inc., Racine, Wis. 780,726. Am. 7(d). Cl. 52.
Johnson, S. C., & Son, Inc., Racine, Wis. 792,484, pub. 4-27-65. Cl. 16.
Johnston, Robert A., Co., Milwaukee, Wis. 792,665, pub. 4-27-65. Cl. 46.
Juilliard, A. D., & Co., Inc., to United Merchants and Mfg., Inc., New York, N.Y. 414,478, ren. 7-13-65. Cl. 42.
Juvenile Mfg. Co., Inc., The, San Antonio, Tex. 792,603, pub. 4-27-65. Cl. 39.
Kaiser Cement & Gypsum Corp.: *See*—
  Permanente Cement Co.
Kane's, Miami, Fla. 679,272, canc. Cl. 32.
Kaul Lumber Co., Birmingham, Ala. 792,465, pub. 4-27-65. Cl. 12.
Kelly Springfield Tire Co., The, Cumberland, Md. 792,576, pub. 4-27-65. Cl. 35.
Kerr-McGee Oil Industries, Inc., Oklahoma City, Okla. 792,740, pub. 4-27-65. Cl. 103.
Keystone Knitting Mills (1928) Ltd., Elstree, Hertfordshire, England. 679,308, canc. Cl. 39.
Kilgore, Inc., Westerville, Ohio. 679,181, canc. Cl. 22.
Kirby-Cogeshall-Steinau Co., Inc., Milwaukee, Wis. 792,685, pub. 4-27-65. Cl. 50.
Knabe, Wm., & Co., Mfg. Co., of Baltimore City, Baltimore, Md., to Aeolian American Corp., New York, N.Y. 45,853, ren. 7-13-65. Cl. 36.
Knee, Simond E.: *See*—
  Aristocrat Leather Products, Inc.
Kockums Mekaniska Verkstads Aktiebolag, Malmo, Sweden, to Leslie Co., Lyndhurst, N.J. 204,092, ren. 7-13-65. Cl. 23.
Koppers Co., Inc.: *See*—
  Unit Structures, Inc.
Koppers Co., Inc., Pittsburgh, Pa. 792,483, pub. 4-27-65. Cl. 16.
Kuhne, Carl, KG, Hamburg, Altona, Germany. 789,126, cor. Cl. 46.

Lamb-Weston, Inc., Portland, Oreg. 792,659, pub. 4-27-65. Cl. 46.
Lamour, Dorothy, Enterprises, Ltd., Brooklandville, Md. 792,642, pub. 4-27-65. Cl. 46.
Lanman & Kemp-Barclay & Co., Inc.: *See*—
  Lanman & Kemp.
Lanman & Kemp, New York, N.Y., to Lanman & Kemp-Barclay & Co., Inc., Palisades Park, N.J. 47,457, ren. 7-13-65. Cl. 51.
Laucks Laboratories, Inc., Bellevue, Wash. 792,560, pub. 4-27-65. Cl. 26.
Laurentide Finance Corp. of America, d.b.a. Laurentide Leasing Co., San Francisco, Calif. 792,727, pub. 4-27-65. Cl. 101.
Laurentide Leasing Co.: *See*—
  Laurentide Finance Corp. of America.
Lederle Laboratories, Inc., New York, N.Y., to American Cyanamid Co., Wayne, N.J. 415,408, ren. 7-13-65. Cl. 18.
Lederle Laboratories, Inc., New York, N.Y., to American Cyanamid Co., Wayne, N.J. 416,899, ren. 7-13-65. Cl. 18.
Lee, H. D., Co., Inc., The, Kansas City, Mo. 792,605, pub. 4-27-65. Cl. 39.
Legge, Walter G., Inc., New York, N.Y. 417,284, ren. 7-13-65. Cl. 52.
Lehn & Fink Products Corp., Bloomfield, N.J. 381,120. Am. 7(d). Cl. 6.
Leslie Co.: *See*—
  Kockums Mekaniska Verkstads Aktiebolag.
Les Parfums De Dana, Inc., New York, N.Y. 417,326, ren. 7-13-65. Cl. 52.
Lily Mills Co.: *See*—
  Prym, William, Inc.
Lindahl, Anders, to Aktiebolaget Fructus Fabriker, Stockholm, Sweden. 199,387, ren. 7-13-65. Cl. 45.
Linen Thread Co., Ltd., The, Glasgow, Scotland. 679,355, canc. Cl. 43.
Lionel Trading Co., Inc., to Parfums Corday, Inc., New York, N.Y. 200,903, ren. 7-13-65. Cl. 51.
Liquid Nitrogen Processing Corp., Malvern, Pa. 792,475-6, pub. 4-27-65. Cl. 15.
Londonderry Farms Ltd.: *See*—
  Ulick, Joseph C.
London Rubber Co. Ltd., London, England. 679,359, canc. Cl. 44.
Lone Star Boat Co., Plano, Tex. 792,501-5, pub. 4-27-65. Cl. 19.
L'Oreal, Paris, France. 792,709, pub. 4-27-65. Cl. 52.
Lowe, E. S., Co., Inc., New York, N.Y. 792,529, pub. 4-27-65. Cl. 22.
Lowell Lingerie Co., to Lowell Lingerie Co., Lowell, Mass. 416,511, ren. 7-13-65 Cl. 39.
Lutheran Mutual Life Insurance Co., Waverly, Iowa. 792,736, pub. 4-27-65. Cl. 102.
Lyons Salt Dispenser Co., Inc., Stayton, Oreg. 679,194, canc. Cl. 23.
M.L.J. Magazines, to Close-Up, Inc., New York, N.Y. 417,477, ren. 7-13-65. Cl. 38.
Mallinger, Samuel, Co., Pittsburgh, Pa. 792,692, pub. 4-27-65. Cl. 50.
Malone & Hyde, Inc., Memphis, Tenn. 792,669, pub. 4-27-65. Cl. 46.
Manhasset Products Co.: *See*—
  Jacobson, Julius.
Ma Perkins Turkey Heaven, Kinsman, Ohio. 792,722, pub. 4-27-65. Cl. 100.
Marion Laboratories Inc., from Marion Laboratories, Inc., Kansas City, Mo. 792,485, pub. 4-27-65. Cl. 18.
Marker, Hannes, Garmisch-Partenkirchen, Germany. 792,519, pub. 4-27-65. Cl. 22.
Market Decorators, Inc., d.b.a. Harvey's Products, La Habra, Calif. 792,645-6, pub. 4-27-65. Cl. 46.
Martin, James A., d.b.a. Silko New Improved Products Co., Birmingham, Ala. 792,481, pub. 4-27-65. Cl. 15.
Mason & Hamlin Co., Cambridge, Mass., to Aeolian American Corp., New York, N.Y. 47,391, ren. 7-13-65. Cl. 36.
Masonite Corp., Chicago, Ill. 679,090, canc. Cl. 12.
Master Lock Co., Milwaukee, Wis. 416,623, ren. 7-13-65. Cl. 25.
Matthews, Jas. H., & Co., Pittsburgh, Pa. 792,725, pub. 4-27-65. Cl. 101.
Mattox and Moore, Inc., Indianapolis, Ind. 792,442, pub. 4-27-65. Cl. 6.
Mayes, Kenneth F., Lemont, Pa. 792,427, pub. 4-27-65. Cl. 4.
Meat Industry Suppliers, Inc., Northfield, Ill. 792,648-9, pub. 4-27-65. Cl. 46.
Medindex Directories Ltd., London, England. 792,596, pub. 4-27-65. Cl. 38.
Mego Corp., New York, N.Y. 792,523, pub. 4-27-65. Cl. 22.
Merchants Buying Syndicate, Inc., New York, N.Y. 792,520, pub. 4-27-65. Cl. 22.
Merck & Co., Inc., Rahway, N.J. 792,487, pub. 4-27-65. Cl. 18.
Metro-Atlantic, Inc., Greenville, S.C. 792,441, pub. 4-27-65. Cl. 6.
Miller, E. S., Laboratories, Inc., Los Angeles, Calif., to Smith, Miller & Patch, Inc., New York, N.Y. 417,448, ren. 7-13-65. Cl. 6.
Mills, Erwin, Inc., Durham, N.C. 792,623, pub. 4-27-65. Cl. 42.
Mine and Smelter Supply Co., Denver, Colo. 792,550, pub. 4-27-65. Cl. 23.
Mini-Print Corp., New York, N.Y. 792,599, pub. 4-27-65. Cl. 38.
Minton, Clarence W., Nashville, Tenn. 679,336, canc. Cl. 39.
Minute Home-Gym, Inc., Yonkers, N.Y. 792,530, pub. 4-27-65. Cl. 22.

Mrs. Leland's Kitchens: *See*—
  Chesterton Candy Co.
Mitsubishi Shoji Kaisha, Ltd., Chiyoda-Ku, Tokyo, Japan. 792,656, pub. 4–27–65. Cl. 46.
Mohasco Industries, Inc., Amsterdam, N.Y. 679,346, canc. Cl. 42.
Monsanto Chemical Co., St. Louis, Mo. 679,072, canc. Cl. 5.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 414,768, ren. 7–13–65. Cl. 6.
Monsanto Chemical Co., to Monsanto Co., St. Louis, Mo. 415,692–3, ren. 7–13–65. Cl. 6.
Monsanto Co.: *See*—
  Wilckes Martin Wilckes Co.
  Monsanto Chemical Co.
Montgomery, J. L., & Sons: *See*—
  Montgomery, John L.
Montgomery, John L., d.b.a. J. L. Montgomery & Sons, Benton, Tenn. 792,413, pub. 4–27–65. Cl. 1.
Morimeric, Inc., Newark, N.J. 792,422, pub. 4–27–65. Cl. 1.
Morrell, John, & Co., Ottumwa, Iowa. 792,652, pub. 4–27–65. Cl. 46.
Morton, William (Wine & Spirit Merchants) Ltd., Glasgow, Scotland. 679,376, canc. Cl. 49.
Morton's Shoe Stores, Inc., Boston, Mass. 792,610, pub. 4–27–65. Cl. 39.
Motloid Co., Inc., The, Chicago, Ill. 792,426, pub. 4–27–65. Cl. 4.
Mountain Fuel Supply Co., Salt Lake City, Utah. 792,714, pub. 4–27–65. Cl. 100.
Mueller, V., & Co., Chicago, Ill. 792,706, pub. 4–27–65. Cl. 52.
Mullins Mfg. Corp., Salem, Ohio. 792,507, pub. 4–27–65. Cl. 21.
Multiforms, Inc., Pelham, N.Y. 792,555, pub. 4–27–65. Cl. 37.
McCrosky Tool Corp., Meadville, Pa. 413,807, ren. 7–13–65. Cl. 23.
N.V. Koninklijke Pharmaceutische Fabrieken V/H Brocades-Stheeman & Pharmacia, Amsterdam, Netherlands. 792,492, pub. 4–27–65. Cl. 18.
National Biscuit Co., New York, N.Y. 792,672, pub. 4–27–65. Cl. 46.
National Export Packing Co., New York, N.Y. 792,720, pub. 4–27–65. Cl. 100.
National Gypsum Co., Buffalo, N.Y. 792,462, pub. 4–27–65. Cl. 12.
National Sales, Inc., Indianapolis, Ind. 679,155, canc. Cl. 21.
National Spiritual Assembly of the Baha'is of The United States, d.b.a. Baha'i Publishing Trust, Wilmette, Ill. 792,598, pub. 4–27–65. Cl. 38.
Nationwide Industries, Inc., Philadelphia, Pa. 792,477–8, pub. 4–27–65. Cl. 15.
Nee-Lon Products Co., Inc., Waltham, Mass. 792,693, pub. 8–27–63. Cl. 51.
Nelson Sales Co., Kansas City, Mo. 792,516, pub. 4–27–65. Cl. 22.
Neoco Corp., Los Angeles, Calif. 792,493, pub. 4–27–65. Cl. 18.
New England Mica Co., Waltham, Mass. 203,086, ren. 7–13–65. Cl. 21.
New England Mica Co., Waltham, Mass. 204,454, ren. 7–13–65. Cl. 21.
Newton Line Co., Inc., Homer, N.Y. 679,187, canc. Cl. 22.
Nion Corp., Los Angeles, Calif. 792,494–7, pub. 4–27–65. Cl. 18.
Nissen Corp., Cedar Rapids, Iowa. 792,542, pub. 4–27–65. Cl. 22.
Noble, Manlius W., d.b.a. Noble Oil Products Co., Jacksonville, Fla. 792,432, pub. 4–27–65. Cl. 6.
Noble Oil Products Co.: *See*—
  Noble, Manlius W.
Norcross, Inc., New York, N.Y. 792,618, pub. 4–27–65. Cl. 40.
North American Aviation, Inc., El Segundo, Calif. 792,437–8, pub. 4–27–65. Cl. 6.
Northrop Aircraft, Inc.: *See*—
  Northrop Corp.
Northrop Corp., from Northrop Aircraft, Inc., Beverly Hills, Calif. 679,245 canc. Cl 26.
Northwestern Golf Co., Chicago, Ill. 792,525, pub. 4–27–65. Cl. 22.
Nyc'en Neet Board Co.: *See*—
  Nyssen, Michael P.
Nyssen, Michael P., d.b.a. Nyc'en Neet Board Co., Artesia, Calif. 792,684, pub. 4–27–65. Cl. 5[illegible].
Official Films, Inc., New York, N.Y. 792,592, pub. 4–27–65. Cl. 38.
Okonite Co., Ltd., The., New York, N.Y., to The Okonite Co., Passaic, N.J. 46,162, ren. 7–13–65. Cl. 21.
Okonite Co., The: *See*—
  Okonite Co., Ltd., The.
Onoda Chemical Industry Co., Ltd., from Onoda Hiryo Co., Ltd., Tokyo, Japan. 792,490, pub. 4–27–65. Cl. 18.
Onoda Hiryo Co., Ltd.: *See*—
  Onoda Chemical Industry Co., Ltd.
Onyx Hosiery, Inc.: *See*—
  Emery & Beers Co., Inc.
Optical Development Corp., Chicago, Ill. 679,255, canc. Cl. 26
Orr & Sembower, Inc., Reading, Pa. 792,569, pub. 4–27–65. Cl. 34.
P & C Tool Co., Milwaukie, Oreg. 792,548, pub. 4–27–65. Cl. 23.
Pacific Air Lines, San Mateo County, Calif. 792,743, pub. 4–27–65. Cl. 105.
Parents Institute, Inc., The, New York, N.Y. 679,413, canc. Cl. B.
Parfums Corday, Inc.: *See*—
  Lionel Trading Co., Inc.
Parker-Hannifin Corp., Cleveland, Ohio. 792,553, pub. 4–27–65. Cl. 23.
Patek & Co., San Francisco, Calif. 792,444, pub. 4–27–65. Multiple Class (Classes 6 and 52).
Peake, W. O., Ltd., St. Albans and London, England, to Aldger, Ltd., Ottawa, Ontario, Canada. 415,517, ren. 7–13–65. Cl. 39.
Pemko Mfg. Co., Emeryville, Calif. 792,459, pub. 4–27–65. Cl. 12.
Penney, J. C., Co., New York, N.Y. 792,577, pub. 4–27–65. Cl. 36.
Permanente Cement Co., to Kaiser Cement & Gypsum Corp., Oakland, Calif. 413,797, ren. 7–13–65. Cl. 12.
Petit Pigeon, La Jolla, Calif. 792,726, pub. 4–27–65. Cl. 101.
Pfizer, Chas., & Co., Inc., New York, N.Y. 792,697, pub. 11–10–64. Cl. 51.
Philco Corp., to Philco Corp., Philadelphia, Pa. 416,845, ren. 7–13–65. Cl. 12.
Phillips Scientific Corp., Brighton, Mass. 679,234, canc. Cl. 26.
Photo-Line Corp., The, Tulsa, Okla. 679,401, canc. Cl. 52.
Pincus, Lester, Shoe Corp., New York, N.Y. 792,602, pub. 4–27–65. Cl. 39.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 416,628, ren. 7–13–65. Cl. 38.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 679,126, canc. Cl. 16.
Pittsburgh Railways Co., Pittsburgh, Pa., from The Industrial Publishing Corp., Cleveland, Ohio. 792,586, pub. 4–27–65. Cl. 38.
Pittsburgh Railways Co., Pittsburgh, Pa., from The Industrial Publishing Corp., Cleveland, Ohio. 792,594, pub. 4–27–65. Cl. 38.
Play The Market, Inc., New York, N.Y. 792,521, pub. 4–27–65. Cl. 22.
Polan, Katz & Co., Inc., Baltimore, Md. 792,619, pub. 4–27–65. Cl. 41.
Polaquimia, S. A. de C. V., Mexico City, Mexico. 679,410, canc. Cl. A.
Potash Co. of America, Denver, Colo. 415,392, ren. 7–13–65. Cl. 10.
Poulsen Insurance Co. of America, The, Park Ridge, Ill. 792,737, pub. 4–27–65. Cl. 102.
Procter & Gamble Co., The, Cincinnati, Ohio. 792,660, pub. 4–27–65. Cl. 46.
Proctor Electric Co., Philadelphia, Pa. 679,153, canc. Cl. 21.
Progressive Laboratory Specialties Corp.: *See*—
  Gilbert, Isidor H.
Pro-Phy-Lac-Tic Brush Co.: *See*—
  Florence Mfg. Co.
Prudential Insurance Co. of America, The, Newark, N.J. 792,738, pub. 4–27–65. Cl. 102.
Prym, William, Inc., Dayville and Killingly, Conn., to Lily Mills Co., Shelby, N.C. 414,452, ren. 7–13–65. Cl. 40.
Puppet Mannequins, Inc., New York, N.Y. 792,689, pub. 4–27–65. Cl. 50.
Purdue Frederick Co., The, Yonkers, N.Y. 792,486, pub. 1–19–65. Cl. 18.
Pyramid Rubber Specialty Co., The, to Dunhill International, Inc., Ravenna, Ohio. 198,338, ren. 7–13–65. Cl. 44.
Quaker Chemical Corp.: *See*—
  Quaker Chemical Products Corp.
Quaker Chemical Products Corp., to Quaker Chemical Corp., Conshohocken, Pa. 417,095, ren. 7–13–65. Cl. 6.
Radio Engineering Laboratories, Inc., Long Island City, N.Y. 679,173, canc. Cl. 21.
Rainbow Corp., Elkhart, Ind. 792,499, pub. 4–27–65. Cl. 19.
Read Drug and Chemical Co. of Baltimore City, The, Baltimore, Md. 792,664, pub. 4–27–65. Cl. 46.
Red Line Commercial Co., Inc., d.b.a. Cliff House Distributors, New York, N.Y. 792,668, pub. 4–27–65. Cl. 46.
Reed & Prince Mfg. Co., Worcester, Mass. 792,467, pub. 4–27–65. Cl. 13.
Reis, Robert, & Co., New York, N.Y. 679,321, canc. Cl. 39.
Renfroe, J. C., & Sons, Inc., Jacksonville, Fla. 792,555–6, pub. 4–27–65. Cl. 23.
Revlon, Inc., New York, N.Y. 792,695, pub. 3–17–64. Cl. 51.
Rexall Drug and Chemical Co.: *See*—
  Seamless Rubber Co., The.
Rexall Drug and Chemical Co., d.b.a. Action Plastics, Los Angeles, Calif., from Colorite Plastics, Inc., d.b.a. Action Plastics, Paterson, N.J. 792,573–4, pub. 4–27–65. Cl. 35.
Rich, Hyman R., d.b.a. The Rid-All Laboratory, Milwaukee, Wis., to West Chemical Products, Inc., Long Island City, N.Y. 412,990, ren. 7–13–65. Cl. 6.
Richmond Hosiery Mills, Rossville, Ga. 679,330, canc. Cl. 39.
Rid-All Laboratory, The: *See*—
  Rich, Hyman R.
Riegel Textile Corp., New York, N.Y. 792,620, pub. 4–27–65. Cl. 42.
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Rodeffer Industries, Inc., Arcadia, Calif. 792,446, pub. 4–27–65. Cl. 6.
Roleff Plastics Corp., New York, N.Y. 679,066, canc. Cl. 2.
Roma Macaroni: *See*—
  Roma Macaroni Factory.
Roma Macaroni Factory, d.b.a. Roma Macaroni, San Francisco, Calif. 792,663, pub. 4–27–65. Cl. 46.
Roux Laboratories, Inc.: *See*—
  Feboe Perfumers.
Royal Tops Mfg. Co., Inc., Long Island City, N.Y. 792,514, pub. 4–27–65. Cl. 22.
Salem Co., Inc., The, Winston-Salem, N.C. 679,325, canc. Cl. 39.

Sanwin Products Co.: *See*—
  Dawson, Edwin A., Jr.
Schoellkopf, Buddy, Products Inc., Dallas, Tex. 792,457, pub. 4–27–65. Cl. 9.
Schoellkopf, Buddy, Products Inc., Dallas, Tex. 792,613, pub. 4–27–65. Cl. 39.
Schooline Corp.: *See*—
  Zoo-Line.
Schultz, Joseph, and Sons, Inc., Miami, Fla. 792,606, pub. 4–27–65. Cl. 39.
Schwob Mfg. Co., to Schwob Mfg. Co., Columbus, Ga. 417,107, ren. 7–13–65. Cl. 39.
Seaford Associates Inc., New York, N.Y. 792,454, pub. 4–27–65. Cl. 9.
Seagram, Joseph E., & Sons, Inc., New York, N.Y. 792,678, pub. 4–27–65. Cl. 49.
Seamless Rubber Co., The, New Haven, Conn., to Rexall Drug and Chemical Co., d.b.a. The Seamless Rubber Co., Los Angeles, Calif. 417,353, ren. 7–13–65. Cl. 44.
Senior Services Corp., New York, N.Y. 792,690, pub. 4–27–65. Cl. 38.
Shell Oil Co., New York, N.Y. 792,439, pub. 4–27–65. Cl. 6.
Sherman, Samuel, Ltd., London, England. 792,616, pub. 4–27–65. Cl. 39.
Shelfmaker Products Corp., Kearny, N.J. 792,568, pub. 4–27–65. Cl. 32.
Siddeley, Hawker, Canada Ltd., Montreal, Quebec, Canada. 792,547, pub. 4–27–65. Cl. 23.
Silko New Improved Products Co.: *See*—
  Martin, James A.
Smith, Miller & Patch, Inc.: *See*—
  Miller, E. S., Laboratories, Inc.
Society of the People, Inc., The, Chillum, Md. 792,712, pub. 4–27–65. Cl. 100.
Sohio Chemical Co., Cleveland, Ohio. 792,435–6, pub. 4–27–65. Cl. 6.
Sohler Corp., New York, N.Y. 792,517, pub. 4–27–65. Cl. 22.
Solocast Co., The, Stamford, Conn. 792,718–9, pub. 4–27–65. Cl. 100.
Sol-Rac Co., Littleton, Colo. 792,566, pub. 4–27–65. Cl. 32.
Sonoco Products Co., Hartsville, S.C. 792,580–3, pub. 4–27–65. Cl. 37.
Southeastern Lumber Manufacturer's, Atlanta, Ga. 792,749, pub. 4–27–65. Cl. 200.
Southern Biochemical Corp., Greenville, S.C. 792,433, pub. 4–27–65. Cl. 6.
Southern States Cooperative Inc., Richmond, Va. 792,491, pub. 4–27–65. Cl. 18.
Southern States Cooperative, Inc., Richmond, Va. 792,654, pub. 4–27–65. Cl. 46.
Sportsman's Handbook, Inc., Cambridge, Mass. 792,588, pub. 4–27–65. Cl. 38.
Spotlight Yarns Corp., New York, N.Y. 792,614, pub. 4–27–65. Cl. 39.
Standard Market Co., Lincoln, Nebr. 792,640, pub. 4–27–65. Cl. 46.
Standard Shingle Co., Port Angeles, Wash. 679,095, canc. Cl. 12.
Steel, Richard R., Washburn, Wis. 792,590, pub. 4–27–65. Cl. 38.
Sterimed, Inc., Brooklyn, N.Y. 792,489, pub. 4–27–65. Cl. 18.
Stoeger Arms Corp., South Hackensack, N.J. 792,456, pub. 4–27–65. Cl. 9.
Storer Broadcasting Co., Miami Beach, Fla. 679,409, canc. Cl. 107.
Stran-Steel Corp., Ecorse, Mich. 679,088–9, canc. Cl. 12.
Suixtil S. A., Commercial e Industrial, Buenos Aires, Argentina. 679,317, canc. Cl. 39.
Sullivan, Carol B., New York, N.Y. 679,326, canc. Cl. 39.
Sunbeam Corp., Chicago, Ill. 679,149, canc. Cl. 21.
Suntemp Industries, Inc., Blackwood, N.J. 792,570, pub. 4–27–65. Cl. 34.
Tateisi Electronics Co., Ukyo-ku, Kyoto, Japan. 792,561, pub. 4–27–65. Cl. 27.
Taxrite Division Executax Co.: *See*—
  Walz, Robert A.
Taylor, Taylor & Hobson Ltd., Leicester, England. 679,257, canc. Cl. 26.
Tech Publishers, Inc., Garden City, N.Y. 792,597, pub. 4–27–65. Cl. 38.
Technical Rubber Co., Inc., Johnstown, Ohio. 792,445, pub. 4–27–65. Cl. 6.
Telecomputing Corp., Los Angeles, Calif. 679,162, canc. Cl. 21.
Texaco Experiment Inc., New York, N.Y. 792,595, pub. 4–27–65. Cl. 38.
Texaco Inc., New York, N.Y. 792,479, pub. 4–27–65. Cl. 15.
Toledo Scale Co., to Toledo Scale Corp., Toledo, Ohio. 414,100, ren. 7–13–65. Cl. 26.
Toledo Scale Corp.: *See*—
  Toledo Scale Co.
Trafton, Hervert M., to Trafton Olive Products, Lindsay, Calif. 411,964, ren. 7–13–65. Cl. 46.
Trafton Olive Products: *See*—
  Trafton, Hervert M.
Trautmann Bros. Co. of Laredo, Texas, Inc., Laredo, Tex. 792,643, pub. 4–27–65. Cl. 46.
Trolz & Wibling Control Corp., Oakland Park, Fla. 792,512, pub. 4–27–65. Cl. 21.
Tru-Fit Mfg. Co., Inc., Brooklyn, N.Y. 792,604, pub. 4–27–65. Cl. 39.
Tug-O-War, Inc., Newark, N.Y. 792,730, pub. 4–27–65. Cl. 101.
Ulick, Joseph C., d.b.a. Londonderry Farms Ltd., Beverly Hills, Calif. 792,670, pub. 5–11–65. Cl. 46.
Underwater Services, Inc., New Orleans, La. 792,739, pub. 4–27–65. Cl. 103.
Uneeda Doll Co., Inc., Brooklyn, N.Y. 679,188, canc. Cl. 22.
Union Carbide Corp., New York, N.Y. 792,471, pub. 4–27–65. Cl. 14.
Unit Structures, Inc. Koppers Co., Inc., Pittsburgh, Pa. 729,615. Am. 7(d). Cl. 12.
United Merchants and Mfg., Inc.: *See*—
  Atlantic Mills.
  Julliard, A. D., & Co., Inc.
United Merchants & Mfg., Inc., New York, N.Y. 679,342, canc. Cl. 42.
United States Steel Corp.: *See*—
  Atlas Portland Cement Co., The.
Universal Electronics Laboratories Corp., Hackensack, N.J. 792,683, pub. 4–27–65. Cl. 50.
Van Waters & Rogers, Inc., Seattle, Wash. 679,241, canc. Cl. 26.
Veeder-Root, Inc., d.b.a. Holo-Krome Co., West Hartford, Conn. 792,428, pub. 4–27–65. Cl. 5.
Vent-Air Contact Lens Specialists, Inc., New York, N.Y. 679,237, canc. Cl. 26.
Villoro, Dr. Fernando C., Zaragoza, Spain. 792,641, pub. 4–27–65. Cl. 46.
Viscio, Frank A., d.b.a. Anthony Products Co., El Monte, Calif. 792,498, pub. 4–27–65. Cl. 18.
Volkl, Franz, Ohg. Ski-Spezialfabrik, Straubing/Ndby, Germany. 792,526, pub. 4–27–65. Cl. 22.
Walgreen Laboratories, Inc., Chicago, Ill. 792,694, pub. 4–27–65. Cl. 51.
Walz, Robert A., d.b.a. Taxrite Division Executax Co., Dayton, Ohio. 792,589, pub. 4–27–65. Cl. 38.
Waukesha Motor Co.: *See*—
  Climax Engineering Co.
Waukesha Rubber Co., Inc., Waukesha, Wis. 792,549, pub. 4–27–65. Cl. 23.
Weber Dental Mfg. Co., The, Canton, Ohio. 792,632, pub. 4–27–65. Cl. 44.
Webster, William A., Co., The, Memphis, Tenn. 792,488, pub. 5–4–65. Cl. 18.
Weller, J., Co., The, Oak Harbor, Ohio. 792,675, pub. 4–27–65. Cl. 46.
Wellington Slipper Co., Ltd., The, Harwich, Essex, England. 679,335, canc. Cl. 39.
West Chemical Products, Inc.: *See*—
  Rich, Hyman R.
  West Disinfecting Co.
West Coast Sales & Service Co., Tulare, Calif. 679,221, canc. Cl. 23.
West Disinfecting Co., New York, to West Chemical Products, Inc., Long Island City, N.Y. 45,143, ren. 7–13–65. Cl. 6.
Western 65 Health Insurance Association, Los Angeles, Calif. 792,735, pub. 4–27–65. Cl. 102.
Western Chemical and Mfg. Co., Los Angeles, Calif. 792,434, pub. 4–27–65. Multiple Class (Classes 6 and 16).
Western Federal Savings and Loan Association, Los Angeles, Calif. 792,729, pub. 4–27–65. Cl. 101.
Weston Instruments, Inc., from Daystrom, Inc., Murray Hill, N.J. 792,509, pub. 4–27–65. Multiple Class (Classes 21 and 26).
Whirlpool Corp., Benton Harbor, Mich. 792,742, pub. 4–27–65. Cl. 105.
Whitaker Mobile Homes, Indianapolis, Ind. 679,146, canc. Cl. 19.
Whitmoyer Laboratories, Inc., Myerstown, Pa. 792,634, pub. 4–27–65. Cl. 44.
Wica Chemicals, Inc., Charlotte, N.C. 792,419, pub. 4–27–65. Multiple Class (Classes 1, 5, 6, 15, and 52).
Wilckes Martin Wilckes Co., New York, N.Y., to Monsanto Co., St. Louis, Mo. 204,094, ren. 7–13–65. Cl. 1.
Will Corp., Rochester, N.Y. 679,228, canc. Cl. 26.
Wilson, George C., Tyrone, Pa., to Cloverine, Inc., New York, N.Y. 47,467, ren. 7–13–65. Cl. 18.
Winton Watch Co., Inc.: *See*—
  Hipp, Didisheim Co., Inc.
Witco Chemical Co., Inc., New York, N.Y. 792,482, pub. 4–27–65. Cl. 15.
Wood Treating Chemicals Co., St. Louis, Mo. 792,450, pub. 4–27–65. Cl. 6.
Woodall Industries, Inc., Detroit, Mich. 679,092, canc. Cl. 12.
Woolrich Woolen Mills, Woolrich, Pa. 792,617, pub. 4–27–65. Cl. 39.
Woolworth, F. W., Co., New York, N.Y. 792,731–2, pub. 4–27–65. Cl. 101.
Wright, William S., National City, Calif. 413,466–7, ren. 7–13–65. Cl. 46.
Write Inc., New York, N.Y. 412,233, ren. 7–13–65. Cl. 11.
Wullschleger & Co., Inc.: *See*—
  Wullschleger & Co.
Wullschleger & Co., to Wullschleger & Co., Inc., New York, N.Y. 415,869, ren. 7–13–65. Cl. 42.
Wyandotte Chemicals Corp., Wyandotte, Mich. 792,480, pub. 4–27–65. Cl. 15.
Wyandotte Chemicals Corp., Wyandotte, Mich. 792,708, pub. 4–27–65. Cl. 52.
Zoo-Line, d.b.a. Schooline Corp., Los Angeles, Calif. 792,567, pub. 4–27–65. Cl. 32.

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OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

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PATENTS

NOTICES

Board of Appeals Decisions Rendered in the Month of June 1965

Examiner affirmed	280
Examiner affirmed in part	47
Examiner reversed	91
Total	418

Adverse Decisions in Interferences

In the designated interferences involving the indicated claims of the following patents final decisions have been rendered that the respective patentees were not the first inventors with respect to the claims listed.

Patent No. 2,784,071, J. A. Garman and D. K. George, SELECTIVE HERBICIDE, decided Mar. 5, 1965, Interference No. 93,346, claims 1, 2, 3, 4 and 5.

Patent No. 2,890,403, H. H. Van Abbe, TRANSISTOR PULSE GENERATOR, decided Mar. 11, 1965, Interference No. 92,149, claims 1 and 7.

Patent No. 2,890,568, R. A. A. Willens, PRODUCTION OF VOLUMINOUS YARN, decided June 17, 1963, Interference No. 91,290, claim 1.

Patent No. 2,938,947, K-A. Dreyer, METHOD AND APPARATUS FOR TRANSFORMING SYSTEMS OF COORDINATES, decided May 18, 1965, Interference No. 93,916, claims 1 and 6.

Patent No. 3,028,360, M. C. Brooks and I. A. Prager, METHOD OF INCREASING STORAGE LIFE OF POLYESTER RESIN COMPOSITIONS, decided May 18, 1965, Interference No. 93,255, claims 1, 2 and 5.

Patent No. 3,064,234, R. E. Barrett, SONAR SYSTEM, decided May 27, 1965, Interference No. 94,666, claims 1, 2 and 3.

Patent No. 3,121,508, N. Kase, CONTAINER, decided June 3, 1965, Interference No. 94,488, claims 1, 2, 3, 4, 5, 6, 8 and 9.

Erratum

In the OFFICIAL GAZETTE, issue of May 4, 1965, vol. 814, p. 2, under the heading "Adverse Decisions in Interferences," second column, lines 24, 25 and 26, strike out "Patent No. 2,968,826, J. Leshin, FLUID DISPENSER WITH BALL APPLICATOR, decided Mar. 19, 1965, Interference No. 93,497, claims 1, 4, 5 and 6."

Disclaimers

2,747,224.—*Robert B. Koch* and *Ralph E. James, Jr.*, Reading, Pa. METHOD AND APPARATUS FOR CONTINUOUSLY FORMING ELONGATED SHAPES FROM THERMOPLASTIC MATERIALS. Patent dated May 29, 1956. Disclaimer filed Apr. 26, 1965, by the assignee, *The Polymer Corporation.*

Hereby enters this disclaimer to claims 9, 10, 14 and 15 of said patent.

3,011,606.—*Ernest A. Ferris*, Downers Grove, and *Robert J. Curran*, Chicago, Ill. ROLLER CLUTCH. Patent dated Dec. 5, 1961. Disclaimer filed June 10, 1965, by the assignee, *Borg-Warner Corporation*, the inventors assenting.

Hereby enters this disclaimer to claims 15, 16 and 17 of said patent.

3,033,935.—*Donald K. Melvin*, Arlington Heights, Ill. ELECTRONIC COMMUNICATION SYSTEM. Patent dated May 8, 1962. Disclaimer filed Apr. 23, 1965, by the assignee, *Automatic Electric Laboratories, Inc.*

Hereby enters this disclaimer to claims 1 and 2 of said patent.

3,046,386.—*Walter H. Wooding*, Broomall, *Royal David Thomas, Jr.*, Narberth, and *James E. Norcross*, Media, Pa. ARTICULATED WING SHOE FOR THE ELECTROSLAG AND ELECTROGAS WELDING EQUIPMENT. Patent dated July 24, 1962. Disclaimer filed Apr. 26, 1965, by the assignee, *Arcos Corporation;* the inventors assenting.

Hereby enters this disclaimer to all the claims of said patent.

3,184,621.—*James Christofferson*, West Newbury, Mass. HIGH VOLTAGE TERMINAL FOR TANDEM-TYPE CHARGED-PARTICLE ACCELERATOR. Patent dated May 18, 1965. Disclaimer filed Mar. 8, 1965, by the assignee, *High Voltage Engineering Corporation.*

Hereby enters this disclaimer to the terminal portion of said patent subsequent to Jan. 20, 1982.

3,187,258.—*Charles R. Zolnik*, Plainview, N.Y. SATURABLE MULTI-MODE RESPONDER. Patent dated June 1, 1965. Disclaimer filed Apr. 15, 1965, by the assignee, *Sperry Rand Corporation.*

New Applications Received During May 1965

Patents	7478
Designs	465
Plant Patents	4
Reissues	39
Total	7986

Issue—July 20, 1965

Patents	1311	—No. 3,195,147 to No. 3,196,457, incl.
Designs	85	—No. 201,657 to No. 201,741, incl.
Plant Patents	1	—No. 2,545
Reissues	3	—No. 25,820 to No. 25,822, incl.
Total	1400	

Hereby enters this disclaimer to the terminal portion of said patent subsequent to May 11, 1982.

Errata

In the OFFICIAL GAZETTE, issue of June 29, 1965, page 1688, before Patent Number 3,191,280 insert the following:

ERRATUM

For Class 29—201 see
Patent No. 3,191,259

page 1816, before Patent Number 3,191,701 insert the following:

ERRATUM

For Class 177—1 see
Patent No. 3,192,535

Annual Index of Patents

The 1964 edition of the Annual Index of Patents has been published. Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Price: Buckram bound, $6.75.

Adjudicated Patents

(C.A. Del.) Foster Patent No. 2,926,230 (200—136.5), for DETACHABLE TEMPERATURE REGULATING CONNECTOR FOR ELECTRICALLY HEATED DEVICES, *Held* invalid. *S. W. Farber, Inc.* v. *Texas Instruments, Inc.*, 344 F.2d 957; 145 USPQ 304.

PATENT EXAMINING CORPS

R. A. WAHL, Superintendent

CONDITION OF PATENT APPLICATIONS AS OF JUNE 1, 1965

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
GENERAL CHEMISTRY, GROUP 110—R. L. CAMPBELL, Manager Inorganic Compounds; Inorganic Compositions; Organo-Metal and Organo-Metalloid Chemistry; Metallurgy; Metal Stock; Electro Chemistry; Batteries.	7-11-62	3- 3-58
GENERAL ORGANIC CHEMISTRY, GROUP 120—I. MARCUS, Manager Heterocyclic; Amides; Alkaloids; Azo; Sulfur; Misc. Esters; Carbohydrates; Herbicides; Poisons; Medicines; Cosmetics; Steroids.	12- 7-62	9-15 58
PETROLEUM CHEMISTRY, GROUP 130—J. R. LIBERMAN, Manager Hydrocarbons; Halogenated Hydrocarbons; Mineral Oil Technology; Lubricating Compositions; Gaseous Compositions; Fuel and Igniting Devices; Organic Chemistry (Part) e.g.: Oxo and Oxy; Quinones; Acids; Carboxylic Acid Esters; Acid Anhydrides; Acid Halides.	2- 5-63	6-20-60
HIGH POLYMER CHEMISTRY, GROUP 140—M. STERMAN, Manager Synthetic Resins; Rubber; Proteins; Macromolecular Carbohydrates; Mixed Synthetic Resin Compositions; Synthetic Resins With Natural Polymers and Resins; Natural Resins: Reclaiming; Pore-Forming.	9- 4-62	5-18-59
COMPOSITIONS AND MOLDING, GROUP 150—G. D. MITCHELL, Acting Manager Compositions (Part) e.g.: Coating; Molding; Adhesive Compositions; Abrading; Liquid Purification or Separation; Gas Separation; Special Utility; Molding Processes.	9-18-62	1- 6-60
COATING AND LAMINATING, GROUP 160—J. REBOLD, Manager Coating: Processes, Apparatus and Misc. Products; Laminating Methods and Apparatus; Stock Materials; Ornamentation; Adhesive Bonding; Special Manufactures	7-20-62	8-21-59
SPECIALIZED CHEMICAL ARTS AND INDUSTRIES, GROUP 170—W. B. KNIGHT, Manager Bleaching and Dyeing; Fertilizers; Foods; Fermentation; Photography; Analytical Chemistry; Reactors; Sugar and Starch; Paper Making; Glass Manufacture; Metallurgical Apparatus; Gas, Heating and Illuminating; Cleaning Processes; Liquid Purification; Thermolytic Distillation; Preserving.	9- 6-62	8-10-59
CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-18-62	1- 5-61
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
POWER, GROUP 210—M. L. LEVY, Manager Generation and Utilization; General Applications; Conversion and Distribution; Heating and Related Art.	10- 5-62	6-20-60
SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	12-27-62	5-12-60
INFORMATION TRANSMISSION, GROUP 230—S. W. CAPELLI, Manager Communications; Multiplexing Techniques; Facsimile and Related Art.	10-19-62	1-19-60
INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Manager Data Processing, Computation and Conversion; Storage Devices and Related Art.	7- 5-62	10-30-58
ELECTRONIC COMPONENT SYSTEMS AND DEVICES, GROUP 250—B. G. MILLER, Manager Semi-Conducter and Space Discharge Systems and Devices; Electronic Component Circuits; Wave Transmission Lines and Networks.	10- 2-62	2- 2-60
RADIATION AND INSTRUMENTS, GROUP 260—F. M. STRADER, Manager Optics; Radiant Energy; Measuring.	9-10-62	2-11-59
ELEMENTS, GROUP 270—E. J. SAX, Manager Conductors; Switches; Miscellaneous.	1-25-63	7- 6-60

Total number of pending applications (excluding Designs)	198,522
Total number of Design applications pending	5,223
Total number of applications awaiting action (excluding Designs)	146,049
Total number of Design applications awaiting action	1,905
Date of oldest new application awaiting action	July 5, 1962
Date of oldest amended application awaiting action	March 3, 1958

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1965, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953.*

Patents	Numbers 2,444,412 to 2,446,164, inclusive
Plant Patents	Numbers 799 to 804, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	6-18-63	6-30-61
MANUFACTURING; METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Founding; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus.	10-26-62	10-14-60
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—A. M. HORTON, Manager Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	3- 5-63	9-29-59
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12-19-62	5- 3-61
FLUID HANDLING, GROUP 360—E. PAUL, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	2- 4-63	8-29-60
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GAREAU, Manager Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	4- 1-63	6- 7-60
HEAT GENERATION, TRANSFER AND UTILIZATION, GROUP 380—P. L. PATRICK, Manager Furnaces, Liquid Heaters and Vaporizers, Burners, Heat Exchange, Automatic Temperature and Humidity Regulation; Refrigeration; Drying; Ventilation; and Illumination.	4- 8-63	8-25-59
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	4- 1-63	7-18-61
CIVIL ENGINEERING, GROUP 420—B. [illegible]ENDETT, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	3- 5-63	4- 4-60
PHYSICS, GROUP 430—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	1-28-63	6-27-60
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	2-25-63	10-10-60
TRANSPORTATION, GROUP 450—P. ARNOLD, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	3-21-63	9-21-59
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	5-14-63	5-22-61
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager Printing; Typewriters; Stationery; Material Treatment.	7-20-62	12-31-58
DESIGNS, GROUP 490—J. A. MANIAN, Manager Industrial Arts; Household, Personal and Fine Arts.	8-12-64	5-11-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE HOWARD L. HOPKINS

No. 7326. Decided April 8, 1965

[52 CCPA —; 342 F.2d 1010; 145 USPQ 140]

1. PATENTABILITY—OBVIOUSNESS—REFERENCES—DRAWINGS ARE PART OF REFERENCE PATENT DISCLOSURE.

"* * * we are satisfied that the Board did not err in holding the claims in issue to be unpatentable. The dimensional limitations include the 'approximately 150%' relationship of the screw head to shank, and the requirement, in claim 4 only, that the frusto-conically shaped bearing surface be inclined at an angle of 'approximately' 19 to 21 degrees. Clearly the size and slope of corresponding elements of the La Torre fastener are shown as of the same general order in the drawings and the drawings are properly to be considered as part of the patent disclosure. It is our opinion that the use of the same relative head size and slope by a person of ordinary skill in the art following that disclosure would be but an obvious matter of mechanical design, particularly in the absence of a showing of criticality as to function or results."

2. SAME—SAME—SELECTION OF SUITABLE KNOWN MATERIALS OBVIOUS.

"With respect to the recitations of properties of the materials from which the fastener is fabricated, we find no error in the analysis of the Examiner * * *. It is evident that the materials are all known and no reason is revealed for any doubt that a person of ordinary skill in the art would be aware of the stresses to which the various parts of La Torre's fastener would be subjected and capable of selecting materials to accommodate those stresses. It is our opinion, therefore, that the selection of suitable materials, such as those having the properties defined in the claims, is no more than a matter of obvious design choice for such a person."

3. SAME—AFFIDAVIT—EXPRESSIONS OF OPINION.

"No error is seen in the Board's conclusion that the affidavits 'are not persuasive of a patentable distinction of appellant's device over that of La Torre.' While the affidavits express opinions as to the superiority of appellant's fastener, they do not make any factual comparison with other fasteners. Thus they do not show that either the dimensional relationships or the properties of the materials required by the claims are critical to the successful operation of the fastener."

4. SAME—PARTICULAR SUBJECT MATTER—"BLIND FASTENER."

The refusal of certain claims in an application entitled "Blind Fastener," as unpatentable over the prior art, is affirmed.

APPEAL from the Patent Office. Serial No. 831,589.

AFFIRMED.

James T. Hoffman (*William T. Estabrook* of counsel) for appellant.

Clarence W. Moore (*S. Wm. Cochran* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*

MARTIN, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Board of Appeals affirming the Examiner's rejection of claims 1 through 6 of appellant's application Serial No. 831,589, filed August 4, 1959, entitled Blind Fastener, as unpatentable over the prior art. Claim 7, the only other claim, stands allowed.

The construction of appellant's blind bolt is best understood in connection with FIGURES 3 and 4 of the application, reproduced below:

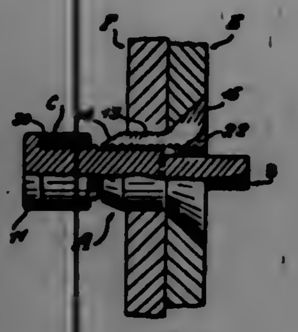
FIG. 3

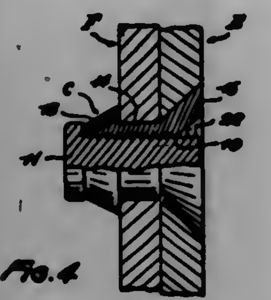
FIG. 4

The drawings show the use of the fastener to secure together members E and F, E being an outside member accessible to the workman while F is inaccessible to him. FIG. 3 shows the fastener after it is inserted into aligned openings in the members and FIG. 4 illustrates the device after it is manipulated to fastening position.

The fastener comprises a screw or "blind metal part" B, a nut or "non-blind metal part" having a head 15, and a sleeve or "blind head part" C. There is an integral head 11 on the inner or blind end of the screw and the sleeve C is disposed on the screw between that head and the nut which is threaded on the other end. In that condition, the assembly is inserted through the apertures in the members E and F to the position shown in FIG. 3.

The non-blind end of the screw B, as will appear from FIG. 3, is provided with two opposite flat sides to adapt it to be received in a suitable driving tool. By means of such tool, the screw is threaded along the inner thread on the nut, with an undercut bearing face on the head of the screw engaging the rearward end 30 of the sleeve to move the sleeve forwardly. During that movement, the other end of the sleeve is caused to expand and ride over a frusto-conical surface 14 on the nut and the sleeve is ultimately brought to a position compressed between the head of the screw and the inner surface of the member F as shown in FIG. 4 to secure the two members together. The screw is weakened by a circumferential groove at the inner end of the flattened portion so that continued driving by the tool results in that portion breaking off from the screw after the fastener is tightened to a predetermined pressure.

Appellant discloses the composition and properties of metals to be used for various portions of the fastener as well as some dimensional relationships of the components. He also discloses a modified construction which differs from the FIGURE 3 and 4 construction primarily in that the bearing face on the inner or shank side of the head of the screw is inclined outwardly and rearwardly and the bearing face of the nut is not made frusto-conical as shown at 14 in FIG. 3 but instead is undercut similarly to the bearing face of screw head 11 in that figure. With the modified construction, the rear end portion of the sleeve is forced over the inclined surface of the screw head to make fastening engagement with plate F.

Claim 4, taken as illustrative, reads:

4. In a high shear and load carrying blind fastener for use in attaching together at least two members a side of one of which is inaccessible or blind and having aligned openings therein of substantially uniform diameter with the possible exception of the accessible end which may be counterbored, a relatively non-ductile substantially homogeneous discrete internal or blind metal part having tensile strength of not less than about 140,000 p.s.i. and a ductility of about 15% to 45% and comprising a cylindrical shank provided with a thread, said blind part including a round head formed integral with the blind end of said shank the diameter of which head is approximately 150% of the diameter of said shank and substantially equal to the minimum diameter of the opening in said members, said head having an undercut bearing surface on its shank side, a projection forming a driving connection on the non-blind end of said shank connected thereto by a section of less strength than that of the minimum cross sectional area of said shank, a relatively non-ductile discrete external or non-blind metal part having a tensile strength of not less than about 140,000 p.s.i. and a ductility of about 15% to 45% threaded onto the threaded section of said shank of said blind part, said non-blind part comprising a cylindrical tubular-like body portion having an outside diameter substantially equal to the diameter of said head of said blind part, said body portion having a head formed integral therewith at the non-blind end thereof for engaging the accessible or non-blind side of said members and an axially extending frusto-conically shaped bearing surface on its other end inclined outwardly and towards the non-blind end of said internal part at an angle of approximately 19% to 21% [19° to 21° ?], said head of said non-blind member being provided with a driving connection, and a relatively ductile discrete blind head metal part at least twice as sensitive to cold-working measured by increase in hardness as low carbon basic steel, said blind head part having a tensile strength of from about 50,000 p.s.i. to 125,000 p.s.i. and a ductility of about 40% to 76% and being in the form of a continuous cylindrical sleeve having an outside diameter substantially equal to the diameter of said head of said blind part and an inside diameter not substantially greater than the maximum thread diameter of said thread on said shank of said blind part, said blind head part being interposed on and closely conforming to said shank of said blind part between said bearing surfaces whereby the non-blind end of said blind head part adjacent to said external or non-blind part is expanded over said frusto-conically shaped bearing surface part to cold work the material thereof and form a blind head engaging the inaccessible side of said members upon said frusto-conically shaped bearing surface being forced into said end of said blind head part when said blind part is rotated relative to the non-blind part in driving the fastener and said members thereby secured together by being embraced between blind and non-blind heads engaging opposite sides of said members said blind head of which is relatively hard but more ductile than said non-blind head.

It will be observed that claim 4 is directed to the form of the invention shown in FIGS. 3 and 4 with the frusto-conical surface on the inner end of the nut or non-blind metal part. Claims 5 and 6 are specific to the modified form where such surface is on the head of the bolt. Claims 1 to 3 apparently are not limited to either form.

The references relied on by the Board and Examiner are:

La Torre, 2,765,699, October 9, 1956.
Nelson, 2,406,157, August 20, 1946.

La Torre discloses a blind bolt best shown in FIGS. 1 and 3, reproduced below:

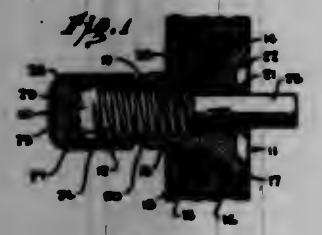
Fig. 1

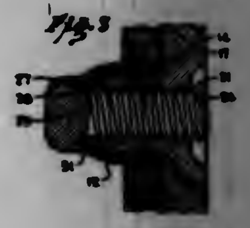
Fig. 3

FIG. 1 shows the bolt upon being inserted through apertures in plate members 15 and 16 to be fastened together and FIG. 3 shows the assembly after it has been positioned to fasten the members together. It will be apparent that La Torre's structure, like appellant's, consists of three parts: a screw 10, a nut 11, and a sleeve 12. The parts are assembled in the same relationship as in appellant's fastener with tightening of the nut causing a frusto-conical surface on the end thereof to spread the collar to form a blind head. A bearing surface 28 on the bolt head 23 forces the blind end of the collar inwardly when the fastener is contacted. The screw includes an extension 25 for engagement by a tool, which extension is attached to the remainder of the screw by a weakened portion whereby the extension is twisted off when the torque reaches the value attained when the device is in fastening condition.

The Nelson patent shows a blind fastener adapted to pass through coinciding apertures in two members to secure them together. It comprises a bolt having a head at its blind end, said head having a frusto-conical surface flaring outwardly from the intersection of the head with the shank. Upon drawing the bolt up within a non-blind element, the frusto-conical surface forces a sleeve portion on the element outwardly to engage the surface of the inner member to fasten the two members together.

The ground of rejection of the claims is obviousness over the La Torre structure with Nelson relied on for a suggestion of the alternative structure of claims 5 and 6 where the frusto-conical surface over which the sleeve rides is on the bolt head rather than on the nut.

La Torre does not describe the specific dimensional relationships of the parts of his structure. Neither does he specify the metal or metals used for the parts or the tensile strength or ductility of the parts. It is the limitations in the claims as to those features on which appellant relies for patentability.

Appellant argues that the dimensional relationships and characteristics of the materials he specifies result in a bolt which has a high strength-to-weight ratio, resistance to failure under vibration and other desirable properties. In support of that contention, he has submitted affidavits of five persons experienced in the art. Those affiants testify to the high quality and performance of blind fasteners made by appellant's assignee and to highly successful and extensive use of the fasteners in the manufacture of airplanes. They characterize the fasteners as "superior to any blind fastener of which" one affiant "has knowledge" and as "the best obtainable high-strength blind fasteners, both from the standpoint of resistance to vibration and strength to weight ratio."

As to the dimensional aspects of the claims, the Examiner considered the diameter of the head of the screw of La Torre to be shown as approximately 150 percent of the shank diameter. He regarded selecting the particular angle of inclination of the frusto-conical surface on the screw head as ordinary engineering design work, while also taking the position that the angle called for by appellant is substantially shown in La Torre.

It was also the Examiner's view that "the particular materials employed represent merely a selection from known materials having known characteristics with the selection being largely governed by the use which is made of the device." He further stated:

> * * * it seems clear * * * that the materials employed are all known and standard materials. Where it is necessary to have a ductile member such as 12 in La Torre it is not believed to be an act of invention [unobvious?] to select a material which has this property such as a steel material set forth * * * [in] the specification.
>
> In a like manner where a use is envisioned which will involve stresses in shear it would certainly be obvious to form the external or nut member of high shear strength material and this consideration is applicable to the bolt member also.

The Board agreed substantially with the Examiner's position and found the affidavits not to be persuasive of patentability.

Appellant emphasizes the dimensional relationships and characteristics of the materials recited in the claims and the high strength-to-weight ratio, resistance to failure under vibration, and other properties discussed in the affidavits. He urges that the 150 percent diameter of the screw head relative to the shank is recognized as a departure from standard practice, stating that the head of a round head machine screw in sizes 6 to 12 is much greater than that recited in the claims.

As to claims 5 and 6, it seems plain to us that Nelson suggests modification of La Torre to provide the sloping bearing surface on the head of the screw instead of on the nut and appellant does not appear to contend otherwise. Accordingly, those claims present no further issue of patentability separate from claims 1 to 4.

In a reply brief,[1] appellant argues at length on the basis that the Solicitor, in the brief for the Commissioner, attempts to show that the relationships between the diameters of the heads and shanks of the screw parts of fasteners referred to in a chart in appellant's application do not support the "approximately 150%" limitation in the claims. He also seems to argue that it is improper to consider the drawings of the La Torre patent as disclosing any dimensional relationships of the parts. The invention in La Torre, he says, "is unrelated to any particular relationship between the diameters of the head and shank of the screw part."

We do not find that the Solicitor attempted to raise an issue of whether appellant's application supports the "approximately 150%" limitation. Rather he referred to the specific head to shank diameters determined from appellant's chart to show that they departed from precisely 150% as an indication of the significance of the position taken by the Examiner that the drawing of La Torre shows the head diameter of the screw shown therein to be "approximately 150 percent." That matter plainly goes to the real issue here, the rejection of the claims on the prior art.

[1] As to that question, we are satisfied that the Board did not err in holding the claims in issue to be unpatentable. The dimensional limitations include the "approximately 150%" relationship of the screw head to shank, and the requirement, in claim 4 only, that the frusto-conically shaped bearing surface be inclined at an angle of "approximately" 19 to 21 degrees. Clearly the size and slope of corresponding elements of the La Torre fastener are shown as of the same general order in the drawings and the drawings are properly to be considered as part of the patent disclosure. It is our opinion that the use of the same relative head size and slope by a person of ordinary skill in the art following that disclosure would be but an obvious matter of mechanical design, particularly in the absence of a showing of criticality as to function or results.

[2] With respect to the recitations of properties of the materials from which the fastener is fabricated, we find no error in the analysis of the Examiner quoted hereinabove. It is evident that the materials are all known and no reason is revealed for any doubt that a person of ordinary skill in that art would be aware of the stresses to which the various parts of La Torre's fastener would be subjected and capable of selecting materials to accommodate those stresses. It is our

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[1] A motion by appellant for leave to file a reply brief, submitted with such brief shortly before oral hearing in this appeal, is hereby granted and that brief has been considered in deciding the appeal.

opinion, therefore, that the selection of suitable materials, such as those having the properties defined in the claims, is no more than a matter of obvious design choice for such a person.

[3] No error is seen in the Board's conclusion that the affidavits "are not persuasive of a patentable distinction of appellant's device over that of La Torre." While the affidavits express opinions as to the superiority of appellant's fastener, they do not make any factual comparison with other fasteners. Thus they do not show that either the dimensional relationships or the properties of the materials required by the claims are critical to the successful operation of the fastener.

[4] For the foregoing reasons, the decision of the Board is affirmed.

AFFIRMED.

U.S. Court of Customs and Patent Appeals

IN RE HOMER D. ALLEN, DECEASED, BY HELEN M. ALLEN, EXECUTRIX

No. 7351. Decided April 8, 1965

[52 CCPA —; 343 F.2d 482; 145 USPQ 147]

1. PATENTABILITY—DOUBLE PATENTING—COMBINATION AND ELEMENT.

"The claims on appeal are directed * * * to a waler bracket per se as a novel element *usable in* the patent combination. They are thus two separate inventions, albeit they may be closely related in use, a novel mechanical combination and a novel element. We hold that there is no double patenting."

2. SAME—SAME—*Miller* v. *Eagle* DISTINGUISHED.

"The Patent Office Solicitor cites *Miller* v. *Eagle* [151 U.S. 186] in support of his claim that there would be double patenting here. We find that it furnishes no support for that contention. *Miller* v. *Eagle* was a case in which there was *only one invention*. As we said in *Stanley* [41 CCPA 956, 961] 'in that case the same inventor had obtained two patents on a spring of peculiar construction, claiming the same spring in combination with the same elements in both patents.' We will be even more specific. The patentee in *Miller* v. *Eagle* based his claim that the patents were not for the same invention only on the fact that in one patent the claims mentioned two inherent *functions* of the spring while in the other patent the claims mentioned only one of those inherent functions, the *mechanism* claimed being the same."

3. SAME—PARTICULAR SUBJECT MATTER—"WALER BRACKETS."

The decision of the Board of Appeals refusing all claims in an application entitled "Waler Brackets," for double patenting, is reversed.

APPEAL from the Patent Office. Serial No. 36,094.

REVERSED.

Arnold G. Gulko for appellant.

Clarence W. Moore (*George C. Roeming* of counsel) for the Commissioner of Patents.

Before RICH, *Acting Chief Judge*, and MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*, and Judge WILLIAM H. KIRKPATRICK, *United States Senior District Judge for the Eastern District of Pennsylvania*

RICH, *J.*, delivered the opinion of the court.

This appeal is from a split decision of the Board of Appeals affirming a rejection of all claims, 1–4, of application Serial No. 36,094, filed June 14, 1960, for "Waler Brackets." The application is stated to be a "continuation" of a copending application, Serial No. 715,772, filed February 17, 1958, "filed in the name of the common inventor, now deceased, and full ownership is vested in the same corporation."

The specification also contains the statement, which is true, that "All the subject matter claimed in this application is fully illustrated and described in said pending application."

Correctly described, the present application is a "division" of the parent application. Everything described in the application at bar is described in the parent but much that the parent contains is omitted. The parent application matured into Patent No. 2,952,060 on September 13, 1960, three months after the filing of the appealed application.

The sole rejection before us is the Examiner's rejection, affirmed by the Board, of all claims for double patenting in view of claims 1 and 2 of the issued Allen patent. The dissenting board member disagreed with that rejection.

The Invention

The invention is a waler bracket which is one element of a mechanical combination which, as a whole, constitutes a concrete wall form structure for poured-in-place concrete walls. To understand the element it is necessary to understand the whole structure. We will describe it briefly by reference to FIGS. 1, 2, and 5 of appellant's drawings:

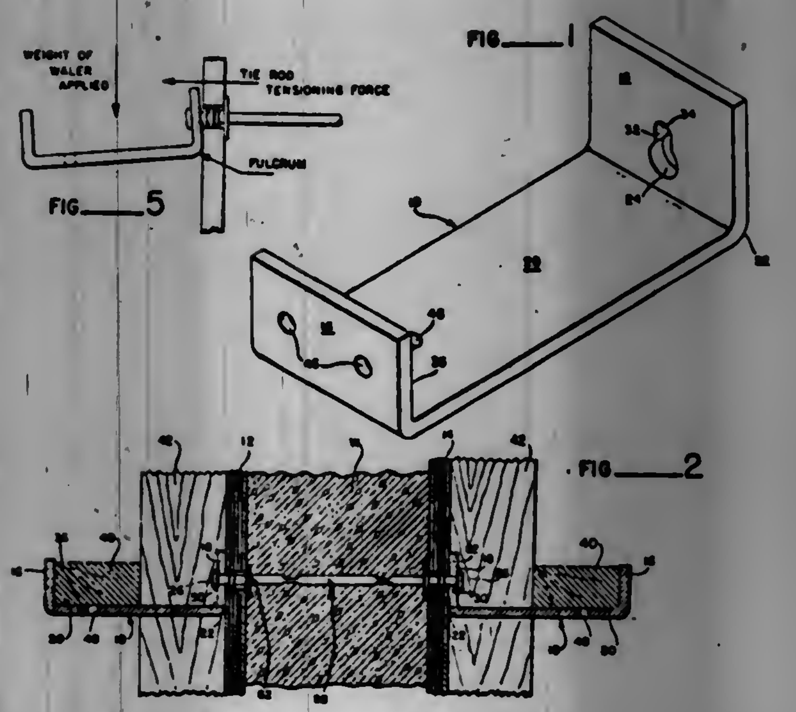


FIG. 1 is the waler bracket, FIG. 2 is a fragmentary sectional elevation through a wall form with concrete poured therein, and FIG. 5 illustrates diagrammatically the functioning of the bracket to tension the tie rods which hold the form walls in spaced relation.

FIG. 2 shows the five elements employed in combination to make a concrete wall form. 12 and 14 are sheets of heavy plywood which are backed up by studs 42, for example 2 x 4's on edge against the plywood. Tie rods 28 having fixed washers 62 extend through holes in the plywood panels and have heads 26 protruding from the holes. Washers 62 hold the form walls apart. A wall bracket 10 is hung on each end of each tie rod. It will be understood that tie rods are aligned horizontally. Walers 40, which may be 2 x 4's, are horizontally positioned in the brackets to bear against the studs 42. As shown in FIG. 5, the weight of the walers pressing down on the brackets presses inwardly on the walls 12, 14, holding them tightly against the washers 62, which are secured to the tie rods by welding or the like.

Since we are concerned only with whether there is double patenting, the important question is the relationship of the subject matter of the claims on appeal of the patent claims relied on by the Patent

Office to support the rejection. We will consider the appealed claims first. Claim 1 reads as follows except that the breakdown and emphasis are ours:

1. A waler bracket
for concrete wall forms made of plywood sheets for use with form tie rods having integral heads on each end and spacer abutments and with coacting horizontal walers and vertical studding,
comprising:
a metal bracket having a substantially horizontal rest portion;
an upwardly directed wall form engaging pierced end of said bracket disposed at right angles to said rest portion:
a bayonet type hole in said pierced end having a lower portion substantially round
to fit over the head of a tie rod and an
upper portion of slot form starting at said lower portion and extending upwardly
and adapted to snugly engage the rod portion of said tie rod;
said horizontal rest portion being longer than said wall form engaging end of said bracket
so that a waler applied to the outer portion of said horizontal rest portion will produce an effective tie rod tensioning force;
and [an?] upwardly directed outer end of said bracket disposed at substantially right angles to said rest portion
to form an engaging surface for the edge of a waler.

The first matter to be settled is the subject matter of that claim. The dissenting member of the Board said:

> The essence of the holding of the majority with respect to double patenting is that the present claims are drawn to a combination of bracket and concrete form structure, as are the patent claims. In my opinion the claims are drawn to a bracket, *per se*, as a subcombination, which is suitable to use in the named environment. While it is true that the claims herein refer to the use to which the bracket may be put by statement of use, adaptability and otherwise, such statement of environmental use does not, in and of itself describe a combination. *In re Dean*, 48 CCPA 1072, 1961 C.D. 474, 722 O.G. 301, 291 F.2d 947, 130 USPQ 107.

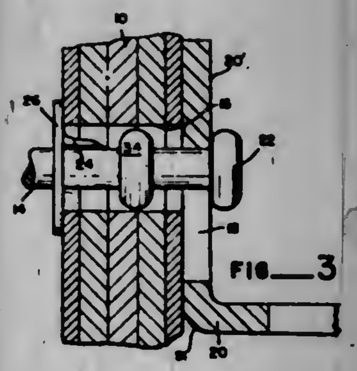
We agree with the dissenter's interpretation except that we would characterize the bracket to which the claim is drawn as an element of a combination rather than a subcombination. The bracket is a single integral entity whose shape is defined, rather than a combination of parts which is the usual nature of a subcombination. It will be seen that the statements of purpose, use, and environment are indented in the claims and introduced by the italicized words and that the rest of the claim, according to "common sense interpretation of language according to the rules of grammar in the context in which it occurs," as we said in the *Dean* case, describes only a waler bracket and not a combination with a concrete form structure.

The other claims are a second independent claim, 3, and two dependent claims further limiting claims 1 and 3, respectively. Claim 3 resembles claim 1 but differs in scope and terminology. Claims 2 and 4 are possibly a cause for the difficulty in this case as each opens with the phrase, "The combination according to claim" 1 or 3. As above stated, we do not consider claim 1 or claim 3 to define a combination, or a subcombination, but a bracket. The claim-drafter's inappropriate choice of language in claims 2 and 4 does not change that situation. Claims 2 and 4 themselves, as dependent claims, merely add reference to the bracket corner indicated as "fulcrum" in FIG. 5 and its functional utility.

In summary, therefore, all claims on appeal are directed to a waler bracket and this also corresponds to the invention described in the specification.

We note in leaving this point that the Patent Office Solicitor quite clearly agrees with our construction of the claims and was good enough to add to the *Dean* case cited by the dissenting board member further precedents, in *support* of his position, as follows: *In re Ashley*, 50 CCPA 1200, 1204, 315 F.2d 945, 948, col. 1, 137 USPQ 361, 363; *In re Hutchinson*, 33 CCPA 879, 154 F.2d 135, 69 USPQ 138, "and other decisions of similar import cited in the appendices of *Kropa* v. *Robie*," 38 CCPA 858, 187 F.2d 150, 88 USPQ 478. At the hearing he said, "The error of the majority of the Board is so clear I'll concede it." This quite thoroughly disposes of the view of the Examiner and the Board majority that the appealed claims are directed to a combination rather than a bracket.

We turn now to the claims of Allen's issued patent to see whether there is "double patenting." There are only 3 claims and only claims 1 and 2 are relied on. It will facilitate an understanding of them to add FIG. 3 from the drawings of the patent to more clearly show a featured element, which may also be seen on a small scale in FIG. 2, and in a variant form in FIG. 5, both supra.



FIG—3

The principal parts of the concrete form will be recognized in fragmentary detail, the plywood panel being 10, having opening 16 for tie rod 14 on which is washer 26 and head 22. The adjacent end of the waler bracket is 20, 20′ in which is the slot 18. The element being here emphasized is tie rod positioning member 34 which is a sort of second head which keeps the tie rod centered in the hole 16. The purpose of this member, or "positioning means" as it is called in the claim, is to prevent damage to the plywood wall panels when the forms are removed which would occur if the tie rod ends were permitted to sag under the weight of the walers and waler brackets so that the heads 22 became misaligned with the holes and fixed in that position by the setting of the concrete. Since many tie rods penetrate each panel, it would be difficult if not impossible to remove the panels from misaligned tie rods without destruction or at least great damage. The desire is to reuse the panels as many times as possible.

In patent claim 1, which follows, we have italicized each of the elements positively recited therein from which it should be clear that it defines a combination of coacting mechanical elements, notwithstanding its somewhat inapt opening clause:

> 1. A positioning and tensioning means for concrete wall form tie rods, comprising: a concrete wall form having *spaced apart wells* [*walls*] *with openings* formed therein; a rigid *metal bracket* having a substantially horizontal *central portion* and *upturned ends* each of which are shorter than said central portion; a metal *tie rod* having a rod portion and ends formed as integral *heads* providing an inside bearing surface for use in positioning the outside wall surface of said concrete wall form; a pair of *spacing washers* fixedly secured in spaced relationship on the tie rod and disposed to bear against and space the interior wall

surfaces of said concrete wall form; said integral heads being dimensioned to pass through said openings in said wall forms; said spacing washers having sufficiently greater diameter than the said heads to provide annular bearing surfaces on the inside surface of the wall forms, around said openings; *positioning means* having an outside diameter substantially the same as said integral heads and disposed on said tie rod between the intergal heads and the adjacent washers to center said tie rod in said openings in said wall forms; a first end of said bracket having a *bayonet opening* receiving said integral head and resting on the rod portion of said concrete form tie rod and in contact with the outer face of said concrete wall form, and an opposite end coacting with said horizontal portion to form a whaler [sic] retaining means.

The parent case uses the term "whaler" throughout while the instant application substitutes the term "waler." Claim 2 reads:

2. The subject matter of claim 1 in which a fulcrum is provided at the junction of said first end and the horizontal portion of said bracket; and said bracket providing a lever when bearing on the outer face of said wall form, which permits the weight of the whaler to tension said tie rod when the whaler is placed on said bracket and the bracket and whaler pivot on said fulcrum.

Our view as to the subject matter of the foregoing claims of the patent seems to be in complete accord with that of the Examiner and of the Board, namely, that they are directed to a *combination* of walls, headed tie rods having spacing washers and positioning means (34), and a waler bracket which functions, when supporting walers, to pull on the tie rod ends and push the walls against the washers, the positioning means keeping the rod ends centered in the holes in the walls.

[1] The claims on appeal are directed, as we have held, to a waler bracket *per se* as a novel element *usable in* the patent combination. They are thus two separate inventions, albeit they may be closely related in use, a novel mechanical combination and a novel element. We hold that there is no double patenting.

Concurrently herewith we are deciding a similar issue in *In re Heinle*, 52 CCPA —, — F.2d —, — USPQ —. (Appeal No. 7233.) Our holding herein is believed to be in accordance with and controlled by the following prior decisions of this court: *In re Coleman*, 38 CCPA 1156, 189 F.2d 976, 90 USPQ 100; *In re Sarett*. 51 CCPA 1180, 327 F.2d 1005, 140 USPQ 474; *In re Carlton*. 22 CCPA 1223, 77 F.2d 363, 25 USPQ 390; and *In re Stanley*, 41 CCPA 956, 214 F.2d 151, 102 USPQ 234. In the *Stanley* case the opinion discussed *Miller* v. *Eagle Mfg. Co.*, 151 U.S. 186, saying that the Supreme Court set forth three classes of double patenting cases, the third being:

3. Where the second patent covers matter described in the first patent, but is essentially distinct and separable from the invention claimed in the first patent.

We pointed out that "in cases falling under three, the validity of the second patent could be sustained." We find the facts here to be within that category.

[2] The Patent Office Solicitor cites *Miller* v. *Eagle* in support of his claim that there would be double patenting here. We find that it furnishes no support for that contention. *Miller* v. *Eagle* was a case in which there was *only one invention*. As we said in *Stanley* (p. 961), "in that case the same inventor had obtained two patents on a spring of peculiar construction, claiming the same spring in combination with the same elements in both patents." We will be even more specific. The patentee in *Miller* v. *Eagle* based his claim that the patents were not for the same invention only on the fact that in one patent the claims mentioned two inherent *functions* of the spring while in the other patent the claims mentioned only one of those inherent functions, the *mechanism* claimed being the same.

The Patent Office brief also cites and relies on the following cases: *Palmer Pneumatic Tire Co.* v. *Lozier* (6th Cir.), 90 Fed. 732; *In re Hadsel*, 36 CCPA 1075; 173 F.2d 1010, 81 USPQ 376; *Pierce* v. *Allen B. Du Mont Laboratories, Inc.* (3rd Cir.), 297 F.2d 323; *American Communications Co.* v. *Pierce* (1st Cir.), 208 F.2d 763; and *Pierce* v. *Hewlett Packard Co.* (1st Cir.), 220 F.2d 531. Upon analysis they will all be seen to be cases wherein there was but a single invention and of the *Miller* v. *Eagle* type. While there is some broad language in the *Palmer Tire* case purporting to state the rule of *Miller* v. *Eagle*, careful consideration of the latter opinion will shows that the broad language is not justified by the facts or the decision of the Supreme Court thereon. It is the insupportable broad language of *Palmer Tire* the Solicitor paraphrases in his brief as a rule[1] we should follow. We decline to do so on the ground that it is against the great weight of authority and contrary to long-standing Patent Office practice, approved by this court, relating to divisional applications.

[3] The decision of the Board is reversed.

REVERSED.

ALMOND, *J.*, dissenting, with whom MARTIN, *J.*, joins.

I feel that the majority decision will unlawfully extend Allen's monopoly on the combination claimed in his Patent No. 2,952,060. Normally, in the absence of special circumstances not present here, upon the expiration of a patent, the public is free to practice the claimed invention without fear of infringement. In this case, however, a person using the combination claimed in the Allen patent after it expires will be infringing the later issued patent claiming the waler bracket alone. The doctrine of double patenting was developed to prevent such a result. Yet, the majority has, in effect, written double patenting out of the law when the relationship between the inventions in issue is that of combination-subcombination (a single element here).

At the outset, let me say that I find no fault with the majority's detailed analysis of the claims because I think it merely shows that the appealed claims are drawn to a novel single element, the waler bracket, while the patent claims a novel combination including the *very same* waler bracket. The majority calls the element and combination "two separate inventions." The word "invention" has been subject to many definitions in the patent law recently. The word "invention" as used by this court in the past few years does not connote a patentable invention but merely that which is the subject of a patent application whether or not it is novel, useful, unobvious or within a statutory category of things which may be the subject of a patent. I will, therefore, attempt to use the majority terminology indicating what I think it means. I also feel it necessary to go to some lengths to point out precisely where I feel that logic has become subservient to and distorted by the "magic words" used in double patenting analysis.

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[1] As it appears in *Palmer Tire* the statement is:

> One cannot extract an essential element of his invention from a former patent, without which the former patent would not have been granted, and make it the subject of a subsequent patent.

We do not agree with the view of the Sixth Circuit Court of Appeals in 1898 that that is a rule derivable from *Miller* v. *Eagle* or with that court's views as to what the facts were in that case.

From the facts in *Palmer Tire*, which was an interfering patent suit under R.S. 4918, it seems clear that the patentees were developing bicycle tires and improved them by developing rubber-bonded cord fabric structure which they patented, claiming the inventions as *tires*. The court held that they could not patent the inventions again claiming them as *cord fabrics*. Though the issue the court was deciding was double patenting, its holding was that both of the patents before it were invalid "for lack of invention." The dictum above quoted is simply too broad to constitute a rule of general applicability and should be limited to the situation before the court.

To return to the majority opinion, I reiterate that I agree that two separate inventions, i.e., a waler bracket and a combination including the waler bracket, are claimed in the application and patent. Apparently, this finding of fact ipso facto dictates the result—no double patenting. We are not given any analysis or any rule that requires such a result. Thus, the opinion states a rule, a new and dangerous rule, I think, that after obtaining a patent on a combination an inventor can *always* obtain a patent on an element of the combination claimed in a later, copending application.

As previously indicated, this rule would allow an inventor to control the use of his combination invention long after the seventeen year limitation set by Congress had expired. Such an evasion of the limit on the patent monopoly should not be allowed without legal justification. No such justification is present here. While I am not aware of a precise legally accepted definition of "element" and "combination," I know that the terms seem applicable to and often are applied to specific chemicals and chemical compositions. Thus, as I interpret the majority opinion, an applicant would be allowed to patent a chemical combination, e.g., a wonder drug and a suitable carrier for the drug, and then later to patent the drug alone based upon an application filed after the combination application. Seventeen years after the combination of drug and carrier had been patented, the public would still not be free to use the drug with the carrier or in any other obvious manner because of the dominance of the later issued patent to the drug alone. That result is an unlawful extension of the patent and is condemned by our decision in *In re Hadsel*, 36 CCPA 1075, 173 F.2d 1010, 81 USPQ 376. Such an extension of the monopoly has also been held unlawful by other courts. See, e.g., *Pierce* v. *Allen B. Du Mont Laboratories, Inc.*, 297 F.2d 323, 131 USPQ 340 (3rd Cir. 1961); *Pierce* v. *Hewlett Packard Co.*, 220 F.2d 531, 105 USPQ 50 (1st Cir. 1955); *Palmer Pneumatic Tire Co.* v. *Lozier*, 90 Fed. 732 (6th Cir. 1898) and cases collected by Stringham, Double Patenting, § 2866 (1933).

All the cases cited here and in the majority opinion recognize that extension of the monopoly is undesirable. In those cases cited by the majority which do allow an extension of monopoly by issuance of the broad patent last, the applicant was the victim of some quirk of Patent Office procedure which the court considered in allowing the applicant to receive broad coverage. In *In re Coleman*, 38 CCPA 1156, 189 F.2d 976, 90 USPQ 100, the court found that there was not necessarily an extension of monopoly because, as the result of a limitation required by the Examiner, the claims of the first invention could be practiced without infringing the later issued patent. In *In re Sarrett*, 51 CCPA 1180, 327 F.2d 1005, 140 USPQ 474, the application and patent had been filed on the same day. It was not possible to claim both inventions in the same application because the inventors were different. Thus, the fact that one application issued before the other was primarily a result of Patent Office procedure. At least, no evidence of delaying tactics by the applicant was cited. In *In re Carlton*, 22 CCPA 1223, 77 F.2d 363, 25 USPQ 390, the Patent Office had first required division and had then rejected one of the divisional applications on the patent into which the other divisional application had matured. This court reversed the rejection. The same result would most likely be reached today under 35 U.S.C. 121. In *In re Stanley*, 41 CCPA 956, 214 F.2d 151, 102 USPQ 234, a narrow improvement

application, filed for two years after the basic broad application, issued first and was used by the Patent Office to reject the basic patent. I thus think that each of the cases cited by the majority can be distinguished from the issue presented here.

The majority would distinguish the two *Pierce* cases and the *Hadsel* case on the ground that only one invention was present in those cases. If the majority means that exactly the same combination of elements was claimed in the patent and application, it is clearly in error. If the majority meant something else when it said there was only one invention, it would have been well to have set forth the test by which one may tell whether or not a subcombination is the same invention as a combination. It is the failure of the majority opinion to set forth any test other than "different invention," if indeed that is a test, for determining whether double patenting exists which disturbs me most.

A review of this court's decisions over the last few years discloses at least four different relationships which have been said to exist between claims in a double patenting analysis.

I. Both claims in question may either be *identical* or differ from each other by a *mere colorable variation*. In such a case double patenting exists and nothing apparently will save the claims. *In re Siu*, 42 CCPA 864, 222 F.2d 267, 105 USPQ 428, and *In re Robeson*, 51 CCPA 1271, 331 F.2d 610, 141 USPQ 485.

II. The claims may be drawn to *different inventions*. Although the difference between the claims may be an obvious one, it must be more than a *mere colorable variation*. When there are *different inventions*, a terminal disclaimer will obviate a double patenting rejection. *In re Robeson*, supra, *In re Kaye*, 51 CCPA 1465, 332 F.2d 816, 141 USPQ 829.

III. If the claims are *patentably distinct*, there is no double patenting. *In re Sarrett*, supra, and *In re Christiansen*, 51 CCPA 1236, 330 F.2d 652, 141 USPQ 295. In *Sarrett*, the claims were allowed without terminal disclaimers. Thus, for claims to be *patentably distinct*, the difference between them must be greater than that present when there are *different inventions*. Furthermore, it should be noted that although this court in *Christiansen* used an analysis similar to that used in an obviousness case, an obviousness type of analysis was not applied in *Sarrett*. In fact, in *In re Sarrett*, supra at 1192, we appear to have expressly rejected the obviousness approach in stating:

> We are not here concerned with what one skilled in the art would be aware from *reading* the claims but with *what inventions the claims define.*

Thus to be *patentably distinct*, two claims need not be unobvious, one in view of the other, and yet the differences between the claims must apparently be greater than when *different inventions* are claimed. A more precise definition of "patentably distinct," I cannot glean from reading the cases.

IV. If the claim of the application is *obvious* (tested by the unobviousness requirement of 35 U.S.C. 103) in view of the *claims* of the patent, double patenting exists; if they are unobvious, no double patenting. Judge Rich concurring in *In re Zickendraht*, 50 CCPA 1529, 319 F.2d 225, 138 USPQ 22.

I think that our varied approaches, enumerated above, have overly confused an already confusing subject. For example, my analysis indicates that there is a region somewhere between *different inventions* and *obviousness* where claims are *patentably distinct* and thus avoid double patenting. Such a distinction is too fine to be meaningful. I am not unmindful of the fact that the various approaches might possibly be rationalized on the basis of the type of claims to which they were applied, i.e., combination-subcombination, species-genus, basic-improvement. I do not think any such distinctions are set forth, however.

I think that only one test need be applied *in the present case*—is the claim of the *later* filed application unobvious[2] in view of the claims of the earlier filed application? If the answer is yes, then the applicant is entitled to a second patent under the law even if it will extend the monopoly of the first patent. If the answer is no, the applicant is not entitled to a patent which will extend the monopoly because he has given the public nothing, in consideration for the added years of monopoly, which was not obvious to the public. Here the description of the waler bracket in the claims of the patent and the appealed claims is almost identical. There can be no question that the bracket of the appealed claims is obvious in view of the patent claims.

It may well happen that after filing an application for a narrower combination, the applicant realizes that a broader subcombination claim is patentable and necessary for proper protection of the invention. If the broader claim is obvious in view of the earlier filed narrower claim, the applicant is not without recourse. He may be able to add broader claims to his first filed application. Such a solution should have been possible for the appellant here. If the first application has already issued as a patent, it may be possible to add broader claims by reissue under 35 U.S.C. 251. If neither of these approaches works, he may file a terminal disclaimer under 35 U.S.C. 253, thereby avoiding an extension of the monopoly. Thus, it seems unlikely that an applicant would be unduly penalized for failing to properly cover his invention (or inventions) in one application.

As indicated above, those cases relied upon by the majority which allowed an extension of the monopoly involved technicalities of Patent Office practice which placed the applicant in a difficult situation. The appellant here was not faced with any of those problems. Thus, this case presents a clear issue—is Allen entitled to claims in his later filed application which will extend the monopoly of his earlier filed patent when these later claims are obvious in view of the patent claims? I do not think that he is, and would therefore affirm the Board's decision.

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[2] Since the patented invention is *not prior art*, it is not technically correct to say that 35 U.S.C. 103 is applied. . However, the test is the same as the unobviousness requirement of 35 U.S.C. 103.

PATENT SUITS

Notices under 35 U.S.C. 290; Patent Act of 1952

2,609,099, D. G. Griswold, LIQUID SEPARATION APPARATUS; **2,888,032**, D. E. Griswold, FLOW RATE CONTROLLER, **filed** Dec. 11, 1962, D.C., N.D. Okla. (Tulsa), Doc. 5523, *Donald G. Griswold et al.* v. *Oil Capital Valve Co.* Order that Patents Nos. 2,609,099 and 2,888,032 are hereby cancelled, voided, and held for naught Feb. 23, 1965.

2,610,388, F. Koch, MACHINE FOR OPERATING ON STRIP STOCK, **filed** Feb. 11, 1965, D.C. Conn. (New Haven), Doc. 10836, *The U.S. Baird Corp. et al.* v. *The A. H. Nilson Machine Company et al.*

2,621,290, G. J. C. Andresen, LIMITER SYSTEM, **filed** Feb. 19, 1965, D.C., N.D. Ohio (Cleveland), Doc. C65–103, *Andresen Electronics Research, Inc. et al.* v. *Lafayette Radio Associate et al.* **Same**, Doc. C65–104, *Andresen Electronics Research, Inc. et al.* v. *Olson Electronics, Inc.* Action dismissed Mar. 10, 1965.

2,641,383, G. E. Coursey, CONTAINER WITH HANDLE STACKING MEANS, **filed** Oct. 9, 1963, D.C., E.D. Mich. (Detroit), Doc. 24446, *Nestier Corporation* v. *Mid-West Wire Products Co., Inc.* Patent held valid and infringed; defendant enjoined Feb. 23, 1965.

2,641,588, Leistner and Knoepke, HALOGEN CONTAINING RESIN STABILIZED WITH AN ORGANO TIN COMPOUND; **2,641,596**, Leistner and Hecker, ORGANIC DERIVATIVES OF TETRAVALENT TIN; **2,648,650**, Weinberg and Johnson, ORGANO TIN COMPOUNDS AND COMPOSITIONS CONTAINING SAME, **filed** Oct. 4, 1963, D.C., S.D.N.Y., Doc. 63/2898, *Argus Chemical Corp.* v. *American Can Co. et ano.* Stipulation and order of dismissal Feb. 10, 1965.

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2,650,627, C. E. Tibbals, SPLINE AFFIXING DEVICE FOR PARQUETRY BLOCKS; **2,961,021**, same, METHOD OF AND APPARATUS FOR MAKING PARQUET FLOORING BLOCKS; **2,983,295**, same, WOODEN PARQUET FLOORING BLOCK AND METHOD AND APPARATUS FOR PRODUCING THE SAME; **3,118,804**, same, APPARATUS FOR MAKING PARQUET FLOORING BLOCKS; **3,128,511**, same, PARQUET FLOORING BLOCK, **filed** Feb. 8, 1965, D.C., W.D. Mo. (Springfield), Docs. 2057 and 2058 (consolidated), *Wood Products Development Co., Inc. et al.* v. *Cloud Oak Flooring Co. et al.*

2,666,508, M. J. Nardulli, WINDOW SASH FRAME STRUCTURE; **2,799,060**, same, WINDOW STRUCTURES; **2,816,632**, same, AUXILIARY WINDOWS; **2,828,513**, same, WINDOW STRUCTURE; **2,828,514**, same; **2,841,835**, same, WINDOW MOUNTING; **2,871,522**, same, WINDOW STRUCTURE; **2,874,421**, same, WINDOW STRUCTURES, **filed** Mar. 3, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c327, *James C. Wilborn & Sons, Inc.* v. *Brandex Tilt Sash, Inc. et al.*

2,685,536, Starkey and Ransburg, METHOD FOR ELECTROSTATICALLY COATING ARTICLES; **2,794,417**, same, APPARATUS FOR ELECTROSTATICALLY COATING PARTICLES; **2,893,893**, W. W. Crouse, METHOD AND APPARATUS FOR ELECTROSTATIC COATING; **2,893,894**, E. M. Ransburg, METHOD AND APPARATUS FOR ELECTROSTATICALLY COATING; **Re. 24,602**, C. C. Simmons, ELECTROSTATIC METHOD AND APPARATUS FOR SPRAY COATING OF ARTICLES, **filed** Feb. 24, 1965, D.C., W.D. Ark. (Fort Smith), Doc. 1862, *Ransburg Electro-Coating Corp.* v. *Williams Mfg. Co. et al.*

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2,794,417. (See 2,685,536.)

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2,828,513. (See 2,666,508.)

2,828,514. (See 2,666,508.)

2,841,835. (See 2,666,508.)

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2,888,032. (See 2,609,099.)

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2,893,894. (See 2,685,536.)

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3,001,728, A. Kircher, Jr., CUTTER FOR ELASTIC MATERIALS, **filed** Apr. 17, 1964, D.C.N.J. (Newark), Doc. 374–64, *The Fitzpatrick Company* v. *Taylor Stiles & Co., Inc. et al.* Consent judgment for injunction and dismissing complaint Mar. 26, 1965.

3,004,647, Andrus and Coon, SINGLE STROKE CONTROL SYSTEM AND FLUID CONTROL UNIT THEREFOR, **filed** Apr. 5, 1963, D.C., N.D. Ohio (Cleveland), Doc. C63–234, *Textrol, Inc.* v. *The D. O. Oviatt Company et al.* Consent judgment for plaintiff; claims 1–9, 15, and 17–28 of Patent No. 3,004,647 held valid Mar. 22, 1965.

3,018,182, J. M. Leach, PROCESS AND APPARATUS FOR TREATING MATERIALS, **filed** Mar. 17, 1965, D.C., S.D.N.Y., Doc. 65/792, *John M. Leach* v. *Penick & Ford, Ltd., Inc.*

3,024,849, B. A. Gregory, PEANUT DIGGING MACHINE, **filed** Mar. 22, 1965, D.C. N. Mex. (Albuquerque), Doc. 6090, *Lucille Gregory* v. *Wilbur Wallace.*

3,025,398, W. F. Dameron, METHOD AND APPARATUS FOR DETERMINING DEPTH OF WELL SAMPLES, **filed** May 7, 1962, D.C., W.D. Tex. (Pecos), Doc. 3546, *Core Laboratories* v. *Darrell W. Smith Co.* Civil action No. 3809 consolidated for settlement with civil action No. 3546—order of dismissal with prejudice Feb. 25, 1965. **Same, filed** Feb. 8, 1964, D.C., W.D. Tex. (Pecos), Doc. 3809, *Core Laboratories, Inc.* v. *Bennie R. Jones and Harold E. Johnson, doing business as RGM Core Analysis, Ltd.* Decree as above.

3,035,572, J. J. Houghtaling, VIBRATOR, **filed** Feb. 4, 1964, D.C.N.J. (Newark), Doc. 102–64, *Relaxamatic Sleep Products, Inc.* v. *Magic Fingers, Inc. et al.* Stipulation and order of dismissal Mar. 29, 1965.

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3,058,895, L. A. Williams, ELECTROLYTIC SHAPING, **filed** Mar. 18, 1965, D.C., S.D. Ohio (Cincinnati), Doc. 5882, *Anocut Engineering Company* v. *Cincinnati Milling Machine Company.*

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3,077,149, O. C. Eckel, CABLE FLOOR STRUCTURE WITH OFFSET CONNECTORS, **filed** Jan. 20, 1964, D.C., S.D.N.Y., Doc. 64/187, *Oliver C. Eckel* v. *Industrial Acoustics Co., Inc.* Action dismissed Mar. 8, 1965. Order of dismissal vacated and restored to docket Mar. 29, 1965.

3,090,084, J. Banner, MOUNTING FOR SLIDING PANELS FOR DOORWAYS AND THE LIKE, **filed** Sept. 18, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–1303–CC, *Anjac Mfg. Co.* v. *National Screen Products.* Stipulation and consent judgment; action dismissed with prejudice Mar. 3, 1965.

3,090,682, C. J. Dargene, DRAWER GUIDE, **filed** Mar. 18, 1965, D.C., N.D. Ill. (Chicago), Doc. 65c409, *Amerock Corporation* v. *Ajax Hardware Corporation.*

3,101,598, A. J. Ross, METHOD AND APPARATUS FOR FREEZING LIQUIDS; **3,163,020**, same, AUGER-TYPE LIQUID FREEZING APPARATUS, **filed** Mar. 17, 1965, D.C. Minn. (Minneapolis), Doc. 4–65/72, *Anthony J. Ross et al.* v. *McQuay, Inc. et al.*

3,107,562, L. C. Miller, TOOL HEAD WITH REMOVABLE TOOL HOLDER, **filed** Mar. 31, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–513–FW, *K.D.K. Products* v. *Harbor Tool & Mfg. Co.*

3,107,891, M. P. Burke, RETURN MECHANISM FOR SWIVELS, **filed** Mar. 24, 1965, D.C., S.D.N.Y., Doc. 65/882, *Brunswick Corp et ano.* v. *Seaboard Furniture Corp.*

3,113,807, E. C. Polidor, BALL SLIDE, **filed** Mar. 19, 1965, D.C., E.D. Mich. (Detroit), Doc. 26688, *Automation Gages, Incorporated* v. *Central States Machine Tool Company.*

3,115,138, R. T. McElvenny et al., EVACUATOR, **filed** Mar. 26, 1965, D.C., N.D. Ind. (South Bend), Doc. 3571, *Robert T. McElvenny et al.* v. *Quest, Inc. et al.*

3,118,531, A. Rutkovsky et al., CONVEYOR FOR SELECTIVE DISPATCHING OF ARTICLES, **filed** Aug. 10, 1964, D.C., Dist. of Columbia, Doc. 1879–64, *Railex Corporation* v. *Richard O. Frahm.* Case dismissed Mar. 18, 1965. **Same, filed** Mar. 22, 1965, D.C., E.D.N.Y. (Brooklyn), Doc. 65C–317, *Railex Corporation* v. *Tangel Automated Systems, Inc.*

3,118,804. (See 2,650,627.)

3,125,055, H. C. Lerner, SOLDERING TIP, **filed** Apr. 7, 1964, D.C., S.D. Calif. (Los Angeles), Doc. 64–461–TC, *Engineering & Electronics Devices, Inc.* v. *Struckhoff Eng. & Sales.* Stipulation and order of dismissal without prejudice Jan. 25, 1965.

3,128,511. (See 2,650,627.)

3,132,988, W. F. Fowler, DECORATIVE CHRISTMAS ORNAMENTS, **filed** Feb. 19, 1965, D.C., E.D. Va. (Norfolk), Doc. 4980, *Pyramid Mills Co., Inc.* v. *Star Band Co., Inc.*

3,134,587, R. L. Sjostrom, SHEET FOLDING MACHINE, **filed** Mar. 1, 1965, D.C., N.D. Ill. (Chicago). Doc. 65c315, *Robert L. Sjostrom et al.* v. *Chicago Dryer Company, Inc.*

3,144,834, J. K. Stewart, MEANS FOR DETERMINING ROADBED LEVEL AND SUPER ELEVATION, **filed** Mar. 18, 1965, D.C., W.D. Mich. (Grand Rapids), Doc. 4988. *Tamper, Inc.* v. *Jackson Vibrators, Inc.*

3,148,552, O. Vandewege, SOLENOID OPERATED ROTARY ACTUATOR, **filed** Mar. 26, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–480WB, *Solenoid Devices, Inc.* v. *Ledex, Inc.*

3,154,362, Blonder and Sampson, TRANSMISSION-LINE CONNECTOR, **filed** Mar. 26, 1965, D.C., S.D.N.Y., Doc. 65/903, *Blonder Tongue Electronics* v. *Channel Master Corp.*

3,163,020. (See 3,101,598.)

3,164,413, V. H. Salathiel, WHEEL BALANCER, **filed** Mar. 16, 1965, D.C. Kans. (Topeka), Doc. T–[illegible]756, *Todd Engineering Company, Inc.* v. *AWB Manufacturing Company, Inc. et al.*

3,165,315, V. Petrušek, SKIPPING DEVICES, **filed** Mar. 10, 1965, D.C., Dist. of Columbia, Doc. 585–65, *Jak Pak, Inc. et al.* v. *Charles Lazarus et al.* Cause dismissed Mar. 12, 1965. Same, **filed** Mar. 8, 1965, D.C., S.D.N.Y., Doc. 65/701, *Jak Pak, Inc. et al.* v. *Aljam Sales Co.* Consent judgment; complaint, as to defendants Bernard and Lawrence Tytel, doing business as Aljam Sales Co., dismissed; defendant Tee Vee Toys, Inc. enjoined June 18, 1965.

3,167,784, L. L. Less, NECKWEAR FOR SUPPORTING AN ORNAMENT, **filed** Mar. 3, 1965, D.C.R.I. (Providence), Doc. 3458, *One-In-Hand Tie Company et al.* v. *Harry Klitzner Company, Inc.*

3,168,311, F. W. Sinden, GAME, **filed** Mar. 22, 1965, D.C., S.D.N.Y., Doc. 65/847, *Parker Brothers, Inc.* v. *Jilmar Company, Inc.*

3,170,275, H. A. Rohdin, MEANS FOR HEAT SEALING LIDS ON BLISTERS, **filed** Mar. 12, 1965, D.C.N.J. (Newark), Doc. 258–65, *Packaging Industries Limited, Inc.* v. *The Weco-lite Company, Inc.*

3,176,496, Kohler and Stanley, POWER-OPERATED RECIPROCATING TOOL WITH INTEGRAL BEARING BLOCK, **filed** Mar. 10, 1965, D.C. Md. (Baltimore), Doc. 16251, *The Black & Decker Manufacturing Company* v. *Fullerton Supply Co., Inc.*

3,171,503, K. R. Shirley, EXPANSIBLE ROTARY DRILL BIT, **filed** Mar. 29, 1965, D.C., S.D. Calif. (Los Angeles), Doc. 65–489TC, *A-Z International Tool Co.* v. *Jack Yann.*

Re. 24,602. (See 2,685,536.)

U.S. GOVERNMENT PRINTING OFFICE : O—1965

REISSUES

JULY 20, 1965

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue. Claim set in boldface type indicates additions made by re-reissue.

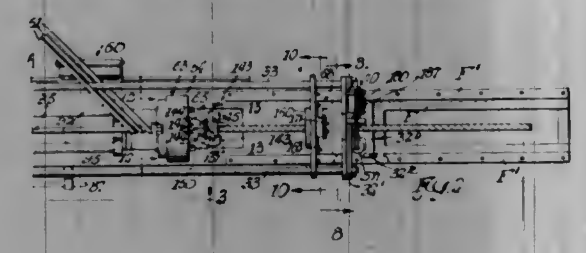
25,820

METHOD OF AND APPARATUS FOR PRODUCING TUBES OF POLYGONAL CROSS SECTION

John M. Macchione, Lake Breeze Drive, Na-Dell Hills Subdivision, Haines City, Fla.

Original No. 3,120,158, dated Feb. 4, 1964, Ser. No. 141,441, Sept. 28, 1961. Application for reissue May 25, 1964, Ser. No. 380,731

10 Claims. (Cl. 93—80)



9. Apparatus for intermittently converting tape into a tube of polygonal cross section, comprising: an elongated frame, an elongated arbor of polygonal cross section mounted on said frame for rotation about the axis thereof and for axial movement in a direction longitudinally of the frame, means on said frame coupled to said arbor for rotating the same only during advancement thereof, means coupled to said arbor adjacent one end thereof for forwardly advancing said arbor during rotation thereof and for retracting said arbor when the same is not rotating, means fixed against movement longitudinally of said frame and adjacent said one arbor end for winding tape helically around the advancing rotating arbor to form a tube of polygonal cross section around the arbor, gripping means fixed on said frame against movement longitudinally of said frame immediately adjacent the forward side of said winding means for applying pressure to said tube primarily during arbor retraction, means on said frame spaced forwardly of said gripping means for severing said tube, said arbor being equipped with an annular groove in alignment with said severing means during tube severance, whereby said tube is supported on said arbor during tube severance, and means operably associated with said severing means and interposed between said gripping means and severing means for contacting a tube during severance thereof.

25,821

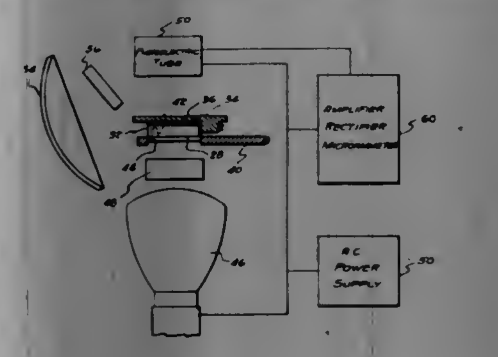
RADIATION DETECTION DEVICES

William A. Shurcliff, Cambridge, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Original No. 2,730,625, dated Jan. 10, 1956, Ser. No. 287,535, May 13, 1952. Application for reissue June 5, 1956, Ser. No. 589,361

7 Claims. (Cl. 250—71)

1. Detecting apparatus comprising a base, a cover capable of forming with said base a casing, said base and said cover being composed of a material which is adapted to transmit penetrative radiation without appreciable attenuation, a phosphate glass detecting element mounted on said base, said element, after having received a dose of penetrative radiation, being adapted to emit from one face thereof fluorescent light of an intensity functionally related to said dose when exciting radiation of predetermined quality and intensity is incident upon another face thereof, said other face being substantially at right angles to said one face, and reading apparatus for measuring said dose, said reading apparatus comprising a mounting means, means for predeterminedly orienting said base with respect to said mounting means, a source of ultraviolet radiation in alignment with said one face, a photoelectric tube, a curved mirror positioned with respect to said other face and said photoelectric tube so as to reflect fluorescent light emanating from said other face toward said photoelectric tube and electrical means for measuring the signal produced by said photoelectric tube as a result of fluorescent light incident thereupon.



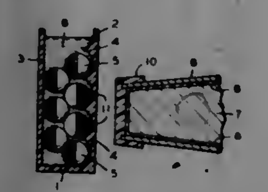
25,822

MAGNETIC WRITING MATERIALS SET

Clarence R. Tate, Fairfield, Ill., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Original No. 3,036,388, dated May 29, 1962, Ser. No. 148,134, Oct. 27, 1961. Reissue No. 25,363, dated Apr. 2, 1963, Ser. No. 233,990, Oct. 29, 1962. This application for reissue Dec. 19, 1963, Ser. No. 342,583

9 Claims. (Cl. 35—66)



26. A sheet adapted to provide a visual display when a magnetic writing instrument is passed thereover, said sheet comprising:

- **(a) a pair of surfaces, at least one of which is transparent, defining therebetween a cavity,**
- **(b) a large number of particles in close association and unattached in said cavity,**
- **(c) said particles each comprising an aggregate of magnetic material of high retentivity and a non-magnetic binder,**
- **(d) the size of each of the particles being not larger than about 35 mils,**
- **(e) each of said particles being magnetized to provide a north pole and a south pole,**
- **(f) said particles having one color identifying the north poles and another color identifying the south poles,**
- **(g) each of said particles being free to rotate in any direction in said cavity to orient in accordance with the magnetic force to which it may be subjected by a said writing instrument,**
- **(h) the unit volumetric magnetization of the particles being below the point at which the closely associated particles would stick together magnetically to resist individual orientation by the writing instrument.**

PLANT PATENTS

GRANTED JULY 20, 1965

Illustrations for plant patents are usually in color and therefore it is not practicable to reproduce the drawing.

2,545
ROSE PLANT

Charles Samtmann, Philadelphia, Pa., assignor, by mesne assignments, to The Conard-Pyle Company, West Grove, Pa., a corporation of Pennsylvania
Filed Apr. 20, 1964, Ser. No. 361,317
1 Claim. (Cl. Plt.—20)

A new and distinct variety of rose plant of the hybrid tea class, substantially as herein shown and described, characterized particularly as to novelty by the unique combination of moderately large, leathery and attractive foliage, distinctly pointed buds of medium length, a double flower form and good petalage, a distinctive and attractive Turkey Red general color tonality of the flowers, said flowers having pronounced underlying orange tones and being lightly shaded with Rose Red on the reverse side of the petals, and good keeping qualities of the flowers, with special suitability for cut flower production.

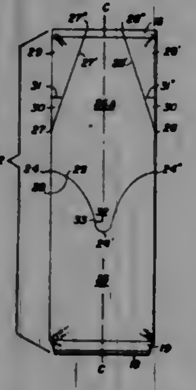
PATENTS

GRANTED JULY 20, 1965

GENERAL AND MECHANICAL

3,195,147
METHOD OF TAILORING SHIRTS FROM TUBULAR KNITTED FABRICS

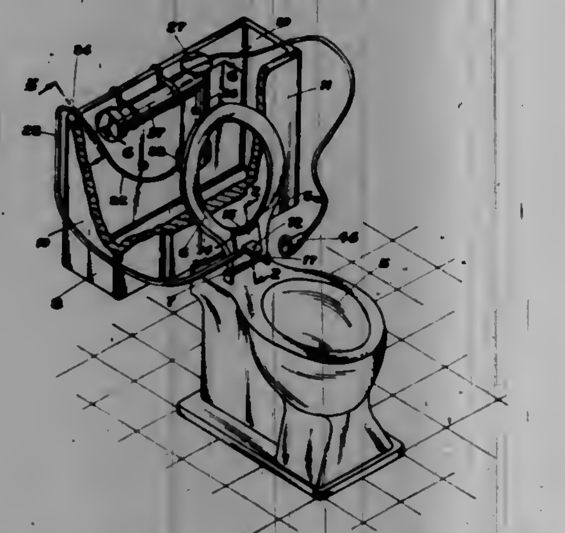
Kohei Yamamura, 12 2-chome, Kamezawa-cho, Sumida-ku, Tokyo, Japan
Filed June 13, 1961, Ser. No. 116,717
Claims priority, application Japan, Dec. 30, 1960, 35/51,721
2 Claims. (Cl. 2—243)



1. A method of producing a shirt, comprising the steps of knitting circularly a tube of fabric of the desired length, flattening the tube for providing two layers, severing both layers of the tube along a symmetrically wave-shaped line extending transversely of the tube at approximately the center thereof for providing a body section and a sleeve section, cutting both layers of the sleeve section along two diagonal lines to provide free edges therefor, severing the sleeve section along the fold lines for providing two sleeve members, securing each sleeve member along its free edges to form a sleeve, folding the body section along its longitudinal center line to provide the front and rear portions of the shirt, and attaching the sleeves to the arm holes provided by the symmetrically cut wave-shaped lines when the body section is thus folded.

3,195,148
HYGIENIC SPRAY DEVICE FOR TOILETS

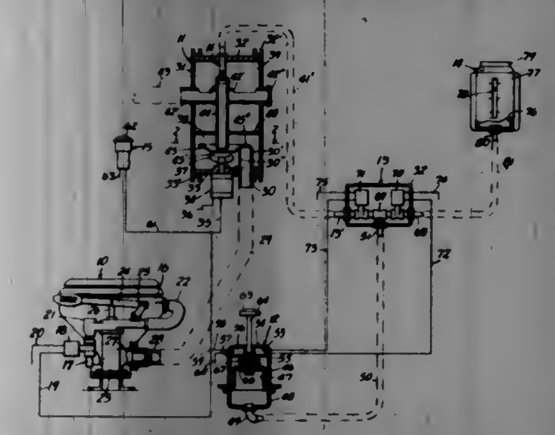
Henry M. Merkel, Jr., 716 North Road, Boynton Beach, Fla.
Filed Dec. 12, 1963, Ser. No. 330,122
6 Claims. (Cl. 4—7)



1. A flush device of the character described that is associated with a commode and a water flush tank, the commode having a hingedly connected seat, a water discharge device that is fixed to the bottom of the seat at its rear portion and with the flush device being cut away to conform to the curvature of an opening of a seat, a pump device that is supported within the flush tank and that depends into the water, the pump device embodying an electric motor and an impeller, a housing that is supported upon a rear wall of the flush tank and with the housing supporting a plurality of batteries, a tubular conduit that is connected to the pump at one end and with its opposite end being connected to the water discharge device, an electric connector leading from the motor to a point adjacent the commode and a switch carried by the conductor whereby an individual may energize the pump for forcing a stream of water from the discharge device to flush the anus area.

3,195,149
APPARATUS FOR CHLORINATION OF TOILET DISPOSAL

Gustave R. Carlson, Metuchen, N.J.; Margit N. Carlson, executrix of said Gustave R. Carlson, deceased
Filed Dec. 18, 1962, Ser. No. 245,508
11 Claims. (Cl. 4—10)

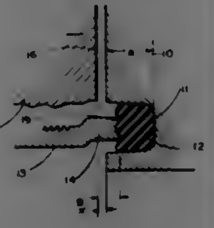


1. A chlorination apparatus of the character defined, comprising a series of spaced units, namely a toilet bowl unit, a treatment unit, an injector unit, a flow valve unit and a chemical storage unit, a pipe placing the bowl unit in communication with said treatment unit, a pipe placing the injector unit in communication with the flow valve unit, a pipe placing the chemical storage unit in communication with the flow valve unit, a pipe placing the flow valve unit in communication with the treatment unit, said flow valve unit having a pair of electrically actuated valve means for controlling flow of a chemical from said chemical storage unit to the injector unit and from said injector unit to said treatment unit through said valve unit, said injector unit including two switches, one switch having a pair of actuators, the other switch having a single actuator, a plunger operating in the injector unit for actuating means controlling discharge of chemical from the injector unit into said treatment unit, said plunger having means operatively engaging the actuators of said switches to control operation of said valve means of said flow valve unit in controlling delivery of a chemical to the injector unit and discharge of chemical from said injector unit into said treatment unit, a motor actuated macerator in said treatment unit actuated by one of the switches in said injector unit, the toilet bowl unit having a water intake, a solenoid valve controlling said intake and actuated by said last named switch, a pump at the toilet bowl unit for discharge of waste material from the

bowl of said unit into said treatment unit through the pipe placing the bowl unit in communication with the treatment unit, and a back water check valve in said last named pipe adjacent the bowl of said toilet bowl unit.

3,195,150
COMBINATION WATER CLOSET, FITTING, AND SEAL THEREFOR

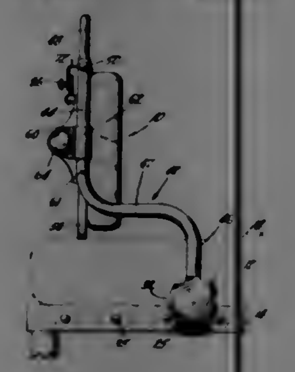
John H. Schmid, Erie, Pa., assignor to Zurn Industries, Inc., Erie, Pa., a corporation of Pennsylvania
Filed May 2, 1963, Ser. No. 277,512
1 Claim. (Cl. 4—2[illegible]2)



In combination, a closet, a hollow coupling, and a resilient gasket,
- said closet having an outlet with an annular recess generally concentric thereto,
- said gasket being in the form of a ring washer disposed in said recess,
- one end of said coupling engaging said gasket whereby said gasket forms a seal between said closet and said coupling,
- said gasket being made of a closed cell expanded polymer.

3,195,151
HOSPITAL BED FOOTBOARD AND CLAMP THEREFOR

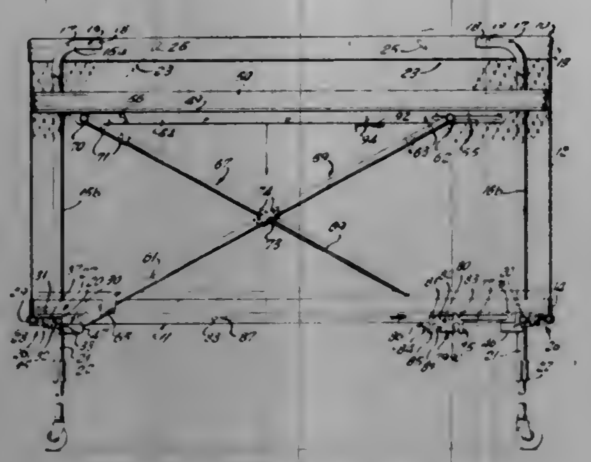
Russell I. Boyer, 2303 Franklin, Columbus, Ind.
Filed Feb. 23, 1962, Ser. No. 175,199
11 Claims. (Cl. 5—80)



11. In a footboard assembly for a bed, the combination, comprising
- (a) a pair of clamps mounted on the opposed sides of the bed,
- (b) an elongated panel adapted to extend transversely of the bed,
- (c) bracket means mounted on the opposed ends of said panel and operatively connected to a pair of elongated sleeves disposed laterally outwardly from the ends of said panel,
- (d) a pair of tubular supports at opposed ends of the panel having their lower ends connected to said clamps and having their upper portions received in said sleeves to support said panel on the bed on said clamps,
- (e) means for adjustably swinging said panel relative to said supports about a transverse horizontal axis, and
- (f) one or more padded blocks abutting the front face of said panel and operatively connected thereto for lateral and rotational adjustment across the entire front face of said panel.

3,195,152
PLAY PEN AND BOTTOM ELEVATING MEANS THEREFOR

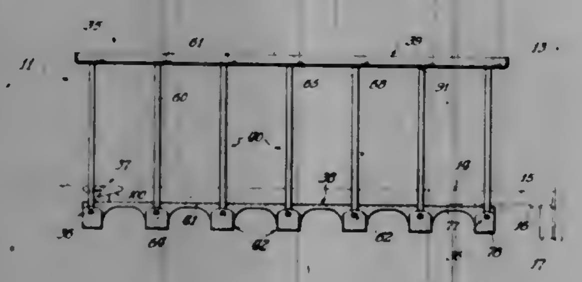
Robert Gottlieb, 30—20 78th St., Jackson Heights, N.Y.
Filed Mar. 10, 1964, Ser. No. 350,889
9 Claims. (Cl. 5—99)



1. A collapsible play pen comprising upper and lower rectangular frame members, two pairs of legs, means pivoting the legs of each pair to corresponding end portions of a pair of opposing sides of said upper frame, said legs being movable between positions parallel to said upper frame and perpendicular thereto, transverse frame members connecting the lower ends of each pair of legs, means between said legs and said upper frame to limit movement of said legs beyond said perpendicular position, means releasably locking said lower frame member to said transverse frame members, a play pen bottom carried by said lower frame member, means between said bottom and said lower frame member to raise and lower said bottom with said lower frame member locked to said transverse frame members, locking means for releasably holding said bottom in a raised position, and a flexible net connecting said upper and lower frame members.

3,195,153
BED RESTRAINING SIDES

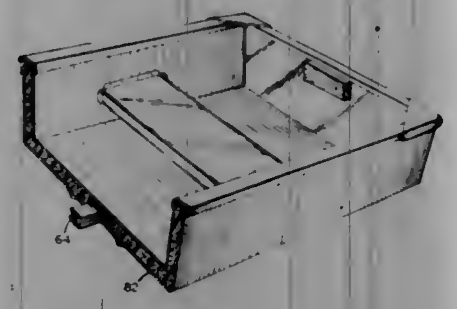
William H. Armstrong, Birmingham, Mich., and Martin M. Linder, Villa Park, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 20, 1962, Ser. No. 224,907
6 Claims. (Cl. 5—331)



1. A collapsible restraining side for beds having a side rail comprising the combination of a bottom support rail secured to the side rail, a top rail having a longitudinally positioned channel formed in the bottom thereof, connecting bars having straight lower end portions pivotally connected to the bottom rail and arcuate and laterally extended upper end portions pivotally connected to said top rail within the channel formed in said top rail for pivotal positional movement of said bars on said bottom rail to allow said restraining side to be pivotally collapsed downwardly from an upper position toward said bottom rail; and holding means positioned between said bottom rail and one or more of said bars for automatically adjustably retaining said bars in a selected position with respect to said bottom rail to retain said restraining side in a corresponding position.

3,195,154
BOAT

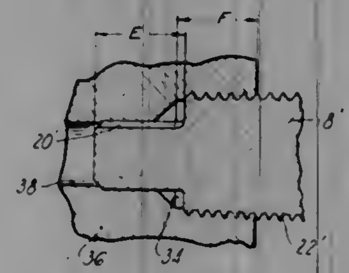
Roger P. Swanson, Lexington, Mass., assignor to Alumakit Company, Inc., Salem, Mass., a corporation of Massachusetts
Filed Mar. 9, 1964, Ser. No. 350,261
10 Claims. (Cl. 9—6)



1. A boat comprising: a sheet metal outer hull; a sheet metal inner hull constructed and dimensioned to nest within said outer hull; means positioned between said hulls for spacing said outer hull from said inner hull forming a cavity therebetween; a gunwale member embracing the upstanding spaced apart free edges of said outer and inner hulls and spanning the distance therebetween, said gunwale member positively maintaining the free edges of said hulls at a fixed spacing therebetween, said gunwale member having a horizontal body portion formed with an inner downwardly depending channel wall for supportably contacting the upstanding free edge of said inner hull, said gunwale body portion further being formed with a central downwardly depending bifurcated channel wall for fitting over and being fastened to the upstanding free edge of said outer hull, said body portion further being formed with an outer downwardly depending and inwardly turned rub rail portion, the outermost vertical surface of which extends outboard of said outer hull contour; and a layer of foamed plastic completely filling said between-hull cavity.

3,195,155
PROCESS OF THREADING AN OPENING

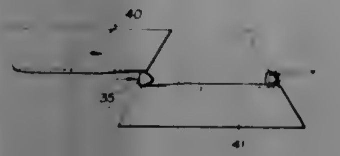
William J. Groh, St. Joseph, Mich., assignor to The Bendix Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Nov. 26, 1962, Ser. No. 239,929
5 Claims. (Cl. 10—1)



1. A process for tapping an opening in a member comprising: providing a tool having axially arranged reamer and tap portions thereon; providing a member having an opening therein, performing a tapping operation on the wall of said opening, guiding said tap portion by said reamer portion throughout the entire tapping process by performing a reaming operation on the wall of said opening simultaneously with the entire tapping operation.

3,195,156
METHOD OF PRODUCING THREAD SWAGING DEVICES

Harvey F. Phipard, Jr., South Dartmouth, Mass., assignor to Research Engineering and Manufacturing, Inc., New Bedford, Mass., a corporation of Massachusetts
Filed June 27, 1961, Ser. No. 115,846
10 Claims. (Cl. 10—10)



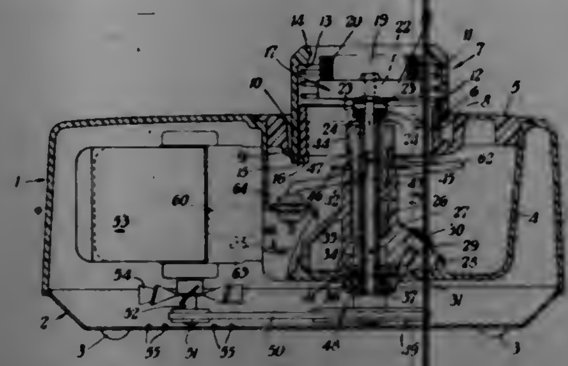
1. The method of making a lobular thread forming fastener device having a tapered work entering end, which comprises the steps:
- (a) forming a blank by working an odd number of uniformly circumferentially spaced apart surface areas extending longitudinally of a length of metal stock inwardly of said length to a greater extent than the intermediate surface areas and thereby producing a shank portion which is of generally arcuate polygonal cross-section of substantially uniform width throughout 360 degrees,
- (b) and then circumferentially reworking the end of said shank portion gradually and increasingly inwardly in the direction toward the extremity of said end portion while maintaining an arcuate polygonal cross-sectional configuration substantially concentric and symmetrical with that of said shank portion to form a tapered end on said blank portion,
- (c) and then generating on a centerless basis a continuous thread formation to its final shape on both said shank and tapered end portions having pitch diameter cross-sections substantially the same configuration as that of the corresponding cross-sections of said blank by simultaneously rolling both said shank and tapered portions of said blank between conventional, uniformly spaced apart thread rolling dies,
- (d) and by said rolling operation forming said thread on both said shank and tapered end portion which extends arcuately across the width of said first mentioned areas with a radius of curvature greater than one-half the pitch diameter and maintaining the difference between the minimum and maximum radial dimensions of any pitch diameter cross section of such thread on said shank and tapered end portions to an amount not substantially more than two-thirds the depth of the fastener thread on said shank portion.

3,195,157
CLEANING DEVICE

Eric Thorne-Symmons, London, England, assignor to Ability Products Limited, London, England, a British company
Filed July 1, 1963, Ser. No. 291,764
Claims priority, application Great Britain, July 6, 1962, 13,299/62
7 Claims. (Cl. 15—40)

1. A cleaning device comprising a casing; a rotatable member carried by said casing and having a rubbing surface for cleaning an article; a shaft mounted for operative rotation with said rotatable member; power means for effecting operative rotation of said shaft and said rotatable member; a displaceable shield within which said rubbing surface normally lies, said shield being in the form of a cylinder open at both ends and being capable of displacement to a position which exposes said rubbing surface to enable cleaning of an article to take place; a liquid

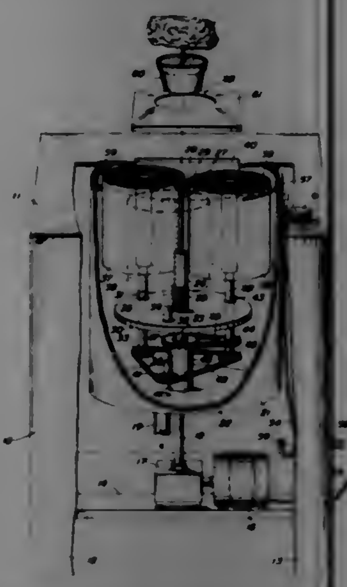
reservoir beneath the rotatable member for the reception of cleaning liquid, a pump for supplying cleaning liquid



to said rubbing surface; and switch means for actuating said power means.

3,195,158
FLOWER POT WASHER

Nicholas A. Scholtus, 127 Patricia Lane NW., Cedar Rapids, Iowa
Filed Feb. 4, 1964, Ser. No. 342,392
1 Claim. (Cl. 15—56)

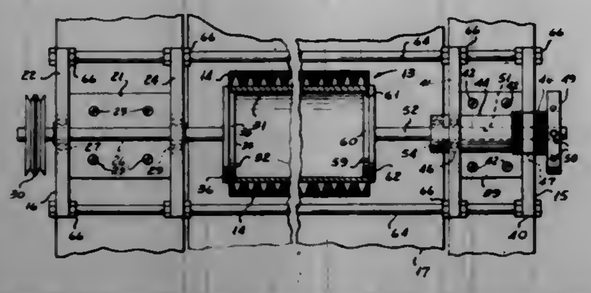


A flower pot washer comprising a frame member, a driving means mounted on the frame member, a turntable attached to the output shaft of the driving means and rotated by it, a plurality of brush shafts rotatably supported by the turntable about its periphery, brushes mounted on each brush shaft, a fixed pulley supported by the frame on the center axis of the turntable, a second pulley attached to one of the brush shafts, a first belt coupling the fixed pulley and the second pulley, a plurality of other pulleys mounted on the plurality of brush shafts, and a second belt connecting the plurality of other pulleys.

3,195,159
QUICK-CHANGE MOUNTING ASSEMBLY

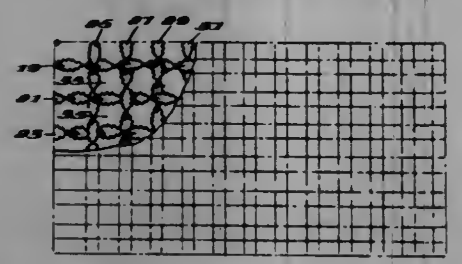
Harvard W. K. Enchelmaier, 24 Kingwood Drive, Great Notch, N.J., and William F. Enchelmaier, 16 Oak Place, North Caldwell, N.J.
Filed Dec. 20, 1963, Ser. No. 332,004
7 Claims. (Cl. 15—77)

3. A mounting assembly for an elongated brush rotatably driven about its axis, said brush having an axially extending arbor, opposed aligned members for engaging and supporting the opposite ends of the arbor, means for mounting one of said members for rotation about its axis while retaining it from movement along its axis, means for mounting the other of said members for rotation about its axis including means for adjusting the other of said members along its axis selectively to advance said other member toward and retract it from said one member, spaced supports for the aligned rotatable means, elongated tension sustaining means extending between and connected to the supports exteriorly of the brush to maintain the supports in alignment and at a predetermined distance from each other, and means for driving at least one of said members and thus the brush and the other of said members.



3,195,160
SCOURING MESH

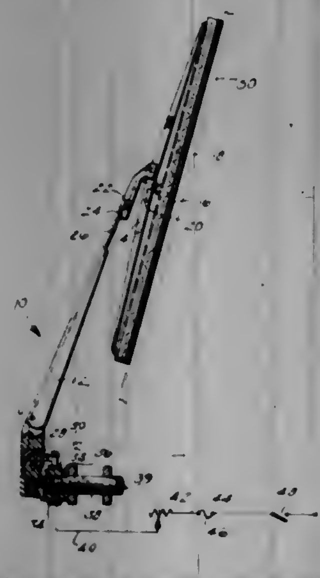
Alfred W. Amsen, Kingston, N.Y.
(61 S. Chestnut St., New Paltz, N.Y.)
Filed May 31, 1963, Ser. No. 284,596
7 Claims. (Cl. 15—209)



1. A mesh structure for abrading the surface of an object comprising a plurality of horizontally and vertically disposed metallic strips having undulated edge portions, said strips being axially twisted throughout their lengths and criss-crossed in underlying and overlying relationship to form a woven mesh having randomly disposed undulations.

3,195,161
WINDSHIELD WIPER DE-ICER

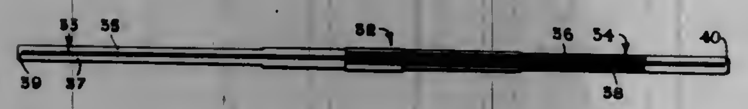
Edward Haluck, 826½ Gaskill Ave.; Stanley C. Haluck, R.D. 2; and Henry J. Haluck, Central Hotel, 3rd and Magee, all of Jeannette, Pa.
Filed Oct. 28, 1963, Ser. No. 319,098
1 Claim. (Cl. 15—250.06)



In an electrically heated type windshield wiper construction, in combination, a relatively stationary support having mechanical operating means extending therethrough, a wiper arm mounted at its lower end on said operating means, an electrically heated windshield wiper carried by the upper end of said arm, a spring loaded brush carried by and insulated from the lower end of the wiper arm and electrically connected to the windshield wiper, and a current supply contact member mounted on and insulated from the stationary support in engagement with said spring loaded brush.

3,195,162
WINDSHIELD WIPER BLADE ASSEMBLY

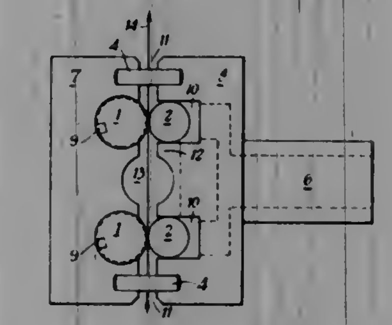
Fred A. Krohm, Hobart, Ind., assignor to The Anderson Company, a corporation of Indiana
Filed Aug. 11, 1960, Ser. No. 49,049
8 Claims. (Cl. 15—250.42)



1. A windshield wiper comprising an elongate flexible backing strip, a resilient wiper element provided with an upper surface, a wiping edge and groove means disposed between said edge and upper surface, said backing strip being disposed in said groove means, said backing strip being formed of two separate portions of different thickness, and sleeve means for rigidly securing and reinforcing inner ends of said backing strip portions together in an end to end relationship, said sleeve means also being disposed in said groove means below said upper surface of said wiper element.

3,195,163
AIR SQUEEGEE

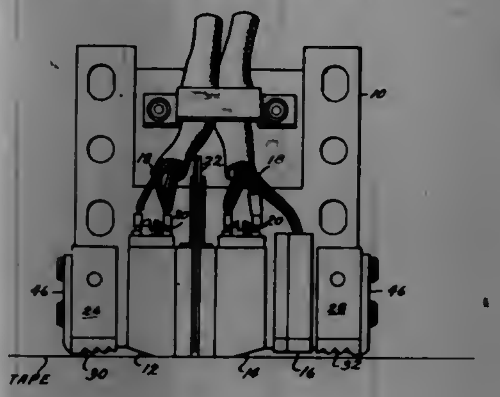
Eustace Raymond Townley and Eric Alfred Harvey, Ilford, Essex, and Howard Thomas Tillotson, London, England, assignors to Ilford Limited, Ilford, Essex, England, a British company
Filed Mar. 13, 1964, Ser. No. 351,649
Claims priority, application Great Britain, Mar. 20, 1963, 11,089/63
9 Claims. (Cl. 15—306)



1. An apparatus for removing liquid from the surface of a wet travelling web which comprises a chamber through which the web is constained to pass, inlet and outlet passages for the web at least one being constituted by the narrow gap between a pair of oppositely curved surfaces, the generating lines of which are parallel to the width of the web, one of the said surfaces being fixed and the other being a surface of a floating member which is so mounted as to allow it a small degree of freedom of movement in a sense allowing variation of the thickness of the gap but limited in such movement so that gap cannot be wholly closed thereby, means for introducing a current of air into said chamber so as to urge said floating member towards its cooperating curved surface and providing a path for such air to impinge on both faces of the web, and means whereby any increase in the thickness of the said gap beyond a predetermined value by reason of movement of the said floating member from a pre-set position causes an increase in the air pressure on said member tending to restore it to its pre-set position.

3,195,164
VACUUM TAPE SCRAPER

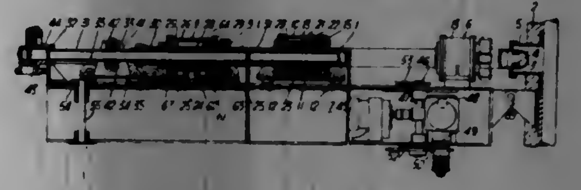
Walter Gysling, Minneapolis, Minn., assignor to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota
Filed Jan. 21, 1963, Ser. No. 252,848
4 Claims. (Cl. 15—308)



1. A vacuum tape scraper for cleaning dirt, nodules and other imperfections from a moving magnetic tape comprising a scraper housing having a hollowed interior and an open bottom, a knife edge attached to said housing at the open bottom thereof, said knife edge defined by surfaces at substantial acute angles with respect to the direction of movement of said tape to present only a positive cutting knife edge to the tape, and a vacuum outlet communicating with the hollowed interior of said scraper housing, said scraper being operative on the application of a vacuum to said vacuum outlet to draw the moving tape against said knife edge to thereby sever the nodules from the tape and to draw the dirt, severed nodules and other imperfections away from said tape.

3,195,165
FLUID HEATER CLEANERS

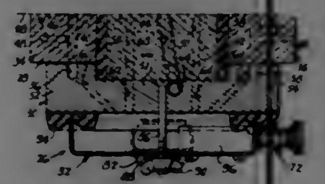
Eric J. Matthews, London, England, assignor to Babcock & Wilcox Limited, London, England, a British company
Filed Dec. 17, 1962, Ser. No. 245,263
Claims priority, application Great Britain, Dec. 21, 1961, 45,779/61
2 Claims. (Cl. 15—317)



1. In a fluid heater cleaner having a rotatable nozzle tube movable longitudinally to advance the nozzle tube from, and to withdraw the nozzle tube to, a retracted position, an inner tube projecting internally of the nozzle tube and connected to a source of cleaning fluid, a main carriage supporting and connected with the nozzle tube movable with the nozzle tube along a track and operating mechanism including a fixed driving motor connected with the main carriage through a driving chain secured to the main carriage and passing over front and rear guide wheels mounted at the ends of the track, wherein front and rear auxiliary carriages movable along the track and relative to the nozzle tube are positioned on the track respectively forwardly and rearwardly of the main carriage and respectively support the nozzle tube and the inner tube, such that, in the retracted position, the front auxiliary carriage is positioned approximately mid-way between the front and rear guide wheels, and the rear auxiliary carriage is positioned in abutment with the main carriage on the track adjacent the rear guide wheel, and front and rear coupling means are pro-

vided on the driving chain respectively engageable with abutments on the front and rear auxiliary carriages to move the front auxiliary carriage rearwardly from a position adjacent the front guide wheel during withdrawal of the nozzle tube and to move the rear auxiliary carriage forwardly to a position approximately mid-way between the front and rear guide wheels to support the inner tube at a mid-portion thereof during advancement of the nozzle tube.

3,195,166
WALL WASHING APPARATUS
John A. Wisner, 5207 Tilbury Way, Homeland,
Baltimore 12, Md.
Filed July 24, 1963, Ser. No. 297,316
7 Claims. (Cl. 15—321)

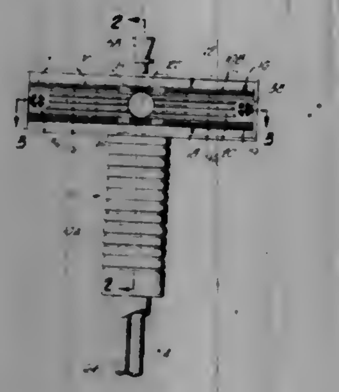


1. A wall washing apparatus comprising means providing a source of cleaning solution, means providing a source of wet vacuum pickup, and a cleaning head, said cleaning head including a dispensing means, an applicator means, and a vacuum means, said dispensing means being operatively connected to said source of cleaning solution for withdrawing a quantity of said cleaning solution therefrom, said applicator means being juxtaposed to an outlet portion of said dispensing means for spreading said quantity of cleaning solution in a layer on a wall to be washed, and said vacuum means being in communication with said source of wet vacuum pickup and with a portion of said applicator means for removing said layer of cleaning solution and loosened soil from said wall, said applicator means including a sponge applicator having a front surface, a rear surface, a top end, a bottom end, and oppositely disposed side surfaces, said sponge applicator being divided into two side sections and an intermediate center section, said outlet portion of said dispensing means feeding said quantity of said cleaning solution to said front surface of said center portion of said sponge applicator, said vacuum means communicating with said front surface of said side sections of said sponge applicator to remove at least the major portion of said layer of cleaning solution and loosened soil therefrom, and a flexible barrier member interposed between said central section and each of said side sections of said sponge applicator.

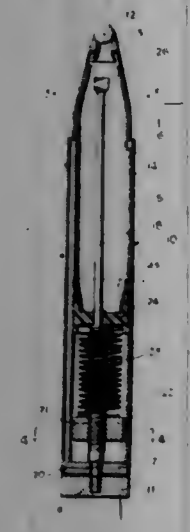
7. In a cleaning apparatus including sponge means having a front surface, a rear surface and side surfaces, a plurality of continuous open vacuum apertures extending entirely through said sponge means from said rear surface to said front surface, and a vacuum means operatively connected to said rear surface to withdraw fluid through said apertures from a surface being cleaned which is engaged by said front surface of said sponge means, the improvement which comprises transversely extending continuous open relief apertures defined between at least some of said apertures and each side surface of said sponge means, said relief apertures being closed by pressure against said front surface.

3,195,167
WINDOW CLEANING DEVICE
Maury W. Wayne, 13454 McCormick St.,
Van Nuys, Calif.
Filed Aug. 22, 1963, Ser. No. 303,756
5 Claims. (Cl. 15—3[illegible]2)

1. A cleaning device comprising handle means for supporting a cleaning member, said cleaning member having a cleaning face, said cleaning face having a first opening through the center thereof, passage means for coupling a vacuum source through said handle means to said opening in the center of said cleaning face, a second and third opening respectively on either side of said central opening and spaced therefrom, normally closed pressure operated valve means in each of said second and third openings responsive to pressure of said valve means against a work surface to move to an open position, passage means for communicating between a source of water and said respective second and third openings whereby when said pressure operated valves are opened water flows from said second and third openings, a plurality of passageways extending between said second and third openings and said central opening, said plurality of passageways being defined by parallel spaced resilient scrubbing teeth, and a first and second squeegee member positioned on either side of said central opening and said second and third openings and extending across said cleaning face.

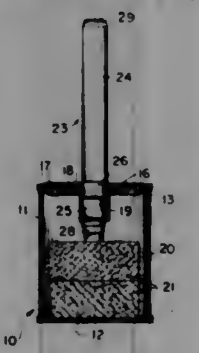


3,195,168
ROLL-ON APPLICATORS
Irving Roberts, Jamaica, N.Y., assignor to Jarco Metal Products Corp., Westbury, N.Y., a corporation of New York
Substituted for abandoned application Ser. No. 852,014, Nov. 10, 1959. This application Apr. 15, 1964, Ser. No. 363,660
2 Claims. (Cl. 15—510)



2. A roll-on applicator comprising a rollable ball, a ball holder, an elongated cylindrical body on one end of which said ball holder is mounted, said body housing a quantity of flowable material, a longitudinal cylindrical shaft extending through said body, said shaft comprising a smooth cylindrical anterior portion, a head secured to said shaft at the other end of said body for rotating said shaft, means on said shaft adapted to agitate said material when said shaft is rotated, a piston slidably mounted on said smooth anterior portion of said shaft for bearing against said material and urging it toward said ball, a helical spring rearwardly of said piston for urging said piston forwardly against said material, said shaft being threaded at its rear portion, and a screw-threaded follower mounted on said rear portion of shaft behind said spring for compressing said spring independently of the position of said piston in said body.

3,195,169
MARKING IMPLEMENT AND HOLDER THEREFOR
Charles Henry Chadbourn, 1922 W. 49th St.,
Minneapolis 9, Minn.
Filed Nov. 6, 1963, Ser. No. 321,906
1 Claim. (Cl. 15—517)



The combination of a marker and a holder therefor, said holder comprising a cannister having a vertical axis and adapted to contain a marking fluid therein,

a cover removably mounted on the top of said cannister,

said removable cover having an opening therein,

a cylindrical bearing sleeve rigidly secured substantially vertically in said cover opening and extending downwardly a substantial distance into said cannister,

absorbent pad means within said cannister supported thereby and adapted to extend a distance upwardly therein to a point proximate the lower end of said cylindrical bearing sleeve,

said marker comprising a rigid and non-deformable elongated tubular member open at least at the lower end thereof, the major upper end portion being of uniform diameter and slightly smaller in cross-section than said cylindrical bearing sleeve,

the minor lower length portion of said tubular member including longitudinally spaced portions of reduced diameter providing spaced annular ridges therebetween to facilitate free sliding bearing contact of said tubular member within the cylindrical bearing sleeve of said cover and preventing contact of the remaining portions of said tubular member with the interior of the bearing sleeve of said cover,

said spaced annular ridges providing non-binding contact bearing areas for lateral support of said tubular member within the interior of said bearing sleeve and constituting sealing means substantially preventing evaporation of marking ink fluid within the cannister,

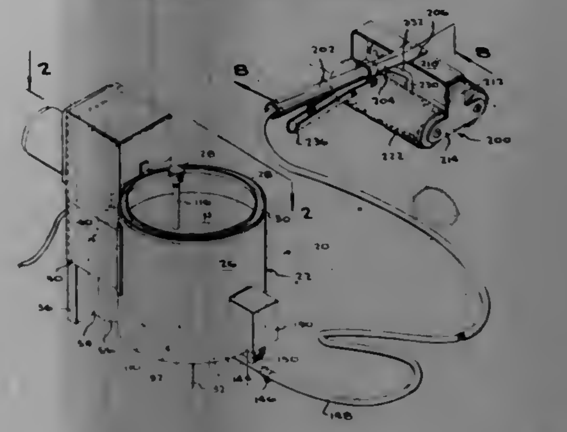
said tubular member having an internally threaded portion adjacent said open lower end thereof,

an elongated marking ink absorbent and porous nib member within said tubular member and having a marking lower end,

said nib member firmly engaging and being held within said tubular member by engagement with said internally threaded portion so as to extend downwardly therefrom a selectively predetermined distance,

said threaded portion providing for longitudinal adjustment of said nib member within said tubular member whereby said lower marking end of said nib member may be supported on said absorbent pad means and said spaced ridges on said tubular member maintained disposed within said cylindrical bearing sleeve of said cover.

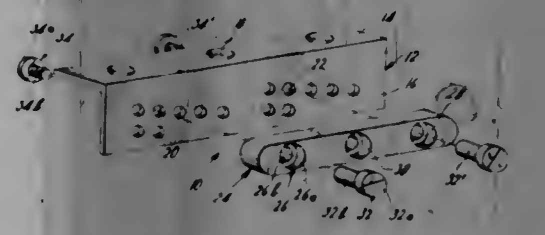
3,195,170
LIQUID SUPPLY SYSTEM
Tulane B. Howard, 4516 Argyle Terrace,
Washington, D.C.
Filed Nov. 30, 1962, Ser. No. 241,299
17 Claims. (Cl. 15—526)



15. A switch responsive to fluid pressure in a fluid conveying system, the switch comprising:
(a) a housing;
(b) an insulating back member in the housing;
(c) a first fixed electrical contact secured to the back member;
(d) a second fixed electrical contact secured to the back member in spaced relation to the first contact;
(e) a bridge having a pair of ends pivoted to one contact at an end thereof;
(f) spring means normally urging the bridge to engage the other contact in circuit making engagement; and
(g) an expandable gland operatively associated with the fluid system, interposed between the bridge and the other contact and effective to break the circuit upon expansion.

17. A liquid supply system comprising:
(a) a liquid container with a maximum liquid level;
(b) a standard extending through the liquid container with air inlet means above the maximum level and liquid inlet means below said level;
(c) a compartmented valve on the standard receiving liquid-air flow from the standard;
(d) means for alternately supplying compression and for creating a partial vacuum in said valve;
(e) an elongated tube means extending from the valve;
(f) liquid dispensing apparatus operatively connected to the tube means; and
(g) pressure sensitive switch means associated with the tube means to temporarily deactivate the system upon pressure build-up in the tube.

3,195,171
DOOR GUIDE
Robert I. Klein, 3 Beechwood Drive, Lawrence, N.Y.
Filed Mar. 21, 1963, Ser. No. 267,389
8 Claims. (Cl. 16—90)



1. A door gib for guiding the lower end of a door relative to an underlying track comprising a mounting member, means on said mounting member adapted to receive

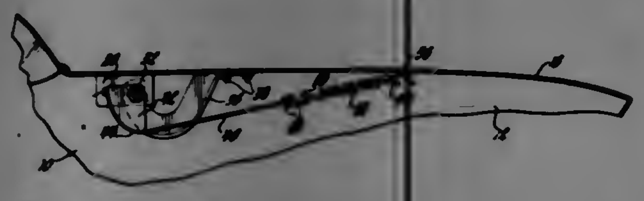
attachment elements for securing said mounting member to said lower end of said door, an elongated gib body adapted to extend into said track, and cooperating means on said gib body and said mounting member for mounting said gib body on said mounting member in an adjusted position both laterally and longitudinally of said mounting member, said cooperating means includes a pair of spaced stud holes formed in said gib body and spaced sets of mounting holes formed in said mounting member, the mounting holes in said sets being arranged in successive pairs having a center to center spacing corresponding to the center to center spacing of said pair of stud holes such that said pair of stud holes may be aligned with a selected one of said successive pairs of mounting holes, successive sets of mounting holes being disposed in spaced locations both longitudinally and laterally of said mounting member to enable adjustment of said gib body both longitudinally and laterally relative to said mounting member, and a pair of mounting studs extending through said alinged pairs of stud and mounting holes and securing said gib body to said mounting member.

3,195,172
COUNTERBALANCING HINGE MECHANISM

Edmond R. Gionet, Warren, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Sept. 27, 1962, Ser. No. 226,674

6 Claims. (Cl. 16—128.1)



1. A hinge mechanism for a closure member swingable to close a vehicle body opening comprising

a hinge pin journaled within the vehicle body extending parallel to one edge and laterally of an adjacent corner of the closure opening,

a hinge member drivingly secured to the end of the hinge pin laterally inwardly of the adjacent corner of the body opening and mountable on the closure member for pivotal swinging movement about the journalled axis of the hinge pin between fully opened and closed positions of the closure member,

cam means including a cam member drivingly secured to the hinge pin laterally outwardly of said body opening corner for pivotal rotation therewith and having an arcuate cam surface of varied radial dimension about the journalled axis of the hinge pin,

spring means mounted within the vehicle body laterally outwardly of said body opening corner and operably connected through said cam member and hinge pin and tending to bias the closure hinge member in a closure opening direction,

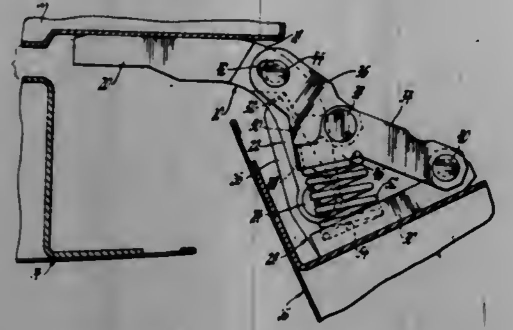
and said spring means including a flexible member connected to a reduced radius end of the cam surface and progressively engageable with increasing radial dimensioning of the cam surface during closing movement of the closure member and normally cooperating therewith during closure opening movement to modify the effective torque arm of the spring means to thereby vary the counterbalancing torque applied to the hinge pin and hinge member in accordance with that required to maintain the opened closure member between its closed and fully opened positions.

3,195,173
DOOR HINGE, CHECK AND HOLD-OPEN ASSEMBLY

Albert McNay, Dearborn, and Edmund S. Badura, Detroit, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Dec. 21, 1962, Ser. No. 246,473

7 Claims. (Cl. 16—138)



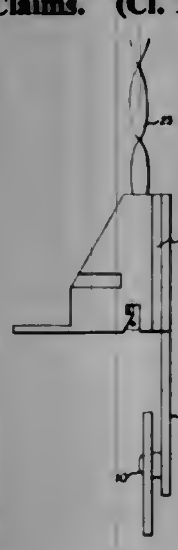
1. In a vehicle having a body member and a closure member hinged thereon for movement between a closed position and an extended check limited fully opened position, hold-open means comprising a pair of pivotally interconnected links, means pivotally connecting one of said links to one of the members, means pivotally connecting the other link to the other of said members for limited lost motion therebetween, abutment means on said links engageable with each other in a normal fully opened position of the closure member, and means for holding said abutment means in engagement in said normal opened position of the closure member, said lost motion means cooperating with said abutment holding means to oppose movement of the closure member between its normal opened position and its extended opened position and isolating the pivotal connections of said hold-open links from the closure checking loads acting between said hinged members when the closure member reaches its extended check limited position.

3,195,174
SASH BALANCE CONNECTING MEANS

William Douglas Nobes, Rochester, N.Y., assignor to The Caldwell Manufacturing Company, New York, N.Y., a corporation of New York

Filed Aug. 16, 1961, Ser. No. 131,861

8 Claims. (Cl. 16—202)



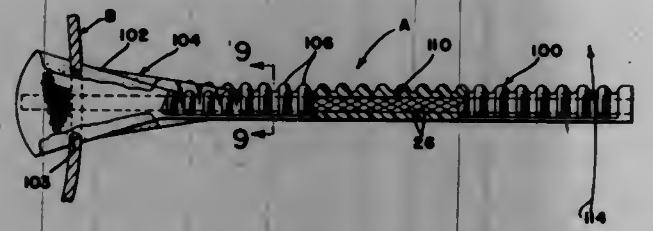
8. A sash balance connector for maintaining a sash balance in a fixed position when said balance is extended so as to permit the removal of a take-out window comprising a rotatable wheel having a notched portion of a substantially V-shaped configuration attached to a take-out sash carrying platform and movable on a platform track, a stop for cooperating with said rotatable wheel positioned on said platform track, to rotate said wheel into engaging position with a latch retainer. so as to maintain said platform in a fixed position, for the removal of said take-out window, said latch retainer also cooperating with said rotatable wheel to align said rotatable wheel in position for movement with said sash carrying platform.

3,195,175
CHICKEN PICKING FINGER

Malcolm P. Avery, Bedford, Ohio, assignor to The Stalwart Rubber Company, Bedford, Ohio, a corporation of Ohio

Filed May 3, 1962, Ser. No. 192,141

9 Claims. (Cl. 17—11.1)



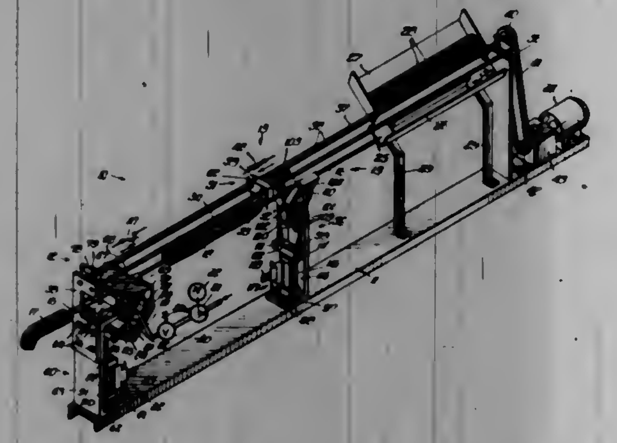
1. A chicken picking finger comprising an elongated body of soft elastic material and a transversely flexible, reinforcing sleeve embedded within said body and extending in the direction of elongation of said body, said sleeve comprising a plurality of strands, said strands being embedded within and bonded to said soft material and said strands having a high modulus of elasticity as compared to the soft material of said body.

3,195,176
SAUSAGE STUFFING

Harry G. Washburn, Park Forest, Ill., assignor to Tee-Pak, Inc., Chicago, Ill., a corporation of Illinois

Original application Jan. 5, 1962, Ser. No. 164,489, now Patent No. 3,150,410, dated Sept. 29, 1964. Divided and this application Jan. 8, 1964, Ser. No. 336,393

6 Claims. (Cl. 17—45)



1. Method of stuffing shirred sausage casings which comprises: placing a shirred casing on a stuffing horn at a position opposite the stuffing position, moving said shirred casing endwise toward said stuffing position, and stuffing the shirred casing with sausage emulsion in the same direction that it was moved to the stuffing position.

3,195,177
APPARATUS FOR STRETCHING THERMOPLASTIC FILM

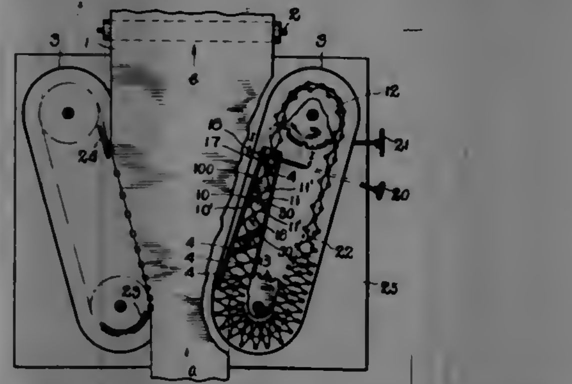
Mitsuaki Kawamura, Oaza-Moriyama, Moriyama-shi, Aichi-ken, and Seiichi Nakagawa, Sotoboricho, Higashi-ku, Nagoya, Japan, assignors to Shin-Mitsubishi Jukogyo Kabushiki Kaisha, Tokyo, Japan

Filed July 26, 1962, Ser. No. 212,594

Claims priority, application Japan, Aug. 6, 1961, 36/28,543

5 Claims. (Cl. 18—1)

4. Apparatus for longitudinally and transversely stretching a longitudinally advancing film comprising interconnected links in the form of an expandable and contractable flexible endless chain loop on either side of the advancing film, holding means supported on the links of the chain loops for engaging the advancing film along the sides thereof over substantially the entire length of the portion of the chain loop adjacent the film, chain driving means engaging each of the chain loops in driving relation and respectively including a gear driven at a relatively low speed and a gear driven at a relatively high speed, said gears for the chain loops being located on opposite sides of the film along lines diverging with respect to the longitudinal direction of advancement of the film, the gears driven at higher speed being located downstream of the gears driven at lower speed, guide means for respective chain loops engaged respectively with a portion of the associated loop and extending along diverging paths in the direction of advancement of the film for adjustably expanding and contracting the loops in relation with the driven speeds of the gears, the guide means for each loop including a pair of adjustably spaced guide rail members extending convergently along the path of the respective guide means and adjusting means for adjusting the relative angular position of the guide rails of the respective pairs for in turn expanding or contracting the portion of the chain loop with which the guide means is engaged, said adjusting means comprising a spherical bushing rotatably supported in each of the rails and a rod threadably engaged with the bushings for moving the rails at the locations of the bushings relative to one another, said bushings having threaded openings of opposite hand, said rod including threaded portions of opposite hand engaged in corresponding threaded openings of the bushings such that the rails move relative to one another in opposite directions in dependence upon the direction of turning of the rod.



3,195,178
APPARATUS FOR THE TREATMENT OF PLASTIC MATERIALS

Jean Carton, Paris, and Jean Feytis and Pierre Fouquet, Bohain (Aisne), France, assignors to Compagnie Francaise Thomson-Houston, Paris, France

Filed Aug. 1, 1961, Ser. No. 128,465

Claims priority, application France, Aug. 10, 1960, 835,527

9 Claims. (Cl. 18—2)

1. Apparatus for processing plastic materials, comprising a sealed enclosure, and means defining an input section, a processing section and an output section in series relation lengthwise of the enclosure; means defining relatively movable surfaces in said processing section in mutual engagement along a line of angular contact to define generally longitudinal channel means of uniform angular-

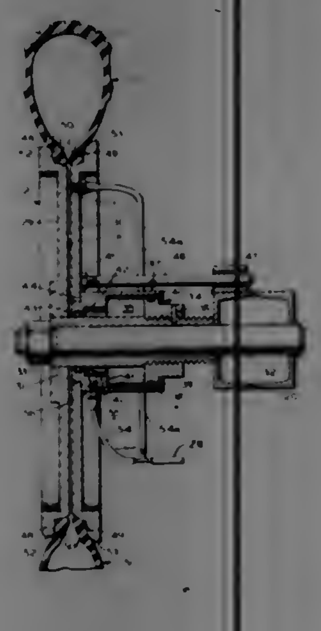
ity in cross section through the processing section. One of said surfaces defining a continuous backing surface and the other a vaned scraper surface; said scraper surface having a substantially lower friction coefficient than said backing surface with respect to said material; an opening in said processing section communicating with said channel means and means connecting the opening with a reduced pressure source; means for feeding material to said input section through said processing section and for withdrawing processed material from said output section at relative rates so predetermined that the material does not completely fill the processing section; and means for continuously imparting relative movement to said surfaces during material feed; whereby said material will be subjected in said processing section to a steep negative pressure gradient and an accompanying rolling and kneading action due to differential friction against said surfaces for positively expelling gaseous inclusions from said material as they are presented to said vacuum.

3,195,179
RIM FOR POST CURING INFLATION OF PNEUMATIC TIRES

Alfred J. Laube, Findlay, Ohio, assignor to Cooper Tire and Rubber Company, Findlay, Ohio, a corporation of Delaware

Filed Dec. 26, 1961, Ser. No. 161,831

2 Claims. (Cl. 18—2)



1. A rim apparatus for post curing inflation of pneumatic tires, comprising, in combination, a first disc rigidly mounted on one end of a cylindrical member, an annular member having an enlarged cylindrical shell coaxial with said cylindrical member, said shell having an open end extending away from said first disc, a collar secured to said cylindrical member for closing said open end of said shell, an air seal for closing the space between said collar and said shell, a second disc mounted on said annular member, an air seal closing the space between said annular member and said cylindrical member adjacent said second disc, means for admitting air into the annular space defined by said annular member, said shell and said collar for forcing said annular member, said shell and said second disc axially toward said first disc and means for feeding air under pressure into the interior of the space defined by said discs, said cylindrical member and a tire casing mounted on the periphery of said first and second discs with the rim beads of the tire casing in a half-tire groove in the inner peripheral edge of each of said discs for urging said rim beads tightly into said grooves, for separating said discs and for applying pressure to the interior of said tire casing.

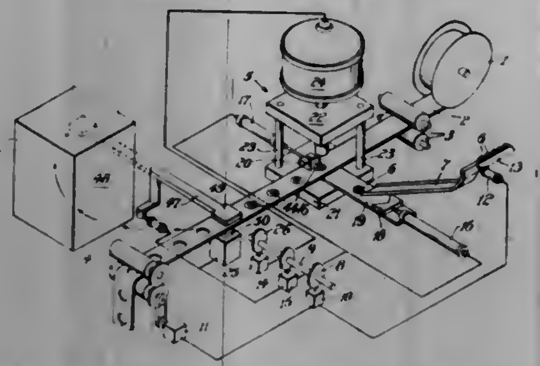
3,195,180
MOULDING ARTICLES

Ernest T. Jagger and Edward I. Hunter, Newcastle upon Tyne, England, assignors to George Angus & Company Limited, Newcastle, England

Filed Apr. 18, 1962, Ser. No. 188,415

Claims priority, application Great Britain, Apr. 24, 1961, 14,713/61

5 Claims. (Cl. 18—5)



1. Apparatus for forming composite units each consisting of plastic material including a stiffening insert embedded therein and for conveying said composite units to moulding apparatus, comprising means for moving plastic material in strip form longitudinally of the strip form, press means in the path of movement of said plastic material, support means in said press means for supporting a stiffening insert delivered thereto in overlapping relationship with plastic material moving in said path, means for delivering separate stiffening inserts successively to said support means and locating each of said inserts, in turn, upon said support means, and blanking means in said press means for coacting with said support to cut blanks from plastic material in register with inserts located on said support.

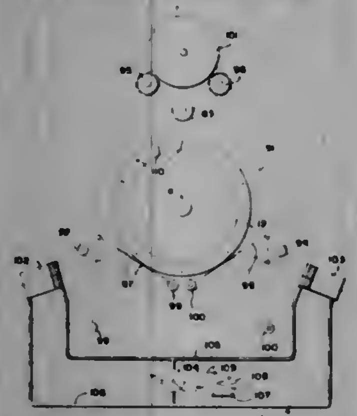
3,195,181
APPARATUS FOR CURING SLEEVE-FORMED PIPE-SHELLS

Bo I. Anderberg and Sven H. Claesson, Skovde, Sweden, assignors to Rockwool Aktiebolaget, Skovde, Sweden, a corporation of Sweden

Filed Jan. 22, 1962, Ser. No. 167,872

Claims priority, application Sweden, Jan. 30, 1961, 918/61

5 Claims. (Cl. 18—6)



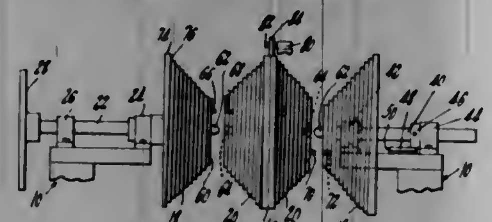
1. Apparatus for heat-curing binder impregnated fibrous pipe shells, comprising: a step-wise rotating treatment chamber defined by two spaced wall means, a hollow rotatable shaft connecting said two wall means, means for rotating said shaft and said wall means, a plurality of perforated hollow mandrels removably supported by and extending between said wall means, each of said mandrels having a pipe shell to be cured disposed about its outer surface, passage means for communicating the interior of said hollow shaft with the interior of each of said perforated mandrels, means for passing hot gases to the interior of said hollow shaft, distributor means for controlling the flow of gas from said hollow shaft to said perforated mandrels through said passage means, a network mat for bearing against the external surface of each of said pipe shells and extending at least partially around each of said pipe shells, means for translatably moving said mats to rotate said pipe shells and said mandrels during the curing process, a plurality of roller means carried by said wall means and engaging the outer edges of said mats for limiting the inward movements of said mats relative to said pipe shells to thereby fix the external diameters of said pipe shells, said plurality of roller means being arranged substantially in the form of a circle, means for adjusting said roller means radially relative to said mandrels so as to permit variations in the diameters of said pipe shells, and means for releasably supporting said mandrels in said wall means.

3,195,182
ELECTRICAL DELAY LINE FORMING APPARATUS

Donald N. Sewell, Raymond, Maine, assignor to Dielectric Products Engineering Company, Inc., Raymond, Maine, a corporation of Michigan

Filed June 13, 1962, Ser. No. 202,204

2 Claims. (Cl. 18—8)



1. Apparatus for forming a multilayer compact cylindrical electrical signal delay unit having flat end surfaces with terminal means at each end surface at the point of greatest radius of said cylindrical unit, comprising two end members, each having a frustoconical surface on which a helical seat defined by a continuous axially extending surface and continuous radially extending surface contiguous with said axially extending surface is formed for receiving a transmission line component of indeterminate length to be coiled along the length of said seat,

an intermediate member having two frustoconical surfaces on which a continuous helical seat is formed to provide a continuous axially extending support surface having a first portion of increasing radius and a second portion of decreasing radius,

said intermediate member being removably positioned between said end members so that said seats define a continuous series of alternating descending and ascending paths, said end members supported for rotation about a common axis, the helical seat on each said end member descending as it approaches the other end member,

means to drive one of said end members in rotation,

means for securing said intermediate member and said end members in axial alignment for rotation as a unit so that said transmission line component may be formed on said members in a coil having an even number of multiturn layers with the ends of said transmission line component on the outside of the end layers,

and means to separate said intermediate and end members at their points of minimum diameter to remove the formed transmission line component therefrom.

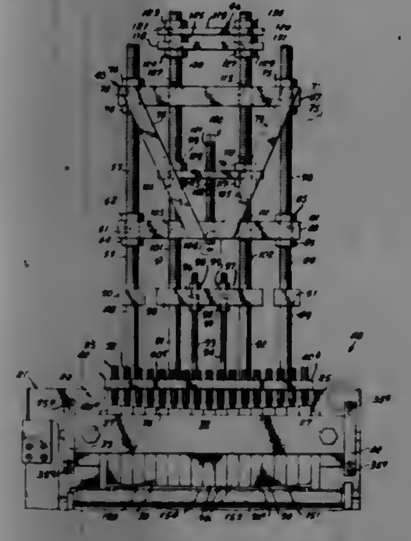
3,195,183
EXTRUSION DIES

Warren R. Phillips, 5159 Yolanda Lane, Dallas, Tex.

Filed June 6, 1962, Ser. No. 200,390

8 Claims. (Cl. 18—12)

1. In a die for extruding plastic material: means providing an opening for the extrusion of a strip of plastic material therethrough; mounting means for holding a plurality of die members in edge to edge relation adjacent said opening to configure the top of such strips subsequent to its issuance from said opening, said mounting means including a movable section on which a group of said die members are mounted; and means for moving said movable section for simultaneously adjusting the position of said die members mounted on said movable section relative to said opening, said mounting means having actuator means for individually adjusting the position of each of said die members relative to said opening, said mounting means including a support bar having a



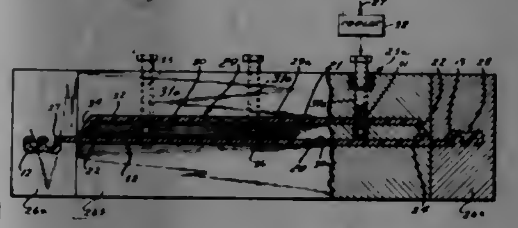
plurality of aligned spaced threaded apertures, each of said die members having a threaded bore in one end thereof, each of said actuator means including a screw having one section threaded in a threaded aperture of said support bar and another section threaded in the bore of a die member, said sections of the screw being threaded in opposite directions whereby rotation of said screw in one direction moves its die member toward said support bar and rotation of said screw in a direction opposite said one direction moves its die member away from said support bar.

3,195,184
APPARATUS FOR MAKING DOUBLE WALLED TUBE

Emil Francis Svec, New York, N.Y.; Viera M. Svec, executrix of said Emil F. Svec, deceased, assignor to Flexigrip, Inc., New York, N.Y., a corporation of New York

Original application Dec. 16, 1957, Ser. No. 703,033, now Patent No. 3,088,495, dated May 7, 1963. Divided and this application Apr. 30, 1962, Ser. No. 196,025

2 Claims. (Cl. 18—14)

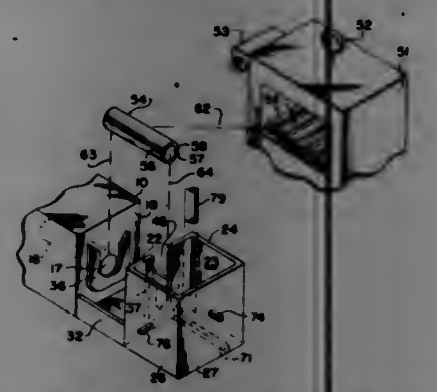


1. A mechanism for extruding a multi-wall sheet having fastener elements at its edges and adapted to be rolled into a tube, the mechanism comprising means defining an extrusion chamber, a central die member having a die wall with an elongated die opening therein receiving extrudate from the chamber and provided with upper and lower edges defining outer wall surfaces of the sheet and side edges, edge die members beside the central die member having openings defining the outer surfaces of linking portions joined to the sheet formed by the central die member for joining the walls of the sheet, a plate member supported in said die opening of the central die member and constituting a mandrel having outer surfaces for defining the inner surfaces of the sheet walls, means for

adjustably supporting said plate member for adjusting its position relative to said opening of the central die member so that the thicknesses of said walls can be simultaneously changed, and means for forcing plastic material into said chamber and through the die openings.

3,195,185
APPARATUS FOR INJECTION MOLDING

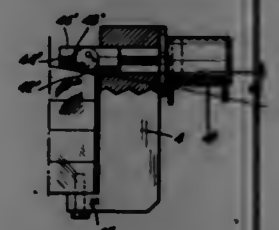
Jules Goffin, 8756 Francis Lewis Blvd., New York, N.Y., and Sol Soroca, 722 Carlisle Road, Jericho, N.Y.
Filed Feb. 8, 1962, Ser. No. 171,860
3 Claims. (Cl. 18—30)



1. Injection molding apparatus comprising a housing having an open side and a pair of walls extending inwardly within said housing from the other side, said walls having holding elements to slidingly receive therebetween in locking engagement a heated portable unit comprising a thin-walled cartridge adapted to hold a thermoplastic material and fitted within a thick-walled chamber for retaining the heat, and a piston ram assembly mounted in said housing and having a piston rod with a cross-sectional area of substantially the same size as said thin-walled cartridge, said piston rod adapted to be driven through said chamber to compress said cartridge and force the thermoplastic material into a molding form, and ejector means mounted on said housing to completely purge said chamber of said cartridge.

3,195,186
APPARATUS FOR CLAMPING MOLD PARTS

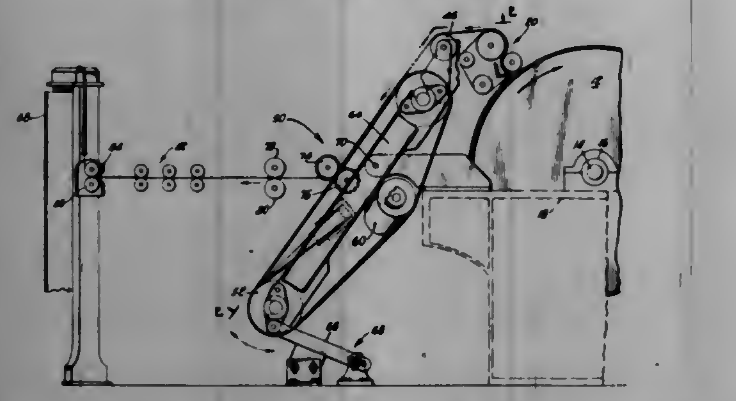
Daniel Gauban and Jean Raclot, Paris, France, assignors to Inventions Finance Corporation, a corporation of Delaware
Filed June 13, 1962, Ser. No. 202,334
12 Claims. (Cl. 18—43)



4. In an apparatus for clamping two relatively reciprocable elements at least one of which has a support surface inclined relative to the path of relative movement of said reciprocal elements, the combination comprising clamping means having first arm means engaging one of said elements and a reciprocal arm means operable to engage the support surface of said other element, said reciprocal arm means comprising an eccentrically mounted roller, said arm means being movable in one direction to a position causing said roller to contact said support surface whereby further movement in said one direction tends to rotate said roller due to the frictional contact in a direction tending to cause the furtherest extremity of the roller from the rotational axis thereof to approach said line of contact thereby increasing the clamping force between said first arm means and said roller.

3,195,187
METHODS AND APPARATUS FOR PRODUCING FIBROUS STRUCTURES

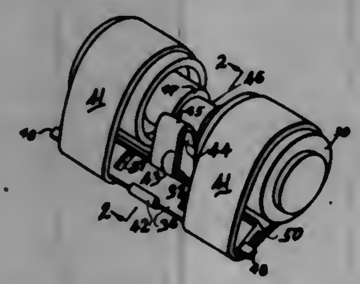
Frank Kalwaites, Somerville, N.J., assignor, by mesne assignments, to Johnson & Johnson, New Brunswick, N.J., a corporation of New Jersey
Filed June 1, 1961, Ser. No. 114,156
14 Claims. (Cl. 19—150)



5. Apparatus for producing a drafted sliver ribbon having a high degree of weight regularity and fiber orientation along its main axis which comprises: means for continuously maintaining a fibrous web integral and drafting the full width of said web in the direction of its length to increase the degree of fiber orientation along the main axis thereof; means for receiving the drafted fibrous web from the drafting means and for wrapping it in a plurality of continuously movable, laterally shiftable, convolutions whereby the fibers of one convolution are brought into close adjacency to other fibers of other convolutions, said other fibers originally having spaced crosswise and lengthwise positions in said drafted fibrous web with respect to the first-mentioned fibers; and means for separating a predetermined width from the plurality of drafted, wrapped fibrous convolutions to form a drafted sliver ribbon comprising fibers in close adjacency but derived from different convolutions and from spaced crosswise and lengthwise positions in said drafted fibrous web whereby said drafted sliver ribbon possesses a high degree of weight regularity and fiber orientation along the main axis thereof.

3,195,188
DRAFTING ASSEMBLY FOR FIBER ATTENUATING APPARATUS

Burrel C. Cole, Columbus, Ga., assignor of fifty percent to Charlton H. Williams, Columbus, Ga.
Filed June 21, 1963, Ser. No. 289,531
14 Claims. (Cl. 19—255)

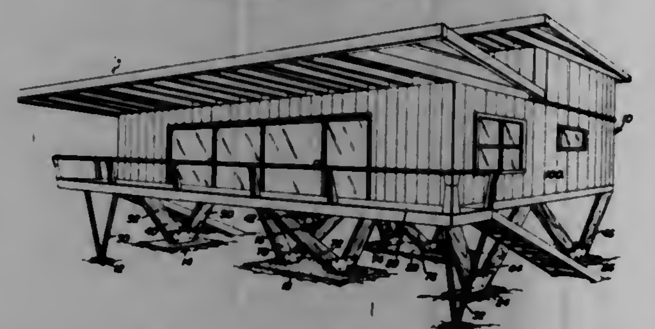


1. In a drafting assembly for fiber attenuating apparatus including cooperating pairs of bottom line rolls and double boss top rolls, and top and bottom aprons surrounding at least one pair of said cooperating top and bottom line rolls,

(a) at least one top nose bar encircled by said top aprons,
(b) means positioning said top nose bar in parallel alignment with the bottom line rolls, and
(c) a spring clip member attached at one end to said top nose bar with the other end thereof extending rearwardly into contact with an intermediate portion of the top roll of said one pair of cooperating rolls to force said top nose bar and said intermediate portion away from each other whereby the top aprons encircling said top nose bar and the top roll of said one pair of cooperating rolls constitute the sole means resisting and limiting the force imparted by said spring clip member and constitute the sole means of establishing spaced and parallel relation between said top nose bar and said top roll.

3,195,189
STRUT FOUNDATION FOR BUILDING

Richard P. Villandry, Arlington, Mass., assignor to Joseph D'Augusta and Mildred D'Augusta, Lexington, Mass.
Filed Sept. 18, 1957, Ser. No. 684,704
1 Claim. (Cl. 20—1)



The combination of a building and a foundation wherein the foundation comprises a plurality of spaced footings and a plurality of upwardly opening V-shaped struts with legs of equal length anchored to said footings, the central struts being identical and disposed in pairs with the adjacent upper ends of the obliquely positioned legs of each pair being connected, the lower ends of each pair of struts being spaced apart, the end ones of said struts being disposed in a vertical plane, perpendicular to the longitudinal axis of said building.

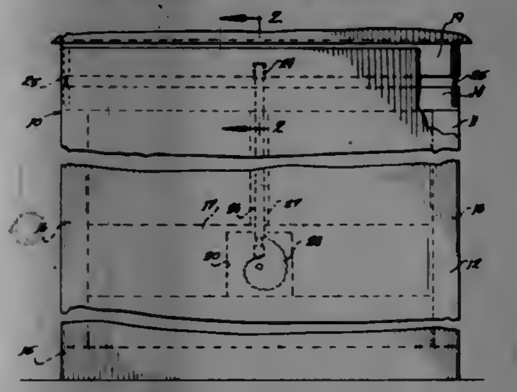
3,195,190
PORCH ATTACHMENT FOR TRAILER

Lucien J. Malo, 2004 37th St. SE., Calgary, Alberta, Canada
Filed Nov. 2, 1961, Ser. No. 149,659
1 Claim. (Cl. 20—2)

The combination of a conventional house trailer having a side wall, and a readily applicable and removable porch attachment for said trailer, said porch attachment comprising in combination, a vertically disposed perimetric frame detachably bolted to said side wall, said frame including vertically spaced upper and lower frame members and a pair of transversely spaced side frame members, a pair of porch side panels having inner edges hingedly connected to said side frame members whereby the side panels may be folded to a flat storage position against said frame, a porch floor panel having an inner edge hingedly connected to a portion of said lower frame member projecting outwardly beyond said side frame members and said side panels when the latter are folded, said floor panel also having an outer edge, a porch outer panel hingedly connected at its lower edge to the outer edge of said floor panel, and a porch roof panel having an inner edge hingedly connected to a portion of said upper frame member projecting outwardly beyond said side and lower frame members and beyond said side panels, said floor panel and said outer panel when said panels are folded in a storage position, whereby said roof panel may be folded down over the folded side, floor and outer panels, said roof panel also having side edge portions resting on upper edges of said side panels and an outer edge portion resting on the upper edge of said outer panel when the side and outer panels are unfolded, said side wall of said trailer coacting with the unfolded porch side panels, floor panel, outer panel and roof panel to define a porch enclosure, and channels with downwardly opening grooves provided at the side edge portions and the outer edge portion of said roof panel, said channels receiving in the grooves thereof the upper edge portions of said side panels and outer panel respectively.

3,195,191
TEMPORARY WALL CONSTRUCTION

Ray H. Neisewander, 1010 E. Edwards St., Springfield, Ill.
Filed Feb. 9, 1962, Ser. No. 172,204
7 Claims. (Cl. 20—4)



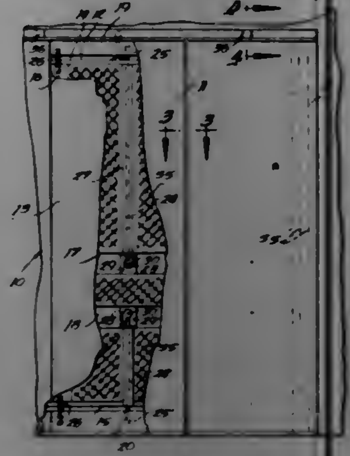
5. In a temporary wall partition having a rigid inner frame adapted to rest upon a floor surface and having side panels concealing said frame and secured to opposite sides thereof, a single vertical push rod projecting upwardly and slidable vertically through the central portion of said frame substantially equidistant between the vertical ends of said partition, a substantially horizontal load equalization bar extending along the top of said frame and supported substantially equidistant its ends upon the upper end of said rod, said bar being mounted for limited longitudinal tipping movement upon said rod, and means within said partition for urging said rod upwardly to force said bar against a ceiling.

3,195,192
SUSPENDED WALL PARTITION

Ray H. Neisewander, 1010 E. Edwards St., Springfield, Ill.
Filed Nov. 16, 1962, Ser. No. 238,245
3 Claims. (Cl. 20—19)

1. A wall partition structure comprising an overhead track adapted to be mounted along a ceiling, said track having an inverted U-shaped cross section and provided with inwardly-turned side flanges defining a space therebetween, a roller assembly movably supported upon said side flanges, a vertical wall partition, means connecting said roller assembly to said wall partition at a point in vertical alignment with the center of gravity thereof, said partition including horizontal load equalization bars extending along the upper and lower edges thereof and being movable vertically for respectively engaging said track and a floor surface to anchor said partition in a selected position, and a cushion element provided by said upper

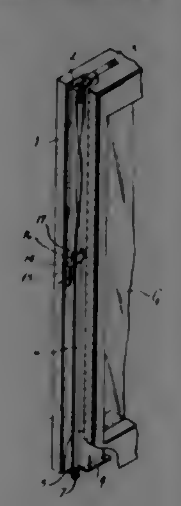
load equalization bar along the upper longitudinal surface thereof and being snugly receivable in a space between



said flanges of said track for securing said partition in place when said upper bar is moved vertically upwardly.

3,195,193
SASH BALANCE

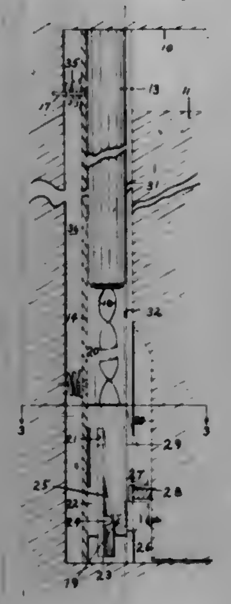
Edwin E. Foster, 1801 Camp Craft Road, Austin, Tex.
Filed Apr. 8, 1963, Ser. No. 271,089
3 Claims. (Cl. 20—52)



1. A sash balance comprising, in combination with a window having a frame and a sash reciprocally slideable in said frame, an elongated normally helically twisted thin strip, said strip being torsionally resilient for movement between flat uniplanar condition and twisted, helical formation, said strip being biased into helical formation, a follower having an opening complementary in shape to the cross section of said strip when the latter is in flat, uniplanar condition to be non-rotatable but longitudinally slideable relative to said strip for progressively causing an untwisting of said strip from helical formation into flat, uniplanar condition when said sash is slidingly moved in one direction and for progressively effecting releasing of said strip for return to biased helical formation from said flat, uniplanar condition when said sash is moved in the opposite direction, means securing said follower to said frame, one end of said strip being rigidly secured, against rotation, to said sash, an anchor member fixed on said sash remote from the point of securement of the said one end of said strip, said anchor member having an opening, a vertically presented strip support member extending freely downwardly in said opening and being freely rotatable therein, means provided on the upper end of said support member for limiting downward extent of said support member within said opening, and the other end of said strip being rigidly secured to said support member.

3,195,194
SASH BALANCE LOCKING DEVICE

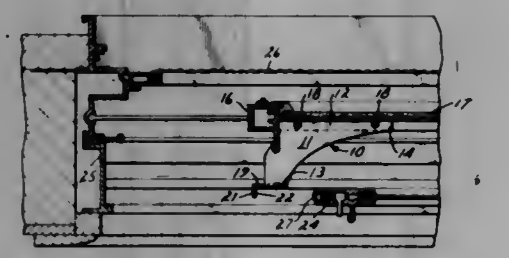
D'Arcy Andrews Young, Jr., Palm Beach, Fla., assignor to The Caldwell Manufacturing Co., New York, N.Y., a corporation of New York
Filed Sept. 26, 1962, Ser. No. 227,637
3 Claims. (Cl. 20—52.2)



1. A sash balance and a sash balance locking device for a removable sash slidably disposed along a guideway mounted on a window frame, said locking device comprising a locking block having a slot and a flexible portion slidably carried in said guideway, a sash connector movably carried in said slot and connected to said sash balance, a latch on said sash engageable with said locking block and said sash connector, and means on said sash connector for causing said flexible portion of said block to move into frictional engagement with said guideway responsive to removal of said latch, said means comprising a cam formed on said sash connector for bearing against said locking block.

3,195,195
WINDOW CLOSING BRACKET

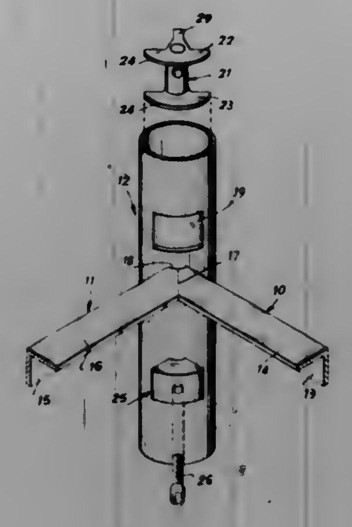
Virgil F. Mulvaney, Minneapolis, Minn., assignor to The Denesen Company, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed June 27, 1963, Ser. No. 290,997
1 Claim. (Cl. 20—55)



In a storm window construction comprising a pair of laterally spaced parallel inner and outer pane-equipped sashes slidably mounted in a common window frame to open and closed positions, and wherein said sashes overlap at one end of the frame with the leading edges of each sash in closed contact with said frame, a plate-like bracket carried by the inner side of said outer sash and extending normal thereto, said bracket being of a length greater than the distance between said sashes so as to extend into the path of travel of said inner sash, and said plate-like bracket having a leg portion at its free end extending parallel to the inner side of the inner sash and a foot piece turned normal to said leg portion to extend into the path of the leading edge of said inner sash and to abut said window frame when said inner sash is moved to closed position.

3,195,196
CORNER FASTENING

Vincent J. Carisi, 16 Ridge Drive, Glen Cove, N.Y.
Filed Apr. 19, 1963, Ser. No. 274,273
5 Claims. (Cl. 20—92)

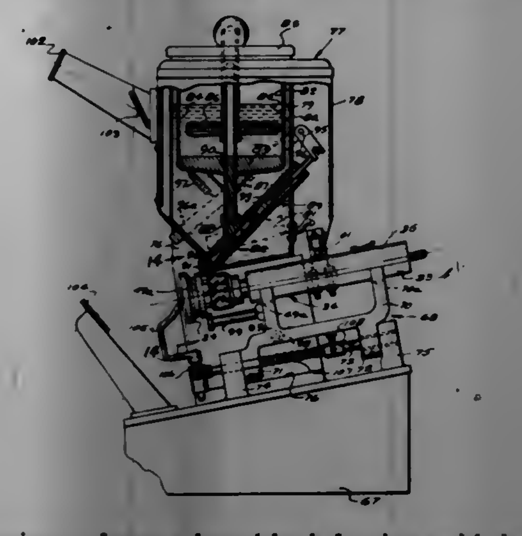


3. A corner fastening of the aforesaid character comprising, a corner member of angulated formation in section including side walls having a transversely extending opening formed with spaced side edges and spaced upper and lower edges, a cooperating member extending longitudinally of said corner member having upper and lower enlarged ends extending transversely of said corner member with each of the enlarged ends having peripheral edge portions disposed in engagement with one face of said corner member, angularly disposed frame parts each having a side flange and an inwardly directed flange, said inwardly directed flanges having mitered ends secured together and extending into said opening and between said enlarged ends and with the side flanges of said frame parts disposed against the side edges respectively of said opening, a wedging member arranged in said opening between said upper and lower enlarged ends and in abutting relation with said side flanges, and means fastening said wedging member to said cooperating member having said enlarged ends and wedging the side flanges of said frame parts against the side edges respectively of said opening and tightening said enlarged ends against said corner member above and below said opening to thereby secure said parts together in tightened assembled relation with said corner member.

3,195,197
LENS BLOCKING APPARATUS

Louis J. Prunier, Oxford, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Original application Apr. 15, 1958, Ser. No. 728,692, now Patent No. 3,118,198, dated Jan. 21, 1964. Divided and this application Apr. 8, 1963, Ser. No. 271,208
6 Claims. (Cl. 22—58)

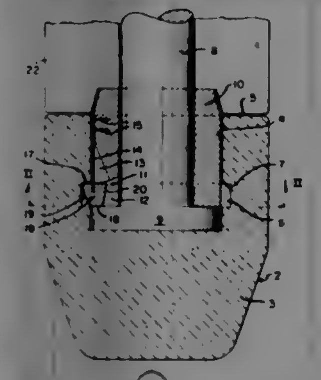
6. Apparatus for providing a lens block on a lens blank comprising mold means having a mold cavity open at one end in which a rigid lens block is adapted to be formed, said cavity being contoured to mold a substantial part of the desired shape of a lens block formed therein including that part of said lens block subsequently to be held by lens blank processing means, said cavity being contoured to release a rigid lens block molded therein from within said cavity, said mold means having a lens blank receiving seat about said open cavity end for receiving one side of said lens blank so that said blank cooperates with said mold cavity to define the remainder of the desired shape of said lens block, said mold means having an opening giving access to said mold cavity when said lens blank is placed on said seat, and means for introducing block forming material into



said cavity to form a lens block having said desired shape in connected relation with said side of said lens blank.

3,195,198
STOPPER FOR A LADLE OR SIMILAR RECEPTACLE

Edward Hoopes III, Pittsburgh, Pa., assignor to Vesuvius Crucible Company, Swissvale, Pa., a corporation of Pennsylvania
Filed Apr. 22, 1963, Ser. No. 274,448
3 Claims. (Cl. 22—85)



1. A stopper for a ladle or similar receptacle comprising a refractory head having a well extending downwardly thereinto, a rod having a lateral projection at its bottom inserted downwardly into the well, the peripheral wall of the well having a shoulder facing toward the bottom of the well, and insert means separate from the head and from the rod also inserted downwardly into the well into position to overlie at least a portion of the lateral projection at the bottom of the rod, the insert means having outwardly facing detent means carried by the insert means and retractable relatively to the insert means by which they are carried which are retracted inwardly toward the axis of the rod when passing the shoulder of the well and are projected outwardly after passing the shoulder to underlie the shoulder and block withdrawal of the rod from the well and thereby attach the rod to the head.

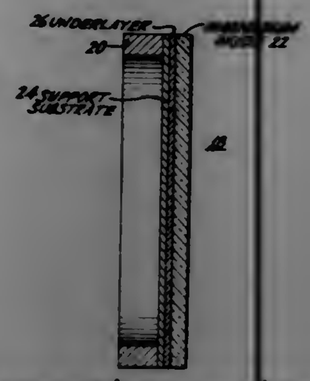
3,195,199
METHOD OF MAKING TARGETS FOR PICKUP TUBES

Stefan Albert Ochs, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Sept. 1, 1961, Ser. No. 135,652
4 Claims. (Cl. 22—190)

1. The method of manufacturing a target electrode assembly for use in a television pickup tube comprising the steps of:

(a) positioning a supporting membrane made of an organic material across an opening in an apertured support member,

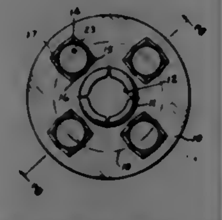
(b) then evaporating an underlayer of film made of a material selected from the group consisting of gold and aluminum to a thickness of approximately 30 Angstrom units, onto said supporting membrane, while said film is supported by said membrane,



(c) thereafter evaporating magnesium oxide onto said underlayer film, and
(d) then removing said supporting membrane by changing the material of said membrane to a form that is automatically separable from said underlayer film.

3,195,200
SNAP FASTENER

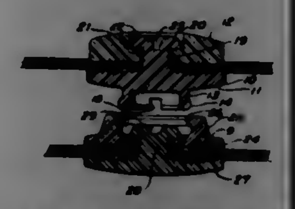
Domenic J. Daddona, Jr., Waterbury, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Feb. 9, 1962, Ser. No. 172,221
2 Claims. (Cl. 24—[illegible]08)



1. A one-piece thin metal snap fastener element comprising a generally flat base, fastening means located centrally of said base adapted for snap engagement with complementary fastening means of a companion fastener element, and means for attaching said base to the face of flexible supporting material comprising a plurality of prong clusters spaced equidistantly from the center of said base, each cluster consisting of two pairs of prongs, the two prongs of each pair in all clusters being situated wholly on opposite sides of a circle passing centrally of the clusters midway between the prongs of each pair, the center of said circle being the same as the center of said base.

3,195,201
ORNAMENTAL SNAP FASTENER ASSEMBLY

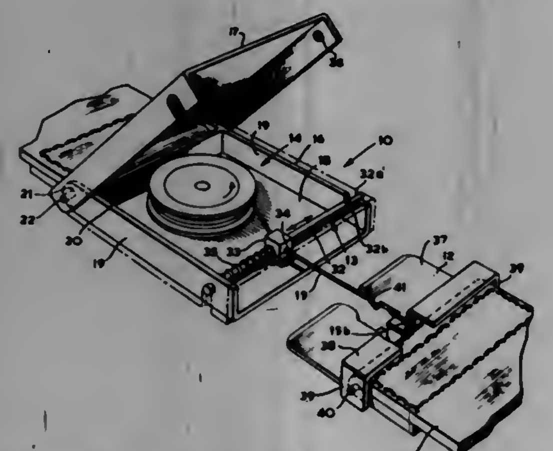
Charles F. Ash II, Weston, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Apr. 17, 1963, Ser. No. 273,754
2 Claims. (Cl. 24—2[illegible]8)



1. An ornamental snap fastener element assembly comprising a fastener member consisting of pliable thermoplastic material having
(a) a base adapted to bear against the inner surface of a piece of flexible supporting material;
(b) a snap fastener head projecting inwardly from said base and having radially yieldable portions adapted for snap engagement with a mating snap fastener element; and
(c) a support-penetrating post integral with and projecting outwardly of the central portion of said base; in combination with
(d) an ornamental member of button-like appearance adapted to bear against the outer surface of said piece of supporting material opposite said base, said ornamental member consisting of relatively hard rigid and heat-resistant material as compared to the material of said fastener member, said ornamental member having a centrally arranged hole with a counterbore extending inwardly a substantial distance from the outer surface thereof to provide an outwardly facing annular shoulder;
(e) said post extending through said hole and having its end deformed outwardly to provide a ring of thermo-plastic material bearing against said annular shoulder, said ring being positioned wholly below the top surface of said ornamental member whereby it will be protected from contact with a heated iron which may be pressed against the outer surface of said ornamental member.

3,195,202
SEPARABLE FASTENER

Peter Marvin Spence, 133 Sylvan Ave., Scarborough, Ontario, Canada
Filed Sept. 23, 1963, Ser. No. 310,546
7 Claims. (Cl. 24—230)



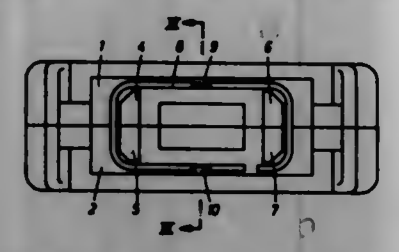
1. A buckle for a bracelet comprising a housing for attachment to one end of the bracelet; a latch in the housing that is movable transversely of the housing; a slide member for attachment to the other end of the bracelet and adapted to be inserted into the housing for engagement by the latch; a flexible strand which is connected at one end to the slide member and which extends through an aperture in the latch and is adapted to bias the latch transversely of the strand into latching engagement with the slide member; and a strand retractor in the housing and connected to the opposite end of the strand for drawing the strand into the housing.

3,195,203
MEANS FOR CONNECTING THE PARTS OF A MULTI-PART HOUSING

Bruno Hoffmann, Berlin-Charlottenburg, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed May 13, 1963, Ser. No. 279,908
Claims priority, application Germany, June 23, 1962, 20,102
1 Claim. (Cl. 24—261)

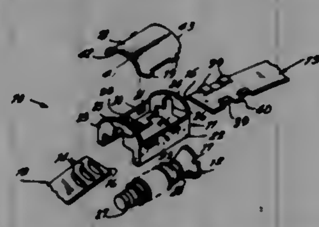
Means for removably connecting together abutting parts of a multi-part housing having mating recesses provided with longitudinally spaced, upwardly extending, laterally opposed lugs adapted to be surrounded and clampingly engaged by a resilient longitudinally split clasp

of generally rectangular configuration, said parts each having an upwardly extending locking lug rigidly secured thereto between the said longitudinally spaced lugs adjacent the said recesses and having a portion extending above and inwardly of the said recesses to prevent inadvertent disengagement of the clasp from the surrounded lugs, said portions having upwardly-beveled cam surfaces to facilitate insertion of the clasp within the recesses, said split being located laterally of the center of the clasp to provide a relatively long spring biased arm which can be disengaged from an associated locking lug to release the connected parts by bending the arm inwardly against the spring bias thereof until the arm clears the said associated locking lug, and raising the said arm upwardly out of an associated recess.



3,195,204
WORM DRIVEN HOSE CLAMP

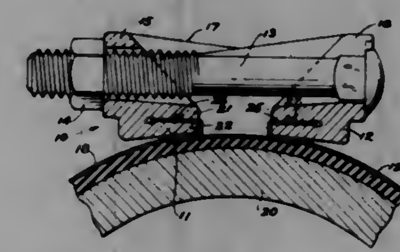
Howard P. McKown, Jr., Export, Pa., assignor to Breeze Corporations, Inc., Union, N.J., a corporation of New Jersey
Filed Apr. 23, 1964, Ser. No. 362,108
5 Claims. (Cl. 24—274)



1. A worm driven hose clamp comprising, a unitary box-like housing, spaced side walls and a front and rear wall on said housing, a worm journaled within the front and rear walls and disposed within the housing, a head at one end of the worm, an elongated band, an embossed portion comprising inwardly and outwardly extending recesses along each of the major margins of the band and spaced from one end of the band, longitudinally spaced band securing means carried by the housing lockingly engageable with the embossed portion of the band, and there being a series of spaced slots in the free portion of the band for operative engagement with the worm.

3,195,205
BAND ATTACHING MEANS FOR PIPE CLAMP HAVING MALLEABLE JAWS

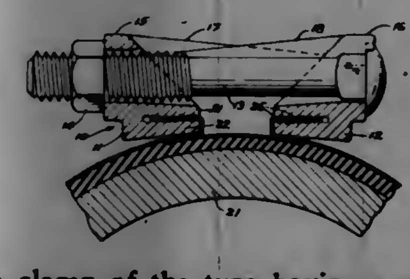
James C. Morriss, Jr., Belmont, and Allison D. Owen, Belvedere, Calif., assignors to Smith-Blair, Inc., San Francisco, Calif., a corporation of California
Filed Aug. 14, 1963, Ser. No. 302,113
1 Claim. (Cl. 24—279)



A pipe clamp comprising: a pair of lugs and a plurality of bolts through said lugs for drawing them together, each of said lugs having a bendable pair of malleable jaws originally cast in the open position with inner jaw surfaces that diverge outwardly from a junction thereof, said junction extending longitudinally along the lugs, both said jaw surfaces being devoid of projections, one of said jaw inner surfaces having a substantially smooth surface free of indentations and the opposite jaw surface having a groove, and a flexible metal band having an end portion adapted to fit between and be retained by said lug jaws, said end portion being substantially flat except for a retaining means extending outwardly therefrom to engage said groove, said retaining means being seated within said jaw groove when the lug jaws are closed on said band end portion.

3,195,206
BAND GRIPPING MEANS FOR PIPE CLAMP HAVING MALLEABLE JAWS

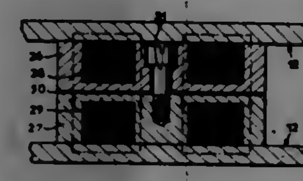
James C. Morriss, Jr., Belmont, Calif., assignor to Smith-Blair, Inc., San Francisco, Calif., a corporation of California
Filed Aug. 14, 1963, Ser. No. 302,114
1 Claim. (Cl. 24—279)



In a pipe clamp of the type having a malleable band with ends secured to a pair of rigid lugs and bolts for drawing the lugs together to tighten the band around a pipe, the improvement comprising: a bendable pair of malleable jaws on said lugs, said lugs being originally cast with said jaws in the open position with inner jaw surfaces that diverge outwardly from a junction of said jaw surfaces extending longitudinally along the lugs, a multiplicity of sharp edged irregular shaped interlocking members randomly located on and fixed to at least one of said inner jaw surfaces, said interlocking members being fragments of a material having a natural hardness greater than both said band and said lug jaws, said fragments being at least partially embedded in the end of said band and in at least one of said jaws when said jaws are closed together on an end of said band located between said inner jaw surfaces.

3,195,207
MOULDING DEVICE FOR ALL MATERIALS, CONCRETE, REINFORCED CONCRETE, PLASTIC PRODUCTS, CERAMICS AND THE LIKE

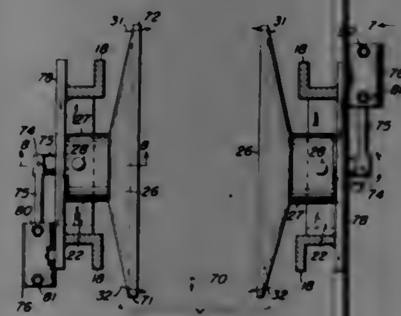
Edouard Marie Fougea, Neuilly-sur-Seine, France, assignor to Société Anonyme Constructions Edmond Coignet, Paris, France, a corporation of France
Filed Oct. 14, 1963, Ser. No. 315,993
Claims priority, application France, Oct. 15, 1962, 912,254
1 Claim. (Cl. 25—118)



A device for molding parts of concrete, reinforced concrete and other materials, comprising a pair of spaced parallel metal plates forming opposite sides of the mold, and parts disposed between the plates and defining the edges of the mold cavity, there being a plurality of said parts disposed one after the other in contiguous relationship, each of said parts having at least two recesses therein, said at least two recesses opening away from each other one toward each said plate, electromagnets disposed in both of said at least two recesses, the side walls of the recesses enclosing the electromagnets so that the side walls of the recesses rest flat against the associated plate on opposite sides of the electromagnets, each said part being comprised of two sections having a recess in each section, solid dielectric material disposed between the two sections, means releasably retaining the sections together, and electrical conductor means extending through the walls of said recesses for interconnecting the electromagnets with an external electric circuit.

3,195,208
MONOLITHIC WALL FORMING APPARATUS

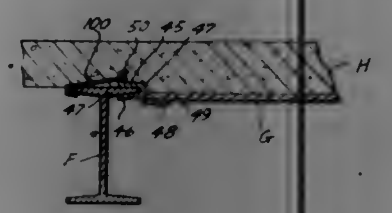
James B. Winn, Jr., Wimberley, Tex., assignor to The Archilithic Co., Dallas, Tex., a corporation of Texas
Original application July 18, 1957, Ser. No. 672,723, now Patent No. 3,034,732, dated May 15, 1962. Divided and this application Feb. 9, 1962, Ser. No. 191,384
3 Claims. (Cl. 25—1[illegible]1)



1. In a monolithic wall forming apparatus, the combination which comprises a universally movably supporting boom, spaced frame members secured thereto, a duct for fluid cementitious material carried by said boom and having a discharge nozzle disposed between said frame members, a pair of spaced wall forming plates pivoted to the respective frame members for movement about axes substantially parallel to the flow of materials from said nozzle, and power means for simultaneously moving said plates about said axis, whereby to exert lateral pressure on the materials discharged therebetween.

3,195,209
CONCRETE ERECTION AND STRIPPING SYSTEM

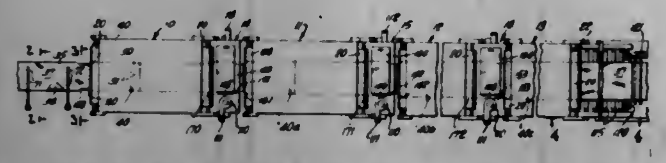
Edward S. Klausner, 7 E. 47th St., New York, N.Y.
Filed Sept. 7, 1961, Ser. No. 136,588
4 Claims. (Cl. 25—13[illegible].5)



1. In combination with a flanged structural member, a structural clip of frangible material supported thereby comprising means for interconnecting a horizontal forming member temporarily with the flange of said structural member, said means consisting of a vertical web having a pair of spaced short lugs extending laterally in one direction from said vertical web partially embracing one of said members, and a single lug of a length comparable to that of said first-mentioned lugs and extending laterally in the opposite direction for engaging the other one of said members, one of said lugs adapted to be fractured from said web by a hammer blow to break the temporary connection between said members.

3,195,210
PROCESS AND APPARATUS FOR CONTROLLING SHRINKAGE IN TUBULAR FABRICS

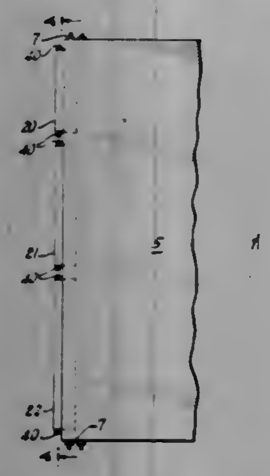
Nicholas Wehrmann, North Wilkesboro, N.C., assignor to L & L Manufacturing, Inc., a corporation of Delaware
Filed Nov. 2, 1960, Ser. No. 66,816
13 Claims. (Cl. 26—18.6)



1. Apparatus for preshrinking tubular knitted fabric, comprising a plurality of successive pairs of endless belts, the belts of each pair having straight runs facing each other and adapted to receive and compress the fabric between them and to move it forwardly, said belts being of substantial thickness so that their outer surfaces at the turns thereof will move at a faster speed than the straight-run portions thereof, means to drive a forward pair of belts at a relatively slower speed and a rearward pair of belts at a relatively faster speed, means to conduct said fabric toward a rearward pair of belts in a shape with the greater extent thereof in the form of sides spaced from each other and to engage said sides with the turns of the belts to impart to the fabric a greater speed than it will have when between the straight-run portions of the belts of said rearward pair thus compacting the fabric longitudinally, means to conduct said fabric toward a forward pair of belts in a shape with the greater extent thereof in the form of sides spaced from each other and to engage said sides with the turns of the belts to impart to the fabric a greater speed than it will have when between the straight-run portions of the belts of said forward pair thus further compacting the fabric longitudinally, the second-mentioned conducting and engaging means having an effective transverse extent sufficient to press said sides against the turns of the belts and an effective lateral extent only sufficient to flatten said sides before contacting the belts without imparting substantial lateral stretch thereto, and the second-mentioned conducting and engaging means having a greater lateral extent than the first-mentioned conducting and engaging means.

3,195,211
APPARATUS FOR SIMULTANEOUSLY PRE-SHRINKING A PLURALITY OF FABRICS

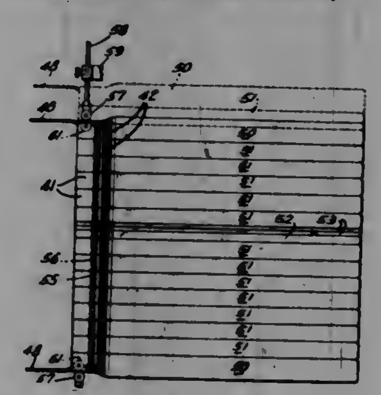
Nicholas Wehrmann, North Wilkesboro, N.C., assignor to L & L Manufacturing, Inc., a corporation of Delaware
Filed Apr. 10, 1963, Ser. No. 272,079
3 Claims. (Cl. 26—18.6)



1. Apparatus for pre-shrinking tubular fabric, comprising a pair of endless belts which have juxtaposed forwardly-moving straight-run portions and rearward turns and which are of substantial thickness and the outer surfaces of the turns of which move at a higher speed than the straight run portions thereof, and a plurality of forms disposed at a plurality of positions along the width of the belts and each adapted to guide a tubular fabric and to press the fabric against the faster moving outer belt surface portions, the total maximum lateral extent of said forms being less than the minimum lateral extent of said belts, whereby a plurality of fabrics may be longitudinally contracted simultaneously, each of said forms being composed of a plurality of sections extending in a direction longitudinal of said belts and being provided with means to hold said sections together while permitting slight relative movement thereof in a direction transverse of said belts.

3,195,212
FORM FOR CONDUCTING TUBULAR FABRIC

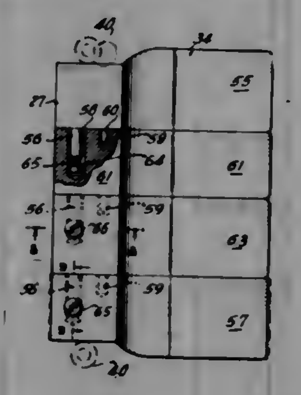
Nicholas Wehrmann, North Wilkesboro, N.C., assignor to L & L Manufacturing, Inc., a corporation of Delaware
Original application Nov. 2, 1960, Ser. No. 66,816. Divided and this application June 29, 1964, Ser. No. 378,682
7 Claims. (Cl. 26—18.6)



1. A form for conducting tubular fabric in a shape having spaced sides toward, and engaging the spaced sides thereof with, converging portions of means tending to bring said sides toward each other as the fabric is moved forwardly, and comprising a multiplicity of aligned forwardly-extending sections and means to limit forward and rearward movement of said sections relative to each other while permitting a limited forward and rearward movement of said sections relative to each other to permit said sections to adjust themselves to variations in the contour of said converging portions and in the fabric.

3,195,213
APPARATUS FOR GUIDING FABRICS IN A PRE-SHRINKING OPERATION

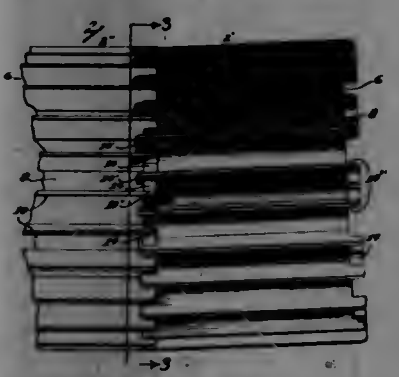
Nicholas Wehrmann, North Wilkesboro, N.C., assignor to L & L Manufacturing, Inc., a corporation of Delaware
Original application Apr. 10, 1963, Ser. No. 272,079. Divided and this application Oct. 9, 1964, Ser. No. 402,771
3 Claims. (Cl. 26—18.6)



1. A form for conducting a forwardly-moving tubular fabric in a shape having spaced sides toward and engaging the spaced sides thereof with the turns of driving means between which a fabric is to be moved forwardly and comprising a multiplicity of alined sections disposed laterally of said form, each of at least certain of said sections being formed with a lateral hole extending at least part way thereinto, and at least one laterally-extending element fixedly mounted on at least one of said sections and extending into a hole in at least one other section and being of less extent than said hole in a forward direction, to permit said sections to adjust themselves to variations in the contour of said fabric.

3,195,214
SHEET-MATERIAL EXPANDER

George P. Knapp, Waban, Mass., assignor to Mount Hope Machinery Company, Taunton, Mass., a corporation of Massachusetts
Filed June 20, 1961, Ser. No. 129,927
19 Claims. (Cl. 26—63)

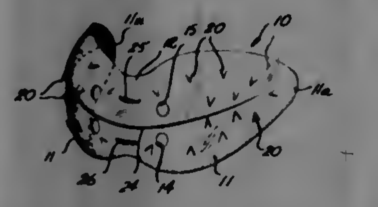


1. A longitudinally extending channel member for use in a sheet-material-expander, the said member being substantially U-shaped in cross-section and provided at its ends with longitudinal side extensions, with the side extensions at one of the ends being provided with buffer means extending laterally outward therefrom.

16. A sheet-material-expander comprising a plurality of adjacent free-rotating coupled longitudinally extending cylindrical members each having along its surface a plurality of successively disposed longitudinally extending channel members each substantially U-shaped in cross-section having bottom and side walls and provided at its ends with longitudinal side extensions, with the side extensions at one of the ends of each channel member being provided with buffer flanges extending laterally outward therefrom, and with the buffer flanges of the channel members of each cylindrical member being disposed between the side extensions at the other end of the corresponding channel members of an adjacent cylindrical member, in order to interlock side extensions at the said other end of each cylindrical member between the buffer flanges of the corresponding channel members of an adjacent cylindrical member, the axis of each cylindrical member being disposed at a small angle with respect to the axis of adjacent cylindrical members.

3,195,215
NATURAL EXPRESSION FORMER WITH BITE INDENTATION

Charles W. Rector, 6112 17th Ave., NW., Seattle, Wash.
Filed Nov. 13, 1962, Ser. No. 237,014
7 Claims. (Cl. 27—21)

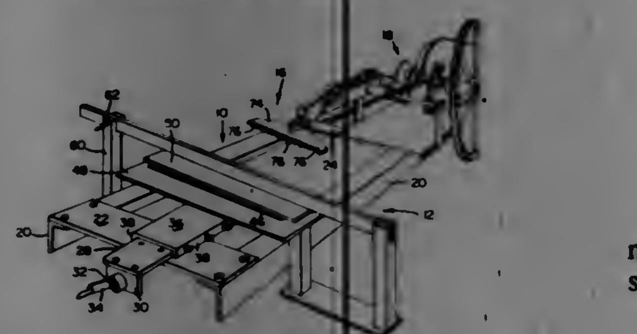


1. An expression former for insertion between the lips and the teeth and gums of a corpse, comprising a thin plate of resilient, limitedly flexible, yet substantially inelastic material, having an inherent form-sustaining double curvature overall to fit the curvature of the dental arch, said plate further having a marginal shape defin-

ing a pair of wing-like portions and a medial connecting section, and a size and shape to extend along the gums beyond the lips at all points, spurs on said plate for engagement with the mouth musculature, an upper portion offset forwardly of a lower portion thereof at least in the medial section, and a substantially continuous wall connecting said offset portions thereof at least in the medial section, to define a transverse bite-indentation ridge therebetween extending along the line of non-occlusion of the forward teeth.

3,195,216
MACHINE FOR TREATING FABRICS

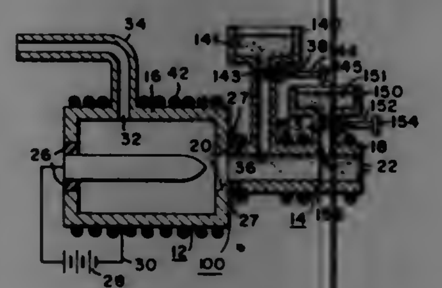
Louis Polakoff, 82 Stanley Road, Waban, Mass.
Filed July 23, 1963, Ser. No. 297,020
11 Claims. (Cl. 28—18)



1. A fringing machine comprising
- a frame,
- a clamping member secured to and movable on the frame, said clamping member being provided to hold a cloth to be fringed by the machine,
- a comb having a plurality of needles linearly arranged in a row and oriented generally normal to the plane assumed by the cloth held by the clamping member, means supporting said comb and needles for insertion into the cloth along a line parallel to and behind transverse threads to be drawn from the cloth,
- and drive means secured to the frame and carrying the comb for moving the comb through a repetitive cycle wherein the comb needles are simultaneously inserted behind and draw from the cloth held by the clamping member the transverse threads.

3,195,217
APPLYING LAYERS OF MATERIALS TO SEMICONDUCTOR BODIES

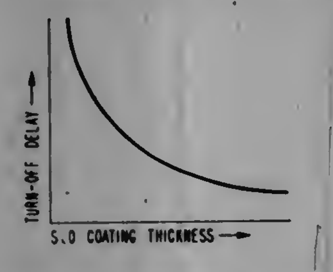
Harold F. John, Wilkinsburg, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 14, 1959, Ser. No. 833,862
12 Claims. (Cl. 29—25.3)



1. A process for applying a layer of material to a body of a semiconductor material comprising projecting at a high velocity approaching the speed of sound and at a high temperature an admixture comprised of finely divided metal particles and an ionized inert gas against a predetermined surface area of said body of said semiconductor material, whereby, a well bonded layer of said metal particles is deposited upon said predetermined surface area of said body of semiconductor material, said ionized inert gas serving as a carrier for said metal particles, and said bonded layer of metal particles being in an electrical contact relationship with said body of semiconductor material.

3,195,218
METHOD OF INFLUENCING MINORITY CARRIER LIFETIME IN THE SEMICONDUCTOR BODY OF A PN JUNCTION DEVICE

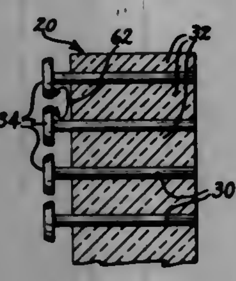
William H. Miller, Poughkeepsie, Arthur J. Rideout, Millbrook, and Thomas K. Worthington, Wappingers Falls, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 28, 1962, Ser. No. 219,880
11 Claims. (Cl. 29—25.3)



1. In the manufacture of a PN junction device, the method of influencing minority carrier lifetime in the semiconductor body thereof comprising:
- depositing on a surface region of said body an adherent coating having a predetermined thickness and a coefficient of thermal expansion which is different from that of said body but which is insufficient to separate at least part of said coating from said body during temperature cycling; and
- maintaining said body and coating for a period of time at an elevated temperature and subsequently cooling them, thereby producing between them mechanical stresses which establish in said body under said coating mechanical strains that are effective to influence said carrier lifetime to an extent related to said predetermined thickness.

3,195,219
ENERGY CONDUCTING DEVICE

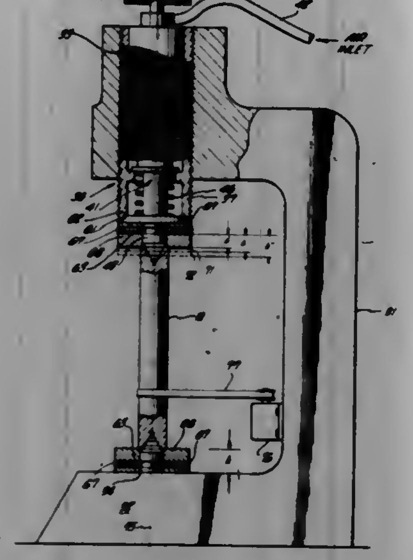
Richard F. Woodcock, South Woodstock, Conn., and George A. Granitsas, Marlboro, Mass., assignors to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Feb. 16, 1961, Ser. No. 89,844
9 Claims. (Cl. 29—25.18)



1. The method of making an energy-conducting device from a structure comprising an integral assembly of a plurality of electrically-conductive wires supported in individually spaced side-by-side relationship substantially throughout their lengths within an electrical insulating matrix material, said method comprising placing an electrically-conductive material on each of the corresponding one ends of said wires adjacent at least one side of said structure in amounts controlled to form enlarged head parts on respective wires with portions thereof extending laterally into relatively close but individually spaced edge-to-edge relationship with each other, and removing a substantial thickness of said matrix material from between portions of said wires adjacent said one side of the structure during one stage of the process.

3,195,220
SURFACE FINISHING APPARATUS AND PROCESS

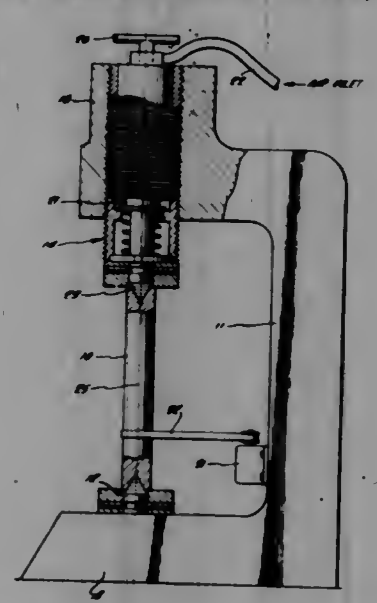
Louis D. Martin, Fullerton, Calif., assignor of one-half to Karl H. Roehrs, Rolling Hills, Calif.
Filed Dec. 30, 1963, Ser. No. 334,360
6 Claims. (Cl. 29—90)



1. Apparatus for producing precision coaxial center holes in a work piece comprising, in combination,
- a frame having a longitudinal axis,
- a first center support having a conical face affixed to said frame along said longitudinal axis,
- a second center support having a conical face supported on said frame for movement along said longitudinal axis,
- means operable to move said second support toward said first support whereby a work piece having coaxial center holes is supported between said center supports, and
- means operable to impart oscillatory motion along said longitudinal axis to said second center support whereby said center holes are substantially simultaneously shaped.

3,195,221
PROCESS FOR FABRICATING SELF-LUBRICATING PRECISION SUPPORT CENTERS

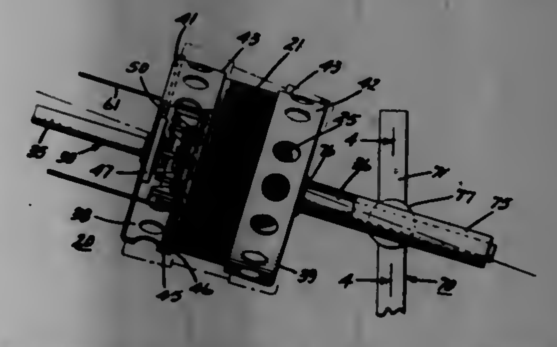
Louis D. Martin, 1536 W. Woodcrest Ave., Fullerton, Calif., and Karl H. Roehrs, 3564 Starline Drive, Rolling Hills, Calif.
Filed Dec. 30, 1963, Ser. No. 334,359
6 Claims. (Cl. 29—149.5)



1. A process for producing self-lubricating support centers for work pieces and the like comprising the steps of
- drilling conically-shaped apertures in opposite ends of a work piece along a common axis,
- shaping the conical aperture by peening the surface thereof with a tool having a face of patterned irregularities,
- applying a quantity of film lubricant to the asperant materials defining the apertures, and
- simultaneously peening the surfaces defining the apertures with highly uniform, conically-shaped tools to force the lubricant into the interstices of the surface so that support centers are formed that are mirror images of the conically-shaped hammers.

3,195,222
METHOD OF ASSEMBLING DYNAMOELECTRIC MACHINES

William A. Rutledge, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed July 5, 1962, Ser. No. 207,745
7 Claims. (Cl. 29—155.5)



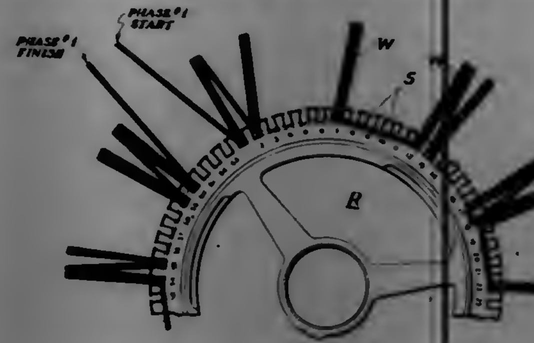
1. A method of fabricating a dynamoelectric machine having a stator, a rotatable assembly having a rotor and a shaft carrying said rotor, rotor supporting means including at least one bearing formed with a journal surface, and a pre-loaded thrust bearing system, comprising the steps of: arranging the stator and the rotor supporting means adjacent and in loosely adjustable spaced relation to one another, with positioning means holding the rotatable assembly and stator stationary relative to each other, with the shaft extending into said bearing, and with an adhesive substantially non-shrinking material in an unhardened state disposed in the space between and in contact with said stator and rotor supporting means; supporting the rotatable assembly in a preselected non-vertical position related to the weight of predetermined machine components including at least the one bearing and to the desired preload of the thrust bearing system, with the weight of said predetermined machine components being supported primarily by a parallel engaging relation between the bearing journal surface and shaft and providing the force for pre-loading the thrust system; said unhardened material permitting unimpeded relative axial movement of the rotor supporting means with respect to the rotor shaft and stator as the parallel engaging relation is being established between the shaft and the bearing journal surface; hardening said material while maintaining said shaft and bearing in said parallel engaging relation such that upon hardening of said material said parallel engaging relation is preserved and a predetermined preload is provided in said thrust system, and releasing the stator and rotatable assembly for relative rotation by removing the positioning means therefrom.

3,195,223
METHOD OF WINDING

Vincent James Soviero, Jr., Red Bank, N.J., assignor to The Bendix Corporation, Eatontown, N.J., a corporation of Delaware
Filed Mar. 31, 1961, Ser. No. 99,844
5 Claims. (Cl. 29—155.53)

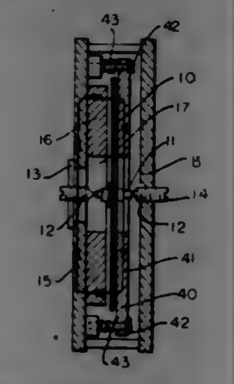
1. A method of winding a dynamoelectric machine comprising forming windings with a number of interconnected

coils equal to the total number of coils for each phase, inserting one side of the coils of one phase of the first pole group in the slots for that pole group, inverting the coils for the next pole group and inserting one side of the coils in the slots for that pole group, continuing until one side of all the coils of one phase have been inserted in the proper slots, inserting the one side of the next phase in like manner, and continuing until all of one side of each phase has been inserted, then inserting the other side of the coils in the proper slots consecutively to complete the winding.



3,195,224
METHOD OF MAKING INDICATING INSTRUMENTS AND MAGNETIC STRUCTURES THEREFOR

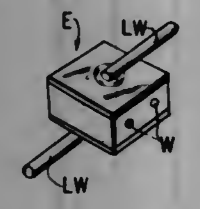
Louis W. Parker, Beechcroft Road, Greenwich, Conn.
Original application Nov. 19, 1959, Ser. No. 854,029, now Patent No. 3,056,923, dated Oct. 2, 1962. Divided and this application Sept. 20, 1962, Ser. No. 231,607
3 Claims. (Cl. 29—155.5)



1. The method of fabricating an electrical meter of the type having a rotor mounted for movement adjacent a stationary cooperating permanent magnet structure, comprising the step of magnetizing a relatively thin, flat surfaced, ring-shaped element of magnetic material having a central opening, for ultimate use as the magnetic structure in said meter, said magnetizing step occurring before said ring-shaped magnetic element is assembled into the meter, said magnetizing step comprising positioning said ring-shaped magnetic element in a magnetizer device adjacent a return path armature structure operative to effect a closed magnetic circuit of which said magnetic element forms a part, and then applying a magnetizing force to said magnetic element, while said magnetic element is so positioned adjacent said return path structure, which magnetizing force is in excess of that necessary to produce a desired final flux distribution about said magnetic element and of sufficiently large magnitude to turn substantially all magnetic domains in the material of said magnetic element in a desired direction, said magnetizing force being applied by said magnetizer device to said ring-shaped element in directions and at positions tending to form a pair of opposite polarity magnetic poles of arcuate shape diametrically opposed to one another on the flat surfaces of said element in at least partially surrounding relation to said central opening and having a relatively long air gap therebetween in the absence of said return path structure, said return path structure being operative to maintain the field strength of the poles thus formed so long as said magnetized element remains in said magnetizer device, removing said magnetized ring-shaped magnetic element from said magnetizer device without its associated return path structure and without any other "keeper" structure whereby, upon its said removal from said magnetizer device, said magnetized ring-shaped element partially demagnetizes due to the absence of a keeper structure thereby to effect a stable flux distribution curve of preselected shape and reduced amplitude about said magnetized ring-shaped element, and thereafter mounting said partially demagnetized ring-shaped magnetic element in said meter with the flat surfaces of said element being positioned in proximity and substantially parallel to a substantially flat rotor thereby to form a meter movement, said removal step comprising the sole demagnetization step to which said ring-shaped magnetic element is subjected prior to the mounting of said element in said meter.

3,195,225
METHOD OF MANUFACTURING RESISTANCE ELEMENTS

Raymond E. Belliveau, West Paterson, and Ronald MacIntyre, North Arlington, N.J., assignors to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed Dec. 11, 1961, Ser. No. 158,257
4 Claims. (Cl. 29—155.62)

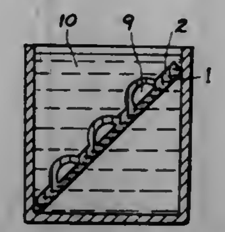


1. The method of making a multiplicity of identical electrical resistance elements, which method comprises the sequence of steps of continuously moving a continuous length of wire in a lengthwise direction through a plurality of zones in a production line, extruding onto the wire a continuous mass of resistance material in the form of a strip provided with substantially flat parallel opposite sides with the wire extending lengthwise therethrough, transversely notching the strip at opposite sides in a common plane to subdivide the strip into partially connected masses of identical shape and size, firing the masses to cause the same to harden and be adhered to the wire, securing a transversely extending electro-conductive lead to both sides of each mass, and finally separating the adjacent masses at the notches and severing the wire at the notches to produce the individual resistance elements.

3,195,226
MANUFACTURE OF COMPOSITE BODIES UTILIZING LIQUID SOLUBLE MATERIAL TO MAINTAIN POROSITY

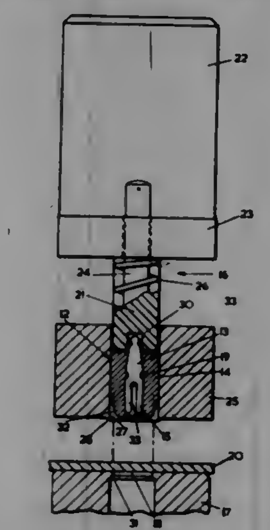
Emery I. Valyi, Riverdale, N.Y., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed June 13, 1962, Ser. No. 202,139
12 Claims. (Cl. 29—423)

1. A method of making a composite structure comprising, forming a sinterable, flat, sheet-like body of an aggregate of solid metal particles having interstices between said particles, said interstices being filled with a liquid-soluble filler material flowable with said body under pressure, forming an assembly by superimposing said body on a solid flat sheet of metal, rolling said assembly under pressure between a pair of mill rolls at a temperature and reduction sufficient to cause the metal aggregate of said body to weld together and to said sheet to thereby form said composite, and leaching said filler material from said composite with said liquid.



3,195,227
METHODS OF INSERTING INSERTS THROUGH SOLID BODIES

Harry T. Prestige, Dartford, Kent, England, assignor to J & S Engineers Limited, Crayford, Kent, England, a British company
Filed Jan. 23, 1963, Ser. No. 253,383
Claims priority, application Great Britain, Oct. 24, 1962, 40,253/62
13 Claims. (Cl. 29—423)



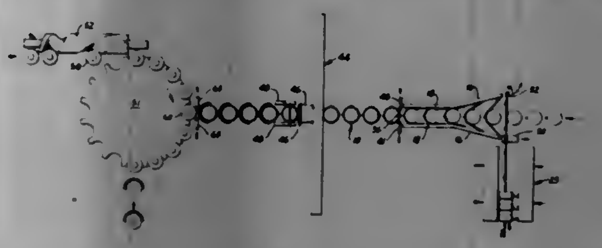
1. The method of seating in a sheet of material an insert positioned adjacent said sheet, said insert comprising a first portion having the maximum cross-sectional area of said insert in a plane parallel to said sheet and a second portion having a smaller cross-sectional area in a plane parallel to said sheet and projecting from said first portion in a direction perpendicular to said sheet, which method comprises the steps of supporting an area on the opposite side of said sheet from said insert which encircles an unsupported area in alignment with said insert, positioning readily removable padding means beside said second portion until the cross-sectional area of said second portion and padding means in a plane parallel to that of said sheet is equal that of said first portion, squeezing said sheet and said insert and padding means together until a piece of said sheet is sheared therefrom and replaced by said insert, and withdrawing said padding means.

3,195,228
BAIL-APPLYING METHOD AND APPARATUS

Robert C. Beacham, El Cerrito, Calif., assignor to Cutter Laboratories, Inc., a corporation of Delaware
Filed June 19, 1964, Ser. No. 376,448
8 Claims. (Cl. 29—430)

1. In a method wherein a wire carrying bail, said bail having terminal wire ends extending at about right angles to the remaining portions of said bail and both in the same direction, is attached to a flexible band intended to be secured about a container, said band having a pair of spaced holes therein for receipt of said terminal ends of said carrying bail, and wherein portions of each band are raised on one side of each hole relative to the band material on the opposite side thereof to form a channel lying in the same plane as the said band whereby to facilitate entry of the said terminal ends into said holes as said wire terminal ends are moved tangentially of said band, the improvements comprising:

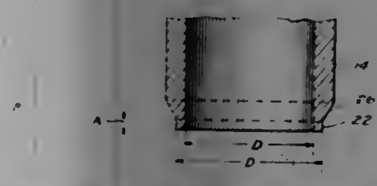
(a) developing relative motion between the said band and the said bail while the said band lies in a first plane containing the line of travel and the said bail lies in a second plane normal to the line of travel and extending transversely of said first plane, said terminal ends being aligned with said holes in said band and with the said channels in the band thereof;



(b) inserting said terminal ends in said holes;
(c) rotating said bail 90° about said holes; and
(d) placing said band about said container, said container having its largest portion extending into the area occupied by the said bail at the time of attachment of the said bail to the said band, said container being of such a height that the said bail may not thereafter be returned to the position relative of said band which it occupied when said bail first contacted said band.

3,195,229
METHOD OF BUTT WELDING METAL TUBES

Leonard James Culver, Purley, Surrey, England, assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed May 21, 1962, Ser. No. 196,049
5 Claims. (Cl. 29—482)



1. A method of preparing metal tubes of the same internal diameter for being butt welded comprising the steps of machining the end face of one of the tubes to provide an axially extending annular spigot and an inner annular shoulder extending radially from the bore of the tube and encompassed by the spigot, said spigot being formed so that its outer circumferential face is of somewhat greater height than its inner circumferential face and the end face of the tube on which the spigot is formed is dished to form with the spigot a shallow annular trough encompassing the spigot, machining the end of the other tube so that it is reduced in thickness to fit within the spigot and to seat on said shoulder, the radial distance of the spigot from the bore of the tubes being such that a root weld run in the neighborhood of the spigot can be caused to penetrate as far as the bore without flashing occurring, and the other dimensions of spigot being such that the spigot will substantially completely fuse when the root weld is run.

3. A method of butt welding metal tubes of the same internal diameter comprising the steps of machining the end face of one of the tubes to provide an upstanding annular spigot and an inner annular shoulder extending radially from the bore of the tube and encompassed by the spigot, said spigot being formed so that its outer circumferential face is of somewhat greater height than its inner circumferential face and the end face of the tube

on which the spigot is formed is dished to form with the spigot a shallow annular trough encompassing the spigot, machining the end of the other tube so that it is reduced in thickness to fit within the spigot and to seat on said shoulder, the radial distance of the spigot from the bore of the tubes being such that a root weld run in the neighborhood of the spigot can be caused to penetrate as far as the bore without flashing occurring, said spigot fusing and flowing into and filling any space between the tube ends upon running the root weld, and the other dimensions of the spigot being such that the spigot will substantially completely fuse when the root weld is run, said method including the further steps of abutting said pair of tubes, running a root weld in the neighborhood of the spigot so as to achieve a penetration of the weld as far as the bore of the tubes and completing the joint by the deposition of a fillet weld outside the root weld.

3,195,230
NICKEL BEARING CRYOGENIC WELDING MATERIAL AND PROCESS

James V. Peck, Plainfield, and Charles E. Witherell, Bound Brook, N.J., assignors to The International Nickel Company, Inc., New York, N.Y., a corporation of Delaware

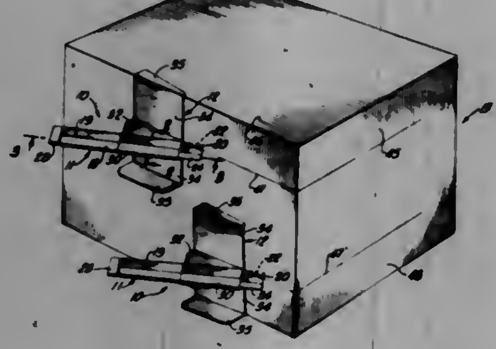
No Drawing. Filed Oct. 1, 1962, Ser. No. 227,560
11 Claims. (Cl. 29—4[illegible]6)

1. A submerged-arc filler wire for producing welds having impact values of at least about 15 foot-pounds at temperatures as low as about minus 150° F. which filler wire contains, by weight, about 3.5% nickel, about 1% manganese, about 0.3% molybdenum, about 0.15% aluminum, less than about 0.05% carbon, about 0.2% silicon, about 0.05% calcium added, less than about 0.01% phosphorus, less than about 0.01% sulfur, the sum of any phosphorus and any sulfur present being less than about 0.015% with the balance essentially iron.

6. A process for producing welds having impact values of at least about 15 foot-pounds at temperatures as low as about minus 150° F. between two nickel steel members which contain, by weight, about 2.[illegible]% to 5% nickel, up to about 1.5% manganese, up to about 0.15% carbon, up to about 0.5% silicon, with the balance iron which process comprises melting by arc-welding a welding alloy containing, by weight, about 3% to about 4% nickel, about 0.8% to about 1.3% manganese, about 0.1% to about 0.7% aluminum, up to about 0.[illegible]% molybdenum, less than about 0.07% carbon, up to about 0.7% silicon, up to about 0.1% calcium, less than about 0.01% phosphorus, less than about 0.01% sulfur, the sum of any phosphorus and any sulfur present being less than about 0.015% with the balance essentially iron and depositing said melted welding alloy between the nickel steel members.

3,195,231
RAZOR BLADE HOLDER AND ACCESSORY THEREFOR

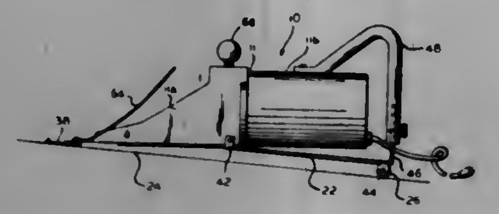
Herbert M. Lightburn, 6042 N. Hart, Temple City, Calif.
Filed Mar. 14, 1963, Ser. No. [illegible]65,193
6 Claims. (Cl. 30—2)



1. A slitting tool for use in opening cartons of canned goods and the like such manner as to utilize a portion of the carton to provide a display tray for the cans contained therein, said slitting tool comprising an elongated combination handle and sheath, means longer than and slidable lengthwise beyond either end of said sheath and supporting a sharp-edged cutting blade in one end thereof, said blade supporting means being movable between and frictionally retained in a nonoperating retracted position wherein said blade is sheathed by said handle and in an operating position with a corner of said cutting blade exposed without need for adjustable clamping means, guide means including means for holding the same detachably assembled to said handle inwardly of the end thereof located adjacent said cutting blade and including a pair of L-shaped members projecting laterally beyond the opposite sides of said handle with their longer legs lying in a common plane intersecting the forward corner of said blade when in an extended position, the shorter legs of said L-shaped members lying parallel to one another and projecting in opposite directions from the outer remote ends of said longer legs, one of said shorter legs being adapted to rest against the top rim edge of a carton as the slitting tool is used to slit a tray from the upper portion of the carton and the other shorter leg being adapted to rest against a supporting surface for the carton as the slitting tool is used to slit a tray from the lower portion of the carton all without need for lifting or inverting the carton and without changing the operator's grasp of the tool handle.

3,195,232
ELECTRICALLY POWERED STRIPPING DEVICE

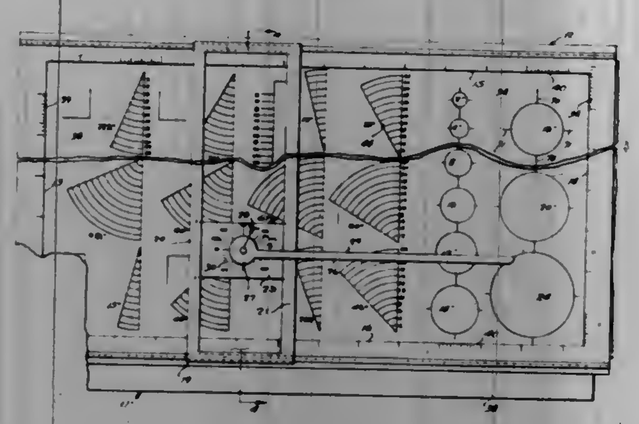
David Toth, Chicago, Ill., assignor of fifty-one percent to Norman J. Lev, Chicago, Ill., and forty-nine percent to Benjamin D. Platt, Chicago, Ill.
Filed Dec. 26, 1962, Ser. No. 246,886
3 Claims. (Cl. 30—169)



1. An electrically powered stripping device comprising: a body having a head portion with parallel channels, an electrically powered driving means, a cutting unit received by said chanels to restrict motion of said cutting unit to linear reciprocation in a straight line path within said channels and said head, means for associating said electrically powered driving means with said cutting unit to drive it reciprocally, a blade member having a sharp cutting edge extending from said cutting unit, and a support means pivotally mounted to said body for enabling the adjustment of the angle of approach of said blade with respect to a wallpapered base surface, said support means comprising a front portion pivotally associated with said body, a rear portion having wheels on both sides thereof rotatably mounted thereon, with means for selectively associating said support means in a certain position with relation to said body, whereby the angle of said support means can be selectively chosen to vary the angle of attack of said blade in order that long strips of wallpaper or the like can be stripped from a base surface by the reciprocating action of said blade without any wobbling of said stripping device.

3,195,233
OFFSET DESIGN INSTRUMENT

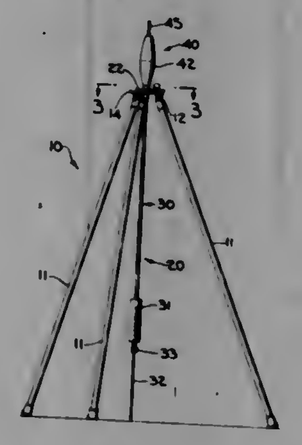
Leroy H. Brocklander, 85 Vaughn Ave., Spotswood, N.J.
Filed May 10, 1963, Ser. No. 279,406
8 Claims. (Cl. 33—1)



1. A conduit layout device comprising a closed polygonal main frame having longitudinal and transverse end arms disposed substantially at right angles to each other, said arms being provided with linear distance scales, an auxiliary frame transversely disposed over said main frame, means slidably connecting said auxiliary frame to said longitudinal arms, a support member, means slidably connecting said support member to said auxiliary frame for adjustment parallel to said transverse end arms, a pointer arm pivotally connected to said support member and being adapted to overlie a portion of said main frame, a first plate member slidably mounted on said main frame and being inscribed with at least one row of symbols of graduated size representing the cross section of vertical objects, and a transparent second plate member slidably mounted on said main frame parallel to and overlying said first plate member and being inscribed with groups of concentric arcs graduated in radius, the arcs of the respective groups subtending predetermined elbow angles, whereby the first plate member may be positioned to place a symbol thereof at a predetermined coordinate position on said frame, and the second plate member may be positioned with a group of concentric arcs arranged concentrically with the symbol, and whereby the pointer arm may be arranged tangent to an arc of the group.

3,195,234
RANGE ROD ASSEMBLY

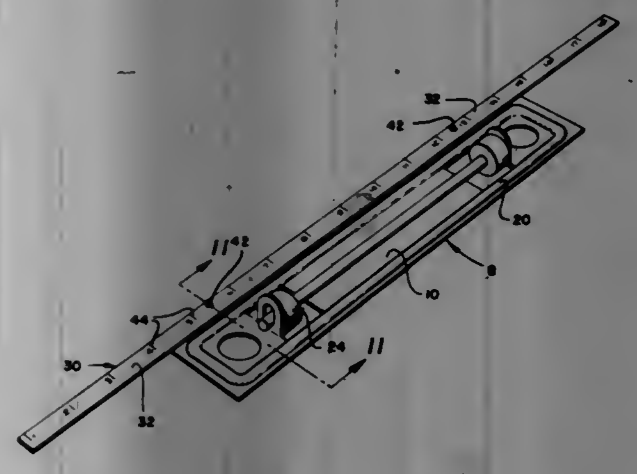
Roger D. Glidden, 708 Bettyhill Ave., Duarte, Calif., and Charles E. Glidden, 1233 Lyman Ave., Glendora, Calif.
Filed Jan. 3, 1963, Ser. No. 249,255
12 Claims. (Cl. 33—74)



1. A surveyor's range rod assembly comprising an elongated rigid rod, means for pivotally supporting said rod pendulum fashion from its upper end with its axis disposed vertically, a sighting target mounted on said rod having a surface of revolution centered about said vertical axis and presenting an identical silhouette as viewed from any vantage point laterally of said target, said target including adjacent portions of widely and abruptly differing cross-sectional areas transversely of the longitudinal axis of said target and lying normal to the axis of said rigid rod, the portions of said target of larger cross-section being suitable for use to obtain accurate settings at relatively great distances from a sighting instrument and the smaller portions being suitable for sighting and obtaining accurate settings over short distances from the sighting instrument.

3,195,235
RULING INSTRUMENT

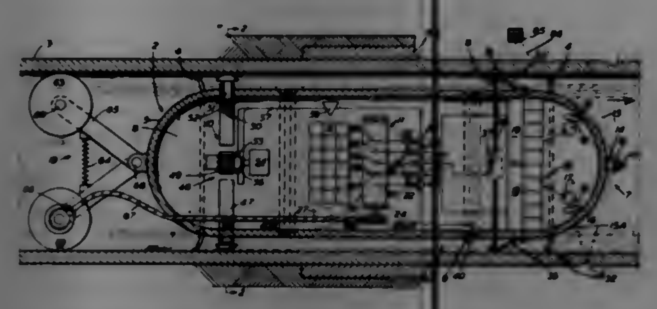
William E. Regan, Burlingame, Calif., assignor to Regan Industries, Inc., Burlingame, Calif., a corporation of California
Filed Aug. 15, 1961, Ser. No. 131,574
1 Claim. (Cl. 33—109)



A ruler adapted to parallel movement comprising an elongated rectangular substantially flattened ruler portion, said ruler portion being provided with a stiffening ridge about its periphery, the area within said ridge being provided with a pair of spaced apart apertures, an upstanding slotted support member adjacent the outer edge of each of said apertures, the slots of said support members being slightly elongated in a vertical plane, an elongated cylindrical weighted bar rotatably and slidably mounted in the slots of said support members, surface engaging roller means secured to said rotatable bar and adapted to extend downwardly through said apertures into engagement with the surface over which the ruler is moved, said roller means including inner cylindrical portions tightly engaged upon said bar and gradually outward flaring peripheral portions providing biting edges adapted to provide parallel rolling motions over said surface, said inner cylindrical portion including ends substantially adjacent the bar, and a metallic coating covering exposed portions of said bar and roller means, said metallic coating forming a surface on said bar butted against the ends of the inner cylindrical portions whereby it serves to hold said roller means firmly in place on said bar, each of said roller means being positioned on said bar so as to be inwardly adjacent an upstanding support member, whereby said biting edges serve to prevent undesired longitudinal and angular movement of the ruler as it is moved between successive parallel positions by said bar and roller means, said ruler having attached thereto a ruler extension of greater length than said flattened ruler portion, said ruler extension including resilient clip means adapted to engage within said stiffening ridge of said ruler portion, said resilient clip means also providing a lower flattened surface engaging portion adapted to hold the ruler extension above said surface.

3,195,236
PIPELINE SURVEY INSTRUMENT

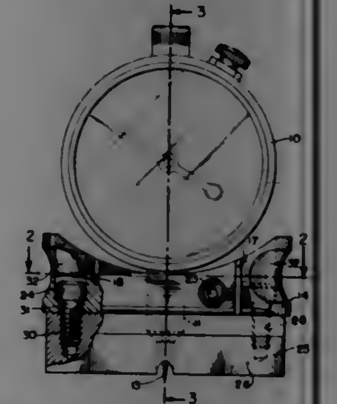
William G. Green and Dale M. Moody, Tulsa, Okla., assignors, by mesne assignments, to Aquatron Engineering Corp., St. Petersburg, Fla., a corporation of Florida
Original application Sept. 12, 1956, Ser. No. 609,462, now Patent No. 3,064,127, dated Nov. 13, 1962. Divided and this application Nov. 13, 1962, Ser. No. 247,778
2 Claims. (Cl. 33—[illegible]41)



1. A distance measuring device for a pipeline survey instrument comprising: pivot means supported from said instrument, levers pivoted to said pivot means, shafts extending from said levers, wheels journalled relative to said shafts and adapted to rotate in opposite directions when engaging opposed walls of said pipeline, said wheels and levers forming two wheel lever units, spring means between said wheel lever units for urging said wheels into contact engagement with said opposed walls, drive means fixed to at least one of said wheels, driven means engaging said drive means, recording means in said instrument for displaying the distance travelled by said instrument, flexible means between said driven means and said recording means for rotating said recording means at a speed proportional to the wheel speed to display the distance of travel of said instrument.

3,195,237
DIAL DEPTH GAGE

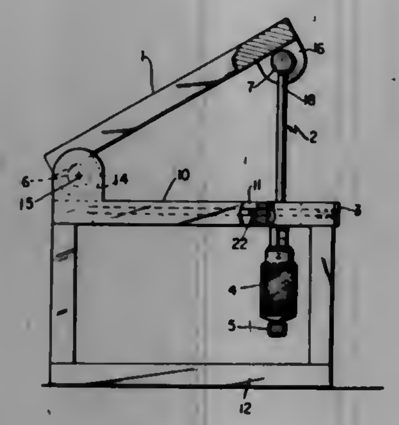
David H. Aldeborgh, Poughkeepsie, N.Y., assignor to Standard Gage Company, Inc., Poughkeepsie, N.Y., a corporation of New York
Filed Oct. 10, 1962, Ser. No. 229,651
4 Claims. (Cl. 33—[illegible]72)



1. A dial indicator depth gage comprising, in combination, a reference member having a knife edge lower surface and a finished planar upper surface, an indicator clamping block adapted to be clamped to the measuring plunger housing stem of a dial indicator with the stem extending through said block and being substantially perpendicular to a planar lower surface of said block, an aperture in said reference member for receiving the housing stem, measuring plunger and needle point measuring contact in which the measuring plunger terminates, said aperture being larger than the measuring plunger and contact point, and means for adjustably mounting said reference member on said clamping block to assure that the center of said contact point is in alignment with said knife edge.

3,195,238
MICROMETER ADJUSTED SINE BAR

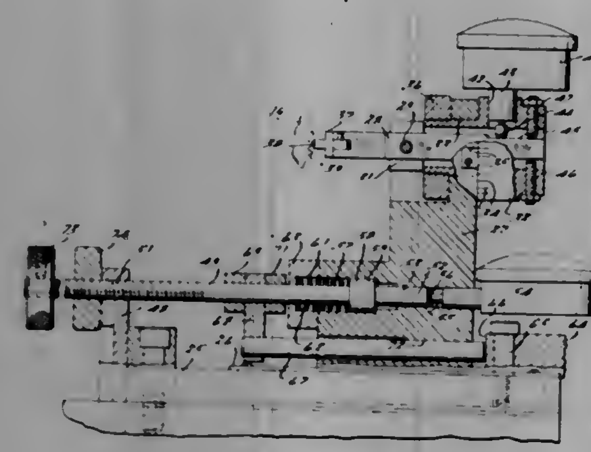
David Grenell, Brooklyn, N.Y., assignor, by direct and mesne assignments, of fifty percent to Ruth Grenell, Brooklyn, N.Y., and fifty percent to Sophie Hirschberg, Secaucus, N.J.
Filed May 21, 1962, Ser. No. 196,083
5 Claims. (Cl. 33—174)



1. A sine bar comprising in combination, a planar member, horizontal support means having an axis on which one end of said member is pivoted, micrometer means for presetting the other end of said member at a predetermined distance from said support to form a desired angle between said member and said support, said other end being displaceable in a circular path about said axis, said micrometer means being slidable on said horizontal support means.

3,195,239
GEAR TOOTH CHECKING SYSTEM

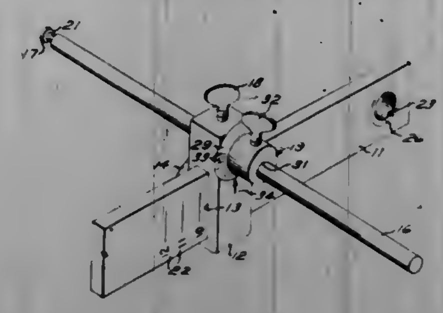
Willard B. McCardell, Royal Oak, Mich., assignor to Michigan Tool Company, Detroit, Mich., a corporation of Delaware
Filed May 1, 1961, Ser. No. 106,645
9 Claims. (Cl. 33—179.5)



1. In a gear tooth checking apparatus, means for supporting a gear for rotation on a predetermined axis, means for successively indexing said gear an angular distance equivalent to the theoretical circular pitch, a pointer carriage movable at right angles to said axis, a pointer mounted on said carriage and adapted to simultaneously engage opposite tooth flanks of only a single tooth, a first indicator responsive to movement of the carriage from a retracted position to an operative position in which said pointer engages a tooth for indicating the radial distance of said pointer from said axis, and a second indicator responsive to engagement of said pointer with a gear tooth for indicating the relative position of the pointer in a direction at right angles to the extent of the engaged tooth.

3,195,240
DEPTH AND RADIUS GAUGE

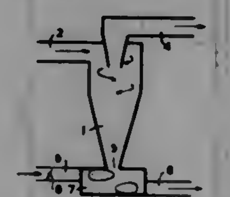
Warren H. Parker, Oakland, Calif., assignor of one-third to Charles Bork, Oakland, Calif., and of one-third to Norris O. Knutson, Danville, Calif.
Filed Oct. 9, 1961, Ser. No. 143,913
1 Claim. (Cl. 33—180)



A combined depth and radius gauge for the braking plate or the like of a wheel brake assembly, comprising an elongated arm having a bore adapted to receive an axle spindle for rotation of the arm thereon, a yoke mounted on said arm for slidable movement longitudinally thereof and having a bore parallel to said first bore, a collar having a bushing portion journaled for rotation in said second bore, said collar having a bore parallel and eccentric to the bore in said yoke, an elongated gauging member slidably and rotatably mounted in said eccentric bore, said arm having calibrating markings thereon cooperating with a portion on said yoke for indicating distances between the first bore and the yoke, and said collar and yoke having coperating calibrating markings for indicating the rotation position of the collar in relation to the yoke, means on the collar for selectively retaining the gauge member against axial displacement in the bore thereof, and means for selectively retaining the collar against rotation in the yoke.

3,195,241
AIR LOCK ARRANGEMENT AND METHOD FOR TRANSFERRING A POWDER FROM A CHAMBER MAINTAINING A ROTARY FLOW OF GAS, TO PNEUMATIC CONVEYOR PLANT

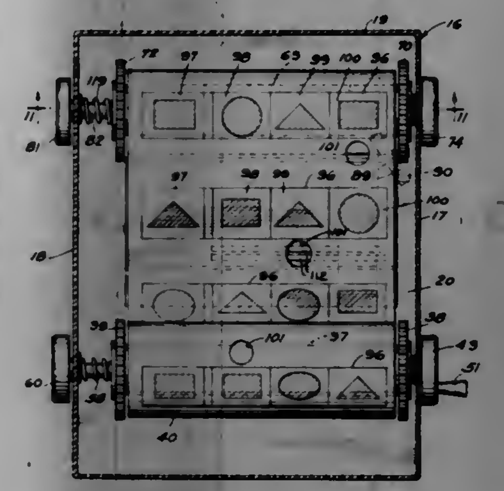
Per Høhne, Horsholm, Denmark, assignor to A/S Niro Atomizer, Soborg, Denmark
Filed May 8, 1962, Ser. No. 193,118
Claims priority, application Denmark, May 18, 1961, 2,056/61
5 Claims. (Cl. 34—10)



5. A method for transferring finely pulverized material from a treatment chamber to a pneumatic conveyor plant utilizing gaseous mediums comprising the steps of supplying said chamber with said material as a powder suspended in a first gaseous medium having a vortex flow in said chamber, establishing a vortex flow of a second gaseous medium as a carrier gas coaxial with and below the vortex flow of said first medium, introducing said first vortex flow within the center of said second vortex, maintaining the two vortex flows separate from each other by controlling the inlet pressure and velocity of said carrier gas forming said second vortex to establish a pressure equilibrium between the two vortex flows, transferring the powder from the first vortex by centrifugal force to the second vortex and subsequently transporting said transferred powder in said second vortex to said plant by a stream of said carrier gas from said second vortex.

3,195,242
TEACHING APPARATUS

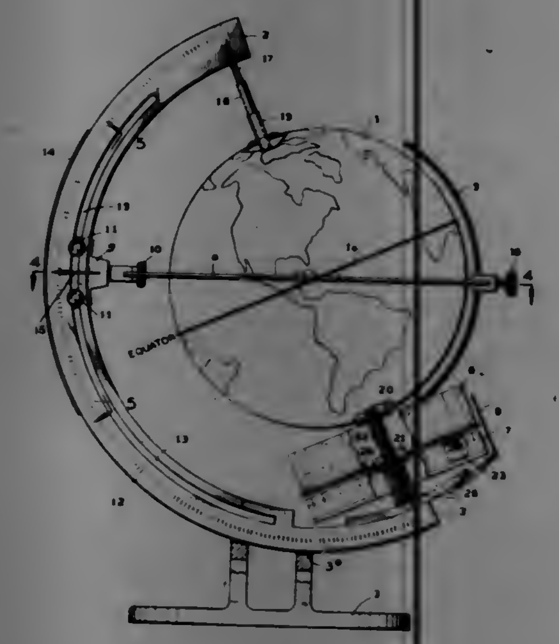
Phillip L. Ward, 220 Shadowood Lane, Northbrook, Ill., and Warren H. Ward, Jr., 2963 Payne, Evanston, Ill.
Filed Oct. 26, 1962, Ser. No. 233,351
2 Claims. (Cl. 35—9)



1. A teaching apparatus comprising a housing including side walls, a rear wall, a bottom wall, and a top wall or cover having a sight window therein, a feed roller and a take-up roller rotatably mounted in the housing in spaced relationship on opposite sides of said sight window, a question and answer-bearing web movably mounted in the said housing for movement under said sight window from the said feed roller onto the said take-up roller, means for manually rotating the said take-up roller to advance the said web from the said feed roller onto the said take-up roller, said question and answer-bearing web having a question-bearing frame and answer-bearing frame thereon, the said question and answer-bearing web also having contact-making apertures or holes formed therein at intervals lengthwise thereof and the said contact-making apertures or holes being arranged in staggered relationship laterally of the said web and being spaced from each other lengthwise of the said web, and electrical circuit in the said housing including a signal device and a plurality of manually operable electric switch members movably mounted in said top wall or cover of the said housing in spaced relationship laterally thereof, and in alignment with the said answer-bearing frames, said electrical circuit including relatively stationary electrical contact means arranged in the said housing below the said web and below the said manually operable switch members, an electrical contact member operatively connected with each of the said manually operable switch members and said contact members being aligned laterally of the said web with the said contact-making apertures or holes in the said web and being selectively movable by said switch members into engagement with the body of said web in the event of the selection of an incorrect answer to a question on the said web but being selectively movable through one of the said contact-making apertures or holes in the said web into engagement with the said stationary contact means to energize the said electrical circuit and the said signal device to indicate the correct selection of the answer to a multiple choice of answers to the said question on the said web as seen through the said sight window, the said means for manually rotating the said take-up roller including a hub portion formed in the said take-up roller at one end thereof and having gear means thereon, a shaft rotatably mounted in a side wall of the said housing and having a hand knob thereon outwardly of the said housing, the said take-up roller having a hub portion thereon at one end thereof, the said shaft having gear means thereon engageable with the said gear means on the said hub portion of said take-up roller for positively driving the latter, the said take-up roller having an annular gear rack thereon, resilient latching means mount-

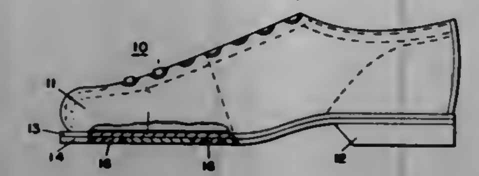
ed in the said housing below the said top wall or cover thereof and coacting with the said take-up roller for preventing retrograde movement of the latter, the said resilient latching being pivotally mounted in the said housing and having a downwardly angled lower end portion engageable with the said gear rack on the said take-up roller, and said latching being adapted to be pivoted laterally out of position to engage the said gear rack on said take-up roller so as to permit retrograde rotation of said take-up roller.

3,195,243
EDUCATIONAL DEVICE FOR TEACHING EARTH-SUN FACTS AND FOR DEMONSTRATING AND DUPLICATING PLANETARY AND MAN-MADE MOVEMENTS
Folke W. Sundblad, 3529 SW. 12th Place, Fort Lauderdale, Fla.
Filed Jan. 2, 1963, Ser. No. 249,054
3 Claims. (Cl. 35—46)



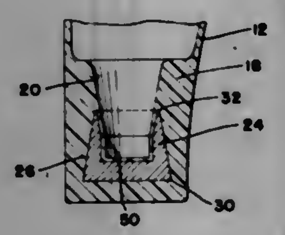
1. An educational instrument of the character described for demonstrating earth-sun-satellite facts and relationships comprising in combination a half-circular frame, a base for supporting the frame in a perpendicular position, a world globe rotatably supported by the frame, the axis of rotation of the globe being 23½° from the vertical, a housing slidable on the inside circumference of the frame, means for fixing the housing in adjusted position in direct relation with the equatorial plane of the globe, pivot means carried by the housing, a partly circular and partly elliptical ring encircling the globe and supported by the pivot means, a clamping nut for fixing the ring in various angular positions with respect to the pivot and the globe, a pair of cylindrical concentric co-axial charts mounted below the globe and with the charts being co-axial with respect to the axis of the globe and with the upper cup-shaped chart being rotatable with the globe and the lower cup-shaped chart being independently rotatable, means for locking the two charts together after adjustment, a pointer attached to the lower portion of the frame and extending over both of the charts, a pair of curved scales calibrated to indicate latitudinal degrees, and said scales being fixed upon the opposite sides of the frame, an arcuated chart calibrated to indicate dates and months, said arcuated chart being fixed to the back edge of the frame and extending outwardly from opposite sides and pointers carried by the housing to override the curved scales as the housing is adjusted upon the frame to vary the horizontal angularity of the ring.

3,195,244
BOWLING SHOES AND METHODS FOR MAKING THE SAME
Joseph E. Whitcas, 416 Yale Ave., Cherry Hill, N.J.
Filed Feb. 20, 1963, Ser. No. 260,350
15 Claims. (Cl. 36—2.5)



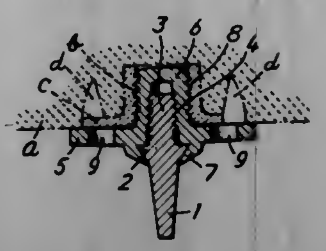
1. A bowling shoe having a leather sole the wear surface of which is provided with a plurality of predetermined areas of fluorocarbon material at spaced locations at least one of which, during use of the shoe, is substantially beneath the ball of the foot and all of which are substantially co-planar with said wear surface of said sole, said fluorocarbon areas having a low coefficient of friction and being substantially non-absorbent, and said fluorocarbon areas being separated by other areas of said wear surface of said sole having a higher coefficient of friction whereby said bowling shoe has a substantially uniform effective coefficient of friction which is lower than the coefficient of friction of the leather sole and substantially unaffected by humidity conditions.

3,195,245
WOMEN'S BOOT HEEL CONSTRUCTION
Emma M. Hanko and William B. Hanko, both of 2710 Queen Ave., Cleveland, Ohio
Filed Mar. 23, 1961, Ser. No. 97,885
7 Claims. (Cl. 36—7.3)



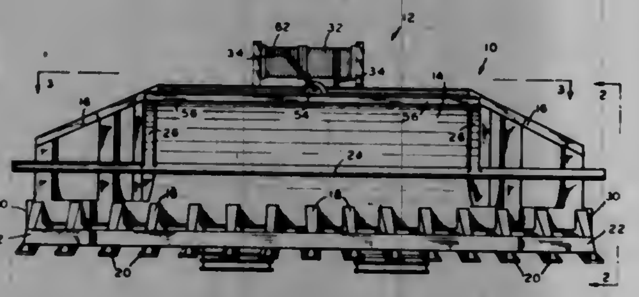
1. A women's boot heel construction to prevent rapid wear, said construction including a boot heel provided at its lower end with a thickened continuous unlined elastomeric wall section defining a central longitudinally extending bore, a bottom wall closing said bore, a cuplike socket member tightly received within the lower portion of said bore defined by said thickened wall section and including a substantially continuous side wall forming a heel receiving socket member bore and a socket member bottom wall closing said socket member bore, said socket member bottom wall resting against the bottom wall of the boot heel, means to facilitate entry of a shoe heel into the bore of said socket member, and means to secure said socket member in place within the bore defined by said thickened continuous wall section which includes an external generally frusto-conical surface provided on the side wall of said cuplike socket member, and converging toward the mouth of said boot heel, said frusto-conical surface forming said cuplike socket member with a large diameter bottom edge and a small diameter upper edge, said thickened wall section engaging said frusto-conical surface over a substantial area to provide a mass of boot heel material located between the top and bottom edges of the socket member to inhibit upward movement of the socket member relative to the bore defined by said thickened wall section.

3,195,246
SPIKE FOR SHOES
Takeshi Ueda, 2–1 Izumi-cho, Isezaki, Japan
Filed Aug. 12, 1964, Ser. No. 389,092
1 Claim. (Cl. 36—67)



A spike for shoes having a threaded insert adapted to be mounted in the sole thereof comprising a spike member of abrasion resisting steel having a tapered end portion, a lateral rim extending from its medial portion and a head portion with an uneven peripheral surface, a washer of a light metal provided at its central portion on one side with an axially extending cup open at its lower end and an axially extending short tube on the side opposite to said cup, said spike member head extending into said washer cup with said cup extending into the uneven surface of said spike member head, said washer short tube embracing said spike member rim on a side thereof opposite to said spike member head and said washer cup having external peripheral threads for being in threaded engagement with the threaded insert mountable in the shoe sole.

3,195,247
BRUSH RAKE COMPRISING A PLURALITY OF GROUND ENGAGING RUNNERS WITH A TRAVERSE BLADE SECURED TO THE FRONT SURFACE THEREOF
Will H. Grimes, Box 790, Stamford, Tex.
Filed Nov. 15, 1962, Ser. No. 237,887
1 Claim. (Cl. 37—2)



In combination with a tractor a rake mounted on the front of said tractor for clearing land of brush and the like, comprising:

an upstanding back frame portion having a width at least the width of said tractor;

a multiplicity of teeth members affixed at one end to said back frame portion and extending downwardly and forwardly of said back portion;

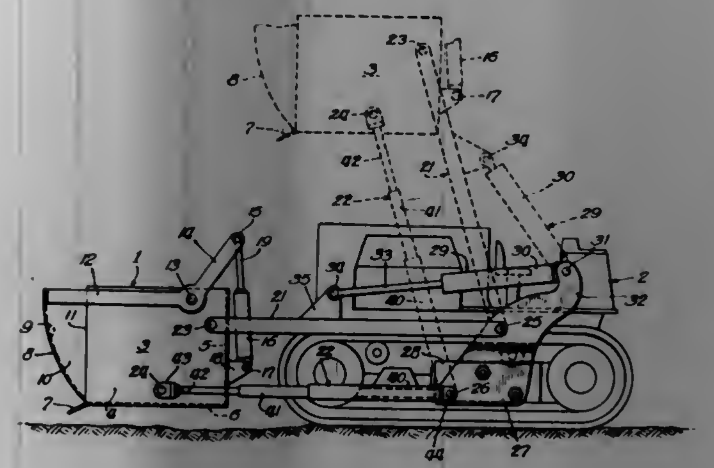
a runner member having a flat ground engaging lower surface affixed to the bottom end of each of said teeth;

a unitary transversely positioned flat bar member extending the width of said multiplicity of teeth and supported to the forward surface of said teeth and having the lower edge thereof spaced above said runner members and the upper edge thereof below the said back frame portion;

means of pivotally supporting said back frame portion to and forwardly of said tractor; and

means on said tractor of pivotally raising and lowering said rake relative to said tractor.

3,195,248
SCRAPER EQUIPMENT ATTACHABLE FOR BODILY MOVEMENT
William E. Martin, P.O. Box 187, Kewanee, Ill.
Filed Aug. 2, 1962, Ser. No. 214,380
3 Claims. (Cl. 37—124)

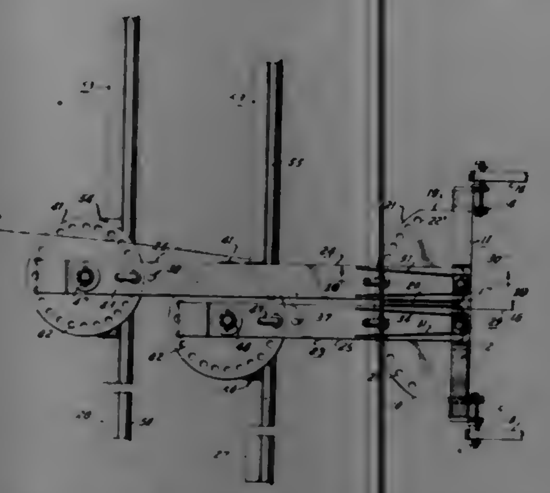


1. In a power operated material handling vehicle having ground engaging drive means having a median horizontal plane with portions of said vehicle frame disposed intermediate said drive means in the elevation of said plane, a scraper assembly comprising a scraper bowl movably mounted on said vehicle for actuation from an operative lowered ground engaging position ahead of the vehicle in line with said plane and into an inoperative raised position above said drive means, and power regulated link means at each side of the vehicle to mount said scraper assembly on said vehicle comprising individual upright brackets fixedly secured to the vehicle frame portions longitudinally intermediate said drive means and extending upwardly at opposite sides of the vehicle laterally beyond the outer sides of the drive means, each bracket having a set of link members pivotally connected therewith above and below said plane and having pivotal connections with the scraper bowl at points above and below said plane when said scraper bowl is lowered to operative position ahead of said drive means, and power operated means connected to actuate each set of link members to raise said scraper bowl between operative and inoperative positions, said power operated means each comprising a power cylinder pivotally connected with one of the fixedly secured brackets and having a ram pivotally connected with one of said link members on said bracket, said cylinder and ram extending substantially fore and aft in relation to the vehicle drive means and in upwardly flanking relation with respect to the link members operated thereby when said scraper bowl occupies its operative lowered position, said link members being subjected to compressive forces in positions above and below said plane when said scraper bowl is lowered to thus operatively and forcibly manipulate said scraper bowl in straight line fashion parallel with said plane to counteract vehicle tilt.

3,195,249
DUAL BLADE IMPLEMENT
Johnnie C. Collins, Dallas, Tex., assignor to Servis Equipment Company, Dallas, Tex., a corporation of Texas
Filed June 10, 1963, Ser. No. 286,613
5 Claims. (Cl. 37—143)

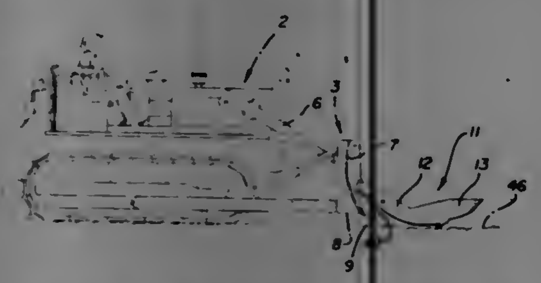
1. A dual blade implement including a pair of blade units, a common support for the blade units, each blade unit having an elongate frame member extending rearwardly from the common support, pivot means rotatably mounting the front end of each frame member on said support for pivotal movement about an upright axis independently of the other frame member, the pivot means being in close proximity to each other to permit positioning of the frame members in adjacent parallel relationship,

separate means for fastening each frame member to said support in adjusted positions to permit independent adjustments of the positions of the blade units, a blade assembly adjustably fastened and rotatably mounted on the rear end portion of each frame member for pivotal movement about an upright axis spaced from the axis of rotation of the frame member, one of the frame members being of sufficiently greater length than the other of said frame members to position the blade assemblies in spaced proximity for coaction with each other, and a moldboard assembly mounted on each blade assembly for pivotal movement therewith relative to its frame member and with the frame member relative to the other frame member.



3,195,250
EARTH WORKING BLADE ATTACHMENT TOOL, AND METHOD OF POSITIONING AND MOUNTING SAME ON THE BLADE

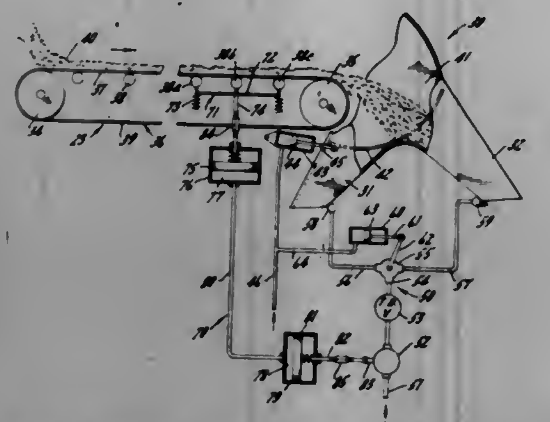
Cecil A. Robinson, Sullivan, Ill., assignor of one-half to Lloyd Younger, Jr., Bethany, Ill.
Filed Sept. 26, 1962, Ser. No. 226,417
10 Claims. (Cl. 37—145)



7. The method of detachably positioning an attachment tool against an earth working blade having a concave working face; the tool having a frame structure the rear face of which is of a convex curvature and being of such construction that when said tool is at rest on a supporting surface with its rear convex face in engagement with such supporting surface a free open space exists between said supporting surface and the top end portion of the tool, and hook means on said tool above the bottom thereof and open at the top for receiving the lower edge of the blade; said method comprising first positioning the tool with its convex rear face resting on a supporting surface whereby the top end portion thereof is above said surface and such free open space is provided between said supporting surface and said top end portion, while the tool is thus supported on its rear face moving the blade to insert it with the bottom of the blade foremost into said open space between said top end portion and said supporting surface, and continuing such movement to elevate the tool and cause the lower edge of the blade to engage in said hook means and the concave face of the blade to engage the convex face of the tool.

3,195,251
MOISTURE CONTROL METHOD AND SYSTEM FOR WHEEL EXCAVATORS

Fouad K. Mittry, Jr., Los Angeles, Calif., assignor to Mechanical Excavators, Inc., Los Angeles, Calif., a corporation of California
Filed Mar. 19, 1963, Ser. No. 266,366
12 Claims. (Cl. 37—190)



2. A moisture control system for a wheel excavator or the like having an excavated material flow path which terminates in a plurality of discharge areas and means for diverting excavated material from one discharge area to another, said system including, in combination,

a water supply line communicable with a source of water,

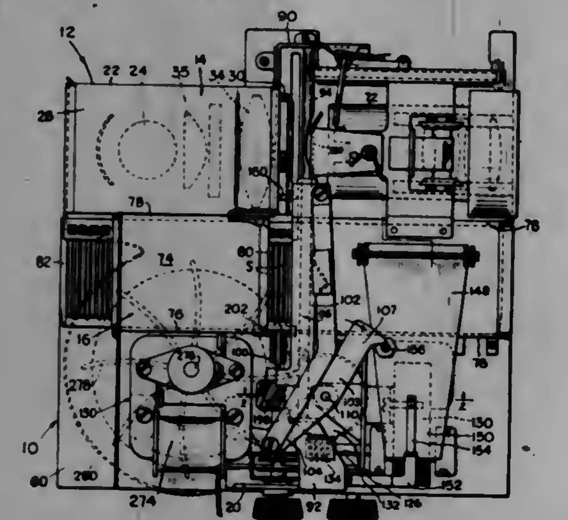
said water supply line terminating in a plurality of outlets, one outlet opening into each discharge area,

means for directing water into a moving stream of the excavated material as it passes through a discharge area, and

means for regulating the quantity of water directed into the discharge area in consonance with the moving stream of excavated material passing through the quantity of excavated material moving along the flow path.

3,195,252
SLIDE PROJECTOR TRANSFER MECHANISM WITH STOP MEANS

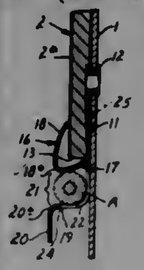
James A. Clark, Brighton, N.Y., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Original application Feb. 16, 1959, Ser. No. 793,569, now Patent No. 3,114,806, dated Dec. 17, 1963. Divided and this application May 10, 1961, Ser. No. 109,144
2 Claims. (Cl. 40—36)



2. A slide transfer mechanism for an automatic slide projector or the like comprising a relatively light reciprocatable transfer arm for moving slides between two spaced positions in the projector, a rotatable member connected to said arm for reciprocating it, an electric motor generating a stray magnetic field and rotating said member, means energizing said motor, a drive train including a slip clutch connecting said motor and said member, an abutment stop movable into and out of the path of said member, means normally urging said stop into the path of said member, a magnetic actuator adjacent to said motor and connected to said stop, said magnetic member operating in response to the stray magnetic field for moving said stop out of the path of said member in response to and holding said stop out of the path during energization of said motor, means breaking the connection between said motor and said energizing means, and said slip clutch drive connection permitting said motor to overrun and dissipate its inertial energy after said stop brings said member to an abrupt halt upon deenergization of said motor.

3,195,253
PENCIL AND CALENDAR CLIP

Robert F. White, Minneapolis, Minn., assignor to Shedd-Brown, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Nov. 26, 1963, Ser. No. 325,851
1 Claim. (Cl. 40—119)



The improvement in calendars of the type which include a relatively rigid backing sheet, and a calendar pad comprising a plurality of relatively flexible leaves superimposed on said backing sheet and secured thereto along its upper edge for swinging movements of the free lower ends of said sheets away from said backing sheet, said improvement comprising:

(a) a flexible resilient metal strap overlying said backing sheet,

(b) means securing said strap to said backing sheet in underlying relationship to said pad whereby the lower end thereof projects below said pad intermediate the side edges thereof,

(c) said strap immediately below said pad having struck from the intermediate portion thereof a tongue which is bent generally outwardly from the plane of said backing sheet to define a resilient jaw element,

(d) said strap in downward spaced relationship to said first mentioned jaw element being bent generally outwardly from the plane of said backing sheet to define a second resilient jaw element which is generally parallel to said first mentioned jaw element,

(e) the free end of said tongue defining a resilient lip which projects upwardly from said first mentioned jaw element in generally coplanar relationship with said backing sheet and overlies the lower edge of said pad whereby to limit accidental swinging movements of the leaves thereof,

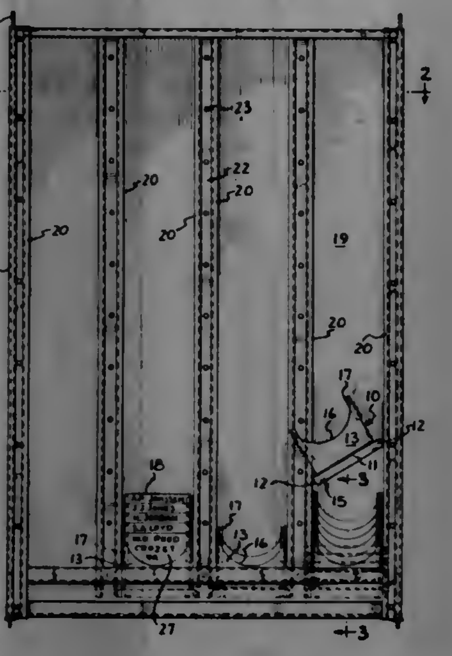
(f) the extreme lower end of said strap being bent downwardly from said second mentioned jaw element in substantially coplanar relationship with said backing sheet to form a thumb tab for spreading said jaw elements,

(g) said jaw elements at their points of joinder with their respective lips each defining arcuate portions which cooperate to define a restricted mouth for a pencil inserted between said jaw elements,

(h) the recess from which said tongue is pressed extending into said second mentioned jaw element and terminating at approximately the lip thereof whereby to facilitate separation of said jaw elements by said thumb tab.

3,195,254
RECORD HOLDER DEVICE

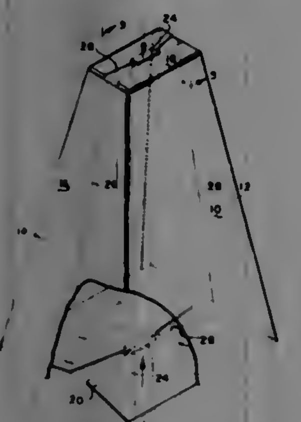
Thomas J. Hurney, Kensington, Md., assignor to Acme Visible Records, Inc., Crozet, Va., a corporation of Delaware
Filed June 12, 1963, Ser. No. 287,287
6 Claims. (Cl. 40—124)



1. A record plate holder comprising a flat rigid tubular upwardly open holder body portion, an integral mounting flange base portion disposed at an acute angle to said body portion and an integral offset portion therebetween, said flange portion including an opposed pair of laterally extending tabs adapted to be slidably disposed beneath an opposed pair of guide channel members carried by a mounting panel for said holder.

3,195,255
METHOD AND APPARATUS OF RECORDING AND DISPLAYING DATA

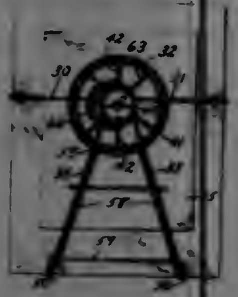
Harry A. Toulmin, Jr., Dayton, Ohio, assignor to Basic Research Corporation, Dayton, Ohio, a corporation of Delaware
Filed May 11, 1961, Ser. No. 109,289
2 Claims. (Cl. 40—124.1)



1. A collapsible data display device comprising: four similar trapezoidal side walls hingedly interconnected at their adjacent edges to form a device of frusto-pyramidal shape, said side walls having means adapted to secure a data sheet thereto, a rectangular top wall for the device hingedly connected along only two of its opposed edges to the top edge of two opposed side walls, a rectangular bottom wall similarly attached to the bottom edge of said two opposed side walls, said other two opposed side walls having medial fold lines extending from top to bottom thereof and lying in a given plane, said top and bottom walls also having fold lines lying in said plane, and said top and bottom walls each having opposed notches extending inwardly toward their respective hinge lines, said

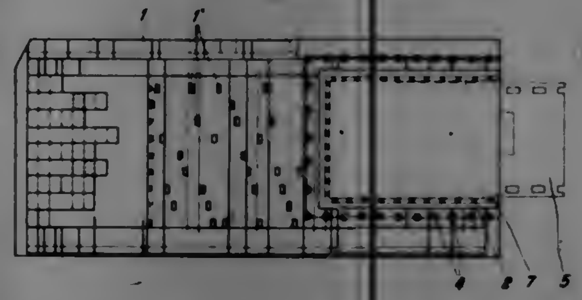
notches being bisected by said plane, said side walls having the medial fold lines therein and said top and bottom walls being adapted to be collapsed inwardly along the pertaining said medial fold lines to collapse said device with said side walls having the medial fold lines therein being received in said notch means.

3,195,256
PICTURE FRAME
Elias Al Core, 264 E. 180th St., Bronx, N.Y.
Filed Mar. 7, 1963, Ser. No. 263,550
1 Claim. (Cl. 40—156)



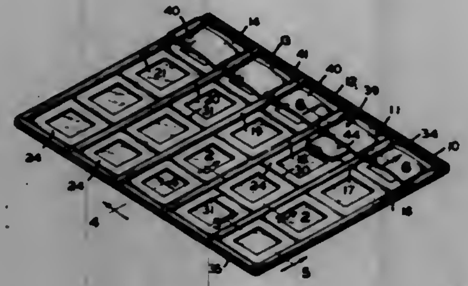
In a device for supporting a picture in framed condition, including a transparent planar member, and a wire frame element detachably engaging said transparent planar member, the improvement comprising: a resilient compression element connected to the wire frame element and having means resiliently pressing against one surface of the planar member, the compression element including a wire loop member, a bolt connected to the loop member and passing through an opening in the frame element, a nut engaging the bolt, a coil spring surrounding the bolt and disposed between the frame element and the loop member, rotational movement of the nut serving to adjust the force exerted by the ring member against the surface of the planar member.

3,195,257
PUNCHED CARD
Rolf Welhe, Iserlohn, Westphalia, Germany, assignor to Firma Brause & Co., Iserlohn, Germany, a corporation of Germany
Filed June 6, 1961, Ser. No. 115,168
Claims priority, application Germany, Feb. 20, 1961, B 61,505
5 Claims. (Cl. 40—158)



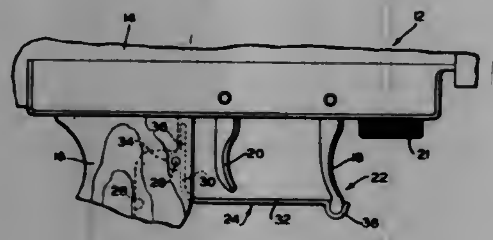
1. A punched card having an aperture for mounting a reference document, comprising
  transparent foils permanently secured to said card and forming a pocket open on at least one side,
  said foils being secured to opposite faces of said card and covering said aperture, so that a reference document can be removably and exchangeably inserted into said pocket, and
  said card having a plurality of perforations disposed around said aperture, and
  means for sealing together said foils, disposed on opposite faces of said card, through said perforations to constitute the sole securing means of said foils to said card.

3,195,258
MOUNTING FRAME FOR SLIDES AND THE LIKE
James M. Gwin, 72 Frederick Lane, Glendale, Mo.
Filed July 3, 1961, Ser. No. 121,439
8 Claims. (Cl. 40—158)



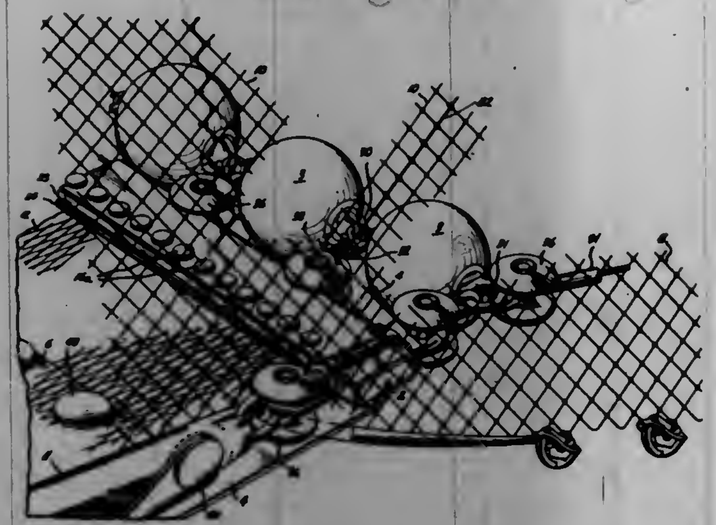
1. A mounting frame for holding, in side-by-side relationship, a plurality of slides, said frame comprising a plurality of laterally spaced apart longitudinally extending channels, said channels being defined by a supporting web having on the upper surface thereof, a plurality of laterally spaced apart longitudinally extending ribs, a pair of adjacent ribs defining between them a channel, each of said ribs being undercut on a side facing a channel to provide a flange for receiving the edges of said slides, at least one rib of each channel being laterally yieldable whereby a slide can be positioned in and removed from said channel by laterally displacing said yieldable rib, each yieldable rib being hollow and generally C-shaped in cross section, with the opening of the C facing and communicating with the lower surface of said supporting web so as to provide each yieldable rib with a reversely curved surface on each side thereof facing a channel to form a camming surface, so that the rib will yield laterally upon the application of a vertically upward or downward force on said camming surface; and a removable cover for said frame, said cover comprising a supporting web having thereon a plurality of laterally spaced apart longitudinally extending hollow ribs, said ribs having an opening at the bottom thereof in communication with the lower surface of said supporting web whereby the ribs of the mounting frame can be snapped in and out of the ribs of the cover.

3,195,259
TRIGGER GUARD SAFETY FOR DUAL TRIGGER FIREARMS
Robert Meunier, New Bedford, Mass., assignor to the United States of America as represented by the Secretary of the Army
Filed Feb. 15, 1965, Ser. No. 432,907
5 Claims. (Cl. 42—70)
(Granted under Title 35, U.S. Code (1952), sec. 266)



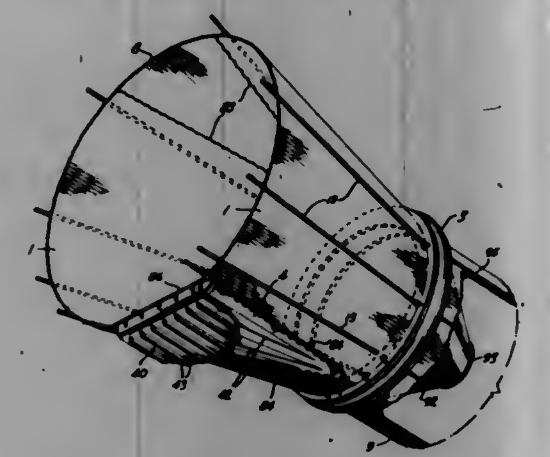
1. In a gun having a receiver and pistol grip depending therefrom, a front trigger and a rear trigger pivotally mounted on the receiver so as to depend therefrom in tandem arrangement forwardly of the pistol grip, and a fender mounted on the pistol grip in cooperation with said front trigger to provide a trigger guard for said rear trigger and a safety for said front trigger.

3,195,260
TRAWL NET SUSPENSION
Frank J. Luketa, 5567 Greenwood Ave., Seattle 3, Wash.
Filed Jan. 17, 1963, Ser. No. 252,174
4 Claims. (Cl. 43—9)



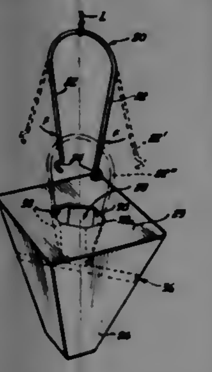
2. In combination with a mesh panel of a trawl net which terminates at a transverse forward edge, a suspension element directed transversely ahead of said edge, said suspension element having separable upper and lower flaps, with one of said flaps being formed to include a series of holes directed along its length, the forward edge of the mesh panel being received between said flaps, sweep lines connected to the ends of said suspension element to drag the same forwardly, nuts received in the said holes distributed along the length of one such flap, and projecting beyond such flap, means preventing rotation of said nuts in said holes, the other flap having holes to receive the projecting portion of each nut, grouped net meshes along the forward edge of the mesh panel receiving the projecting portions of the several nuts, and bolts complemental to the several nuts, said bolts passing through the flap opposite the flap which receives the nuts, said bolts being threaded into projecting net portions so as to secure the suspension element and mesh panel together such that the drag from the sweep lines is transmitted through the suspension element evenly to the mesh panel, with the projecting portion of each nut being circumferentially grooved to receive the mesh points which engage the same.

3,195,261
SPILLER FOR TRAWL NETS
Frank J. Luketa, 5567 Greenwood Ave., Seattle 3, Wash.
Continuation of application Ser. No. 85,679, Jan. 30, 1961. This application Feb. 1, 1963, Ser. No. 256,202
21 Claims. (Cl. 43—9)



17. A trawl net comprising a codend open at its forward end and closed during use at its after end, a funnel disposed ahead of the open forward end of the codend, to lead fish thereinto, said funnel comprising a wall of netting formed to include a spill opening for fish ahead of the entrance to the codend, with the netting terminating at the periphery of said spill opening, a spiller panel secured to said wall and normally covering said spill opening, said spiller panel comprising a sole cover for the spill opening, and means normally biasing the spiller panel into a spill opening covering position, but permitting it to open under pressure of excess fish located in the funnel substantially directly inboardly of the spill opening, and pushing outwardly against said spiller panel in a direction generally normal to the general plane of the spill opening, to permit escape of such fish.

3,195,262
QUICK-RELEASE BOTTOM FISHING SINKER
Phares H. Metzler, 12999 Standering Lane, Seattle 66, Wash.
Filed May 21, 1962, Ser. No. 196,099
7 Claims. (Cl. 43—43.12)

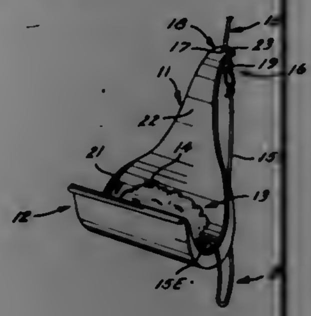


1. A releasable bail fishing sinker comprising an open-end resilient wire bail having a line securing portion and a pair of transversely spaced legs extending therefrom in a common plane and having opposing terminal portions, and a sinker body gripped by said bail in a normal plane of contact therewith, said body having surfaces defining: first contact zones lying in the contact plane and contacted by said terminal portions, pairs of bail-lock surface portions converting oppositely toward each of the first contact zones in a second plane transverse to the contact plane to restrict transverse movement of the terminal portions second contact zones lying in the contact plane and contacted by intermediate portions of said legs, pairs of bail-release edge portions converging oppositely toward each of the second contact zones in a third plane spaced from the second plane and also transverse to the contact plane, the bail-release edge portions on each side of the contact plane being inclined toward one another whereby, in response to a force causing transverse movement of the bail from the contact plane, the bail legs act as lever arms, the terminal portions pivoting on the first contact zones with transverse movement thereof restricted by the bail-lock surface portions, while the intermediate portions fulcrum oppositely about the bail-release edge portions to pry the terminal portions from the first contact zones and release the bail from the body.

3,195,263
CARRIER FOR FACILITATING THE CASTING OF BAIT MEANS
Merriel D. Keyser, 1209 McClellan Way, Stockton 7, Calif.
Filed Jan. 28, 1963, Ser. No. 254,348
2 Claims. (Cl. 43—41.2)

1. A carrier for facilitating the casting of bait means, comprising: holder means having a portion cooperable to receive, hold and carry bait means and fishing hook means effectively connected to the end of a fishing line for facilitating a casting operation, said holder means being provided with effective one-way linear movement connection

means cooperable to be effectively connected with respect to and carried by a connection portion of said fishing line at a location spaced from said end of said fishing line, said effective one-way linear movement connection means being spaced from the portion of said holder means adapted to receive, hold and carry said bait means by a distance less than the length of said fishing line between said connection portion thereof and said end thereof, said holder means having an effective average density substantially greater than that of water and greater than that of said bait means whereby to correspondingly determine its net buoyancy characteristic and to cause it to sink with respect to the body of water into which it is cast while carried by said fishing line and to separate from said bait means and said fishing hook means as a result of different effective average densities thereof and the corresponding differential buoyancy and flotation characteristics thereof and to consequently cause relative slidable movement of said one-way connection means relative to said fishing line away from said end and said connection portion thereof.

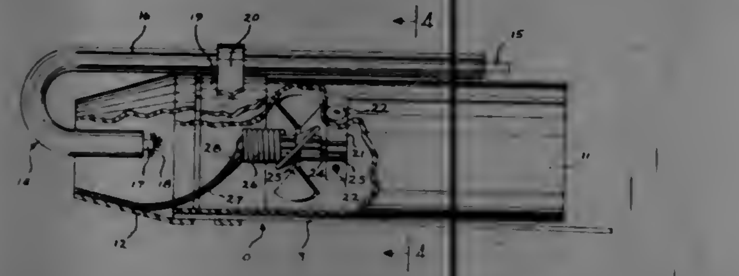


3,195,264
NOZZLE FOR ELECTROSTATIC DUSTING DEVICES

Robert E. Ward, Jr., Raleigh, N.C., assignor, by direct and mesne assignments, of three-ninths to Robert P. Bennett, two-ninths to William S. Ward, and two-ninths to Martha W. Chapman, all of Raleigh, N.C.

Filed Oct. 1, 1963, Ser. No. 313,076

5 Claims. (Cl. 43—1[illegible]8)



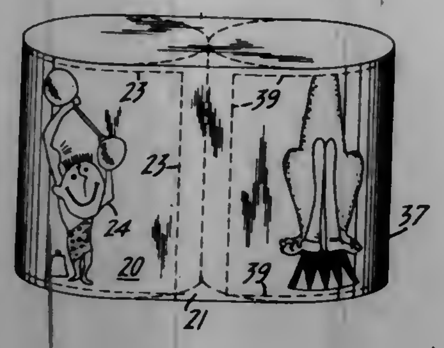
1. A nozzle used in conjunction with an electrostatic dusting device comprising a hose, a dust reservoir, a blower and a frustro-conical electrode, said hose being connected at one end to said dust reservoir and blower and at the other end to said frustro-conical electrode, a power supply having a reference ground, an electrode centrally disposed and adjustably mounted within said frustro-conical electrode and connected to said power supply, a grounding means connecting said frustro-conical electrode to said reference ground of said power supply, a propeller centrally mounted within and in axial alignment with the longitudinal axis of the hose, and a brush means secured to said propeller at one end and bearing against the interior of the frustro-conical electrode at the other end whereby when dust laden air is forced through the hose by the blower, the propeller will become activated causing the brush to rotate about the interior of the frustro-conical electrode thereby maintaining said electrode in a clean condition.

3,195,265
PACKAGE CONVERTIBLE TO A TOY

Ralph Marquez, Woodside, and William J. Bua, Scarsdale, N.Y., assignors to Productive Ideas Unlimited, Inc., New York, N.Y., a corporation of New York

Filed June 9, 1961, Ser. No. 116,205

13 Claims. (Cl. 46—11)



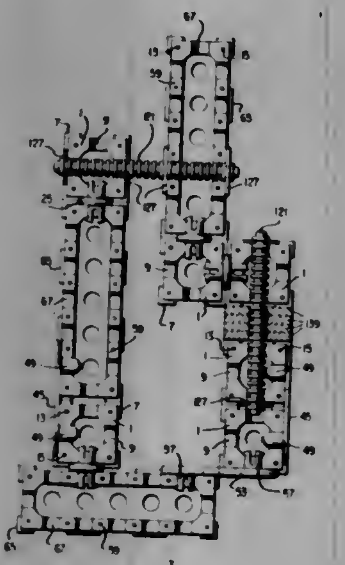
1. A package, at least two complementary parts positionable in an assemblage constituting an animal toy structure, said package comprising at least one package core comprising one of said parts, said package core having a configuration for use as a body member of said animal toy structure and having a packaged product removably disposed on peripheral surfaces thereof, a covering on said package for said product, the other of said complementary parts comprising at least one configured cut-out element in association with said covering for assembly with said core, said configured element having a configuration complementary to said core and defining another body member of the body of said animal toy structure represented by an assembly of said package core with said product removed therefrom and said configured element, said configured element having at least one surface for mounting said configured element on said core in a given position disposed thereon in an assemblage to make said core and therefore said assemblage conform to said animal toy structure.

3,195,266
CONSTRUCTION TOY COMPRISING BLOCKS AND COUPLING MEANS

Richard A. Onanian, 105 Wildwood Ave., Arlington 74, Mass.

Filed May 7, 1962, Ser. No. 192,702

6 Claims. (Cl. 46—26)



1. In a construction set, a pair of blocks having first and second outwardly facing faces, the second faces being defined by portions of each block that are spaced apart

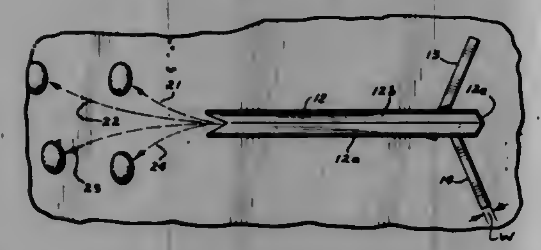
by and that extend outwardly from said first faces so that said second faces are spaced outwardly from said first faces, and coupling means detachably interconnecting said blocks and extending between and bearing against said first faces, each said first face extending out to at least one edge of the associated block between said outwardly extending portions of the associated block, the coupling means having flange means recessed adjacent the first face of at least one block to receive a tool inserted along said first face between said outwardly extending portions of said at least one block, the coupling means having pins extending from the flange means and removably held in bores in the blocks.

3,195,267
ROLLING OBJECT AND RUNWAY THEREFOR

Richard B. Gehlen, 38 Otis Ave., St. Paul, Minn.

Filed Jan. 21, 1963, Ser. No. 252,894

2 Claims. (Cl. 46—43)



1. Amusement apparatus comprising an elongated, generally V-shaped trough having opposite sidewalls, one end of said trough being diagonal cut to have the longitudinal apex edges of said walls of a substantially shorter longitudinal dimension than the opposite edges of said walls, an elongated first leg pivotally connected to one of said walls adjacent the opposite end portion of the trough to pivot about an axis generally at right angles to the plane of said one wall, and an elongated second leg pivotally connected to the other of said walls to pivot about an axis generally at right angles to the plane of said other wall, the pivot connections being longitudinally offset by a dimension about equal to the longitudinal width of a leg.

2. The apparatus of claim 1 further characterized in that there is provided an egg-shaped object to be rolled down the trough comprising a hollow casing, a weight within said casing and means within said casing for temporarily suspending said weight within the casing so that said means and the weight means impart erratic movement to the casing as said object leaves the trough after being rolled down the trough.

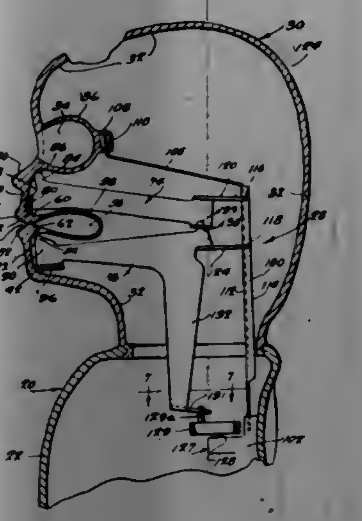
3,195,268
DOLL WITH CHANGEABLE EXPRESSION

Arthur E. Neumann, Winnetka, and Marvin I. Glass, Chicago, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership

Filed Mar. 1, 1963, Ser. No. 262,058

4 Claims. (Cl. 46—135)

1. A doll comprising, a hollow head defined by a resilient wall face portion actuable for changing expression, said face portion including a nose, a chin, and a mouth between said nose and chin positioned in normal facial arrangement and operable in a crying manner between a relatively closed, smiling mouth position and relatively open mouth position, said mouth including upper and lower lips, relatively thin portions of said wall extending upwardly alongside the opposite ends of the lips, said thin portions being disposed in furrows variable in configuration responsive to movement of said face portion between said positions, and actuating means selectively operable for cyclically operating said face portion between said positions and moving said upper lip slightly forwardly as said mouth moves from said closed position toward said open position.

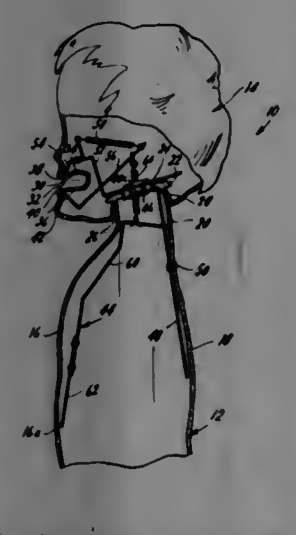


3,195,269
LIP MOVING MECHANISMS IN A DOLL

Julius Weih, Ozone Park, Queens, and Kenneth W. Lindsay, Great Neck, Long Island, N.Y., assignors to Ideal Toy Corporation, Hollis, N.Y.

Filed Oct. 25, 1963, Ser. No. 318,995

6 Claims. (Cl. 46—135)



1. In a doll, a hollow doll body including a neck terminating at one end in an annular neck flange bounding a neck opening and a head journaled on said neck for rotation thereon and including flexible upper and lower mouth walls defining a mouth cavity terminating in a normally open mouth, the improvement comprising a mouth-animating mechanism operatively connected to said mouth walls and operable from said doll body to impart animating motions to said mouth to simulate talking, said mouth-animating mechanism including a swivel member adapted to be suspended within said neck, a body-mounted supporting member disposed within said body and operatively connected thereto and including a lower swivel section bearing against the under side of said neck flange and engaging said swivel member, a head-mounted supporting member disposed within said head and including an upper swivel section bearing against the upper side of said neck flange and engaging said swivel member, said head-mounted supporting member including a stationary jaw member engaging one of said mouth walls, a movable jaw member pivoted on said head-mounted supporting member and engaging the other of said mouth walls,

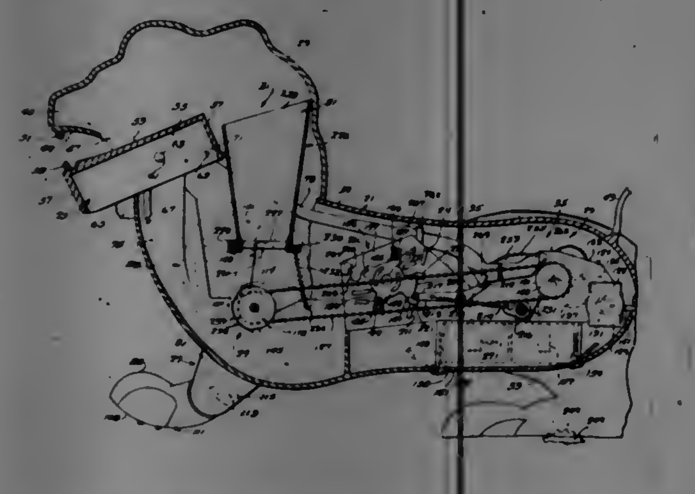
actuating means including a movable actuating member disposed within said doll body and movably mounted on said body-mounted supporting member, and means extending through said swivel member and connecting said movable jaw member to said actuating member for pivoting said movable jaw member toward said stationary jaw member to impart animating motions to said mouth in response to movement of said actuating member relative to said body-mounted supporting member.

3,195,270
ANIMATED TOY FIGURE

Marvin I. Glass, Chicago, and Leonid Kripak, Villa Park, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership

Filed Mar. 1, 1963, Ser. No. 262,069

8 Claims. (Cl. 46—232)



4. A toy figure comprising a hollow body, a pair of forelegs adapted to engage a supporting surface and mounted on said body for reciprocal movement effective to cause traveling movement of said figure in a given direction on the supporting surface, power operated means for causing said reciprocal movement of said forelegs, sound producing means within said body and connected to said forelegs so as to be operable upon movement of said forelegs, hind leg members pivotally mounted on said body for movement between a first position relative to said body wherein said figure assumes a simulated standing disposition and a second position relative to said body wherein said figure assumes a simulated seated disposition, selectively operable means connected to said hind leg members and movable into engagement with said power operated means and effective when thus actuated to alter the said reciprocal movement of said forelegs so as to change the direction of movement imparted thereby while causing pivotal movement of said hind leg members between said first and second position, and means mounted on the said body of the figure and connected to said selectively operable means so as to be effective when engaged in a predetermined manner to actuate said selectively operable means and place the latter in driven relation with said power operated means.

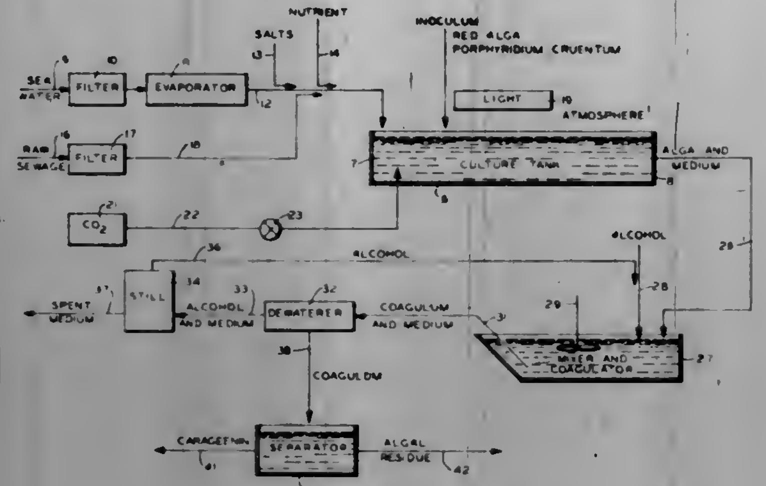
3,195,271
PROCESS FOR CULTURING AND RECOVERING ALGAE AND CARAGEENIN

Clarence G. Golueke, San Pablo, and William J. Oswald, Concord, Calif., assignors to The Regents of The University of California, Berkeley, Calif.

Filed May 18, 1962, Ser. No. 195,712

14 Claims. (Cl. 47—1.4)

1. A process of growing and recovering carageenin comprising establishing an artificial mass culture including a body containing sea water, sewage and *Porphydridium cruentum*, withdrawing a portion of said body from the remainder thereof after a predetermined detention period, adding alcohol to said portion to produce a coagulum, separating said coagulum from said portion, and removing carageenin from said coagulum.

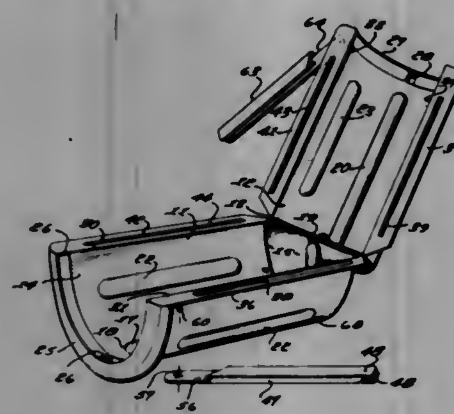


3,195,272
REUSEABLE CONTAINER

Edward G. Mosher, 2462 Transit Ave., Anaheim, Calif., and Gilbert J. Brower, 735 Chalynn Circle, Orange, Calif.

Filed Jan. 21, 1963, Ser. No. 253,526

2 Claims. (Cl. 47—37)



1. A container comprising:

a pair of container halves adapted to be located together to form a container having an open top, side walls and a bottom, said container halves being integrally joined together along the bottom thereof at a line of joinder and having side edges, said halves being formed of thin flexible material of a substantially constant thickness, said side wall of each half having reinforcing ribs, one of said ribs on each half extending from the bottom of the respective side wall up to a point adjacent the top thereof and to the line of joinder of the halves where the rib terminates, each of said side edges of one half abutting an opposed edge of the other half when the halves are swung together;

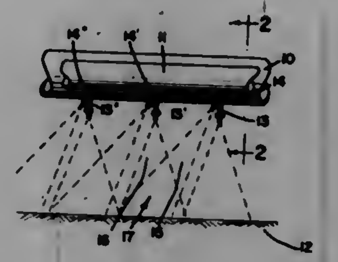
a thin flange on each of said side edges, said flange extending radially relative to the center of the container, each of said flanges on one half being positioned to abut a corresponding flange on the other half when the halves are swung together, one of the flanges of each pair of abutting flanges having a male rib formed therein by having a portion of the flange material offset toward the abutting flange, the other flange of the pair having a rib formed by having a portion of the flange material offset away from said one flange of the pair thereby forming on the face abutting said one flange a female groove to receive the male rib on said one flange; and means for selectively securing said side edge together by holding each pair of flanges in abutting relation whereby the ribs on each pair prevent lateral movement of the pair of flanges.

3,195,273
SOIL SEALING METHOD

David B. Scott and Robert P. Watwood, both of Salinas, Calif., assignors, by mesne assignments, to Union Carbide Corporation, a corporation of New York

Filed Jan. 5, 1962, Ser. No. 164,555

3 Claims. (Cl. 47—58)



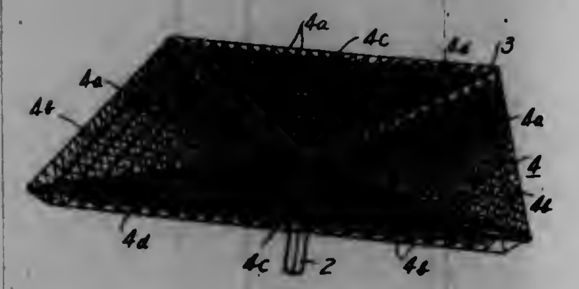
1. A method for placing and sealing a volatile agricultural chemical in soil comprising: placing a volatile agricultural chemical in soil, and then sealing the surface of the treated soil with a polymeric film to prevent escape of the chemical by spraying the surface of the soil with two converging liquid streams, one of said streams consisting essentially of an aqueous solution of a film forming polymer and the other of said streams consisting essentially of a polymer solidifying component in a liquid solution.

3,195,274
UMBRELLA TYPE FRAME STRUCTURES

Takao Itoh, Tokyo, Japan, assignor to Kajima Construction Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Apr. 23, 1962, Ser. No. 189,441

2 Claims. (Cl. 50—49)



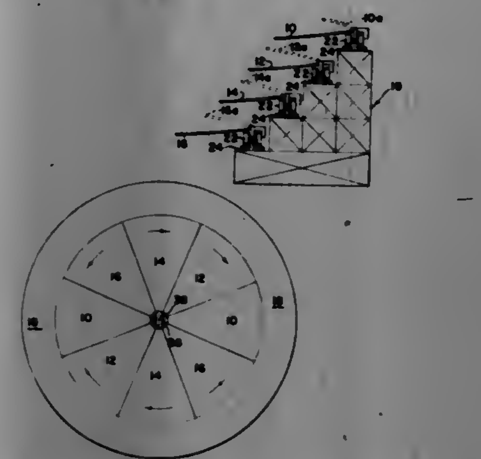
1. A funnel-shaped polygonal pyramid frame structure having its apex at the lowest position, said structure being supported at the apex by a fixed pillar having diagonal beams projecting therefrom and extending to each corner of said structure and truss beams having upper and lower chords, each truss beam having two upper chords and one lower chord, said upper chords of each truss beam connecting adjacent diagonal beams, said upper chords forming a number of spaced, concentric, closed loops with respective sides of said loops substantially parallel, said lower chords being substantially parallel to said upper chords and spaced below and connected intermediate thereto, said lower chord of each truss beam being free from connection with said diagonal beams and from connection with any members of adjacent truss beams, and lattice members connecting said lower chord to both of said upper chords in zig-zag fashion including connections between end portions of the upper chords and respective end portions of the lower chord so that the tensile force acting on said upper chords due to said funnel structure are compensated for to a predetermined extent with compressive forces acting on said upper chords due to vertical distributed loads inherent to said truss structure.

3,195,275
ROOF SYSTEM FOR STADIA AND THE LIKE

Emil H. Praeger, New York, N.Y., assignor to Praeger-Kavanagh-Waterbury, New York, N.Y., a partnership

Filed Oct. 28, 1960, Ser. No. 65,697

3 Claims. (Cl. 50—51)



1. A roof system for covering substantially circular open areas such as stadia and the like comprising a supporting structure disposed around the periphery of said area, a substantially circular perimeter track structure mounted on the top of said supporting structure, a plurality of roof panels spanning the open area, each of said panels extending through the center of said area and being rotatably supported at each end on the track structure, each of said panels comprising two diametrically opposed sector-shaped segments centrally joined as a continuous self-supporting structural element, the number of panels being sufficient to completely cover the open area, said track structure comprising a plurality of spaced track means, the ends of each respective roof panel being supported on the respective spaced track means, whereby, the panels may be rotated from a position covering the open area to a stacked and aligned condition, one over another.

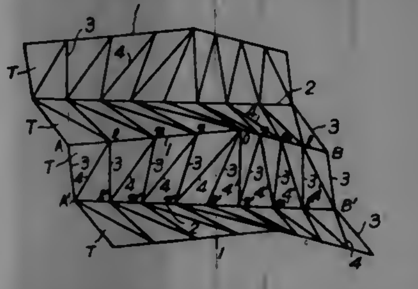
3,195,276
METHOD OF ASSEMBLING SHELL STRUCTURES CONSISTING OF TRUSSES HAVING TWISTED SURFACE

Takao Itoh, Tokyo, Japan, assignor to Kajima Construction Co., Ltd., Tokyo, Japan, a corporation of Japan

Filed Apr. 23, 1962, Ser. No. 189,415

Claims priority, application Japan, Jan. 11, 1962, 37/511

3 Claims. (Cl. 50—55)

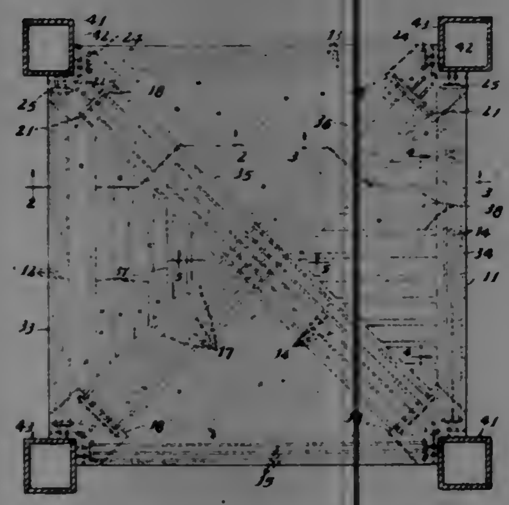


1. A truss comprising a lower linear chord member and an upper linear chord member not sharing a plane common to said lower chord member, said upper chord member being disposed in adjacency to said lower chord member such that an imaginary longitudinal center line determined by said upper linear chord member passes through a horizontal plane through said lower chord member at a point remote from said lower chord member, and said upper chord member being spaced from said lower chord member by linear connecting members connecting said lower chord member to said upper chord member such that a first portion of said upper chord member is spaced further from the adjacent portion of said lower chord member then a second portion of said upper chord member is spaced from the adjacent portion

of said lower chord member, said connecting members comprising a first series of connecting members each joining one of a plurality of proportionally spaced points of said lower chord member with one of a plurality of corresponding proportionally spaced points of said upper chord member and a second series of connecting members joining one of said proportionally spaced points of said lower chord member with a next adjacent proportionally spaced point of said upper chord member.

3,195,277
PRESTRESSED CONCRETE SLAB CONSTUCTION

Gerald G. Greulich, Fort Lauderdale, Fla., assignor to The Ceco Corporation, a corporation of Delaware
Original application June 27, 1957, Ser. No. 668,506, now Patent No. 3,036,356, dated May 29, 1962. Divided and this application June 16, 1961, Ser. No. 124,266
2 Claims. (Cl. 50—128)

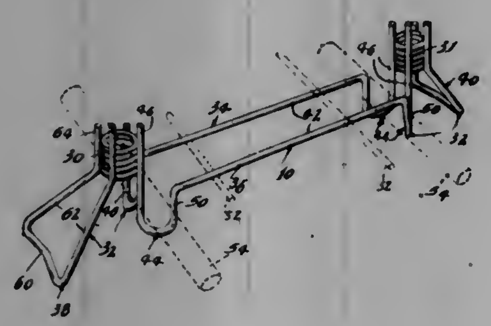


1. A rectangular prestressed concrete slab having an anchor plate mounted at each corner of the slab, each anchor plate extending diagonally inward from its adjoining corner of the slab and each plate having a notched exposed corner receiving a support for the corner of said slab, each anchor plate provided with a vertical anchoring flange disposed perpendicular to each adjacent edge of the slab and a centrally disposed anchoring flange perpendicular to the diagonal of the slab intersecting the plate, each flange having a plurality of horizontally arranged openings extending therethrough, a plurality of pretensioned reinforcing strands extending peripherally along the margin of the slab and other pretensioned strands extending diagonally of the slab between said plates, each opening receiving an end of one of said strands, and means anchoring the ends of the strands to the anchoring flanges on said anchor plates and maintaining the requisite tension on said reinforcing strands to produce a precompression in the set concrete slab.

3,195,278
DUAL LAG SCREW ANCHORING INSERT FOR A CONCRETE SLAB

Harry G. Ballou, San Leandro, Calif., assignor to Superior Concrete Accessories, Inc., Franklin Park, Ill., a corporation of Delaware
Filed May 7, 1962, Ser. No. 192,771
1 Claim. (Cl. 50—472)

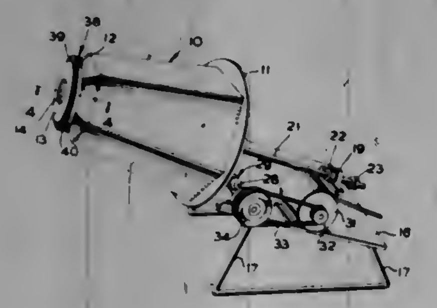
As a new article of manufacture, a dual lag screw anchoring insert adapted for initial positioning in a concrete slab form and ultimate embedment in the concrete slab, and adapted to form an anchor for a pair of lag screws, said insert comprising a pair of wire helices disposed in spaced apart relation and adapted to have their axes extend vertically with their upper ends disposed directly inwards of and opening onto the upper face of the slab when the latter is in the horizontal position in which it is cast, the interiors of said helices forming internal screw threads for receiving the shank portions of the lag screws, and a supporting structure for said helices whereby the same may be supported in their spaced relation from a pair of adjacent parallel horizontally extending reinforcing rods pre-positioned in the form, said supporting structure including two spaced apart, generally parallel, lengths of wire stock, each length having an elongated horizontal medial section midway between the vertical axes of the helices and below the level of said helices and constituting a major portion of the length, and downwardly extending bight portions at the opposite ends of the medial section and providing upwardly presented open cradle portions adjacent to the helices respectively, adjacent bight portions lying in respective vertical planes which are disposed at an angle of approximately 60° with respect to each other, said horizontal medial sections of the two lengths of wire



stock, in combination with the adjacent sides of the bight portions, constituting a saddle for reception over said pair of reinforcing rods whereby the anchoring insert is supported solely by such rods, adjacent cradle portions being adapted loosely to receive therein in horizontal supporting relationship an elongated anchor bar, the sides of said bight portions remote from the medial sections being welded to the outside surfaces of the helices respectively, the upper ends of said remote sides of the bight portions projecting upwardly above the level of the medial sections and above the open upper ends of the cradle portions, said anchoring insert further including a pair of wing parts, one for each helix, each wing part being in the form of a length of wire stock bent into substantially triangular loop form so as to provide a horizontal base with upwardly converging sides, the upper ends of said latter sides being provided with vertical extensions which are welded to the outer side of the adjacent helices.

3,195,279
TUMBLING BARREL AND DRIVE THEREFOR

Robert K. Landon, 6094 Morningside Road, Joshua Tree, Calif.
Filed Dec. 1, 1961, Ser. No. 156,406
4 Claims. (Cl. 51—164)

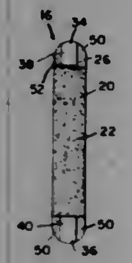


3. A tumbling barrel apparatus, which comprises:
a first shaft,
bearing means to rotatably and slidably mount said first shaft on an incline relative to the horizontal,

stop means provided on said first shaft on apposite sides of said bearing means,
at least one of said stop means being substantially spaced from said bearing means at all times whereby to permit axial sliding movement of said first shaft in said bearing means,
a drive disc fixedly mounted on said first shaft generally coaxially thereof,
said drive disc having a gearless frictional drive surface,
a tumbling barrel fixedly connected on said first shaft generally coaxially thereof,
a second shaft mounted generally parallel to and adjacent the downwardly-facing surface of said drive disc,
said second shaft extending generally radially of said drive disc,
bearing means to mount said second shaft for rotation about the longitudinal axis thereof,
motor means to rotate said second shaft about said longitudinal axis thereof, and
a drive element mounted on said second shaft for rotation thereby,
said drive element frictionally engaging said frictional drive surface of said drive disc whereby said drive disc and thus said tumbling barrel are rotated by said drive element in the manner of a turntable drive,
the peripheral portion of said drive element being a soft material at least substantial portions of which are eccentric relative to the axis of rotation of said second shaft whereby rotation of said drive element further effects vibration of said drive disc and tumbling barrel in response to rotation of said second shaft, said vibration being permitted by the spacing between said stop means on said first shaft and said bearing means therefor, said spacing further permitting the degree of frictional drive between said drive element and said frictional drive surface to be varied in response to the weight of the objects contained within said tumbling barrel.

3,195,280
HONING ELEMENT

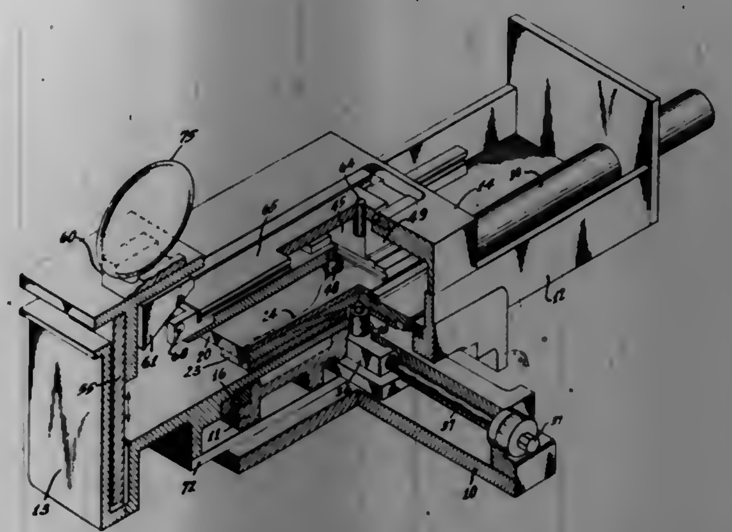
William G. Crowe, Brighton, Mich., assignor to Mid-West Abrasive Company, Owosso, Mich., a corporation of Delaware
Filed July 2, 1963, Ser. No. 292,337
10 Claims. (Cl. 51—204)



10. A honing element for a honing tool, comprising a substantially rectangular bonded abrasive stick, and an elongated holder therefor having an elongated base extending lengthwise of and being of greater length than said abrasive stick, the rear of said stick being secured to the front of said base, said base having at one end thereof a forwardly projecting tab disposed at one end of said abrasive stick, said tab having a width less than said base and less than said abrasive stick to provide a pocket which is open at the side of said honing element and at the front thereof for the reception of a cooling medium, the front surface of said abrasive stick being substantially flush with the forward end of said tab.

3,195,281
APPARATUS FOR FORMING CONTOURS ON WORK PIECES

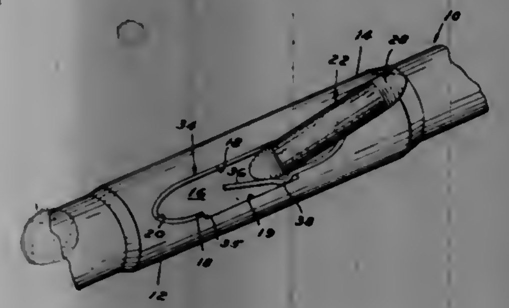
Nils Hoglund, 296 Hartshorn Drive, Short Hills, N.J.
Filed Apr. 25, 1963, Ser. No. 275,756
9 Claims. (Cl. 51—233)



3. Apparatus for holding and moving a work piece relative to a grinding wheel for forming a contour on said work piece, including a supporting member, a housing slidably mounted on said supporting member, a first slide in said housing having a feed cam on one side thereof and a contour cam on the other side thereof, a follower on said supporting member in contact with said feed cam, a second slide in said housing and movable parallel to said first slide and having a follower at one end thereof, a work support slide slidably mounted on said housing and movable transversely of the movement of said first and second slides, a ratio cam on said work support slide, the follower on said second slide contacting said ratio cam, and means coupled between said first and second slides for causing movement of said second and work support slides in accordance with the contour on said contour cam.

3,195,282
HONING TOOL HAVING SPRING MOUNTED ABRASIVE ELEMENTS

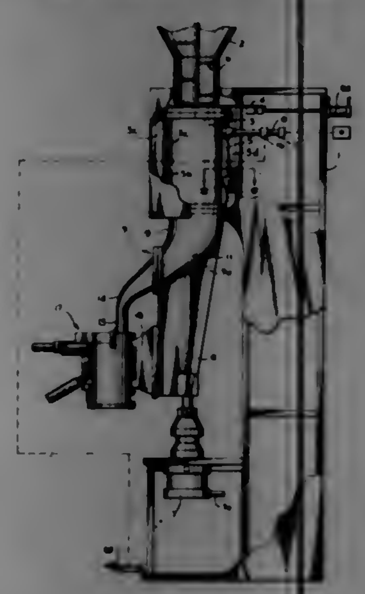
Manly A. Magsig, Owosso, Mich., assignor to Mid-West Abrasive Company, Owosso, Mich., a corporation of Delaware
Filed July 15, 1963, Ser. No. 295,096
3 Claims. (Cl. 51—346)



1. A honing tool having an elongated body provided with a longitudinally extending elongated outwardly opening radial slot, an elongated relatively narrow flat leaf spring disposed in surface-to-surface engagement with the side and end walls of said slot, opposite ends of said leaf spring being spaced apart, an intermediate portion of said leaf spring being secured to a wall of said slot, one end portion of said leaf spring being free of said slot and disposed along one side wall thereof, said free end portion of said leaf spring inclining inwardly within said slot away from said one side wall thereof, a radially slidable elongated honing element within and extending lengthwise of said slot, said honing element

being upon the inner side of said flat leaf spring, one side of said honing element engaging and flexing outward toward said one side wall of said slot the free end portion aforesaid of said leaf spring, whereby said honing element is frictionally retained in said slot by the flexed end free portion aforesaid of said leaf spring.

3,195,283
METHOD FOR FILLING A CONTAINER
Robert J. Broersma, Spring Lake Township, Ottawa County, Mich., assignor to B & B Engineering Company, Grand Haven, Mich., a partnership of Michigan
Filed Apr. 9, 1962, Ser. No. 185,915
10 Claims. (Cl. 53—21)

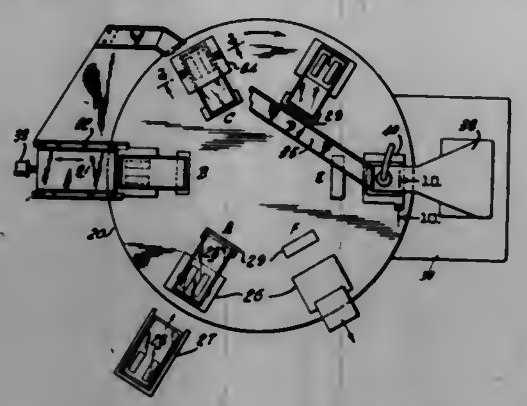


1. In a method of packing solid, fluent and porous material around an object within a container, the steps comprising:

suspending said fluent material in a gas stream;
introducing the material-laden gas stream into said container through a first opening in a wall of said container on one side of said object;
discharging said gas from said container through a second opening in a wall of said container remote from said first opening and located on the opposite side of said object, while impacting said material against said wall and across said second opening and continuing the discharging of said gas through said second opening while utilizing said impacted material for separating subsequently introduced gas from material carried thereby;
whereby said material is deposited within said container and around said object positioned therewithin and said gas is exhausted from said container.

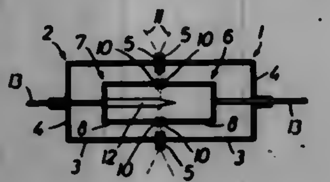
3,195,284
APPARATUS AND METHOD FOR FORMING AND CLOSING A DISPLAY PACKAGE
William B. Crane, Jr., New York, N.Y., assignor, by mesne assignments, to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Jan. 20, 1964, Ser. No. 338,956
9 Claims. (Cl. 53—30)

6. The method of forming and sealing article holding pockets in plastic windows of paperboard blanks having window openings covered on one side by a plastic sheet which is deformable when heated and which is subject to being fused together with heat, which comprises, heating the plastic window, forming a pocket in the plastic window of one window while the next blank window is being heated, inserting an article in the formed pocket, covering the pocket and blank with a blank element having a plastic sheet and a paperboard backing with the plastic sheet engaging the plastic sheet of the blank around the pocket and the paperboard backing disposed thereabove, and thereafter fuse-bonding the plastic sheets together beneath the paperboard covering by electrical induction heating of the plastic sheets which acts rapidly



to heat-fuse the plastic sheets together beneath the paperboard covering without injury to the covering and to keep pace with the window heating step and the pocket forming step.

3,195,285
METHOD OF FORMING TRANSVERSE HEAT SEALS ON TUBULAR THERMOPLASTIC MATERIAL, AND APPARATUS THEREFOR
Franco Toss, Viersen, Germany, assignor to Hamac-Hansella Aktiengesellschaft, Viersen, Germany, a corporation of Germany
Filed July 13, 1962, Ser. No. 209,505
Claims priority, application Germany, Oct. 11, 1961, H 43,849, H 43,850
4 Claims. (Cl. 53—39)

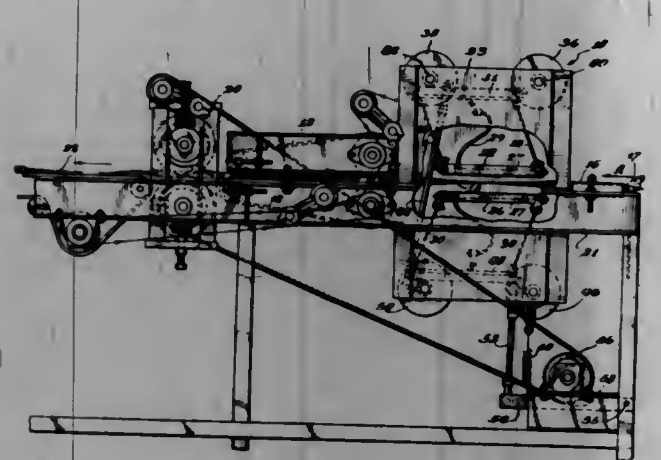


1. A method of forming transverse heat seals on a tube of heat sealable packaging material in order to produce a series of individual sealed packages, comprising the following steps:

clamping the tube only along two spaced areas and leaving it uncontacted in the region between them, thereby flattening the tube into a completely unconfined two-ply condition in said region,
severing the flattened region to free the severed parts of all constraint,
immediately thereafter, fusing together the two plies of each of said parts,
permitting the fused areas to cool in said unrestrained condition whereby they are free to shrink and thicken as they cool, and
unclamping the tube after said fused areas have cooled sufficiently to be self-sustaining.

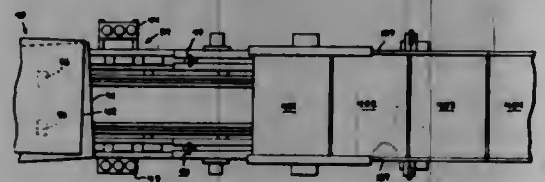
3,195,286
METHOD AND APPARATUS FOR SEALING CONTINUOUSLY MOVING SHEET MATERIAL
Anthony S. Hubin, Appleton, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Aug. 20, 1962, Ser. No. 217,924
6 Claims. (Cl. 53—39)

6. The method of fabricating sanitary napkins comprising the steps of continuously forming an assembly of spaced apart absorbent pads enclosed in an elongated wrapper material, continuously moving said assembly through a linear path while maintaining said wrapper material taut with portions thereof bridging the space between said pads, moving a pair of heated members from opposed spaced apart positions outside the path of movement of said assembly and in a direction substantially at right angles to said path into contact with the assembly within said path and allowing the wrapper material to pull the members along with the wrapper material due to the engagement of the members with the wrapper



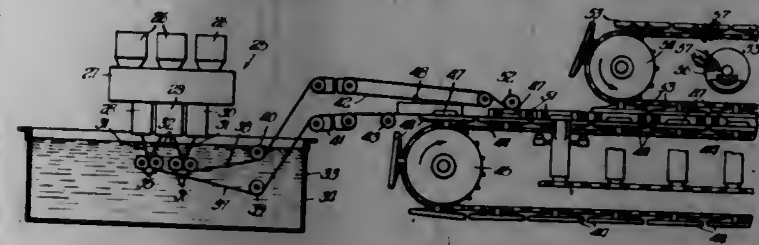
material while the members effect flattening and sealing of the pad bridging wrapper material intermediate said pads, and thereafter returning said heated members to their original spaced apart positions outside said path of wrapper movement.

3,195,287
BOARD BUNDLER
Hugh Kelley, Enterprise, Kans., assignor to The J. B. Ehrsam & Sons Manufacturing Company, Enterprise, Kans., a corporation of Kansas
Filed Oct. 9, 1961, Ser. No. 143,886
19 Claims. (Cl. 53—137)



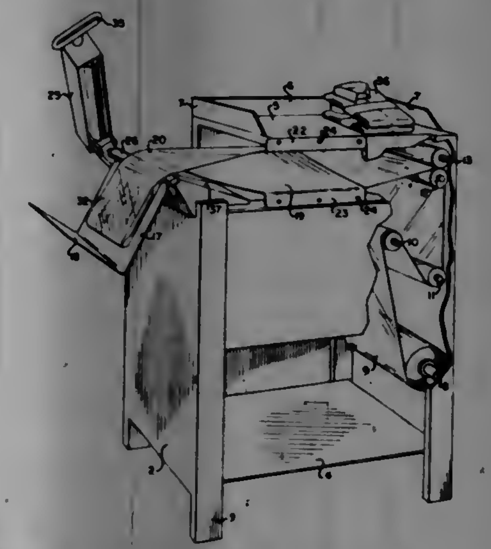
18. In a machine of the class described, means establishing a travel path for successive stacks of pieces, means for advancing a succession of such stacks along said travel path, means travelling with such stacks to maintain separation between successive stacks, means for applying continuous binder tape to the lateral ends of said stacks during stack travel along said path, and means arranged adjacent each lateral boundary of said path beyond said tape-applying means for cutting the adjacent tape at the region of separation between stacks, each such cutting means comprising guide means paralleling said travel path, slide means reciprocably supported by said guide means, actuator means positioned in the path of successive separation-maintaining means for limited entrainment thereby, said actuator means having a driving connection with said slide means to move said slide means synchronously with said pieces throughout such entrainment, a cutter carried by said slide means and positioned thereon for registry with such region of separation throughout such entrainment, motor means operatively connected to said cutter, and control means for said motor means, said control means being actuated by said actuator means, upon initiation of such entrainment, to move said cutter through said tape and into such region of separation and then to withdraw said cutter.

3,195,288
PACKAGING APPARATUS
Edward C. Sloan, Augustus H. Eberman, and Hans A. Jensen, Madison, Wis., assignors to Oscar Mayer & Co., Inc., Chicago, Ill., a corporation of Illinois
Original application Jan. 29, 1958, Ser. No. 711,916, now Patent No. 3,083,106. Divided and this application May 29, 1962, Ser. No. 205,818
30 Claims. (Cl. 53—140)



8. Package forming apparatus for use with polyvinylidene chloride film in its supercooled state, said apparatus including film extruding means operable in forming a plurality of separate continuous films, film conveying means for passing said films through a supercooling bath and delivering the same to die forming means, said film conveying means including a series of laminating rollers associated with said supercooling bath to form separated top and bottom laminated films, said die forming means including separate movable top and bottom plates with the top plates moving into and out of temporary package forming association with the bottom plates, said top and bottom films being delivered into contact with said top and bottom plates respectively, die side wall defining means located relative to each side of said plates for generally transverse movement into and out of temporary package forming association with said plates, and film crystallization means located subsequent to said top and bottom plates in relation to the direction of movement thereof.

3,195,289
PACKAGE MAKING DEVICE
Richard H. Cochrane, Cincinnati, Ohio, assignor, by mesne assignments, to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 10, 1957, Ser. No. 651,932
1 Claim. (Cl. 53—182)

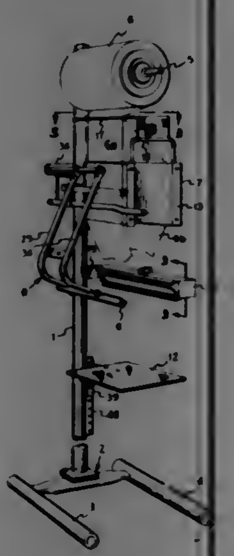


In a packaging machine, a platform for supporting an article to be packaged between webs of heat-sealable material, an elongated heat sealing arm pivotably secured to said platform for movement into a position in parallel, abutting relation therewith, said arm being equipped with a longitudinally-extending electrical element on the side thereof adapted to abut said platform, and a pair of longitudinally-extending members in said arm reciprocably mounted therein and arranged on opposite sides of said element, said members being retractable into said arm upon engagement with said platform to expose said element, said platform being equipped with a raised portion aligned with said arm and sized to be engaged between said members.

3,195,290
PACKAGING MACHINE

William W. Thompson, % Pak-All Corporation, 3985 Race Road, Cincinnati 11, Ohio
Filed Apr. 24, 1961, Ser. No. 104,886
4 Claims. (Cl. 53—182)

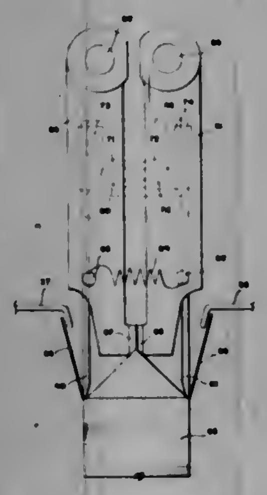
1. In a packaging machine wherein a roll of a doubled web of heat sealable material is drawn about an article to be packaged and formed into an article enclosing bag, the improved apparatus comprising:



(a) a vertical standard;
(b) outwardly projecting roll mounting means at the top of said standard adapted to mount a roll of heat sealable material with the free edges of said doubled web outermost;
(c) a generally V-shaped web separator secured to said standard and extending outwardly therefrom, said separator underlying said roll mounting means in vertical alignment therewith, whereby the opposite sides of the doubled web will be moved apart as the web is drawn downwardly about said separator;
(d) a heat sealing means secured to and extending outwardly from said standard and underlying said web separator, said heat sealing means including an elongate heating unit lying to one side of the vertical center line of said apparatus, as defined by said standard, said heating unit comprising an elongate housing having an open front, a heating bar mounted in said housing, elongate stationary guard means associated with said open front of said housing and defining a narrow elongate opening, and a movable guard pivotally mounted in said housing; and a rocker arm assembly including an elongate pressure pad on the the opposite side of said vertical center line, said rocker arm assembly being movable from an inoperative position in which said assembly lies on the opposite side of said vertical center line to an operative position in which it traverses said vertical center line and said pressure pad contacts said heating unit, said rocker arm assembly and said pressure pad being positioned to contact said heat sealable material and carry it into contact with said heating unit as said assembly is moved from said inoperative to said operative position, said movable guard being movable by said rocker arm assembly from an operative position in which said guard lies in said open front of said heating bar to an inoperative position in which said movable guard is displaced by said rocker arm assembly to permit said heat sealable material to contact said heating bar, thereby severing the doubled web along a line of severance in alignment with said heat sealing means and forming a transverse heat sealed seam joining together the opposite sides of the doubled web both above and below said line of severance.
(e) a vertically adjustable tray mounted on said standard and extending outwardly therefrom in a position underlying said heat sealing unit in vertical alignment with said web separator, whereby an article to be packaged may be inserted in said web separator above said heat sealing unit.

3,195,291
APPARATUS FOR CUTTING GLUE SPOTS ATTACHING A LINER TO AN OUTER CARTON

Od Wikar Christensson, Vikavagen 5, Bromma, Sweden
Filed May 15, 1961, Ser. No. 110,204
Claims priority, application Sweden, May 23, 1960, 5,055/60
13 Claims. (Cl. 53—393)

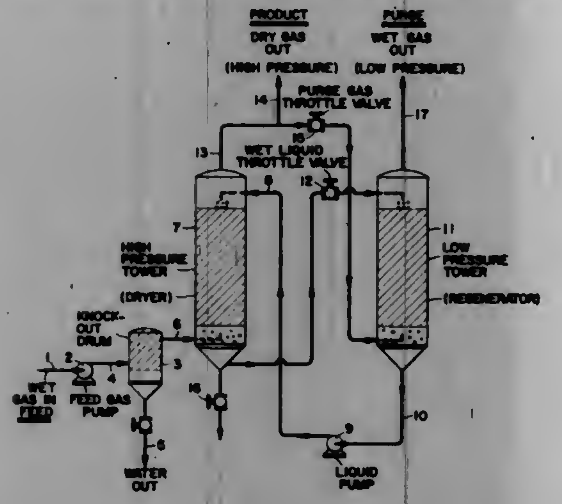


1. In apparatus for packaging a substance in a package having an outer package portion and an evacuated liner of soft material, the said liner having been at least partially attached to the outer package portion by gluing prior to evacuation, the package being held in a package holder, and the package holder being moveable during packaging, the improvements comprising: reciprocating knife-like means actuated in synchronism with the movement of said package holder to at least partially cut the gluing attaching the liner to the outer package portion, and further comprising guide bearing means for the reciprocating knife-like means, the knife-like means including a reciprocating guide shaft operable in the bearing means.

3,195,292
FRACTIONATION OF GASEOUS MIXTURES BY ABSORPTION

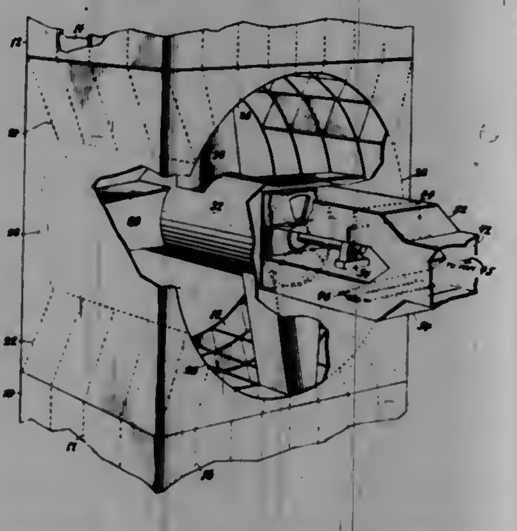
Charles W. Skarstrom, Montvale, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Continuation of application Ser. No. 29,343, May 16, 1960. This application Mar. 26, 1964, Ser. No. 357,346
6 Claims. (Cl. 55—32)

1. Improved process for the removal of a key component from a gaseous mixture containing the same which comprises introducing said gaseous mixture as feed under pressure into the first end of a relatively high pressure zone having a first and second ends, introducing a liquid absorbent having a relatively slight ability to absorb said key component into the second end of said high pressure zone, countercurrently contacting said gas and said absorbent, removing said absorbent from the first end of said high pressure zone containing said key component and introducing the same directly into the first end of a low pressure zone having a first and a second end, removing a gaseous stream from the said second end of said high pressure zone as a primary product gas stream, segregating a portion of said product gas stream for purge and introducing the same into the said second end of said low pressure zone wherein the actual volume of purge gas to actual volume of feed ratio per unit of time is greater than 1, countercurrently contacting the said absorbent and the said purge gas in said low pressure zone, removing said purge gas together with said key component from the said first end of said low pressure zone as a secondary gaseous product, removing said absorbent from the said second end of said low pressure zone and introducing the same to the said second end of said high pressure zone, said process being characterized in that substantially the sole transfer of heat to and from said gases occurs within said zones, thereby eliminating the need for external heat transfer.



3,195,293
CLEANING ARRANGEMENT FOR ELECTROSTATIC PRECIPITATOR

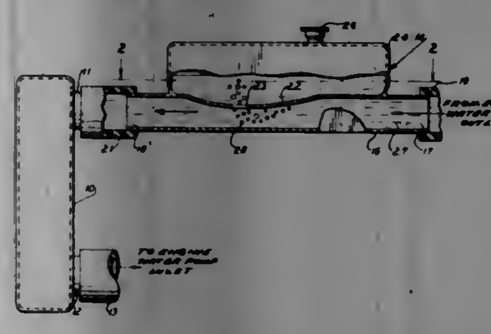
William B. Daily and Wilbur J. Hawley, Wellsville, N.Y., assignors to Refractory & Insulation Corporation, a corporation of Delaware
Filed Feb. 13, 1962, Ser. No. 172,990
3 Claims. (Cl. 55—117)



1. Gas cleaning apparatus comprising spaced collecting sections of generally rectangular configurations having mutually adjacent surfaces formed arcuately with spaced openings that lead to independent compartments in said collecting sections, imperforate arcuate walls intermediate said mutually adjacent arcuate surfaces connected thereto to enclose a cylindrical chamber, a cylindrical duct in said chamber concentric therewith and having axially spaced end portions that terminate adjacent spaced ends of the cylindrical chamber, bearing means supporting the cylindrical duct for rotation about its axis, means dividing said cylindrical duct into a plurality of sectorial compartments, branch duct means aligned with axially spaced compartments in the collecting sections depending radially from said sectorial compartments and extending into closely spaced relation with the arcuate surfaces of the cylindrical chamber, means for rotating the cylindrical duct about its axis, a discharge duct, a birfurcated duct intermediate said discharge duct and spaced compartments of said cylindrical duct, an end plate carried by said bifurcated duct in closely spaced relation with an end portion of said cylindrical duct, said end plate having apertures that provide communication between spaced portions of said bifurcated duct and spaced sectorial compartments of the cylindrical duct, and means controlling fluid flow through spaced portions of the bifurcated duct and the sectorial compartments of the cylindrical duct communicating therewith through the apertures of said end plate.

3,195,294
FLUID SEPARATOR

Anthony Verdura, Detroit, and Theodore Z. White, Dearborn Township, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 20, 1961, Ser. No. 96,962
10 Claims. (Cl. 55—159)



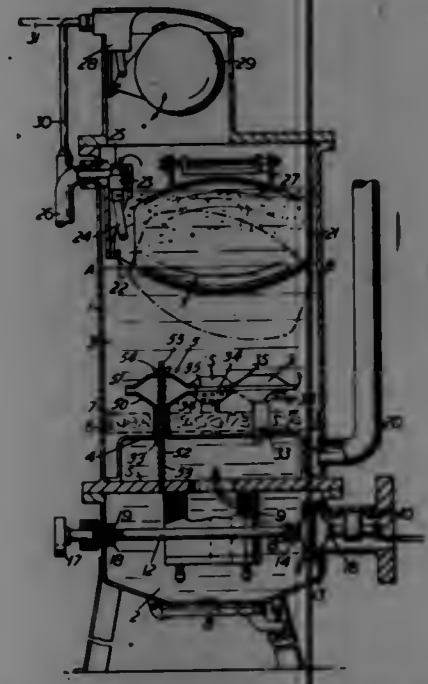
1. A device for the separation of a gas from a flowing liquid in which the gas is relatively insoluble compriisng a reservoir means and a conduit having an inlet means, an outlet means, a portion of reduced cross sectional area between said inlet means and said outlet means, and an upwardly facing opening located between the most restricted part of said conduit and said outlet means and positioned in a portion of said conduit where the cross sectional area of said conduit varies directly with the distance from said most restricted part, said reservoir means communicating with said conduit through said upwardly facing opening, having a portion thereof situated above said conduit and said upwardly facing opening and being positioned in relation to said conduit to admit of gravitational separation of a gas into said portion from a liquid in said conduit.

3,195,295
IMMISCIBLE FLUIDS SEPARATOR

Jacques Muller, 123 Ave. du General de Gaulle, La Garenne-Colombes, France
Filed Nov. 6, 1962, Ser. No. 235,749
Claims priority, application France Nov. 10, 1961, 878,516
7 Claims. (Cl. 55—166)

1. Apparatus for filtering and separating a mixture of immiscible liquids of different densities, foreign matter and gases, comprising a container divided by a horizontal partition into upper and lower compartments, an inlet in the lower compartment through which the mixture may be introducted under pressure, a plurality of filters of the annular micro-groove type in said lower compartment to remove foreign matter and to produce an initial separation of the liquids, a plurality of diffusing elements mounted on said partition, each diffusing element comprising an inlet and a receptacle having downwardly directed holes through which said liquids may

be extruded to produce further separation and a narrow horizontal slot around its perimeter through which said liquids may be expressed and further separated by lamination and stratification, the outlets of said micro-groove filters communicating with the inlets of said diffusing elements through said partition, an outlet for the heavier liquid adjacent the bottom of said upper compartment, a filter pad above said partition and below the level of said diffusing elements through which said heavier liquid may flow to said heavier liquid outlet, an outlet for the lighter liquid near the top of said upper compartment,



a first valve to open and close the lighter liquid outlet, a first float coupled to said first valve to close said lighter liquid outlet if the level of the heavier liquid rises above a predetermined point, an outlet for gases at the top of said upper compartment, a second valve to control the gas outlet, and a second float coupled to said second valve so disposed that if the level of said lighter liquid in the upper part of said upper compartment falls below a predetermined level due to the accumulation of gases said second valve is opened to permit said gases to escape.

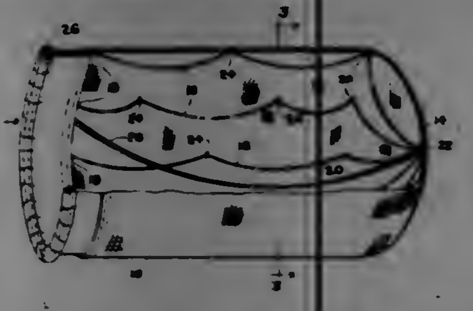
3,195,296

LINT FILTER BAG

Harry W. Janson, Fairhaven, Mass., assignor to Hoyt Mfg. Corp., Westport, Mass., a corporation of Massachusetts

Filed Jan. 18, 1963, Ser. No. 252,331

8 Claims. (Cl. 55—298)



1. Filter apparatus for removing and collecting particulate matter from a turbulent stream of gas comprising:

a tubular bag of porous material open at one end thereof and closed at the other end thereof;

and a plurality of thin, flexible strands disposed longitudinally of said bag in spaced relation about the inner tubular surface thereof,

each of said strands being attached to the inner tubular surface of said bag at least at two points thereon;

slack being provided in each of said strands between its points of attachment;

said strands being operative upon the introduction of said turbulent stream of gas into said bag to sweep said inner tubular surface along substantially the entire length of said strands between their points of attachment.

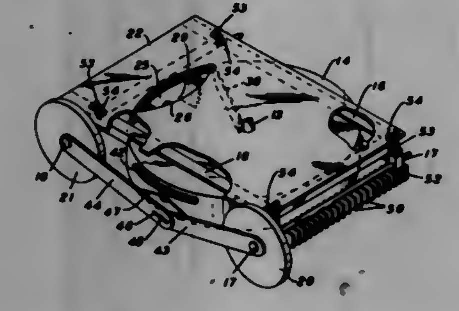
3,195,297

SIDE GUARD FOR A ROTARY DISK LAWN MOWER

Alfred Weiland, 200 Haven St., Clearwater, Fla.

Filed Sept. 3, 1964, Ser. No. 394,170

3 Claims. (Cl. 56—25.4)



1. A lawn care unit comprising a rotary power mower including a vertically extending shaft, a cutting blade attached to said shaft, impelling means on said cutting blade, enclosure for said cutting blade having air entrance and discharge parts, said enclosure including an open-bottomed cylindrical housing and paired coplanar side plates arranged upon opposite sides of said housing in vertical planes substantially parallel to the direction of travel of the mower, said paired side plates being disposed in end to end alinement with their outer ends pivotally supported for conjoint swinging movement in said vertical planes, and means intervening the inner ends of each pair of said side plates for limiting their conjoint swinging movement relatively to the ground, said plates being of substantial vertical depth to confine the cuttings of said mower within the widthwise expanse of the mower and being free to move relatively to the enclosure for the cutting blade in correspondence with the undulating surface of the ground traversed by the mower.

3,195,298

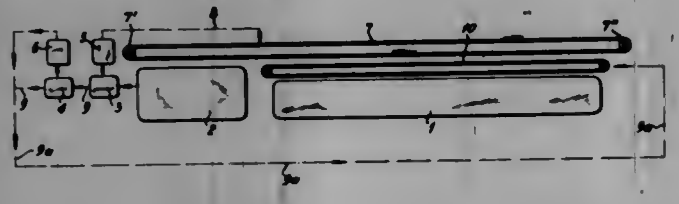
YARN SPINNING AND WINDING APPARATUS

Stefan Fürst, Monchen-Gladbach, Germany, assignor to Walter Reiners, Monchen-Gladbach, Germany

Filed Oct. 12, 1962, Ser. No. 231,611

Claims priority, application Germany, Oct. 14, 1961, R 31,286

6 Claims. (Cl. 57—1)



1. Yarn coil replacement system for replacing empty and partly wound coil cores from a yarn-package winding machine with yarn coils from a yarn-supply coil production machine, said system comprising a forward conveyor having coil carrier means for passing coils from the production machine to the winding machine, and return conveying means having a conveying direction opposed to that of said forward conveyor for passing empty and partly wound coil cores from the winding machine back to the production machine, and a sorting device interposed in the conveying path of said core return conveying means for separation of cores containing yarn windings from those passing to the coil production machine.

3,195,299

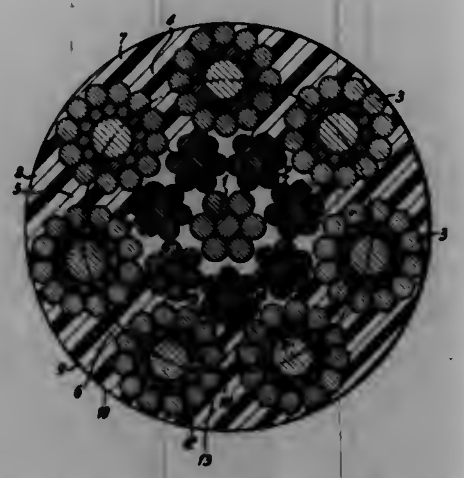
WIRE ROPE

Alfred Dietz, Damaschkestrasse 30, Neustadt, near Coburg, Germany

Filed Oct. 23, 1962, Ser. No. 232,523

Claims priority, application Germany, June 6, 1962, D 39,093

7 Claims. (Cl. 57—149)



1. A stranded wire rope comprising inner wire rope elements overlaid by a circumferential series of outer helical wire strands spaced apart in parallel lay, and fillings of a hard tough synthetic plastic material extending radially in the spaces between said outer strands and holding said strands laterally separated one from another, said fillings terminating at their outer side substantially at the peripheral outline of said series, and being separate at their inner sides and there terminating away from the radially innermost surfaces of said strands, and being sufficiently hard and tough that they keep said strands from contacting one another laterally and limit the radial pressure of said strands upon said inner elements when the rope is under strain.

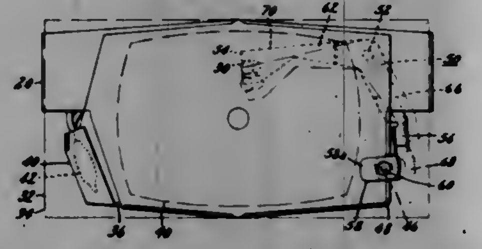
3,195,300

ALARM SET INDICATING MEANS

William C. Wingler, Northboro, Mass., assignor to General Electric Company, a corporation of New York

Filed Feb. 14, 1962, Ser. No. 173,296

1 Claim. (Cl. 58—22.7)



In an alarm clock, a translucent dial having a clock face portion and a surrounding border, an opaque mask positioned behind said border, a lens positioned behind said mask aligned with the face portion of said dial and surrounding portions of said border and said mask, a light source positioned adjacent one edge of said lens for illuminating said dial, the edge of said lens opposite said light source being beveled to reflect light toward said dial, said mask having a hole aligned with said beveled edge such that light striking said beveled edge passes through said hole so that a light spot appears on said dial border when the clock is in a darkened surrounding, an alarm mechanism including an alarm shut-off lever moveable generally parallel to said dial and a stud attached to said lever to reciprocate said lever, said lever and said stud being manually moveable between an alarm off and an alarm set position, a pivotally mounted shutter lever having a bifurcated end fitting over said stud and moved by said stud as said shut-off lever is moved between its alarm off and alarm set positions, a shutter connected to the opposite end of said shutter lever and positioned for movement generally parallel to said dial between said mask and said lens, said shutter having a solid portion and an aperture, said shutter and said shutter lever being arranged with respect to said hole in said mask such that said aperture in said shutter is moved into alignment with said hole in said mask when said shut-off lever is moved to the alarm set position to permit light to pass through said hole so that the light spot will appear on said dial border, and said solid portion of said shutter is moved into alignment with said hole in said mask to block the passage of light through said hole when said shut-off lever is moved to the alarm off position so that the light spot will not appear on said dial, and said translucent dial shielding said hole from view through said clock dial face so that said hole and said pivotally mounted shutter are invisible when said shutter prevents light from said light source from passing through said hole.

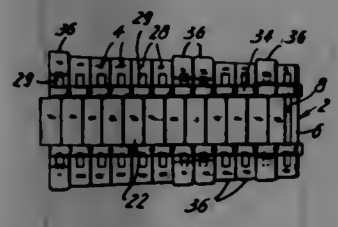
3,195,301

FLEXIBLE CHAIN LINKAGE

Salvatore Bello, Cliffside Park, N.J., assignor to Jacoby-Bender, Inc., Woodside, N.Y., a corporation of New York

Filed May 9, 1961, Ser. No. 108,952

10 Claims. (Cl. 59—80)



1. A flexible chain linkage comprising a first series of links having apertures intermediate their width which are flanked by side portions, and a second series of links each having a tongue receivable in the aperture of one link of said first series and having lips bendable around edges of the side portions of an adjacent link of said first series, said links extending generally widthwise of said linkage and said edges of said side portions of said links of said first series facing substantially lengthwise of said linkage, said links of different series overlapping one another respectively, a given series of links being provided with recesses and the other series of links being provided with protrusions receivable in said recesses, thereby to align said links independently of said tongues and lips.

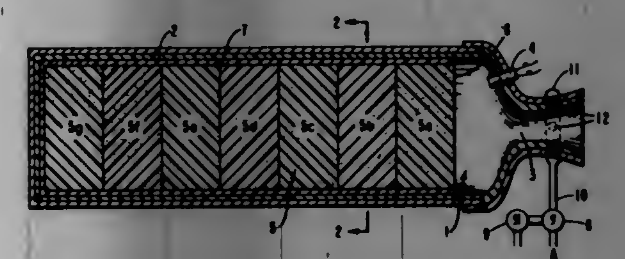
3,195,302

SOLID PROPELLANT GRAIN OF VARIABLE ELECTRON-EMISSIVE COMPOSITION

Martin C. Hughes, Falls Church, and Thomas K. Millar, Springfield, Va., assignors to Atlantic Research Corporation, Fairfax County, Va., a corporation of Virginia

Filed Jan. 22, 1962, Ser. No. 167,686

14 Claims. (Cl. 60—35.6)

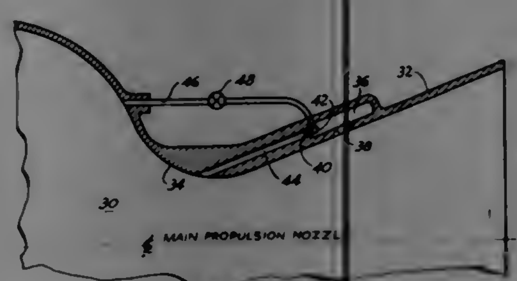


1. A shaped combustible grain having at least one initial ignition surface and comprising a plurality of adjacent bonded segments of gas-generating composition

arranged in a direction normal to said initial ignition surface, each of said segments consisting essentially of a mixture of cesium oxidizer salt and finely-divided reactive metal exothermically reactive with said salt to produce free electrons and free alkali metal cations, said salt being present in an amount sufficient to maintain active combustion of said metal, the composition of said segments being varied to produce electrons and cations at a different rate from that of the next adjacent segment during combustion, whereby said rate of electron and ion emission can be modulated in a preselected manner.

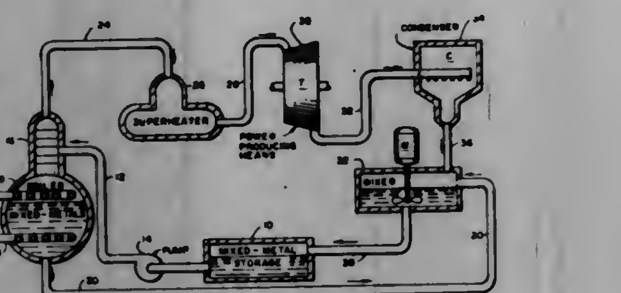
4. A generator device for producing a high-temperature, high-pressure ionized gas stream containing electrons and ions in modulated emission density, comprising a combustion chamber, a shaped grain as defined in claim 1 seated in said combustion chamber and means for igniting said grain.

3,195,303
VORTEX VALVE
George M. Widell, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Jan. 22, 1962, Ser. No. 167,727
8 Claims. (Cl. 60—35.54)



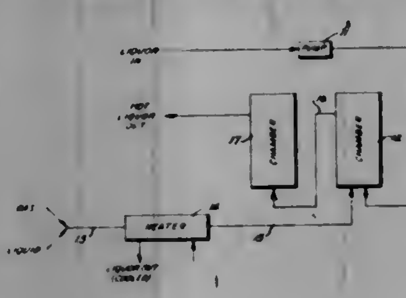
8. A device for controlling fluid flow through a nozzle thrust vector injector of a rocket engine provided with a combustion chamber and a converging diverging thrust nozzle comprising:
- a housing defining a circular swirl chamber having an axial opening connected to supply gaseous products of combustion to the thrust vector injector,
- a first inlet port formed in said housing through which gaseous products of combustion derived from the combustion chamber are injected radially inwardly into said swirl chamber,
- a first conduit connected to the diverging portion of the thrust nozzle adjacent the throat portion thereof and said first inlet port for venting a portion of the gaseous products of combustion flowing through the thrust nozzle at a reduced pressure to said first inlet port,
- a second inlet port formed in said housing at a point in said swirl chamber circumferentially disposed at least ninety degrees from said first inlet port and through which gaseous products of combustion derived from the combustion chamber are injected tangentially into said swirl chamber to form a vortex flow therein,
- a second conduit connected to supply gaseous products of combustion from the combustion chamber to said second inlet port, and
- valve means operatively connected to said second conduit for controlling flow therethrough,
- said flow of gaseous products of combustion injected by said first inlet port into said swirl chamber being intercepted by said vortex flow which opposes the flow thereof to effect corresponding control of the flow of gaseous products of combustion through said axial opening to said thrust vector injector.

3,195,304
PROCESS FOR PRODUCING POWER
David R. Stern, Fullerton, and Robert D. Stewart, La Habra, Calif., assignors to American Potash & Chemical Corporation, Los Angeles, Calif., a corporation of Delaware
Original application July 16, 1962, Ser. No. 209,864. Divided and this application May 1, 1964, Ser. No. 368,439
4 Claims. (Cl. 60—36)



1. The method comprising heating a ternary mixture of sodium, potassium and cesium to provide a stream of cesium rich vapor and a liquid residue, extracting energy from said vapor, condensing said cooled vapor to liquid cesium, admixing said liquid cesium with said liquid residue, the resulting mixture of said liquid cesium with said liquid residue having the composition of said ternary mixture.

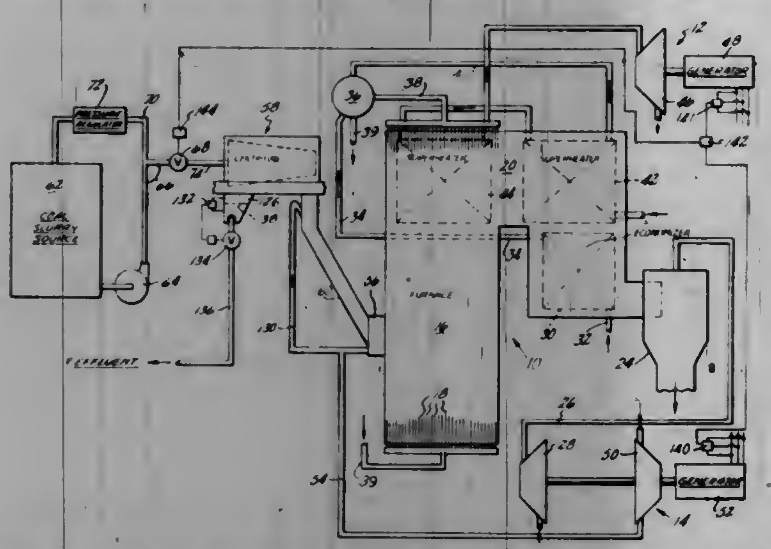
3,195,305
LIQUID HEATING PROCESS
Hans Huesler, Schofield, and Frederick J. Zimmermann, Wausau, Wis., assignors to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
Filed May 14, 1962, Ser. No. 196,842
7 Claims. (Cl. 60—39.05)



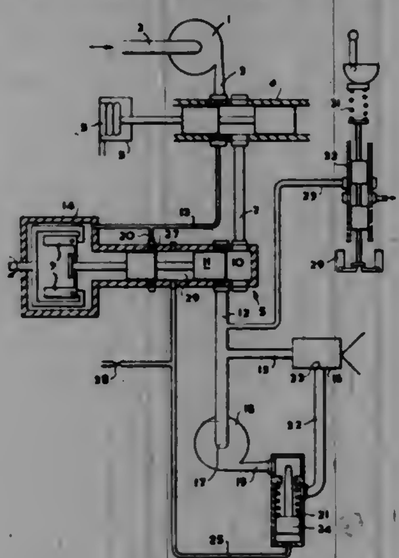
1. A process for directly heating to a selected temperature at superatmospheric pressure a liquor containing heat solidifiable materials or solubilized materials having a reverse order of solubility which encrustate heat exchange surfaces when the liquor is indirectly heated, which comprises intimately mixing in concurrent flow relationship the liquor at a temperature below its encrustation temperature and at the selected superatmospheric pressure with a gaseous mixture of liquid vapors and a noncondensable gas at a temperature above the selected temperature and at a pressure greater than the pressure of the liquor such that the partial pressure of the liquid vapors in the mixture is less than the pressure of the liquor in a proportion of liquor to liquid vapors-non-condensable gas mixture which heats the liquor to the selected temperature.

3,195,306
GAS-STEAM POWER PLANT
James Jonakin, Simsbury, Conn., assignor to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed Dec. 17, 1962, Ser. No. 245,302
7 Claims. (Cl. 60—39.18)

1. A gas-steam power plant system comprising a supercharged vapor generator having a furnace, a vapor operated prime mover means receiving vapor from the generator, gas operated prime mover means receiving high pressure gas from the generator, compressor means operated by one of said prime mover means to supply high pressure combustion supporting air to the furnace, a pressurized system operating at generally the same high pressure existing in the furnace operative to provide a continuous supply of comminuted coal to said furnace for burning therein and including a solid bowl centrifuge for dewatering a coal slurry and means conveying dewatered coal directly from the centrifuge and introducing it into the furnace, a source of a pumpable coal slurry and means including pump means operative to regulatingly supply slurry from the source directly to the centrifuge with the regulation of this supply regulating the supply of coal to the furnace.

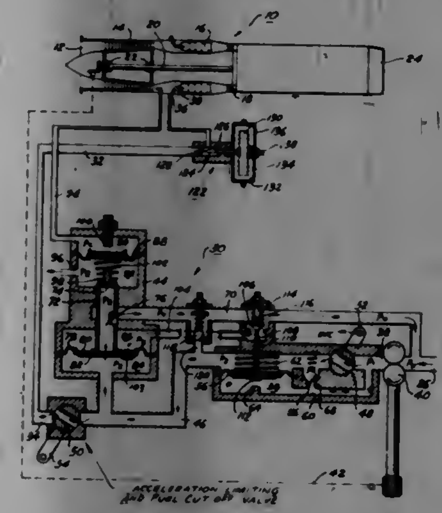


3,195,307
LIQUID SUPPLY SYSTEM
Stanley Ralph Tyler, Cheltenham, and William James Bootle, Cranham, England, assignors to Dowty Fuel Systems Limited, Gloucester, England, a British company
Filed July 10, 1962, Ser. No. 208,821
Claims priority, application Great Britain, July 13, 1961, 25,480/61
6 Claims. (Cl. 60—39.28)



5. A gas turbine engine fuel system comprising a spill spray nozzle; means defining a fuel circulating system for the nozzle including a circulating pump having an inlet and an outlet, a supply connection between the pump outlet and the nozzle to deliver the pump output to the nozzle, and a spill connection between the nozzle and the pump inlet to return any spill flow to the pump; a feed pump connected to the spill connection to feed fuel into the circulating system at the circulating pump inlet by way of the spill connection; a metering valve in the connection between the feed pump and the spill connection; control means operable to adjust the metering valve in accord with an engine gas pressure; a first throttle valve in the connection between the feed pump and the spill connection, intermediate the metering valve and the spill connection; control means operable to adjust the first throttle valve in accord with the pressure drop across the metering valve; control means operable to adjust the first throttle valve in accord with the speed of the engine; a second throttle valve in the supply connection; and control means operable at a predetermined setting of the first throttle valve to cause the second throttle valve to restrict the flow of the circulating pump output to the nozzle, and in turn produce an augmented flow condition to the nozzle, utilizing the supply and spill connections, at feed rates above that provided at said predetermined setting of the first throttle valve.

3,195,308
FUEL CONTROL FOR COMBUSTION ENGINE
Howard L. McCombs, Jr., South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Oct. 17, 1962, Ser. No. 231,103
6 Claims. (Cl. 60—39.28)



1. Fuel control apparatus for a combustion engine having a combustion chamber, an air compressor for supplying pressurized air to the combustion chamber and a control lever for controlling the speed of the compressor, said apparatus comprising:
- a fuel supply conduit connected to deliver pressurized fuel to the combustion chamber;
- an engine driven positive displacement fuel pump connected to deliver pressurized fuel to said fuel conduit;
- a fuel bypass conduit connected to return fuel from said fuel conduit to the inlet of said pump;
- bypass valve means operatively connected to said bypass conduit and provided with a predetermined surface area exposed to the fuel pressure in said fuel supply conduit for controlling fuel flow through said bypass conduit and thus the fuel pressure in said supply conduit;
- first fluid pressure responsive means responsive to a compressor generated air pressure operatively connected to said bypass valve means for actuating the same in opposition to the fuel pressure in said supply conduit acting on said predetermined area;
- second fluid pressure responsive means exposed to the fuel pressure in said supply conduit and a variable servo fluid pressure and responsive to the pressure differential therebetween operatively connected to said bypass valve means for actuating the same;
- fluid flow control means including a servo valve for controlling said variable fluid servo pressure;

compressor speed governor means operatively connected to said servo valve for controlling the operation thereof as a function of compressor speed and the position of the control lever such that said servo valve occupies a closed position in response to an acceleration of said compressor to a selected higher speed and an open position in response to a deceleration of said compressor to a selected lower speed as well as during governing operation at a selected speed;

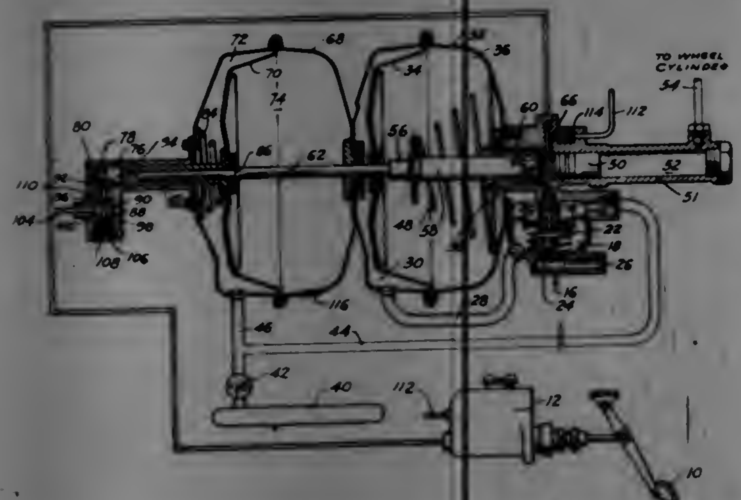
said bypass valve means being urged in an opening direction by the fuel pressure acting against said bypass valve means and by said second fluid pressure responsive means in response to the pressure differential generated thereacross as a result of said servo valve being opened in a closing direction by said first fluid pressure responsive means to thereby regulate the fuel flow through said bypass conduit and thus fuel pressure in said fuel conduit and fuel flow to the combustion chamber as a function of said compressor generated air pressure, control lever position and compressor speed.

3,195,309
BRAKE MECHANISM

Maxwell L. Cripe, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Mar. 8, 1963, Ser. No. 263,933

4 Claims. (Cl. 60—54.5)



1. In a brake system a means to automatically increase fluid displacement as is normally attended with pumping of a brake pedal by a vehicle operator, which means comprises:

a power brake control means operatively connected to the brake pedal;

a hydraulic fluid reservoir in communication with said power brake control means;

a fluid pressure intensifying means including a housing having a bore therein within which a piston is operatively arranged to divide said bore into a first variable volume chamber and a second variable volume chamber, which housing is provided with a discharge port for said first variable volume chamber and a valve port and an inlet port for said second variable volume chamber;

conduit means connecting said discharge port to said brake system, said valve port to said hydraulic fluid reservoir and said inlet port to said power brake control means;

a force transmitting rod operatively connected to said piston;

a fluid pressure servometer having a housing with a movable wall therein, said housing having a fluid inlet communicating one side of the movable wall to a pressure source and spring means bearing at one end on the housing and at the other end on the movable wall such that said spring means is biased against said pressure source to hold said movable wall immobile so long as said pressure source is communicated to said inlet of said housing, said movable wall being operatively connected to said force transmitting rod by a tubular member affxed to said movable wall; and

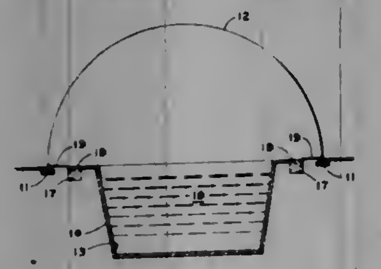
a latching means arranged to hold said tubular member, said latching means including a pressure responsive element and means to communicate same to said power brake control means so that said latching means holds said tubular member until said power brake control means is operated by the vehicle operator.

3,195,310
STORAGE INSTALLATION AND SEALING METHOD THEREFOR

Carl E. Schroeder, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Oct. 2, 1961, Ser. No. 142,177

12 Claims. (Cl. 61—.5)



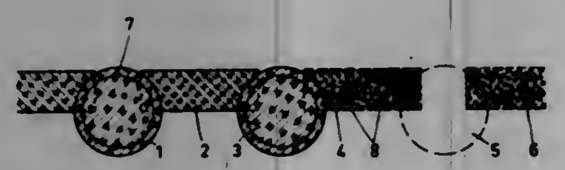
1. A storage installation which comprises a reservoir formed in the ground, a cover extending over said reservoir, a trench peripherally disposed around said reservoir beneath said cover, a quantity of material within said trench, a quantity of fluid within said reservoir, said fluid being at a temperature sufficiently lower than the freeze point of the material in said trench to freeze said material and a sealing member secured to said cover on the opposite side of said trench from said reservoir, said sealing member being of sufficient flexibility to move into sealing engagement with the side of said trench opposite said reservoir under the action of super-atmospheric pressure within said reservoir, a portion of said sealing member projecting into the material within said trench.

3,195,311
WALL CONSTRUCTION

Wilhelm Degen, Zeppelinallee 89, Frankfurt am Main, Germany

Filed Feb. 26, 1962, Ser. No. 175,422

2 Claims. (Cl. 61—35)



1. In a process of constructing a foundation wall formed of piles the steps of:

(a) firstly sinking a plurality of spaced boreholes into the earth,

(b) secondly filling said boreholes with aggregates,

(c) thirdly and thereafter, placing prefabricated piles between adjacent spaced filled boreholes, said piles having a cross sectional profile larger than the space between adjacent filled boreholes, whereby said piles extend into said filled boreholes, and

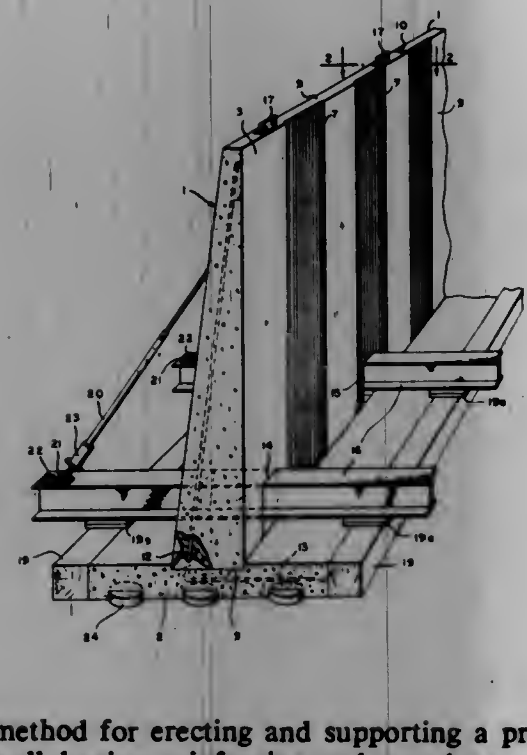
(d) finally, cementing said aggregates by deposition of cement mix in said boreholes.

3,195,312
METHOD FOR ERECTING PRECAST RETAINING WALL

John W. Rumsey, Jr., Bellevue, Wash., assignor of fifty percent to Morrison-Knudsen Company, Inc., Boise, Idaho, a corporation of Delaware, and fifty percent to Rumsey and Company, Seattle, Wash., a partnership

Filed Oct. 11, 1963, Ser. No. 315,563

6 Claims. (Cl. 61—39)



4. A method for erecting and supporting a precast retaining wall having reinforcing rod members extending beyond the bottom end thereof comprising; providing passages along the bottom edge of the wall, supporting said wall on a plurality of cross members above a footing form with said cross members being received in said passages, adjusting said wall to a final position, casting said footing in situ about the bottom end of said wall with clearance being provided between said cross members and the top of the footing, and removing said cross members after said footing cures.

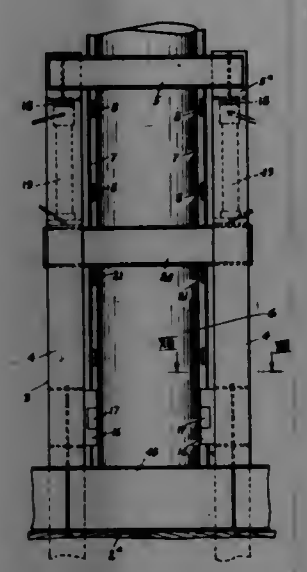
3,195,313
OFFSHORE DRILLING PLATFORM

Edwin P. Swatek, Jr., Sewickley, Pa., assignor to Dravo Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

Continuation of application Ser. No. 792,112, Feb. 9, 1959. This application Oct. 8, 1962, Ser. No. 230,030

2 Claims. (Cl. 61—46.5)

1. In an offshore drilling rig, the combination comprising a buoyant hull, a deck fixed to the hull for supporting a drilling rig, a plurality of leg guides fastened to the hull, the guides each including an openwork structure with an upper rectangular framework rigidly attached to the deck by depending column members and a lower rectangular framework in vertically sliding connection with the vertical columns, a jack positioned between and connected to the upper and lower frameworks for moving the lower framework toward and away from the upper framework, legs guidingly supported through the openwork structure and surrounded by the upper and lower frameworks of the guide frame, ribs attached along the length of each leg and parallel with the leg axis, each rib having slotted opening extending horizontally and spaced vertically along the length of the ribs, a chock attached to the guide with flanges in relative sliding engagement with the ribs and having aligned spaced openings extending horizontally, the chock openings being in alignment with the slotted openings of the ribs, pins passed through the slotted openings of the ribs and of a length greater than the width of the lower framework of the guide whereby the lower framework is supported on the pins for elevation of the upper framework and deck upon extension of the jack, the pins being inserted into the openings of the chocks and aligned slotted openings of the ribs for fixing the location of the guide on the ribs of the leg when pins are removed from supporting position beneath the lower framework such that retraction of the jack elevates the movable lower framework toward the upper framework, the pins being reinserted beneath the lower framework and removed from the chock openings for subsequent extension of the jack and lifting of the deck and upper framework for incrementally raising the hull and deck on the legs.

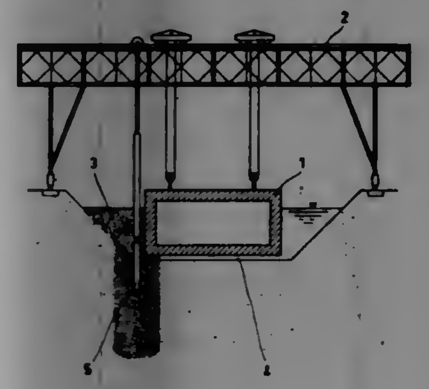


3,195,314
FOUNDATION METHOD

Wilhelm Degen, Zeppelinallee 89, Frankfurt am Main, Germany

Filed Feb. 26, 1962, Ser. No. 175,421

4 Claims. (Cl. 61—50)



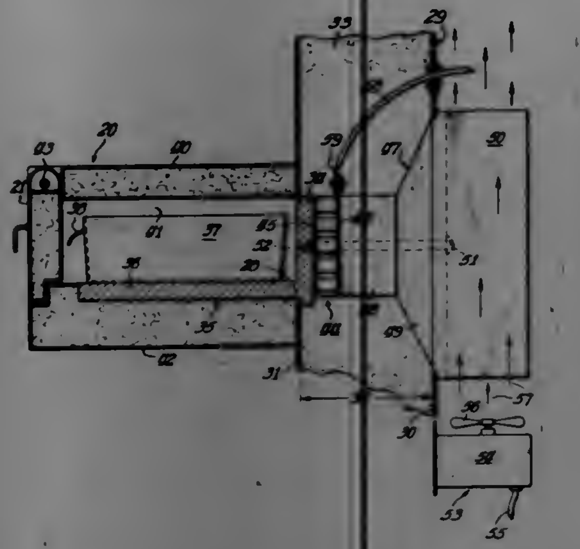
1. In a process of forming a foundation for prefabricated structural units in soil, the steps comprising: firstly excavating a trench to a level substantially at least one and approximately two inches deeper than a planned foundation, secondly placing and supporting a structural member, having side walls and a bottom, in said trench above the bottom thereof at a depth corresponding to said planned foundation, thirdly filling soil around the side walls and the bottom of said structure and between said structural member and said trench and under the lower edges of said member, fourthly densifying said filled soil by packing to form a barrier to liquid under at least the lower edges of said member to the exclusion of open space between the edges of the member and the trench bottom and finally filling the space extending under and towards the center of said member.

3,195,315
THERMOELECTRIC REFRIGERATOR

Andrew P. Boehmer and Boubene M. Jaremus, Barrington, Ill., assignors to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Apr. 22, 1963, Ser. No. 275,188

2 Claims. (Cl. 62—3)



1. In a refrigerator including a wall having inner and outer panels separated by a predetermined lateral dimension, said inner panel defining an aperture of preassigned extent, a heat-conducting-and-support member including a vertical leg dimensioned to fit within said aperture and including a horizontal ledge extending at substantially right angles to said vertical leg inwardly of said inner panel, said vertical leg further defining an opening for receiving fastening means, a thermoelectric assembly including a central apertured portion and disposed substantially parallel to said panels and flush with said vertical leg of the heat-conducting-and-support member, a heat conducting assembly including a first apertured portion abutting said thermoelectric assembly and extending between said assembly and said outer panel, and a second portion including a plurality of fin elements extending outwardly of said outer panel for dissipating heat to the atmosphere, fastening means extending through said first apertured portion of the heat conducting assembly, through said central apertured portion of the thermoelectric assembly, and into said opening of the vertical leg of the heat-conducting-and-support member, and foamed-in-place insulation disposed between said inner and outer panels and abutting said vertical leg, said thermoelectric assembly and said first portion of the heat conducting assembly to cooperate with said fastening means in providing mechanical support for the components of the refrigerator.

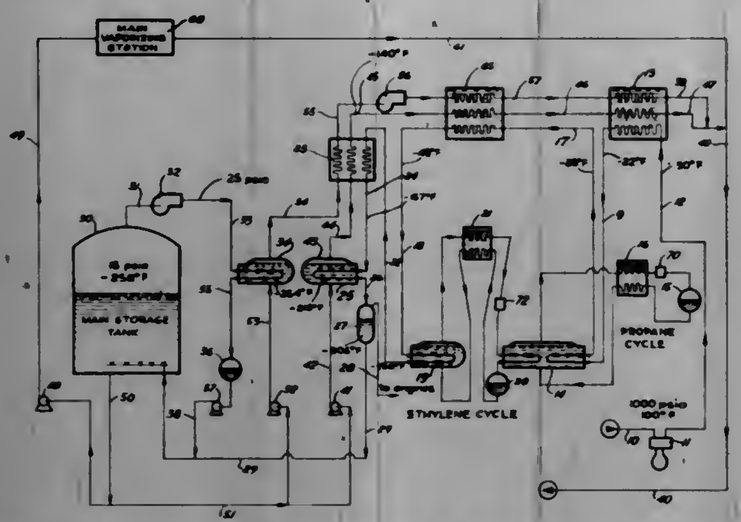
3,195,316
METHANE LIQUEFACTION SYSTEM

James B. Maher and James Mair, Chicago, Ill., assignors to Chicago Bridge & Iron Company, Chicago, Ill., a corporation of Illinois

Filed Aug. 2, 1963, Ser. No. 299,506

3 Claims. (Cl. 62—52)

1. A method of liquefying natural gas and storing the same in an insulated storage tank at close to but slightly above atmospheric pressure, which comprises subjecting incoming natural gas to the refrigerating action of a cascade system to convert it into a liquid at a temperature which exerts a pressure substantially above atmospheric pressure, further cooling the liquefied gas by passing it through the tube side of a first vessel cooled on the shell side of liquefied natural gas withdrawn from a storage tank holding the same at close to but slightly above atmospheric pressure, removing the liquefied gas from the tube side of the first vessel at a much lower temperature than at which it entered and flashing it into said storage tank for storage at a temperature at which the gas gives a vapor pressure close to but slightly above atmospheric pressure, withdrawing vapor from the tank when it reaches a nominal level, increasing the pressure of the withdrawn vapor, feeding the vapor at increased pressure into the tube side of a second vessel cooled on the shell side by liquefied gas withdrawn from the tank, liquefying the vapor in the tube side of the second vessel, feeding said liquefied gas into the tank, and feeding the gas from the shell side of the second vessel to a transfer pipe.

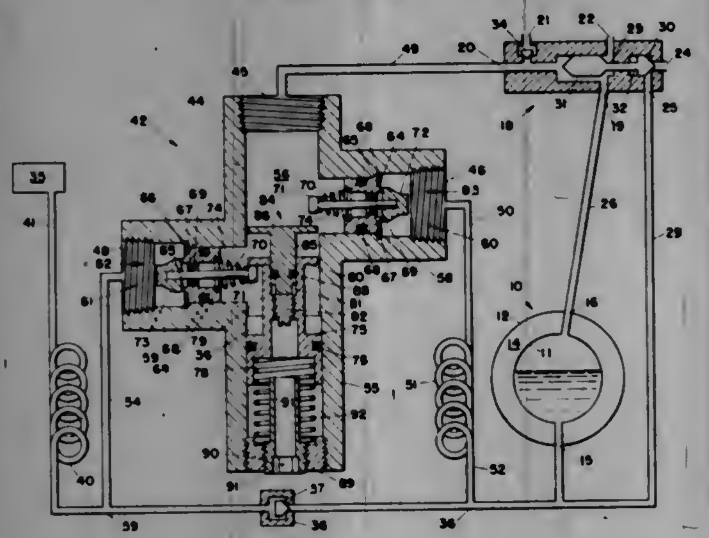


3,195,317
FLOW CONTROL APPARATUS

James A. Mientus, Davenport, Iowa, assignor to The Bendix Corporation, Davenport, Iowa, a corporation of Delaware

Filed Aug. 19, 1963, Ser. No. 303,000

2 Claims. (Cl. 62—52)



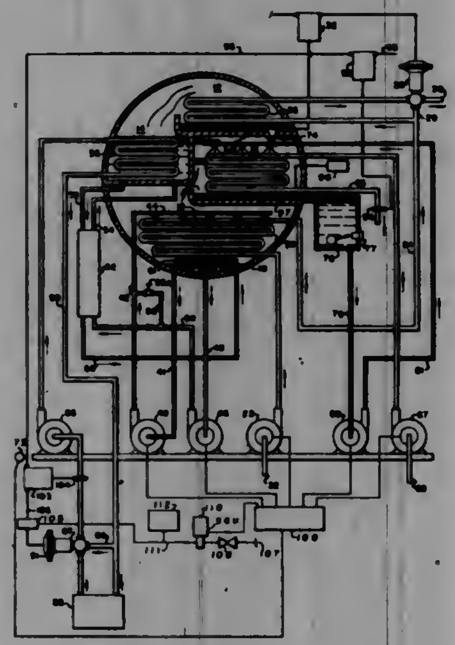
1. A liquid to gas conversion system for supplying gas to a point of consumption comprising, a liquid storage vessel having a liquid port and a vessel gas port, a combination pressure opening and pressure closing valve having a bore therein, a pressure closing passage, a pressure opening passage and a gas port, said passages and said ports in fluid communication with said bore, a fluid warming member, a build-up circuit means for connecting said liquid port and said vessel gas port comprising in series said fluid warming member, said pressure closing passage, said bore, said gas port and said vessel gas port, an economy circuit means for connecting said vessel gas port to said point of consumption comprising in series said vessel gas port, said gas port, said bore, said pressure opening passage and conduit means for connection to said point of consumption, a pressure closing valve disposed in said pressure closing passage including a head, an associated seat and a valve stem connected to said head and extending into said bore, a pressure opening valve disposed in said pressure opening passage including a head, an associated seat and a valve stem connected to said head and extending into said bore, means disposed in said bore for controlling fluid flow through said build-up circuit and said economy circuit over a range of pressure values comprising pressure responsive means movable relative to said bore in accordance with the variable pressure condition in said vessel and a first actuator means and a second actuator means fixed to said pressure responsive means and disposed for unseating said pressure closing valve below said range and said pressure opening valve above said range, said pressure closing and said pressure opening valve seated within said range.

3,195,318
ABSORPTION REFRIGERATING SYSTEM

Robert G. Miner, La Crosse, Wis., assignor to The Trane Company, La Crosse, Wis., a corporation of Wisconsin

Filed Apr. 23, 1962, Ser. No. 189,335

6 Claims. (Cl. 62—148)



1. In an absorption refrigerating system, the combination of an absorber, an evaporator, a condenser and a generator placed in a closed circuit, the circuit containing a solution of an absorbent and a refrigerant, a normally closed valve for regulating the flow of heating fluid in heat transfer relationship with said generator, a motor for controlling said valve, a pneumatic thermostat for transmitting a signal to said motor to open said valve responsive to the temperature of said evaporator, means for reducing the signal transmitted to said motor, and time delay means responsive to the temperature of said evaporator for progressively rendering said signal reducing means ineffective.

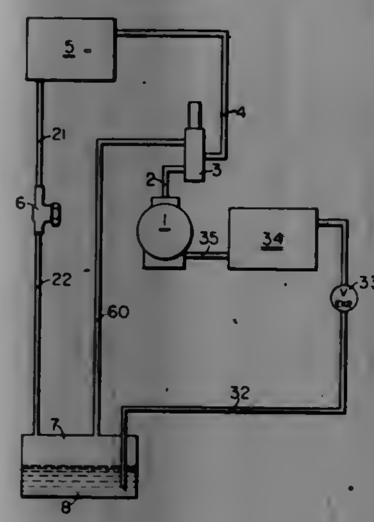
3,195,319
CONTROL SYSTEM FOR REFRIGERATION AND HEAT PUMP EQUIPMENT

Charles J. Wolff, deceased, late of 720 Wiltshire, San Antonio 9, Tex., by Marie Tillitt Wolff, executrix, San Antonio, Tex.

Filed Jan. 29, 1963, Ser. No. 255,427

9 Claims. (Cl. 62—196)

1. In a cyclic system including a compressor, a condenser, a receiver, a pressure reducing device and an evaporator connected in sequence that improvement which comprises a valve having an inlet port connected to the compressor outlet, a first outlet port connected to the condenser inlet, a second outlet port connected to an upper part of the receiver, a first flowway in the valve between the inlet port and first outlet port, a flow-restricting member carried by a reciprocal valve stem to and from a position restricting flow through said first flowway, a second flowway between the inlet port and the second outlet port, a valve seat around the second flowway, a valve closure member carried by the valve stem to and from valve closing position on the valve seat, said valve closure member being moved to valve closing position as the flow-restricting member is moved from flow-restricting position; an actuator, responsive to receiver pressure, operatively connected to the valve stem to move the valve closure member from the valve seat through a distance substantially proportional to decrease in pressure in the receiver below a selected normal value; a check valve disposed to prevent flow into the condenser outlet; and a restricted passageway bypassing said check valve.



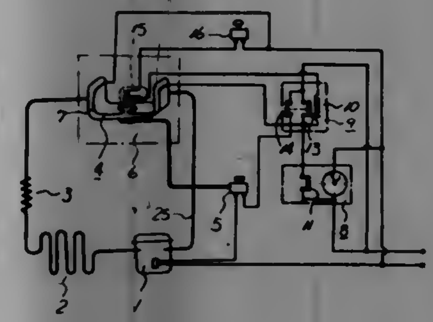
3,195,320
DEFROSTING DEVICE FOR EVAPORATOR

Shoichi Kita, Ota-shi, Gunma-ken, Japan, assignor to Sanyo Denki Kabushiki Kaisha, Osaka-fu, Japan, a corporation of Japan

Filed July 1, 1964, Ser. No. 379,501

Claims priority, application Japan, July 6, 1963 (utility model), 38/50,627; Sept. 23, 1963 (utility model), 38/72,003; Oct. 17, 1963 (utility model), 38/78,442

8 Claims. (Cl. 62—276)

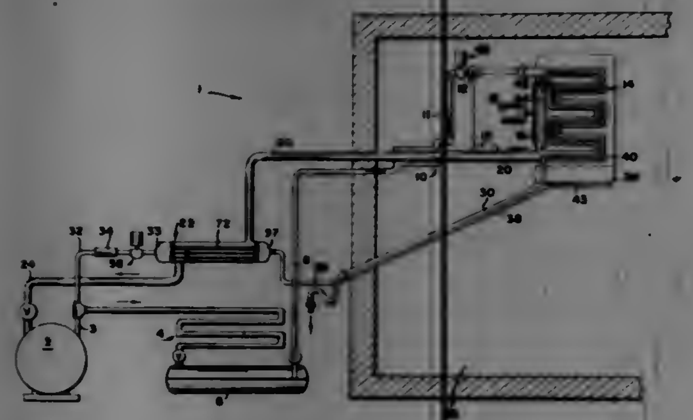


1. A defrosting device for an evaporator, comprising a coolant passageway having an embossed portion which is distributed substantially uniformly on a surface of a plate, an electrical heater wire passageway having an embossed portion which is distributed substantially uniformly on said surface of said plate substantially parallel to said coolant passageway, a flexible electrical heater wire inserted by fluid pressure into said electrical heater wire passageway, and resilient caps hermetically fixed to each of the open ends of said electrical heater wire passageway, said caps each having a hollow portion which opens at one end and extends to the center portion of said

cap and a through aperture which extends from said hollow portion to the other end of said cap, a power source lead wire extending through said through aperture and being connected with said electrical heater wire, and said connected portion being positioned within said hollow portion.

3,195,321
REFRIGERATION SYSTEM INCLUDING DEFROSTING MEANS

Alan S. Decker, West Hartford, and Cecil Boling, Litchfield, Conn., assignors to Dunham-Bush, Inc., Hartford, Conn., a corporation of Connecticut
Continuation of abandoned application Ser. No. 69,030, Nov. 14, 1960. This application May 28, 1964, Ser. No. 377,164
5 Claims. (Cl. 62—278)

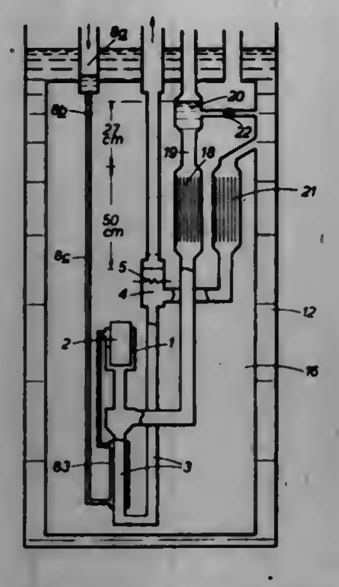


4. In a refrigeration system, the combination of, an evaporator having an evaporator flow path and external surfaces upon which frost tends to accumulate, a compressor which withdraws refrigerant from said evaporator and compresses it, a condenser which receives compressed refrigerant from said compressor and condenses it, a receiver which receives liquid refrigerant from said condenser, an expansion valve through which liquid refrigerant flows at a reduced pressure into said evaporator, a heat interchange unit comprising a tube and shell construction which forms two separate fluid circuits through which two separate streams of refrigerant flow in heat exchange relationship, an evaporator defrosting circuit extending from the outlet of one of said fluid circuits through a defrosting flow path separate from said evaporator flow path and in heat exchange relationship with the evaporator surfaces upon which frost tends to accumulate, a defrosting-restrictor valve providing a defrosting refrigerant outlet from said defrosting circuit, a common return line from said evaporator and said defrosting-refrigerant outlet through the other of said fluid circuits of said heat interchange unit and thence to said compressor, and means to supply compressed refrigerant from said compressor during the defrosting operation through said one of said fluid circuits of said heat exchange unit to said defrosting circuit.

3,195,322
REFRIGERATOR EMPLOYING HELIUM

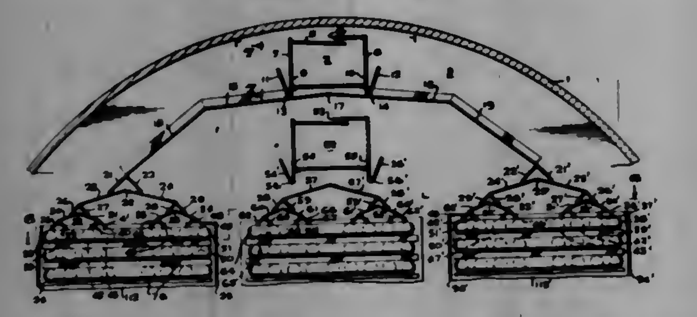
Heinz London, Cumnor, Oxford, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Sept. 17, 1962, Ser. No. 224,149
Claims priority, application Great Britain, Sept. 22, 1961, 34,004/61
11 Claims. (Cl. 62—467)

1. A refrigerator having liquid helium 3 as its working fluid and comprising a working chamber, a boiler, a condenser, conduit means to provide a superfluid helium 4 link between said working chamber and said boiler, means to pass liquid helium 3 to the working chamber to mix therein with superfluid helium 4 whereby heat is extracted, and heating means associated with said boiler to evaporate helium 3 from the helium 4 therein and means to remove the helium 3 vapour from the boiler.



3,195,323
METHOD AND APPARATUS FOR VAPOR AND LIQUID CONTACT

Judson S. Swearingen, Los Angeles, Calif., assignor, by mesne assignments, to Electronic Specialty Co., Los Angeles, Calif., a corporation of California
Filed Sept. 4, 1962, Ser. No. 221,180
20 Claims. (Cl. 62—485)

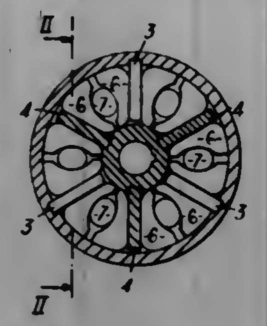


1. Apparatus for applying a film of liquid to a plurality of tubular surfaces of extended length arranged side by side in a row which comprises an inclined plate of extended longitudinal dimension, means to mount the plate in an inclined position with its longitudinal edge between adjacent tubes of said row, a plurality of adjacent fingers spaced along the longitudinal end of said plate, adjacent fingers along said plates being fastened at an angle to each other, one finger being positioned adjacent one of the said tubes and an adjacent finger being positioned adjacent another of the tubes of said row, means to flow a sheet of liquid over said plate, whereby said liquid flows along said fingers to the said tubes.

3,195,324
FLEXIBLE COUPLINGS

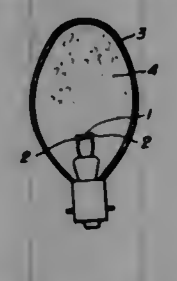
David G. J. Sellwood, 44 Richmond Road SW. 20, London, England, and Michael H. Elson, % Yardley Research Laboratories, Limited, Clayton Road, Chessington, England
Filed June 17, 1963, Ser. No. 290,274
Claims priority, application Great Britain, June 21, 1962, 23,993/62
7 Claims. (Cl. 64—14)

1. A flexible torque transmitting device comprising a driven member and a driving member, each having a plurality of substantially, radially extending blades, the blades on each member extending towards the other member and defining with the members a plurality of cells, each cell having therein a coupling element consisting of at least two components of non-metallic resilient material at least one component in each cell being of a soft material and at least another component in each cell being of a harder material, at least one component of harder material being in contact with one of said blades, the components in each cell being disposed and arranged with respect to each other to permit relative movement to take place between adjacent contacting surfaces of the respective components of the coupling element upon the application of torque to the device, the respective components of said coupling elements being so shaped as to cause relative rolling movement between said hard and soft components when torque is applied to the coupling.



3,195,325
FLASH LAMPS

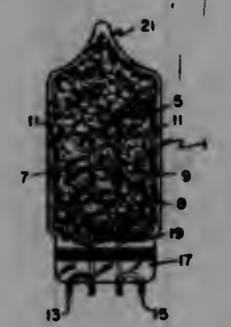
Eizo Goto, Chigasaki-shi, Namio Iwata, Odawara-shi, and Koichi Takahashi, Tokyo, Japan, assignors to Tokyo Shibaura Electric Co. Ltd., Kawasaki, Japan, a corporation of Japan
Filed Mar. 26, 1962, Ser. No. 182,209
Claims priority, application Japan, Apr. 1, 1961, 36/11,177
3 Claims. (Cl. 67—31)



1. A flash lamp comprising a light transmitting bulb, ignition means disposed in the bulb, light emitting threads of zirconium sealed in the bulb, and a combustion promoting gas and a rare gas component mixed in the amount of approximately 1.5 to 15 percent to extend the effective flashing time.

3,195,326
PHOTOFLASH LAMP

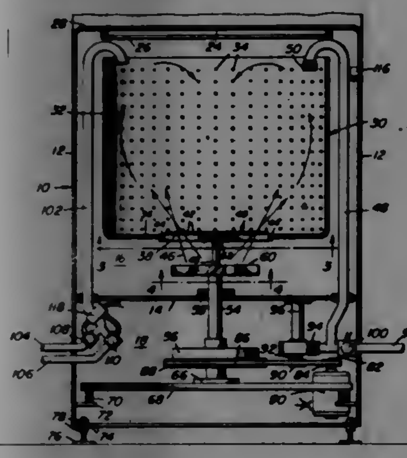
John W. Shaffer, Williamsport, Pa., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed July 10, 1962, Ser. No. 208,838
4 Claims. (Cl. 67—31)



1. A photoflash lamp comprising: a light-transmitting envelope; a combustion-supporting gas filling in said envelope; a quantity of a filamentary combustible disposed in said envelope; ignition means disposed in said envelope in operative relationship with respect to said filamentary combustible; and a moisture indicator disposed in said envelope, said moisture indicator consisting essentially of a mixture of cobaltous cobaltic cyanide and a colloidal magnesium silicate.

3,195,327
WASHING MACHINE

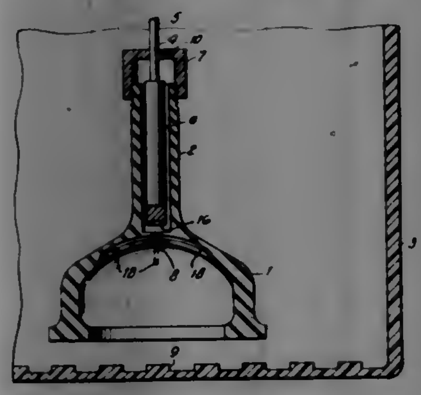
Horace H. Cobb, 612 Raleigh St., Orlando, Fla.
Filed Dec. 30, 1963, Ser. No. 334,388
15 Claims. (Cl. 68—12)



12. A clothes washing machine comprising a stationary tub having a floor, a side perforated spin basket, said basket having a liquid entrance opening at the center of its bottom, a vaned spider across said basket bottom opening, a shaft secured to said spider, a sleeve journaled through said tub floor, a vaned impeller on said sleeve beneath said vaned spider basket opening, said shaft being journaled through said sleeve, confronting horizontal clutch faces, the upper face being secured to said shaft beneath said floor, the lower face being secured to said sleeve, yieldable means biasing said clutch faces into separated, disengaged position when liquid is present in said stationary tub, said yieldable means permitting clutch face engagement when said tub is drained of liquid, and rotating means operatively connected to said sleeve lower clutch face, whereby said rotating means rotates said impeller to direct liquid through said vaned spider into said basket to provide a rotating force to said basket while washing the contents therein, the liquid floating said basket to disengage said clutch faces, and when the liquid is drained therefrom, said clutch faces are engaged and said sleeve rotates said basket to centrifuge the contents therein.

3,195,328
LAUNDERING AND CLEANING APPARATUS

Leon M. Mantell, New York, N.Y.
(138—11 Beach Channel Drive, Rockaway Park 94, N.Y.)
Filed Mar. 9, 1962, Ser. No. 178,658
17 Claims. (Cl. 68—43)

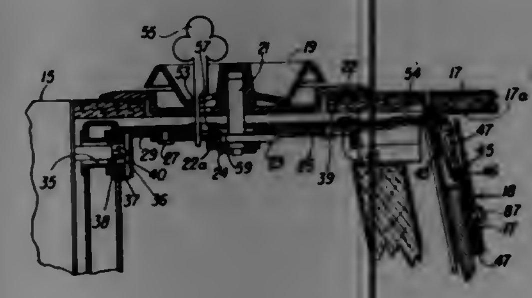


1. A pump for fluids, comprising a modified plumbers compressible domed diaphragm plunger of the type used to open a closed drain by forcing the dome of the dia-

phragm down upon the drain aperture and pulling upwardly to apply suction to said aperture; the plunger structure thereof comprising a flexible, compressible, collapsible domed diaphragm having a sleeve portion on and outside of the summit of the dome; the improvement comprising an operating handle, an end portion of which handle is disposed in said sleeve portion and held therein so as to permit movement of the handle end portion in the sleeve portion; the plunger structure providing a suction-relieving aperture communicating with the inside of the dome and opening into the sleeve portion below said handle end portion, so that upon pushing the handle, the end portion thereof seals said opening and applies force to the dome portion to collapse the diaphragm and expel a fluid therefrom, and so that upon pulling the handle the suction-relieving opening is opened.

3,195,329
LATCH MECHANISM

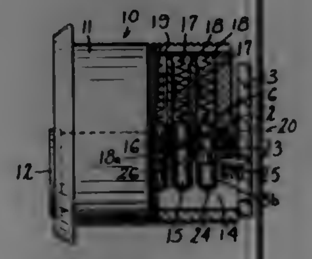
Roman Dereng, Des Plaines, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed Nov. 30, 1962, Ser. No. 241,311
9 Claims. (Cl. 70—57)



2. A latch device for an enclosure having a plurality of doors, including in combination, a first latch portion having a slidable release member for release thereof, a second latch portion having a retractable tongue for release thereof, a link member joining said slidable release member and said retractable tongue, a manually operable eccentric engaging said link member and operable to displace same for simultaneously displacing said first and second latch portions, said slidable release member having a buttress notch formed therein, and a key actuated pivotal member engageable with said buttress notch to prevent movement of said slidable release member, said pivotal member operable to effectively lock said latch device by preventing movement of both said slidable release member and said retractable tongue.

3,195,330
PICK-RESISTANT LOCK

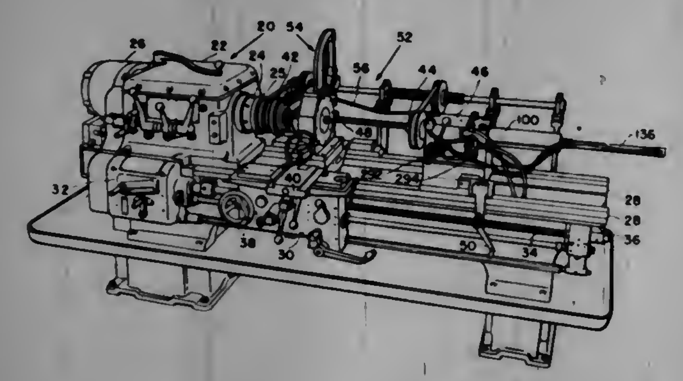
Charles A. Bauer, Woodbridge, Conn., assignor to Sargent & Company, New Haven, Conn.
Filed May 20, 1963, Ser. No. 281,569
7 Claims. (Cl. 70—421)



1. A lock comprising a housing, a key barrel mounted in said housing for rotation therein and defining a shear line therewith, a pin tumbler mechanism locking said barrel against rotation therein comprising a plurality of coacting driver and tumbler assemblies received in aligned wells defined by said housing and said barrel and further comprising means biasing said tumbler and driver assemblies toward a locking position whereby said drivers cross said shear line and lock said barrel against rotation in said housing, one of said tumblers being undercut intermediate its ends, a well defined in said barrel transverse to the one of said tumbler wells receiving said undercut tumbler, and a plunger positioned in said transverse well and biased toward said one of said tumbler wells, said plunger contacting said one of said tumblers above the undercut portion thereof and being retained in its well thereby, said plunger being effective to extend into said undercut portion if said one of said tumblers is lifted above the shear line and prevent lowering of said one of said tumblers below the shear line.

3,195,331
TUBE DRAWING APPARATUS

Arthur A. Curtis, Wethersfield, Conn., and Douglas D. Sherman, Springfield, Mass., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Aug. 22, 1960, Ser. No. 51,002
11 Claims. (Cl. 72—7)

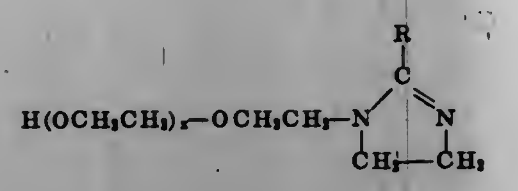


1. In a tube drawing mechanism the combination comprising, a mandrel adapted for insertion into the bore of a tube to be drawn and which mandrel has a nonuniform diameter profile, means for rotating the mandrel and the tube in unison about their common longitudinal axis, a die mechanism movable longitudinally of the tube and mandrel and which die mechanism includes a plurality of die elements arranged in angularly spaced relationship about the common longitudinal axis of said tube and mandrel, means including a cam having a profile related to that of said mandrel for collectively moving said die elements radially of said common longitudinal axis and in conformity with variations in the diameter of said mandrel as said die mechanism is moved longitudinally of the tube and mandrel, the movement of said die elements by said last-mentioned means being such that said die elements are brought into engagement with the outer surface of said tube and press the tube inwardly against the outer surface of said mandrel throughout the length of travel of said die mechanism.

3,195,332
ALUMINUM HOT ROLLING PROCESSES USING AQUEOUS LUBRICANT COMPOSITIONS

Humbert J. Ranauto, Claymont, Del., assignor to Atlas Chemical Industries, Inc., Wilmington, Del., a corporation of Delaware
No Drawing. Filed May 8, 1961, Ser. No. 108,264
2 Claims. (Cl. 72—42)

1. A method of hot rolling aluminum which comprises the steps of heating an aluminum ingot to a temperature within the range of about 600° F. to about 950° F. and then passing said ingot through the rolls of a hot-mill while contacting the surface of said ingot with an aqueous lubricant composition comprising water and from about 0.1% to about 3% by weight of a polyoxyethylene imidazoline represented by the formula



wherein R is selected from the group consisting of alkyl and alkenyl radicals which contain from 11 to 20 carbon atoms and x is a number from 3 to 19.

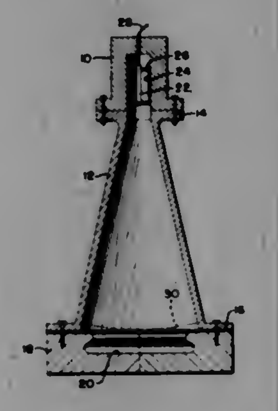
3,195,333
METHOD OF ROLLING STRIPS OF METAL

Louis McDaniel, Highland, Ind., assignor to Inland Steel Company, Chicago, Ill., a corporation of Delaware
No Drawing. Filed Jan. 7, 1963, Ser. No. 249,593
6 Claims. (Cl. 72—46)

1. In a method of rolling metal strips by subjecting said strips to a hot rolling operation followed by rolling said strips at a reduced temperature, the improvement which comprises; applying to at least one surface of a metal strip a vitreous enamel ground slip coating, placing the coated strip in superimposed relationship with another metal strip with said coating interposed between said strips, hot rolling said strips while heated to a temperature at which said slip coating fuses and which on cooling forms a vitreous enamel coating, rolling said strips at a temperature below the fusion point of said ground coat slip to fragment said enamel coating, and thereafter separating said strips.

3,195,334
EXPLOSIVE FORMING OF METALS EMPLOYING A CONICAL SHOCK TUBE

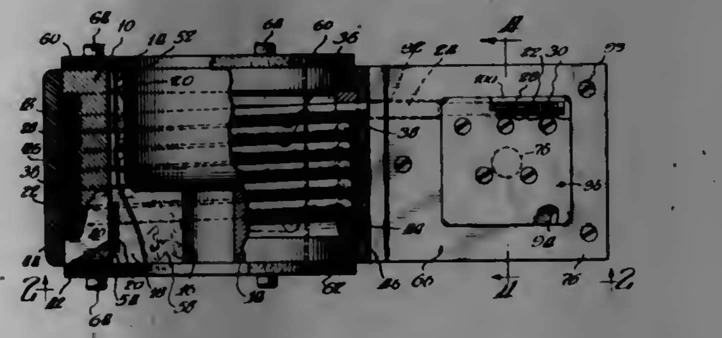
William S. Filler, 302 Bradley Ave., Rockville, Md.
Filed Dec. 27, 1960, Ser. No. 78,700
9 Claims. (Cl. 72—56)



1. A method for explosively forming metallic articles which comprises: positioning a metallic workpiece in juxtaposition with an appropriately shaped die and in position to be struck by a supersonic shock wave as hereafter described; detonating a high explosive charge in a firing chamber confined in all directions save at one exit area said firing chamber being several times the volume of said high explosive charge, generating thereby a supersonic shock wave; passing said shock wave through a generally tubular path commencing at the exit area of the firing chamber and impacting the workpiece with the shock wave at the terminus end of said tubular path.

3,195,335
COIL CONSTRUCTION

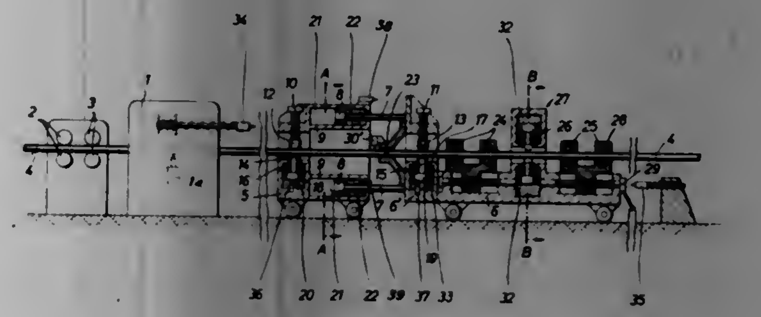
David F. Brower, San Diego, and Gamon B. Hayward, Del Mar, Calif., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Dec. 7, 1962, Ser. No. 243,010
7 Claims. (Cl. 72—56)



1. In an electromagnetic forming apparatus, a forming coil assembly comprising a slotted annular core of conductive material, an insulated coil of conductive material disposed on said core, a generally cylindrical field shaping element of conductive material removably disposed in said core, said element having an aperture therein and a slot extending between the outer surface of said element and said aperture, and a wrapping of electrically insulating material disposed between said field shaping element and said core.

3,195,336
CLAMPING AND STRAIGHTENING DEVICES

Hans Lindemann, Bielefeld, Germany, assignor to Th. Calow & Co., Bielefeld, Germany
Filed Sept. 28, 1961, Ser. No. 141,529
Claims priority, application Germany, Sept. 29, 1960, C 22,436
16 Claims. (Cl. 72—72)



5. In a machine having a feeding mechanism for feeding a workpiece continuously toward and through the machine, at least one movable carriage comprising two sections, means for positively connecting said sections to each other and for reciprocating said sections relative to each other, means for controlling the reciprocating movements of said sections, clamping means on each of said sections for clamping the workpiece, each of said clamping means comprising at least a pair of clamping jaws, means for alternately opening and closing said clamping jaws on said two carriage sections, and at least one tool mounted on one of said sections for machining said workpiece, said tool comprising a straightening device

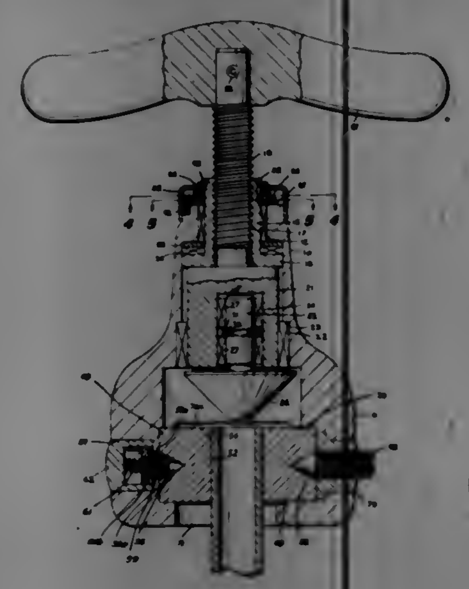
adapted to be operated only during the time when said clamping jaws mounted on the same carriage section as said straightening device are closed upon said workpiece.

ERRATUM

For Class 72—82 see:
Patent No. 3,195,491

3,195,337
HARD TUBE FLARING TOOL

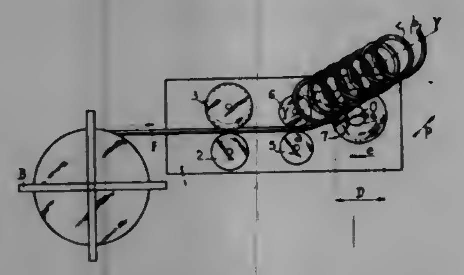
Anton J. Janik, Elyria, Ohio, assignor to The Ridge Tool Company, Elyria, Ohio, a corporation of Ohio
Filed Apr. 18, 1962, Ser. No. 188,493
2 Claims. (Cl. 72—115)



1. A flaring tool comprising a body provided with an opening extending inwardly from one end thereof, a first ring having one face disposed adjacent to said one end of the body, a first interengaging means on the body and on the first ring engaging between 300 degrees and 360 degrees of rotation therebetween, a hollow member positioned in the opening in the body and projecting through the first ring and provided with internal threads, a second ring positioned on the member and having one face disposed adjacent the other face of the first ring, a second interengaging means on the first and second rings engaging upon relative rotation therebetween of 300 degrees and 360 degrees, a means for locking the second ring to the hollow member, means securing the hollow member and the first and second rings to the body, means positioned in the body for holding a tube one end of which is to be flared, a mandrel positioned in the body for flaring said tube and including a stem having a section thereof provided with internal threads in engagement with the internal threads in the hollow member and connected to the mandrel and providing friction between the threads on the stem and the hollow causing the hollow member to revolve and carry with it the second ring and the second ring rotating until the second interengaging means engages and the first and second rings both rotating until the first interengaging means engages and continued rotation of the stem causes the mandrel to engage the tube and flare it, and rotation of the handle in the opposite direction causing the member and the first and second rings to rotate in the same direction as the stem and the first ring rotating in the same direction as the stem until the first interengaging means engages and the first ring ceases rotating and the second ring and the member continuing to rotate in the same direction as the handle with the second interengaging means disengaging until the second interengaging means again engages to hold the member and the first and second rings stationary to complete burnishing of said one end of the tube and continued rotation of the stem in said opposite direction causes the mandrel to move away from the second-named means and said one end of the tube.

3,195,338
DEVICE FOR THE CONTINUOUS WINDING OF WIRE

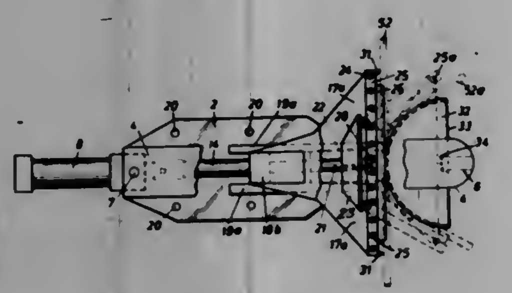
Georges Eugène Bram, Pont-A-Mousson, France, assignor to Centre de Recherches de Pont-A-Mousson, Pont-A-Mousson, France, a corporation of France
Filed June 28, 1963, Ser. No. 291,354
Claims priority, application France, Nov. 14, 1962, 915,330, Patent 1,347,755
9 Claims. (Cl. 72—138)



1. A device for obtaining a helical winding of a metal wire, which winding comprises coils that are inclined relative to the axis of winding and offset from each other, said device comprising means for feeding the wire longitudinally, two support rollers which are in facing relation to each other on both sides of the wire fed by the feeding means, and a rotary bending roller having an axis of rotation which is located within the bending roller and is eccentric relative to the center of the bending roller and offset in a fixed position relative to the path in which the wire is fed by the feeding means between the support rollers, the support rollers and said axis of rotation being so located relative to each other that the feeding means and support rollers feed the wire against the periphery of the bending roller so that the wire is bent thereby, the radius of curvature of the bend produced in the wire being a function of the radical distance between the point of contact of the wire on the periphery of the bending roller and said axis, said distance varying progressively as the bending roller rotates about said axis as the bending of the wire proceeds.

3,195,339
PIPE BENDING MACHINE

Ludwig Lang, Michelstadt, Odenwald, Germany
Filed Feb. 18, 1963, Ser. No. 259,072
Claims priority, application Germany, Feb. 19, 1962, L 41,264
8 Claims. (Cl. 72—389)



1. A hydraulic device for bending pipes and like elongated work pieces comprising, in combination:

(a) a support;

(b) a bending mandrel fixedly mounted on said support;

(c) a first pressure-fluid operated motor including a cylinder member having an axis and a piston member axially slidable in said cylinder member, said cylinder member and said piston member constituting a first pair of members, one of said members of said pair being fastened to said support for axial movement of the other member of said pair;

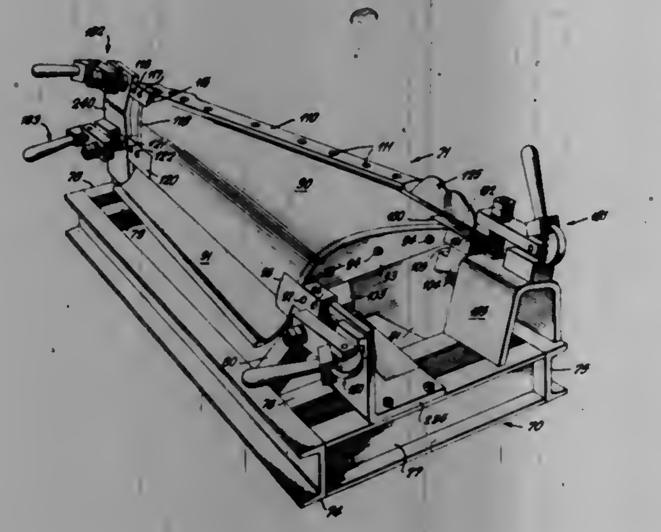
(d) a second pressure-fluid operated motor including a cylinder member having an axis and a piston member axially slidable in the cylinder member of said second motor, said piston member and cylinder member of said second motor constituting a second pair of members axially aligned with said first pair, one member of said second pair being secured to said other member of said first pair for axial movement of the other member of said second pair toward and away from said mandrel;

(e) an elongated bending rail having two end portions, one of said end portions being secured to said other member of one of said pairs, and the other end portion engaging the other member of the other one of said pairs; and

(f) valve means for separately controlling flow of a pressure fluid to and from each of said cylinder members.

3,195,340
METHOD AND APPARATUS FOR TOLERANCE TRIMMING AND PIERCING WORKPIECES

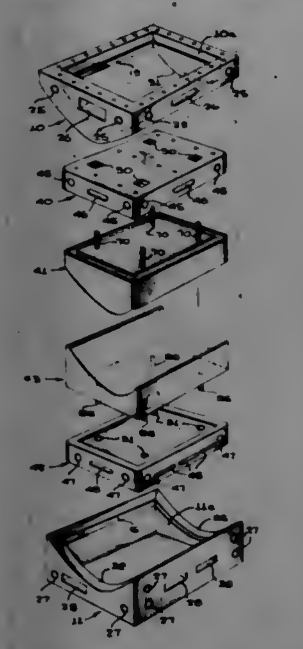
Alexander Zunich, Lincolnwood, Ill., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 11, 1961, Ser. No. 137,388
9 Claims. (Cl. 72—338)



3. The method of tolerance trimming workpieces comprising forming a workpiece of compound curvature in a piece of sheet metal material such that overstock extends laterally outwardly from outer portions of said workpiece, providing a trimming fixture having at least one pair of separate trimming edge portions thereon defining substantial portions of the desired finished outer dimension of the workpiece to tolerance, placing the workpiece with the overstock thereon in the fixture and clamping outer portions of said workpiece between first surfaces of said edge portions which clampingly contact opposite sides of the workpiece substantially continuously along such first surfaces, second outwardly facing surfaces of said edge portions lying substantially in a plane, and removing the overstock projecting beyond said second surfaces by manually manipulating separate portable tool means having a cutting portion thereon and moving said cutting portion along said second surfaces to cut the overstock from the workpiece.

3,195,341
DIE APPARATUS

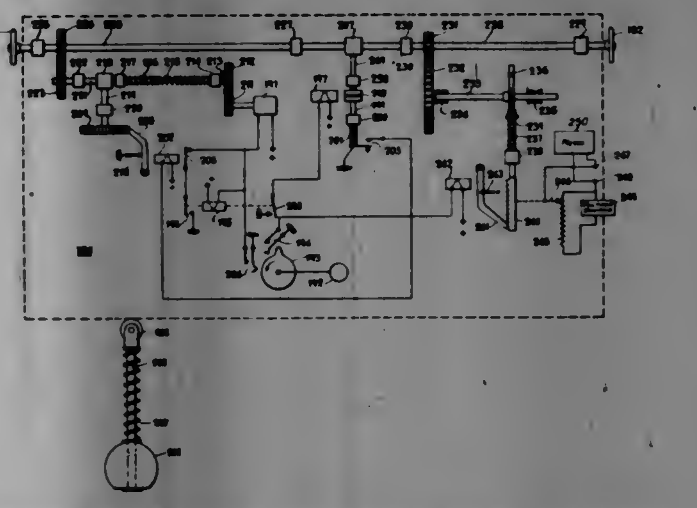
Alexander Zunich, Lincolnwood, Ill., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 20, 1961, Ser. No. 153,418
3 Claims. (Cl. 72—465)



1. Die apparatus comprising a first relatively expensive die portion formed of metallic material and a second relatively inexpensive die portion formed principally of sand and including binder means for retaining the proper configuration of the second portion, said first and second portions including complementary facing contacting surfaces whereby said first portion serves as backing plate means for said second portion, attaching means rigidly affixed to said second portion and extending outwardly from the said surface associated therewith, said first portion having opening means for receiving said attaching means, and means removably engaging said attaching means for affixing said first portion to said second portion and permitting the first and second portions to be detached from one another so that said first portion can be readily removed, said first portion being adapted to be secured to the shoe of a press for securing the first and second die portions to such shoe.

3,195,342
FRICTION MEASURING APPARATUS

Everhard H. B. Bartelink, P.O. Box 425, Concord, N.H.
Original application Feb. 8, 1955, Ser. No. 486,873, now Patent No. 2,999,999, dated Sept. 12, 1961. Divided and this application Aug. 11, 1961, Ser. No. 130,799
6 Claims. (Cl. 73—9)



1. Means for measuring the friction between a wheel and a supporting surface comprising a table mounted on a pair of wheels; means for driving one of said wheels

and thereby moving said table away from a predetermined position, the other of said wheels being an idler wheel rotatable by frictional engagement with its supporting surface and movement of said table, means for energizing said driving means, means for retarding movement of said table in increasing amount with movement of said table away from said predetermined position, means connected to said wheels for comparing the relative speeds of rotation of said wheels, means controlled by said comparing means and connected to said energizing means for stopping said driving means when said one wheel slips with respect to its supporting surface and thereby has a different speed of rotation than said other wheel, and means connected to and driven by said driving means for providing a voltage which is related in magnitude to the amount of rotation of said wheels prior to the stopping of said driving means.

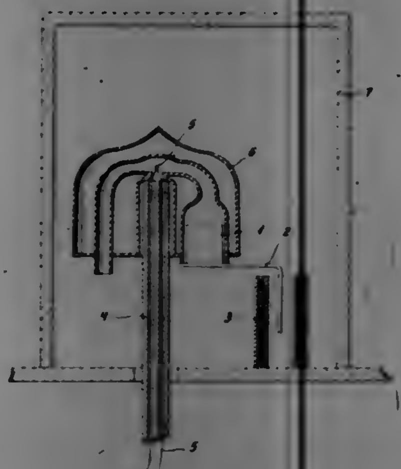
3,195,343

APPARATUS FOR THE THERMOGRAVIMETRIC DETERMINATION OF THE DISTILLATION CHARACTERISTICS OF LIQUIDS

Ferenc Paulik, 7 Liptak Lajos utca, Jenö Paulik, 57a Vecsey utca, and László Erdey, 16 Toldy Ferenc utca, all of Budapest, Hungary

Filed Aug. 28, 1961, Ser. No. 134,283

3 Claims. (Cl. 73—17)



1. In a device for the thermogravimetric determination of the distillation characteristics of liquids, vessel means in which a liquid is placed, heating means, means thermally connecting said heating means with said vessel means, double-walled distillation means carrying said vessel means, said distillation means having a vapor space therein, balance means having arms, rod means having one end connected to one of said arms of said balance and the other end carrying said distillation means, thermoelement means carried by said rod means and disposed in said vapor space to measure the equilibrium temperature of the liquid-vapor phase in said vapor space, and indicator means responsive to said thermoelement means and to said balance means to indicate said distillation characteristics.

3,195,344

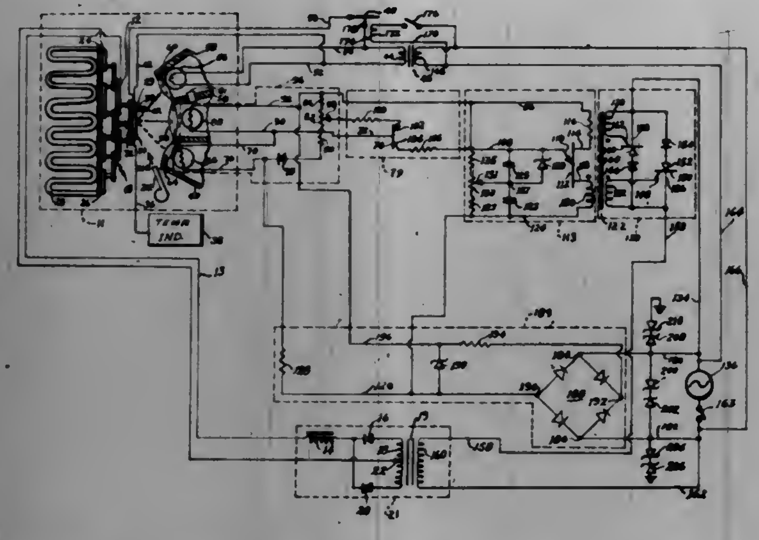
DEWPOINT MEASURING SYSTEM

Charles C. Francisco, Watertown, Mass., assignor to Cambridge Systems, Inc., Watertown, Mass., a corporation of Massachusetts

Filed Jan. 28, 1963, Ser. No. 254,235

12 Claims. (Cl. 73—17)

12. The method of continuously tracking the dewpoint of a gas comprising, in combination, the steps of passing the gas over a reflective surface, Peltier effect cooling of the reflective surface in proportional relation to rate of an electric cooling direction current, causing said Peltier effect cooling, illuminating the reflective surface, detecting the intensity difference between direct and scatter reflections from said illuminated reflective surface, and reducing the rate of said cooling direction current and thereby the rate of said Peltier effect cooling of said reflective surface in proportional relation to said detected intensity difference from dew formation on said reflective surface until an equilibrium condtion is reached wherein a substantially uniform amount of dew is continuously maintained on said reflective surface.



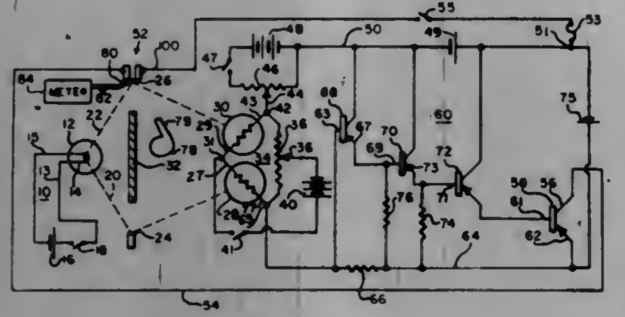
3,195,345

THERMOELECTRIC DEWPOINT DETERMINING SYSTEM

Tom N. Thiele, Oconomowoc, Wis., assignor to Cambridge Systems, Inc., Waltham, Mass., a corporation of Massachusetts

Continuation of application Ser. No. 116,060, June 9, 1961. This application May 11, 1964, Ser. No. 368,446

16 Claims. (Cl. 73—17)



16. The method of detecting the dewpoint of a gas comprising the steps of passing the gas over a reflective surface, Peltier effect cooling of the reflective surface in proportional relation to rate of an electric cooling direction current causing said Peltier effect cooling, decreasing rate of the electric cooling current and thereby said rate of cooling of the reflective surface in proportional relation to decrease in reflectivity of the reflective surface from dew formation on the cooled reflective surface until an equilibrium condition is reached.

3,195,346

AUTOMATIC OSMOMETER

Harry C. Ehrmantraut, Los Altos, Roderic E. Steele, Portola Valley, and Wilmer E. Walker, Sunnyvale, Calif., assignors, by mesne assignments, to Mechrolab, Inc., a corporation of California

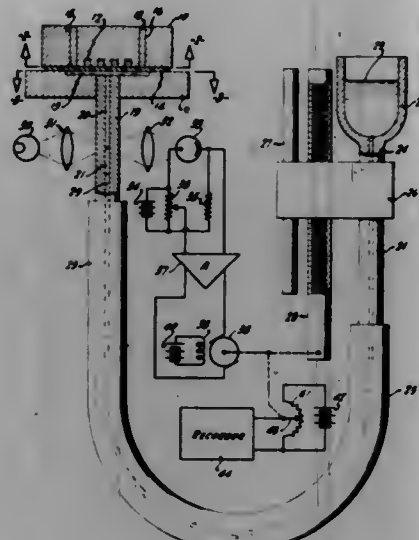
Filed Jan. 14, 1963, Ser. No. 251,259

10 Claims. (Cl. 73—53)

1. A membrane osmometer comprising:

(a) a support having a generally flat upper surface adapted to support a membrane over said upper surface, said support having a channel inscribed in its upper surface defining a solvent chamber;

(b) a clamp having a generally flat lower surface adapted to press down upon the membrane supported upon said support, said clamp having inscribed in its lower surface a continuous channel defining a sample chamber;



(c) means for pressing said clamp and said support together for holding the membrane tightly between them; and

(d) means for providing an adjustable hydrostatic pressure difference between the sample chamber defined by said clamp and the solvent chamber defined by said support.

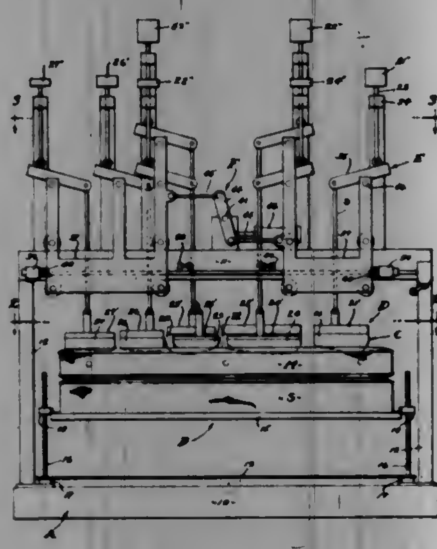
3,195,347

BEDDING TESTING MACHINE

Melvin N. Janapol, Los Angeles, Calif., assignor to Wortso Corporation, Los Angeles, Calif., a corporation of California

Filed May 17, 1962, Ser. No. 195,558

5 Claims. (Cl. 73—94)



1. Apparatus for simulating the depression of the human form into bedding, and including:

(a) means to support the bedding,

(b) a plurality of independent weighted parts positioned to rest upon the bedding and each having a contour and a center of gravity simulating a part of the human body form,

(c) and controlled means comprising a lifting lever for each of said plurality of parts and adapted to selectively apply force to simultaneously lift each part respectively.

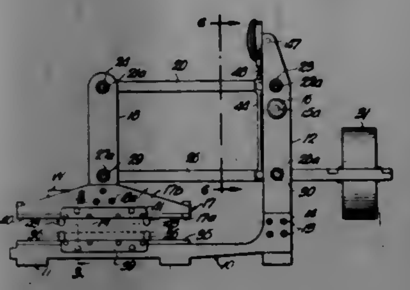
3,195,348

MAT FLEXIBILITY GAUGING DEVICE

Raymond T. Marshall, Kansas City, Mo., assignor to Gustin-Bacon Manufacturing Company, a corporation of Delaware

Filed Oct. 22, 1962, Ser. No. 231,893

6 Claims. (Cl. 73—100)



5. Apparatus for evaluating the softness and flexibility of a fibrous mat, said apparatus comprising a pair of substantially parallel members having confronting faces normally spaced from one another in substantially parallel relationship, a plurality of projections extending from each said face toward the other face, said projections on one face being offset from those of the other face, means supporting one of said members for movement toward and away from the other member, means operable to supply a force on one member tending to move it toward the other member, and sensing means operable to register the relative movement between said members under the influence of said force.

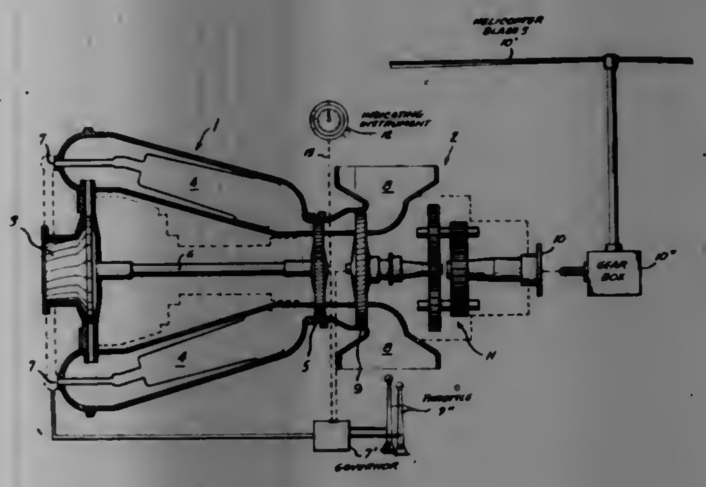
3,195,349

METHOD AND APPARATUS FOR DETERMINING THE AVAILABLE POWER OUTPUT OF AN ENGINE

Sigurd D. Hage, Seattle, Wash., assignor to The Boeing Company, Seattle, Wash., a corporation of Washington

Filed Jan. 7, 1963, Ser. No. 249,728

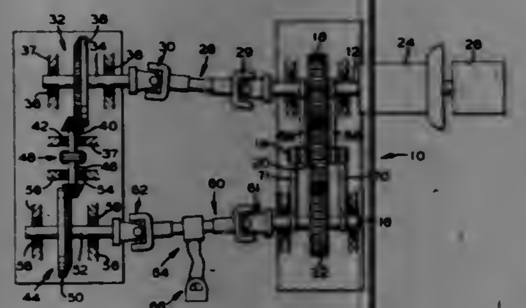
5 Claims. (Cl. 73—116)



1. A method of determining the percentage of power available in a split-shaft gas turbine engine having a known relationship between percentage power available and available gas producer speed comprising the steps of determining the maximum speed of the gas producer under the existing altitude and temperature conditions, determining the speed of the gas producer required to handle an existing load thereon, determining the available increase in gas producer speed by measuring the difference between the maximum speed of the gas producer and the speed required to handle the existing load thereon, and determining the percentage of power available from the known relationship between available gas producer speed and percentage power available.

3,195,350
TRANSMISSION TESTING MACHINE

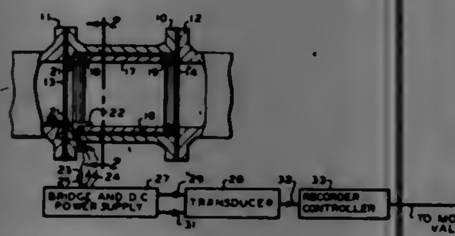
George Raymond Reed, Lambertville, Mich., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia
Filed July 5, 1961, Ser. No. 121,897
9 Claims. (Cl. 73—162)



4. A testing machine of the locked-in torque type defining a closed system comprising in combination, a first and a second outer shaft each having gear means rotatable therewith, means maintaining said shafts in a single plane, coupling means, including the device to be tested, joining said outer shafts for rotation in the same direction, an intermediate loading shaft co-planar with said outer shafts when the testing machine is not loaded and having gear means rotatable therewith in mesh with the gear means of said outer shafts, said intermediate shaft being rotated oppositely relative to said outer shafts when said system is operating, means for maintaining a constant distance between the intermediate shaft and each of the outer shafts, and means for moving said intermediate shaft from its co-planar relationship with the outer shafts while said outer shafts are rotating in the same direction whereby said outer shafts will be rotated oppositely relative to each other inducing a torsional load to the system.

3,195,351
FLUID METER

James A. Feldman, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed July 24, 1961, Ser. No. 126,281
10 Claims. (Cl. 73—194)

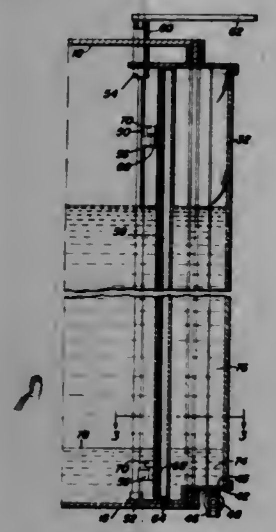


1. A fluid meter comprising, in combination: a conduit adapted to convey a fluid stream; an annular recess in the inner wall of said conduit; a hollow rigid member slidably disposed within said recess and substantially occupying the same, said member having only its inner surface in engagement with fluid flowing through said conduit; and means to determine the force exerted by said flowing fluid on said slidable member as representative of a characteristic property of said fluid.

3,195,352
TESTING GAUGE

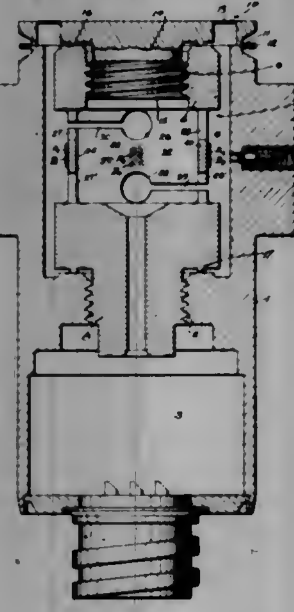
Stephen E. Corder, 157 Fillmore St., Coalinga, Calif.
Filed Apr. 29, 1963, Ser. No. 276,302
7 Claims. (Cl. 73—328)

1. In combination, a supply tank including at least one upstanding wall, means defining upright, vertically elongated, and at least semi-transparent window means in said one wall extending throughout a substantial majority of the vertical extent of said one wall and for viewing the separation level between a lower layer of heavy fluid and an upper layer of lighter fluid in said tank, said tank including means defining an upstanding emulsion stratifying pocket extending vertically through at least a substantial portion of the vertical extent of said window defining means and whose outer extremity is defined and closed by said window defining means, and upright partition defining means movably mounted in said tank inwardly of said window defining means for movement into and out of cooperable engagement with said pocket defining means closing the inner extremity of said pocket and sealing said socket from the remainder of the interior of said tank from its lower end portion to its upper end portion, said pocket being disposed between and defined, at least in part by, said partition defining means and said window defining means whereby said partition defining means may be actuated to seal the mixture of heavy and light liquids in said pocket from the remainder of the interior of said tank and said liquids in said pocket may be allowed to quickly stratify in order that the separation level of the mixture within said pocket may be quickly determined even as the mixture within the tank outside the pocket is being agitated to an extent that it cannot fully stratify.



3,195,353
DIAPHRAGM TYPE FLUID PRESSURE TRANSDUCER

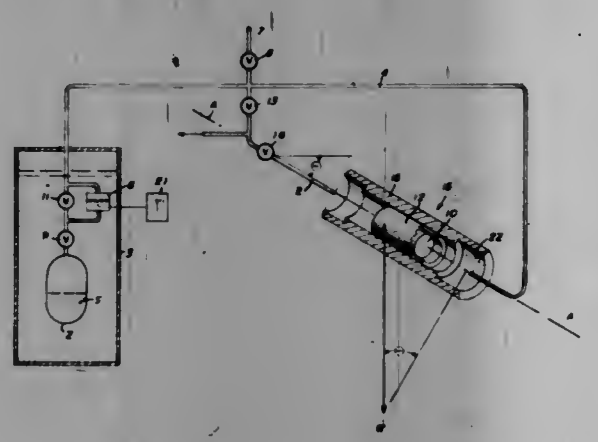
Hsia S. Pien, Newton, Mass., assignor to Baldwin-Lima-Hamilton Corporation, a corporation of Pennsylvania
Filed Apr. 24, 1961, Ser. No. 104,989
4 Claims. (Cl. 73—398)



1. A fluid pressure transducer comprising, in combination, a casing having an axially extending chamber, a strain-sensitive element extending axially within said chamber and supported at one end by said casing, a diaphragm connected to the other end of said sensitive element and extending radially therefrom for connection to said casing so that fluid pressure acting on said diaphragm compresses the sensitive element in an axial direction, said sensitive element having a load transmitting portion extending axially from the diaphragm end of the sensitive element toward its other end but spaced from such other end and another load-transmitting portion extending axially from such other end of the sensing element toward the diaphragm end but spaced from said diaphragm end, said load-transmitting portions being circumferentially offset from each other but connected together by lateral portions which are subjected to shear strains when load is transmitted through the sensitive element, said lateral portions having surfaces extending axially at the sites of their connections with said load-transmitting portions for distances sufficient to accommodate strain gages thereon, and shear responsive strain gages mounted on said surfaces of said lateral portions at said sites so as to be responsive to load forces imposed upon said sensitive element by fluid pressure acting on said diaphragm.

3,195,354
INCLINED-PISTON DEAD-WEIGHT PRESSURE GAUGE

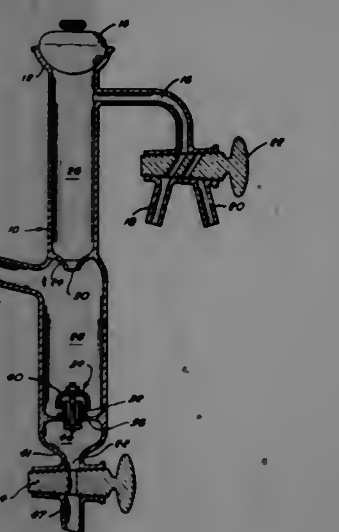
Donald R. Douslin, Bartlesville, Okla., assignor to the United States of America as represented by the Secretary of the Interior
Filed Feb. 28, 1963, Ser. No. 261,913
1 Claim. (Cl. 73—419)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A precision gauge for measuring the pressure of gas stored within an enclosed container, comprising a tiltable housing including a cylinder having a piston means displaceable therein, and an enclosed chamber at either end of the piston means, indicator apparatus including an enclosure having first and second portions separated by a diaphragm, and indicia means controlled by the displacement of the diaphragm from a centered position between the said enclosure portions, conduits joining the enclosed container to said first portion to supply gas under pressure thereto, further conduits filled with inert gas supplied thereto, joining and filling with said inert gas, the second portion of said enclosure and one end chamber of the said housing, and still further conduits connected to the housing at the other end chamber thereof, and to a means for creating a vacuum in said chamber connected thereto, said indicia means being controlled to show no displacement of said diaphragm from a centered position between the first and seconds portions of their enclosure when the housing is tilted sufficiently to cause the axial component of the weight of the piston means to equal to that pressure in the inert gas which was received through the said diaphragm from the gas pressure in the container.

3,195,355
DEVICE FOR INJECTING SMALL KNOWN VOLUMES OF LIQUID INTO A HIGH VACUUM SYSTEM

Ernest W. Boyer and Ernest E. McKelvey, Ponca City, Okla., assignors to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed Dec. 11, 1962, Ser. No. 243,819
9 Claims. (Cl. 73—422)



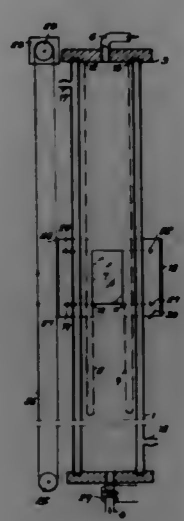
1. A device for injecting a liquid into a high vacuum system comprising:
- (a) an elongated, vertically extending vessel;
- (b) a partition member positioned intermediate the ends of said vessel and having an orifice therethrough placing the two chambers defined in said tubular vessel by said partition member in communication with each other;
- (c) means for hermetically sealing the open upper end of said elongated, vertically extending vessel;
- (d) means for evacuating the portion of said vessel above said partition member when the open upper end of said vessel is sealed by said sealing means;
- (e) vapor barrier means adjacent the lower end of said tubular, vertically extending vessel for preventing vapor from passing out the lower end of said vessel while permitting liquid so to pass;
- (f) a tubular side arm extending from said tubular, vertically extending vessel between said partition and said vapor barrier means; and
- (g) valve means connected to the lower end of said vertically extending vessel for connecting the lower end of said vessel to a source of vacuum whereby the pressure may be substantially equalized on opposite sides of said vapor barrier means.

3,195,356
APPARATUS INTENDED FOR THE ACCURATE MEASUREMENT OF THE DENSITY OF LIQUIDS

André Pélissier Robert Pochan, Montesson, France, assignor of one-half to Regulateurs Francel, Paris, France, a company of France
Filed Jan. 15, 1962, Ser. No. 166,094
Claims priority, application France, Jan. 18, 1961, 850,034, Patent 1,286,014
7 Claims. (Cl. 73—437)

1. Densitometer which essentially comprises in combination an upright test tube for containing the liquid to be tested, a mass within said test tube and of smaller cross sectional size than said test tube so that it can move freely within said test tube, said mass being immersible in said liquid and the apparent density of which is lower than the density of said liquid, two downwardly hanging chains having a constant linear weight and the lower ends of which are secured to said mass on opposite sides

thereof and the upper ends of which are fixed with respect to the top portion of said test tube, whereby the

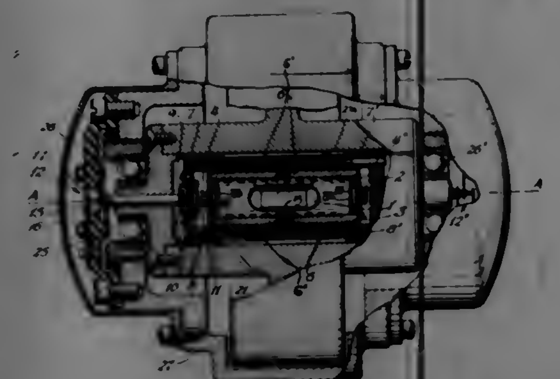


position of said mass will differ for liquids of different densities.

3,195,357
ACCELERATION SENSITIVE DEVICE AND OPERATIVE MEANS ASSOCIATED THEREWITH

Edward P. Bentley, Waltham, and Charles A. Speas, Wellesley, Mass., assignors, by mesne assignments, to Kollmorgen Corporation, Garden City, N.Y., a corporation of New York

Filed Apr. 13, 1953, Ser. No. 348,171
5 Claims. (Cl. 73—5[illegible]3)



1. In a system for controlling the velocity of a moving body

an elongated container adapted to be rotatably supported by said body and having non-conductive inner walls and conductive end walls defining a sealed chamber;

a conductive fluid in said chamber;

a free capsule member immersed in said fluid and having conductive walls which contain a magnetic permeable material;

said container being adapted to be rotatably driven at high speeds about the axis of said chamber so as to create a radial centrifugal pressure field in said fluid and thereby maintain the axis of said capsule member substantially coincident with the axis of said chamber;

electric coil means surrounding said member for establishing a magnetic field that varies in strength along the axis of the chamber;

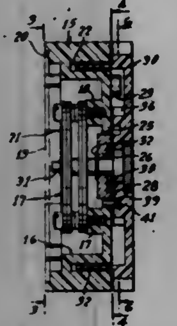
bridge means for measuring the respective resistances of the fluid between said conductive walls of said capsule member and the respective conducting end walls of said container;

and means controlled by the last mentioned means for controlling the energization of said coil means when said body is accelerated in a direction parallel to the axis of said chamber.

3,195,358
SEALED HOUSING FOR ELECTRICAL APPARATUS

David Davidson and Jack L. Bair, Syosset, N.Y., assignors to North Atlantic Industries, Inc., Plainview, N.Y., a corporation of New York

Filed Dec. 14, 1962, Ser. No. 244,837
9 Claims. (Cl. 74—10.1)

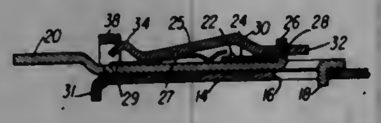


1. A sealed externally actuatable electrical unit comprising a housing having edge and side walls defining an internal chamber to receive variable electrical control means, said side walls being substantially parallel on at least their external surfaces, a rotary actuating member having a cylindrically curved portion carrying indicia on the external surface thereof and overlying the edge of said chamber and adapted to be viewed edgewise of said unit, said housing including a portion extending at least in part beyond the radial extremity of said cylindrically curved portion of the actuating member and overlying at least a portion of the exterior surface thereof to define a channel receiving said curved portion, and a rotary shaft at the center of the cylindrically curved portion journalled in the housing and coupled to the actuating member to drive the electrical control means and coupled to the cylindrically curved portion whereby the latter turns in rotary motion therewith.

3,195,359
PUSHBUTTON STRUCTURE

Alfred J. Clark, Palatine, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois

Filed Dec. 21, 1961, Ser. No. 161,162
4 Claims. (Cl. 74—10.33)

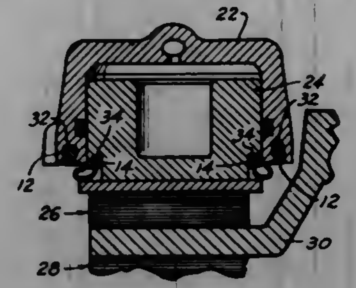


1. A pushbutton slide mechanism for use in presentable pushbutton tuners including in combination, a pushbutton operated slidable actuating bar having a guide slot therein, a plunger rod having an opening therein and further having a T lug thereon slidable in said guide slot and removable therefrom, said plunger rod further having a projection pivot post having a free end, a cam member disposed against said plunger rod and having an opening therein removably mating with said pivot post, a resilient elongated locking lever having an end removably mating with said opening in said plunger rod and being adapted to hold said cam member against said plunger rod, said actuating bar having a locking portion adapted to move said lever with respect to said plunger rod upon movement of said actuating bar relative to said plunger rod to cause said locking lever to exert a clamping force on said cam member and hold said cam member in fixed position with respect to said plunger rod, said locking portion being generally hooked shaped to permit placement of said plunger rod and said lever therein through the opening side thereof, and spring means positioned between said plunger rod and said locking lever to bias said plunger rod against said actuating bar and said locking lever against said locking portion.

3,195,360
BOOT CONSTRUCTION

Richard T. Burnett, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Oct. 4, 1962, Ser. No. 228,345
8 Claims. (Cl. 74—18.2)

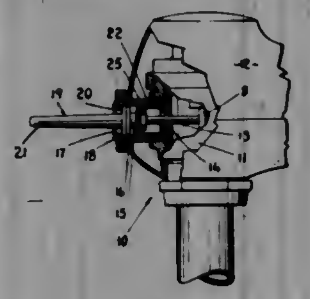


1. The combination of a housing member having a bore therein opening into a face of said housing member and a movable member slidable within said bore comprising: said movable member having an outer face transverse to the axis of said bore, a resilient boot having an annular bead defining one peripheral edge connected to one of said members and having a second peripheral edge connected to the other of said members, said one member having an annular groove in its respective face receiving said bead therein, said bead being compressed between the sidewalls of said groove, one surface of said bead engaging the sidewalls of said groove having notch means therein communicating the bottom of said groove with the exterior thereof to eliminate trapped air in said groove, said one surface of said bead being located closer to the wall of the bore than the other surface which also engages a sidewall of said groove.

3,195,361
FLUSH VALVE SEALING MEANS

James D. Orr, Toronto, Ontario, Canada, assignor to Josam Products Limited, Toronto, Ontario, Canada, a corporation of Canada

Filed Mar. 2, 1964, Ser. No. 348,464
2 Claims. (Cl. 74—18.2)



1. In a hydraulic flush valve having a valve body, a valve operating stem, a stem actuator, a hollow housing for said actuator and a handle for actuating said stem actuator, the combination comprising

(a) a head on said stem actuator engageable by a disc like member carried on the handle, said head and member being slidably supported by the inner wall of the housing,

(b) said actuator having a substantially long shank extending from said head to the valve operating stem,

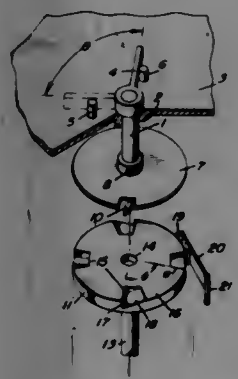
(c) said shank having adjacent to the head thereof a plunger of substantially smaller diameter than the inside diameter of the housing and a reduced portion adjacent the plunger and

(d) a flexible resilient hollow member having an apertured end wall and a peripheral sidewall terminating in an outwardly formed flange defining an open end, said peripheral sidewall being supported by the inner peripheral wall of the actuator housing with the apertured end wall abutting against and secured to the plunger with the shank extending centrally through the flexible member and with the flange secured in fluid tight engagement between the housing and the body.

3,195,362
UNIDIRECTIONAL STEP CLUTCH

William A. Elston and William C. Tomerlin, Jr., Shreveport, La., assignors to United Gas Corporation, a corporation of Delaware

Filed Oct. 5, 1960, Ser. No. 60,639
5 Claims. (Cl. 74—142)

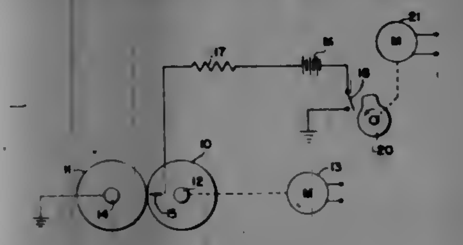


1. A unidirectional step clutch for providing a predetermined angular advance step-drive comprising an actuating member, a pair of stops spaced angularly apart for delimiting the rotational movement of said actuating member to an angle slightly greater than the predetermined desired angular advance of said clutch drive, a clutch driven member having a face with recesses therein each formed with a drive edge spaced angularly apart the predetermined desired angle of advance of each respective step, means including a clutch drive member having a pawl drive element resiliently biased toward said driven member into engagement therewith for driving said driven member in one direction by engagement of a recess drive edge and for disengaging the drive therebetween on rotation of said drive member in the opposite direction by said actuating member, means for drivingly connecting said actuating member to said clutch drive member, and means including a brake element resiliently biased into continuous engagement with said driven member for preventing reverse rotation thereof.

3,195,363
SELECTIVE DRIVING MEANS

Otmar M. Stuetzer, Hopkins, Minn., assignor, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

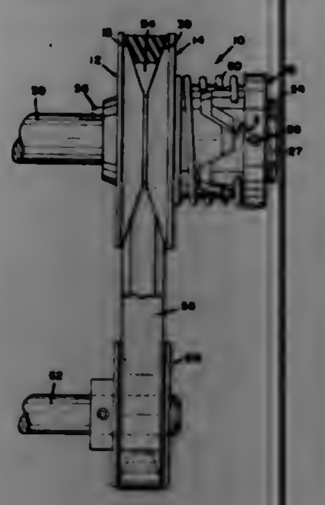
Filed Feb. 9, 1962, Ser. No. 172,245
10 Claims. (Cl. 74—210)



1. Selective driving means comprising a first member, a second member in surface slipping engagement along a single line of surface to surface contact with, and adapted to be driven by said first member, ionizing means adjacent but free from physical connection to at least one of said members, and means for energizing said ionizing means to establish a surface charge and with it an electric field between said members by spraying unipolar electrical charges on said one of said members, said second member being positively engaged and driven by said first member only while said ionizing means is energized.

3,195,364
VARIABLE SPEED PULLEY

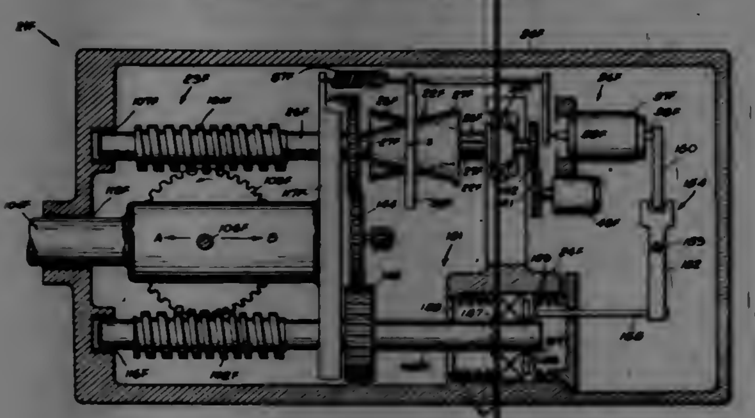
Ernest H. Pauli, 1000 Oakland Ave., Plainfield, N.J.
Filed Feb. 13, 1963, Ser. No. 258,257
5 Claims. (Cl. 74—230.17)



4. In motion transmission mechanism comprising a drive shaft, a pulley secured to said drive shaft, a driven shaft, a pulley secured to said driven shaft and an endless belt member encircling said pulleys so that motion developed by said drive shaft is transmitted to said driven shaft, at least one of said pulleys including a first disk member forming a first split pulley section having a belt engaging surface thereon and an elongated hub portion extending centrally thereof in rigid engagement with its associated shaft; a second disk member forming a second split pulley section encircling said hub portion of the first disk member, said second disk member having a belt engaging surface confronting the belt engaging surface of said first disk member so that motion of the first disk member is transmitted to the second disk member through said belt, and means, independent of said belt, forming an adjustable driving connection between the two disk members, said means being effective in response to a variation in speed between said disk members to vary the distance between said disk members to snugly accommodate said belt and re-establish said belt as the means for transmitting motion from said first disk to said second disk.

3,195,365
FRICTION DRIVE APPARATUS

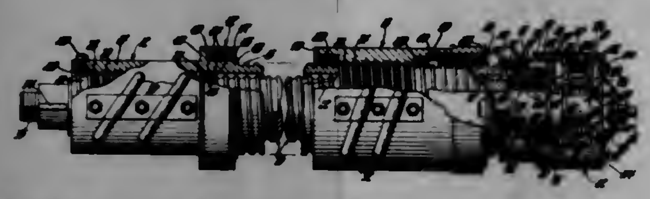
James L. Coakley, Woodland Hills, Calif., and Hans A. Hug, Norwood, Mass., assignors to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed Apr. 24, 1961, Ser. No. 105,044
16 Claims. (Cl. 74—388)



5. In friction drive apparatus of the kind in which a pair of complemental and oppositely contoured conical shafts are disposed parallel to one another and are interconnected for rotation with one another by drive means engaged with the adjacent surfaces of said shafts such that power supplied to one of said shafts causes rotation of both of said shafts and wherein said drive means are tiltable about the areas of engagement with said shafts from a neutral position, in which neutral position said drive means traverse a circular path on the peripheries of said shafts at predetermined axial positions thereon and said shafts rotate at a predetermined ratio of speeds, to an inclined position, wherein said drive means traverse a helical path on the peripheries of said shafts, to cause said drive means to move axially of said shafts away from said neutral position and thereby vary the relative rotational speeds of said shafts; control means associated with said drive means for imparting a first force to said drive means to achieve a selected amount of tilt of said drive means; torque-converting means driven by said shafts for converting a differential between the respective speeds of rotation of said shafts into an output thrust, said torque-converting means including an output member which is movable axially for transmitting the thrust to a load device; and feed-back means effective to sum up the axial movement of said output member and apply a second force to said drive means in opposition to said first force to return the drive means to said neutral position.

3,195,366
NUT AND SCREW DEVICE

Lowell F. Smith, Saginaw, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 24, 1963, Ser. No. 297,257
22 Claims. (Cl. 74—424.8)

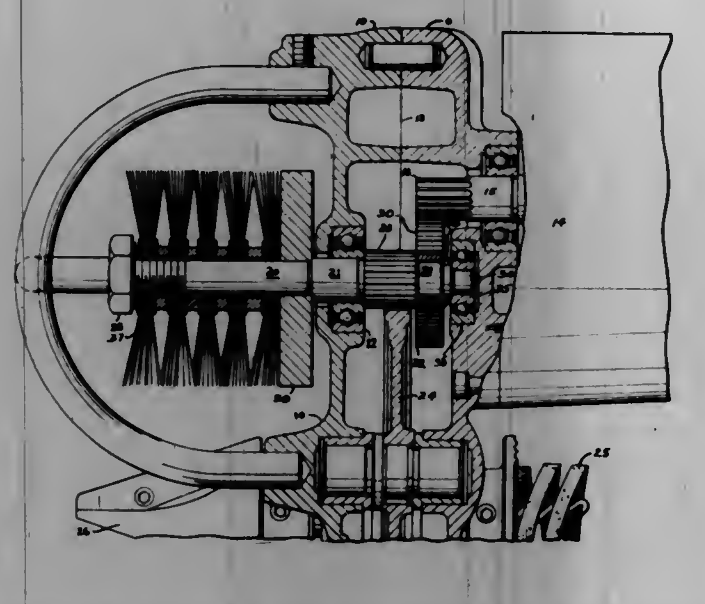


19. In a nut and screw mechanism,
(a) an inner means, intermediate means and outer means,
(b) first thread means operatively connecting said intermediate means to said inner means to provide relative axial movement in response to relative rotary movement between said intermediate means and said inner means,
(c) second thread means operatively connecting said outer means to said intermediate means to provide relative axial movement in response to relative rotary movement between said outer means and said intermediate means,
(d) first connecting means operable to selectively connect said intermediate means to said inner means to prevent said intermediate means from rotating relative to said inner means in one rotational direction while permitting said intermediate means to rotate relative to said inner means in the opposite rotational direction,
(e) and second connecting means operable to selectively connect said intermediate means to said outer means to prevent said intermediate means from rotating relative to said outer means in said opposite rotational direction while permitting said intermediate means to rotate relative to said outer means in said one rotational direction.

3,195,367
NOISE REDUCING TRANSMISSION

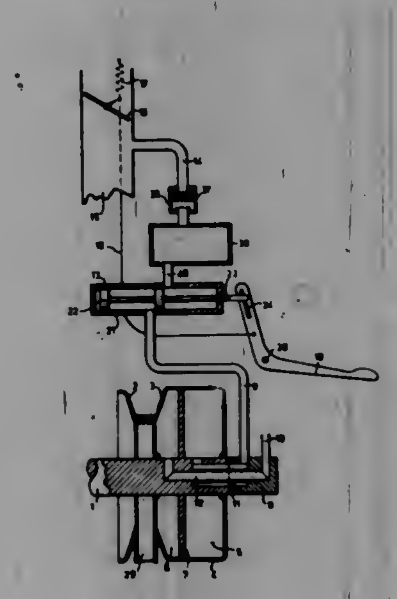
Charles B. Small, Elyria, Ohio, assignor to The Ridge Tool Company, Elyria, Ohio, a corporation of Ohio
Filed Aug. 3, 1962, Ser. No. 214,557
2 Claims. (Cl. 74—443)

1. In combination a casing comprising spaced parallel members, aligned bearing means disposed in said members and a shaft rotatably journalled in said bearing means and having a reduced diameter portion extending beyond the casing, work processing means disposed on said shaft and clamped thereon, means for driving said shaft comprising a drive gear extending into the casing parallel to said shaft, a driven gear in mesh with said drive gear and surrounding and supported by said shaft, said shaft being provided with a shoulder and having a reduced portion adjacent the shoulder, said driven gear having an opening slightly larger than said last-mentioned reduced portion to provide a limited degree of tilting of the driven gear on the shaft, connector means between the gear and shaft and formed to provide limited movement between the connector, gear and shaft.



3,195,368
AUTOMATIC TRANSMISSION

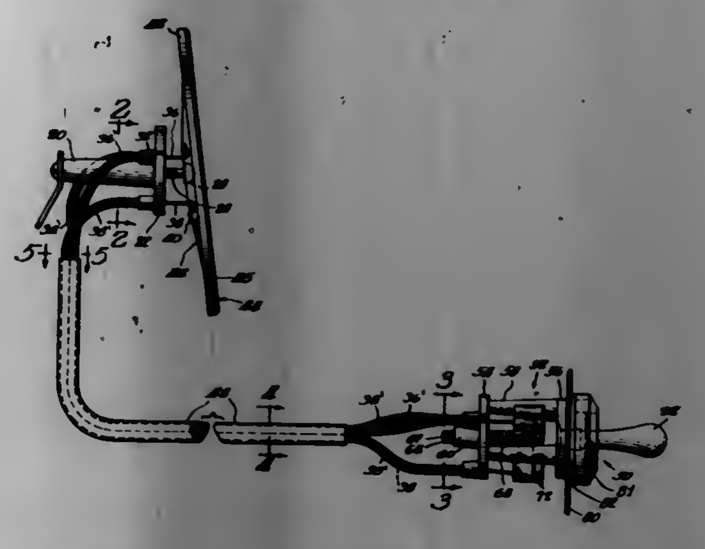
Jan G. C. Boudewijn, Eindhoven, Netherlands, assignor to Van Doorne's Automobielfabriek N.V., Eindhoven, Netherlands
Filed Aug. 16, 1962, Ser. No. 217,452
Claims priority, application Netherlands, Aug. 17, 1961, 268,312
8 Claims. (Cl. 74—472)



8. In a fluid pressure actuated expansible pulley transmission having a suction throttle, means controlling the expansible pulley and connections therebetween the combination of a non-return valve and buffer means located in the connection between said throttle and said means controlling the expansible pulley to provide smoother acceleration and deceleration.

3,195,369
REMOTE CONTROL DEVICE

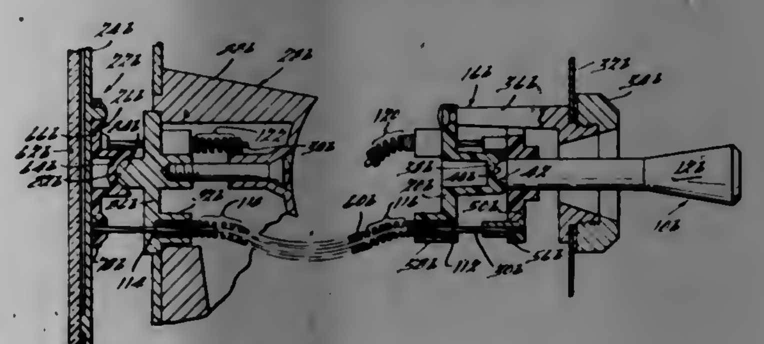
John G. Warhol, Oak Park, Mich., assignor to Nelmor Corporation, Harper Woods, Mich., a corporation of Illinois
Filed Apr. 16, 1962, Ser. No. 187,684
12 Claims. (Cl. 74—501)



1. A mechanism for remotely controlling the pivotal movement of a controlled member such as a rear view mirror through a plurality of positions about a pivot point at the controlled end, comprising a first support member pivotally supporting said controlled member for movement about said pivot point, at least three cables having one group of adjacent ends secured to said controlled member at points thereon substantially spaced from each other and from said pivot point, control means spaced from said controlled member and secured to the other adjacent ends of said cables for effecting selective movement of said cables with respect to said first support member, said first support member being axially adjustable but after adjustment remaining in a fixed position, said control means including a second support member and a pivotal member pivoting on said second support member, said second support member being adjustable axially but after adjustment remaining in a fixed position, spring means connected to the end of each of said cables and secured to said pivotal member to apply a pressure against the rear of said pivotal member to urge said pivotal member forwardly toward the controlled member and to seat on said second support member and be maintained seated by reason of said spring means.

3,195,370
REMOTE CONTROL UNIT

Robert J. Smith, Farmington, Mich., assignor to C. M. Hall Lamp Company, Detroit, Mich., a corporation of Michigan
Filed Mar. 18, 1963, Ser. No. 265,853
16 Claims. (Cl. 74—501)



1. In a remote control system, a controlled member supported by a first fixed member for pivotal movement about a plurality of different axes with respect thereto, a controlling member spaced from said controlled member and support by a second fixed member for pivotal

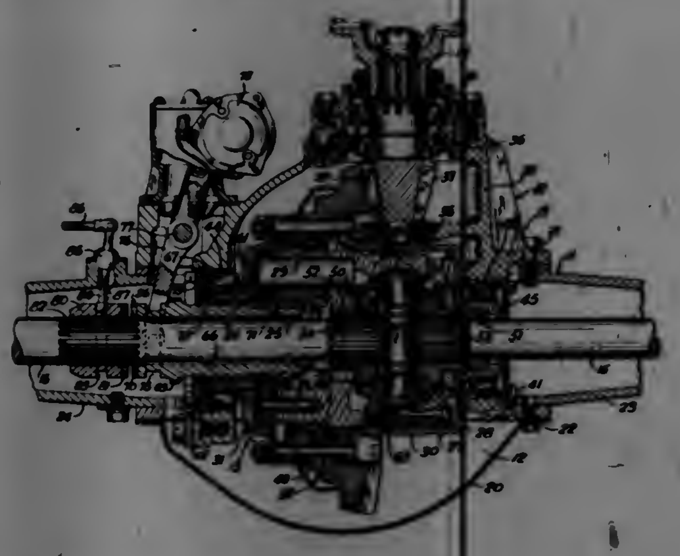
movement about a second plurality of axes, means for transmitting pivotal movements of said controlling member about any of said second plurality of axes to said controlled member comprising a plurality of control elements extending between said controlling member and said controlled member and movable in response to pivotal movements of said controlling member about its said axes to move said controlled member about its said axes, and means for tensioning said control elements comprising resilient means exerting a force on at least one of said control elements in a direction transverse to the longitudinal axis thereof.

3,195,371
VEHICLE AXLE MECHANISM

Chester D. Christie, Shaker Heights, Ohio, assignor to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio

Continuation of application Ser. No. 69,715, Nov. 16, 1960. This application Sept. 21, 1961, Ser. No. 140,971

11 Claims. (Cl. 74—[illegible]95)



1. In a drive axle, a pair of axle shafts, a gear unit comprising differential gear means connected with said shafts, change-speed planetary gear means connected with said gear unit to drive the same at different selected speeds including a control gear having a clutch portion and being shiftable along one of said shafts to different control settings for said different selected speeds, clutch means connected with said one shaft for rotation therewith and shiftable therealong into engagement with said clutch portion for producing lock-out of said differential gear means, an actuating lever connected with said clutch means and movable to effect movement thereof along said one shaft, and stop means positioned to engage said actuating lever upon predetermined movement of said clutch means to limit the shifting of said clutch means on said one shaft to prevent said differential lock-out when said control gear is in one of its control settings.

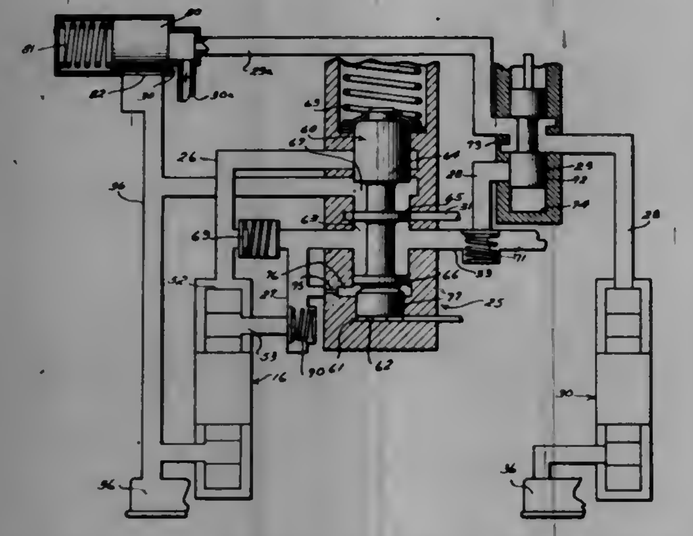
3,195,372
AUTOMOTIVE TRANSMISSION

Hubert M. Clark, Bloomfield Township, and Gilbert H. Drutchas, Detroit, Mich., assignors to Thompson Ramo Wooldridge Inc., Warren, Mich., a corporation of Ohio

Filed July 7, 1961, Ser. No. 122,516

3 Claims. (Cl. 74—730)

1. In combination in an automotive transmission having an input drive shaft, an output shaft, and an hydraulic torque converter connecting said shafts for the variable ratio transmission of power, an hydraulic control system comprising a first dual-stage hydraulic pump driven by said input drive shaft providing first and second separate pressurized outputs at first and second outlets respectively, a regulator valve, means connecting the first output of said pump to an inlet to said regulator valve, means connecting the second output of said pump to said valve inlet, one-way check valve means connecting said second outlet to said first outlet and permitting flow only from said first to said second outlet, means responsive to the pressure in said valve inlet to move said valve to a position connecting said inlet with said converter to supply fluid under pressure from said inlet to said converter, said last-named means operating upon a predetermined increase in fluid pressure in said inlet above a designated pressure to move said valve to direct the output of said first outlet to a low pressure reservoir supplying said pump with fluid to be pressurized and distributed, the direction of said fluid to said reservoir operating by virtue of said valve to remove substantially all of the load from the fluid at said first outlet, said last-named means operating upon a further increase in fluid pressure in said inlet to move said valve to direct the output of both said first and second outlets to said low pressure reservoir while removing substantially all of the load from the fluid at said outlets thereby substantially eliminating the energy applied to said fluid by said pump upon said further increase in fluid pressure, and a second hydraulic pump driven by said output shaft and having the output thereof connected to said valve inlet.

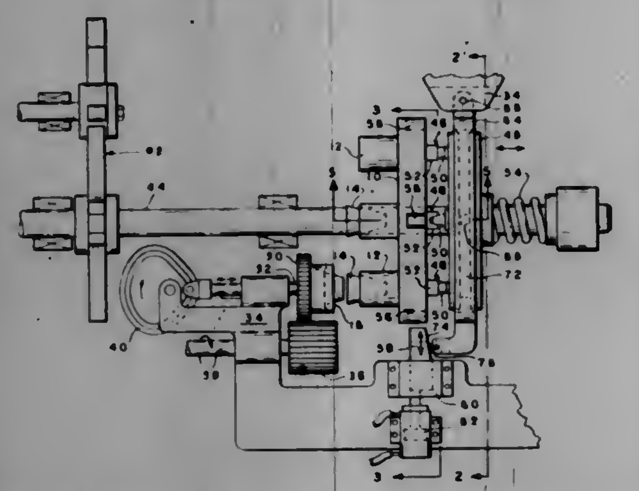


3,195,373
INDEXING MECHANISM FOR PAPER CUP MACHINES

Harland S. Fisher, Longmeadow, Mass., assignor to United States Envelope Company, Springfield, Mass., a corporation of Maine

Filed Aug. 9, 1963, Ser. No. 301,047

2 Claims. (Cl. 74—822)



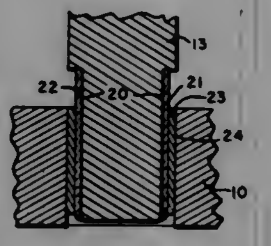
1. In a rotary work-carrying mechanism, in combination,
- (a) a turret having a series of angularly spaced work holding stations and a series of angularly spaced peripheral notches, each of said notches being positioned in a predetermined manner with respect to a particular work holding station, said notches having opposite side surfaces converging in a depthwise direction,
- (b) a rigid frame member adjacent said turret,
- (c) a plunger reciprocally mounted in said frame, said plunger having an end with tapered opposite sides substantially matching the sides of said notches and a side shaped to form a cam,
- (d) means for intermittently rotating said turret to locate successive notches in position to be engaged by said plunger,
- (e) a normally locked coupling connecting said rotating means with said turret,
- (f) a lever for unlocking said coupling extending into operational engagement with the cam on said plunger,
- (g) means for driving said plunger into engagement with a notch on said turret between periods of rotation thereof,
- (h) said cam operating to loosen said locking coupling during entry of said plunger into a notch and to re-engage said locking coupling during withdrawal from the notch.

3,195,374
METHOD OF MAKING AN ELECTRICALLY INSULATED JOINT

Harland H. Coffin, Bridgeport, Conn., assignor to Producto Machine Company, Bridgeport, Conn., a corporation of Connecticut

Original application Nov. 17, 1960, Ser. No. 69,891. Divided and this application Apr. 3, 1963, Ser. No. 270,235

3 Claims. (Cl. 76—107)



1. The method of making a die set having male and female mating elements joined by a press fit which comprises providing a layer of bonding material on a surface of one of said mating elements; spraying a ceramic oxide onto said bonding material so as to provide an integral ceramic coating on the surface of one of said mating elements; applying a coating of metal on top of said ceramic coating; machining said last mentioned metal coating to a precise dimension; and pressing said mating elements together.

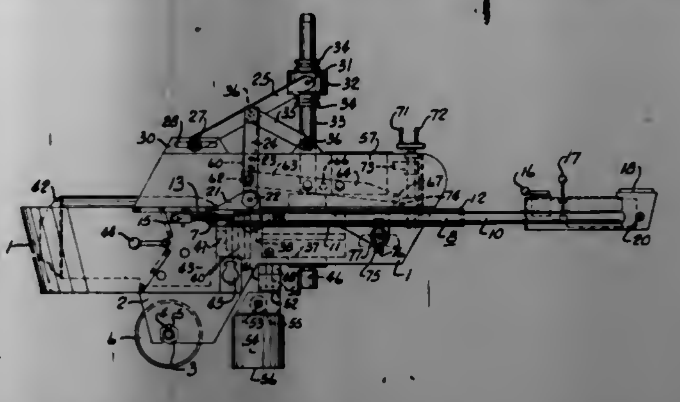
3,195,375
PORTABLE DRILLS

Oscar Eugene Guibert, Jr., Pittsburgh, Pa., and William D. Jamison, Jr., Hudson, Ohio, assignors, by mesne assignments, to Western Pennsylvania National Bank, a national banking institution, mortgagee, Pittsburgh, Pa.

Filed Aug. 1, 1962, Ser. No. 215,221

5 Claims. (Cl. 77—7)

1. A portable drill comprising a frame having wheel means to support a motor driven drill as a mobile unit, the drill being operated by an actuating mechanism through an operating lever pivoted on said frame and extending in a direction opposite from the wheel means relative to said drill, characterized by a pivot for said operating lever positioned on said frame in a vertical plane between said wheel means and said drill, and a pivotal connecting means between said operating lever and said drill actuating mechanism is connected to said operating lever intermediate the positions of said pivot and said drill means.

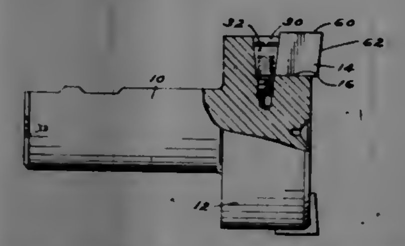


3,195,376
BORING HEAD

William Bader, Ferndale, Mich., assignor, by mesne assignments, to Fansteel Metallurgical Corporation, North Chicago, Ill., a corporation of New York

Filed Mar. 1, 1963, Ser. No. 261,970

6 Claims. (Cl. 77—58)



1. In a boring head of the type having throwaway pellet-shaped inserts held in an insert recess by a locking means, that improvement which comprises:
- (a) a head having an insert recess adjacent one surface thereof and a conical recess formed in said head directly adjacent and interesecting said insert recess,
- (b) a cutting insert in said insert recess,
- (c) an adjusting sleeve in said conical recess positioned directly behind one edge of each insert, said adjusting sleeve comprising a truncated cone-shaped element having a relatively low included angle with walls complemental to the walls of said conical recess,
  - a portion of circumference of said sleeve having a uniformly receding surface originating at a slant line in the conical surface of the sleeve and terminating at a slant line a predetermined distance below the conical surface of the sleeve, said portion being approximately one-quarter of the circumference or less and being positionable at the intersection of said conical recess and said insert recess,
- (d) and means for releasably locking said adjusting sleeve in said conical recess wherein rotation of said adjusting sleeve within said recess will provide an adjustable back-up surface at one edge of the insert recess of said head.

3,195,377
PIPE REAMER

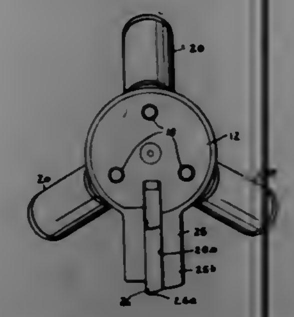
Heinrich H. Frank, Elyria, Ohio, assignor to The Ridge Tool Company, Elyria, Ohio, a corporation of Ohio

Filed Oct. 26, 1962, Ser. No. 233,230

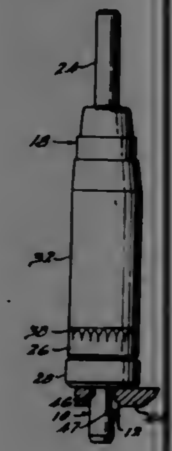
8 Claims. (Cl. 77—73)

1. A pipe reamer comprising a body, at least three equally spaced rollers carried by said body and inclined relative to the axis thereof, a cutter blade supported by

said body intermediate a pair of said rollers and inclined the same as the rollers said rollers being equally spaced about said body and said cutter blade being disposed between a pair of said rollers.



3,195,378
CUTTING TOOL
Stuart A. Cogsdill, Orchard Lake, Mich., assignor to Cogsdill Tool Products, Inc., Oak Park, Mich., a corporation of Michigan
Original application Aug. 7, 1957, Ser. No. 676,840, now Patent No. 3,021,733, dated Feb. 20, 1962. Divided and this application Dec. 26, 1961, Ser. No. 161,865
4 Claims. (Cl. 77—73.5)

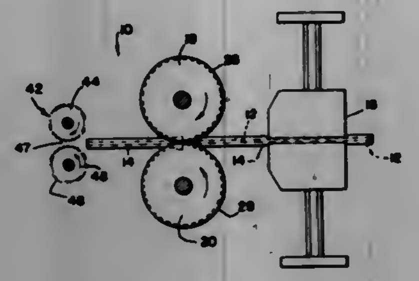


4. A cutting tool adapted to be fitted to a driving arbor for machining both ends of a bore in a workpiece in one operation comprising, a spindle, a first cutting blade mounted on the lower end of the spindle for machining the upper end of said bore, a second cutting blade movably mounted on the lower end of the spindle for machining the lower end of said bore, said cutting blades being disposed in spaced relation to each other, stop means mounted on said spindle for halting the downward advancement of the spindle after the first cutting blade has completed its cut and the second cutting blade is positioned relative to the workpiece, and camming means for thereafter moving said second cutting blade into cutting relation with the lower end of said bore, said camming means moves the second blade a predetermined amount after which the camming means can advance without moving the second blade to provide an override feature for preventing tool breakage.

3,195,379
WIRE STRIPPER
Leo Kramer, Chester, N.J., Alfred L. Medesha, Sayre, Pa., and Joseph M. Ladd, Cleveland, Ohio, assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Jan. 10, 1964, Ser. No. 337,095
7 Claims. (Cl. 81—9.51)

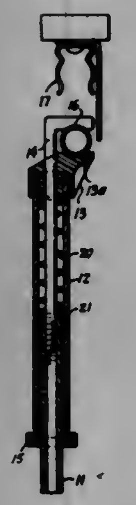
1. Apparatus for stripping insulation from an insulated wire comprising:

(a) clamping means for holding said insulated wire,
(b) cutter wheels disposed adjacent one another and being oppositely rotatable forming a small space therebetween,
  (1) said small space being in alignment with said clamping means,
(c) guide means formed on the outer periphery of said cutter wheels,



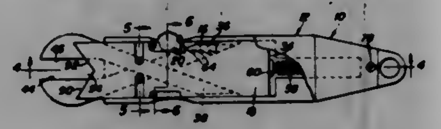
(d) insulation cutting means connected to said guide means for severing the insulation from said wire, and
(e) ejector means in alignment with said guide means and insulation cutting means for removing said insulation from said wire,
  (1) said insulation cutting means after severing the insulation pushing said insulation into contact with said ejector means.

3,195,380
DEVICE FOR ENGAGING, HOLDING AND RELEASING OBJECTS
Jean Leonard Bicks, P.O. Box 3, Severna Park, Md.
Filed Sept. 20, 1963, Ser. No. 310,369
1 Claim. (Cl. 81—3.8)



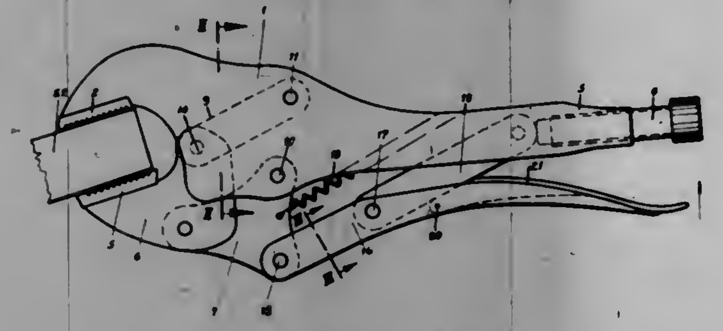
A multipurpose instrument for gripping, clamping, holding, inserting and pulling objects comprising an outer tubular member terminating at one end in a jaw means having an arcuate seat therein adapted to receive an object, an inner tubular member, adapted to be rotatably and reciprocably received in said outer tubular member, and terminating at one end in an outer handle and terminating at the other end in an internally threaded portion, a rod member threaded at one end and adapted to be threadably received by the internally threaded end of said inner tubular member, and terminating at the other end in a radially extending finger portion having a receiving seat thereon to cooperate with the seat on said jaw means to grip an object, a compression spring within the outer tubular member between the end having a jaw means thereon and the threaded end of the inner tubular member to bias said finger portion to coact with said jaw means to hold an object. and a collet-like locking means having a plurality of longitudinally and circumferentially spaced tapered fingers thereon and a central aperture therein adapted to be rotatably and slidably received on said inner tubular member, said longitudinally tapered fingers adapted to wedgingly engage the inner wall of the outer tubular member to selectively lock said tubular members against either axial or rotational movement.

3,195,381
AUTOMATIC SELF-ADJUSTING WRENCH
Daniel H. Meggs, Jr., Redondo Beach, Calif., assignor of twenty-five percent to Maurice J. Hindin, Beverly Hills, and twenty-five percent to Wallace H. Shapero, Torrance, Calif.
Filed Dec. 21, 1962, Ser. No. 246,610
5 Claims. (Cl. 81—128)



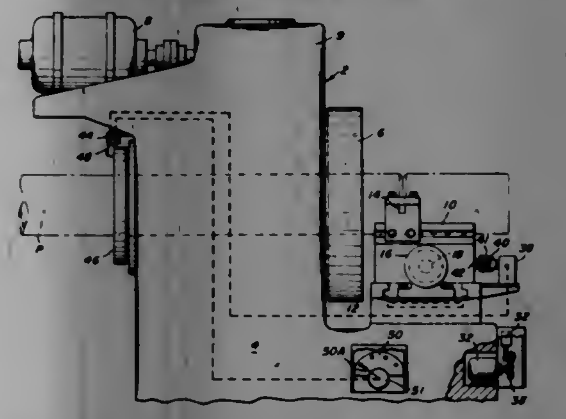
1. An automatic self-adjusing wrench comprising a body member, a pair of jaw members including elongated crossed base portions mounted in said body member for guided longitudinal rectilinear movement and confronting jaw faces movable toward and away from each other and transversely of a plane disposed generally normal to a line extending between said faces in response to reciprocation of said base portions, actuator means mounted on said body member for movement generally along said plane between first and second limit positions and operatively connected to said base portions for simultaneously moving said base portions in response to movement of said actuator means to move said faces toward and away from each other as said actuator means is moved between said first and second positions, respectively, said actuator means including a portion bridging the space between said faces and adapted to be engaged by a workpiece upon advancement of such workpiece in one direction along said plane into the area disposed between said faces, and said actuator means also being adapted to be urged toward said first position by movement of such workpiece in said one direction so as to cause said jaw faces to engage said workpiece from opposite sides of the path of movement of said actuator means as such workpiece is inserted between said faces.

3,195,382
TOGGLE PLIERS WITH MEANS FOR RELATIVE PARALLEL MOVEMENT OF JAWS
Friedrich Wilhelm Rommel and Reiner Rommel, both of Saalestrasse 344, Allendorf, Kreis Marburg (Lahn), Germany
Filed May 21, 1963, Ser. No. 282,836
6 Claims. (Cl. 81—373)



1. In a pair of pliers, the combination of
an elongated, rigid arm provided at one end with a stationary jaw,
a supporting member,
a movable jaw mounted on said supporting member,
two levers spaced apart from each other,
one end of each of said two levers being pivoted to said rigid arm by first pivots and the other end of each of said two levers being pivoted to said supporting member by second pivots, said two levers to constitute a parallel crank mechanism,
one of said two levers being a bell crank lever,
an actuating lever pivoted at one end to said bell crank lever by a third pivot, and the other end forming a handle,
a toggle support pivotally connected at one end to said actuating lever by a fourth pivot and pivotally connected at the other end to adjustable position means for said other end by a fifth pivot movable longitudinally along the other end of said elongated, rigid arm, and
resilient means connecting said elongated rigid arm with said supporting member and biasing said movable jaw toward said stationary jaw.

3,195,383
FEED CONTROL SYSTEM FOR A MACHINE TOOL
Eugene B. Connelly, Churchill Borough, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Mar. 29, 1962, Ser. No. 183,611
3 Claims. (Cl. 82—21)

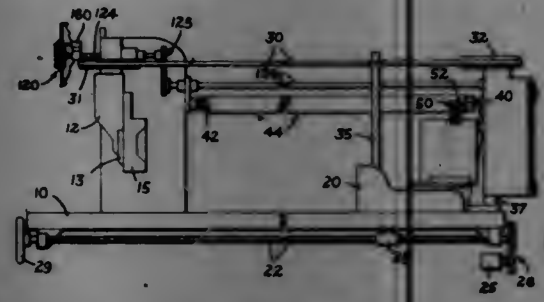


1. In a machine for processing an elongated workpiece, said machine including a frame, a chuck rotatably mounted on said frame for concentrically holding said workpiece adjacent one end and rotating the same, means for rotating said chuck, a tool carriage mounted on said frame for movement transversely of a continuation of the axial centerline of said chuck toward and away from the workpiece, and hydraulic feed means mounted on said frame and connected with said carriage for moving said carriage toward and away from the workpiece, the improvement therewith of a control device for automatically regulating said feed means, a switch mounted on said frame in the path of said carriage, means for maintaining said switch closed during a predetermined portion of the carriage travel toward the workpiece, a multiple-position contact-making mechanism connected with said switch, means for actuating said mechanism in accordance with successive rotations of the chuck when said switch is closed during said predetermined portion of the carriage travel toward the workpiece, and means actuating said control device in response to the position of said contact-making mechanism at the end of said predetermined travel when said switch is released.

3,195,384
CUTTING MACHINES HAVING MAGNETIC STORAGE MEANS TO CONTROL WORK FEED MEANS
Leo D. Barley, Dayton, Ohio, assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Jan. 10, 1963, Ser. No. 250,678
5 Claims. (Cl. 83—71)

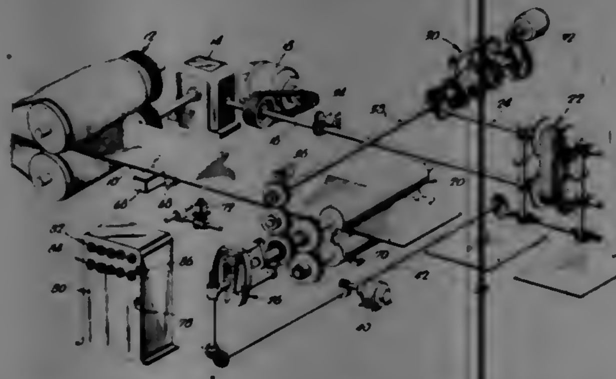
1. In a paper cutter having a power operated knife, a back gage movable toward and away from said knife to position a pile for cutting, and reversible drive means for said back gage including a back gage drive control for effecting controlled movement thereof; the combination of

a memory device having a plurality of channels each capable of storing a plurality of reference marks indicating desired positions of said back gage, reading means for reading the reference marks, control circuitry governed by said reading means and connected to actuate said back gage control, means causing relative movement between said memory device and said reading means in correlation to back gage movement for reading said memory device with reference to the position of said back gage, means arranged to present said reading means to selected ones of said channels, and indexing means operative in response to reverse movement of said back gage away from said knife to shift the relation of said reading means and said memory device during motion of said back gage away from said knife to present different channels to said reading means.



3,195,385
MACHINE FOR PROCESSING LINEAR MATERIAL

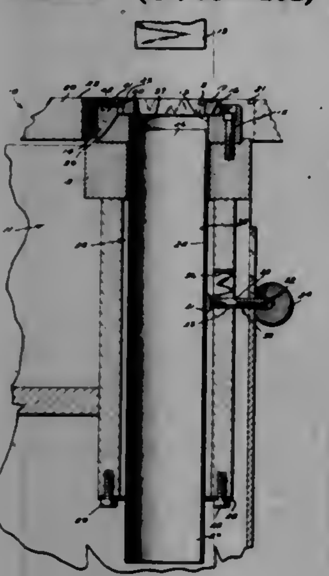
John Paterson, Springfield, Pa., assignor to Samuel M. Langston Company, Camden, N.J., a corporation of New Jersey
Filed Aug. 28, 1959, Ser. No. 836,694
10 Claims. (Cl. 83—7[illegible])



1. In a machine for processing linear material having feed means and repetitive processing means to process the linear material at predetermined intervals, main common machine drive means for said feed means and said processing means, first and second drive means for the feed means and the processing means respectively, connected to and driven by said main drive means and synchronizing means connected to and driven by said main drive means and operatively connected to and adapted for automatically and continuously adjusting the relative speeds of the feed and processing means to assure processing at predetermined intervals along the length of the linear material, a first sensing element for sensing the speed of the feed means and producing a signal proportional thereto, a second sensing element for sensing the speed of the processing means and producing a second signal proportional thereto and similar to the first signal, similar signal affected analog means associated with each sensing element for producing effects which can be compared, comparison means coupled to the signal affected means for comparing said effects and producing error signals in the event of deviation from a predetermined standard of comparison which obtains when the processing is occurring at the predetermined intervals, and drive means coupled to the synchronizing means and responsive to error signals to cause adjustment of the synchronizing means such that the relative speeds of the feed means and the processing means will be corrected to assure processing at the predetermined intervals.

3,195,386
PUNCHING MACHINE HAVING TOOL EJECTOR

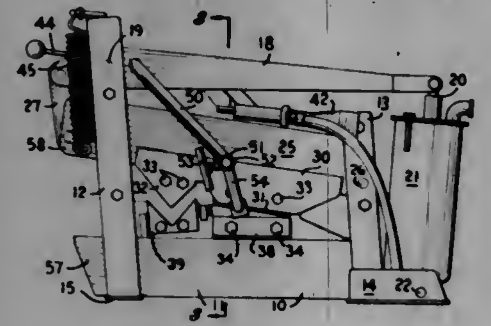
Dennis Daniels, Williamsville, N.Y., assignor to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Nov. 2, 1962, Ser. No. 234,945
7 Claims. (Cl. 83—162)



1. A punching machine comprising in combination:
(a) a frame having a fixed bed, said bed having a fixed upwardly-directed surface supporting thereon a normally stationary annular die against any downward movement from its position during a punching operation;
(b) a vertically movable punch reciprocably carried by said frame, and disposed above and in alignment with said normally stationary die for cooperation therewith; and
(c) a normally-stationary selectively-actuatable tubular die ejection member freely slidably supported on said frame and having an upper end portion, other than said surface, engageable with a lower side of said normally stationary die for effecting upward movement thereof, said tubular ejection member having an internal size receptive of slugs from said annular die.

3,195,387
AIR POWERED ANGLE AND BAR GUILLOTINE

Edward G. Telfer, Monash, South Australia, Australia
Filed Apr. 4, 1962, Ser. No. 185,143
Claims priority, application Australia, Apr. 7, 1961, 3,386/61
4 Claims. (Cl. 83—395)

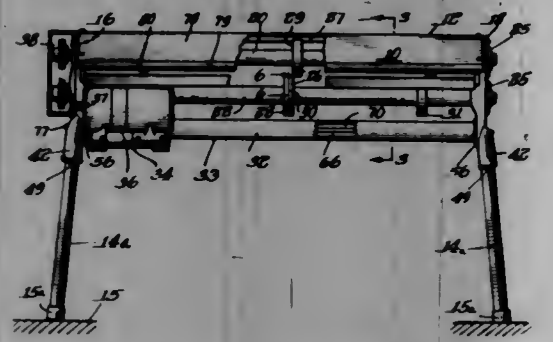


1. An air powered angle and bar guillotine comprising a frame, a lower longitudinal member on the frame, a pair of parallel spaced front forks extending upwardly

from near the front end of the lower longitudinal member, a pair of parallel spaced rear forks extending upwardly from near the rear end of the lower longitudinal member, a blade arm hinged at its rear end between the rear forks, a lever arm disposed above the blade arm and hinged between the front forks, the front ends of both blade and lever arms extending forwardly of the front forks, links joining said front ends, an air cylinder trunnion mounted on the frame rearwardly of the blade arm, the piston rod of the air cylinder pivotally connected to the rear end of the lever arm, an upper clamping plate on the blade arm, a moving bar guillotine blade and a moving angle guillotine blade both clamped to the upper clamping plate, a lower clamping plate on the longitudinal member, and a fixed bar guillotine blade and a fixed angle guillotine blade both clamped to the lower clamping plate and co-operating with respective moving blades.

3,195,388
PORTABLE MACHINE TOOL

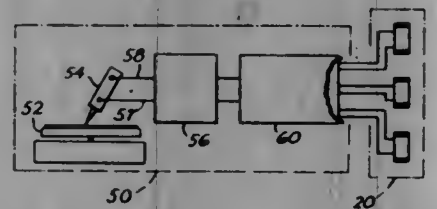
Robert J. Neidigh, Crown Point, Ind., assignor to Products Research and Development Corporation, Gary, Ind., a corporation of Indiana
Filed Nov. 26, 1962, Ser. No. 239,883
9 Claims. (Cl. 83—498)



1. A portable machine comprising: a plurality of horizontal parallel rotatable shafts, rigid support members at opposed ends of said machine, said support members rotatably mounting the ends of said shafts, mating cutting tools independently mounted on the respective shafts in the region thereof substantially removed from both support members, leg members extending from said support members and rigidly affixed thereto at the opposed ends of said machine for resting said machine on a floor, and a single circular tubular bed of substantially uniform diameter extending between the opposed ends of said machine, said tubular bed being secured to the support members at the opposed ends of said machine for resisting torsional forces tending to distort said shafts, said tubular bed comprising substantially the entire torque resistant support structure between the opposed ends of said machine.

3,195,389
MUSICAL INSTRUMENT WITH AUDIO SIGNAL TO FORCE TRANSLATOR

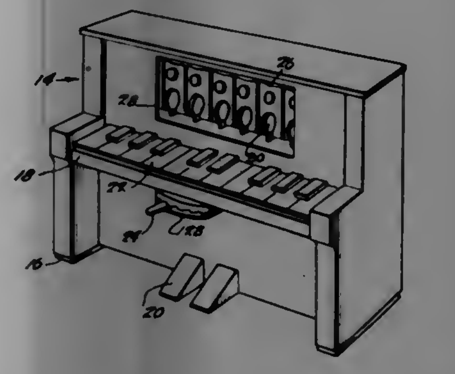
Tom Percy, 663 E. 1st St., Coquille, Oreg.
Filed May 27, 1963, Ser. No. 283,208
10 Claims. (Cl. 84—5)



1. For a musical insrument, with multiple tone producers operated from a keyboard including a separate one for each tone in an eight-tone musical octave, an audio signal to force translator comprising
a multiple channel audio frequency selective amplifier circuit including a separate channel for each of said tones in said musical octave,
each of said channels in said circuit comprising means for selectively amplifying an audio frequency signal corresponding to the pitch of one of said eight tones in said musical octave produced by one of the tone producers in said instrument, and
means operatively connected to each of said channels operated by the amplified signal produced thereby for actuating a key in said keyboard for playing one of said eight tones.

3,195,390
TOY

Marvin I. Glass, Gordon A. Barlow, and Henry Stan, Chicago, Ill., assignors to Marvin Glass & Associates, Chicago, Ill., a partnership
Filed Jan. 23, 1963, Ser. No. 253,305
2 Claims. (Cl. 84—102)



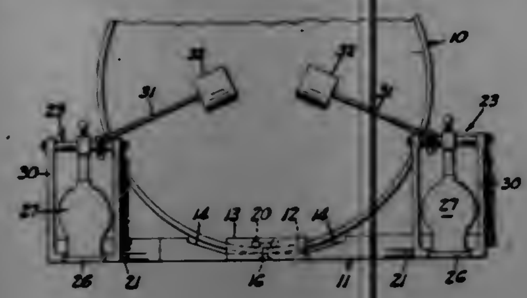
1. A toy piano comprising a case, a sounding board slidably supported in said case, a set of sounding elements on said sounding board, a set of hammers pivotally supported on said sounding board in position to strike corresponding ones of said sounding elements, a cylinder rotatably supported in said case in proximity to said hammers, means for rotating said cylinder, a set of rows of circumferentially disposed lugs on said cylinder, said rows of lugs being spaced axially of said cylinder, to correspond with the spacing of said hammers, and the individual lugs being positioned to contact said hammers and to impel them to strike said sounding elements, and said lugs also being so spaced circumferentially as to cause said hammers to play a tune on said sounding elements by reason of rotation of said cylinder, other sets of rows of lugs on said cylinder axially spaced from the first mentioned rows, and so spaced circumferentially as to cause said hammers to play a different tune by reason of rotation of said cylinder, and means for shifting said sounding board with its sounding elements and hammers into position so that said hammers will be contacted and actuated by said other sets of rows of lugs, so that subsequent rotation of said cylinder will play a different tune.

3,195,391
DRUM OPERATING MECHANISM

Joseph Peters, 61 LeBrun Road, Buffalo, N.Y.
Filed Apr. 9, 1964, Ser. No. 358,600
6 Claims. (Cl. 84—422)

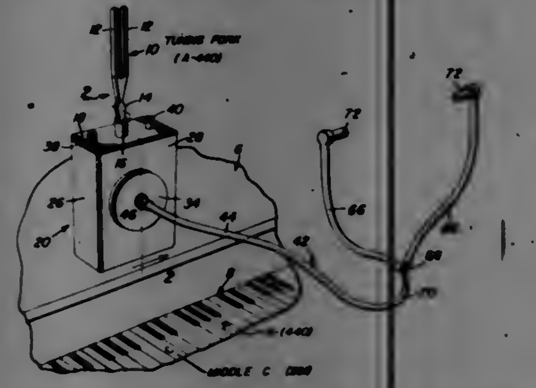
1. In combination, a drum and beating mechanism therefor, said beating mechanism comprising a rigid horizontal beam member adapted to rest on a supporting surface, said beam member having a central recess at one side thereof for receiving the rim portion of said drum with the axis of said drum extending generally horizontally and at right angles to said beam member, a pair of horizontal flanges at the other side of said beam member adjacent to the opposite ends of said beam mem-

ber, and pedal mechanisms detachably secured to said flanges, said pedal mechanisms having beater arms extending obliquely upwardy and toward the center of said



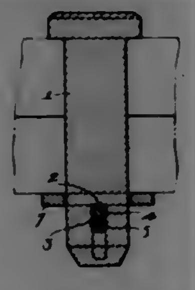
drum whereby the beads thereof strike said drum adjacent the central portion thereof upon operation of said pedal mechanisms.

3,195,392
VIBRATORY PIANO TUNING APPARATUS
Joseph Guy Allen, Box 376, Pineville, La.
Filed Oct. 15, 1963, Ser. No. 316,418
7 Claims. (Cl. 84—4[illegible]7)



3. In combination, a stethoscope embodying a single sound pickup tube communicatively connected with auxiliary ear tubes, and ear tubes terminating with earpieces, acoustical chamber means with which the intake end of said pickup tube is communicatively connected, and string pitch frequency measuring, comparing and verifying means comprising at least one standard tuning fork having the usual stem, and socket means carried by and accessible on said chamber means, the stem of said tuning fork being cooperatively and separably connected with said socket means.

3,195,393
SHAFT WITH OVERLAPPING COTTER PIN RECEIVING HOLES
Iwao Uozumi, 607 7-chome, Ehara, Shinagawa-ku, Tokyo, Japan
Filed Apr. 24, 1963, Ser. No. 275,446
Claims priority, application Japan, Apr. 26, 1962 (utility model), 37/20,769
4 Claims. (Cl. 85—[illegible].1)



1. A cotter pin and shaft combination of improved strength and wear resistance comprising

a cotter pin of the type formed of two substantially cylindrical legs of substantially the same diameter, said legs being connected at one end, having intermediate portions in contact and end portions adapted to be divergently bent,

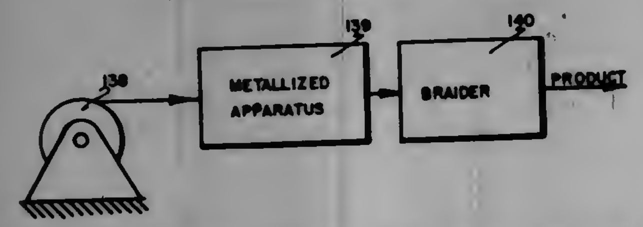
a shaft having an end portion containing a pair of transverse cylindrical bores of a slightly larger diameter than the diameter of said cotter pin legs, said bores having parallel axes and being aligned in the axial direction with respect to said shaft, the axes of said bores being spaced apart a distance sufficient to admit said two legs of the cotter pin, but less than one diameter of said bores whereby said bores overlap in the center portion of said shaft,

said cotter pin being held within the bores of said shaft.

3,195,394
METHOD FOR PREPARING CRACKER BALLS
Toshio Tamura, 464 Kishi, Shimada-shi, Japan
No Drawing. Filed Aug. 17, 1964, Ser. No. 390,194
1 Claim. (Cl. 86—1)

A method for preparing cracker balls which consists of mixing powdery potash chlorate with powdery realgar to form a base explosive mixture, of adding water to said explosive mixture to render the mixture into a slurry state, and of adding hard granular material to said slurry explosive mixture so as to evenly distribute said granular additive within the slurry explosive mixture, characterized in that said method further consists of dividing said granular additive containing explosive mixture into many small masses each of which contains a substantially equal amount, freezing said masses of explosive mixture, covering said frozen masses of explosive with air-permeable substance such as paper or pulp powder and drying said explosive mixture masses.

3,195,395
FIBER METALLIZING APPARATUS AND METHOD FOR MAKING SHIELDED ELECTRICAL CONDUCTORS
James G. McCallum, New York, N.Y., assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio
Filed Feb. 1, 1963, Ser. No. 256,212
3 Claims. (Cl. 87—1)

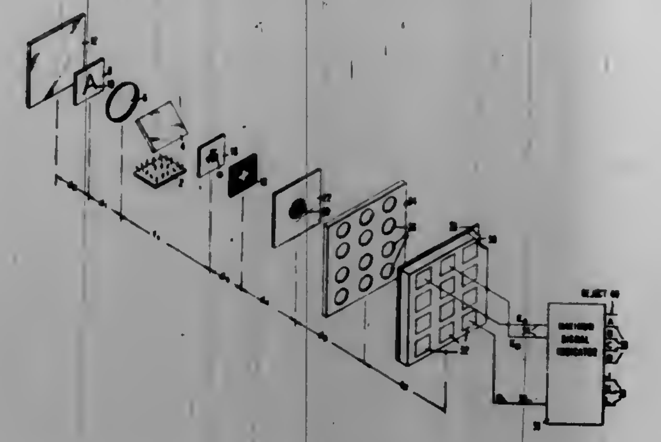


1. A process which comprises metallizing glass fibers with metal deposited from a gaseous metal carbonyl by passing the fibers through the carbonyl while the fibers are heated to the decomposition temperature of the carbonyl, and continuing the movement of the metal coated fibers to an insulated conductor on a standard braider, and braiding the metal coated fibers on the insulated conductor.

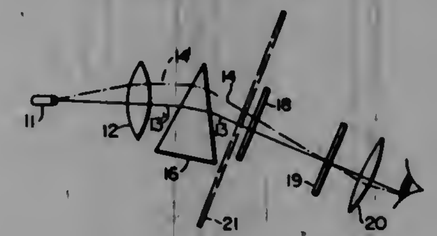
3,195,396
OPTICAL SPECIMEN IDENTIFICATION FILTERING TECHNIQUES
Lawrence P. Horwitz, Chappaqua, and Glenmore L. Shelton, Jr., Mahopac, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 24, 1960, Ser. No. 64,568
22 Claims. (Cl. 88—1)

1. A specimen identification apparatus, comprising, in combination: optical means for generating an autocorrelation pattern of the specimen to be identified; means for enhancing identification comprising a pair of optical filters, one having non-uniform light transmission corresponding to the positive elements and one having non-uniform light transmission corresponding to the absolute values of the negative elements of a bi-polar function

which is symmetric about a point, and responsive to the autocorrelation pattern, for generating a pair of filtered autocorrelation patterns; and comparison means for comparing the pair of filtered autocorrelation patterns with autocorrelation patterns of reference patterns for identifying the specimen.



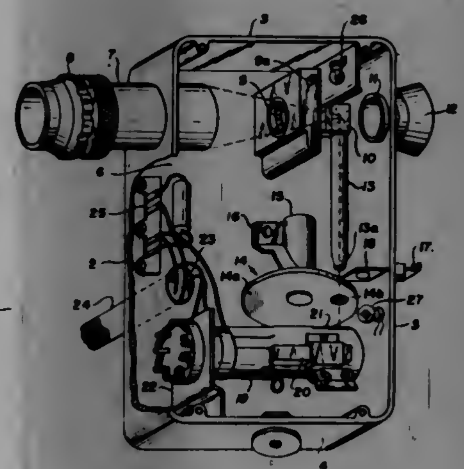
3,195,397
OPTICAL SYSTEM FOR DISPLAYING SIGNALS IN COLOR
Roger E. Clapp, Cambridge, Mass., assignor to Air Technology Corporation, Cambridge, Mass., a corporation of Delaware
Filed Mar. 21, 1961, Ser. No. 97,288
6 Claims. (Cl. 88—1)



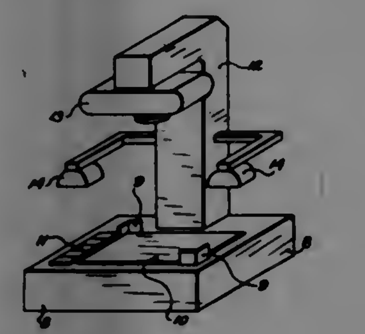
6. A system for displaying signals of varying intensities comprising means to produce divergent rays of light having distinctive colors, a first mask disposed at a location in the paths of said rays, said first mask having a transparent line exhibiting deflections representative of the variation in intensity of said signals, a second mask disposed in the paths of said rays at a location displaced from that of said first mask, said second mask having an undeflected transparent line, means to maintain said first and second masks in fixed relationship whereby undeflected portions of said first line and the corresponding portion of said second line are in a uniform angular relationship with said divergent ray producing means and thereby pass only rays of a distinct color, deflections of said first line producing variations in said angular relationship and thereby passing different colors corresponding with the variations in signal intensity, and means to view the transmitted rays.

3,195,398
TEMPERATURE SENSING HEAD HAVING FATIGUE ELIMINATING MEANS
Vincent G. Shaw, Unity Township, Westmoreland County, Pa., assignor to Latronics Corporation, a corporation of Pennsylvania
Filed July 3, 1961, Ser. No. 121,677
2 Claims. (Cl. 88—22.5)

1. In an instrument of the class described having a sensing head including a box within which is enclosed a photo-multiplier tube with means for admitting light from a selected source to the photo-multiplier tube and wherein there is a filter having contrasting filter areas in the box operable to alternately pass light from the external source through one and then the other of said filter areas to the photo-multiplier tube, the photo-multiplier tube having a series of dynodes of decreasing positive voltage from one end of the series toward the other, the photo-multiplier tube being in a circuit which comprises means for rendering it insensitive to light below a predetermined minimum intensity a source of direct current for the photo-multiplier tube, the invention which comprises providing within the box a neon lamp positioned to illuminate the sensitive area of the photo-multiplier tube and connected with the most positive dynode of said series and the positive pole of the direct-current source whereby current to the lamp is starved when sufficient light from the external source falls upon the photo-multiplier tube to activate it and said neon lamp glows to illuminate the tube when the light from the external source falls below a predetermined level.



3,195,399
METHOD AND APPARATUS FOR DISSEMINATION OF INFORMATION RETRIEVAL SYSTEMS AND ENLARGEMENT OF CAPACITY
Frederick Jonker, Washington, D.C., assignor to Jonker Business Machines, Inc., a corporation of Delaware
Filed Sept. 10, 1959, Ser. No. 839,242
18 Claims. (Cl. 88—24)

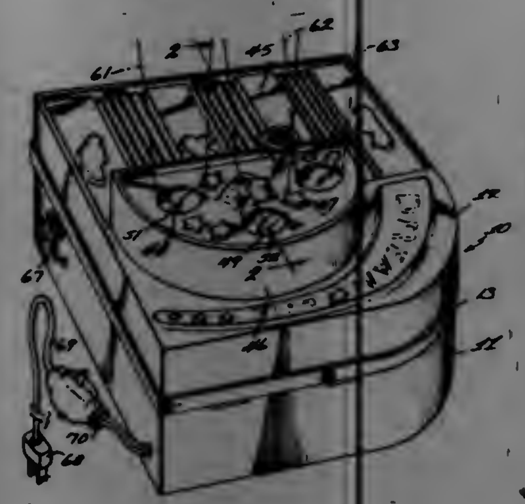


1. A method of information storage and retrieval which comprises entering data on superimposable cards dedicated to terms or code symbols by making holes in said cards at positions dedicated to the serial numbers of the items of information to be entered, photographing said cards on transparent material whereby the resulting photographic cards are very much smaller in size, and superimposing certain of said photographic cards, and determining the location of that area or areas of said superimposed photographs through which light passes.

3,195,400

OPTICAL PROJECTOR PRODUCING SUPERIMPOSED IMAGES FROM REVOLVING CONCENTRIC FILM TRACKS

Joseph M. Dlott, Indianapolis, Ind., assignor to Dream Lite Co., Dayton, Ohio, a corporation of Ohio
Filed July 5, 1962, Ser. No. 207,695
1 Claim. (Cl. 88—24)

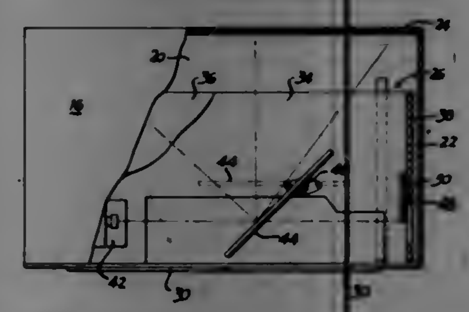


A device for projecting images comprising a housing, a spindle within said housing, means rotating said spindle, a transparent turntable longitudinally slidable on said spindle and secured to said spindle for rotation therewith, a disc carried by said turntable, said disc having a plurality of transparencies arranged in at least three concentric annular tracks and about said spindle, a transparent top plate carried by said disc, a plurality of light sources carried by said housing on the side of said turntable opposed to said disc, one light source being disposed in alignment with each annular track, a plurality of lens means carried by said housing on the side of said top plate opposed to said disc, one lens means being aligned with each light source, the optical axes of said plurality of lens means converging to a common focal point remote from said housing, whereby images of said transparencies are superimposed at said common focal point, the images of transparencies in different annular tracks moving at different rates of speed, focal point varying means comprising spring means circumscribing said spindle beneath said turntable and normally biasing said turntable toward said disc, said top plate having a recessed central boss slidably carried on said spindle, and screw means carried by said housing and having an end portion in bearing engagement on said central boss against the biasing of said spring means, said end portion of said screw means being movable toward and away from said central boss to vary the relative position between said transparencies and their respective lens means.

3,195,401

FILM PROJECTOR WITH TELESCOPIC CABINET

Elmer William Lange, Saginaw, Mich., assignor of fifty percent to Crystal M. Lange, Saginaw, Mich.
Filed July 13, 1962, Ser. No. 209,596
4 Claims. (Cl. 88—24)

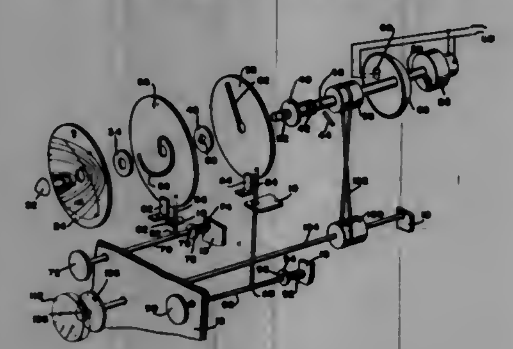


1. A projection device comprising a cabinet having a top wall and opposed side and end walls, one of said side walls having a light transmitting viewing screen therein, a drawer-like inner box having a bottom wall and opposed end walls mounted for sliding movement in said cabinet toward and away from said one of said side walls between an open projecting position and a closed viewing position, the side wall of said cabinet opposite said one of said side walls being mounted upon said inner box for movement therewith, a projector mounted within said inner box to project a beam parallel to the side wall on said inner box, a mirror mounted in said inner box for movement between a reflecting position wherein said mirror reflects a beam from said projector onto said screen and an inoperative position wherein said mirror is located clear of the path of said beam, and an optical opening in an end wall of said inner box aligned with said projector for passing the beam of said projector from said cabinet when said inner box is in its open projecting position.

3,195,402

LIGHT SPOT PROJECTION APPARATUS

William F. Hamilton, 116 N. Furman St., Alexandria, Va.
Filed Apr. 18, 1963, Ser. No. 273,997
5 Claims. (Cl. 88—24)

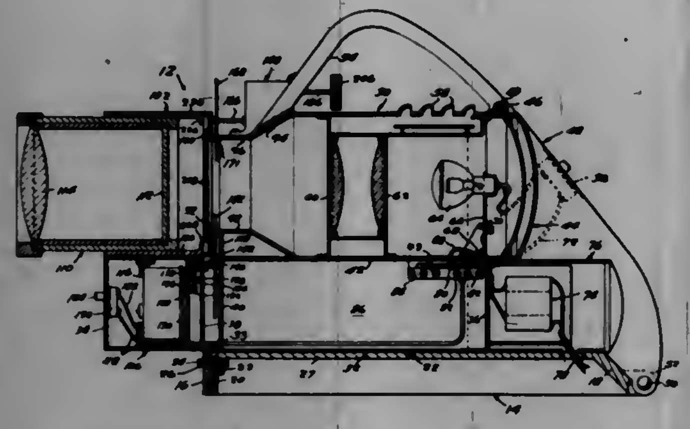


1. Projection apparatus comprising a frame carrying a diffusing screen bearing a pictorial representation, a light source for illuminating said screen, a plurality of light controlling elements independently movably mounted between said screen and light source, a motor carried by said frame in driving relationship with one of said elements and means for restraining movement of said one element, said elements containing light transmitting slits of dissimilar configuration, relative movement of said elements producing registry of different portions of said slits whereby light from said source will produce a spot of light on said screen movable relative to said pictorial representation.

3,195,403

QUESTION AND HIDDEN ANSWER PROJECTOR GAME APPARATUS

Horace P. Ascanio, 3903 Brookside Drive, and Paul C. Vienna, 3820 Brookside Drive, both of Pittsburg, Calif.
Filed May 29, 1962, Ser. No. 198,605
8 Claims. (Cl. 88—26)

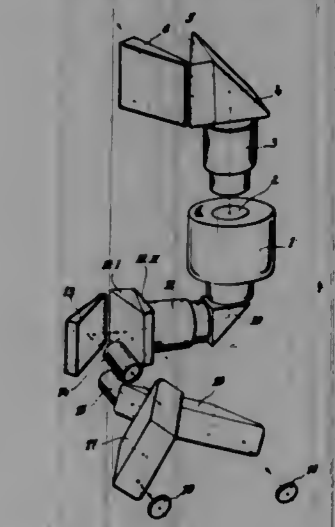


1. A projector game apparatus comprising a support, a lens system on the support, a lamp on the support behind the lens system, a slide holder interposed in and aligned with the lens system, a slide removably engaged in the holder and having a transparency, said transparency having a question material area adjacent to its bottom and an answer material area adjacent to its top, a movable shutter mounted on the support to occlude the answer material area in one position of the shutter and to expose the answer material area in another position of the shutter, and means for operating the shutter, said shutter comprising an axially rotatable opaque disc having an opening corresponding in area to and adapted to be registered with the answer material area of the transparency of the slide in said other position of the shutter.

3,195,404

ANAMORPHOSING OPTICAL SYSTEM

Albert Bouwers, The Hague, Netherlands, assignor to N.V. Optische Industrie de Oude Delft, Delft, Netherlands
Filed Oct. 20, 1960, Ser. No. 63,836
Claims priority, application Netherlands, Oct. 20, 1959, 244,602
1 Claim. (Cl. 88—57)



In an optical system for forming a real image of a scene, in combination, an optical objective having an optical axis, and a prism anamorphoser disposed on the long conjugate side of said objective, said anamorphoser including first and second wedge-shaped prisms disposed in the form of a V and having parallel refracting edges oppositely arranged so that the base of the first prism and the apex of the second form the V apex, the first prism having one surface substantially perpendicular to the optical axis, the second prism being inclined to the optical axis and disposed on the side of said first prism remote from said objective, and having a plane reflecting surface on the side remote from said first prism, so as to reflect incident light rays having traversed said second prism back into the same whereby said second prism is traversed twice and said first prism is traversed once by such light rays, said optical axis being deviated by said anamorphoser through an angle of between 60° and 120°.

3,195,405

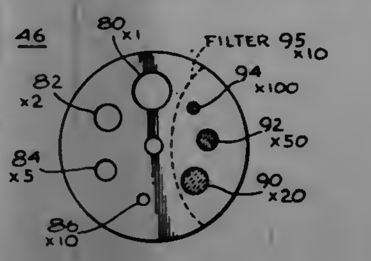
OPTICAL ATTENUATOR

George L. Clark, Hawthorne, and Frank L. Prendergast, Palos Verdes Estates, Calif., assignors, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 7, 1962, Ser. No. 243,089
14 Claims. (Cl. 88—61)

1. A light attenuator comprising a member of light opaque material,

means forming at least two groups of apertures of graded size in said member, a plurality of the apertures of a first group being of the same size as the corresponding apertures of the second group,

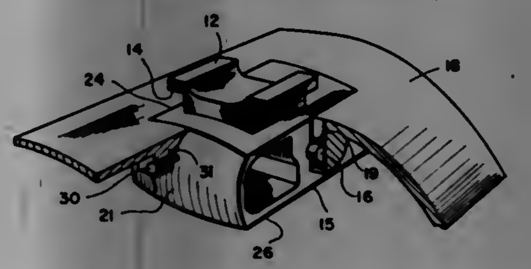
and a neutral density filter covering each of the apertures of said second group and having an attenuation factor that is at least equal to the attenuation provided between the smallest and largest aperture of said first group.



3,195,406

ROTATING MISSILE LAUNCHING SHOE

John B. Toomey, Jr., Alexandria, Va., assignor to Value Engineering Company, Alexandria, Va.
Filed Oct. 23, 1962, Ser. No. 232,480
4 Claims. (Cl. 89—1.7)

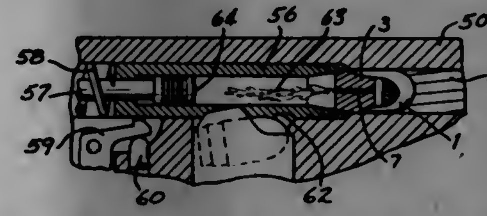


1. In a guided missile, a missile frame having an opening in the outer surface thereof, a launching shoe rotatably mounted within said frame opening on an axis extending transversely of said missile, said launching shoe having a launcher rail portion extending above the outer surface of the missile so as to be acted upon by air drag pressure during launching of the missile, said launching shoe having a smooth shoe surface' opposite said rail launcher portion conforming to the outer surface of the missile surrounding said opening so that upon rotation of said launching shoe after launching the shoe surface presents a non-air drag smooth surface, an explosive bolt attached to said launching shoe and extending outwardly therefrom, there being an opening in said missile frame for receiving said explosive bolt, said opening being slightly larger than said explosive bolt to provide limited pivotal movement of said launching shoe whereby said launching shoe is self-aligned with the launcher rail for the missile.

3,195,407

LIQUID PROPELLANT PROJECTILE UNIT

Charles F. Turner, Mount Carmel, Conn., assignor to Olin Mathieson Chemical Corporation, a corporation of Virginia
Original application May 7, 1963, Ser. No. 278,676. Divided and this application Oct. 19, 1964, Ser. No. 411,663
3 Claims. (Cl. 89—7)

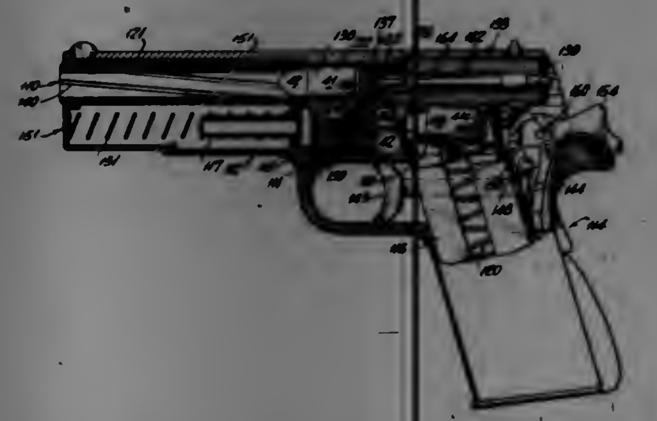


1. A firing device for explosively projecting units of the type described comprising a barrel, an axially extending bolt operative to engage and make a fluid-tight seal with respect to one end of said barrel, said bolt cooperating with a projectile unit disposed in a position in the barrel oppo-

site said bolt to define a barrel chamber, a first piston means including said bolt for feeding and compressing said unit in said barrel to said position and to eject liquid propellant from said unit into an axially extending compression chamber including said bolt, said compression chamber being formed in said barrel chamber, and a second piston means including said bolt coaxially mounted with respect to said first piston means and having relative axial movement with respect to said first piston means for reducing the volume of said compression chamber whereby the liquid introduced therein is pressurized together with a gaseous phase for adiabatic ignition.

3,195,408
FIREARM CONSTRUCTION

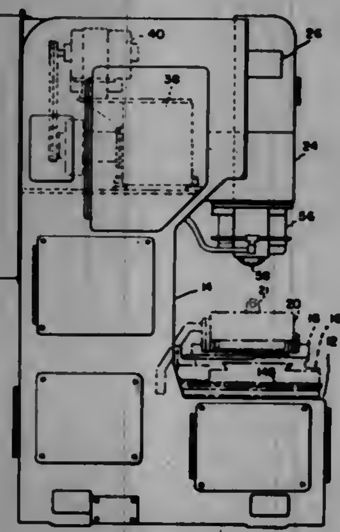
Nicholas P. Sherman, Sea Cliff, N.Y., assignor of twenty percent to Albert C. Nolte, Jr., New York, N.Y.
Filed Nov. 2, 1962, Ser. No. 235,605
6 Claims. (Cl. 89—195)



1. A pistol for use with cartridges having a substantially uniform maximum diameter case portion, comprising a frame, a barrel having a rear portion integrally carrying a downwardly directed lug which has a press fit in a recessed portion of said frame and which is rigidly fixed to said frame by at least two cross pins extending through said lug and into said frame so that said barrel is thereby rigidly connected to said frame, said barrel including a rifled interior portion and a cartridge chamber portion in axial alignment therewith, said rifled portion being of slightly smaller diameter than said case portion, said chamber portion being of greater elongation than said cartridges and having a substantially uniform diameter accommodating said case portion, one of said cartridges being lodged within said chamber portion when the pistol is ready to be discharged, a substantially cylindrical breech bolt reciprocably mounted in said frame in axial alignment with said chamber portion and having an elongated forward portion of substantially uniform smaller diameter adapted to extend into said chamber portion, a slide assembly axially reciprocable with respect to said frame, said breech bolt being secured to said slide assembly for reciprocation therewith, recoil spring means interposed between said slide assembly and said frame for biasing said slide assembly and said breech bolt forwardly into a rest position in which said forward portion of the breech bolt extends into said chamber portion for seating said one cartridge, a substantially cylindrical firing pin concentrically lodged within an elongated recess of said breech bolt, a spring interposed between a frontal wall of said recess and a forward shoulder of said firing pin for biasing the latter away from said chamber portion, tensionable and releasable hammer means adapted to project said firing pin toward and into contact with said one cartridge, whereby the latter is discharged from the pistol, said firing pin being acted upon while said breech bolt is in said rest position, said breech bolt including means to hold said one cartridge during said discharge, the reciprocation of said breech bolt consisting of a primary rearward motion upon firing and explosion of said one cartridge, away from said rest position toward a momentary extreme rearward position, followed by an immediate secondary forward motion toward said chamber portion, said hammer means being tensioned by said breech bolt during said primary rearward motion and manually releasable by the operator of the pistol.

3,195,409
TOOL AND TOOL SIDE DRIVING MEANS IN GEAR FINISHING MACHINES

Thomas S. Gates, Grosse Pointe Woods, and Kenneth J. Davis and Arthur B. Bassoff, Detroit, Mich., assignors to National Broach & Machine Company, Detroit, Mich., a corporation of Michigan
Filed Apr. 12, 1962, Ser. No. 186,994
13 Claims. (Cl. 90—1.6)

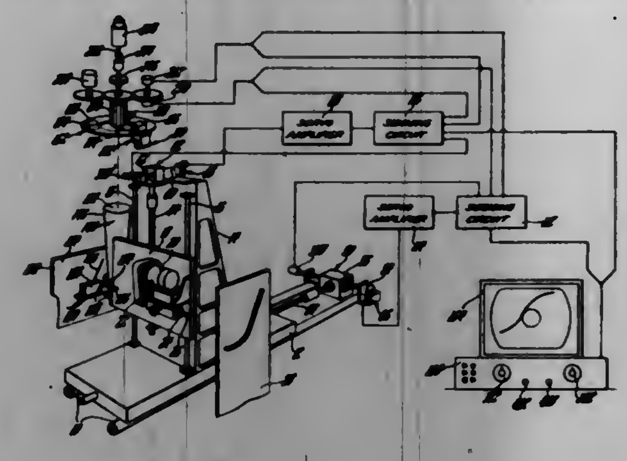


1. In a gear finishing machine comprising a horizontal base and a first rotary support having a horizontal axis of a rotation movable horizontally on said base, a vertical column at the side of said base, a slide mounted on said column for vertical movement thereon, a second rotary support of said slide having a horizontal axis of rotation and, located directly above said first rotary support, feed screw and nut mechanism connected between said slide and column, a feed motor mounted in a fixed position in said column, transmission means connecting said feed motor to said screw and nut mechanism, said transmission means including vertically extending relatively slidable spline shaft and spline coupling members, one of which is carried by said slide.

3,195,410
REPRODUCING APPARATUS

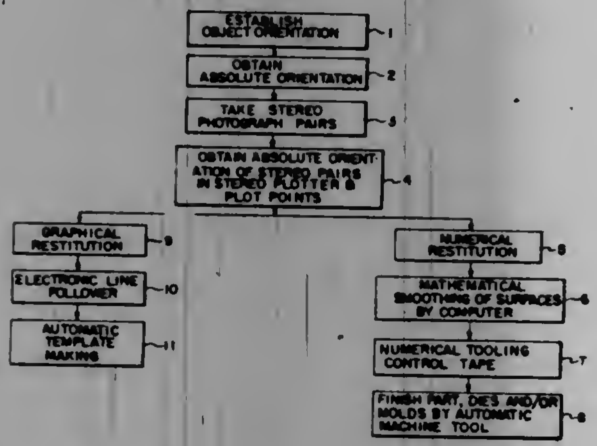
Robert B. Colten, Santa Barbara, Calif., Glenn E. Wanttaja, Hales Corners, Wis., and August F. Scarpelli, Warren, Mich., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Sept. 2, 1959, Ser. No. 837,607, now Patent No. 3,105,907, dated Oct. 1, 1963. Divided and this application Oct. 12, 1961, Ser. No. 144,791
5 Claims. (Cl. 90—13)

1. In apparatus for reproducing a contour from a pattern, the combination of a copying tool, a tracer mechanism including means sensing the proximity of the tracer mechanism to the contour and developing a corresponding output for causing the copying tool to be maneuvered so as to reproduce a contour on a workpiece, an element simulating the configuration of the copying tool, the element being arranged remotely of the copying tool and also maneuverable by the tracer mechanism so as to have movements corresponding to the movements of the copying tool, image producing means, an optical system coacting both with the element and the image producing means so as to provide the image producing means with a view portraying the tool configuration and the positional relationship thereof with the contour being reproduced, and means reproducing the image of the view for visual observation remotely from the apparatus.



3,195,411
METHOD AND SYSTEM FOR REPRODUCING TWO OR THREE DIMENSIONAL OBJECTS BY PHOTOGRAMMETRY

George E. MacDonald, East Williston, and Ennio M. Gherardi, West Babylon, N.Y., assignors to Lockwood, Kessler & Bartlett, Inc., Syosset, N.Y., a corporation of New York
Filed Aug. 8, 1961, Ser. No. 130,125
18 Claims. (Cl. 90—13.5)

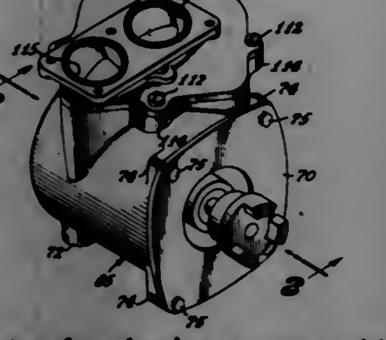

ESTABLISH OBJECT ORIENTATION
1
OBTAIN ABSOLUTE ORIENTATION
2
TAKE STEREO PHOTOGRAPH PAIRS
3
OBTAIN ABSOLUTE ORIENTATION OF STEREO PAIRS IN STEREO PLOTTER & PLOT POINTS
4
GRAPHICAL RESTITUTION
9
ELECTRONIC LINE FOLLOWER
10
AUTOMATIC TEMPLATE MAKING
11
NUMERICAL RESTITUTION
5
MATHEMATICAL SMOOTHING OF SURFACES BY COMPUTER
6
NUMERICAL TOOLING CONTROL TAPE
7
FINISH PART, DIES AND/OR MOLDS BY AUTOMATIC MACHINE TOOL
8

1. A system for reproducing an object using photogrammetric techniques comprising means for producing a stereo-pair photograph model of said object, stereo-plotter means for measuring the coordinate locations of various points of said model in of least two dimensions, means for producing a numerical program representative of the measured coordinate locations of the various points, and means responsive to said numerical program for producing a physical reconstruction of said object.

10. The method of producing a numerical program representation of an object which is located in a space comprising the steps of providing stereo cameras for taking stereo-photograph pairs of said object, orienting said object with respect to said space and said cameras, obtaining absolute orientation between said object and said cameras, taking said stereo-photograph pairs and producing a stereo-model of said object, measuring the coordinate locations of various points on said stereo model, and producing a numerical program corresponding to the coordinate locations of the measured points thereby numerically representing said object.

3,195,412
APPARATUS FOR SHAPING A PUMP ROTOR

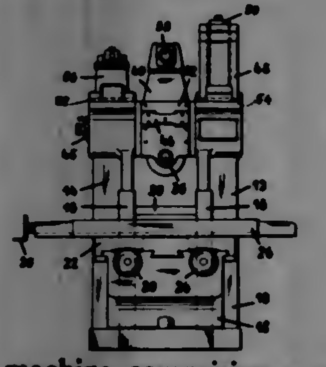
Delbert L. Phillips, Los Angeles, Calif., assignor to Whittaker Corporation, a corporation of California
Original application July 28, 1955, Ser. No. 525,003, now Patent No. 2,990,782, dated July 4, 1961. Divided and this application Dec. 19, 1960, Ser. No. 76,702
6 Claims. (Cl. 90—15)



1. An apparatus for shaping a rotor with a blade of undulating configuration and having a radially variable thickness for sealing cooperation of the two faces of the blade with two corresponding spaced rounded edges of a reciprocative abutment in a rotary device of the character described, said apparatus comprising: means to mount a rotor blank for rotation about an axis therethrough; a material-removing element of rounded configuration corresponding to the rounded configuration of said edges; a holder for said material-removing element, said holder being pivoted to advance said element in an arcuate path conforming to the arcuate path of a curved reciprocative abutment; means to actuate said element for removal of material from said blank; means to rotate said blank about said axis in accord with the intended rotation of the rotor in the device; and means operatively connected with said holder to advance said element laterally against said blank in accord with the intended path of the corresponding one of said edges relative to the rotor in the device and with the same synchronism relative to the rotation of the blank as the intended synchronism of said one edge relative to the rotation of the rotor, thereby to remove material from the blank to shape one face of the undulating blade.

3,195,413
CONSOLE MILLING MACHINE

Johann Müller, Munich, Germany, assignor to Hans Deckel, Munich, Germany, and Friedrich Wilhelm Deckel, Zug, Switzerland
Filed Dec. 2, 1963, Ser. No. 327,442
Claims priority, application Germany, Dec. 21, 1962. D 40,567
8 Claims. (Cl. 90—17)



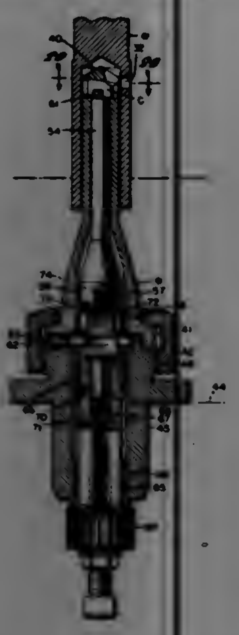
1. A milling machine comprising, a machine stand, a chucking table adapted to receive a work piece and movable in three coordinate directions mounted on said machine stand, a swivel axis through said machine stand above said chucking table parallel to the longitudinal movement of said table, a spindle head connected to swivel about said axis, and a pair of parallel tool spindles on said spindle head having axes in a vertical plane parallel to the transverse movement of said table.

3,195,414
FULLY AUTOMATIC KEYWAY SHAPER

James R. Bashor, Cincinnati, Ohio, assignor to United States Drill Head Company, Cincinnati, Ohio, a corporation of Ohio

Filed Nov. 19, 1962, Ser. No. 238,472

8 Claims. (Cl. 90—49)



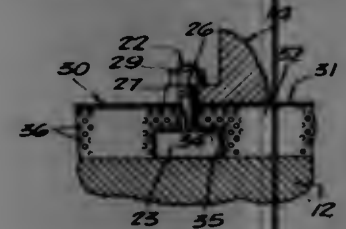
1. A device for cutting a slot or keyway longitudinally in the side wall of a workpiece bore, comprising in combination, an elongate longitudinally bored cutter bar having a base for attachment to a support, and an opposite free end adapted to be received in the bore of the workpiece, said free end being transversely channeled for sliding support of an elongate cutter tool, an elongate cutter tool limited in length to the length of the transverse channel, and having a body portion and a cutting tip, a cutter tool actuating shaft rotatable within the longitudinal bore of the cutter bar and coaxial with the said free end thereof, cooperative means on the cutter tool and said actuating shaft, for translating rotational movements of the actuating shaft to longitudinal shifting movements of the cutter tool, to selectively extend the tip of the tool beyond the channel of the cutter bar, and withdraw said tip to a position within the limits of said channel, and means within the base for facilitating application of rotational movements from a power source to the shaft.

3,195,415
T-SLOT STRAINER ACCESSORY

Ray E. Shorb, 440 N. Naoma St., Burbank, Calif.

Filed Sept. 14, 1962, Ser. No. 223,734

2 Claims. (Cl. 90—58)



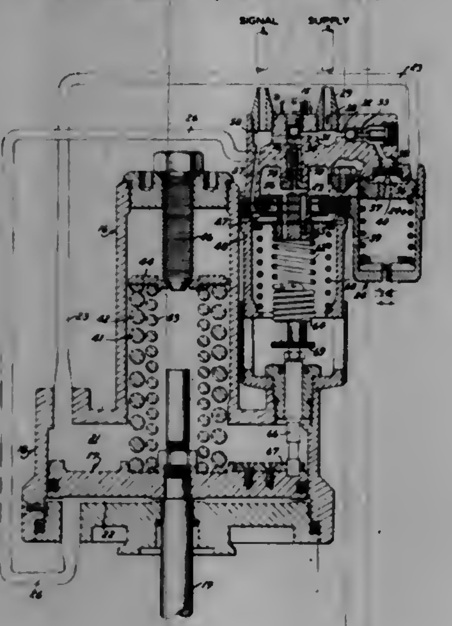
1. In a machine tool bed plate of the type having a plurality of spaced-apart open-ended T-slots opening through the surface thereof and adapted to receive the heads of T-bolts useful in clamping workpieces to said bed plate while undergoing machining, that improvement which comprises a plurality of chip strainer elements of inverted channel shape having parallel side flanges fitting loosely between the side walls of said T-slots, said strainer elements having perforated webs in end-to-end abutting relation and lying flush with the top surface of the bed plate substantially from end to end of the T-slots and with the lower edges of their side flanges resting directly on the bottoms of said T-slots, the perforations being effective to drain liquid coolant into the T-slots for return to a coolant sump while restraining passage of tool cuttings, and certain of said elements being notched and shaped at one end to fit about the heads and shanks of T-bolts when present in said T-slots whereby exposed portions of said T-slots are covered flush with the top surface of said bed plate by the perforated webs of said chip strainer elements.

3,195,416
PILOT OR RELAY VALVE

Robert L. Linquist, Garden Grove, Calif., assignor to Security Valve Company of California, South Pasadena, Calif., a corporation of California

Filed Apr. 16, 1962, Ser. No. 187,796

4 Claims. (Cl. 91—165)



4. In a pneumatic valve actuator having an actuator piston movable in a cylinder for moving an actuator piston rod, said piston being resiliently biased in one direction by a resilient member and by a source of supply fluid under predetermined regulated pressure in said cylinder, and load cell means adapted to receive a signal fluid pressure, said load cell means being movable in opposite directions in response to a change of the signal fluid pressure, and having a connection with the piston,

a pilot valve comprising:
a body having a chamber therein;
means defining an inlet into said chamber and adapted to communicate with said source of regulated supply of fluid pressure;
means defining an outlet from said chamber and adapted to be vented to atmosphere;
means defining an opening in said body and adapted to be connected to said cylinder for communicating with said chamber for moving said piston in an opposite direction in response to a change of pressure in said chamber;
an annular valve seat at each of said inlet and said outlet, said valve seats being coaxial and in opposed relationship to each other;
valve spindle means extending through said chamber and movable along an axis coincident with the axis of said valve seats, said spindle having a pair of spaced annular shoulders in opposed relationship;
a valve element slidably disposed on said spindle means adjacent to each shoulder, said valve elements being longitudinally spaced on said spindle means and mounted for movement thereon relative to their respective shoulders and to each other; and
compression spring means located between said valve elements to bias said valve elements apart in abutment with their respective shoulders and towards their respective valve seatings,

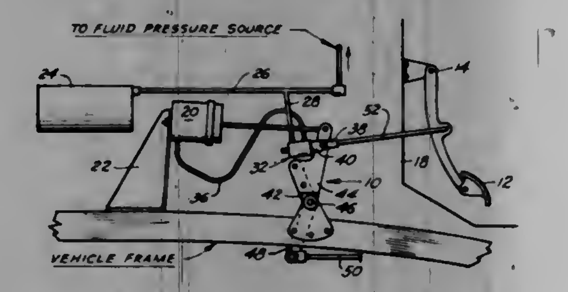
said spindle means being adapted to be connected to the load cell for movement in opposite directions in response to changes of the signal pressure applied to said load cell and said spindle means being normally positionable into a null position in response to a predetermined constant signal pressure on said load cell so as to simultaneously open both said inlet and said outlet, and responsive to the changes of the signal pressure to close said inlet and open said outlet, from said normal bleed position whereby said supply pressure in said chamber is vented to atmosphere and said piston is moved in said one direction, and for movement in an opposite direction in response to a decrease of the signal pressure applied to said load cell and so as to open said inlet from said normal bleed position and close said outlet whereby said supply pressure is directed into said cylinder through said opening so as to move said piston in an opposite direction, and wherein continued movement of said spindle means in one of said directions to seat one of said valve elements to its respective annular valve seating moves the other of said valve elements the distance of said spacing between valve elements to further unseat the other of said annular valve seatings; said spindle means including a plurality of coaxial discrete sections, one of said sections having a reduced portion defining one of said shoulders and a socket and the other section having the other of said shoulders and a reduced portion securable in said socket and said valve elements being movably disposed in said reduced portion of said one of said sections.

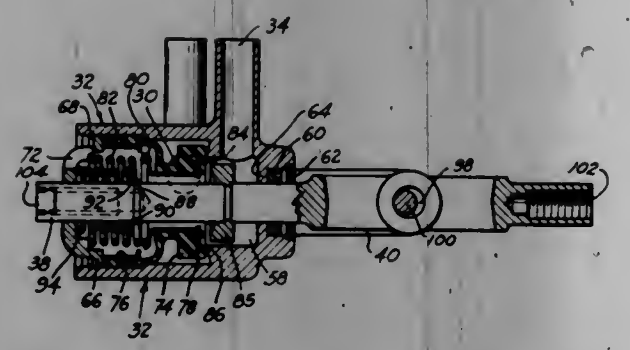
3,195,417
REVERSIBLE VALVE AND SERVOMOTOR

Robert R. Hager and Charles Robert Kenrick, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed Nov. 30, 1962, Ser. No. 241,384

6 Claims. (Cl. 91—374)





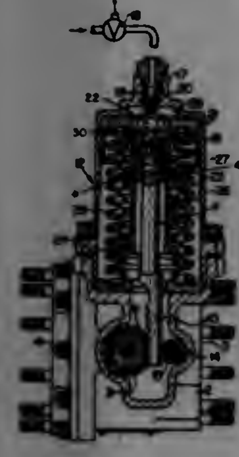
1. In a control system having a manual control member and a servomotor for assisting said manual control member in opearting a device, a valve means comprising:
a housing having an axial chamber open at both ends with an inlet port and an outlet port in communication with said chamber;
a valve member operatively mounted in said chamber of said housing to separate said inlet port from said outlet port, which valve member also is provided with an opening therethrough to normally allow communication of one of said open ends of said chamber to said outlet port;
a valve control rod projecting through both open ends, said rod having valve member engaging portions arranged to close said opening and thereafter remove said valve member from a valve seat provided in said chamber on said housing to operate said valve member when said valve control rod is reciprocated within said housing;
means connecting said valve control rod to said manual control member; and
a lost motion means to connect said valve control rod to said device to operate said device without utilizing said valve means when said servomotor is inoperative.

3,195,418
VALVE ACTUATING MECHANISM

Albert V. Zukas, Pacific Palisades, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed July 13, 1961, Ser. No. 123,774

6 Claims. (Cl. 91—416)



1. A valve actuating mechanism comprising a reciprocable valve actuating member; means defining differential area chambers with said member having restricted communication with each other; a control valve operative selectively to admit expansible fluid under pressure into larger one of such chambers to move said member in one direction and to hold said member thereat despite buildup of pressure in the smaller chamber through such restricted communication, and to vent said larger chamber whereby expansion of the fluid in the smaller chamber moves said member in the opposite direction; said means comprising a cylinder; said member comprising a packless piston in which radial clearance thereof with said cylinder provides such restricted communication; and a differential flow control device disposed to vent fluid under pressure from said larger chamber at a faster rate than when said control valve is operated to admit fluid under pressure thereinto, said device comprising an orifice check valve which is closed, except for the orfice, when fluid under pressure is admitted into said larger chamber and which is opened for rapid venting of said larger chamber.

3,195,419
TELESCOPING LOGGING TOWER

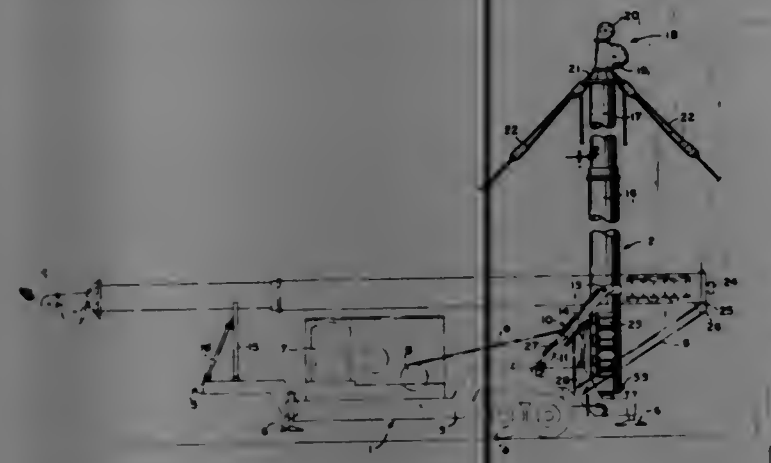
Louis A. Erickson, Seattle, Wash., assignor to Smith-Berger Manufacturing Corporation, Seattle, Wash., a corporation of Washington

Filed July 15, 1963, Ser. No. 294,954

11 Claims. (Cl. 92—25)

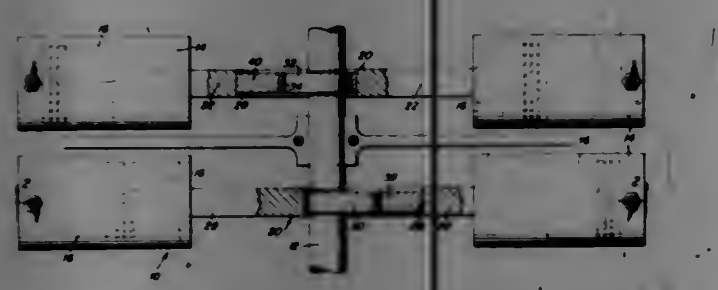
1. A telescoping logging tower comprising; a base, a first hollow cylindrical tower section, means for mounting said first section on said base in an erected position, said first section being open at the top and closed at the bottom, a second tower section telescopingly received in said first section, a flat support plate mounted on the upper end of

said first section and closely surrounding said second section, a plurality of blocks secured to the outer surface of said second section, movable locking means carried by said plate for engaging said blocks to support said section in the raised position, fluid motor means mounted on said plate and connected to said locking means for selectively controlling the position thereof, an upwardly extending cylindrical jacket connected to said plate and enclosing said fluid motor means and said locking means, a continuous annular seal member mounted on said jacket and



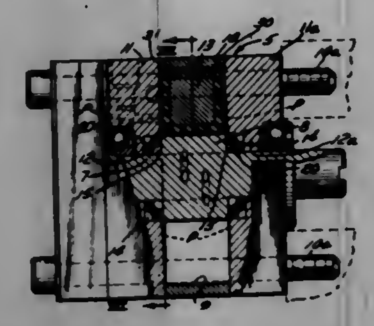
engaging said second section, said seal having one surface thereof subjected to the fluid pressure in said first section for enhancing the sealing engagement with said second section, annular wiper means carried by said jacket for engagement with said second section, said second section being movable within said first section between a lowered position and a raised position, and means for admitting and exhausting fluid pressure to said first section, whereby said second section may be moved between the raised and lowered positions.

3,195,420
DUAL PISTON UNIT FOR INTERNAL COMBUSTION ENGINE
Donald J. Johannsen, Primghar, Iowa
Filed Oct. 17, 1963, Ser. No. 316,857
7 Claims. (Cl. 92—74)



1. In an internal combustion engine having at least two longitudinally spaced pairs of horizontal alined cylinders and pistons on opposite sides of a drive shaft and with the oppositely alined piston being rigidly connected to a common piston rod whose mid-portion is connected to said drive shaft, the improvement comprising a pair of eccentric disks of different diameters fixedly mounted in longitudinal spaced position upon said drive shaft, a bearing shell having an external diameter equal to that of the larger eccentric disk disposed upon the smaller eccentric disk, a pair of eccentric rings each journaled in the mid-portion of a piston rod and journaled respectively one on said larger eccentric disk and the other on said smaller eccentric disk and the bearing shell thereon.

3,195,421
ROTARY HYDRAULIC ACTUATOR AND SEALING MEANS THEREFOR
Rollin Douglas Rumsey, Buffalo, and John C. Schultz, Cheektowaga, N.Y., assignors to Houdaille Industries, Inc., Buffalo, N.Y., a corporation of Michigan
Filed Feb. 4, 1963, Ser. No. 255,779
18 Claims. (Cl. 92—122)

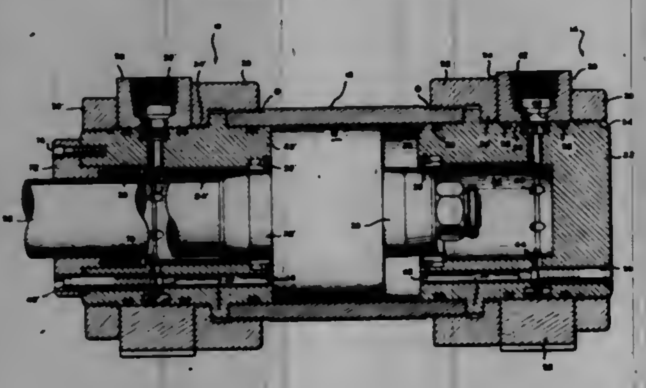


1. In a device including a housing having a pressure fluid chamber therein with a closure member at one end of the chamber having a journal bore therethrough and including a seal chamber counterbore at the chamber end of the bore,

- a shaft having a hub portion in said chamber and a smaller diameter portion extending through said journal bore,
- said hub portion having an end face coacting with said smaller diameter shaft portion to define with said counterbore an annular seal chamber,
- said seal chamber having surfaces which define with said end face and said smaller diameter shaft portion respective diagonally opposite juncture corners,
- and annular seal structure in said seal chamber having diagonally opposite shoulder portions engaging in said corners and a spring loading portion acting to thrust said shoulder portions sealingly toward said corners,

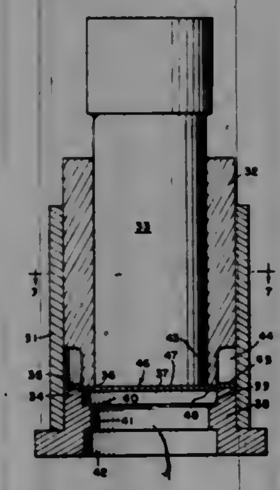
whereby one of said shoulder portions provides an external leakage preventing seal between the end closure member and the smaller diameter portion of the shaft and the other of the shoulder portions provides an internal leakage preventing seal between said end face and the closure member.

3,195,422
CYLINDER CONSTRUCTION
Howard D. Corwin, Jackson, Mich., assignor to Tomkins-Johnson Company, Jackson, Mich., a corporation of Michigan
Filed Sept. 4, 1962, Ser. No. 221,093
5 Claims. (Cl. 92—164)



1. An expansible motor comprising, in combination, a cylinder having an open end, a head sealingly affixed to and enclosing said cylinder open end, fixed abutment means defined on said head abutting said cylinder and axially positioning said head with respect to said cylinder in a predetermined relationship, a cylindrical surface exteriorly defined on said head and concentric to said cylinder, a collar having an inner cylindrical surface rotatably mounted upon said head cylindrical surface in a close fitting relationship, an annular recess defined intermediate said head and collar within the axial length of the cylindrical surfaces thereof, a port defined in said collar in communication with said recess, an opening defined in said head establishing communication between said recess and the interior of said cylinder, and means angularly locking said collar with respect to said head.

3,195,423
DIE FOR FORMING CONTAINER LIDS
Paul H. Carter, Baltimore, Md., assignor to Maryland Cup Corp., Owings Mills, Md., a corporation of Maryland
Original application Oct. 21, 1960, Ser. No. 63,998. Divided and this application Sept. 23, 1963, Ser. No. 310,689
1 Claim. (Cl. 93—1.3)



A die for forming a paper disc with a pleatless frustoconical flange from a circular blank sheet of paper, said die comprising:

(a) a hollow outer cylindrical member for receiving the blank and supporting it laterally in a horizontal position;

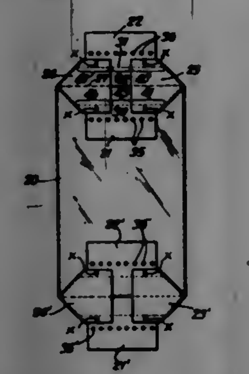
(b) a shelf member at the bottom of the interior of the cylindrical member for supporting the blank in a horizontal position with the periphery of the circular blank in contact with the inner wall of the hollow cylindrical member, said shelf member having a central vertical opening of a diameter equal to the overall diameter of the paper disc plus a radial extension therefrom from which the flange is to be formed;

(c) an inner hollow cylindrical member co-axially disposed in said outer hollow cylindrical member, having its lower end recessed to form a bottom edge adapted to co-act with said central opening to shear a circular section from said blank, said lower recessed end comprising with the outer cylinder, a chamber for receiving and holding circular waste portions of blanks resulting from said shearing operations;

(d) said shelf member having an inwardly extending annular shoulder below its upper edge for receiving a sheared circular section cut from a blank and supporting in a horizontal position along the area of the said extension, said annular shoulder lying adjacent a vertical central opening of a diameter substantially equal to the diameter of the said inner cylindrical member, the inner annular edge of said annular shoulder being beveled; and

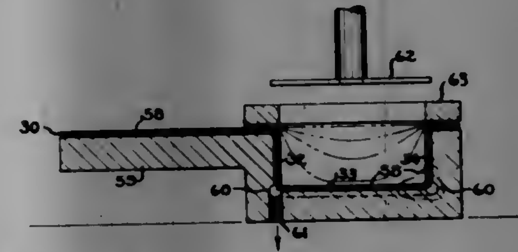
(e) a plunger reciprocably disposed in said inner cylindrical member for applying pressure downwardly against the circular section of the blank when the said marginal edge is pressed between the bottom of the inner cylindrical member and the said shoulder to form the pleatless flange.

3,195,424
PLASTIC BAG
Giorgio Camerini, Milan, Italy, assignor to Natro-Cellulosa, S.p.A., Milan, Italy, a corporation of Italy
Original application May 23, 1961, Ser. No. 111,971, now Patent No. 3,117,711, dated Jan. 14, 1964. Divided and this application Sept. 3, 1963, Ser. No. 318,463
Claims priority, application Italy May 30, 1960
6 Claims. (Cl. 93—35)



2. A method of making a sift proof bag from a single walled tube of plastic material, said method comprising the steps of folding oppositely disposed side flap portions of one end of said tube outwardly and away from each other about side flap lines, subsequently folding inwardly toward each other the remaining corner flap portions of said one end of said tube so that the side marginal interior surfaces of said corner flap portions overlay correspondingly facing interior surfaces of each of said side flap portions along said side flap lines, applying heat along the entire length of each of said side flap lines to seal said interior surfaces and to generate fold creases thereby, folding said side flap portions about said fold creases inwardly toward each other in overlapping relationship and adhesively adhering said side flap portions to said corner flap portions and to each other in their overlapping relationship.

3,195,425
LEAKPROOF CARTON AND METHOD OF MAKING SAME
Robert E. Taggart, Appleton, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed June 6, 1962, Ser. No. 200,438
9 Claims. (Cl. 93—36.01)



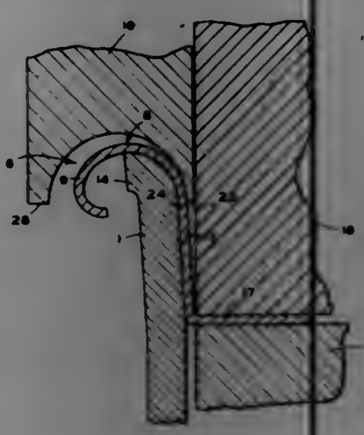
1. A method of forming from an integral carton blank an essentially hermetically sealed carton having a perforated bottom panel, hingedly connected side panels, and edge flaps hingedly attached to the upper edges of said side panels, which method comprises applying an adhesive to said edge flaps; setting up said blank to form a carton having the adhesive bearing surfaces of said edge flaps facing upwardly; attaching a deformable, heat sealable sheet material to the adhesive bearing surfaces of said edge flaps with said sheet material extending outwardly an appreciable distance from one side of the carton; depressing said sheet material into said carton to conform to the configuration thereof; folding over said extended sheet material and sealing the edges to the underlying portions of said sheet material which are adhered to said edge flaps.

3,195,426
METHOD OF ATTACHING A RIM TO A CYLINDER

Gerald C. Bauer, Portage Township, Kalamazoo County, Mich., assignor to Cellu-Kote, Inc., Schoolcraft, Mich., a corporation of Michigan

Filed Feb. 25, 1963, Ser. No. 261,941

5 Claims. (Cl. 93—39.1)



2. A method of attaching a rim to one end of a cylinder, said rim having a cylindrical portion and an upwardly and outwardly extending arcuate portion, which comprises:

holding said rim and said cylinder with said cylindrical portion of said rim being telescoped within said cylinder, said arcuate edge extending over and away from one end of said cylinder, the wall of said cylinder being straight and the portion of said cylinder adjacent said one end thereof being free of outer restraint so that it can be bent radially outwardly;

providing an annular die having an internal diameter substantially equal to the internal diameter of said cylindrical portion of said rim, said die having a radially inner edge portion of small width and having a substantially semicircular recess adjacent to and encircling said edge portion, the diameter of said semicircular recess being substantially greater than the radial width of said arcuate portion of said rim;

disposing said die over said rim so that the inner edge portion thereof is substantially coaxial with and is sleevable within said cylindrical portion of said rim and said arcuate portion of said rim is receivable in said recess;

moving said die axially toward said cylinder so that said inner edge portion thereof is received within and engages the internal surface of said cylindrical portion of said rim and deflects said rim and said portion of said cylinder outwardly, said arcuate portion of said rim being received in said recess and being moved radially outwardly therewithin, continuing to move said die axially while maintaining said portion of said cylinder free of outward restraint to effect deflection of said cylindrical portion so that a section of said cylindrical portion slidingly contacts and is shaped to closely conform to the shape of said recess, the arcuate portion being coiled back toward the cylinder.

3,195,427
METHOD OF MANUFACTURING CONTAINERS

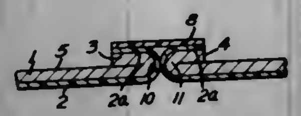
John J. Adams, Lymm, England, assignor to The Metal Box Company Limited, London, England, a British company

Filed Aug. 17, 1962, Ser. No. 217,612

Claims priority, application Great Britain, Sept. 15, 1961, 33,236

3 Claims. (Cl. 93—94)

1. The method of making a tubular container body from a base strip of cardboard, or paper, one face of which is lined with a moisture-impervious liner, comprising the steps of helically winding the base strip on to a forming mandrel while over-turning the marginal portions of the strip as it is being fed to the mandrel to cause said marginal portions to overlie the unlined face of the strip and form a helical seam having abutting edges, and extruding organic thermoplastic material on to said helical seam to form a sealing layer which extends along the helical seam and at least partially covers the lined faces of the over-turned strip marginal portions.



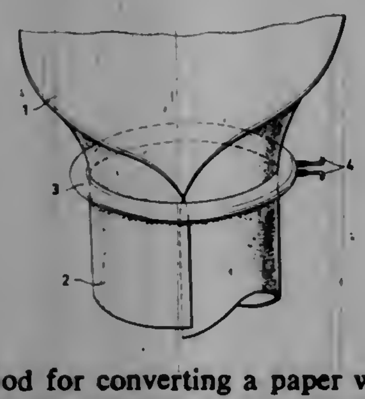
3,195,428
METHOD FOR REDUCING SLIDING FRICTION

Alex Tuma, Loddekopinge, Sweden, assignor to AB Tetra, Lund, Sweden, a company of Sweden

Filed Jan. 31, 1963, Ser. No. 255,293

Claims priority, application Sweden, Feb. 3, 1962, 1,198/62

1 Claim. (Cl. 93—94)



In the method for converting a paper web coated with a thermoplastic material into a tube and wherein the thermoplastic coating is located on that face of the web which is to form the exterior surface of the tube, the improvement, which comprises the steps of bringing the longitudinally extending edge portions of the thermoplastic coated paper web together with a metallic tube forming ring which has an inner curvilinear surface providing an essentially line sliding contact with the thermoplastic coated face of the web as the web is passed longitudinally through the forming tube, and heating said ring to such a temperature that the inner curvilinear surface thereof effects a temporay fusion of only the surface layers of said thermoplastic coating and a reduction in the sliding friction factor as between said coating and ring.

3,195,429
VIBRATORY ROLLER HAVING IMPROVED DRIVING MEANS

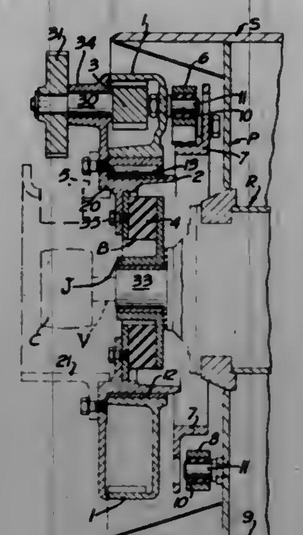
Harold Raymond Cowley, Bath, Somerset, England, assignor to Stothert & Pitt, Limited, Bath, Somerset, England, a corporation of Great Britain

Filed Aug. 27, 1962, Ser. No. 219,605

Claims priority, application Great Britain, May 7, 1962, 17,452

7 Claims. (Cl. 94—50)

1. In a vibratory roller construction of the class wherein a roll is mounted for rotation about a horizontal axis by journal means mounted on a frame by resilient means, and the roll is rotated by an operating element journalled on said frame, the roll being subjected to shock and vibration in addition to being rotated; the improvement comprising means for transmitting drive from said operating element to said roll including a drive member surrounding the roll axis and being mounted for rotation, an intermediate ring surrounding said roll axis, and mechanical connections between said intermediate ring and said roll and drive member respectively for transmitting rotary drive from said drive member through said intermediate ring to said roll and for enabling displacement of said roll in a vertical plane relative to said drive member.

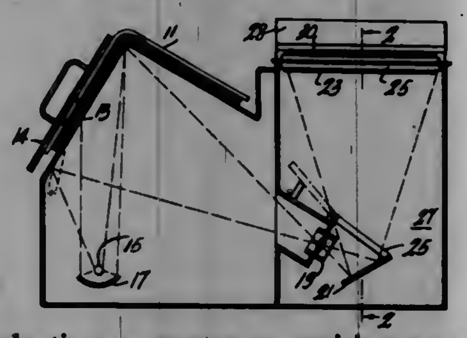


3,195,430
ELECTROSTATIC PRINTING APPARATUS

Charles J. Young, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Dec. 28, 1960, Ser. No. 78,930

6 Claims. (Cl. 95—1.7)



1. Reproduction apparatus comprising a camera housing having a bottom portion and a roof portion, said roof portion being formed in the shape of an inverted V, one leg of said inverted V including a transparent plate, said roof portion having an apex that is more distant from said bottom portion than the edges of said inverted V, whereby an opened book may be supported on said roof portion by only the legs of said inverted V, illumination means within said housing for projecting light onto said transparent plate and material positioned thereon for copying purposes, means within said housing for focusing a light image reflected from said material to be copied onto a focal plane, said means including a mirror and a lens positioned in the light path between said mirror and said transparent plate, means for supporting a supply roll of photosensitive sheet material means for guiding said sheet material into said focal plane, means for moving said sheet material from said supply roll into said focal plane and out of said focal plane means for energizing said illumination means to produce a latent image on said photosensitive sheet material and means for applying liquid developer composition to said sheet material to develop said latent image.

3,195,431
PHOTOGRAPHIC ACCESSORY

Rolf M. Augustin, Jr., Wellesley Hills, and Vaito K. Eloranta, Needham, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Aug. 8, 1961, Ser. No. 130,020

2 Claims. (Cl. 95—11)

1. An attachment for a photographic camera having an optical lens system, said attachment comprising:

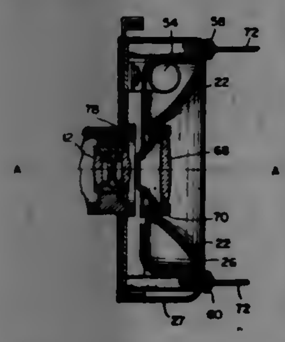
(a) an opaque member with a plurality of circular apertures of different diameters therethrough;

(b) means for mounting said opaque member in covering relation to said lens system whereby said apertures are selectively positionable in substantially coaxial alignment with the optical axis of said lens system to form an exposure aperture therefor;

(c) light-reflecting means at least partially encircling said exposure aperture;

(d) means for mounting one or more sources of illumination in a position relative to said reflecting means whereby illumination from said sources is reflected by said reflecting means forwardly of said camera;

(e) means for mounting a close-up lens in covering relation to and with its optical axis substantially coaxial with said exposure aperture;



(f) a first polarizing element mounted in the largest of said plurality of apertures; and

(g) a second polarizing element removably mounted on said attachment between said sources of illumination and the field to be photographed by said camera;

(h) said second polarizing element having an opening therethrough in the vicinity of the point where said optical axis intersects said second polarizing element;

(i) the axes of extinction of said first and second polarizing elements being substantially perpendicular, whereby the specular component of light emitted from said source of illumination and reflected to said lens system is polarized by said second polarizing element and substantially eliminated by said first polarizing element.

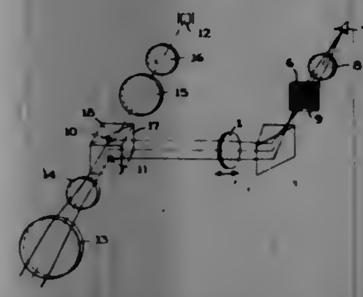
3,195,432
CAMERA FOCUSING DEVICE FOR USE WITH PHOTOGRAPHIC AND CINEMATOGRAPHIC CAMERAS

Jean-Michel Baluteau, Paris, France, assignor to Societe d'Optique et de Mecanique de Haute Precision, Paris, France, a company of France

Filed Dec. 20, 1960, Ser. No. 77,040

Claims priority, application France, Dec. 21, 1959, 813,680, Patent 1,252,714

1 Claim. (Cl. 95—42)

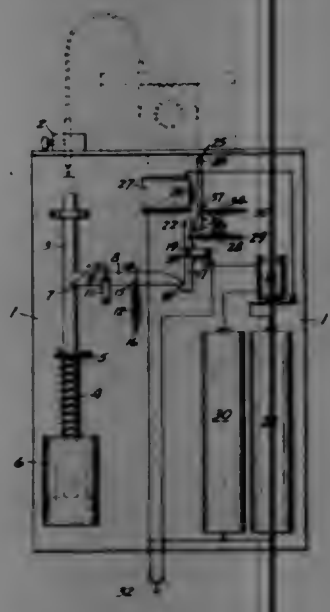


A camera focusing apparatus comprising a view finder objective, a flat transparent optical element having a first face, a plurality of shallow rectilinear ridges on said first face having a depth not greater than the allowable focusing error of the camera and having two series of parallel plane faces intersecting in two series of spaced apices, said first face being located in a plane perpendicular to the axis of said view finder objective and in the region of the real image of a sighted object formed by the light rays passing through said view finder objective, means for moving said view finder objective along its axis for locating the plane of said image in the plane of maximum definition lying between said two series of spaced apices, an eye piece lens for viewing the image formed by said view finder objective through said optical element, a front afocal lens system, a beam divider including two small angled reflecting elements located at the positions of the pupils of entry defined by the view finder objective, the optical element and the eye piece lens, said reflecting elements corresponding in size to the dimensions of said pupils of entry, additional objective lenses lying on the axis of said afocal lens system between an image receiving sensitive surface and said reflecting elements, said afocal lens systems and said additional objective lenses constituting the camera objective, said reflecting elements reflecting to said view finder objective a part only of the light rays traversing said afocal lens system.

3,195,433

REMOTE CONTROL DEVICE

William A. Fernald, 314 S. 5th Ave., St. Cloud, Minn.
Filed Aug. 3, 1962, Ser. No. 214,747
1 Claim. (Cl. 95—53)



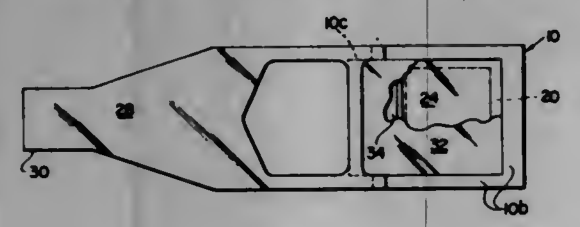
A camera triggering device comprising a frame means for securing to the frame the hollow, protective sheath which surrounds and is coaxial with the axially movable cable of the cable release, a plunger positioned endwise of and coaxial with the cable-release and urged toward the cable-release by a coil spring but restrained from axial motion by a sear, one end of which engages a notch in the plunger, said sear being pivotally suspended from the frame and being engageable at its other end by a notched lever which is pivotally suspended from the frame, an armature pivotally suspended from the frame in juxtaposition with but separated from the core of a solenoid, said armature having extending at its swinging end a hammer-like projection which, when the armature is attracted to the said core, engages the lever so as to rotate the lever about its pivot and thereby disengage the sear.

3,195,434

PHOTOGRAPHIC FILM ASSEMBLY MOUNT

Milton S. Dietz, Lexington, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
Filed Dec. 28, 1962, Ser. No. 247,958
8 Claims. (Cl. 95—66)

1. A mount for use in exposing, processing and projecting a photographic film assembly of a type which includes a photosensitive film component and a contained processing liquid and which, in conjunction with compressive processing means, produces a finished transparency, said mount comprising a rectangular front section composed of four unitary frame-like, substantially rigid members forming a rectangular exposure aperture therebetween with an integral, inwardly pivotable flap extending laterally from one of said members, said flap having a width approximately equal to, but a length less than said one member, a pressure-sensitive adhesive affixed to a given inner-face area of said flap, a rear section composed of three unitary frame-like substantially rigid members superimposed with three of said members of the front section, exclusive of said one member from which said flap extends, and an intermediate spacer element composed of a relatively thin and narrow strip material positioned between said front and rear superimposed members providing a plurality of recesses therebetween for the reception of said photosensitive film component so as to position the latter across said exposure aperture, said superimposed members having their inner faces bonded to the opposite faces of said intermediate spacer element, said front and rear section members having an adhesive coated on their inner facing surfaces for effecting the bonding of their inner faces to said spacer element, said flap being adapted to be folded over inwardly after completion of said processing so as to overlie said one member of said front section from which it extends and, by reason of its length being less than that of said one member, to lie between and in the plane of the two laterally opposite members of said rear section and to be held at this position by said pressure-sensitive adhesive, said flap then constituting a fourth frame-like member of said rear section, the inner surface of said front section which lies between said superimposed members constituting a protective recess for positioning a container of said processing liquid which is frangible in response to an application of a compressive force, and for cooperating in additionally positioning a cover sheet for facilitating the spreading of said liquid, and said inner surface and the inner surface of said flap, taken together, providing both a continuous surface in a single plane for the reception of said compressive force as applied by said compressive processing means and a minimum thickness of said mount for introduction between said compressive processing means to enhance the proper release and even spreading of said processing liquid.

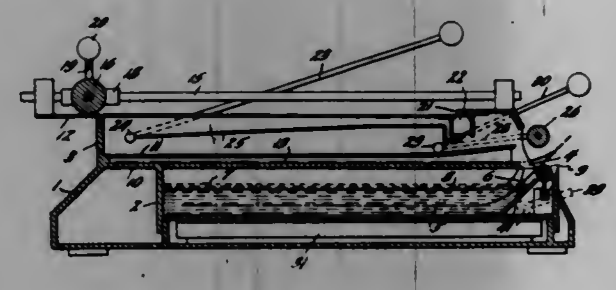


3,195,435

APPARATUS FOR PREPARING SPIRIT DUPLICATING MASTERS

Emiel Frans Stievenart, Kiel-Antwerp, and Hugo Frans Deconinck, Deurne-Zuid, Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company
Filed Dec. 17, 1962, Ser. No. 245,267
Claims priority, application Netherlands, Dec. 18, 1961, 272,663; Mar. 26, 1962, 276,392
7 Claims. (Cl. 95—89)

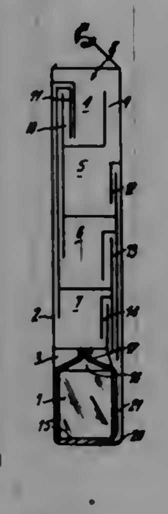
1. Apparatus for photographically preparing a duplicating master adapted for making copies in a spirit duplicating process, said apparatus comprising a tank for containing a developing liquid, said tank having an elongated aperture adjacent one end above the level of liquid therein for ingress and egress of an exposed sheet of photographic material to and from said tank; a compartment extending generally above said tank for receiving and maintaining out of contact with said liquid a dyestuff sheet to be contacted with the exposed and developed photographic sheet, said compartment having an elongated aperture adjacent and parallel to said tank aperture; a pair of cooperating pressure rollers disposed proximate said apertures, one of said rollers being displaceable from the other to expose said apertures for introduction of said sheets into the tank and compartment respectively, said rollers otherwise being biased together for pressing said sheets into intimate contact upon withdrawal from the tank and compartment; a surface at least coextensive in size with said sheets arranged generally above said compartment for supporting said sheets after such withdrawal; means adjacent said surface for engaging a marginal edge portion of said dyestuff sheet to facilitate separation by peeling of the two sheets; an elongated pressure means movable over said surface to intimately contact a receiving sheet with said dyestuff sheet; and guide means for guiding the axis of said pressure means in generally parallel relationship to said edge portion engaging means.



3,195,436

SIPHON COVER FOR THE DAYLIGHT DEVELOPING OF DENTAL RADIOGRAPHIC FILM WITH INCORPORATED DEVELOPER AND FIXING MATERIAL

Louis Lucien Decrop, 10 Ave. Niquet, Antibes, Alpes-Maritimes, France
Filed Mar. 1, 1963, Ser. No. 262,120
Claims priority, application France, Mar. 7, 1962, 7,001, Patent 1,326,421; Feb. 12, 1963, 924,565, Patent 83,048
20 Claims. (Cl. 95—90)

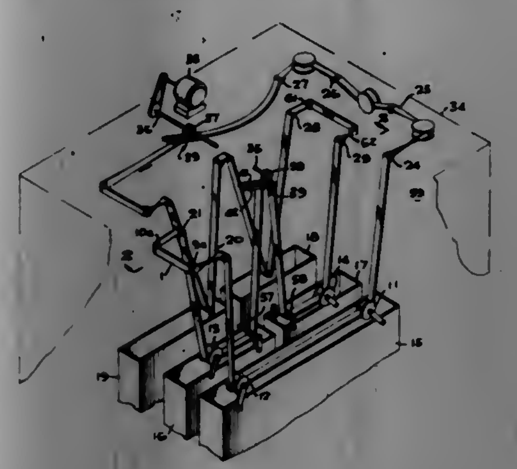


1. A case for holding, exposure and development of film, comprising a flexible tube formed of material opaque to light but permeable to X-rays, means dividing the tube into a lower compartment for holding a sensitized film and at least one upper compartment for holding developer and fixing mediums, at least one siphon connecting the upper compartment to the lower part of the lower compartment, means for admitting liquid to the upper compartment, and a liquid evacuation opening near the top of said lower compartment.

3,195,437

APPARATUS FOR PROCESSING STRIPS OF ROLL FILM

Howard E. Carlseen, 6721 Forbes Ave., Van Nuys, Calif.
Filed Aug. 3, 1962, Ser. No. 214,592
4 Claims. (Cl. 95—94)



1. In apparatus for processing unjoined strips of photographic film, a combination including: a developing tank; a fixing tank; a washing tank; and a conveyor system for said strips, said system comprising (a) an endless belt, (b) means so mounting said belt that it traverses in discontinuous succession a first area vertically spaced above said tanks, a second area adjacent the top of said developing tank, a third area adjacent the top of said fixing tank, and a fourth area adjacent the top of said washing tank, said second, third and fourth areas each being below said first area, said mounting means comprising a plurality of belt-guiding spools having vertical axes of rotation for maintaining the contacting portions of said belt in vertical orientation as it moves in a horizontal path within said first area above said tanks, and a plurality of pairs of spaced rollers located in said first area and having their axes of rotation in horizontal alignment, some of said pairs acting to position said belt as it moves over and then partially around them en route downward to one of said other areas, and others of said pairs acting to position the belt as it moves partially around and then over them en route from one of said other areas to said first area above said tanks; a plurality of spaced pendicles depending from said belt, each of said pendicles comprising (a) a flexible member having one end so attached to said belt intermediate the belt's edges that it will hang down between the rollers of any pair which the adjacent portions of the belt may be passing over and (b) a clip for hanging an unrolled strip of film therefrom, said clip attached to the other end of said flexible member; and power-driven means for moving said belt.

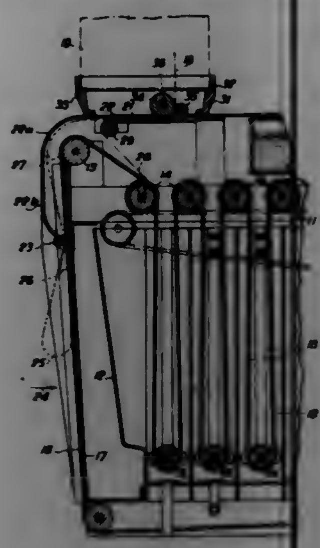
3,195,438

PHOTOGRAPHIC PROCESSING APPARATUS

Edward Cecil Woodcock, Hawthorn Road, Willesden Green, London NW. 10, England
Filed Dec. 20, 1962, Ser. No. 246,087
Claims priority, application Great Britain, Dec. 29, 1961, 46,777/61
9 Claims. (Cl. 95—94)

1. Apparatus for processing a band of photographic material in long lengths, comprising an endless flexible conveying belt which circulates through the apparatus, a return run of the belt running exteriorly of the apparatus to provide access for attaching the leading end of the band to the belt, a first light trap arranged at the entry of the belt into the apparatus, a removable light tight cassette containing the band to be processed, a second light trap arranged for feeding the band leaving the cassette into the apparatus, and a channel between said traps, said channel being passed at least partially by the belt

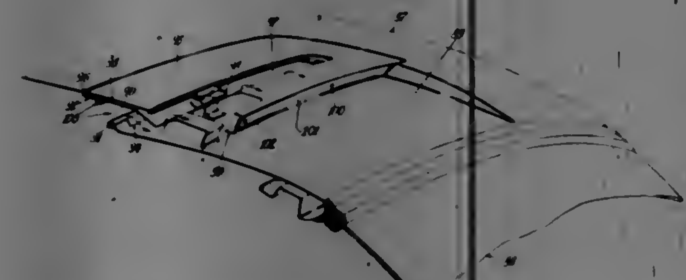
and being adapted to guide the leading end of the band fed through said second trap upon initial loading from



said second trap to said first trap for feeding it through said first trap and for fastening it to the belt at its exterior run.

3,195,439
VEHICLE BODY STRUCTURE WITH AIR EXHAUST MEANS

Desmond G. Stratton, Sutton Coldfield, England, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Mar. 23, 1962, Ser. No. 181,904
7 Claims. (Cl. 9[illegible])

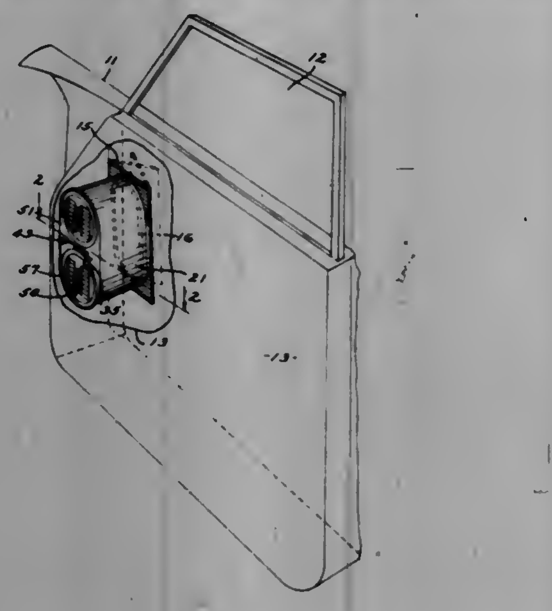


1. In a vehicle body, a roof construction for said vehicle body providing for the exhaust of air therefrom, a first roof panel extending from the front towards the rear of said vehicle body and having a substantially centrally located depression, a second roof panel joined to said first roof panel and overlapping the forward portion of said depression to define a space therebetween, an intake opening adjacent the juncture of said first and second roof panels to place said space in communication with the interior of said vehicle body, an exhaust opening in said second roof panel longitudinally and rearwardly spaced from said intake opening, at least one set of baffles in said space between said intake opening and said exhaust opening to prevent the flow of water into the interior of said vehicle body, and a separate drainage opening longitudinally and rearwardly spaced from said intake and exhaust openings to allow for the drainage of water from the space between said overlapping roof panels from said depression to the exterior of the vehicle body.

3,195,440
VENTILATOR FOR A VEHICLE

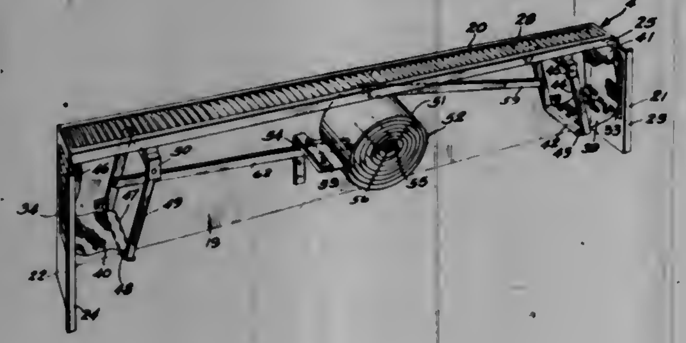
Joseph D. Coscione, St. Clair Shores, and William B. Schueren, Detroit, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Feb. 20, 1963, Ser. No. 259,979
8 Claims. (Cl. 98—2)

1. In a ventilator for a vehicle body having a ventilation duct extending through the wall of said vehicle body, a swingable cover member adapted to cover the exterior opening of said duct when in a closed position, a first link means mounted for pivotal movement and operatively connected to one side of said cover member to swing the latter to an open intake position from said closed position to deflect outside air into said ventilation duct, a first manually operable means coupled to said first link means and operative to pivotally move the latter, a second link means mounted for pivotal movement and operatively connected to the other side of said cover member to swing the latter to an open exhaust position from said closed position to exhaust air through said ventilation duct from the interior to the exterior of said vehicle body, a second manually operable means coupled to said second link means and operative to pivotally move the latter, and interlocking means intermediate said first and second link means allowing operation of either one or the other of said operable means to allow pivotal movement of the respective link means coupled thereto thereby swinging said cover member to an intake or exhaust position respectively from a closed position.



3,195,441
AIR DIFFUSERS

Warren R. Hedrick, Holland, Mich., assignor to Hart & Cooley Manufacturing Co., Holland, Mich., a corporation of Delaware
Filed Feb. 13, 1963, Ser. No. 258,346
9 Claims. (Cl. 98—40)

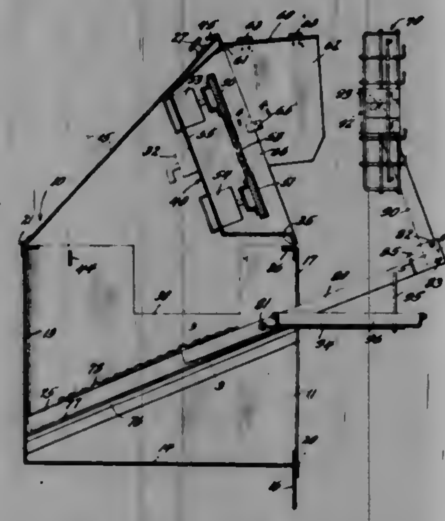


1. An air diffuser comprising
(a) a housing having
  (1) an upwardly facing top wall, and
  (2) horizontally facing end walls,
(b) said housing having
  (1) air inlet means for feeding air into said housing, and
  (2) air outlet means in said top wall and in said end walls for feeding said air out of said housing,

(c) said outlet means in said top wall being disposed in position to discharge said air from said housing in a more upward direction than said outlet means in said end walls,
(d) heat sensitive means, operable in response to temperature changes, mounted in said housing in position to be responsive to changes in the temperature of said air passing through said housing,
(e) baffle means projecting downwardly and inwardly from said end walls and pivotably mounted in said housing, and
(f) means connecting said heat-sensitive means to said baffle means for movement of said baffle means between a raised position and a lowered position for progressively opening and closing communication between said air inlet means and said air outlet means in said end walls in response to raising and lowering, respectively, of the temperature of said air passing through said housing, without substantially opening or closing communication between said air inlet means and said air outlet means in said top wall.

3,195,442
PORTABLE COOKING APPARATUS

Warren O. Russell, Post Office, Rangeley, Maine
Filed Nov. 21, 1963, Ser. No. 325,252
9 Claims. (Cl. 99—393)

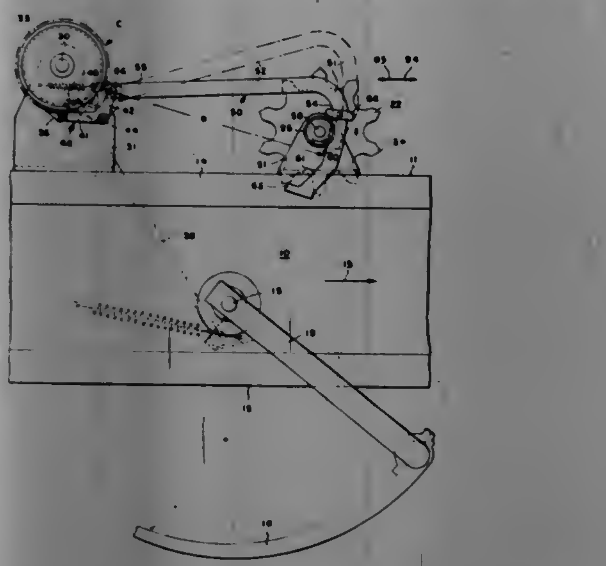


1. Portable collapsible cooking apparatus, suitable for outdoor use, comprising in combination (a supporting and enclosing casing of approximately the configuration of a rectangular parallelepiped, having substantially solid bottom, rear, and side walls and open top and front areas; a burner panel wholly contained within the confines of said casing in collapsed condition, means movably mounting said burner panel for projection upwardly beyond the top of said casing to occupy a substantially forwardly facing position for use; means for generating relatively quiescent glow heat in said burner panel; grill supporting means wholly contained within the confines of said casing in collapsed condition, means movably mounting said grill supporting means for projection forwardly beyond the front of said casing; and a grill adapted to be carried by the forwardly extending end of said supporting means and to project upwardly therefrom into proximity with said burner panel.

3,195,443
TRIP DEVICE

James H. Hollyday, New Holland, Pa., assignor to Sperry Rand Corporation, New Holland, Pa.
Filed Apr. 29, 1964, Ser. No. 363,412
5 Claims. (Cl. 100—4)

1. In a hay baler, an elongated bale case in which bales move longitudinally as they are formed, a metering wheel projecting into said bale case for rotation on an axis transverse to the bale case responsive to bale movement, a shaft on said bale case in spaced parallel relation to said metering wheel axis, a drive sprocket rotatable on said shaft, a clutch for connecting said sprocket to the shaft, a bell crank pivotally mounted on said bale case, spring means yieldably holding said bell crank in a normal position, a clutch pawl, said bell crank having first and second legs, said first leg engaging said pawl and holding said clutch disengaged when the bell crank is in said normal position, and means for pivoting said bell crank to release said pawl and engage said clutch comprising in combination a friction wheel parallel to said metering wheel and rotated thereby, an L-shaped trip member having a first arm extending in a vertical direction on the side of said friction wheel remote from said shaft and a second arm extending in a horizontal direction over said friction wheel and to said bell crank, means pivotally connecting said second arm to said second bell crank leg, said first arm having an edge engaging the periphery of said friction wheel, said edge having an inner portion on an arc generally concentric to said pivotal connection between said second arm and said bell crank second leg and having an outer cam portion inclined from said arc and toward the pivotal connection, said trip member being pivoted responsive to rotation of said friction wheel and upon engagement of the friction wheel with said cam portion the member being shifted longitudinally whereby said bell crank is pivoted and said pawl is released.

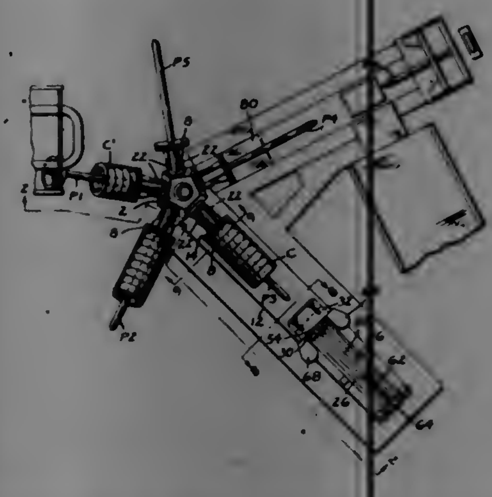


3,195,444
MEANS FOR COLLECTING, COMPACTING, BANDING AND WEIGHING A PLURALITY OF COILS OF ROD

David W. McLean, Hamilton, Ontario, Canada, assignor, by mesne assignments, to Morgan Construction Company, Worcester, Mass.
Filed Sept. 27, 1963, Ser. No. 312,022
11 Claims. (Cl. 100—7)

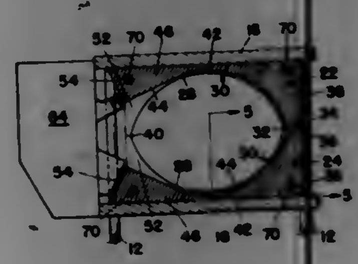
1. Means for compacting and banding a plurality of coils of rod, said means comprising a rotatable supporting hub whose axis is tilted from the vertical, three or more poles extending radially from said hub in fixed relation thereto and equally angularly spaced thereabout, the angle of each pole to the hub axis being the same and such that during rotation of the hub each pole swings from a maximum upwardly sloping position downwardly to a first horizontal position, then to a downwardly sloping position, then upwardly to a second horizontal position, and finally upwardly to said maximum upwardly sloping position, means for rotating said hub step-by-step and for stopping said hub for a predetermined time at a position in which two of said poles are horizontal and one of said poles is in maximum upwardly sloping position, means for feeding a predetermined number of coils

onto a first pole which is in said maximum upwardly sloping position while the hub is stationary, means for compressing the said coils in an axial direction when said first pole has reached its first horizontal position and while another pole is at said maximum upwardly sloping position receiving another predetermined number of coils, means for drawing banding through said compressed



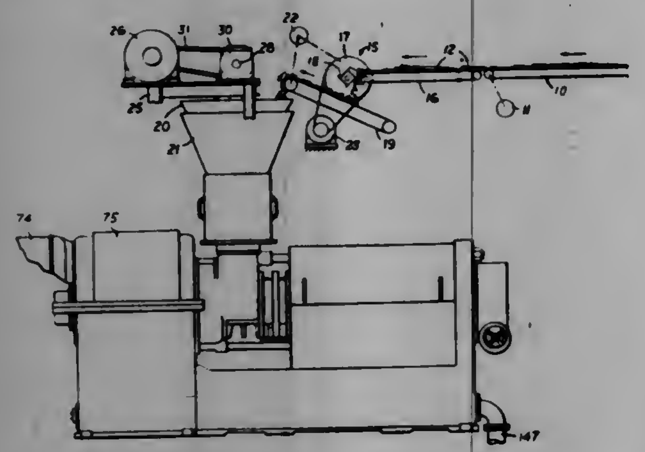
coils for subsequent banding thereof to hold said coils in said compressed condition, and means for removing said compressed banded coils from said first pole when said first pole has reached and stopped at its second horizontal position and while still another pole is at said maximum upwardly sloping position receiving another predetermined number of coils.

3,195,445
BALE PRESS
Sidney S. Meisler, Box 536, Wapato, Wash.
Filed Jan. 7, 1963, Ser. No. 249,786
1 Claim. (Cl. 100—[illegible]6)



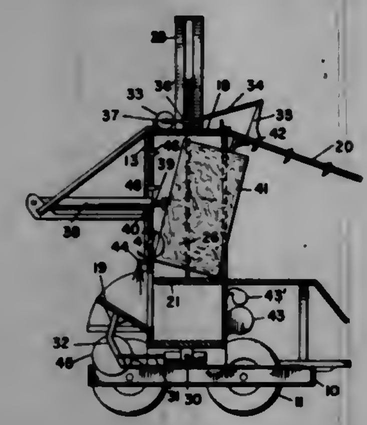
In a bale press of the character described, a pair of complemental shaping dies comprising: each said die having an elongated body with a laterally curvate concave die face and mounted for relative movement into and away from mating relationship with its opposed die and defining a circumferentially continuous diametrically separable tube in the mating position; means for moving the dies into and out of mating relationship; each said die having longitudinally spaced laterally extending walls recessed in said face and forming ways opening at said face and complemental to the ways of its opposing die face to form substantially continuous guide ways each having ends; the walls being further recessed at one side of said dies to provide access openings into said dies at said guide ways and at one side only of said mating dies; and the ends of said ways of one die opposed to the said further recessed ends, each also being somewhat relieved with respect to the wall of its complemental way thus defining a projection adjacent to the end of said complemental way, whereby to eliminate a seam between the dies when in the mating position and thus preclude interference with movement of a tie wire proceeding from the complemental way over the projection and into its aligned way.

3,195,446
PROCESS FOR RECOVERY OF JUICE FROM SUCROSE BEARING MATERIALS
Alfred W. French, Piqua, Ohio, assignor to The French Oil Mill Machinery Company, Piqua, Ohio, a corporation of Ohio
Original application July 9, 1957, Ser. No. 670,743, now Patent No. 3,086,452, dated Apr. 23, 1963. Divided and this application Nov. 30, 1962, Ser. No. 241,399
9 Claims. (Cl. 100—37)



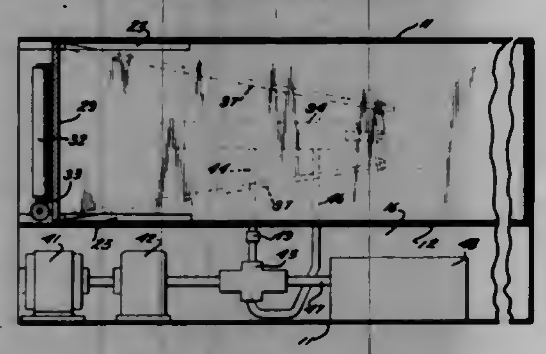
1. The process of expressing juice from sucrose bearing fibrous material in plants utilizing a roller type juice expressing mill comprising, feeding raw fibrous material into the mill to effect crushing thereof between the rolls and release of juice therefrom, discharging crushed bagasse from the outlet end of said mill, collecting the bagasse separate from the juice at a location removed from the material passing through the rolls, advancing the collected bagasse to the inlet of an expressing press having drainage openings in the side walls thereof, and feeding the bagasse through the press while exerting a sustained relatively high mechanical pressure on the bagasse to express additional juice therefrom through the drainage openings in the side walls of the press.

3,195,447
PORTABLE APPARATUS FOR BALING TRASH
Sterl F. Taylor, Oxnard, Calif.; Ethel M. Taylor, Oxnard, Calif., executrix of said Sterl F. Taylor, deceased, assignor, by mesne assignments, to Tamaker Corp., a corporation of California
Filed Mar. 1, 1963, Ser. No. 262,087
2 Claims. (Cl. 100—74)



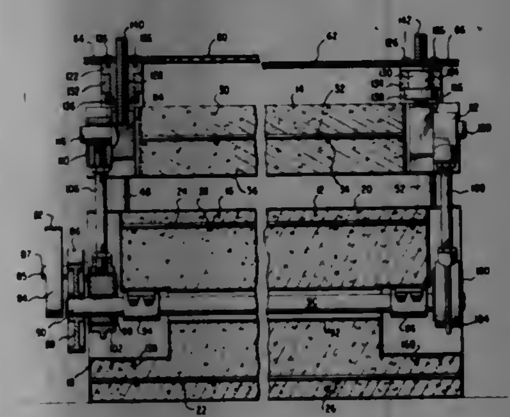
1. A portable trash baling apparatus comprising, in combination: a frame, a trash receiving enclosure mounted on said frame and having a lower front gate hinged along the lower front longitudinal edge of said enclosure for swinging movement outwardly and downwardly and an upper rear gate hinged along the upper rear longitudinal edge of said enclosure for swinging movement outwardly and upwardly; a rear gate actuating hydraulic cylinder and piston means connected to said rear gate for opening and closing the same; a movable platform in said enclosure; a pair of platform raising and lowering hydraulic cylinders mounted on said frame adjacent to said enclosure in vertical positions; piston rods adapted to be raised and lowered from ends of said cylinders; rod means connecting the upper ends of said piston rods to opposite side portions of said platform for moving said platform from a lower position in said enclosure juxtaposed to said front gate to an upper position in said enclosure juxtaposed to said rear gate whereby trash may be received on said platform through said lower front gate when said platform is in its lower position, compressed into a bale when said platform is raised to its upper position, and disposed of through said rear gate while said platform is in its upper position; means on said enclosure for moistening said trash after it is received through said front gate preparatory to being compressed; an unloading hydraulic cylinder and piston positioned exteriorly of said enclosure in a direction facing a front wall of said enclosure above said front gate, said front wall including a slot opening for receiving a piston rod projecting from said cylinder whereby actuation of said cylinder projects said piston rod into said enclosure to urge said trash bale past said rear gate free of said enclosure after opening of said rear gate; a source of hydraulic fluid connected to said rear gate actuating cylinder, pair of platform raising and lowering cylinders, and said unloading cylinder; and control means for selectively actuating said cylinders.

3,195,448
PACKING AND COMPACTING APPARATUS
Burnham L. Larsen and Bernard J. Larsen, Cedar Falls, Iowa, assignors to Curbmaster of America, Inc., Cedar Falls, Iowa, a corporation of Iowa
Filed Dec. 21, 1962, Ser. No. 246,581
1 Claim. (Cl. 100—245)



A compacting apparatus for waste material comprising,
a rectangularly shaped outer housing having a pair of flat parallel spaced side walls, flat parallel spaced top and bottom walls and an end wall,
a rectangularly shaped inner housing situated within said outer housing and having a top wall thereof formed by the top wall of said outer housing and having side walls and a bottom wall in spaced parallel relation to corresponding side walls and the bottom wall of said outer housing,
  said top wall being releasably secured to said outer housing and having an access opening formed therein,
  the inner housing of said apparatus being adapted to receive a disposable container therein for receiving waste material,
  said container being of the type having a closed end adapted to abut the end wall of said outer housing and being adapted to conform closely to the inner surfaces of the walls of said inner housing,
a pressure plate in said inner housing having a pressure bearing surface extending perpendicularly to the walls of said inner housing and movable toward and away from said end wall,
  said plate being dimensioned to fit within the confines of said inner housing,
a plurality of roller members affixed to said pressure plate and being spaced inwardly from the walls of said inner housing,
two pairs of actuating arms firmly affixed to said pressure plate and extending respectively from either end of said plate,
  each of said pairs having one of said arms extending through corresponding side walls of said inner housing at the upper edge thereof and having the other of said arms extending through the corresponding side walls at the lower edge thereof,
a pair of pressurized hydraulic cylinders situated exteriorly of said inner housing adjacent the side walls thereof and operatively connected respectively to a pair of corresponding actuating arms for moving said arms and said pressure plate toward and away from the end wall, and means defining a pair of corresponding slots on each side wall of said inner housing for receiving and for accommodating movement of said arms.

3,195,449
CONCRETE PRESS
John C. Jureit, Miami, Fla., assignor to Automated Building Components, Inc., Miami, Fla., a corporation of Florida
Filed May 15, 1963, Ser. No. 280,616
19 Claims. (Cl. 100—257)

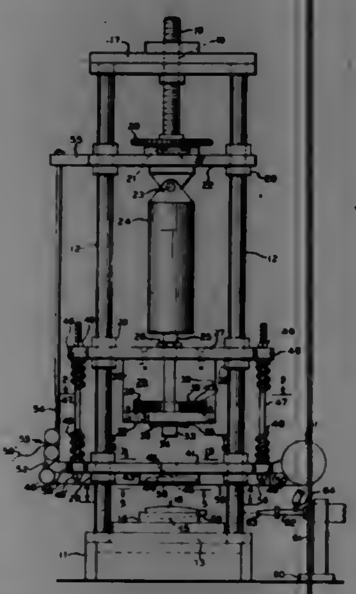


12. A press for use in fabricating wooden panels comprising a base including a reinforced metal framework surrounded on the bottom and sides by a metal skin and filled with concrete, a metal plate covering the top of said base, a head including a reinforced metal framework surrounded on the bottom and sides by a metal skin, guide posts extending upwardly from the four corners of said base, sleeves in said head slidably received over said guide posts, a rotatable shaft passing longitudinally through said base, drive means coupled to said shaft, eccentric cam means carried by the opposite ends of said shaft, and drive rods pivotally connecting said cam means to said head whereby rotation of said shaft acts to reciprocate said head towards and away from said base.

3,195,450
MULTI-PURPOSE HOT STAMPING PRESS AND PROCESS
Tony Sciame, 826 Hampden St., Linden, N.J.
Filed Mar. 27, 1964, Ser. No. 355,271
5 Claims. (Cl. 101—9)

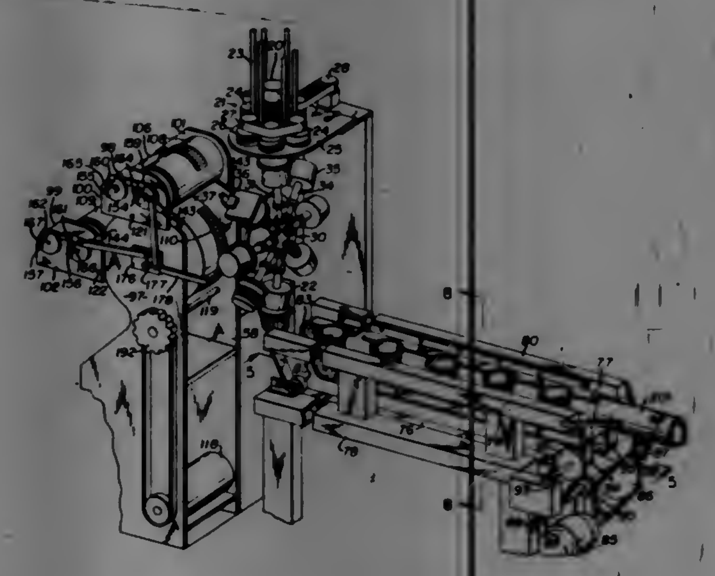
1. A multi-purpose hot stamping press, comprising, in combination,
  a base having vertically-projecting guide rods mounted near the edges of said base, said rods being connected at the top with a cross-plate,
  a pressure cylinder and downwardly-directed ram connected therewith and mounted on said cross-plate,
  a die assembly-carrying plate mounted on the free end of said ram and designed to ride on said rods,

a rigid insulating member attached to the bottom of said die assembly-carrying plate,
a heat-conductive die plate attached to the bottom of said insulating member,
heating means attached to said die plate,
a die attached to the bottom of said die plate,
an upper cavity nest-mounting plate disposed below said die plate in a manner so as to ride on said rods in adjustable spring-loaded spaced relation to said die assembly-carrying plate, and having an opening to allow passage therethrough of said die,
a removable upper cavity nest attached to the bottom of said upper cavity nest mounting plate and having an opening therein in vertical alignment with the opening in said upper cavity nest mounting plate and designed to allow passage therethrough of said die for hot-stamping of an object encased by said cavity nest,
feeding means for feeding hot stamping tape under said opening in said upper cavity nest, and
a removable lower cavity nest attached to said base under said upper cavity nest and designed to hold an object to be hot stamped when said ram is at the end of its downward stroke.



3,195,451
DECORATING MEANS

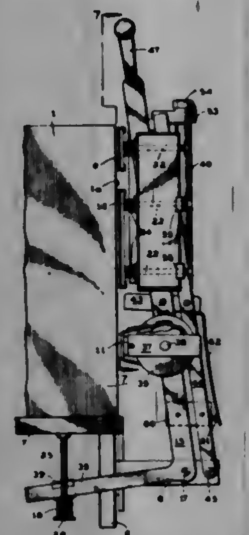
John C. Hovekamp, Elyria, and Edward J. Russell, Jr., Sandusky, Ohio, assignors to Kam Products Corporation, Elyria, Ohio, a corporation of Ohio
Filed Sept. 11, 1962, Ser. No. 222,853
10 Claims. (Cl. 101—38)



1. A decorating apparatus comprising, in combination, (1) a decorating roll, (2) an indexing turret including a plurality of workpiece arbors which successively dwell at (a) a workpiece feeding station, (b) a workpiece printing station adjacent said decorating roll, and (c) a workpiece discharge station, (3) biasing means on each of said arbors urging said arbors toward rolling linear contact with the pattern bearing surface of said decorating roll when said arbors are at said workpiece printing station, (4) sensing means for detecting the presence of a workpiece on each of said arbors prior to its arrival at said workpiece printing station, (5) linkage means responsive to said sensing means, which, when one of said arbors between said workpiece feeding station and said workpiece printing station is empty, will move said one arbor against said biasing means away from said pattern bearing surface of said decorating roll prior to the arrival of said arbor at said printing station, and (6) means at said discharge station for removing and conveying workpieces from said arbors to a position remote from said discharge station.

3,195,452
CARTON STAMPING MEANS

Edgar L. Stevens, 3035 10th Parkway, Vero Beach, Fla.
Filed Aug. 28, 1963, Ser. No. 305,128
6 Claims. (Cl. 101—42)



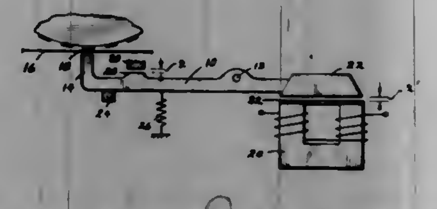
1. A marking device for cartons comprising a carton support on which a carton rests and presents a vertical wall for printing upon it, a manually-operated lever pivoted at one end to the support, a plurality of spaced imprinters carried by the lever and caused to be brought against said wall of the carton upon swing of the lever in one direction, a fixed vertical post, a sleeve extending around said post and rotatively movable on the same, spaced inking pads carried by the sleeve, a torsion spring operative on the sleeve to bias the same in a manner to position its inking pads against the imprinters when the imprinters are positioned away from the wall of the carton, a radial projection on one end of the sleeve, a projection on the lever and situated to impinge against the projection on the sleeve to thereby rotatively move the sleeve around the post and cause the inking pads to be moved in opposition to the force of the spring out of the path of travel of the imprinters as the imprinters are moved in a direction toward the carton by a swinging movement of the lever.

3,195,453
MAGNETICALLY ACTUATED PRINT HAMMER

Francis V. Thiemann, Levittown, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed Dec. 26, 1962, Ser. No. 247,033
3 Claims. (Cl. 101—93)

1. A printing assembly having
a hammer arm pivotally mounted on a centrally disposed axis,

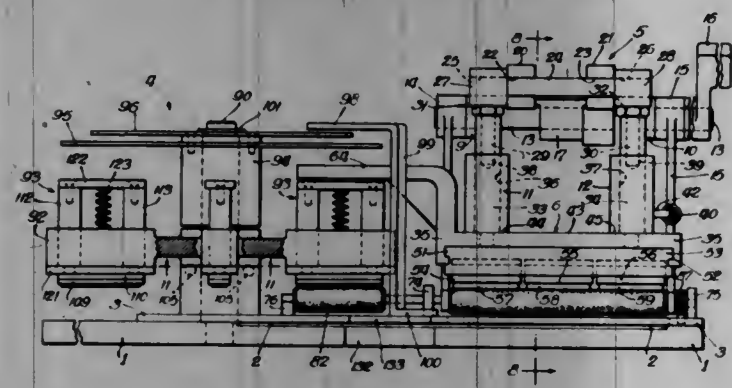
said hammer arm having a printing hammer head on one end of said arm,
a penetration pad formed adjacent said hammer head for abutting against a stop to limit the movement of the hammer head toward its printing position,
an armature attached to the other end of said arm, the distance between said axis and said penetration pad along the hammer arm being greater than the distance between said axis and said armature,
an electromagnet having pole faces positioned adjacent said armature for momentary energization to pivot said hammer arm about said axis, and



a penetration stop to coact with the penetration pad defining a striking position of said printing assembly,
the improvement comprising,
a shim positioned on said electromagnet pole faces to reduce the distance of travel for said armature to less than the distance of travel for said penetration pad so that the inertia of the armature is overcome by the time the hammer arm begins retracting from a printing position,
the thickness of said shim being selected so that the armature rebounds from the surface of said shim simultaneously with the rebound of said penetration pad from said penetration stop,
whereby the dwell time for contact between the penetration pad and stop is reduced to a minimum.

3,195,454
AMOUNT CONTROL AND DATE AND PLACE STAMPING MACHINE FOR U.S. PRINT-PUNCHED MONEY ORDERS

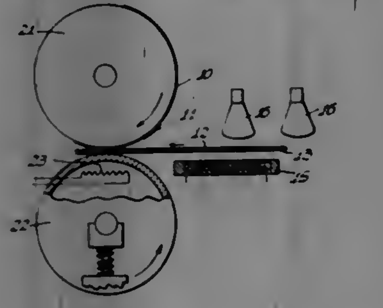
Louis Paul Druehl, 736 S. Euclid Ave., Oak Park, Ill.
Filed Apr. 29, 1963, Ser. No. 276,430
17 Claims. (Cl. 101—93)



1. A money order stamping machine comprising a base with money order orientation means thereon, an upstanding post on said base, a set of date and place stamps, a plurality of money denomination stamps, operable guide mechanism to raise and lower said date and place stamp in relation to said base, a rotary mechanism on said post including depressible means to carry said money stamps respectively and to dispose said individual stamps for depression in cooperative lateral alignment with said date and place stamps above said base, selective means connected with said rotary mechanism whereby to bodily transport any one of said money stamps into said aligned relation with respect to said date and place stamps, and actuation mechanism connected with said guide mechanism to move said date and place stamps downwardly relative to said base into money order printing positions including connected pressure bar means to simultaneously engage and to actuate the depressible means of aligned money stamp to move said money stamp downwardly into money order printing position in unison with said date and place stamps.

3,195,455
DUPLICATING PROCESS

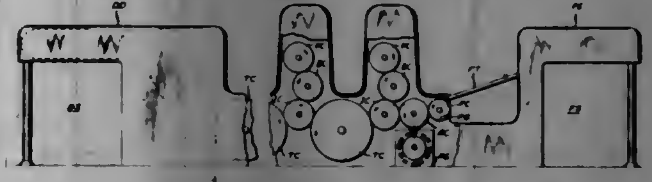
Douglas A. Newman, Glen Cove, N.Y., assignor to Columbia Ribbon and Carbon Manufacturing Co., Inc., Glen Cove, N.Y., a corporation of New York
Filed July 29, 1963, Ser. No. 300,120
6 Claims. (Cl. 101—149.5)



1. In the dry method of imaging dry, coated hectograph copy sheets directly from an imaged hectograph master sheet on which the images contain solid soluble imaging material capable of being dissolved into the coating of the copy sheet to form brightly colored images thereon, the improvement which comprises using a copy sheet having a solid non-transferable superficial coating meltable at a temperature within the range of about 90° F. to 150° F. and comprising a non-volatile solid which is meltable at a temperature within the range of about 90° F. to 150° F. and which, only in its heat-melted state, is a solvent for the solid soluble imaging material of the master sheet images, said superficial coating in its melted state being unreceptive to the transfer of said solid soluble imaging material in its solid state; heating said superficial coating to a temperature within the range of about 90° F. to about 150° F. to melt the said coating and the said non-volatile solid and contacting the melted coating with the images on the master sheet whereby a portion of the soluble imaging material is dissolved by the melted non-volatile solid into the melted coating while the undissolved portion of the imaging material remains on the master sheet; and separating the copy sheet from the master sheet whereby duplicate, smudge-resistant and stable images of immediate intensity are formed in the coating on the copy sheet in areas corresponding to the location of the images on the master sheet.

3,195,456
TIMING AND SEQUENCING CONTROL SYSTEM FOR SHEET FED ROTARY PRINTING PRESS

Reginald E. Charlwood, Menomonee Falls, and Douglas W. Fath, Brookfield, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Nov. 18, 1963, Ser. No. 324,431
16 Claims. (Cl. 101—184)



1. In a system providing a timing cycle for unit sequence control of a plural-unit processing machine of the type wherein the machine units are run in synchronism and articles to be worked on are fed into the first unit in spaced relation according to the operating cycle of said first unit and are transported therefrom to and through successive machine units, each machine unit having an operating

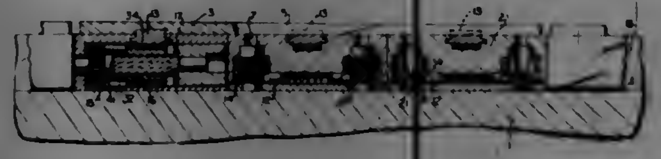
cycle for performing one of a succession of working steps on the articles and the operating cycles of successive machine units being out of phase with the operating cycles of their immediately preceding machine units in accordance with the time required to transport an article therebetween;

control signal producing means operating in synchronism with the machine for providing electrical timing signals corresponding in-time to the phase conditions of the machine units;

and means responsive to said timing signals for rendering said machine units operable in sequence according to said out of phase conditions whereby each machine unit performs its working step when an article arrives thereat and the working steps of the plurality of units are distributed in time.

3,195,457
PRINTING PLATE LOCKUP MEANS

Hans J. Luehrs, Avondale, R.I., assignor to The Cottrell Company, Westerly, R.I., a corporation of Delaware
Filed May 22, 1963, Ser. No. 282,407
5 Claims. (Cl. 101—378)

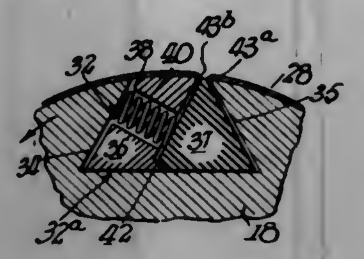


1. A printing plate lockup means in combination with a printing press cylinder and at least one printing plate having recesses at its underside leading and trailing edges, comprising plate locking units, leading and trailing edge plate hooks in each unit engaging plate recesses for holding such plate to the cylinder, supporting means for the hooks for their movement into and out of contact with their plate recesses, actuating mechanism in each unit for moving each hook into and out of contact with its plate recess, said actuating mechanism for each leading edge hook comprising a vertical rotative element including a worm thereon, a wheel engaged thereby, its shaft, a gear formed integral with said last named shaft, a rack on said leading edge plate hook engaged by said gear and a spring pressed detent engaging said vertical rotative means to maintain same in a desired rotative position and means for actuating said trailing edge plate hooks for holding each plate to the cylinder under tension comprising a vertical rotative operating member including worm thereon, a wheel engaged thereby, a splined shaft formed integral with said wheel, a gear slidably mounted for longitudinal movement on said splined shaft, a spring located between and in contact with said wheel and gear to assist and maintain the longitudinal movement of said gear, racks on each trailing edge plate hook engaged by said gear and means for rotating the vertical rotative elements whereby arcuate movement in a desired direction is imparted to each plate hook through the said gear and rack engagement for tensioning each plate on the cylinder.

3,195,458
PRINTING APPARATUS AND METHOD

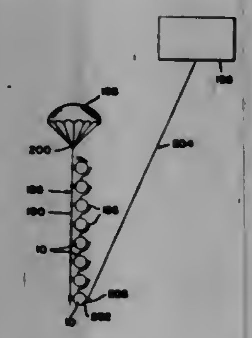
Ernst Daniel Nystrand, Green Bay, Wis., assignor to Paper Converting Machine Co., Inc., Green Bay, Wis., a corporation of Wisconsin
Filed Dec. 3, 1963, Ser. No. 327,711
6 Claims. (Cl. 101—415.1)

1. A printing plate cylinder, comprising an elongated cylindrical roll having a longitudinally extending dovetail-like recess equipped with a bottom wall and side walls converging to provide a constricted peripheral opening and adapted to secure the ends of a flexible printing plate, first and second elongated clamping members in said recess in side-by-side relation, and spring means in said recess urging said members toward one of said walls, said spring means including two sets of springs positioned in said recess, one of said sets of springs extending between the other converging wall and said first member to urge said first member toward said one wall, the other set of springs extending between said other wall and said second member to urge said second member against said one wall, said first member being equipped with transverse openings with said other set of springs extending therethrough.



3,195,459
BOMB SUSPENSION CABLE

Edwin G. Reed, Jr., Northridge, Calif.
Original application Nov. 27, 1962, Ser. No. 240,465. Divided and this application Sept. 11, 1963, Ser. No. 318,464
1 Claim. (Cl. 102—7.2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



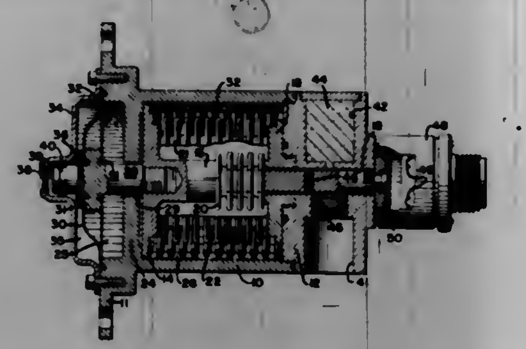
In combination,
(a) a cable suspended in the atmosphere;
(b) a plurality of pins, one end of each pin being connected to the cable;
(c) the places of connection being spaced along the cable;
(d) a mine removably impaled on each pin;
(e) the other end of each pin projecting out of the associated mine and having a hole;
(f) cotters removably engaged in the respective holes to releasably retain the mines on the pins;
(g) means anchoring each upper cotter to the next lower mine; and
(h) means for removing the bottom cotter, enabling the bottom mine to gravitate free of the associated pin, and thereby positively to remove the next higher cotter so that the several mines are successively released for free fall.

3,195,460
DELAYED-ACTION, HYDROSTATICALLY-OPERATED ARMING DEVICE

George P. Kalaf, Rockville, Md., assignor to the United States of America as represented by the Secretary of the Navy
Filed July 26, 1962, Ser. No. 212,751
8 Claims. (Cl. 102—16)
(Granted under Title 35, U.S. Code (1952), sec. 266)

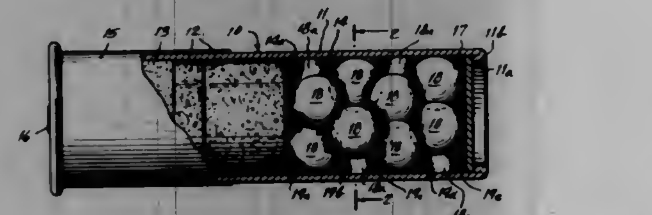
4. A delayed-action, hydrostatically-operated device comprising a housing having an open end and a closed end, an expansible bellows disposed within said housing and having one end thereof connected in fluid sealing relationship to the closed end of said housing, the open end

of said housing provides means for releasibly locking said bellows in an expanded position, an actuating rod partially disposed within said bellows and having one end secured to the free end of said bellows and the other end projecting through an aperture formed in the closed end of said housing, a high viscosity fluid filling said housing and surrounding said bellows, and a flexible member connected in fluid sealing relationship to the open end of said housing to confine said viscous fluid, the viscous fluid serving to transmit fluid pressure applied to the exterior of said flexible member to cause contraction of said bellows and consequent movement of said actuating rod.



3,195,461
MULTIPLE MISSILE CARTRIDGE

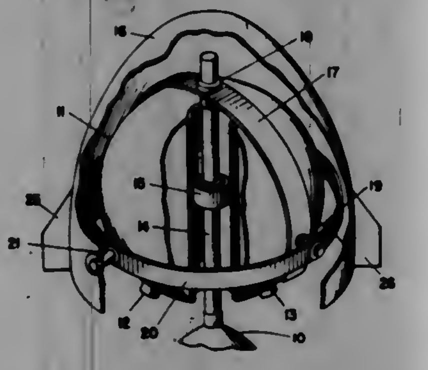
George H. Freed, Pine Brook, N.J., assignor of fifty percent to Kenneth K. Klimback, West Caldwell, N.J.
Filed July 31, 1963, Ser. No. 298,885
12 Claims. (Cl. 102—42)



1. A multiple missile cartridge comprising a casing defining a hollow missile chamber, a missile row within and extending substantially across the width of said chamber, said missile row comprising a plurality of missiles, and a layer of stiff and strong intermeshed stringy material capable of entangling said missiles in flight after said cartridge has been fired, said material being disposed adjacent said missile row and extending substantially across the width of said chamber.

3,195,462
PULL ROCKET SHROUD

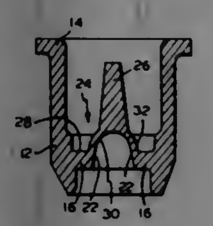
Philip C. Petre, Santa Barbara, Calif., assignor, by mesne assignments, to Aerojet-General Corporation, Azusa, Calif., a corporation of Ohio
Filed May 17, 1961, Ser. No. 110,754
3 Claims. (Cl. 102—49)



1. In a pull rocket including an elongated stem for connection at one end to a payload, thrust developing means disposed about said stem, a universal bearing mounting said thrust developing means to said stem for rotation thereabout to develop a gyroscopic action in response to rapid rotation of said thrust developing means for maintaining thrust direction, and a shroud in the shape of a paraboloid having an enlarged opening at its rear end and disposed about said thrust developing means in radially outwardly spaced relationship for connection to said stem, the improvement comprising means mounting said shroud on said stem for universal movement of said shroud about a given point disposed forwardly of the center of pressure of said shroud so that said shroud is enabled to pivot with respect to said stem and said thrust developing means in response to atmospheric movement of the air as the pull rocket is in flight to compensate therefor in maintaining a desired path of flight for the pull rocket.

3,195,463
DIE CAST BATTERY CUP AND ANVIL

Donald S. Foote, Greens Farms, Theodore B. Johnson, Stratford, Richard A. Sahlin, Fairfield, and Justin H. Whipple, Milford, Conn., assignors to Remington Arms Company, Inc., Bridgeport, Conn., a corporation of Delaware
Filed July 19, 1962, Ser. No. 211,004
4 Claims. (Cl. 102—86.5)



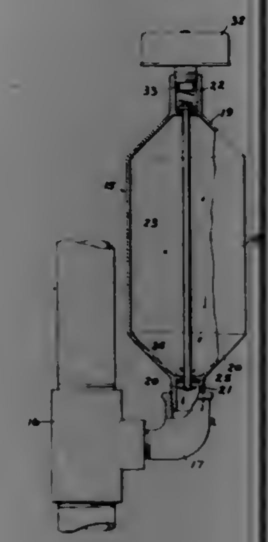
1. In a cartridge having a head end adapted to receive a primer in a conventional manner, said primer comprising an integrally formed, unitary battery cup and anvil insertable in said cartridge head, said unitary battery cup and anvil comprising a tubular casing having a continuous flange means integral with and projecting inwardly from the inner wall of the forward portion of said casing, an elongated anvil integral with said flange means and projecting rearwardly towards an open end of said casing, a plurality of weakened wall portions integral with said flange means and said anvil thus providing an integral, imperforate closure for the forward end of said casing, and a primer cup means having priming material mounted therein positioned to close off the open end of said battery cup and to space the priming material a desired distance from the end of the anvil, said weakened wall portions adapted to be blown out by the explosive priming material gases upon ignition, said weakened wall portions comprising curved wall portions of predetermined thickness which, when taken together with a curved bottom portion of said anvil form a hemispherical dome.

3,195,464
AIR CONTROL SYSTEM FOR LIQUID STORAGE TANKS

Francis M. Shetler, % Flint Pump & Equipment Co., G–3289 Flushing Road, Flint, Mich.
Filed May 29, 1963, Ser. No. 284,248
8 Claims. (Cl. 103—6)

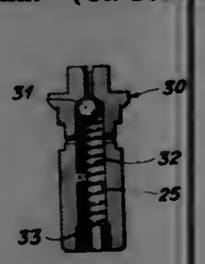
1. In an air control system for liquid storage tanks, the combination comprising
a liquid storage tank,
a rotary vane pump,
said pump having an inlet and an outlet,
means for connecting the outlet of the pump to the liquid storage tank,
means connecting the inlet of the pump to a source of liquid,

and air intake means connected to said last-mentioned means and comprising
- a housing defining an air chamber having an inlet and an outlet,
- a first valve associated with said housing for opening and closing the inlet to said housing,
- a second valve associated with said housing for opening and closing the outlet to said housing,



and means interconnecting said first and second valves in such a manner that when the pump is energized, the suction at the inlet of the pump closes the first valve and opens the second valve permitting the air to pass from the chamber in the housing to the pump and when the pump is deenergized the pressure of liquid in the pump closes the second valve and opens the first valve venting the chamber through the atmosphere.

3,195,465
FUEL INJECTION PUMP
Hans-Rudolf Hug, Winterthur, Switzerland, assignor to Schweizerische Lokomotiv- und Maschinenfabrik, Winterthur, Switzerland, a firm of Switzerland
Filed July 31, 1963, Ser. No. 298,959
Claims priority, application Switzerland, Aug. 9, 1962, 9,499/62
1 Claim. (Cl. 103—41)

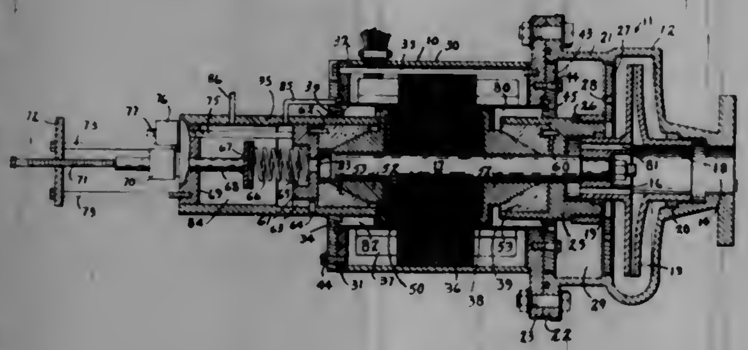


In a fuel injection pump having a pump cylinder having an open fuel delivery end and a plunger reciprocable in said pump cylinder:
- a discharge valve assembly adjacent said open end and having an inlet at said open end and an outlet distant from said open end,
- said discharge valve assembly having a valve housing connected to said pump cylinder and having a conical valve seat distant from said open end,
- a bore in said valve housing coaxial of said pump cylinder,
- a spring-biased valve body having a cylindrical portion axially movably fitted in said bore, a collar projecting from said cylindrical portion distant from said open end and having a conical shoulder opposite said conical valve seat for being seated thereon, and an annular recess in said cylindrical portion, spaced from said collar,
- a first bore extending through said valve body coaxial with said bore in said valve housing,
- a second bore extending at said annular recess through said valve body in a direction normal to the longitudinal axis of said first bore and connecting said first bore to said recess, and
- a check valve disposed in said first bore between said second bore and the end of said valve body which end is distant from said open end of said pump cylinder, for allowing flow of fuel through said first bore in a direction from said end of said valve body which is distant from the open end of said pump cylinder toward said open end of said pump cylinder and preventing fuel flow in the opposite direction.

ERRATUM

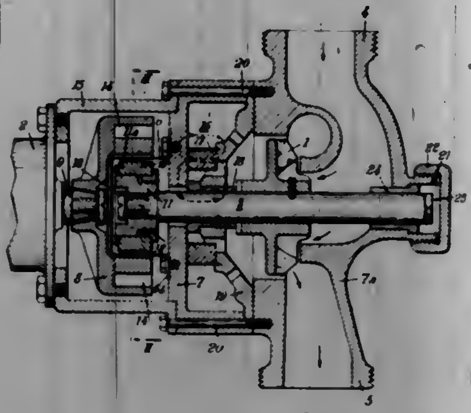
For Class 103—52 see:
Patent No. 3,195,523

3,195,466
ELECTRIC MOTOR CONSTRUCTION
Cecil G. Young, Warren, Ohio, assignor, by mesne assignments, to H. K. Porter Company, Inc., Pittsburgh, Pa., a corporation of Delaware
Filed May 25, 1959, Ser. No. 815,540
6 Claims. (Cl. 103—87)



1. An electric motor, comprising a housing including a tubular shell and end plates closing opposite ends of said shell, a cylindrical sleeve extending longitudinally within said shell and having its opposite ends connected to respective end plates and providing a sealed tubular space between the outer surface of said sleeve and the interior surface of said shell, a pair of tubular bearing supports each rigidly secured to and extending from a respective end plate, a conically recessed bearing mounted within each bearing support with the recesses facing each other, at least one of said bearings being movable axially within its support, the rigid securement of said bearing supports and the mounting of said bearings cooperating to maintain said bearings in spaced alignment on a common axis which is coaxial with the axis of said cylindrical sleeve, a rotor concentric with and located within said sleeve for rotation therein, said rotor having an outer cylindrical surface slightly smaller than the inner surface of said sleeve to provide an annular gap therebetween of very small magnitude to separate the rotor from said sleeve and stator and yet provide a free flux path for efficient transmission of magnetic flux from said stator to said rotor, oppositely facing cone-shaped journals on and coaxial with said rotor and fitting complementarily within respective conical recesses, and resilient means for urging said cone-shaped journals and the surfaces defining said conical recesses together in coaxial manner so that any bearing wear is coaxial with said rotor and thus will not affect concentricity of the latter with respect to said cylindrical sleeve and thereby maintain said annular gap.

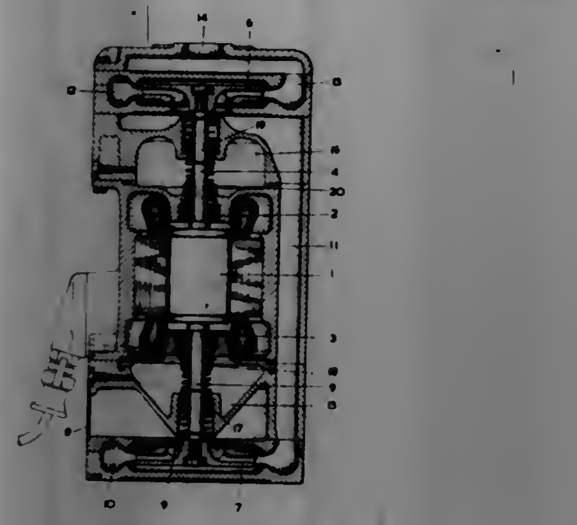
3,195,467
ROTARY PUMP UNITS AND THE LIKE
Henri Collet, deceased, late of Oyonnax, France, by Raymonde Augustine Collet, executrix, 6 Rue Laplanche, Oyonnax, France
Filed Aug. 30, 1962, Ser. No. 220,582
Claims priority, application France, Sept. 8, 1961, 872,706; Apr. 9, 1962, 893,870
7 Claims. (Cl. 103—87)



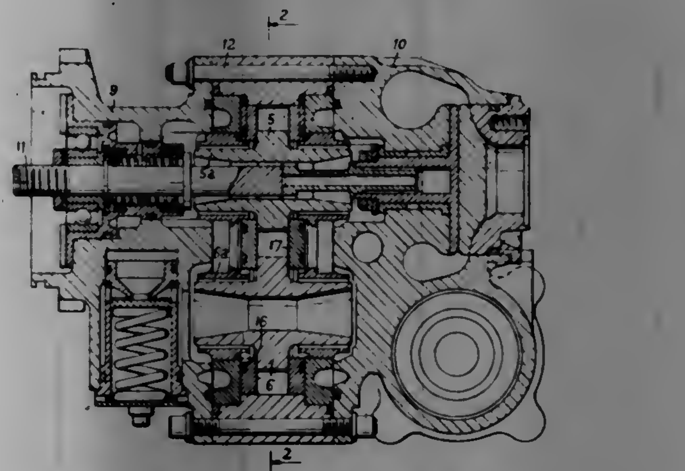
1. A motor driven rotating pump which comprises, in combination,
- a pump casing having an inlet and an outlet,
- a pump rotor rotatable in said casing about an axis to force a fluid from said inlet through said outlet,
- a pump shaft disposed along said axis to carry said pump rotor, said shaft having an end portion protruding outwardly from said pump casing,
- bearing means carried by said casing to support said pump shaft rotatably,
- an inner magnetic coupling rotor mounted on the protruding end of said pump shaft coaxially therewith,
- a cylindrical permanent magnet carried by said inner rotor coaxially therewith, said magnet having an even number of poles of alternate polarities on the periphery thereof, said magnet being made of a material having a high coercive field.
- a cup-shaped non-magnetic fluidtight cylindrical partition coaxially surrounding said inner rotor and having its open end sealingly secured to said pump casing,
- an outer cup-shaped magnetic coupling motor disposed around said inner coupling rotor coaxially therewith and externally with respect to said partition,
- a plurality of U-shaped permanent magnets rigidly carried by said outer rotor, said U-shaped magnets being circularly disposed about said axis with their poles around the poles of said first mentioned magnet so as to cooperate therewith while remaining spaced therefrom, said U-shaped permanent magnets being made of a material having a high remanent induction.

3,195,468
SUBMERSIBLE PUMP
Louris Bood, Voorburg, Netherlands, assignor to Mowid Anstalt, Vaduz, Liechtenstein, a corporation of Liechtenstein
Filed May 10, 1963, Ser. No. 279,661
Claims priority, application Belgium, May 18, 1962, 617,810
2 Claims. (Cl. 103—87)

1. A submersible pump comprising a pump casing defining a watertight electric motor chamber and first and second pump chambers disposed on opposite sides of said motor chamber, each said pump chamber having an inlet and outlet, an electric motor within said motor chamber and having a drive shaft, one end portion of said drive shaft extending into said first pump chamber and the other end portion of said drive shaft extending into said second pump chamber, said casing defining oil-filled chambers disposed one on either side of said motor chamber between said motor chamber and said pump chambers, seals for the oil-filled chambers about the shaft at both ends of each oil-filled chamber, said pump casing defining a passageway between the outlet of said first pump chamber and the inlet of said second pump chamber for conducting liquid from said first pump chamber to said second pump chamber, and impellers mounted on said end portions of said shaft within said first and second pump chambers.



3,195,469
GEAR PUMPS
Robert Spurgeon Wood, Alverstoke, Gosport, England, assignor to The Plessey Company (U.K.) Limited, Ilford, England, a company of Great Britain
Filed Oct. 11, 1963, Ser. No. 315,721
Claims priority, application Great Britain, Oct. 11, 1962, 38,468/62
2 Claims. (Cl. 103—126)



1. A gear pump comprising two intermeshing pumping gears each having at least one journal, and a housing body having a cavity in which the gears are rotatable about parallel axes, and having bores extending from said cavity coxially with the journals of each gear, wherein the housing body comprises at least two parts joined in a plane extending through said cavity, said parts being provided with locating means for determining their accurate relative position, said cavity and locating means being symmetrical about at least two of three mutually perpendicular planes of which one contains the axes of said gears, another is parallel to the said axes, and the third is perpendicular to the said axes, so that the gears can be assembled with the housing body in at least two alternative positions, in which the housing is turned relative to the gears about the line of intersection of two planes of symmetry, and wherein the pump further comprises a pressure-loaded side plate having two parallel plane surfaces one of which is applied to a side surface of the gears by the delivery pressure of the pump, and in

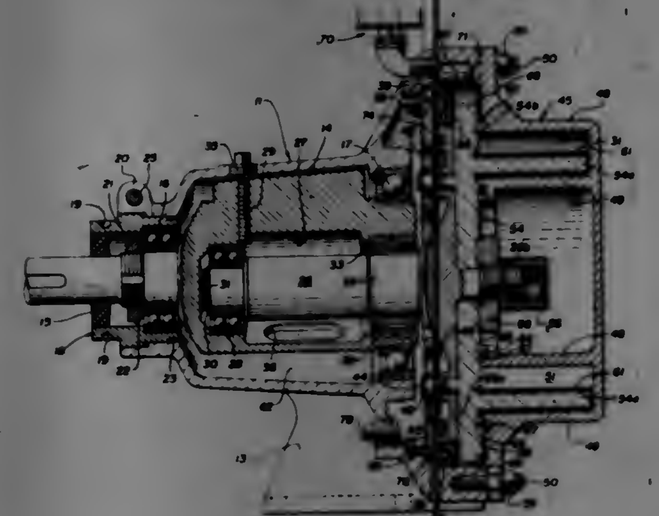
which substantial alignment of the pressure forces acting on the two sides of the side plate is achieved by means of a sealing ring or gasket which separates a zone in which pump-delivery pressure acts, from a second zone under pump-inlet pressure, part of the length of said ring being accommodated in a groove formed in the other plane surface of the said side plate and interconnecting two points at the circumference of said side plate and two grooves, adapted to respectively accommodate the remainder of the sealing ring, being formed in the housing body to respectively interconnect the points of the housing body located oposite to said two points at the circumference of the side plate before and after reversal of the pump housing body relative to the gears.

3,195,470
ROTARY PUMP

Edwin E. Smith, Santa Clara, Calif., assignor to Fluid Dynamics Corp., Santa Clara, Calif., a corporation of California

Filed Jan. 24, 1962, Ser. No. 168,407

14 Claims. (Cl. 103—131)



1. In a rotary pump, a housing, a first shaft rotatably mounted in said housing, a second shaft eccentrically journalled in said first shaft, a timing plate affixed to the housing, means forming a connection between the second shaft and the timing plate to prevent rotation of the second shaft but permitting circular gyratory movement of the second shaft as the first shaft is rotated, a separate casing removably mounted on said housing and having inlet and outlet openings, said casing also having inner and outer concentric cylinder walls defining a working space, partition means carried by the casing in the working space separating the inlet opening from the outlet opening, and a piston affixed to said second shaft and movable therewith, said piston having a radially extending flange engaging the outer concentric wall of the casing, the piston having a cylinder operating in said working space to provide two pumping chambers in the working space, said piston having a slot straddling said partition means for permitting circular gyratory movement of the piston about the partition means.

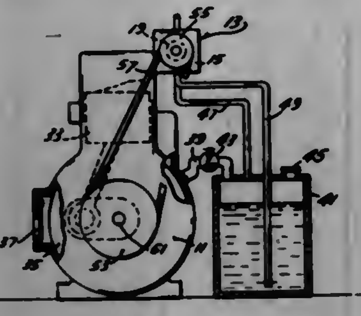
3,195,471
PUMP

Burzoe K. Ghandhi, Milwaukee, Wis., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed Dec. 11, 1963, Ser. No. 329,780

7 Claims. (Cl. 103—244)

1. A pump comprising a member, means defining a fixed path along which said member is movable, an element having a surface in engagement with said member during movement of said member along said path, means for displacing said member for re-occurring travel along said path, means in said member defining a cavity having an inlet communicating with said surface, means in said element defining a liquid supply port communicating with said surface and located along the path of movement of said cavity inlet, means in said element defining a liquid discharge port communicating with said surface and located along the path of movement of said cavity inlet in spaced relation to said fluid supply port, and cooperating means in said member and in said element for venting said cavity to the atmosphere when said cavity is in communication with said liquid supply port and for introducing pressure gas into said cavity when said cavity is in communication with said liquid discharge port, said cooperating means in said member comprising a passage having a relatively smaller cross sectional area normal to the direction of gas flow as compared to said cavity.

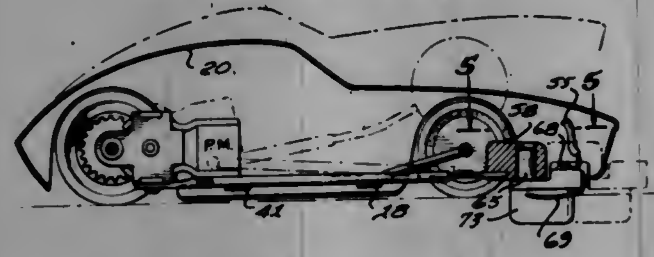


3,195,472
SLOT CAR RACER

Fred J. Rannalli, Santa Ana, Calif., assignor to James B. Gambrell

Filed June 5, 1964, Ser. No. 372,905

10 Claims. (Cl. 104—60)



1. In a slot car racer of the type designed to be guided along a track by a longitudinal slot formed in the roadbed thereof and having an electric motor energized by a source of power associated with the roadbed, the improvement in the slot guide suspension means comprising,

- a slot guide arm having a slot guide depending from one end,
- means connecting the other end of said arm to the frame of the car so that the movement of said arm is substantially restricted to a vertical plane and said slot guide is disposed toward the front of the car, and
- means urging said slot guide and arm downwardly toward the track whereby the slot guide rides interior of the slot in the roadbed as the car moves thereover.

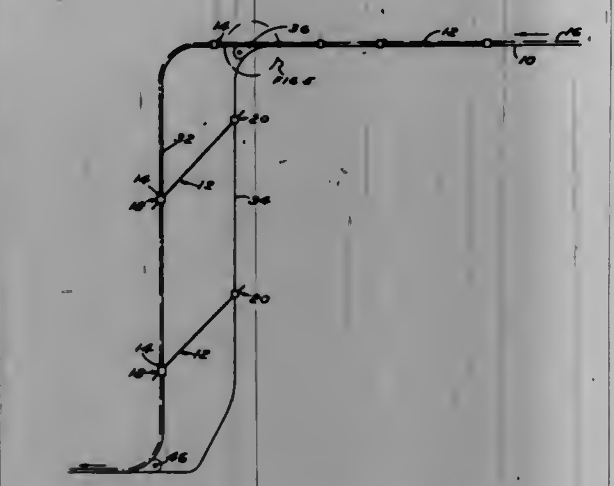
3,195,473
CONVEYOR SYSTEMS WITH SINGLE AND DOUBLE LOAD CARRIER TRACKS

Clarence A. Dehne, Garden City, Mich., assignor to Jervis B. Webb Company, Detroit, Mich., a corporation of Michigan

Filed Aug. 5, 1963, Ser. No. 299,864

3 Claims. (Cl. 104—91)

1. In a conveyor system in which load carriers are each supported from a main track by spaced front and rear trolleys for travel in end-to-end relation propelled by pushers of a main power line means for permitting the carriers to travel along a portion of the system in side-by-side relation comprising separate front trolley and rear trolley tracks extending from the main track in parallel spaced relation along said portion of the system, a switch zone at the entrance to said portion of the system, the switch zone including means for diverting the front trolley of a carrier onto the front trolley track and the rear trolley of the same carrier onto the rear trolley track, the transverse spacing between said separate front and rear trolley tracks along said portion of the system being substantially less than the distance between the front and rear trolleys of a carrier whereby a carrier traverses said portion of the system in oblique relation to the front and rear trolley tracks thereof, and means for propelling carriers along said portion of the system in side-by-side relation, said propelling means including a power line having a plurality of pushers mounted adjacent one of said front and rear trolley tracks and a driving dog on the corresponding one of said front and rear trolleys engageable by one of said pushers.

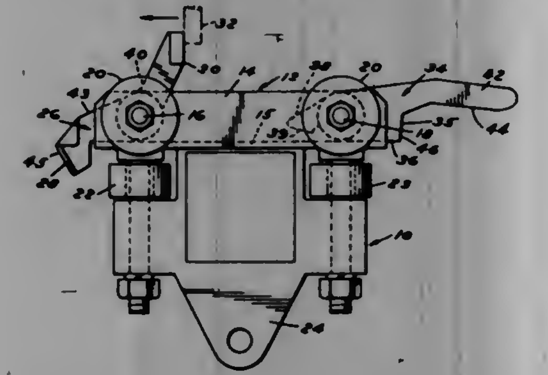


3,195,474
RELEASING DOG CARRIERS AND TROLLEYS FOR CONVEYOR SYSTEMS

Clarence A. Dehne, Garden City, Mich., assignor to Jervis B. Webb Company, Detroit, Mich., a corporation of Michigan

Filed Aug. 12, 1963, Ser. No. 301,380

8 Claims. (Cl. 104—172)



1. A construction for a leading and immediately following carrier of a conveyor system of the type wherein the carriers are equipped with a driving dog movable between driving and non-driving positions relative to a pusher of a driveline, characterized by:

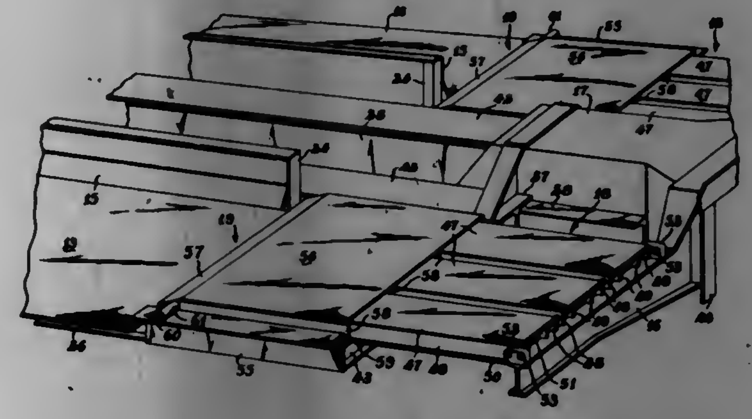
- (a) a dog depressing member secured to the leading carrier for movement about a pivotal axis extending transversely to the direction of carrier travel, means defining a normal position of said dog depressing member about its pivotal axis, means normally urging said dog depressing member to said normal position and means limiting movement of the said dog depressing member in an opposite direction, said dog depressing member having a finger-like portion projecting to the rear of the leading carrier with a camming surface formed on the underneath portion of said finger-like portion;
- (b) a dog positioning member mounted adjacent the front end of the following carrier for movement between driving and non-driving positions about a pivotal axis extending transversely to the direction of carrier travel, means normally urging said dog positioning member to driving position, said dog positioning member including a portion projecting forwardly of said following carrier, said forwardly projecting portion having an upper guide surface which extends forwardly and downwardly when the dog positioning member is in driving position and a crank portion projecting from the guide surface in a direction generally radial of the pivotal axis of the dog positioning member,
- (c) said guide surface of the dog positioning member being engageable by the camming surface of the dog depressing member when the following carrier overtakes a leading carrier and the end of the finger-like portion of the dog depressing member being directed by the guide surface into engagement with the crank portion of the dog positioning member to move the latter to a non-driving position defined by overlapping nested engagement between the dog depressing and positioning members.

3,195,475
DECK STRUCTURE FOR CUSHIONED RAILWAY CAR

William H. Peterson, Homewood, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed Sept. 10, 1962, Ser. No. 222,404

13 Claims. (Cl. 105—368)



1. In a railway car wherein coupler carrying housings are mounted at opposite ends of a car body for relative longitudinal movement therebetween, the provision of car body deck extension means mounted at least to one side of one coupler housing and fixed relative thereto for movement with said coupler housing, and means carried by said car body and telescopically receiving a part of said deck extension means therein to guide the same and accommodate relative movement as said deck extension moves with said coupler housing, said last named means being in the form of raised housings fixed relative to said car body and adapted to elevate wheel supported vehicles along said car.

3,195,476
RAILWAY CAR CUSHIONING ASSEMBLY

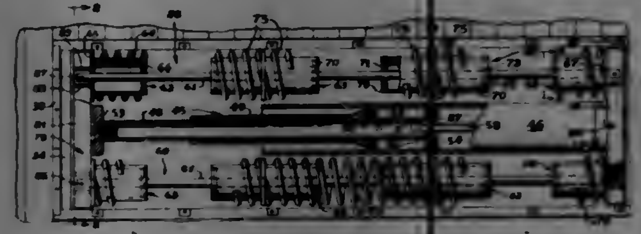
William R. Shaver, Hammond, Ind., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed May 15, 1963, Ser. No. 280,522

2 Claims. (Cl. 105—392.5)

1. In a railway car of the type characterized by an underframe and lading support means adapted for reciprocal longitudinal movement relative to the underframe, a cushioning arrangement for controlling relative longitudinal movement between the lading support means and

underframe in response to operational shocks in buff or draft comprising: a longitudinally extending hydraulic cushion device including two co-axial relatively movable elements symmetrically disposed with respect to a vertical plane containing the longitudinal center line of the underframe, a pair of resilient devices equally spaced one on each side of said plane for restoring the cushion device to neutral position, each of said resilient devices including; a rod parallel with the central longitudinal axis of the cushion device, which rod has its ends disposed generally abeam respective opposite ends of the cushion device, a plurality of separate, longitudinally spaced-apart, cylindrical guides co-axial with said rod and freely slidable thereon, each of said guides including an outwardly extending annular shoulder, two of said guides being transversely aligned with respective opposite ends of the cushion device, a plurality of helical springs disposed in tandem relation co-axially with said rod, each of which springs has its opposite ends in telescoping engagement with portions of a pair of said guides, respectively, with opposite ends of each spring engaging respective shoulders



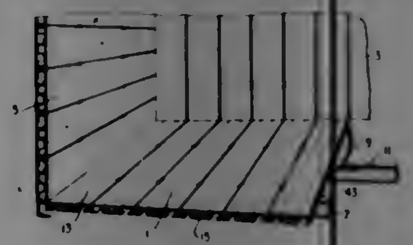
of the guides; a pair of transversely extending end members rigidly secured to respective opposite ends of the cushion device and rigidly secured to the guides transversely aligned with the ends of the cushion device, respectively, each of said end members being symmetrical with respect to a horizontal plane containing the longitudinal central axis of the cushion device and each of said end members being adapted to provide openings at opposite ends thereof for freely receiving said rods, respectively, upon relative movement between the member and the rods each of said end members having end spring guides coaxial with said rods and receivable within the end of the immediately adjacent springs to maintain the same in axial aligned force loading relation, first and second, longitudinal spaced-apart, transversely aligned stop means secured to said lading support means and engageable with said end members, respectively, and first and second, longitudinally spaced-apart, transversely aligned abutment means secured to said underframe and engageable with said end members, respectively, each of said stop means and each of said abutment means being symmetrical with respect to said vertical plane.

3,195,477
CONVEYANCE CONSTRUCTION

Bobby L. Jones and Charles R. Gray, both of Terre Haute, Ind., assignors to National Steel Corporation, a corporation of Delaware

Filed Oct. 5, 1961, Ser. No. 143,088

12 Claims. (Cl. 105—422)



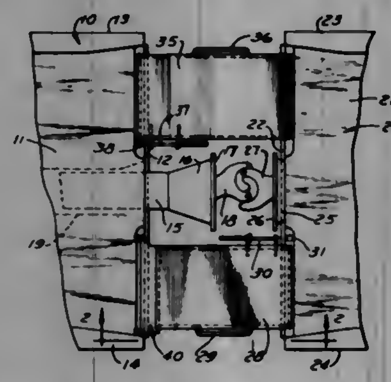
8. Freight conveyance floor construction comprising an elongated structural member in the form of a panel having a relatively narrow horizontal portion on either side thereof and a relatively wide depressed upwardly open central portion between said side portions extending substantially full length of the structural member and having upper terminal portions defining a horizontal spacing coplanar with said side portions, said depressed upwardly open central portion having a horizontal bottom portion being wider than said horizontal spacing coplanar with said side portions, said side portions of the panel having exposed coplanar freight-engaging upper surfaces which together provide a uniplanar freight-engaging face of the structural member, each exposed freight-engaging upper surface being narrower than said horizontal spacing coplanar with said side portions, the structural member having webs at either side thereof extending from said side portions of the panel away from said freight-engaging face in the same direction and for about the same distance as said depressed central portion of the panel, downwardly terminating portions of said webs being coplanar with the horizontal bottom portion of said depressed upwardly open central portion, with the depressed central portion of the panel disposed between and spaced from the webs of the structural member.

3,195,478
BRIDGE CONSTRUCTION FOR PIGGYBACK FLAT CARS

Earl L. Thompson, Chicago, Ill., assignor to Pullman Incorporated, Chicago, Ill., a corporation of Delaware

Filed Dec. 31, 1962, Ser. No. 248,460

1 Claim. (Cl. 105—458)



In a piggyback flat car of the type characterized by couplers adapted for longitudinal movement with respect to the deck portion of the flat car, which couplers project a substantial distance from the ends of the flat car to accommodate such movement, the provision of bridge construction associated with at least one end of said flat car adapting the same for piggyback loading comprising, a bridge plate mounted on the deck portion of said flat car at said one end thereof and on one side of the longitudinal centerline of the car for swinging movement about a horizontal transverse axis between a generally vertical transit position and a generally horizontal loading position, which bridge plate has a length substantially greater than the distance the coupler projects from said one end of the car thereb adapting the same to be supported at the free end thereof by a second flat car coupled at said one end of the first mentioned flat car, a separate bridge plate support disposed laterally of said bridge plate, which support comprises a transversely elongated frame structure having hinge means at each end thereof pivotally mounting the same on the deck portion of the first mentioned flat car at said one end thereof and on the other side of said centerline, said support being adapted to swing about a horizontal transverse axis between a loading position wherein the support extends beyond the end sill at said one end of the first mentioned flat car to constitute an extension of said deck portion and a transit position wherein the support rests on the deck portion of the first mentioned flat car, said frame structure comprising, a

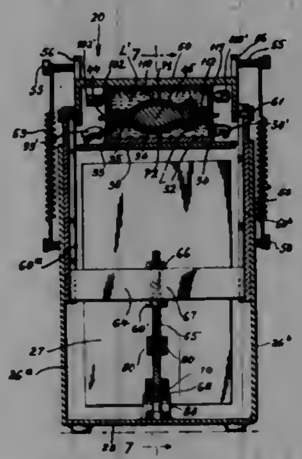
deck plate, which deck plate lies in a horizontal plane when said support is in the loading position thereof, a transversely extending structural member secured to the underside of said deck plate at the marginal portion thereof remote from said end sill, at least one end plate at each end of said frame structure, each of said end plates extending laterally of the frame structure and being secured to the underside of said deck plate and to said structural member, said end plates being spaced apart to accommodate a grab rail mounted on said end sill when said support is in the loading position thereof, the innermost of said end plates having the depending portion, which portion has a pad secured to one edge thereof, said pad abutting said end sill when said support is in a loading position thereof for maintaining said deck plate in a horizontal plate when the support is subjected to a load.

3,195,479
AUTOMATIC MACHINE FOR MAKING HOLLOW CANDY FIGURES

Zoltan Beck, 662 Eastern Parkway, and Peter Toth, 210 E. 51st St., both of Brooklyn, N.Y.

Filed July 22, 1963, Ser. No. 296,795

2 Claims. (Cl. 107—15)



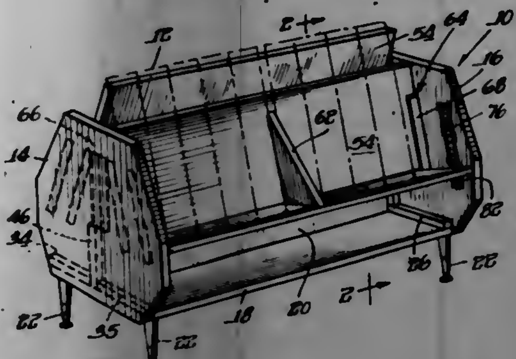
1. In a machine for making molded candy figures from confectionery sheets, a stationary first female mold member having a first cavity therein for receiving a first portion of a first pliable confectionery sheet, a mold plate pivotably mounted near said mold member for overlaying the same in one position of the plate and for clearing the mold member in another position of the plate, said mold plate having a mold body with two male mold elements extending outwardly of opposite sides of the mold plate, one of said mold elements fitting into said cavity for molding said confectionery sheet portion therein in said one position of the plate, a second female mold member having a second cavity therein for receiving a portion of a second pliable confectionery sheet, spring-pressed means including a lever movably carrying said second female mold member to overlay the first mold member in one position thereof and to clear the first mold member and mold plate in a second position thereof, and lever operated means for pressing the first and second mold members together with the mold plate therebetween in said one position thereof and with the mold plate absent therefrom in the other position of the mold plate, the other of said mold elements extending into the second cavity for molding a second confectionery sheet portion therein when the mold plate is in said one position thereof, said lever operated means including a lever and an actuating pedal on said second-named lever operable by an operator's foot to leave the operator's hands free for placing confectionery sheets between the mold members, raising and lowering said second female mold member, pivoting the mold plate, and removing the formed candy figure.

3,195,480
FIXTURE FOR DISPLAYING YARD GOODS

Ralph Meyer, Park Forest, Ill., assignor to Skyline Manufacturing Co., Chicago Heights, Ill., a corporation of Illinois

Filed Aug. 14, 1963, Ser. No. 302,160

7 Claims. (Cl. 108—13)



1. A fixture of the type described comprising opposed upstanding and spaced apart end means, a shelf and top unit extending between said end means, said unit including a shelf member and a top member connected to and extending angularly with respect to said shelf member, and mounting means on said end means for selectively supporting said unit in first and second positions in which first position said top member extends upwardly from said shelf member and in which second position said top member extends generally horizontally, said mounting means including a generally upstanding channel member on one of said end means for slidably receiving an end margin of said top member when said unit is in said first position.

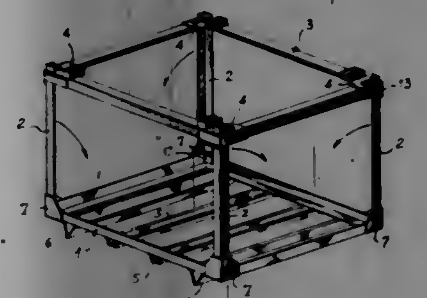
3,195,481
FOLDABLE METALLIC FRAMEWORK

Pierre-Louis Verguin, 5 Rue de Lille, Casablanca, Morocco

Filed Dec. 14, 1962, Ser. No. 244,802

Claims priority, application Morocco, Dec. 20, 1961, 12,068

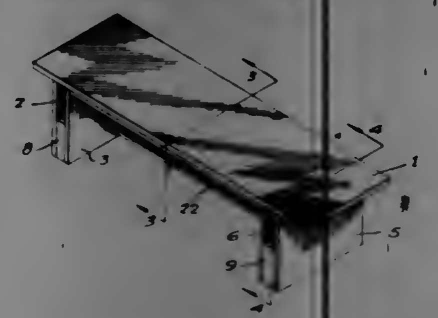
7 Claims. (Cl. 108—53)



1. In a foldable metal framework for enclosing material contained in rectangular cardboard boxes to form therewith a substantially non-deformable unit: four identical horizontally extending right angle irons; four gussets, each of which joins a respective pair of said angle irons together at right angles to one another, so that the ensemble of said gussets and said angle irons form a horizontal rectangular base frame; each of said horizontally extending angle irons having a horizontal portion and a vertical portion, said two portions being joined along a common longitudinal side, and each being joined to its associated gussets in such a way that said horizontal portion extends inwardly from said common longitudinal side to the inside of the region defined by said base frame and said vertical portion extends upwardly from said common longitudinal side; four identical upright angle irons each of which has a pair of mutually perpendicular portions joined along a common longitudinal side and each of which has a smaller length than said horizontal angle irons; capping means for each of said upright angle irons comprising a flat piece connected across one end of each of said upright angle

irons, said piece being connected between said mutually perpendicular portions of each of said upright angle irons; four hinge means, each of which comprises a lower support member, an upper support member, and a pivot member pivotally joining said support members; first fastening means connecting said lower support member of each of said hinge means to one extremity of the vertical portion of a respective one of said horizontally extending angle irons in such a way that the axis of rotation of said pivot member is parallel to, and at the same height as, the upper longitudinal side of said vertical portion; second fastening means connecting said upper support member to the other end of a respective one of said upright angle irons in such a way that the longitudinal dimension of each respective upright angle iron is perpendicular to the axis of rotation of its associated pivot member, that when each angle iron is in its vertical position, the transverse edge of said other end of one of said planar portions abuts against said upper iongitudinal side of said vertical portion of the respective horizontal angle iron to which it is connected, and that when each of said uprights is in its vertical position each of its mutually perpendicular portions extends from said common longitudinal side towards a respective adjacent corner of said base frame; and a unitary rectangular cover frame having the same horizontal dimensions as said base frame and having a slot formed in each of its corners through each of which is inserted said one end of a respective one of said upright angle irons.

3,195,482
ADJUSTABLE TOP TABLE
Warren E. Whitfield, 928 Carraway St., Tallahassee, Fla.
Filed Nov. 4, 1963, Ser. No. 321,148
2 Claims. (Cl. 108—138)



1. A table comprising a table top, at least a pair of panels, means connecting said panels in spaced apart relation, a pair of tubes each mounted diagonally of an on a different one of said panels, a pair of rods each slideably mounted in a different one of said tubes and fixedly connected to said table top and means for at times retaining said rods relative to said tubes consisting of a control rod extending between and rotatably mounted through said panels, at least one radial finger fixedly connected to said control rod and positioned for engaging one of said pairs of rods, resilient means tending to hold said finger against said one of said rods at various positions therealong for restraining said one of said rods from entering its tube and thus the lowering of said table top and a handle for turning said control rod.

3,195,483
FUEL BURNER ASSEMBLY
Gilbert C. Whitney, Jr., Dansville, N.Y., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Filed Dec. 21, 1962, Ser. No. 246,503
1 Claim. (Cl. 110—104)

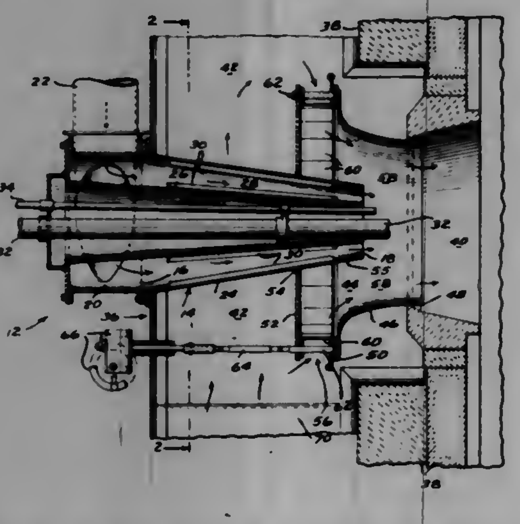
A fuel burner assembly comprising:

a windbox arranged to be disposed adjacent a burner port and adapted to receive combustion air from a suitable source;

an elongated frusto-conical fuel burner nozzle having a longitudinal axis and extending through said windbox toward said burner port, the nozzle having a narrowmost outlet end adjacent said burner port for the discharge of fuel for combustion, the nozzle outlet end lying in a plane perpendicular to the nozzle axis and spaced from the burner port;

said windbox including a bell-shaped baffle means having a large circumference end remote from the burner port and a small circumference end terminating at the burner port separating the inside of the windbox into a plenum chamber and an elongated annular secondary air passageway encompassing the fuel burner nozzle;

the baffle means comprising a first portion co-axial with, surrounding, and spaced from the burner nozzle extending from the large circumference end substantially to the plane of the outlet end of the burner nozzle and having a long radius curvature between the large circumference end and plane of said outlet end, the baffle means further comprising an annular smooth-walled tubular second portion continuous with the first portion extending between the plane of said outlet end and the burner port, said second portion having an angle of convergence so that the surface of the second portion is approximately parallel with the surface of the burner nozzle;



a washer-like element connected to and extending radially outward from said burner nozzle defining with the bell-shaped baffle means a circumferential opening constituting the secondary air passageway inlet and facing radially relative the burner nozzle into the plenum chamber;

the inlet end of the secondary air passageway having a cross-sectional area proportioned so that it is approximately one and a half times the cross-sectional area of the passageway in the plane of said outlet end of the burner nozzle defined by the bell-shaped baffle means and burner nozzle;

vane means disposed in the passageway inlet end arranged to impart a helical rotational flow to the secondary air;

the windbox and passageway being arranged for relatively free unobstructed flow.

3,195,484
CONTINUOUS VACUUM FILTER AND COMBUSTION SYSTEM UTILIZING THE SAME
James T. Clancey, Pittsburgh, and Robert J. Meyers, Bethel Park, Pa., assignors to Consolidation Coal Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Sept. 24, 1962, Ser. No. 225,462
7 Claims. (Cl. 110—106)

7. Coal feeding apparatus for a boiler heated by a pulverized fuel burner, said apparatus adapted to maintain the steam pressure of said boiler at a predetermined value, said apparatus comprising

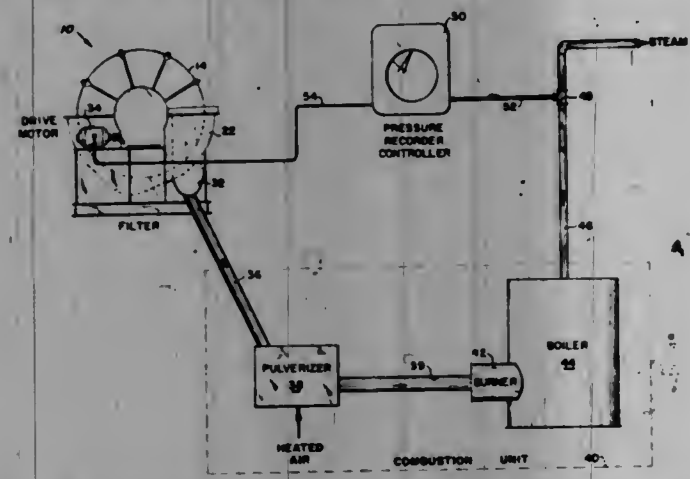
(a) a continuous rotary vacuum filter having elements with hollow interior portions and liquid permeable surfaces, means to evacuate said hollow interior portions to a pressure less than atmospheric pressure to thereby filter a mixture of particulate coal and water to thereby form on said filter a filter cake of coal particles,

(b) filter drive means to drive said filter at variable rotary speeds,

(c) mechanical means positioned in said filter in a region where said filter element is subjected to a pressure less than atmospheric pressure to thereby limit the maximum thickness of said filter cake that can form on said filter,

(d) gathering means to remove and collect said filter cake from said filter,

(e) a coal pulverizer adapted to comminute the particulate coal of said filter cake,



(f) feed means to convey said filter cake from said gathering means to said coal pulverizer,

(g) fine coal conveying means to convey coal from said pulverizer to said fuel burner for combustion therein,

(h) a steam outlet line adapted to conduct steam from said boiler,

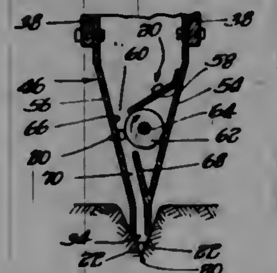
(i) a pressure tap formed in said steam line,

(j) control means to compare the value of steam pressure within said steam line to said predetermined value,

(k) means to operatively connect said pressure tap to said control means, and

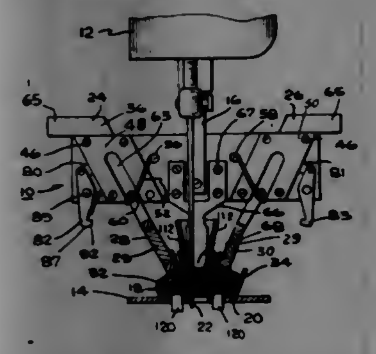
(l) means to operatively connect said control means to said filter drive means whereby said control means causes the speed of said filter drive means to increase when said steam pressure within said steam line falls below said predetermined value and causes the speed of said filter drive means to decrease when said steam pressure within said steam line exceeds said predetermined value.

3,195,485
ORIENTATION PLANTING APPARATUS
Marlyn Ward Reynolds, Altona, Ill.
Filed May 21, 1963, Ser. No. 282,539
14 Claims. (Cl. 111—86)



13. In apparatus for planting seeds with their flat sides disposed vertically, seed-orienting means comprising: chamber means for receiving randomly disposed seeds; chute means aligned beneath said chamber means and including a substantially vertically passageway for passing seeds under the influence of gravity; relatively fixed surface means disposed in said passageway for contacting a falling seed at a flat side thereof; and relatively movable surface means spaced from said relatively fixed surface means for contacting a seed and inducing a turning thereof to display a flat side to said relatively fixed surface means, whereby said relatively movable surface means cooperates with said relatively fixed surface means to orient said seed with the flat sides thereof disposed vertically.

3,195,486
PRESSER FOOT AND GUIDE MECHANISM FOR SEWING MACHINES
Francis A. Egert, Philadelphia, Pa., assignor to The Wool "O" Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Mar. 22, 1963, Ser. No. 267,285
5 Claims. (Cl. 112—139)

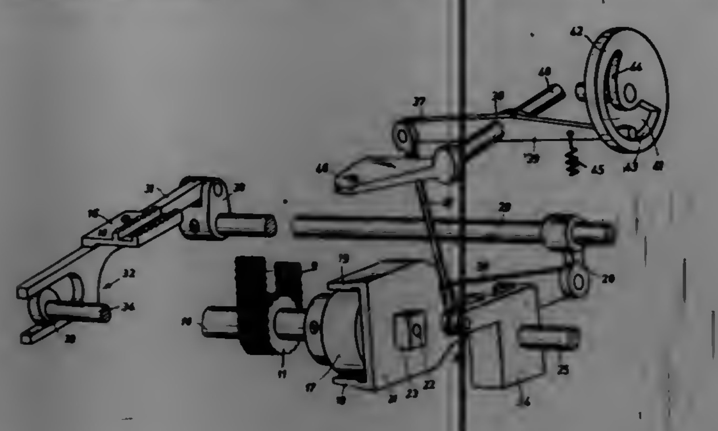


1. A presser foot and guide mechanism for a sewing machine having a reciprocating needle, a presser foot bar and a table, said mechanism comprising a presser foot device attached to the presser foot bar of the sewing machine, said presser foot device comprising two feet each one movable linearly at an angle to the other and on opposite sides of said needle, said feet being each also movable from an upper position to a lower position wherein said feet are adapted to engage with the braids to be sewn together, means for locking each foot in its lower position, and a central presser plate having an opening to allow passage therethrough of said needle, said central presser plate having a guide rib adapted to interfit with the braids to be sewn together, and a shield carried by said central presser plate about said needle, said shield and feet defining two spaces on opposite sides of said needle when said feet are in their lower positions into which portions of the braids extend during sewing thereof.

3,195,487
DRIVE MECHANISM FOR FEED DOGS OF SEWING MACHINES
Rudolf Reeber, Neukeferloch, Germany, assignor to G. M. Pfaff A.G., Kaiserslautern, Pfalz, Germany
Filed Aug. 8, 1963, Ser. No. 300,809
Claims priority, application Germany, Aug. 8, 1962, P 29,978
2 Claims. (Cl. 112—215)

1. A sewing machine of the type having a feed dog, a feed bar drive shaft and a lower drive shaft for driving the looper and drive means connected between said drive shafts for effecting the feeding movement of said feed dog, said drive means including a feed bar supporting said feed dog and operatively connected to said feed bar drive shaft, an eccentric bar pivotally connected at one end to said feed bar drive shaft and having two eccentric engaging jaws at the other end, an eccentric member mounted on the free end of said lower drive shaft, said eccentric bar having a bridge member intermediate said two jaws, said bridge member having a stud extending substantially coaxially with the axis of said lower drive shaft

and a sliding block rotably mounted on said stud, and a slotted member means rotatably mounting said slotted member on said machine, adjusting means connected to said slotted member for adjustment thereof into different positions of obliqueness, said slotted member receiving

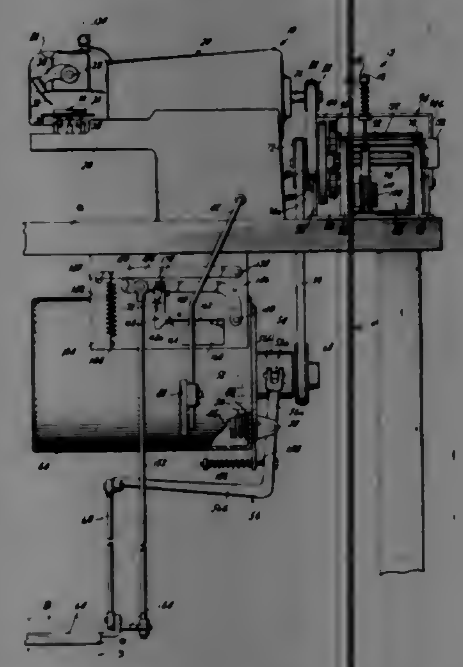


said sliding block and said sliding block being slidable in said slotted member transversely of the axis of said lower drive shaft in response to movement of said eccentric with said lower drive shaft to effect adjustment of said drive means.

3,195,488

NEEDLE POSITIONING MECHANISM FOR A SEWING MACHINE

Ragnar W. Winberg, 115 W. Elder Ave., Floral Park, N.Y.
Filed May 31, 1963, Ser. No. 284,588
8 Claims. (Cl. 112—219)

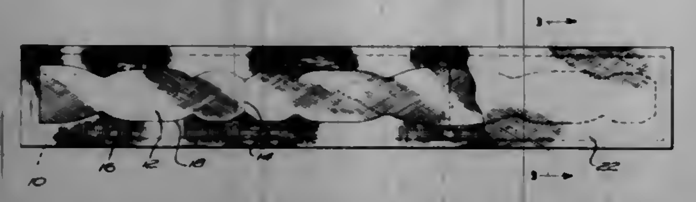


1. In a sewing machine, stitching mechanisms having a needle which enters and is withdrawn from the work during successive stitching cycles, a selective main drive coupled to said stitching mechanisms, a movable control normally disposed in a neutral position and operatively connected to and controlling said main drive, a needle positioner operatively connected to said stitching mechanisms and operable in response to movement of said control for moving said needle to an oriented position relative to said work, said needle positioner including an auxiliary driven member coupled to said stitching mechanisms, an auxiliary drive including an auxiliary driving member movable into and out of driving relation to said auxiliary driven member, said auxiliary driving and driven members cooperating in one position relative to each other to establish said oriented position for said needle, and means responsive to movement of said control into said neutral position for moving said auxiliary driving member into driving relation with said auxiliary driven member.

3,195,489

METHOD OF MAKING AN ORNAMENTAL FABRIC

Estephan D. Estephanian, Worcester, Mass., assignor to Estebar, Inc., Manchester, N.H., a corporation of New Hampshire
Filed June 20, 1962, Ser. No. 203,824
1 Claim. (Cl. 112—266)

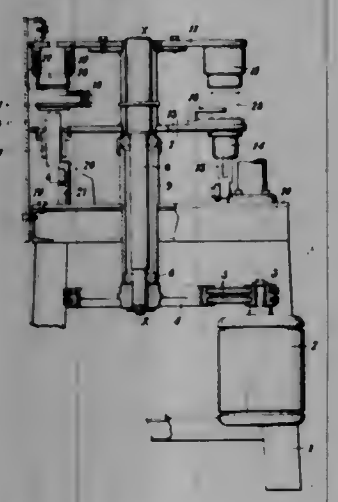


A method of ornamenting a knitted panel for a knitted swimsuit which is extensible longitudinally and laterally, which comprises stitching to the edges of the knitted panel pieces of relatively inextensible cloth having edges complemental to the edges of the panel to which said pieces are stitched, applying tension to said pieces of cloth to stretch said panel longitudinally and laterally, overlaying the stretched panel with a layer of thin flexible fabric, stitching said layer to said stretched panel by lines of stitching forming an ornamental design, releasing the stretched panel, and trimming said pieces of inextensible fabric from the panel.

3,195,490

MACHINE FOR FIXING KEYS ON METAL CANS, BY ENGAGING SAID KEYS ALONG A DIAMETER OF THE COVER UNDER THE EDGE OF THE COVER CRIMPING

Pietro Sada, Aprilia, Latina, Italy, assignor to Industrie Verwertungsprodukte Anstalt, Vaduz, Liechtenstein
Filed Dec. 20, 1962, Ser. No. 246,151
Claims priority, application Italy, Oct. 17, 1962, 77/253
6 Claims. (Cl. 113—1)



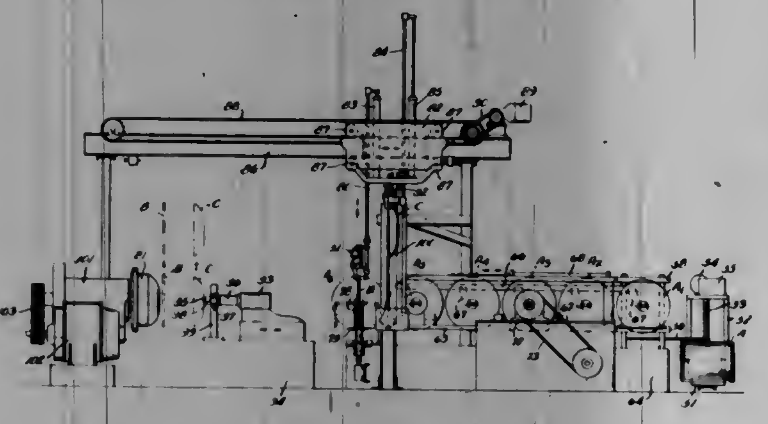
1. A machine for attaching keys to metal cans by securing said keys between two diametrically opposite crimping zones of the cover of the cans, comprising in combination a base, an electric motor mounted on said base having a vertical drive shaft, a first pulley secured to said shaft, a platform connected to said base above said first pulley, a hollow shaft fixed to said platform and passing through said platform, a driven shaft extending through said hollow shaft, bearing means rotatably supporting said driven shaft within said hollow shaft, a second pulley on the lower end of said driven shaft, means coupling said first pulley with said second pulley, a first rotary disc fixed to said driven shaft, a second rotary disc fixed to said driven shaft above said first disc, a plurality of punches secured to the lower face of said second rotary disc and angularly equispaced on a circle coaxial with the axis of said driven shaft, said first rotary disc having a like plurality of bores in register with said punches, pistons slidably arranged in said bores, can supporting plates secured

to the upper ends of said pistons, followers rotatably secured to the lower end of said pistons, a cam fixed to said platform to cooperate with said followers to move said pistons and said can supporting plates upwardly towards said punches, means for supplying a key to said punches and the covers of cans located on said supporting plates, said upward movement of said can supporting plates causing engagement of said punches by said can covers wherein said key is secured by two diametrically opposite crimping zones, means for removing cans with keys attached thereto and means for supplying cans to be provided with keys.

3,195,491

EQUIPMENT FOR PRODUCING TAPERED DISK WHEELS

Walter W. Bulgrin, Akron, Ohio, and Gordon C. J. Parent, Southgate, Mich., assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Original application Sept. 26, 1960, Ser. No. 58,580. Divided and this application Nov. 29, 1961, Ser. No. 155,788
11 Claims. (Cl. 72—82)

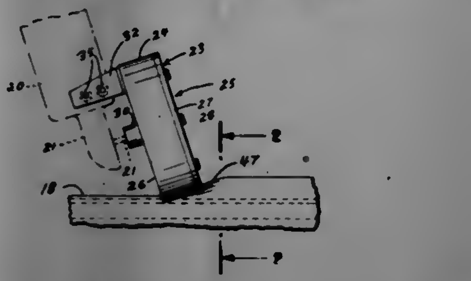


1. Apparatus for continuously spinning wheel disks of curved bowl shape successively from flat circular axially perforate blanks, including a linear track for guiding a succession of blanks in vertical position, a swinging rack pivotally attached parallel with said track for carrying a blank from horizontal position to vertical position at one end of said track, means for supporting a stack of blanks, a transfer arm having a floating pivot for transferring blanks successively from said stack to said rack in horizontal position, a reciprocable arm parallel to said track, means on said arm for engaging a plurality of said blanks on said track to advance them step-by-step to a plurality of stations, means at one of said stations for automatically machining the outer edge of a blank, means at another station for lubricating the surface of a blank, a turntable at the opposite end of said track for rotating each blank 90°, an overhead discharge chute running transversely of said track, a spinning mandrel aligned with said track and having a convexly curved outer surface, a tailstock aligned with said mandrel and movable toward and away therefrom and adapted selectively to hold a blank against said mandrel and a bowl spaced from the mandrel, a tool carriage mounted for substantially universal movement laterally opposite said mandrel, a spinning tool rotatably mounted in a bearing housing in a yoke on a cross slide on said carriage, a template mounted on said tool carriage, a follower on said cross slide for guiding said tool, an overhead carriage having rollers engaging a beam and movable longitudinally of said track and mandrel, a pair of vertically reciprocable lifting arms on said carriage having clamping jaws, one to clamp a blank and the other to clamp a bowl, and said arms adapted selectively to pick up a blank from the turntable and drop a spun bowl into said discharge chute, and to position a blank at the mandrel and remove a bowl from the tailstock.

3,195,492

JOINT LOCK HAMMER

Arthur M. Erickson, 1413 Jackson St., Seattle, Wash.
Filed May 23, 1962, Ser. No. 197,825
13 Claims. (Cl. 113—54)



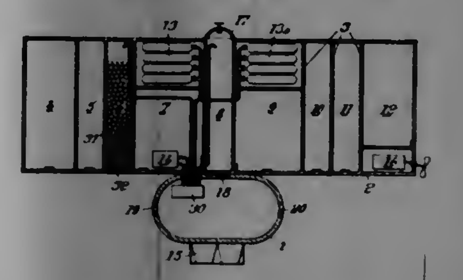
1. A hammer to fold over the outstanding edge of a metal joint in a manner to close the joint, said hammer comprising:

(a) a housing defining a continuous annular race,
(b) at least one contact member arranged for travel along said race and constrained in a circular path by said race,
(c) a cutout in said housing to expose a portion of said race in a manner that said contact member will protrude into said cutout as it travels along said race, and
(d) drive means in said housing to cause said contact member to travel along said race, whereby the hammer may be located in a manner that said outstanding edge reaches into said cutout, causing the contact member to impinge on said outstanding edge so as to fold said edge into locked position.

3,195,493

SUBMARINE MACHINES

André Lacam, Chaville, and Boris Vodar, Paris, France, assignors to Centre National de la Recherche Scientifique, Paris, France, a French government administration
Filed Apr. 2, 1963, Ser. No. 269,939
Claims priority, application France, Apr. 4, 1962, 893,317
7 Claims. (Cl. 114—16)



1. A submarine machine comprising a frame and a fixed number of sustaining bodies at least the outer wall of which is solid and uninterruped, said bodies being operatively connected with said frame to transmit thereto an upward thrust, the specific gravity of said bodies being less than 1 and their compressibility being less than that of water, the number of said bodies being such that the total upward thrust they exert in water on said frame is equal to at least a substantial portion of the total apparent weight in water of the remainder of said machine.

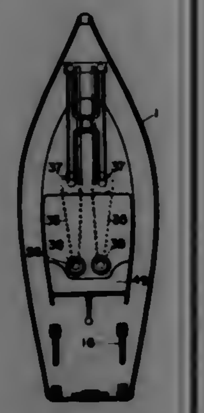
3,195,494

SAIL CONTROL FOR VESSELS

Philip T. Robin, 2006 W. 4th St., Erie, Pa.
Filed Apr. 30, 1964, Ser. No. 363,963
5 Claims. (Cl. 114—39)

1. In combination, a sailing vessel, a sail and a sail rig, said sail comprising a generally trangular sail membrane,
strut means attached to the aft end of said boat and extending upwardly and forwardly therefrom,

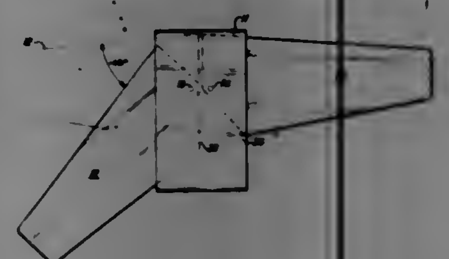
a generally triangular frame comprising a base member and two strut members fixed together in generally triangular relation,
said strut members being fixed together at a first end thereof defining an apex and each said strut being fixed to said base member at an opposite end thereof from the other,
said apex end of said struts being fixed to said strut means at its upper end.



a universal joint fixed to said base member at an intermediate position thereon,
a traveler connected to said universal joint,
guide members on said boat generally parallel to the keel thereof and means on said traveler to guide it on said guide members,
and means to rotate said universal joint relative to said traveler whereby said sail membrane may be rotated relative to said vessel and the bottom of said sail may be moved forward and aft relative to said vessel.

3,195,495
HYDROFOIL BOAT

Oscar Erlandsen, Garden City, N.Y., assignor to Thurston Erlandsen Corporation, Sanford, Maine, a corporation of Maine
Filed Mar. 13, 1963, Ser. No. 264,958
3 Claims. (Cl. 114—66.5)

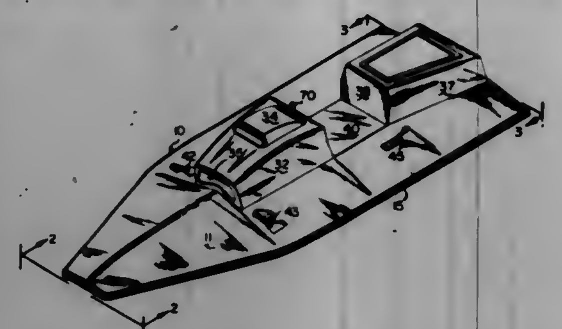


1. In a water borne vehicle including a hull and a hydrofoil having continuous leading and trailing edges extending generally transverse to the longitudinal axis of said hull, the improvement in combination therewith wherein said hydrofoil includes a stationary mid-section and a section on each side of said stationary section, and further comprising means to pivot each side section through a variable sweep back angle without braking the continuity of said leading and trailing edges whereby the plan view of said hydrofoil is continually changed with said pivoting.

3,195,496
HYDROFOIL BOAT

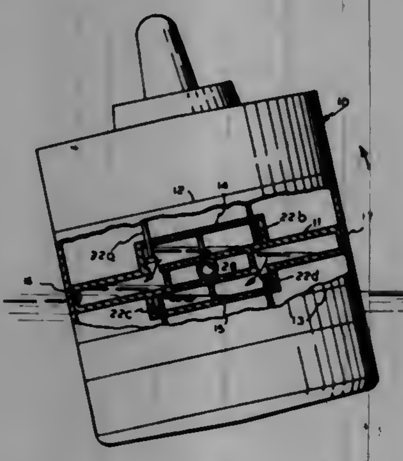
Nicholas A. Skuce II, 4748 [illegible] Ave.,
El Monte, Calif.
Filed Nov. 12, 1963, Ser. No. 322,809
3 Claims. (Cl. 114—66.5)

1. In a boat construction, in combination, means comprising a relatively shallow draft hull, said hull having a longitudinal center keel portion and having first bottom surfaces extending laterally therefrom, generally flat surfaces forming chines outboard of said longitudinal center keel and inclined upwardly from said first bottom surfaces, said chines having a sufficient transverse dimension relative to the draft of the hull and the configuration of the boat and the boat having a beam dimension which is sufficiently large with respect to the draft, whereby the boat may travel on the water on the generally flat surfaces adjacent to the center keel or on the said flat surfaces forming chines, said center keel and the lower edges of said chines being linearly continuous from the stern to substantially the forward end of said boat.



3,195,497
TANK STABILIZING SYSTEM FOR A SHIP AND THE LIKE

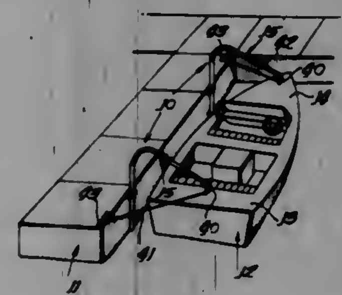
Sheldon B. Field, Floral Park, N.Y., assignor to John J. McMullen Associates, Inc., New York, N.Y., a corporation of New York
Filed Feb. 28, 1963, Ser. No. 261,797
7 Claims. (Cl. 114—125)



1. In combination with a ship's hull, a head tank extending horizontally of the hull and having it vertical axis coinciding with the vertical axis of the hull, horizontal port and starboard wing tanks disposed vertically below said head tank and disposed on opposite sides of the hull with their inboard sides adjacent the bottom of said head tank, a horizontal sump tank disposed in vertical alignment with said head tank and disposed below said wing tanks with the inboard sides of the wing tanks adjacent the opposite sides of the sump tank, port means disposed between said head tank and wing tanks for discharging liquid from said head tank to said wing tanks, other port means disposed between said sump tank and wing tanks for discharging liquid from said wing tanks into said sump tank, pump means for flowing liquid from said sump tank to said head tank, valve means for controlling the passage of liquid through said port means and other port means, hydraulic control means for actuating said valve means, said port means comprising corresponding openings in the head and wing tanks on opposite sides of the bottom of the head tank and on the inboard side of said wing tanks in the tops thereof, said other port means comprising corresponding openings in the sump tank on opposite sides of its top and on the inboard side of the wing tanks in the bottoms thereof, said valve means being plunger-type valves disposed in said corresponding and other corresponding openings, said hydraulic control for actuating said valve means including a cylinder and piston, said cylinder having a U shaped pipeline connecting in communication with each end of the cylinder, a solenoid valve disposed in said pipeline connection, and a recirculation pump having an inlet side and outlet side communicating with said pipeline connection through said solenoid valve for supplying liquid under pressure to the opposite ends of said cylinder.

3,195,498
BOAT MOORING ARM ARRANGEMENT

Robert A. Johns, Racine, Wis., assignor to Fabricast Manufacturing Co., Woodstock, Ill., a corporation of Illinois
Filed Apr. 14, 1964, Ser. No. 359,601
2 Claims. (Cl. 114—230)

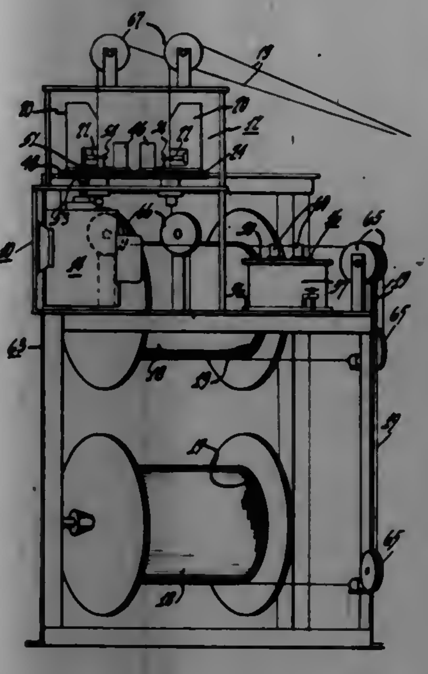


1. A mooring arrangement for maintaining a boat in laterally spaced moored position relative to a dock comprising:
(a) a pair of mooring arms;
(b) each arm including a first upright member of substantial length;
(c) means connecting said upright member to a dock;
(d) said upright member having an inclined outwardly of the dock upper end portion of shorter length than said upright member and providing a spring seat;
(e) a coil spring supported on said seat and normally projecting in inclined relation with respect to the lower end of said upright member;
(f) a second normally upright member having a lower end portion connected to said coil spring;
(g) said second member including an upper end having a flexible member connector connected thereto;
(h) flexible members connected to said connectors and to longitudinally spaced portions of a boat; whereby said second members are disposed in substantially horizontal positions relative to said first members and said boat may move freely vertically relative to a dock; and said second upright members are returned by said springs to their normal position upon disconnection from said boat.

3,195,499
WIRE MARKING APPARATUS

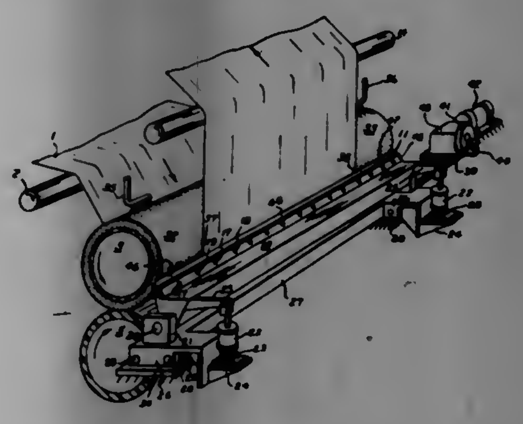
Harry D. Williams, Bloomington, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 9, 1960, Ser. No. 74,842
5 Claims. (Cl. 118—7)

1. A wire striping apparatus comprising a container for a marking liquid, a marking applicator extending into said container, said applicator comprising a tubular member through which said liquid can flow, valve means positioned within said tubular member and including a valve member movable axially along said tubular member to and from open and closed positions, first means for biasing said valve member into said closed position when said container is stationary, means for rotating said container, second means responsive to rotation of said container for biasing said valve member into said open position when said container is rotating, and means independent of said first and second means for selectively locking said valve means in either an open or a closed position when said container is stationary.



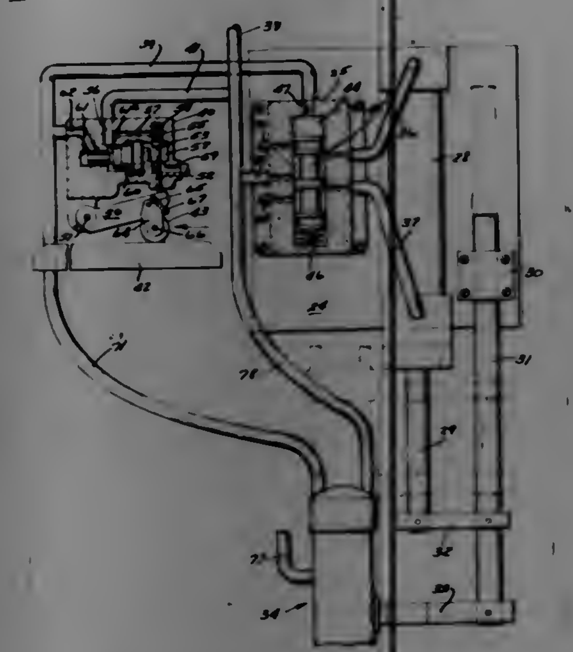
3,195,500
ABRASIVE WORK BACK-UP TO RECONDITION DOCTOR BLADE

Paul T. Kuhnel, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Aug. 29, 1962, Ser. No. 220,247
2 Claims. (Cl. 118—70)



1. The combination in a coating device for a traveling paper web or the like, of a longitudinally extending backing roll having a resilient deformable peripheral cover for supporting a traveling web wrapped therearound, a longitudinally and transversely flexible doctor blade extending axially with said backing roll and defining with said backing roll a nip through which said web passes, means for urging said doctor blade against the backing roll and a web thereon to load the flexible doctor blade against the roll and web, means on the oncoming side of the nip for applying an excess of coating composition to the side of the web on which the doctor blade bears, said doctor blade extending substantially the full length of said backing roll and exerting a pressure against said backing roll and traveling web which locally deforms the web and the backing roll over the length of the backing roll, and said backing roll being characterized by a grit containing surface which wears said doctor blade in portions of the backing roll exposed to the doctor blade and which surface also provides traction for the traveling web.

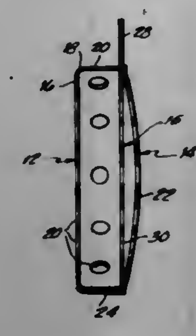
3,195,501
APPARATUS FOR SPRAY COATING GLASSWARE
Marvin L. Barkhau, Elmore, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Feb. 20, 1961, Ser. No. 90,355
7 Claims. (Cl. 118—323)



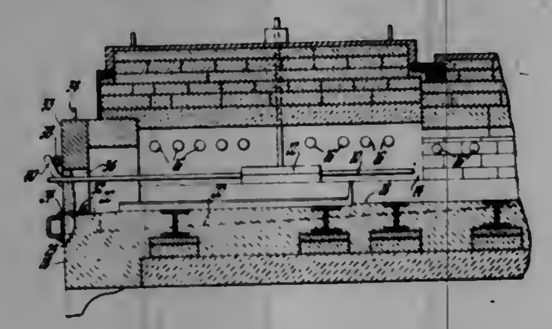
1. In a spray mechanism for spray coating open mouth, hollow articles arranged in upright fashion in plural transverse rows on a slow moving conveyor, the combination comprising a transverse overhead carriage, a spray head assembly movable along said carriage, drive means connected to said carriage for reciprocally and cyclically moving said assembly in controlled fashion in a horizontal path along said carriage for treating said hollow articles, said assembly comprising a spray nozzle constructed to emit a downward substantially 180° fan-shaped zone of a spray of the coating material, a reversible motor, means connecting said nozzle and said motor for moving the nozzle between a lowered spraying position whereat the nozzle is at a level lower than the top edge of the open-mouthed articles and a retracted position whereat the nozzle is raised above the open-mouthed articles, said drive means for said assembly moving the nozzle in one direction along said horizontal path between two adjacent rows of said articles, control means for said motor for lowering the spray nozzle to spraying position in response to movement of the spray mechanism along said carriage by said drive means in the said one direction of movement between the two adjacent rows of said articles and raising the spray nozzle to retracted position in the other direction of movement, and means to activate the spray nozzle for spraying a coating material in response to its being lowered to the spraying position, said last-mentioned means rendering the spray nozzle inactive in response to its being raised to retracted position.

3,195,502
TISSUE RECEPTACLE
Ira M. Levy, Yonkers, N.Y., assignor to The Technicon Company, Inc., Chauncey, N.Y., a corporation of New York
Filed Oct. 22, 1962, Ser. No. 231,966
6 Claims. (Cl. 118—500)

1. A tissue receptacle for use in processing human or animal tissue specimens for microscopic examination, comprising a receptacle body and a removable cover therefor releasably securable to said receptacle body, said receptacle having a plurality of openings for the passage of tissue-processing liquid into the receptacle, and an identification member mountable in said receptacle to identify the tissue therein, said identification member having a plurality of openings for the passage therethrough of tissue processing fluid, said cover comprising a flexible disk and circumferentially spaced fingers releasably engageable with the receptacle body for said securement of the cover thereto, said identification member having a part projecting from said first mentioned part to a position externally of the receptacle between two of said fingers of the cover.

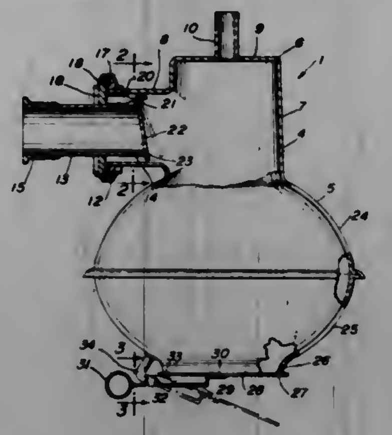


3,195,503
METAL TREATING FURNACE CONSTRUCTION
Alexander M. Beebee, Jr., Webster, and Edward H. Kollbab and Donald K. Van Zile, Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 27, 1961, Ser. No. 141,123
1 Claim. (Cl. 118—641)



Apparatus for treating workpieces with molten metal comprising a thermally insulated chamber. means to control the atmospheric conditions within the chamber, a reservoir for said molten metal employed in treating said workpieces, said reservoir disposed within the chamber and spaced from the floor thereof, the atmospheric conditions being suitable to maintain the metal within the chamber in a molten condition, the chamber having a refractory floor, the floor having formed therein a distinct trough the surface of which is of monolithic construction and which is inclined toward a point of exit in the chamber, the cross-section of the trough being essentially semicircular, the trough being located beneath the reservoir to collect excess molten metal falling from the reservoir and from the workpieces being treated, removable means to close the exit including a plug having an essentially semicircular cross-section corresponding to the cross-section of the trough and being disposed within the trough such that a portion of the plug extends externally of the chamber, the plug having formed therein a spiral groove such that the groove is adjacent the surface of the trough when the plug is placed therein, a cord of heat resistant material adapted to fit into the groove to provide a fluid-tight seal between the plug and the surface of the trough, and weighted clamping means bearing directly against the top surface of the extended portion of the plug to maintain the plug firmly in position.

3,195,504
RELEASERS
Joseph Sampson, Tomahawk, and Richard C. Washington, Merrill, Wis., assignors to U.S. Industries, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 26, 1963, Ser. No. 304,565
8 Claims. (Cl. 119—14.07)



1. A releaser for a milking system

(a) a vessel having
  (1) a body portion rounded in all directions
  (2) an elongated substantially cylindrical-shaped neck of smaller transverse cross sectional size than said body portion projecting upwardly from the top of said body portion, and
  (3) a tubular conduit
    (a′) connected at one end into said neck in downwardly spaced relation to the top of said neck, and
    (b′) projecting substantially horizontally outwardly from said neck,

(b) a mounting bracket in said conduit

(c) means for feeding milk into said conduit for passage therethrough into said neck and body portion,

(d) a flapper valve removably hooked onto said bracket for movement between a closed position effective to open said means and permit said passage of said milk into said conduit, and an open position effective to opend said means and permit said passage of said milk through said conduit,

(e) said body portion having a downwardly opening passageway in the bottom thereof for discharging said milk from said vessel,

(f) another flapper valve pivotally mounted on said body member for movement between
  (1) a raised closed position effective to close said passageway, and
  (2) a lowered open position effective to open said passageway, and

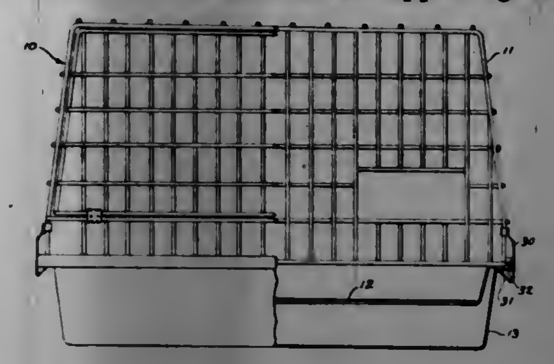
(g) a coupling member mounted on the upper end portion of said neck above and horizontally spaced from said conduit for connecting the interior of said neck and said body portion to means for alternately admitting and withdrawing air into and from said vessel and thereby alternately
  (1) closing said first-mentioned flapper valve and opening said other flapper valve to thereby discharge said milk from said body portion, and
  (2) opening said first-mentioned flapper valve and closing said other flapper valve to thereby feed said milk into said body portion, respectively.

3,195,505
RABBIT AND GUINEA PIG HOLDING CAGE
Fred C. Hauth, Pleasant Hill, and Mark A. Chatigny, San Lorenzo, Calif., assignors to The Regents of the University of California, Berkeley, Calif.
Filed Dec. 19, 1962, Ser. No. 245,724
7 Claims. (Cl. 119—17)

1. A knocked-down caretaking cage for animals comprising:

an upper cage member of wire lattice construction having sloped sidewalls and an open bottom;

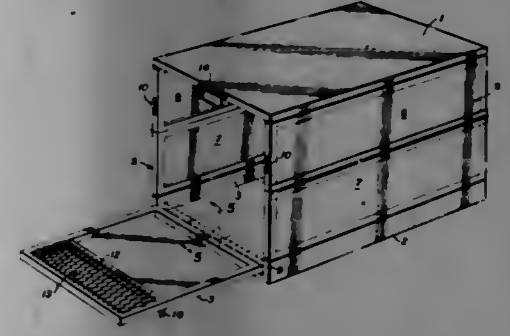
a lower base member having sloped sidewalls substantially smaller in height than the sidewalls of said upper cage member and edges defining an open top and removably connected to said upper cage member;



a pervious intermediate animal floor member supported between said upper and lower members on said edges;

all three of said members having a generally frusto-pyramidal shape whereby said cage can be readily disassembled and the separated members can be nested with other similar members of like cages for storage or cleaning.

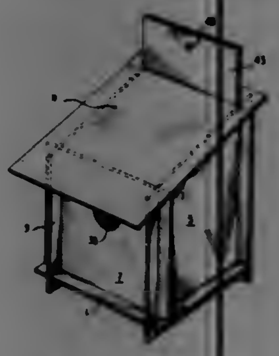
3,195,506
FOLDABLE ANIMAL SHIPPING CONTAINER
Jack S. Beard, Rte. 3, Box 96AA, Arlington, Tex.
Filed Nov. 29, 1963, Ser. No. 326,687
2 Claims. (Cl. 119—19)



1. A foldable shipping container for use in transporting small animals comprising a foldable box which in its folded position has its opposite ends folded inwardly on the bottom thereof, one above another, and has its opposite sides formed in substantially equal upper and lower sections which are hinged together and to the top and bottom of the container, respectfully, and in their folded positions are folded inwardly on themselves, with the sections of one side in parallel, side by side relation to the corresponding sections of the opposite side, above said folded ends and immediately below the top of the container, the bottom of the container having upstanding marginal portions coextensive with its rearward edge and its opposite side edges, respectively, said last mentioned marginal portions extending upwardly above said first mentioned marginal portion, one of said opposite ends being hinged to said first mentioned marginal portion whereby it overlies the other of said opposite ends in their folded positions and the lower sections of said opposite sides being hinged to said last mentioned marginal portions, respectively, whereby they overlie said folded ends in the folded positions thereof, the sections of said opposite sides, respectively, being secured in their erect positions, in alignment with each other, by abutment against the adjacent side edges of said opposite ends, or either of them, to which one of the sections of each side is removably connected whereby said opposite ends are supported in their vertical, closed positions also, one of said opposite ends being connected to the bottom of the container by a double hinge whereby it is movable substantially 180 degrees about its hinge from a first position, in which it

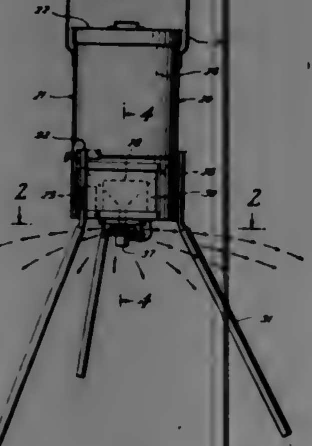
is folded inwardly on the bottom of the container, to a second position in which it extends longitudinally outwardly from the container for use as a combined door and loading ramp for admitting animals to the container and releasing them therefrom.

3,195,507
SUSPENSION KNOCK-DOWN SHELTER
Donald K. Miller, 309 Woodmont Ave., Steubenville, Ohio
Filed June 21, 1963, Ser. No. 289,598
3 Claims. (Cl. 119—23)



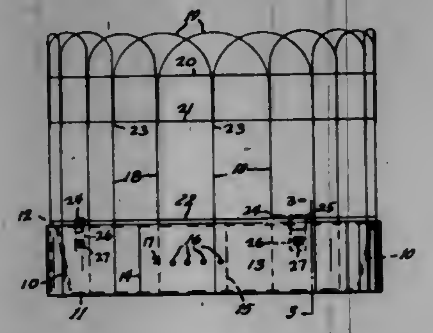
1. A knock-down shelter of sheet material comprising a pair of sidewalls and a floor, the side walls having horizontal slots adjacent their lower ends, the slot of one sidewall opening to the front and the slot of the other sidewall opening to the rear, the floor having oppositely opening slots disposed adjacent and extending lengthwise of its opposite side edges, the slots of the floor mating with the slots of the sidewalls, the sidewalls having upwardly extending open ended slots adjacent the front of the sidewall and downwardly extending open ended slots adjacent the rear of the sidewalls, a front wall having downwardly extending open ended slots adjacent opposite sides of the front wall, and a rear wall having upwardly extending open ended slots adjacent opposite sides of the rear wall, the slots of the front wall mating with the front slots of the sidewalls and the slots of the rear wall mating with the rear slots of the sidewalls.

3,195,508
GAME AND STOCK FEEDER
Charles L. Lehman, Rte. 3, Box 53, and Frank I. Brooner, 1328 3rd St., both of Corpus Christi, Tex.
Filed July 11, 1963, Ser. No. 294,379
5 Claims. (Cl. 119—51.11)



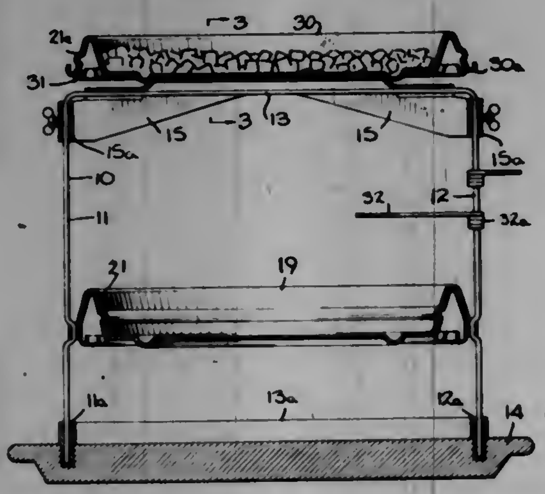
1. In a timing device for a feeder, comprising a container adapted to be mounted in an upright position and having a spout in its lower end and a disc rotatably mounted beneath the spout to receive feed from the container; a clock, a battery, a condenser, a motor having a starting relay connected with the battery, an electrical circuit including a switch normally disposed in a first position connecting the condenser with the relay to close same when the condenser has been charged and thereby start the motor and movable to a second position connecting the battery across the condenser for charging same, means mounting the switch for engagement by a hand of the clock, during running of same, to move said switch from the first to the second position and then release it for return to said first position, whereby said condenser is charged and said motor is started to initiate rotation of said disc, and means for adjusting the position of said switch about the face of said clock so as to determine the time at which said disc is rotated, said electrical circuit also including a potentiometer for adjusting the rate at which the condenser is drained by the relay and thus the length of time which the disc is rotated.

3,195,509
GUARD FOR POULTRY FOUNTAINS
Melvin G. McClure, Virgil, S. Dak.
Filed June 3, 1963, Ser. No. 285,029
2 Claims. (Cl. 119—61)



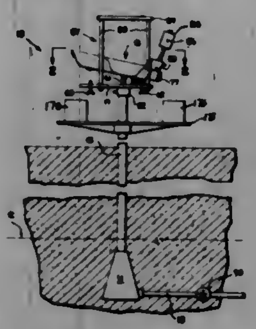
1. A guard for poultry fountains comprising a substantially circular guard member adapted to surround a watering unit, said guard member including a plurality of peripherally spaced substantially vertical bars for providing restricted lateral areas, a vertically positioned cylindrical base member to which said bars are attached, means for attaching said bars in alternately external and internal relation to said base member, said guard member including a circular further horizontally positioned bar positioned adjacently to the top of said base member, said attaching means including clips attached to said further bar and said base member.

3,195,510
INSECT PROTECTED BIRD AND ANIMAL FEEDER
Albert A. Bernstein, 49 Cranberry St., Brooklyn 2, N.Y.
Filed June 1, 1964, Ser. No. 371,535
3 Claims. (Cl. 119—61)



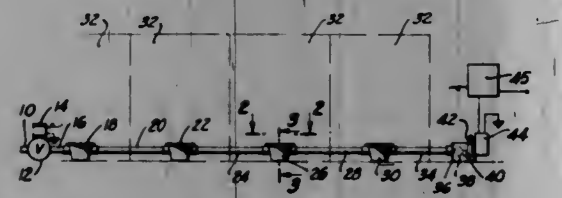
1. A pet feeding device, comprising a wire frame having upright supporting bars, brackets mounted on each bar, a seat member connecting the brackets to each other and provided with an upstanding circular seat, a container having a bowl engaged on and centered by said seat, and an insect trap enclosing the bowl and provided with a tacky insecticide on its inner surface and having a V-shaped cross sectional construction.

3,195,511
STOCK FOUNTAIN
Joseph Carrol Leary, P.O. Box 13, Greenfield, Ind.
Filed Apr. 10, 1963, Ser. No. 271,914
13 Claims. (Cl. 119—75)



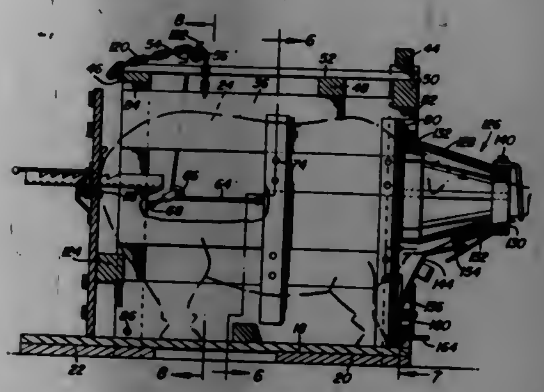
13. In a non-freezing stock watering fountain, a bowl supported above the ground, a source of liquid supply buried below the frost line, single conduit means connected between said source and said bowl, animal-actuated movable means associated with said bowl and yieldably biased toward one extreme position but movable to another extreme position, normally-closed valve means disposed below said frost line to control flow from said source through said single conduit means to said bowl, means actuated by movement of said movable means toward said other extreme position to open said valve means, and means actuated by movement of said movable means toward said one extreme position to drain liquid from said bowl through said single conduit means to a point below said frost line.

3,195,512
APPARATUS FOR WATERING POULTRY
Robert N. Jackson, 7532 Red Gum Road, Anaheim, Calif.
Filed Apr. 8, 1963, Ser. No. 271,080
3 Claims. (Cl. 119—78)



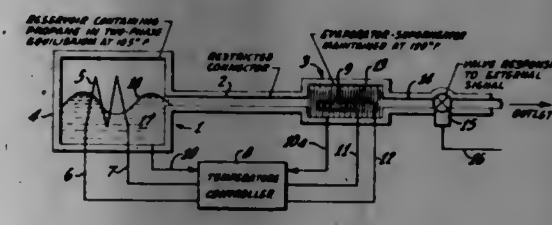
1. In apparatus for watering poultry, water supply means, electric shut-off valve means connected to said water supply, a plurality of poultry watering cups, each of said poultry watering cups having a bottom, a plurality of conduits, each of said conduits having a bottom and each of said conduits being connected to adjacent watering cups so as to connect said plurality of poultry watering cups into a series having a first poultry watering cup and a last poultry watering cup, said bottom of each of said plurality of serially connected poultry watering cups being below the bottom of said conduit where it is connected to each of said poultry watering cups, said first serially connected poultry watering cup being connected to said valve means so as to be adapted to receive water therefrom, said last of said serially connected poultry watering cups being connected to water level detection apparatus, said water level detection apparatus being electrically connected to a time clock and to said electric valve means so that actuation of the valve means by said time clock permits water to fill each of said poultry watering cups to a predetermined level whereupon said water level sensing apparatus closes the water supply valve.

3,195,513
ADJUSTABLE HOG CRATE
Paul G. Billhorn, Rte. 3, Manchester, Iowa
Filed Jan. 24, 1964, Ser. No. 339,990
12 Claims. (Cl. 119—99)



1. A hog crate comprising a hollow housing including upright side walls and a floor extending therebetween, a head end gate attached to one end of the housing and forming a closure therefor, and a tail end gate attached to the other end of the housing and forming a closure therefor, said tail end gate being pivotally supported about a generally vertical axis for enabling the tail end gate to be moved to an open position for enabling ingress of hogs into the housing, said head gate having a forwardly projecting tapered portion for receiving the hog's head and being pivotally supported for enabling the head gate to be opened to enable egress of hogs after treatment, and means mounting the head gate on the housing for longitudinal reciprocation whereby the overall length of the housing may be varied.

3,195,514
CONTROLLED TEMPERATURE GRADIENT VAPOR-GENERATOR
Russell S. Miksch, Redwood City, and Robert E. Corridan, Los Altos, Calif., assignors to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 5, 1961, Ser. No. 136,076
6 Claims. (Cl. 122—4)



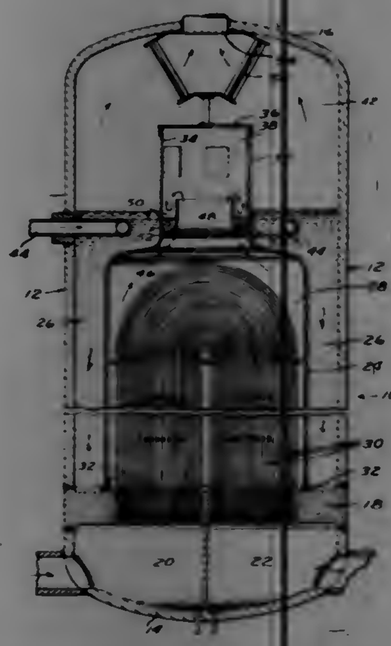
1. A vapor-generator for space vehicles comprising: a first sealed chamber provided with a vapor plenum, means fluidly communicating to the interior of said first chamber consisting of a single connector connected thereto, a second sealed chamber, said connector being permanently restricted and connected to said second chamber, each of said chambers containing a quantity of chemically identical fluids, said second chamber being provided with a valved outlet; means for maintaining the fluid content of said second chamber at a temperature higher than the temperature of the fluid content of said first chamber and at a temperature above the boiling point of the fluid content of said second chamber at the existing equilibrium pressure of said first and second chambers; and means operable upon the opening of said outlet for maintaining the fluid in said first chamber essentially at said equilibrium temperature and pressure.

3,195,515
VAPOR GENERATOR

John Blizard, Garden City, N.Y., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York

Continuation of abandoned application Ser. No. 143,776, Oct. 9, 1961. This application Mar. 22, 1963, Ser. No. 267,212

3 Claims. (Cl. 122—34)



1. A vapor generator comprising pressure vessel means having a vapor space and a liquid space, baffle means within said vessel and in said liquid space defining a vapor generation chamber, means within said chamber for supplying heat to the liquid in said vessel to produce a vapor-liquid flow in which the amount of liquid is substantially greater than the amount of vapor, an elongated vertically oriented cylindrical riser having an upper outlet and a lower inlet end the latter in fluid communication with about the center portion of said vapor generation chamber, said riser being of smaller cross sectional area than said chamber and defining a wall which is continuous with said baffle means so that the peripheral flow of vapor and liquid from the chamber must pass upwardly and inwardly into the riser, means disposed within and secured to the riser at the inlet thereof defining a narrowing smooth-walled unobstructed passageway for said upward flow, said means further defining an annular open-topped channel encompassing the passageway for the spillover of said peripheral flow, means communicating a lower portion of said channel with the liquid space of said pressure vessel to convey liquid in the channel from the channel, and vapor-liquid separators at the upper end of the riser arranged to receive the vapor and liquid flow, said separators being of the type designed to divide a flow containing a large amount of liquid substantially completely into a liquid stream of comparatively large mass and a vapor stream of comparatively small mass, the liquid separated from the vapor-liquid mixture in said channel serving to reduce the liquid content of the flow through the separators to thereby increase the capacity of the separators.

3,195,516
WATER-TUBE BOILER

Heinrich Vorkauf, Davoser Strasse 2b, Berlin-Schmargendorf, Germany

Filed June 27, 1961, Ser. No. 120,050

Claims priority, application Germany, July 4, 1960, V 18,926; Sept. 21, 1960, V 19.376

4 Claims. (Cl. 122—235)

1. In a water tube boiler, in combination:

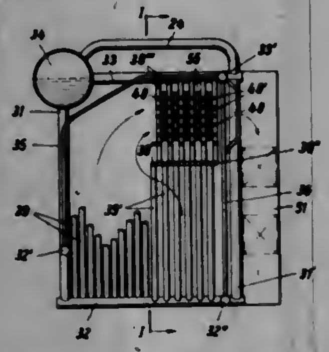
(a) shell means defining a boiler space therein. said shell means having a bottom portion, a top portion, and two horizontally spaced opposite side portions connecting said bottom portion and said top portion;

(b) a distributor system and a collector system respectively mounted on said shell means adjacent said bottom portion and said top portion;

(c) two sets of elongated heating tubes connecting said systems, the tubes of each set being spacedly juxtaposed so as to define interstices therebetween,

  (1) each tube having three longitudinally successive portions in said space, the first portions of the tubes of said sets extending upwards from said distributor system adjacent respective side portions of said shell means, a second portion of each tube extending from said first portion thereof horizontally across said boiler space toward the other side portion of said shell means; and a third portion of each tube extending upward from said second portion along said other side portion to connect with said collector system,

  (2) the tubes of each set being aligned with the interstices in the other set;



(d) horizontally extending ceiling means dividing said boiler space into a furnace space below said ceiling means and a flue space above said ceiling means, said second tube portions constituting elements of said ceiling means;

(e) a plurality of U-shaped serpentine tubes associated with respective heating tubes of said two sets, said serpentine tubes extending in respective parallel vertical planes in said flue space,

  (1) each serpentine tube having an entrance portion and an exit portion, said portions being vertically spaced from each other and connected to the third portion of the associated heating tube,

  (2) the serpentine tubes associated with each set of heating tubes being horizontally and vertically offset from the serpentine tubes associated with the other set of heating tubes; and

(f) diverting means in each of said third portions between said entrance and exit portions for diverting fluid from said third portions to the associated serpentine tubes.

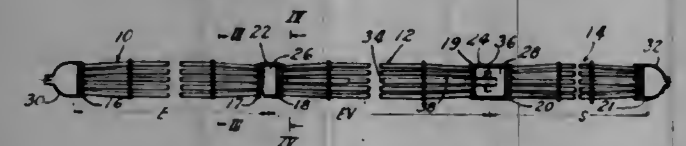
3,195,517
STABLE FORCED CIRCULATION BOILERS

Alan Bell, Cookham, England, assignor to Foster Wheeler Corporation, Livingston, N.J., a corporation of New York

Filed Apr. 26, 1963, Ser. No. 276,048

Claims priority, application Great Britain, Apr. 30, 1962, 16,516/62

3 Claims. (Cl. 122—406)



1. A forced circulation boiler comprising:

a tube system including tubes defining a vapor generating section and superheater section,

a lower inlet header for said vapor generating section,

a circular bundle of riser tubes extending upwardly from said inlet header,

an upper outlet header having a generally hexagonal cross-sectional configuration and arranged to receive the vapor and liquid and mixture flowing from said riser tubes, said superheating section including a circular bundle of riser tubes leading from said outlet header,

a single downcomer tube disposed along the axis of the bundle of riser tubes,

insulating means encasing said single downcomer tube,

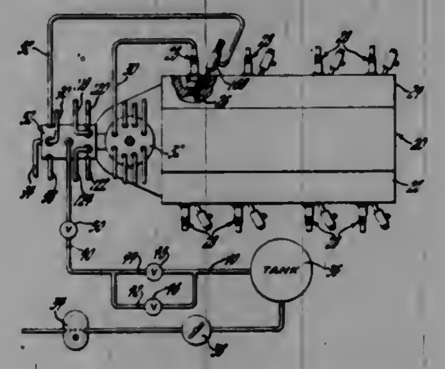
means concentrically located within said outlet header for the separation of the vapor and liquid in said mixture and flow of vapor to said superheating section and flow of liquid to said downcomer means, said riser tubes surrounding said downcomer means shielding said downcomer means for the natural thermally induced downward circulation of the separated liquid through said downcomer means to said inlet header and recirculation through said riser tubes.

3,195,518
MEANS FOR INTRODUCING A PRESSURIZED FLUID INTO AN INTERNAL COMBUSTION ENGINE COMBUSTION CHAMBER THROUGH THE SPARK PLUG OPENING

Alfred Candelise, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Original application Ser. No. 12,857, Mar. 4, 1960, now Patent No. 3,073,289, dated Jan. 15, 1963. Divided and this application May 24, 1961, Ser. No. 112,449

2 Claims. (Cl. 123—26)



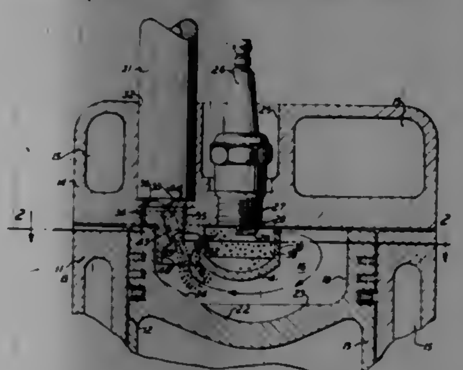
1. An air injection spark plug assembly for use in an internal combustion engine air injection system comprising a spark plug metallic shell having a threaded lower end for securing said spark plug in a combustion chamber spark plug opening, an insulation shell sealingly mounted in said metallic shell and having the lower end thereof spaced radially inward from the inner surface of said metallic shell to provide an annular chamber adapted to communicate with the engine combustion chamber, an inner electrode extending through said insulation shell and an outer electrode secured to said metallic shell adjacent said inner electrode to provide a spark gap, a passage formed through said metallic shell and communicating with said annular chamber, tubular means secured to said metallic shell externally thereof and communicating with said passage, a check valve assembly secured to said tubular means and having a normally closed check valve mounted therein, said check valve assembly comprises, a housing having a compressed air chamber formed therein and a check valve seat formed externally of said air chamber, a check valve having a valve stem extending through said chamber and a valve head positioned externally of said chamber and adapted to engage said seat and to open outwardly therefrom, said valve stem being hollow and having a valve actuating piston mounted on the end thereof opposite said valve head, said housing having a valve piston chamber formed therein adjacent said air chamber and reciprocably receiving said valve piston therein, a spring received within said valve piston chamber and acting against said piston and said housing to urge said check valve into the closed position, said hollow valve stem having an axial passage formed therein and communicating with said piston chamber and a passage formed in the wall of said valve stem and communicating with said air chamber whereby air under pressure may act on said piston against the force of said spring to urge said check valve into the open position and permit air to flow by said check valve head and seat from said air chamber.

3,195,519
COMBUSTION CHAMBER FOR AN INTERNAL COMBUSTION ENGINE

Irving N. Bishop, Farmington, and Laszlo Hideg, Dearborn, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Mar. 28, 1963, Ser. No. 268,761

14 Claims. (Cl. 123—32)



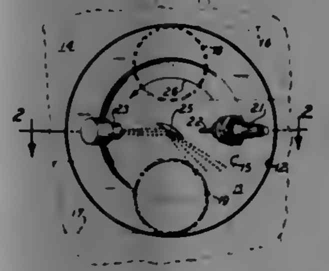
1. An internal combustion engine having a cylinder head, a cylinder bore and a piston defining a main combustion chamber, an auxiliary combustion chamber associated with said said main combustion chamber and separated therefrom, passage means connecting said chambers for air transfer, and a fuel injection means associated with said main combustion chamber for injecting a stream of fuel into said main combustion chamber past said passage means, said passage means being located in the path of movement of an air stream generated in said main combustion chamber by the piston approaching top dead center to effect an air transfer from said main combustion chamber into said auxiliary combustion chamber through said passage means, a portion of the injected fuel particles being transferred by said air into said auxiliary combustion chamber to provide a locally combustible fuel-air mixture in said auxiliary combustion chamber.

3,195,520
INTERNAL COMBUSTION ENGINE COMBUSTION CHAMBERS

Aladar O. Simko, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Apr. 3, 1963, Ser. No. 270,238

8 Claims. (Cl. 123—32)



1. An internal combustion engine construction comprising, an engine block having a cylindrical bore therein, a piston member reciprocably mounted in said bore, a cylinder head member closing said bore, one of said

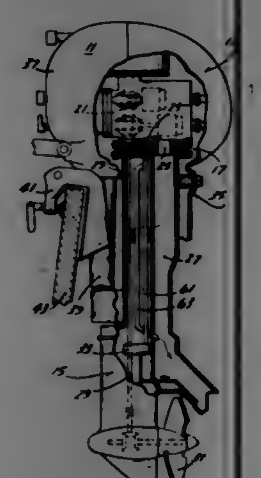
members having a cavity therein having a surface of revolution and defining a squish area between the face surface of the other member and the remaining adjacent facing portion of said one member, the mutually adjacent surfaces of said bore and cylinder head and piston top and cavity together defining a combustion chamber, a high pressure high particle velocity fuel injection nozzle positioned at an angle with respect to the axes of said bore and adjacent the edge of said cavity in one position of said piston for directing fuel approximately towards the center of said cavity, a fuel deflecting bounce means adjacent said nozzle in the path of the fuel ejected therefrom constructed to deflect said fuel in a substantially fan-shaped form radially outward towards a predetermined peripheral portion of the cavity at a fuel particle velocity and pressure reduction sufficient to prevent impingement of the particles upon the walls of said cavity, and means adjacent the path of the deflected fuel for igniting said fuel.

3,195,521
ENGINE

Robert T. Larsen, Menomonee Falls, Wis., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed Dec. 9, 1963, Ser. No. 328,813

9 Claims. (Cl. 123—41.47)



2. An outboard motor including a power head including an internal combustion engine having an exhaust gas discharge port, and a coolant water jacket, a lower unit including a water pump, and an exhaust gas passage, and barrier means connecting said power head and said lower unit and including a pair of mounting plates and a resilient sheet bonded to and between said plates, one of said plates being connected to said power head and the other of said plates being connected to said lower unit, said barrier means also including means affording communication through said barrier means between said exhaust gas passage and said exhaust gas discharge port, and means affording communication through said barrier means between said water pump and said water coolant jacket.

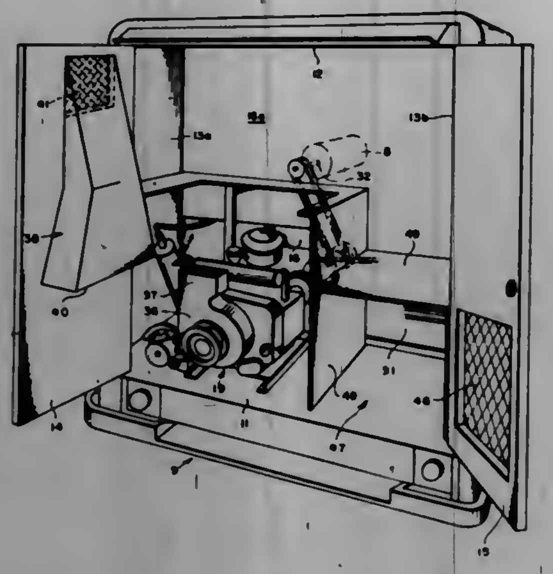
3,195,522
AIR CIRCULATING SYSTEM FOR MOBILE DISPENSING FREEZERS

Harvey F. Swenson, Seattle, Wash., assignor to Sweden Freezer Manufacturing Co., a corporation of Washington

Filed Feb. 21, 1963, Ser. No. 260,129

2 Claims. (Cl. 123—41.65)

1. In combination, a motor truck having a compartment with an outside access door, said compartment having an air inlet and having an air outlet in said door, an engine in said compartment, an engine-cooling blower driven by the engine and arranged to draw cooling air over the engine, a tapered discharge duct to said outlet mounted on the door and having the mouth of its larger end surrounding the discharge end of said blower in eductor relationship when the door is closed for pulling air from said compartment in addition to that passing through the blower.

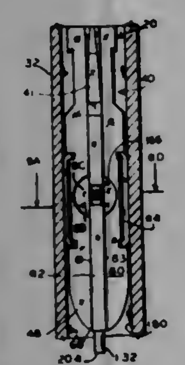


3,195,523
WELL UNLOADING APPARATUS

Cecil Ray Lyles, 2101 E. 16th St., Farmington, N. Mex.

Filed Aug. 19, 1963, Ser. No. 303,001

7 Claims. (Cl. 103—52)



1. A well unloading tool for use in a well tubing, said well tool comprising a frame sub-assembly, a valve sub-assembly and a valve control sub-assembly, said frame sub-assembly comprising a first flat plate and a second flat plate, said first flat plate and said second flat plate each having a width slightly less than the diameter of said tubing and slidably fitting therein and each said plate having a length greater than its width and thickness less than its width, said first plate being firmly attached to said second plate along a line parallel to the length of said tool,

said valve sub-assembly comprising a pair of valve portions, each of said portions comprising a valve closure plate and a valve support plate, each of said closure plates being supported on one of said valve support plates, each said valve closure plate and its valve support plate being semi-circular in outline, said outline substantially matching the internal cross section of the well tubing with a smoothly slidable fit, each said valve support plate being circular in outline and rotatably supported on said first flat plate for rotation about an axis normal to said line of attachment of said first and second flat plates and to the plane of width and length of said first plate and each said valve supporting plate being attached to and perpendicular to a closure plate, a circular orifice passing through said first plate, one valve support plate rotating on one side of said orifice and another valve support plate rotating on the other side of said orifice, said valve support plates fixedly attached to each other for rotation together, an orifice in said second plate, means supported on said frame urging said valve support plates into a position either parallel to or transverse to the first and second plates, and

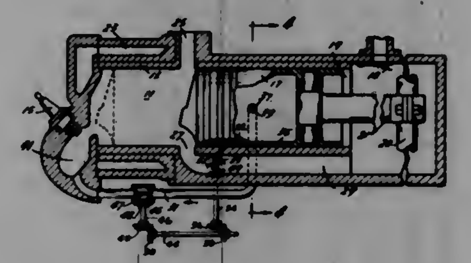
said valve control means movably supported by said frame and operably connected to said valve supporting plates and controlling the position of said plates, said valve control means comprising means sensitive to the position of said tool in said tubing.

3,195,524
ENGINE

Richard C. Heidner, Libertyville, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed July 30, 1962, Ser. No. 213,241

14 Claims. (Cl. 123—73)



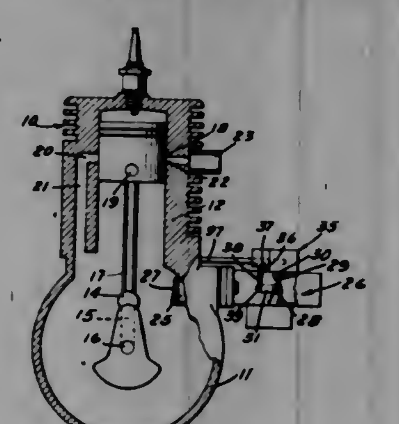
1. In an internal combustion engine including a cylinder, primary means including a passage for supplying a combustion air-fuel mixture to said cylinder, valve means for opening and closing said primary mixture supply means connected to an engine-speed controlling member, a piston reciprocably operable in said cylinder, means for opening and closing said primary mixture supply means in co-ordination with movement of said piston and independently of said valve means, and means for conducting combustion air-fuel mixture to said cylinder independently of said primary supply means including an auxiliary flow passageway communicating with said cylinder for supplying a combustion air-fuel mixture, and means on said piston for opening and closing said auxiliary flow passage in co-ordination with movement of said piston.

3,195,525
IDLE GOVERNOR

Niels Johannes Beck, Miraleste, Calif., assignor to McCulloch Corporation, Los Angeles, Calif., a corporation of Wisconsin

Filed Mar. 9, 1964, Ser. No. 350,158

7 Claims. (Cl. 123—73)



1. A governor mechanism for controlling the speed of a two-cycle internal combustion engine having a carburetor with a throttle valve, the pressure in the crankcase of said engine pulsating with movements of the piston, comprising:

- (A) a throttle actuating mechanism having
  - (a) a cylinder with a fluid port adjacent each end, said cylinder being closed at one end by an end wall and having a seal closing the other end, said seal having an axial opening therethrough,
  - (b) a piston reciprocal in said cylinder and having an axial bore therethrough,
  - (c) and a piston rod disposed in said piston bore and the opening in the seal and extending outwardly of the latter, the opposite end of said piston rod extending beyond the adjacent inner end of the cylinder;
- (B) means adapted to operably connect the outer end of the piston rod with the throttle valve of the carburetor;
- (C) valve means for controlling the throttle actuator mechanism, said valve means having a body with a longitudinally extending bore therethrough;
- (D) a tubular sleeve in said bore, said sleeve having fluid parts therein longitudinally spaced apart;
- (E) means closing one end of the bore of said sleeve;
- (F) a cover closing the opposite end of the bore of the body and sleeve;
- (G) a shuttle spool valve member operably disposed in the bore of said sleeve, said valve member having an intermediate reduced diameter part defining, with the adjacent portion of the sleeve, an annular space, said valve member having a valve head at each end of the reduced diameter part, there being a fluid passage connecting one end of said valve member with said annular space, the ports in said sleeve being so positioned relative to the inner ends of the heads of said valve member as to be in communication with said annular space when the valve member is in its neutral position, displacement of said valve member from said neutral position causing closing of one of said ports and further opening of the other;
- (H) passageway means connecting the ports of said valve bore with the fluid ports of the actuator cylinder adjacent to the respective ends thereof;
- (I) a pair of compression springs in the valve bore acting in opposite directions on the shuttle valve member and normally maintaining said valve member in the neutral position;
- (J) and conduit means connecting said one end of the shuttle valve member with the crankcase of the engine whereby pressure pulsations in the crankcase will be transmitted to said one end of the shuttle valve member and also to said annular space and thence to said actuator cylinder.

3,195,526
TWO CYCLE ENGINE

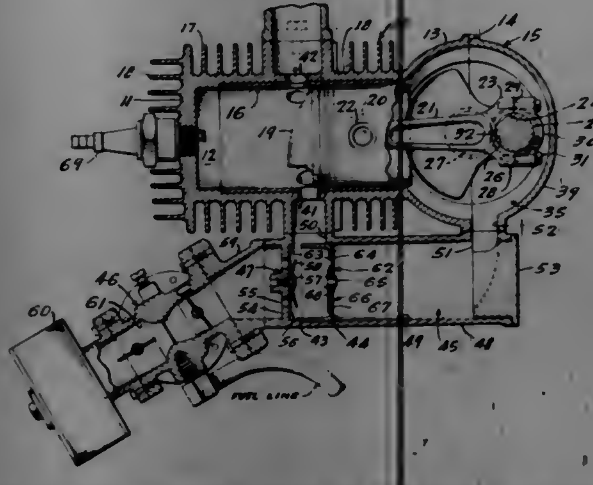
Edgar R. Jordan, 1937 Firlawn Drive, Toledo, Ohio

Filed Apr. 15, 1964, Ser. No. 359,839

7 Claims. (Cl. 123—73)

1. In a two cycle engine having a combustion chamber and crankcase separated by a power piston movable between inner and outer positions relative to said combustion chamber, said combustion chamber having an intake port above said outer position of said power piston: a cylindrically shaped fluid displacement chamber one end of which communicates with and is positioned adjacent said intake port of said combustion chamber when said piston is in its outer position and the other end of which is positioned adjacent and communicates with said crankcase, check valve means for communicating flow into said one end of said fluid displacement chamber and preventing return flow therefrom, carburetion means for providing a fuel-air mixture to said check valve means, and a free charging piston in said fluid displacement

chamber, said charging piston being movable between a position adjacent said one end of said displacement chamber and a position adjacent the opposite end of said displacement chamber by the alternate decrease and increase in pressure produced in said crankcase during operation

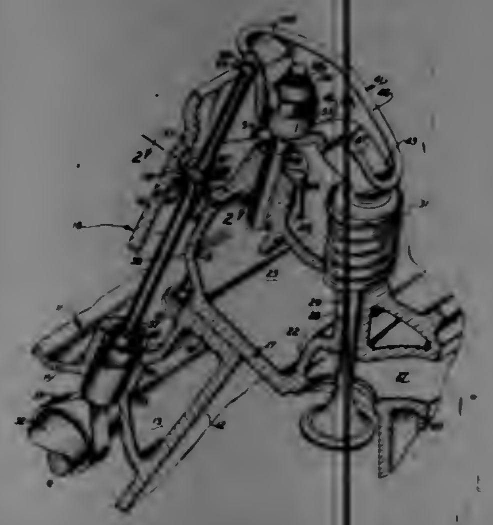


of said engine, whereby fuel-air mixture is sucked into said one end of said fluid displacement chamber during inward movement of said power piston and is then forced into said combustion chamber when said power piston is in its outer position without the fuel-air mixture entering said crankcase.

3,195,527
VALVE GEAR FOR AN INTERNAL COMBUSTION ENGINE

Paul S. Eaton, Dearborn Heights, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Nov. 7, 1963, Ser. No. 322,113
11 Claims. (Cl. 123—90)

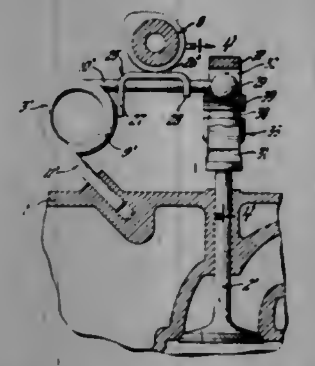


1. An internal combustion engine comprising a rocker arm support, a rocker arm pivoted upon said rocker arm support, a poppet value, said rocker arm having a poppet valve engaging portion in engagement with said poppet valve, a cam positioned in the engine remotely from said rocker arm support, said engine having a wall with an aperture positioned contiguous to said rocker arm support, a push rod associated at one of its ends with said cam and at its other end with a push rod engaging portion of said rocker arm for transmitting movement of said cam into oscillation of said rocker arm about said rocker arm support, a portion of said push rod adjacent its rocker arm engaging end extending through said aperture, said aperture being larger than the external dimensions of the adjacent portion of said push rod whereby said push rod is free to move in all directions relative to said aperture, and rocker arm stabilizing means removably received in said aperture, said rocker arm stabilizing means including a first portion extending across the aperture on the side of the wall adjacent the rocker arm support, opposing push rod engaging surfaces formed in said first portion engaging sides of said push rod for precluding lateral movement of the push rod and poppet valve engaging portions of said rocker arm, and a pair of opposing leg portions depending from said first portion through said aperture and terminating adjacent the other side of said wall.

3,195,528
POPPET VALVE ACTUATION

Stanley P. Franklin, Wyoming, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 19, 1964, Ser. No. 346,035
1 Claim. (Cl. 123—90)

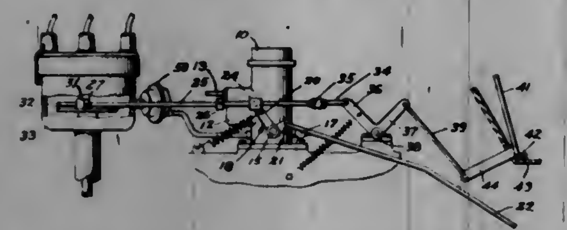


In combination with a poppet valve having a stem, valve reciprocating means including a cam and a spring, a support slidably guiding said stem during valve reciprocation, said spring having one end reacting against said support and having a free end movable relative to said support, a follower for said cam in the form of an arm fixed at one end to said free end of the spring, and means including a hydraulic lash take-up device connecting the arm to the valve stem, transmitting cam actuated movements from the arm to the valve in opposition to the spring, said means also including a rigid link secured to the valve stem and having a seat engaged by the arm during spring returned movements of the arm, whereby spring returned movements of the arm are transmitted to the valve.

3,195,529
AUTO SMOG CONTROL FOR SPARK AND CARBURETOR

Brooks Walker, 1280 Columbus Ave., San Francisco, Calif.

Filed Feb. 13, 1963, Ser. No. 258,219
5 Claims. (Cl. 123—99)



1. In combination with a vehicle engine having a carburetor, an ignition system, a breaker plate in said ignition system, and a throttle valve in said carburetor,

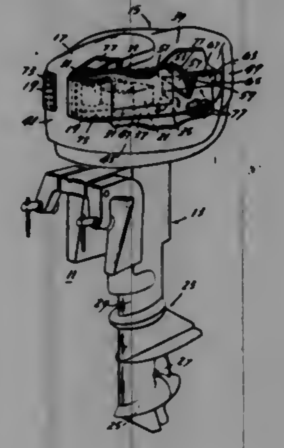
an advance and retard control system for said ignition system comprising:
an engine vacuum operated advance and retard means,
a lost-motion connection between said engine vacuum operated means and said breaker plate,
a foot operated throttle valve linkage including a foot-pedal, yieldable means urging said pedal to released position,
a lost-motion connection between said lingage and and said breaker plate,
yieldable means connected to said breaker plate to urge said plate in an ignition advance direction,

said breaker plate being held in a retarded position at fully released position of said pedal by said linkage yieldable means against said breaker plate yieldable means,
said lost-motion connections providing a range of linkage controlled movement of said breaker plate in an advance direction by said breaker plate yieldable means as said pedal is moved from closed position to throttle valve idle position, and permitting breaker plate control beyond said range by said engine vacuum operated means independently of said linkage when said throttle valve is operated beyond idle position.

3,195,530
OUTBOARD MOTOR HAVING SOUND ABSORBING CONSTRUCTION WITHIN ENGINE HOUSING

Richard C. Heidner, Waukegan, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed May 31, 1962, Ser. No. 198,951
8 Claims. (Cl. 123—198)



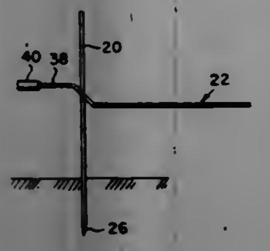
1. The combination of an internal combustion engine having a combustion air intake and an engine housing substantially totally enclosing said engine from the surrounding atmosphere except for an air entrance opening, said housing including means defining a combustion air passageway extending from said entrance opening to said air intake and including a duct portion leading from said air entrance opening, said air passageway being lined at least partially with sound absorbing material, and a perforated member extending transversely across said duct portion adjacent to said air entrance opening to afford air flow therethrough and being lined on its inner side with sound absorbing material.

3,195,531
OUTDOOR COOKING APPLIANCES

Ellsworth E. Groff, 438 Asarco Drive, Hayden, Ariz.

Filed Aug. 5, 1963, Ser. No. 299,776
1 Claim. (Cl. 126—30)

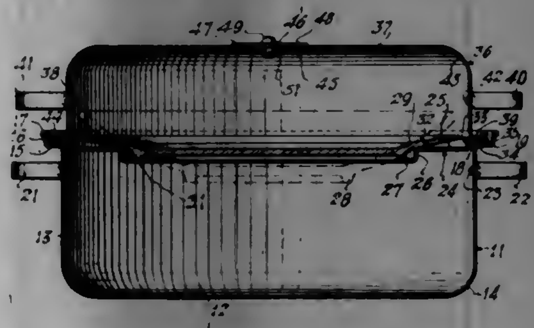
A portable cooking appliance comprising a vertical stake adapted to be driven into the ground, said stake having a cylindrical mounting portion, a normally horizontal grill, and means forming a connector attached at one end to said grill, said connector being essentially flat and being included at an angle upwardly with respect to the plane of said grill, said connector having an elongated through opening formed to be substantially larger than the diameter of the cylindrical mounting portion of the stake, said mounting portion extending through said opening, the end edges of said opening being urged into tight frictional engagement with said mounting portion of said stake by the weight of said grill, said connector having a side opening leading into said through opening to permit said connector to be moved onto or removed from said stake by movement laterally of said stake, a pair of tabs integral with said connector adjacent said side opening and respectively bent to extend above and below the plane of said connector, said tabs being effective to prevent removal of said connector from said stake except when the plane of said connector is substantially normal to the axis of said stake, and a handle fixed to the opposite end of said connector and extending away from said grill in a plane substantially parallel to the plane of said grill.



3,195,532
MEAL WARMER

Severin T. Tranberg, 130 Westhill Road, Colonia, N.J.

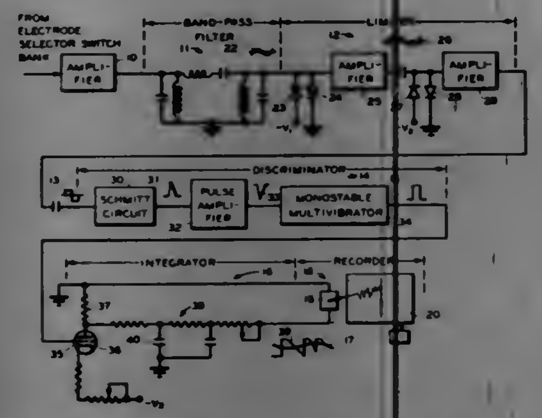
Filed Nov. 18, 1963, Ser. No. 324,336
1 Claim. (Cl. 126—378)



A food warmer comprising a substantially cylindrical container comprising a bottom wall from the periphery of which extends a container side wall, the free edge portion of said side wall being flanged outwardly to form an annular ledge, the outer edge portion of said ledge being extended at an angle away from said bottom wall to form a rim, an annular food-holding disk having a central opening and a perimetral portion to removably seat on said ledge, said disk being otherwise imperforate and comprising a relatively wide median annular portion, a narrow cylindrical portion depending from the inner edge of said median portion, the bottom edge part of said cylindrical portion being extended inwardly as a narrow annular shelf that forms said opening and serves selectively as a seat for the bottom of a relatively small plate and as a seat for the intermediate portion of a larger plate between the bottom and the rim thereof, a narrow cylindrical portion upstanding from the outer edge of said median portion to limit lateral slipping of said plates on the ring, the top edge of said upstanding portion being extended outwardly as said perimetral portion of the disk for support on said annular ledge of the container, a cover for said container comprising a top wall from the periphery of which depends a cover side wall, the free edge portion of said cover side wall being of a size and shape to fit within said rim of the container and to be supported selectively on said ledge and on said perimetral portion of the food holding disk when the latter is resting on said ledge, and an adjustable vent in said cover to regulate the escape of moist air from the food warmer.

3,195,533
DETECTING PHYSIOLOGICAL CONDITIONS BY MEASURING BIOELECTRIC OUTPUT FREQUENCY

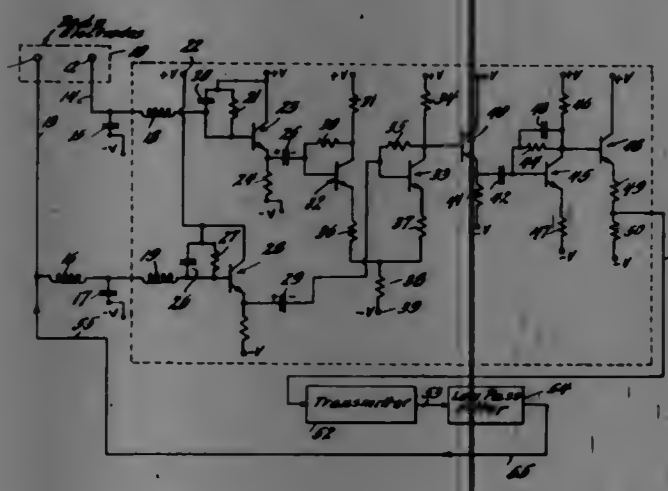
Victor H. Fischer, Columbus, Ohio, assignor, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware
Filed Apr. 26, 1963, Ser. No. 275,907
5 Claims. (Cl. 128—2.1)



1. A method of detecting conditions in the brain, heart, and other regions in the nervous systems of humans and animals comprising the steps of placing a plurality of electrodes at spaced locations adjacent to such a nervous system, continuously detecting the difference in electrical potential present between two said electrodes over an interval of time, continuously measuring the instantaneous dominant frequency within a predetermined broad band of frequencies of said potential difference during said interval, and recording the measured frequency as a continuous function of time.

3,195,534
RADIO ELECTROCARDIOGRAPH APPARATUS

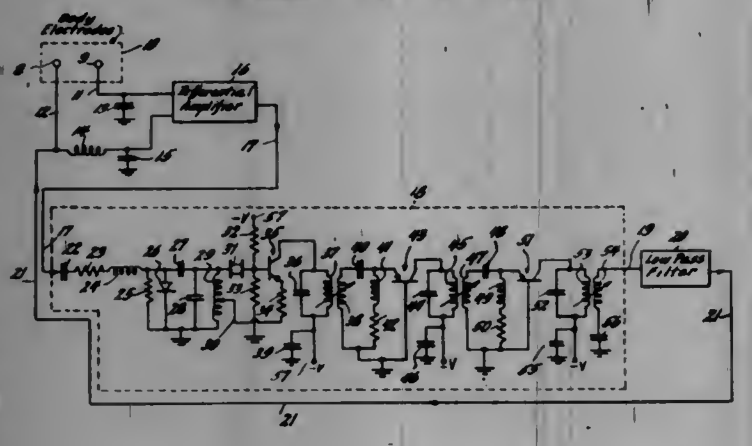
Lyman W. Bethke, Trenton, N.J., assignor, by mesne assignments, to United Aircraft Corporation, a corporation of Delaware
Filed June 8, 1961, Ser. No. 115,711
6 Claims. (Cl. 128—2.06)



1. A medical diagnostic radio system comprising transducers for attachment to a living organism and transducing physiological signals, amplifier means for amplifying said electrical signals obtained from the transducers, a radio transmitter modulated by said amplified signals to propagate radio signals corresponding to said physiological signals obtained from the body to a remote location, said system being miniaturized and contained within a small housing adapted to be carried by the living organism, a powering battery for providing energization of said amplifier means and transmitter, said amplifier means comprising a differential transistor amplifier stage energized by said physiological signals from said transducers to produce a single-ended output signal, and including a pair of transistors interconnected in common mode feedback relationship, each transistor being energized in response to a different transducer, a single-ended transistor amplifier stage being energized in response to one of said common mode transistors, and impedance decoupling transistor stages for coupling said transducers to said common mode transistors and for coupling said single-ended transistor amplifier stage to one of the common mode transistors.

3,195,535
MINIATURE RADIATING ELECTRO-CARDIOGRAPH

Joseph F. Westermann, Abington, Pa., assignor, by mesne assignments, to United Aircraft Corporation, a corporation of Delaware
Filed June 21, 1961, Ser. No. 118,605
3 Claims. (Cl. 128—2.06)



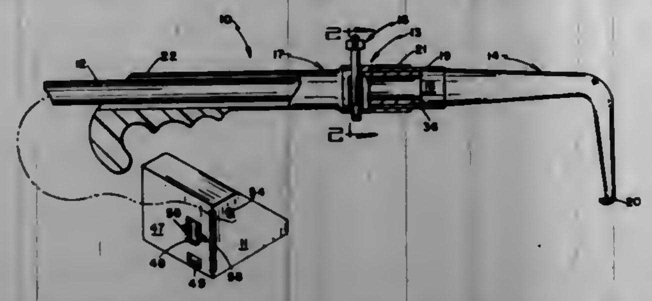
1. In a portable self-contained radio electrocardiograph apparatus adapted to be completely carried by the patient and free of external electrical wiring interconnecting the patient with a fixed location for monitoring the patient's heart characteristics in a dynamic fashion while the patient is subjected to stresses encountered by unrestrained activity, transducer electrodes adapted to be bonded to the patient's skin and being flexible to maintain low resistance contact with the same location on the body despite variations in body curvature, and transmitter means producing a carrier radio-frequency responsive to electrical signals obtained from the electrodes to produce a frequency modulated ultra high frequency radiation to be detected at a remote location, said transmitter means comprising a battery, a radio frequency oscillator powered by the battery, and a housing containing said oscillator and battery and adapted to be carried by the patient during unrestrained activity in intimate heat transferring relationship with the patient's body and means for stabilizing said transmitter means to prevent heating by body temperature and variations in battery potential from producing spurious variations in the radiation, said stabilizing means including a temperature sensitive electrical component in said oscillator for varying the oscillator frequency in opposition to the change normally produced by heat.

3,195,536
ILLUMINATED APPLIANCES

Hrair P. Hovnanian, Winchester, Horace F. McCarthy, North Andover, and Frank L. Rose, Methuen, Mass., assignors to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Sept. 5, 1962, Ser. No. 221,498
5 Claims. (Cl. 128—6)

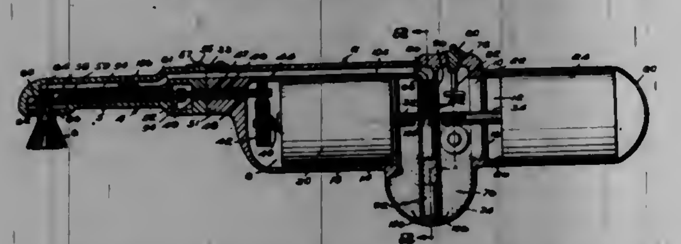
5. An illuminated applicator assembly comprising:
(a) a handle comprising a tubular wall defining a passage having opposing openings, said handle also including a slot extending through said wall;
(b) a light-conducting applicator inserted in said passage through one of said openings;

(c) a fiber optic light-transmitting means inserted in said passage through said other opening in an abutting relationship with said applicator; and
(d) means comprising a first member mounted on said fiber optic light-transmitting means and a second complementary member mounted on said handle, said second member being movable through said slot into and out of engagement with said first means on said fiber optic light-transmitting means for preventing and permitting axial movement of said fiber optic light-transmitting means.



3,195,537
POWER DRIVEN TOOTH CLEANER AND GUM STIMULATOR

John V. Blasi, 525 Hammond St., Newton, Mass.
Filed Sept. 25, 1962, Ser. No. 226,002
4 Claims. (Cl. 128—56)

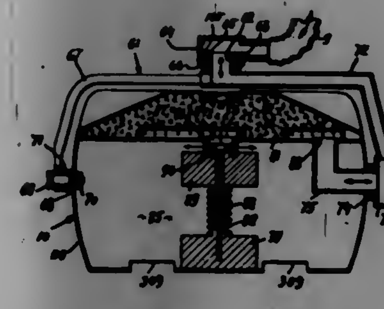


2. A motor driven dental appliance comprising a handle portion having a removable arm member extending outwardly therefrom, a hollow rotary element rotatably attached to the distal end of said removable arm member, said rotary element provided with an integral tooth engaging portion for cleansing tooth surfaces and a plurality of flexible radially disposed stimulating fingers arranged to gently stroke the gums during application of said tooth engaging portion to the teeth, a supply of dentifrice contained within said handle portion, pump means for pumping said dentifrice from said handle portion through said arm member to the interior of said rotary element, and powered drive means for rotatably driving said rotary element, said pump means and drive means contained within said handle portion.

3,195,538
HYDRAULIC AIR BELLS

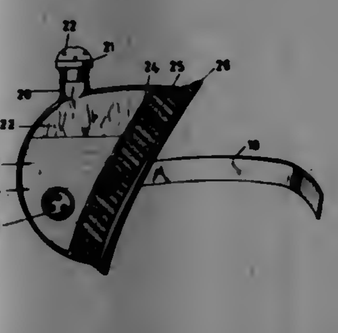
Roberto Galeazzi, 27 Via Oldoini, La Spezia, Italy
Filed Oct. 24, 1960, Ser. No. 64,333
Claims priority, application Italy, Oct. 28, 1959, 18,182/59, Patent 618,370
3 Claims. (Cl. 128—142)

2. An underwater breathing equipment comprising at least one breathing gas cylinder, means for holding the cylinder, a face piece, a breathing fitting on said face piece, means connecting said cylinder directly and controllably and only to said breathing fitting, a partially hollow stirrup-like member having two coaxial pivots forming part of a first swivel joint and fastened to the said cylinder-holding means, a hydraulic air bell formed of a shell having a mouth and suspended from said stirrup-like member by said pivots of the first swivel joint, means on said bell urging the bell to a position with its mouth downwardly, a flexible tubular conduit connecting said breathing fitting to the bell by means of a second swivel joint, an air filter supported on a partition in said bell and only partly filling the bell so as to leave an ample free space above the bell mouth, at least one aperture in said partition putting the space at interior of said filter in communication with the free space within said bell, a vertically disposed valve under said aperture, a spring urging said valve to close said aperture, said valve having sufficient weight to overcome said spring when the bell is normally disposed with the valve in vertical position, a float secured to the valve to buoyantly lift the valve and close said aperture upon entrance of a predetermined amount of water into the bell, and at least one filter port in said partition in communication with said tubular conduit by means of the stirrup-like member and said first and second swivel joints, said filter port and tubular conduit forming a regenerative air path entirely seperate from and independent of the air path defined by said breathing gas cylinder and means connecting the cylinder to the breathing fitting.



3,195,539
MOIST HEAT TREATMENT DEVICE

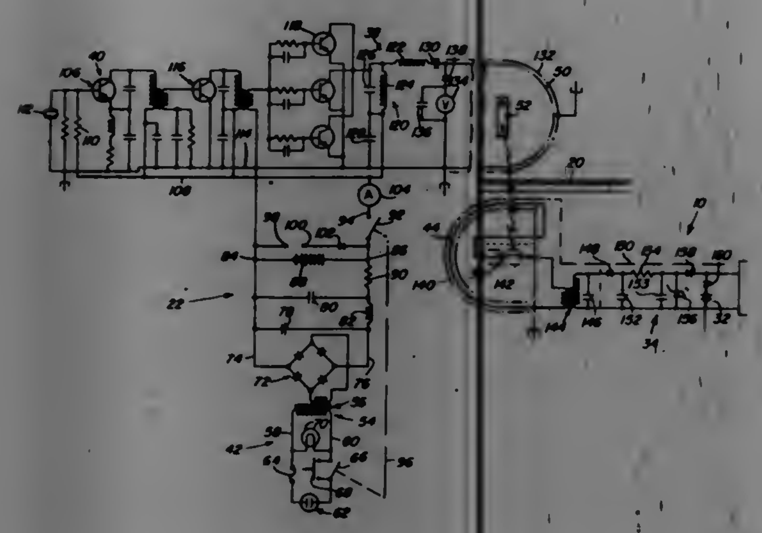
Cyril D. Hyman, 4980 Maplewood Ave., Apt. 10, Montreal, Quebec, Canada
Filed Aug. 7, 1963, Ser. No. 300,585
4 Claims. (Cl. 128—256)



1. A therapeutic appliance for the application of steam, moist heat and the like to the sinus areas, said appliance including a moulded container of pliable character for the retention of a liquid, said container being moulded in the form of an upper face mask, said face mask including a compartment for the holding of a liquid; filler means in communication with said compartment; means for the securing of said mask to the face and forehead of a user; electrical heating means within said compartment for the conversion of said liquid into moist heat; a porous shield of cellulose or the like forming the inner side of said compartment, said shield being of substantially heat resistant nature; said porosity of said shield allowing the passage of moist heat therethrough; sponge means for the absorption of moisture from said porous shield, said sponge means being located immediately adjacent said shield and being in intimate contact therewith; said sponge means being held in pressural contact upon said sinus areas; and mains supply means in communication with said electrical heating means.

3,195,540
POWER SUPPLY FOR BODY IMPLANTED INSTRUMENTS

Louis C. Waller, 140 Cherry St., Dunmore, Pa.
Filed Mar. 29, 1963, Ser. No. 268,869
10 Claims. (Cl. 128—422)

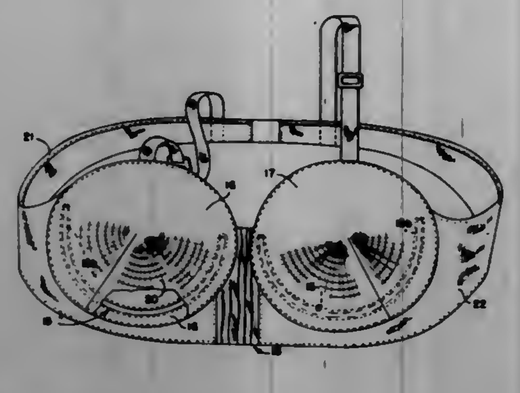


1. In combination with a continuously operative device adapted to be implanted within a human body constituting a dielectric barrier and having an internal power source for normal operation thereof, power receiving means operatively connected to said implanted device for supplying power thereto bypassing the internal power source when depleted or malfunctioning, external standby power supply means adapted to be mounted externally of the human body in spaced relation to the implanted device and the power receiving means for radiating energy to the power receiving means through said dielectric barrier to resume said continuous operation of the implanted device and the power receiving means after said normal operation of the internal power source thereof begins to falter, means operatively connected to the external power supply means for indicating variations in the loading thereof to monitor operation of the implanted device, proximity control means operatively mounted by said power receiving means for preventing any transfer of energy thereto except by the standby power supply means, and means mounted on the standby power supply means for operating the proximity control means when the standby power supply means is properly positioned relative to the power receiving means, said power receiving means comprising, receptor loop means adapted to be implanted within the human body adjacent to and below the outer tissue thereof for exposure to energy radiated by the standby power supply means, resonant circuit means, transformer means inductivity coupling said resonant circuit means to said receptor loop means, and regulating circuit means operatively coupling said resonant circuit means to the implanted device in parallel relation to the internal source without loading or charging thereof.

3,195,541
REINFORCED RESIN ARCUATE GARMENT STAY

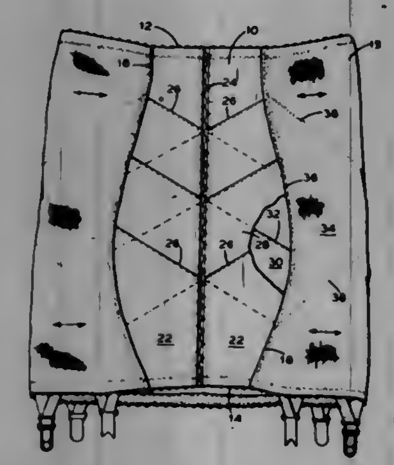
Norbert R. Zurkowski, Maplewood, Minn., assignor to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware
Filed Oct. 5, 1962, Ser. No. 228,639
5 Claims. (Cl. 128—476)

4. A garment comprising breast pockets, means for supporting said pockets upon the body of a wearer and means for maintaining the lower margin of each pocket in an arcuate contour without discomfort to the wearer, said means comprising non-woven, aligned, essentially continuous, fine, high-tensile filaments embedded in hard, resinous material which bonds the filaments together into an arcuate frame having a ratio of radial width to axial thickness within the approximate range of 5–10 to 1, said frame being fitted around the lower margin of said breast pockets.



3,195,542
GARMENT

Max Kops, Jr., New York, N.Y., assignor to Kops Brothers, Inc., New York, N.Y., a corporation of New York
Filed Aug. 7, 1963, Ser. No. 300,522
4 Claims. (Cl. 128—546)



1. A garment having an abdominal panel with an outer layer and an inner layer of material, each of the outer layer and the inner layer of said abdominal panel having two substantially identical half-sections meeting along a generally vertical centerline, each half-section of the outer layer having a plurality of the diagonal tucks, said tucks meeting in each half-section of the outer layer in a V-shape, each half-section of the inner layer having a second plurality of diagonal tucks, said tucks meeting in each half-section of the inner layer in an inverted V-shape, the tucks of each layer being similarly spaced and angled and arranged so that the apices of the tucks in the outer layer and the apices of the tucks in the inner layer meet together to form contiguous diamond shapes.

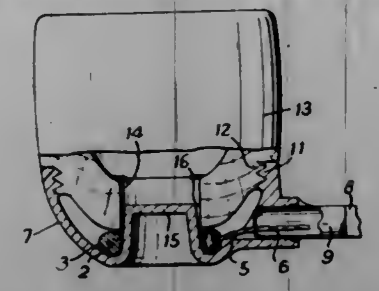
3,195,543
DISPOSABLE ABSORBENT ELEMENT FOR DETACHABLE BOWL SMOKERS' PIPES

Ivor Pollock, London, England, assignor to Falcon Pipes Limited, London, England, a British company
Filed July 29, 1963, Ser. No. 298,225
Claims priority, application Great Britain, Aug. 8, 1962, 30,448/62
4 Claims. (Cl. 131—207)

1. In a smoker's tobacco pipe having a detachable bowl carried by a bowl holder having a stem, said bowl holder having a condensing plug extending through a hole in said bowl and a draw hole leading from said bowl holder into said stem, a disposable absorbent element comprising:

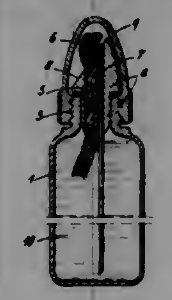
an absorbent body portion of generally annular configuration surrounding the condensing plug and defining a cut away portion located in confronting relation with the draw hole;

and a locating pin carried by said body portion and extending radially therefrom into the draw hole.



3,195,544
APPLIANCE FOR REMOVING NAIL POLISH

Eugène Jim Politzer, 65 Rue Jouffroy, Paris, France
Filed Dec. 3, 1962, Ser. No. 241,851
Claims priority, application France, Dec. 7, 1961, 881,290, Patent 1,316,540
1 Claim. (Cl. 132—74.5)

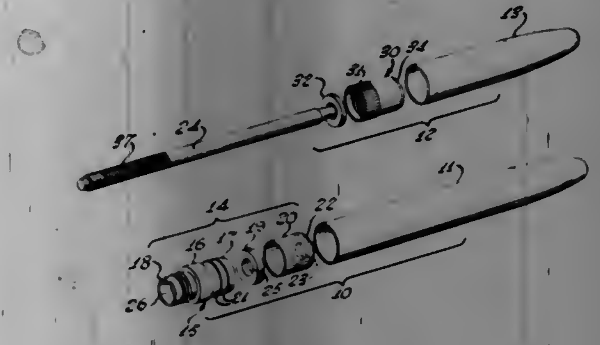


An appliance for removing the polish from fingernails, comprising a compressible receptacle having an open-neck portion of reduced size at the upper end thereof, nail polish solvent within said receptacle in free state, a hollow plug disposed within said neck portion, said plug having an inclined surface at its upper end thereof, said inclined surface being flat along its entire length, an absorbing means mounted in said plug and extending above said plug so that upon deformation said absorbing means will bear against said flat inclined surface, said absorbing means also extending into said receptacle to fill only a small portion of said receptacle so that the solvent within said receptacle is mostly in free state, and a hollow tube disposed beside said absorbing means in said hollow plug, the lower end thereof extending into said solvent, the upper end of said tube lying adjacent said inclined surface so that—upon deformation of said absorbing means—said absorbing means bears against the upper open end of said tube and said inclined surface, said tube acting to conduct the solvent to the upper end of said absorbing means.

3,195,545
MASCARA DISPENSING DEVICE WITH RESILIENT WIPER MEANS

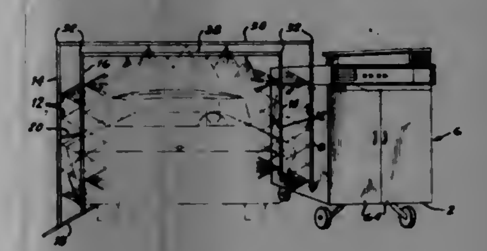
Philip M. Lederberg, Cove Neck Road, Oyster Bay, N.Y.; Victor Silson, 24 W. 55th St., New York, N.Y.; and Ira Joss, 3309 Waterbury Drive, Wantagh, N.Y.
Filed July 25, 1960, Ser. No. 45,201
3 Claims. (Cl. 132—79)

1. A reservoir body unit for a mascara dispensing device comprising a reservoir body in the form of a tubular vessel open at one end and adapted to contain a mascara liquid, a body insert of rigid material comprising a bushing section in said reservoir body peripherally contacting the peripheral wall of said reservoir body with a close conforming press-fit, a tubular extension at the outer end of said bushing section peripherally threaded for removable attachment of a cap unit thereto, and a tubular extension at the inner end of the bushing section of reduced diameter forming an annular space between the latter tubular extension and the inner periphery of said reservoir body in the region of the latter tubular extension, a washer of resilient material seated against the extreme inner end of the latter tubular extension, and a cup of flexible material fitted over the washer and the latter tubular extension and snugly embracing peripherally both said washer and the latter tubular extension, said cup having a peripheral wall extending into said annular space and having a close conforming peripheral sealing fit with the inner peripheral wall of said reservoir body, said washer and the end wall of said cup having aligned holes to permit an applicator rod to pass therethrough with a slide fit, one of said holes being small enough to serve as a wiper to remove excess mascara from the applicator rod as it is withdrawn from the reservoir body.



3,195,546
VEHICLE WASHING UNIT

William Tonkowich and Thomas Pawelko, Franklin Lakes, N.J., assignors to Associated Testing Laboratories, Inc., County of Passaic, N.J., a corporation of New Jersey
Filed Jan. 22, 1964, Ser. No. 339,416
1 Claim. (Cl. 134—45)

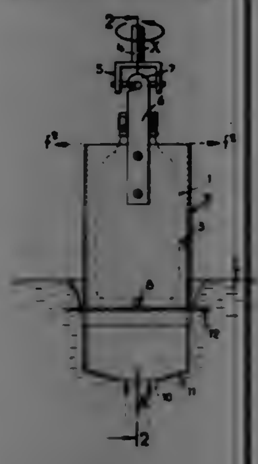


A mobile vehicle washing unit comprising, a wheeled compartmented storage housing, a source of pressurized detergent fluid supported in said housing, a plurality of spray sections with quick detachable connections for interconnection thereof to form spray archways, means for supporting said spray archways in horizontally spaced relation on and along one side of said housing, means including an interposed solenoid valve connecting at least one of said spray archways to said detergent fluid source, means including a second interposed solenoid valve for connecting another of said spray archways to a source of water under pressure, a limit switch for each of said first and second solenoids to selectively control actuation thereof and consequent flow of fluid through said spray archways and an actuator arm for each of said limit switches projecting from said wheeled housing for displaceable actuation by displacement of a vehicle to be washed therepast.

3,195,547
DEVICE FOR THE FREEZING OF A PRODUCT TO BE LYOPHILIZED AND OTHER PRODUCTS

Louis Marie Antoine Rieutord, Paris, France, assignor to Societe d'Utilisation Scientifique et Industrielle du Froid Usifroid, Boulogne-sur-Seine, Seine, France, a corporation of France

Filed July 24, 1963, Ser. No. 297,301
Claims priority, application France, Oct. 23, 1962, 913,189, Patent 1,34[illegible],073
6 Claims. (Cl. 134—163)

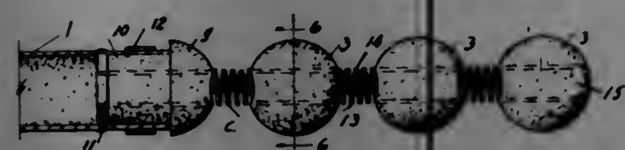


1. Apparatus for freezing a liquid in a container, comprising an upright sleeve for immersion in a cooling liquid, means above the sleeve for rotating the sleeve about an upright axis with the sleeve encompassing said axis, means for supporting a container in the sleeve, and pump means comprising at least one projection on the lower part of the sleeve for forcing said cooling liquid upwardly within the sleeve upon rotation of the sleeve.

3,195,548
SEWER PIPE OPENER

Christy N. Lestakis, 3004 27th Ave. S., Minneapolis, Minn.

Filed Jan. 16, 1964, Ser. No. 338,082
1 Claim. (Cl. 134—167)



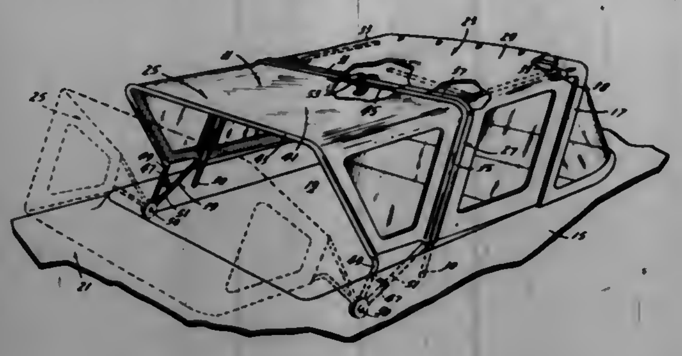
A sewer pipe opener having in combination a collapsible plastic hose having one end thereof adapted to be connected to a source of water under pressure and a flexible end portion which includes a hose-engaging member, an elongated coil extension spring anchored in the hose-engaging member and a plurality of yieldable plastic spherical balls through which the spring extends and to which the balls are anchored in spaced apart relation the spring being free between the balls and between the hose-engaging member and the adjacent ball the core of the spring being open to permit the movement of water from the hose to engage any obstruction in the sewer pipe.

3,195,549
FOLDING SOFT TOP

Myron T. Stevens, Kenosha, Wis., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware

Filed Feb. 23, 1962, Ser. No. 174,977
14 Claims. (Cl. 13[illegible]—6)

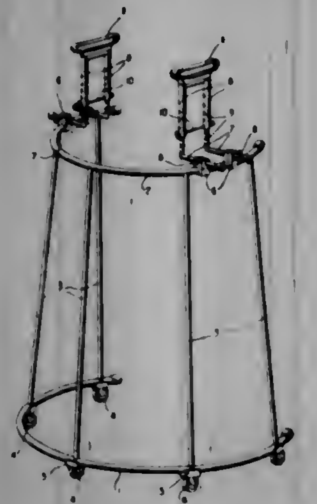
5. The combination of a boat hull and a folding top comprising a first folding top section mounted on said boat hull and including means for disposing said first top section between an erected condition and a folded condition, releasably engageable means on said boat hull and on said first folding top section for maintaining said first top section in erected condition, a second folding top section including frame members shiftable between an expanded condition and a folded condition, releasable means for maintaining said frame members in said expanded condition, and means mounting said second top section on said boat hull for movement of said second top section relative to a position in covering relation to said boat hull while said frame members are maintained in said expanded condition by said releasable means.



3,195,550
WALKING DEVICES

John G. Ingalls, 2534 Larkwood Lane, and Arnold J. Henry, 2509 Seymour Ave., both of Knoxville, Tenn.

Filed Sept. 6, 1962, Ser. No. 221,726
1 Claim. (Cl. 135—45)

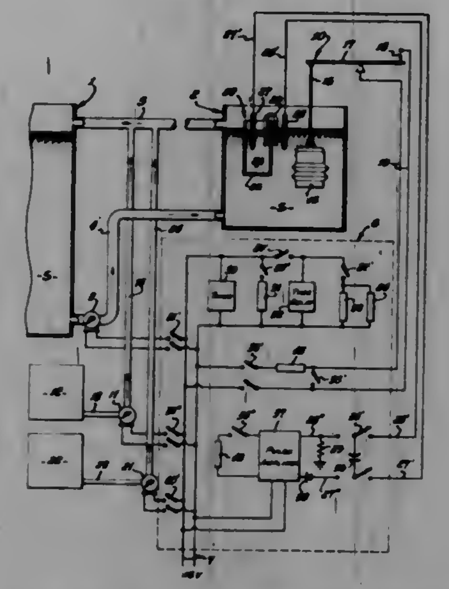


A walker device comprising a supporting frame, said frame including top and bottom rails substantially arcuate with an opening through one side of the frame for access thereto, upright rods connecting the top and bottom rails together and arranged with at least one rod at the front of the frame and at least a pair of said rods spaced apart at each opposite side of the frame, a pair of crutch members disposed on opposite sides of the frame adapted to engage under the arms of the person, an upright support for each crutch member, means for securing said crutch members in different adjusted positions with respect to the upright supports, horizontal leg sections connected with each upright support and extending outwardly in overlapping relation with the top rail intermediate the pair of upright rods at the sides of the frame, and clamping means for adjustably securing the horizontal leg sections to the top rail, and in adjusted position relative to said top rail, said clamping means comprising a pair of clamps intermediate said pair of upright rods having bores for slidably receiving said horizontal leg sections, releasable locking means for releasably locking any intermediate portion of the horizontal leg sections within said bores and means fixedly connecting the clamps to said top rail.

3,195,551
METHOD AND APPARATUS FOR THE MEASUREMENT AND CONTROL OF ACIDITY OF SOLUTIONS

Kenneth Freels Russell, Pomona, Calif., assignor to Brogdex Company, Pomona, Calif., a corporation of California

Filed Dec. 19, 1960, Ser. No. 76,736
4 Claims. (Cl. 137—5)

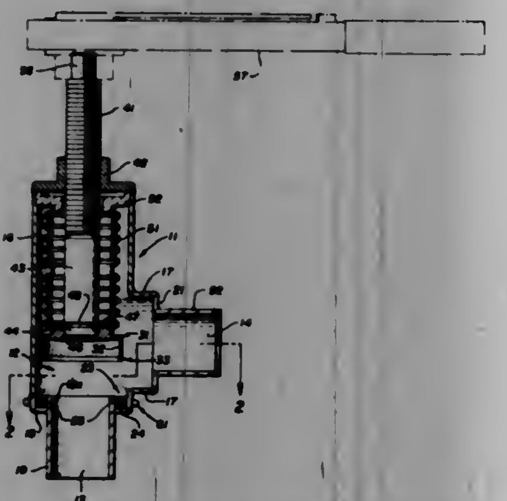


1. In a method of precisely maintaining within preselected narrow limits acidity of a large body of treating solution, the steps of: periodically obtaining a sample of the treating solution from said treating solution and retaining said sample solution for a selected period of time; holding a reference solution immersed in said sample solution for equalizing temperatures of said solutions and for equalizing stray potential differences between said solutions; obtaining an electrical potential related to the acidity of the sample solution; obtaining an electrical potential related to acidity of a reference solution; accumulating an electrical charge related to the difference of the electrical potential of the sample solution with respect to the electrical potential of the reference solution; discharging the electrical charge after a selected period of time; and regulating the introducion of acidity control material to the treating solution in response to said discharge.

3,195,552
VALVING METHOD WHICH INCLUDES REFORMING THE SEAT MATERIAL

Clifford L. Rasmussen, 550 Kelly Way, Palo Alto, Calif.

Filed Aug. 21, 1961, Ser. No. 132,965
2 Claims. (Cl. 137—15)

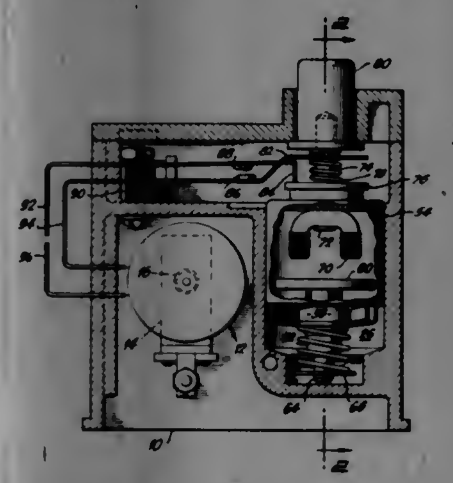


1. In a method for performing opening and closing of a passageway with a valve disposed in the passageway having a metal valve member closing against a relatively soft metal seat having a relatively low melting point, opening and closing the valve member by repeatedly moving the valve member into engagement with the seating material so that the valve member progressively deforms the seating material to form a recess and to provide vacuum-tight seals as the valve member is repeatedly closed, and reflowing the seating material by heating above said melting point to remove the recess formed in the seating material.

3,195,553
BURNER CONTROL VALVE MECHANISM

Harold W. Rice, Fullerton, Calif., assignor to Robertshaw Controls Company, Richmond, Va., a corporation of Delaware

Filed Apr. 23, 1962, Ser. No. 189,351
3 Claims. (Cl. 137—66)



1. In a switch mechanism, the combination comprising solenoid operated valve means for controlling a main fuel flow, pilot valve means for controlling a pilot fuel flow, an electromagnet movable between attracted and released positions, a housing enclosing said electromagnet and being secured thereto for unitary movement, an actuator engageable by said housing for moving said pilot valve means to an open position when said electromagnet is in an attracted position and permitting movement of said pilot valve means to a closed position when said electromagnet is in a released position, a rod element extending from said housing and being movable therewith, a reset button mounted on said rod element and being depressed under an applied force for moving said housing and said electromagnet to an attracted position causing opening of said pilot valve means, biasing means between said button and said housing acting on said reset button whereby removal of the applied force moves said reset button away from said housing, first and second switch blades in circuit with said solenoid operated valve means and being movable relative to each other between circuit open and circuit closed positions for controlling said solenoid operated valve means, and extension means on said first and second switch blades for independent operation by said reset button and said housing respectively, said extension means on said first switch blade operatively engaging said reset button and said extension means on said second switch blade operatively engaging said housing in such a manner that when said reset button and said housing move as a unit the switch blades are in a circuit open position and when said reset button moves away from said housing the switch blades are moved to a circuit closed position.

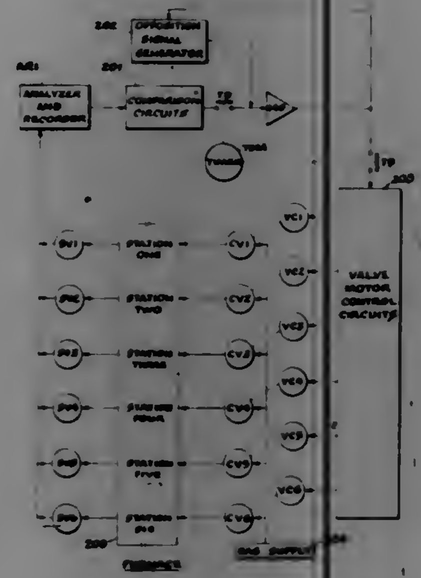
3,195,554
CONTROL SYSTEM

Ralph Hanna, Toledo, Ohio, assignor to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio

Filed Feb. 15, 1963, Ser. No. 258,845
10 Claims. (Cl. 137—88)

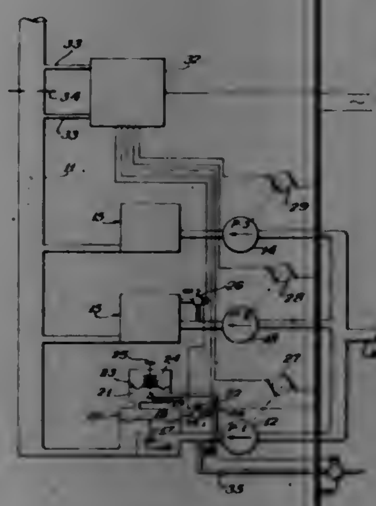
1. A control system comprising a means for periodically sensing a varying condition to be measured, means responsive to said sensing means for providing an output

signal proportional in magnitude to said varying condition when sensed, means for comparing a signal of predetermined magnitude and said output signal to provide a control signal proportional in magnitude to the difference between said compared signals, and control means responsive to said control signal of said comparing means for altering within a predetermined limit a variable of said condition being measured in proportion to the magnitude of said control signal before the next periodic sensing of said condition, said control means including means for providing incremental changes in said variable per unit of time within said period and timing means limiting the total time for said incremental changes within said period.



3,195,555
TANKLESS PUMPING SYSTEM

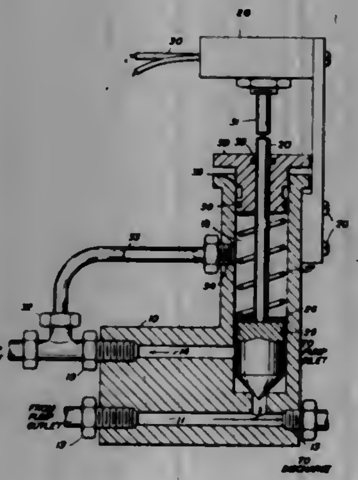
Robert F. Schaub, La Grange, Ill., assignor to SyncroFlo, Inc., Downers Grove, Ill., a corporation of Illinois
Filed Apr. 1, 1963, Ser. No. 269,515
6 Claims. (Cl. 137—114)



1. A tankless pumping system comprising a plurality of pumps of different sizes, pressure regulators connecting the pumps respectively to a line to supply liquid thereto, the regulator for the smaller pump being adjusted to maintain a lower pressure than the regulator for the larger pump, and control means responsive to the rate of flow of liquid through the line to cause the smaller pump only to operate when the flow is below a predetermined value and the larger pump only to operate when the flow is above said value.

3,195,556
PRESSURE RELIEF VALVE FOR CONTROLLING PUMP

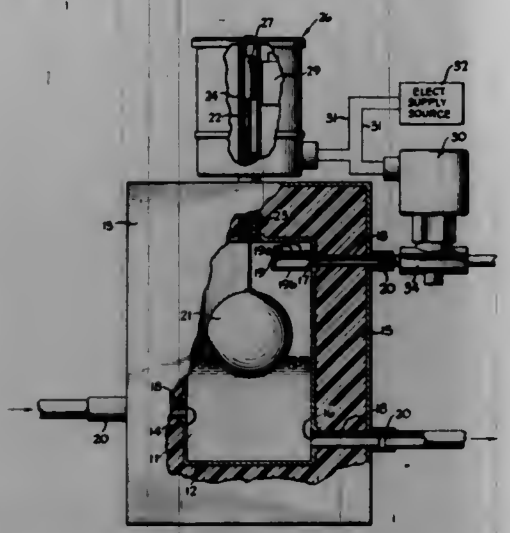
Iven R. Norstrud and John H. Threlkeld, Britt, Iowa, assignors to Britt Tech Corporation, Britt, Iowa, a corporation of Iowa
Filed Dec. 26, 1962, Ser. No. 247,126
3 Claims. (Cl. 137—115)



1. A relief valve comprising:
(a) a fluid pressure transmitting passage adapted to be connected to the outlet of a pump at one end and a discharge device at the other end;
(b) a fluid pressure by-pass having a fluid passage adapted to be connected to the inlet of a pump at one end and having a cylindrically shaped chamber at the other end, the two communicating with each other through an orifice of larger area than the smallest cross-sectional area of said fluid pressure transmitting passage to a discharge device for determining the magnitude of a relatively low pressure;
(c) a communication having a small aperture positioned between said fluid pressure transmitting passage and said cylindrically shaped chamber upstream from said smallest cross-sectional area, said communication forming the only fluid connection between said pressure transmitting passage and said by-pass;
(d) a piston in fluid sealing relation with said cylindrically shaped chamber having a conically shaped end covering said aperture and having a control engaging element formed as a part thereof;
(e) a conduit in fluid communication with said cylindrically shaped chamber above said piston and with said fluid pressure by-pass between said orifice and an end of said by-pass adapted to be connected to the inlet of a pump so that the pressure of a source of fluid is applied above said piston and to the fluid pressure transmitting passage communicating with the lower side of said piston;
(f) and a spring biasing said piston to normally close said small aperture, said piston requiring a relatively high pressure through said aperture for actuation and displacement thereof but requiring only a relatively low pressure against said entire end area to maintain said displacement after being actuated, said piston remaining displaced until the pressure in said orifice becomes lower than said low pressure allowing said spring to again bias said piston to close said aperture.

3,195,557
FLOAT ACTUATED GAS VENT

Lawrence W. Young, Oak Park, Ill., and Russell V. Meloche, Milwaukee, Wis., assignors to General Dynamics Corporation, New York, N.Y., a corporation of Delaware
Filed Apr. 25, 1963, Ser. No. 275,546
2 Claims. (Cl. 137—202)

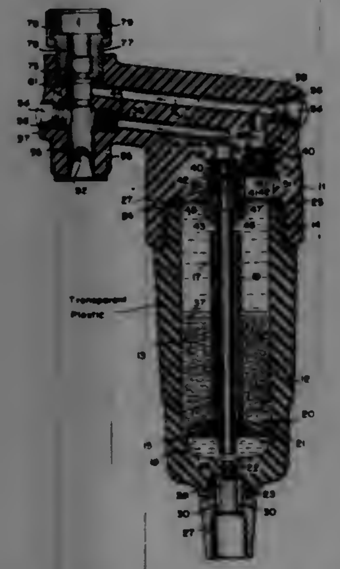


1. Apparatus for effecting the separation of two phases of a cryogenic medium being supplied from a source thereof to a point of utilization; which apparatus comprises an insulated housing which defines a chamber for receiving the cryogenic medium positioned in elevated relation with respect to both said source and said point of utilization; said housing including an inlet port wherethrough the medium is supplied to the chamber, a liquid outlet port positioned below the inlet port, and a vapor outlet port positioned substantially above said inlet port; selectively energizable means connected to said vapor outlet port so as to normally block the vapor discharge path provided thereby; switch means mounted on said insulated housing and electrically connected to said last mentioned means for controlling the energization thereof; a float member confined within said housing, said float member being supportable by cryogenic liquid but not supportable by cryogenic vapor; switch actuating means connected to said float member for movement therewith and relative to said switch means; said switch actuating means causing the actuation of said switch means in direct response to the lowering of the level of the cryogenic liquid within said chamber and the corresponding downward movement of said float member below a preselected level, said actuated switch means effecting the energization of said blocking means and the opening of said vapor discharge path; and a chamber defining spill over shield secured to the housing in surrounding relation to said vapor outlet port to preclude the spilling over of cryogenic liquid through said port as vapor is discharged, said shield having a series of orifices to accommodate the flow of vapor therethrough each of which orifice is of a cross sectional area which is substantially smaller than the cross sectional area of said vapor outlet port.

3,195,558
PROPORTIONING APPARATUS

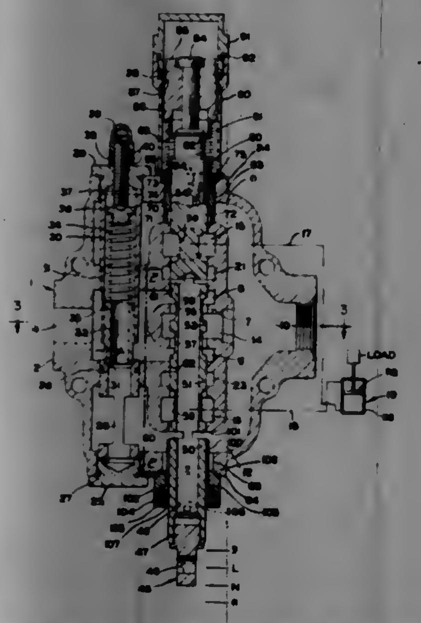
August Klueber, Landstrasse, Schriesheim, Baden-Wurttemberg, Germany, and Franz Josef Ernst, Neckargemuend, Baden-Wurttemberg, Germany; said Ernst assignor to said Klueber
Filed Apr. 19, 1963, Ser. No. 274,277
Claims priority, application Germany, Apr. 21, 1962, K 46,549, K 46,607; May 18, 1962, K 41,420
12 Claims. (Cl. 137—268)

1. A proportioning apparatus of the type in which a shunt flow is diverted from a main flow, to material to be dissolved, and then returned as a material-containing solution into the main flow comprising: a head piece including first channel means, having an upstream end and a downstream end, for conducting a main flow and other channel means for conducting shunt flow to and from said main flow; vessel means attached to said head piece, the interior of said vessel being in fluid communication with said shunt flow-conducting channel means; means within said vessel for supporting material to be dissolved; additional means within said vessel for conducting said shunt flow from and toward said shunt flow-conducting channel means in such manner that said shunt flow engages and dissolves said material and adds the solution thus formed to said main flow; and at least two stationary restrictor means in said main flow channel means for controlling pressure fluctutions in said main flow, said restrictor means each being located wholly downstream from the location where the other channel means for conducting shunt flow from said main flow intersects said main flow and said restrictor means being present in addition to any means used to couple or any means used to seal any joint between said main flow channel means and any additional main flow-conducting elements.



3,195,559
SPOOL VALVE ASSEMBLY

Hugh J. Stacey, Chesterland, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Continuation of application Ser. No. 812,687, May 12, 1959. This application Dec. 7, 1962, Ser. No. 243,714
13 Claims. (Cl. 137—270)



1. A spool valve assembly comprising a housing formed with a bore intersected axially therealong by a pressure inlet port, a tank port, and a pair of service ports adapted

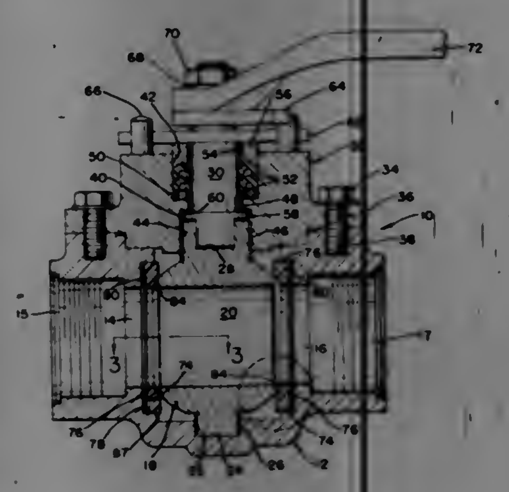
for connection with a hydraulic cylinder assembly to raise and lower a load on the piston thereof; a hollow valve spool axially reciprocable in such bore and formed with alternate lands and grooves and with openings through certain lands thereof to provide a neutral position whereat said inlet and tank ports are in fluid communication and said service ports are blocked by lands of said spool, two operating positions whereat said inlet and tank ports are communicated selectively with said service ports to actuate such cylinder assembly in either direction; and a float position whereat said service ports are communicated with each other and said inlet and tank ports are communicated with each other; and restrictor means effective, in one operating position only, to build up a back pressure in one service port when that service port is communicated with said tank port; said restrictor means comprising a perforate sleeve mounted in said housing to constitute an extension of such bore and through which fluid flows from said one service port to said tank port.

3,195,560

TOP ENTRY BALL VALVE

Joseph F. Pofit, Worcester, Mass., assignor, by mesne assignments, to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware

Filed Oct. 16, 1961, Ser. No. 145,305
2 Claims. (Cl. 137—3[illegible]5)



1. A top entry ball valve having a flow passage and being adapted to be secured in a fluid line to permit regulated fluid flow therethrough comprising

a valve body having coaxially aligned and axially spaced apart annular shoulders formed circumjacent the valve passage, each said shoulder having a radially extending flat surface facing inwardly;

a cap removably secured to the valve body providing access to the interior thereof midway between said flat surfaces;

an annular valve seat formed of a flexible but relatively incompressible material removably fitted within each shoulder and having a frustoconical surface facing said flat surface and defining therewith a space for relative axial movement of said valve seat;

an annular spring member having a frustoconical surface in mating engagement with the frustoconical surface of each said valve seat; and

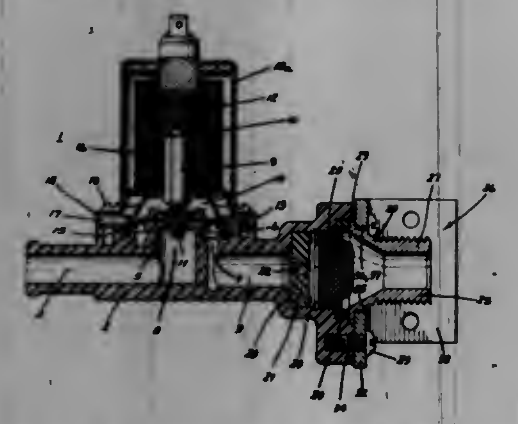
a rotatable spherical valve member removably disposed within said valve body and having a bore therethrough coaxially aligned with said valve seats in a full flow open position, said spherical valve member having a longitudinal dimension through the bore not greater than the distance between the opposed valve seating surfaces with the seats in an installed position and having a lateral dimension exceeding such distance whereby upon rotation of the spherical valve member from the full flow open position the frustoconical surface of each valve seat is cammed axially outwardly against the biasing force of said spring members.

3,195,561

PLASTIC VALVE DEVICE WITH TORQUE ABSORBING COUPLING AND BRACKET MEANS

Richard Sovitzky, West Allis, Wis., assignor to General Electric Company, a corporation of New York

Filed Nov. 24, 1961, Ser. No. 154,576
4 Claims. (Cl. 137—315)



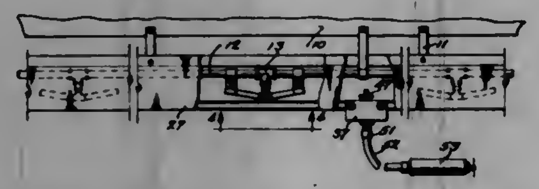
1. A valve for controlling fluid flow comprising a molded plastic valve body including a valve seat, an integrally formed inlet leading to said valve seat and an integrally formed outlet leading from said valve seat, valve means supported by said valve body and cooperating with said valve seat to control the flow between said inlet and said outlet, and a mounting and inlet unit for said valve body comprising a metal fitting positioned over said inlet and leading thereto, and a metal bracket secured to said valve body for mounting said body, said bracket holding said fitting in place on said valve body and said bracket and said fitting being integrated so that any torque applied to said fitting upon connection of a pipe is taken up by said bracket rather than by said plastic valve body, thereby to avoid damage to said valve body from cross-threading or stressing when a plumbing connection is made.

3,195,562

PRESSURE AIR LINE WITH VALVED TAKE-OFF STATIONS

Knut Edward Nelson, Jamestown, and Carl Thierfeldt, Frewsburg, N.Y., assignors to Dahlstrom Manufacturing Corp., Jamestown, N.Y., a corporation of New York

Filed June 4, 1962, Ser. No. 199,922
4 Claims. (Cl. 137—322)



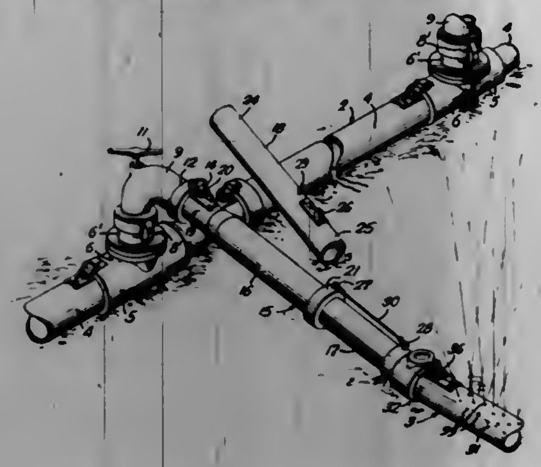
1. In a system for the dispensing of fluid under pressure to a given work area including an overhead fluid containing pipe line having a plurality of spaced outlet valves and a track depending from said pipe line and conforming to the arrangement of said system; and air delivery structure comprising a trolley movable along said track, a flexible hose for connecting said trolley with a tool operable by the fluid in said line, spring actuated fluid take-off means on said trolley including a rimmed nipple projecting thereabove, fixed pairs of guide channels directly above said track converging to form vertical, walled openings aligned with said outlet valves, either of said channels being engageable by the rim of said nipple when said trolley is moved along said track whereby to spring depress said take-off means preparatory to registering with one of said openings.

3,195,563

PIPE SYSTEM WITH MOVABLE LATERAL LINES

Austin T. Race, Jr., Winter Haven, Fla., assignor to Race & Race, Inc., Winter Haven, Fla., a corporation of Florida

Filed June 14, 1962, Ser. No. 202,630
7 Claims. (Cl. 137—343)



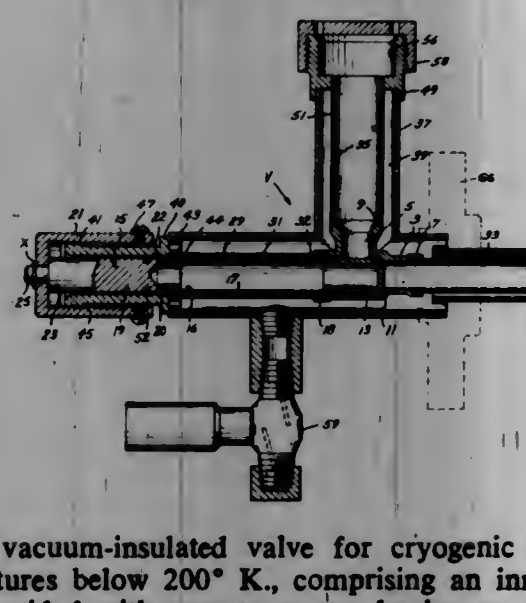
1. An irrigation system comprising a main line including a plurality of take off valves spaced therealong, each valve including a swivelled take-off member, a plurality of interconnectible pipe sections to form lateral lines, each pipe section having a male coupler end and a female coupler end with the mating ends of the sections intercoupling to form elongated lateral pipe lines, telescopic couplers each having a body member coupling to a take off valve and one of interchangeable male and female adapter sections for coupling to mating lateral line coupler ends and for telescopic union with the body member, an end closure member in each lateral line, a tow bar means connectible to a traction vehicle and rigidly connectible to one end of a lateral pipe line to draw the lateral pipe line across the main line, and a connector having a female coupler at each end for connection to a male end of a lateral pipe line and to the tow bar.

3,195,564

VACUUM-INSULATED VALVE FOR CRYOGENIC FLUIDS

Richard R. Carney and Frank D. Bond, Jr., Kenmore, N.Y., assignors to Union Carbide Corporation, a corporation of New York

Continuation of application Ser. No. 89,809, Feb. 16, 1961. This application Oct. 1, 1962, Ser. No. 227,978
6 Claims. (Cl. 137—375)



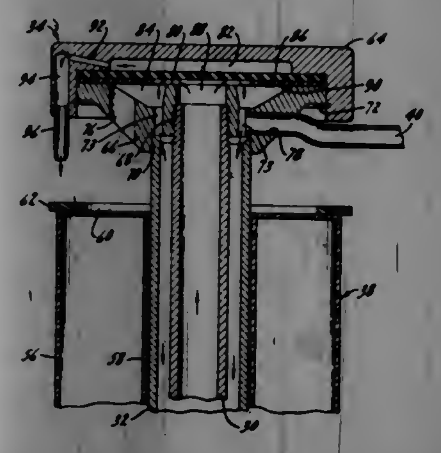
1. A vacuum-insulated valve for cryogenic fluids at temperatures below 200° K., comprising an inner valve body provided with passage means having an inlet and outlet for flow of said cryogenic fluids through said inner valve body; a valve seat in said inner valve body and positioned in said passage means; an elongated outer tubular member attached at one end to said inner valve body; an extended valve member having a back section and a hollow front section, said front section defining with said outer tubular member a purgable annular chamber and being adapted to register with said valve seat to cause positive shut-off of the flow of fluids through said passage means; said passage means communicating with said purgable annular chamber even when said front section is in registry with said valve seat; a first extension tube connected to said inlet of said passage means; a second extension tube connected to said outlet of said passage means; a vacuum jacket surrounding and defining a vacuum space with said inner valve body, substantially the entire length of said extended valve member and at least partially said first and second extension tubes; and motion transmitting means connected to said extended valve member at said back section of said extended valve member.

3,195,565

BALL COCK

Charles G. Mackie, Glen Ellyn, Ill., assignor to Standard Screw Company, Bellwood, Ill., a corporation of New Jersey

Filed July 1, 1963, Ser. No. 291,848
6 Claims. (Cl. 137—414)



1. A ball cock including a liquid tube assembly having an upflow conduit and a downflow conduit, means to admit liquid into the tube assembly, a float movably associated with the tube assembly, a sealing surface carried by the float, a valve structure mounted on one end of the tube assembly, a pressure chamber and a flow chamber in the structure, an elastomeric diaphragm separating one chamber from the other chamber, a passageway of reduced diameter in the diaphragm connecting one chamber with the other chamber, communicating passageways between the flow chamber and the downflow conduit, a valve seat for the diaphragm associated with the upflow conduit, some of the liquid from the upflow conduit adapted to pass through the diaphragm passageway and into the pressure chamber, means to drain such liquid away from the pressure chamber, and the sealing surface of the float adapted to close the drain means when liquid outside the tube assembly reaches a predetermined liquid level whereby liquid within the pressure chamber accumulates and moves the diaphragm onto the valve seat thereby stopping upflow liquid in the tube assembly.

3,195,566

READILY DISASSEMBLED VALVE

Richard T. Cornelius, Minneapolis, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota

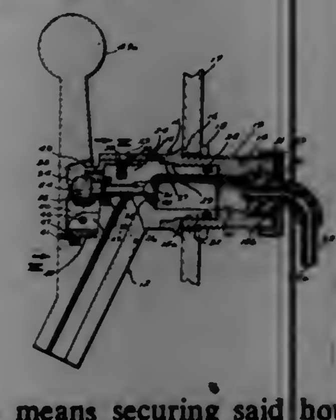
Filed Mar. 8, 1962, Ser. No. 178,314
7 Claims. (Cl. 137—454.2)

1. A valve device comprising, in combination:

(a) a housing having a passage adapted to be connected to a supply of fluid;

(b) a valve assembly including a body supporting a movable valve element in fluid communication with said passage;

(c) a valve element actuator assembly separate from said valve assembly and operable on said valve element for moving it; and



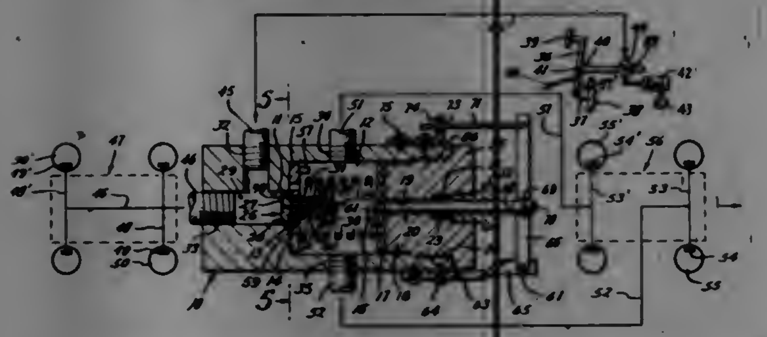
(d) a single means securing said housing, said valve assembly, and said actuator assembly together as a unit, upon release of which means, each of said housing, said valve assembly, and said actuator assembly is rendered freely separable from the others.

3,195,567
VALVE STRUCTURE AS FOR APPLYING BRAKING FLUID TO TRAILER BRAKES IN ADVANCE OF PRIME MOVER BRAKES

Arthur M. Cummings, 2325 [illegible] St., Houston, Tex.

Filed Apr. 9, 1962, Ser. No. 186,268

7 Claims. (Cl. 137—93.4)



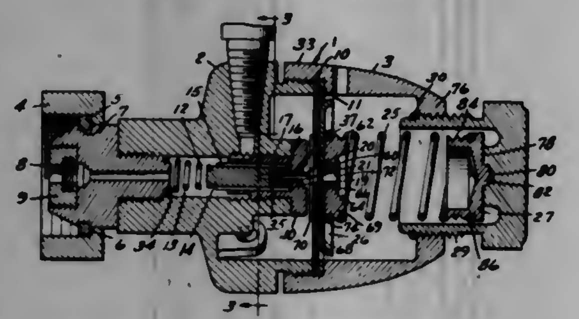
1. A valve structure for directing a fluid into different channels at different times, said valve structure including a body having a bore therein and a counterbore therein communicating with said bore to form a shoulder, connection opening means from within said bore to a first location of pressure application, connection opening means from within said counterbore to a second location of pressure fluid application, a channel provided by said body and said bore to establish fluid communication between the source of the fluid and the connection means to said first location, a valve plate in said counterbore normally seated against said shoulder and having opening means substantially centrally therethrough and port means outwardly thereof, both opening means and port means being occluded when said valve plate is seated upon said shoulder and said port means are immediately fully uncovered when said valve plate is moved from said shoulder, a closure for said counterbore, a first resilient means between said valve plate and said closure urging said valve plate seated against said shoulder, valve means including a flange normally to bear guideably within said bore and a stem extending from said flange through said opening means into said counterbore and providing therein an outwardly extending bearing surface, a bleed passage of uniform cross-section being provided through said stem and flange as the only passage space through said valve means, said opening means including space outwardly from said stem but short of said port means and of the outer diameter of said flange to be occluded by said flange when said flange is seated on said valve plate on the bore side thereof and immediately fully uncovered when said flange and said plate move apart, a second resilient means of lesser force than said first resilient means surrounding said stem with inner end bearing on said bearing surface and outer end bearing on the counterbore side of said valve plate to urge said flange seated on said valve plate, said valve structure thereby operating so that when pressurized fluid is supplied from a source to said channel it first flows through said channel and builds up a pressure to unseat said valve plate while at the same time urging said flange tightly against said valve plate, said pressure fluid then flowing through said valve plate openings and into said counterbore and therefrom through said counterbore connection means to said second location, said valve plate re-seating as fluid pressure in said bore and said counterbore equalizes, and upon release of fluid pressure at said source the pressure of fluid in said counterbore forcing said valve flange unseated to again equalize bore and counterbore pressures, said closure including means associated therewith for movement for adjusting the tension in said first resilient means.

3,195,568
FLUID PRESSURE REGULATOR WITH FIXEDLY AND POSITIVELY HELD SPRING HAVING MEANS TO REDUCE HUM

David S. Pearl, Fort Lauderdale, Fla., assignor to Uniweld Products, Inc., Fort Lauderdale, Fla., a corporation of Delaware

Filed June 13, 1963, Ser. No. 287,683

2 Claims. (Cl. 137—505.42)



1. A fluid pressure regulator comprising, in combination, a casing, said casing having a fluid inlet passage and a fluid outlet passage, a valve between said fluid inlet passage and said fluid outlet passage, a flexible diaphragm positioned within said casing, said passages and said valve being on one side of said diaphragm, a pressure plate having at least a portion of one surface thereof abutting said diaphragm on the other side of said diaphragm at at least a portion of one surface of said diaphragm, a pressure adjusting spring positioned within said casing on said other side of said diaphragm, means positioned at one end portion of said pressure adjusting spring for fixedly and positively holding said pressure adjusting spring against rotation and against shifting with respect to said pressure plate in said abutting position against at least said portion of said one surface of said diaphragm and for simultaneously holding said pressure plate at at least said portion of said one surface thereof in fixed abutment against said diaphragm at at least said portion of said one surface thereof, said means including a first washer positioned at one surface thereof against said pressure plate at at least a portion of the other surface of said pressure plate, said first washer being in contact, at at least a portion of its outer surface, with at least a portion of at least one convolution of said pressure adjusting spring at said one end portion thereof, a first fastener member extending through said diaphragm and said pressure plate and said first washer, said first fastener including a head member and a shank member depending therefrom, said shank member having, for at least a portion of its length, a bore therein, said head member constituting a wearing plate and being positioned

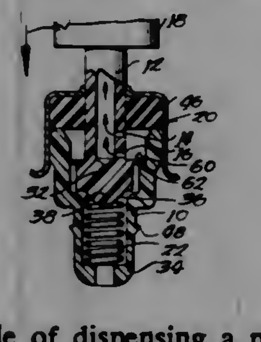
on said other side of said diaphragm and in fixed abutment against at least a portion of the other surface of said diaphragm, a second washer axially aligned with said first washer and positioned over and in contact with at least a portion of said one convolution of said pressure adjusting spring, and a second fashener means for holding said second washer positioned over and in contact with at least a portion of said one convolution and for holding said wearing plate fixed against said diaphragm surface, said second fastener extending through said second washer and being fixedly positioned for a portion thereof in at least a portion of said bore of said shank of said first fastener, said valve including a movable carrier element and stem means for moving said carrier element upon movement of said diaphragm, said stem means being attached to said carrier element and abutting said wearing plate, an adapter body member positioned in said inlet passage at its downstream end, said carrier element being movably positioned for at least a portion of its length in said adapter body and slideably fitted therein and said stem means extending through and beyond said adapter body, a frustoconically shaped valve closing spring positioned in said inlet passage at its upstream end, said frustoconically shaped valve closing spring being attached at its top portion to said carrier element, the ratio of the outside diameter of the top of said spring to the outside diameter of the bottom of said spring to the axial length of said spring to the length of the portion of the carrier element positioned within said adapter body when said valve is in closed position being about 1 to about 1.4 to about 2 to about 3.5, means for controlling the loading of said pressure adjusting spring to obtain predetermined fluid delivery pressures, said means being operatively associated with said casing, and means positioned at and in contact with the other end portion of said pressure adjusting spring for fixedly and positively holding said pressure adjusting spring against shifting with respect to said control means and with respect to said pressure plate, said latter means being operatively associated with said control means, whereby each of a plurality of fluid delivery pressures can be maintained, whereby the longitudinal axis of said pressure adjusting spring will not be shifted during constant usage of the regulator, whereby said pressure adjusting spring will not be rotated during constant usage of the regulator, and whereby a substantially constant predetermined fluid output pressure of the outlet fluid is obtained while hum is suppressed without any wear of any component element.

3,195,569
PLURAL SPRAY VALVE

Nels W. Seaquist, Crystal Lake, Ill., assignor, by mesne assignments, to Seaquist Valve Company, Division of Pittsburgh Railways Company, Cary, Ill., a corporation of Pennsylvania

Filed Sept. 3, 1963, Ser. No. 306,153

7 Claims. (Cl. 137—553)



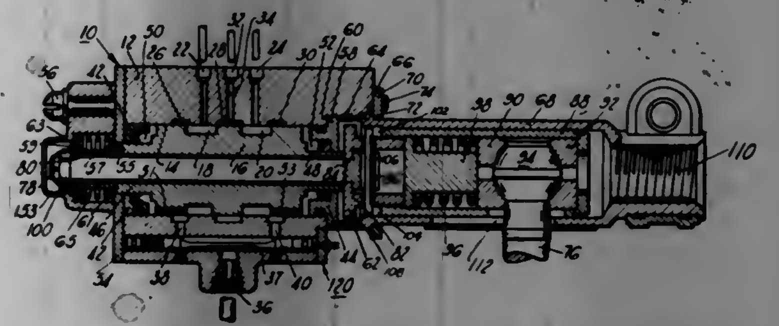
1. A valve capable of dispensing a plurality of spray patterns comprising a valve body, means on said valve for affixing said valve to an aerosol container, a hollow valve stem with a closed end reciprocally operable within said body, said stem having a plurality of dispensing ports disposed in its wall along its length which are opened sequentially as said valve stem is reciprocally operated, valve stem biasing means acting upon said closed end to bias said stem outwardly of said valve body, and valve sealing means disposed so as to seal said dispensing ports when the closed end of said stem is biased outwardly of said valve body.

3,195,570
HYDRAULIC CENTERING DEVICE

Dean E. Runkle, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware

Filed May 29, 1963, Ser. No. 284,201

3 Claims. (Cl. 137—596)



1. A control valve comprising a housing member having a bore therein, a spool type valve member movable in opposite directions from a normally neutral position within said bore, an inlet port, an outlet port and two cylinder ports, first and second annular inlet channels and an annular outlet channel located therebetween formed in said bore, first passage means located in said housing member for communicating said inlet port with both of said annular inlet channels, second passage means located in said housing member for communicating said outlet port with said annular outlet channel, first and second annular cylinder channels formed on said valve member, each of which is located between one of the annular inlet channels and the annular outlet channel to permit direct fluid flow from said inlet port to said outlet port when said valve member is in said neutral position, third passage means located in said housing member for communicating one of said cylinder ports with one of the annular cylinder channels, fourth passage means located in said housing member for communicating the other of said cylinder ports with the other of said annular cylinder channels, first orifice means interposed in said first passage means for regulating the flow of fluid from said inlet port to one of said annular inlet channels, second orifice means interposed in said first passage means for regulating the flow of fluid from said inlet port to the other of said annular inlet channels, and means located in said first passage means for varying the effective areas of said first and second orifice means to control the pressure differential at said first and second cylinder ports, said means including a single manually movable centering plunger for simultaneously increasing the effective area of one of said orifices while correspondingly reducing the effective area of the other of said orifices.

3,195,571
MULTIPLE SPOOL VALVE ASSEMBLY

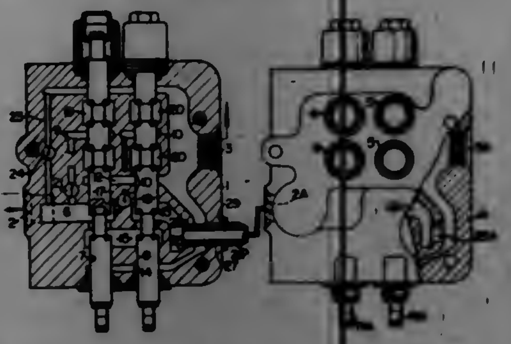
Robert B. Olsavsky, Akron, Ohio, assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Original application Sept. 6, 1956, Ser. No. 608,303. Divided and this application Sept. 18, 1961, Ser. No. 138,963

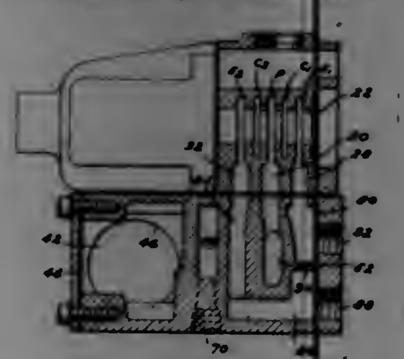
9 Claims. (Cl. 137—596.12)

1. In combination, successive spool valve assemblies each comprising a housing having inlet and outlet ports, a motor port, a bypass, and at least one spool bore intersected axially therealong by said ports and bypass; one

housing having a tubular carry-over fitting secured therein effective to block fluid communication between the bypass and the outlet port thereof and to establish fluid communication between the bypass thereof and the inlet port of a succeeding housing; the bypass of said succeeding housing having fluid communication with the outlet port thereof; a spool movable in each spool bore from a neutral position blocking fluid communication between said inlet and motor ports and permitting flow of fluid from the inlet port of said one housing to the outlet port of said succeeding housing via said bypass and fitting of said one housing and said inlet port and bypass of said succeeding housing to an operating position blocking said bypass and permitting flow of fluid from said inlet port to said motor port.



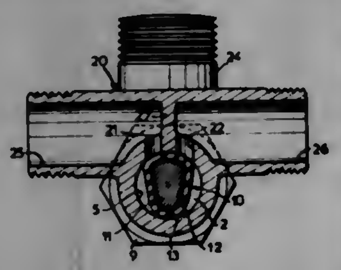
3,195,572
MANIFOLD CONSTRUCTION
William Carls, Highland, Mich.
Filed Nov. 14, 1960, Ser. No. 69,106
1 Claim. (Cl. 137—608)



A manifold for multiple valve bank assembly comprising:

(a) a one-piece integral manifold block having a first flat surface for a plurality of valve mount stations, each with a plurality of ports grouped together and terminal at said surface, said ports including a pressure port, two exhaust and two cylinder ports, said block having a second surface normal to said first flat surface forming an edge of said block having in relation to each valve station two exhaust and two cylinder ports terminal at said second surface, said block having a third surface parallel to and spaced from said first surface to form the bottom of the manifold, said block having cored passages including
(b) an L-shaped passage for each of said exhaust and cylinder ports, said cylinder port passages comprising two L-shaped passages, one reversed to the other, having a vertical leg terminating at the cylinder ports of the first flat surface and a horizontal leg extending in close proximity to and parallel with said third surface to a cylinder port at said second surface, said horizontal legs being spaced longitudinally of the block, and
(c) said exhaust port passages comprising two L-shaped passages between said horizontal legs, one nested above the other, each terminating at said first and second surfaces in laterally spaced relation, and
(d) a pressure passage extending longitudinally of said block above and between the respective horizontal and vertical legs of said exhaust and cylinder passages with a connection at each valve station to the pressure port of said first surface.

3,195,573
COCKS FOR FLUIDS
Georges Francis Alexis Daumy, Seyssins, France, assignor to Robinetterie Industrielle Pour le Batiment, le Sanitaire et les Applications Nucleaires R.I.B.S.A.N., Grenoble (Isere), France, a corporation of France
Filed Jan. 29, 1963, Ser. No. 254,770
Claims priority, application France, Feb. 13, 1962, 4,434; May 8, 1962, 896,814
20 Claims. (Cl. 137—625.4)

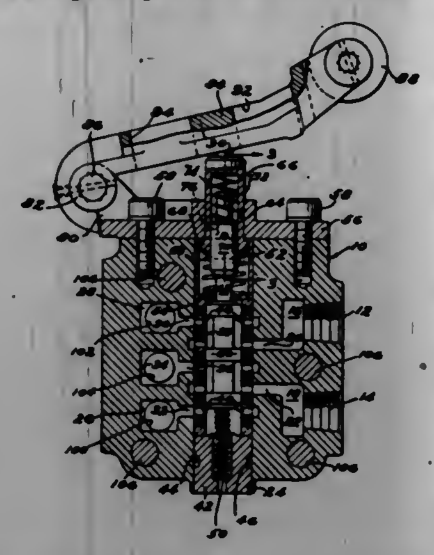


1. A cock or faucet for fluids comprising a fixed body having walls including a circumferential wall defining a chamber of circular cross section, and provided with at least two fluid passages one of which embodies a port formed in said circumferential wall of the chamber, a flexible sleeve disposed coaxially in the interior of said chamber, means for coupling said sleeve to said fixed body including means to prevent angular and axial displacement of the sleeve in said chamber, a rigid cam disposed in the interior of said sleeve and substantially filling said sleeve and supporting and having area contact with said sleeve, said cam having a profile selected so that rotation of said cam about the axis of said chamber causes a deformation of said sleeve so as to open said port formed in said circumferential wall and produces application of a portion of said sleeve against said port to close said port, said flexible sleeve comprising an internal element for reducing friction and an external closure element applied to the outer surface of said internal element facing said port, said internal element being of a flexible material having a low coefficient of friction and being coupled to said body by said coupling means, and said external element being of a flexible material having great elasticity, and means on the exterior of said body for rotating said cam.

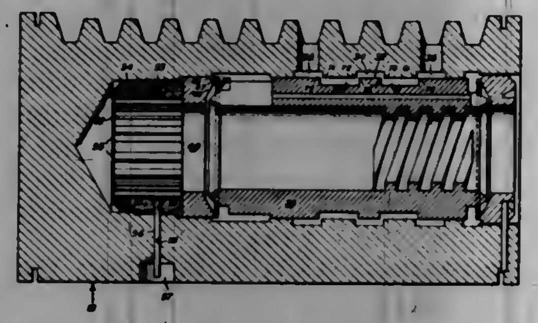
3,195,574
LEVER OPERATED VALVE ASSEMBLY WITH LOST MOTION CONNECTION
William Carls, Highland, Mich.
Filed Aug. 25, 1961, Ser. No. 133,852
5 Claims. (Cl. 137—625.69)

1. In a cam controlled valve of the type having a housing with a valve bore and fluid passageways intercepting said bore, a valve and control assembly for said housing comprising an apertured valve sleeve in said bore, a plug in said bore at one end of said sleeve to serve as a retainer, a hollow sleeve retainer at the other end of said valve sleeve in said bore having a flange to serve as a spring seat, an actuator thimble movable into said sleeve retainer and projecting from said valve housing, spring means interposed between said hollow sleeve flange and said thimble, a valve spool in said valve sleeve to control flow through said passageways in said housing, a spring between said plug and one end of said valve spool, a push pin slidable within said thimble engaging the other end of said valve spool, resilient means interposed between said thimble and said push pin to transmit motion one to

the other, and means to mechanically interengage said thimble and said push pin at the extremities of a relative axial motion therebetween, wherein continued motion of said actuator thimble into said sleeve retainer will effect a direct and positive motion of said push pin.



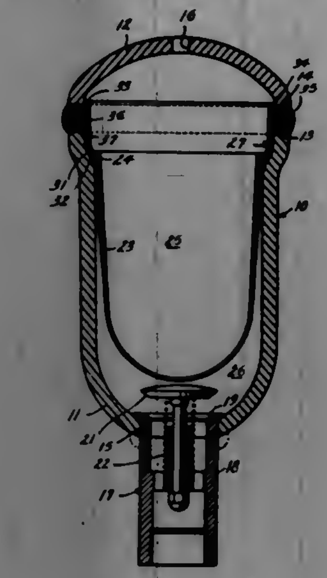
3,195,575
CENTRALIZING VALVE GROOVES TO SECURE EQUAL REVERSIBILITY
Richard H. Sheppard, 101 Philadelphia St., Hanover, Pa.
Filed Sept. 27, 1963, Ser. No. 312,077
2 Claims. (Cl. 137—625.69)



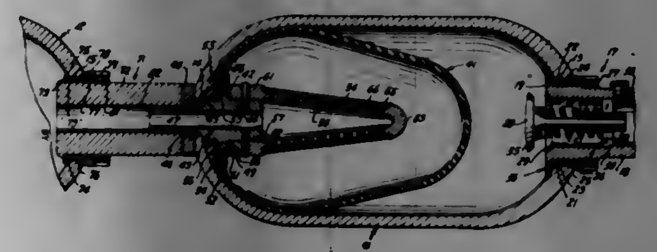
1. In a power steering device for vehicles, the combination with a cylinder, a piston slidable therein and having internal grooves, a valve slidable within the piston and having cooperating external grooves, and a pair of spaced annular springs urging the valve to mid-position, the valve having proximate each end thereof an annular seat for the proximate spring; of means for centralizing an external groove of the valve in relation to internal grooves in the piston to insure equal reversibility: said means comprising two spaced members each adjustable axially with respect to the piston and each having an annular spring seat engaging the opposite portion of the proximate spring, and means for independently locking each of said members in its adjusted position, a ring slidable in the piston forming one of said spaced members, and an internally splined nut having threaded engagment with the piston holds the ring in contact with the proximate spring and thus is part of the centralizing means.

3,195,576
PRESSURE VESSELS
Jean Mercier, 1185 Park Ave., New York, N.Y.
Filed June 27, 1961, Ser. No. 120,082
Claims priority, application France, July 4, 1960, 833,151
9 Claims. (Cl. 138—30)

1. A pressure vessel of the type comprising a metal container, said container comprising two substantially cup-shaped shells having the rims of the mouth portions thereof of substantially the same diameter, an annular supporting member in said container of material compatible with that of said shells, a deformable partition bonded to the annular supporting member and positioned in said container defining a gas chamber and an oil chamber therein, means independent of said deformable partition and integral with said shells to space the adjacent rims of said shells to expose at least a portion of the annular supporting member, and means rigidly bonding said adjacent rims and the exposed portion of said annular supporting member together.



3,195,577
FLUID PRESSURE ACCUMULATOR
Edward M. Greer, Beverly Hills, Calif., assignor to Greer Hydraulics, Inc., Los Angeles, Calif., a corporation of New York
Filed Nov. 1, 1961, Ser. No. 149,358
3 Claims. (Cl. 138—30)

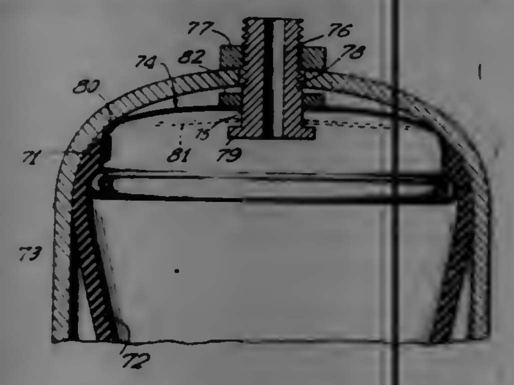


3. An accumulator comprising a container of rigid material having a pair of ports, a deformable bladder in said container having a mouth, said bladder intervening between said ports and defining a gas chamber and a liquid chamber on the respective sides thereof, a guide member comprising an elongated hollow sleeve substantially conical along its length, said sleeve being open at its larger diameter end and closed at its smaller diameter end, said sleeve having a plurality of perforations through the wall thereof and having an annular recess in its outer surface through which said perforations extend, a porous sleeve encompassing said elongated sleeve and positioned in said recess, a sleeve extending through one of said ports into said container, the open end of said perforated sleeve being secured to the end of said sleeve in said container to position said guide member axially of said bladder and means to retain the mouth of said bladder in fixed position with respect to said port through which said sleeve extends.

3,195,578
PRESSURE ACCUMULATOR
Jean Mercier, 1185 Park Ave., New York, N.Y.
Original application Apr. 17, 1959, Ser. No. 807,174. Divided and this application Dec. 11, 1962, Ser. No. 243,874
3 Claims. (Cl. 138—30)

1. A pressure vessel comprising a rigid container having a port at one end, a bladder of resilient deformable material in said container, said bladder having a mouth at

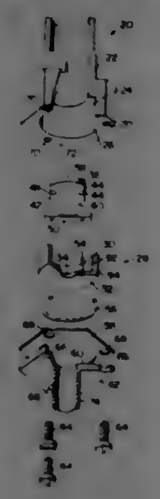
one end, a resilient clamp disc having an associated stem extending through the port of said container, said disc and said stem having a passageway therethrough, said disc having an outer peripheral portion and a portion inwardly of said outer peripheral portion adapted to abut against the inner surface of the container, the rim of the mouth of the bladder being seated on said peripheral portion, means to effect outward movement of said stem through said port and to move the disc toward said inner surface of the container, to compress the rim of the mouth of the bladder between the outer peripheral portion of the disc and the inner surface of the container resiliently to retain the rim of the bladder in fixed position, said stem



having an annular lateral shoulder at its inner end and a flange extending laterally outward from said shoulder, said passageway defining a central opening in said disc, said stem extending through said opening, said flange being adapted to abut against the periphery of said opening, said shoulder being of height such that the disc portion inwardly of said outer peripheral portion thereof will abut against the periphery of the container port, said disc portion inwardly of said outer peripheral portion limiting the compression of said rim, said bladder defining a chamber on each side thereof, one of said chambers being in communication with said passageway for charging of said chamber, said container having an additional port to provide access to the other chamber.

3,195,579
FLOW CONTROL

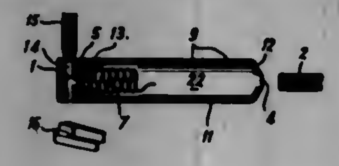
Jean Bordeaux, Santa Ana, and Dennis D. Renk, Anaheim, Calif., assignors to Robertshaw Controls Company, a corporation of Delaware
Filed Nov. 15, 1961, Ser. No. 152,541
15 Claims. (Cl. 13[illegible]—43)



14. In combination, a plate-like member having a fluid flow opening passing therethrough, a washer supporting bar extending across said opening to divide said opening into at least two passages, and a flow control washer having a central part extending across said bar and spaced from said plate-like member and having a portion of its periphery bendable toward said member in response to fluid pressure of fluid tending to flow past said washer into said opening.

3,195,580
DEVICE FOR PILING-UP A WEFT-THREAD FOR LOOMS

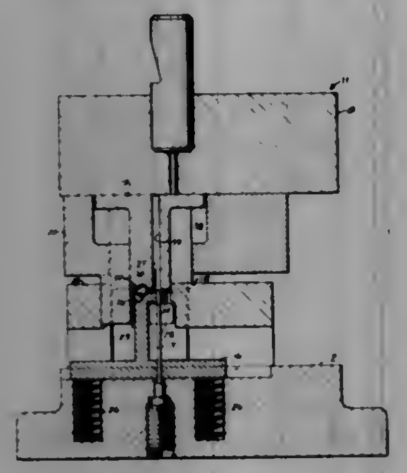
Heinrich Fend, Regensdorf, Zurich, and Hans Hentz, Zurich, Switzerland, assignors to Machine Tool Works Oerlikon, Administration Company, Zurich-Oerlikon, Switzerland
Filed July 2, 1962, Ser. No. 206,609
Claims priority, application Switzerland, July 6, 1961, 7,926/61
10 Claims. (Cl. 139—224)



1. A device for piling-up a weft thread pre-cut to a predetermined length preparatory to its insertion into the warp shed of a loom comprising a movable hollow body having an interior piling-up space for passing through said warp shed, said hollow body having an inlet opening and an outlet opening, said interior piling-up space lying between said inlet opening and said outlet opening so that the loading end of said weft thread emerging from said interior piling-up space can pass through said outlet opening, blowing-in means for said weft thread adjacent said inlet opening for blowing said weft thread through said inlet opening into said interior piling-up space and for carrying along said weft thread towards said outlet opening and for blowing said leading end into said outlet opening, said hollow body having guiding means guiding said end of said weft thread into said outlet opening, slowing-down means arranged outside of said interior piling-up space for acting on said leading end of said weft thread emerging from said interior piling-up space.

3,195,581
FORMING AND TRIMMING DIE

Fritz V. Brosseit, Kansas City, Mo., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Aug. 31, 1961, Ser. No. 135,239
1 Claim. (Cl. 140—71)



In an apparatus for trimming and forming a plurality of lead wires extending in parallel fashion and in a single plane through an elongated glass bead,

a tool bed,

a pair of slides mounted on said tool bed for opposed movement toward and away from each other,

a support having a recess to receive said bead and support said lead wires in a horizontal plane, said support having an aperture extending vertically therethrough in alignment with one of said lead wires,

means for resiliently mounting said support on said bed to project above said slides to position said lead wires to overlie said slides,

a forming element secured to the bed and projecting into said aperture and in alignment with one of said lead wires,

each of said slides having forming pins extending vertically therefrom for bending at least one of said lead wires,

a pair of trimming dies mounted on said bed to subtend said support for receiving the ends of said lead wires,

a mounting plate mounted for movement toward said tool bed,

a forming member secured to said mounting plate and having outer edges to cooperate with said trimming dies to trim overlying ends of said lead wires,

said forming member having an inner edge cooperating with one edge of said support to bend certain of the lead wires extending beyond said support edge,

a gripping element slidably mounted on said forming member for gripping the lead wires against the support as the mounting plate moves toward the bed,

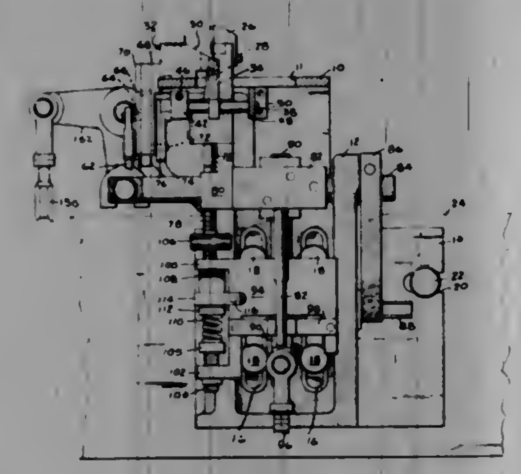
spring means for urging and spacing said gripping element away from said mounting plate whereupon movement of the mounting plate moves the gripping element into engagement with the lead wires to depress the support means against the resilient means relative to said forming element to move said aligned lead wires into engagement with said forming element,

said gripping element having a recess formed therein to receive the forming element as it bends the engaged aligned lead wires, and

a pair of oppositely shaped cams secured to the mounting plate which are moved and rendered effective following the depression of the support for engaging and laterally moving said slides outwardly from the support to move said pins to bend said predetermined lead wires.

3,195,582
COIL SHAPING APPARATUS

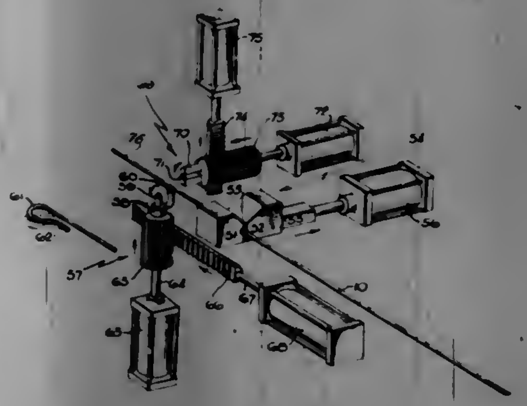
Roland L. Bienvenue, Lawrence, John J. Chadderton, Lynn, and Donald K. Voyce, Peabody, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware
Filed Sept. 29, 1961, Ser. No. 141,659
4 Claims. (Cl. 140—71.5)



1. Apparatus for shaping a linear coiled wire having a plurality of coil turns into a hairpin configuration and effecting a spacing of certain coil turns to define a bight, said apparatus comprising: an anvil having a working face; a die having a working face disposed in cooperative relationship with respect to said anvil and the working face thereof; a pair of spaced forming blocks attached to the working face of said die, the adjacent vertical sides of said forming blocks defining a coiled wire leg-receiving pocket and the upper horizontal sides thereof defining a coiled wire receiving shelf; a blade projecting from the working face of said anvil and disposed above and in register with said coiled wire leg-receiving pocket; a pair of spaced setting blocks attached to the working face of said die immediately beneath said pair of spaced forming blocks, the adjacent vertical sides of said setting blocks defining a coiled wire bight-receiving pocket, said pocket being narrower than said coiled wire leg-receiving pocket and the adjacent upper corners of said spaced setting blocks defining stops; means for locating a linear coiled wire on said wire-receiving shelf of said die; and means for effecting relative movement between said die and said anvil along the working faces thereof whereby said blade engages said coiled wire and folds it into said coiled wire leg-receiving pocket into substantially hairpin configuration, said relative movement continuing after the legs of the coiled wire have bottomed on said stops defined by the adjacent upper corners of said spaced setting blocks whereby the spacing between certain coil turns is increased to define the bight of the coiled wire.

3,195,583
MACHINE FOR PRODUCING WIRE TIES

Maurice Holford Jones, Sutton Coldfield, England, assignor, by mesne assignments, to Fredk. A. Power and Sons Limited, Birmingham, England
Filed Sept. 13, 1962, Ser. No. 223,386
Claims priority, application Great Britain, Sept. 16, 1961, 33,283/61
3 Claims. (Cl. 140—102)

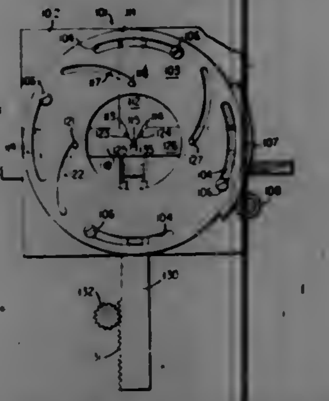


1. A machine for bending each end of a straight wire to produce a wire tie, the machine comprising support means for supporting the wire horizontally and two bending units spaced apart to engage the end portions of the wire, each bending unit comprising a jaw assembly to clamp the wire at a predetermined distance from the extremity of the adjacent end portion, a loop-forming tool with two spaced wire-engaging projections and rotatable on an axis at right angles to the wire for bending into a loop the end of the wire extending beyond the jaw assembly and between the projections, said loop-forming tool being reciprocal in the direction of its axis of rotation to move the projections into and out of engagement with the wire, and a loop-bending tool with a loop-receiving bifurcation for receiving the formed loop and rotatable on an axis at right angles to the axis of rotation of the loop-forming tool and to the wire for bending the loop out of its original plane, the loop-bending tool being reciprocal in the direction of its axis of rotation to move the bifurcation into and out of engagement with the loop, and means for moving the loop-forming tool out of its engagement with a loop and for thereafter moving the loop-bending tool into engagement with the loop.

3,195,584

TRANSISTOR HANDLING APPARATUS

Louis P. Zimmerman and Albert W. Zemek, Binghamton, N.Y., assignors to Universal Instruments Corporation, Binghamton, N.Y., a corporation of New York
Original application Dec. 6, 1961, Ser. No. 157,432, now Patent No. 3,122,179, dated Feb. 25, 1964. Divided and this application Aug. 10, 1962, Ser. No. 223,572
10 Claims. (Cl. 140—147)

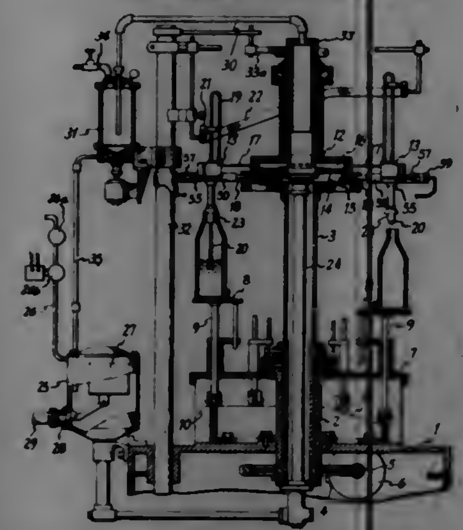


1. A guide for the leads of a transistor comprising a plurality of guide blocks with common meeting surfaces, said common meeting surfaces of said guide blocks having cut away portions defining part-holes therein and composite holes through said blocks when said blocks are in their meeting position forming a composite continuous wall section, forming a continuous composite wall section, each of said composite holes being larger at a first face of said composite wall section than at the second face thereof; means for moving said blocks to and from a meeting position, whereby each of the leads of said transistor is guided into a composite hole by the larger opening at the first face and held in alignment by the lesser opening portion adjacent the second face of the composite wall section for insertion of a lead into an element situated adjacent the second face.

3,195,585

FLOW REGULATING MEANS FOR CONTAINER FILLING MACHINES AND METHOD

Paul R. Fechheimer, Cincinnati, Ohio, assignor, by mesne assignments, to Cherry-Burrell Corporation, a corporation of Delaware
Filed Feb. 12, 1962, Ser. No. 172,676
4 Claims. (Cl. 141—1)

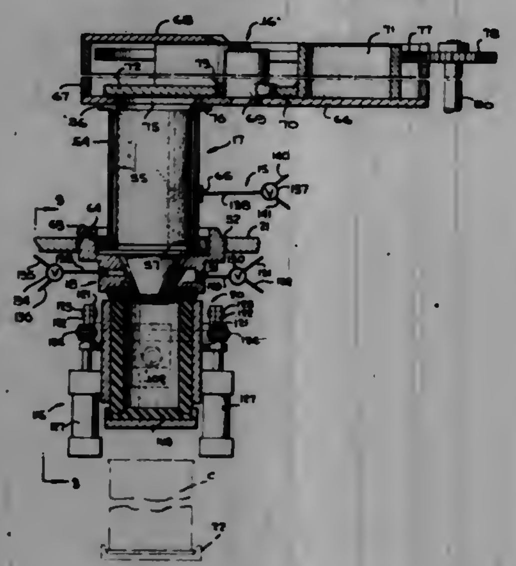


1. A method of filling a fluid product into containers continuously fed to a rotary filling machine having a plurality of filling spouts supplied with product from a product source, said method comprising the steps of: feeding the containers to said machine onto supports juxtaposed to said filling spouts, continuously rotating said spouts and supports together in a path around the machine, presenting each container on a support to the corresponding filling spout near the beginning of said path, commencing the flow of product from said source into each container upon presentation of the container to a filling spout, varying the rate of flow of the product according to the position of the container in said circular path, withdrawing each container from its corresponding filling spout near the end of each path, and discharging the filled containers from the machine.

3,195,586

METHOD AND APPARATUS FOR ACCURATELY DISPENSING DIVIDED MATERIAL

Clarence W. Vogt, Box 232, Westport, Conn.
Filed Nov. 8, 1962, Ser. No. 236,315
13 Claims. (Cl. 141—1)

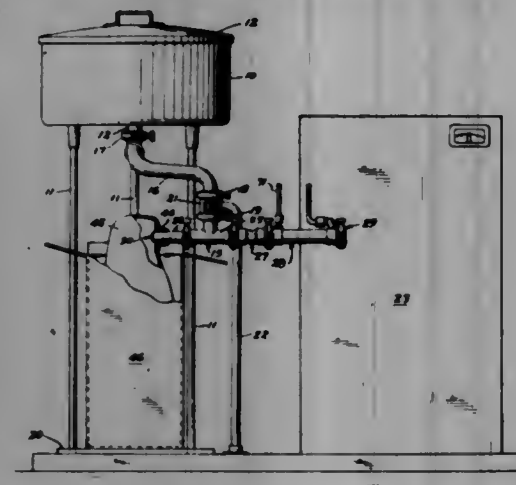


12. A method of controlling the flow of a finely divided material utilizing a single resilient valve member comprising the steps of placing a circumferential inwardly directed force on the valve member to effect a closing of the valve member to shut off flow, and as the valve member is closing circumferentially inwardly effecting movement of the valve member in a direction opposed to the direction of flow of the material and generally normal to the direction of closing to thereby loosen any of the material having a tendency to compact against the valve member and not flow freely when the valve member is again opened.

3,195,587

APPARATUS FOR FILLING PLASTIC BAGS

George E. Mattimoe, Burlingame, and Everett G. Stehn, San Francisco, Calif., assignors to T. R. Mantes Company, Inc., San Francisco, Calif., a corporation of California
Filed Aug. 7, 1961, Ser. No. 129,711
7 Claims. (Cl. 141—83)

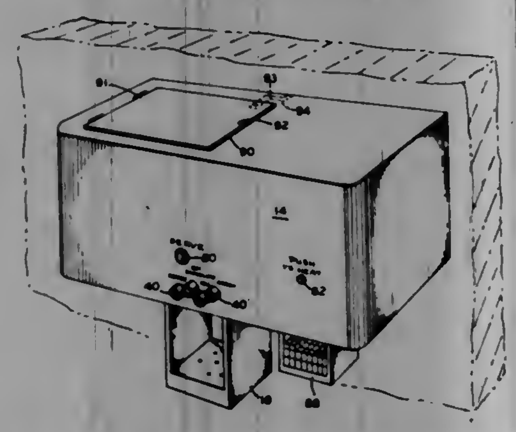


1. In a device for dispensing liquid into a circular spout of a light-weight flexible plastic bag that is mainly confined within and is supported by a stiff carton, the combination of: a scale platform on which the carton is adapted to rest with the bag inside, so that the weight of liquid in the bag is borne by the platform, and a filling valve having a filling spout that has a rigid generally frusto-conical tapered outer periphery, around which the circular bag spout is adapted to fit snugly, the filling spout supporting only the weight of the bag and the frusto-conically tapered outer periphery, around which the size of the bag spout and enabling a snug push fit to achieve full support of the bag by the spout, said valve having a ball-like closure member movable inside said spout and extending less than half beyond said spout in its closed position and fully retracted within said spout in its open position.

3,195,588

BEVERAGE DISPENSING MACHINE

Ted Geffner, East Merrick, N.Y., assignor to Hospitality House, Inc., New York, N.Y., a corporation of New York
Filed May 22, 1962, Ser. No. 196,749
2 Claims. (Cl. 141—104)

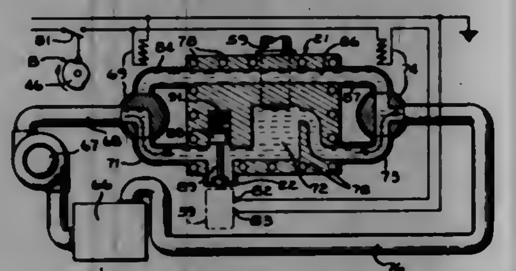


1. Apparatus for dispensing instant liquid beverages comprising a frame, a plurality of hoppers for powdered beverage materials supported by the frame, a support for a cup carried by the frame, the lower ends of the hoppers being located in communication with the cup, a manually slidable metering plate having an aperture alignable with each hopper to permit gravity flow of the powdered materials into the cup, electrical means for agitating the hoppers, and a hot water tank having a metering valve and a conduit leading therefrom, said valve and said plate having means to deposit water in said cup upon movement of the plate and having means wherein the quantity of material and water so deposited is dependent upon the manual extent of movement of the plate.

3,195,589

CONTINUOUS-FLOW FILLING APPARATUS

James C. Houda, Jr., Downers Grove, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Filed Feb. 1, 1963, Ser. No. 256,207
9 Claims. (Cl. 141—131)



1. In apparatus for dispensing a constant volume charge of liquid from a system in which it is desired that the liquid be in continuous circulation:

means defining a primary flow path through which the liquid normally flows, said means comprising the housing of a constant volume dispensing device;

means defining an alternate flow path in parallel with the primary flow path;

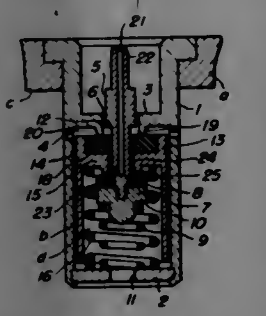
valve means for closing off the ends of the primary flow path and for diverting the liquid through the alternate flow path so that said means defining the primary flow path may serve as a closed dispenser housing during a dispensing operation; and

means for causing dispensing of the liquid from the primary flow path when the ends thereof are closed off.

3,195,590

FILLING VALVES FOR LIQUEFIED GAS LIGHTERS

Taisho Iketani, 589 Nogatacho-1-chome, Nakano-ku, Tokyo, Japan
Filed Jan. 25, 1963, Ser. No. 253,825
Claims priority, application Japan, Jan. 27, 1962, 37/2,798
2 Claims. (Cl. 141—293)



1. A filling and exhausting valve means for replenishing a reservoir with a fluid substance comprising,

(a) a casing adapted to be connected to the reservoir,
(b) said casing having a filling aperture and an exhaust port formed therein,
(c) an annular flange disposed intermediate the ends of said casing, said flange defining an exhaust valve seat,
(d) a plunger means including a valve steam portion and a connected head portion movably mounted in said casing, said stem portion being extended through said exhaust valve seat and said stem having formed therein a fluid inlet passageway connecting with an inlet port,
(e) a slide member operatively associated with said plunger means, said slide member being mounted on said stem for relative movement therebetween,
(f) said slide member having means for normally valving said exhaust valve seat closed, and cooperating means between said head and said slide member for normally valving said inlet port closed whereby relative movement between said plunger means and said slide member effects opening of said inlet port to connect the same in communication with said reservoir,
(g) and means on said valve stem to effect movement of said slide member with continued movement of said plunger means to effect opening of said exhaust valve seat after the opening of said inlet port,
(h) wherein said slide member engages said casing in the operative position of said valve to form a seal thereat to seal the exhaust port for said filling aperture.

3,195,591

PORTABLE TABLE FOR CIRCULAR SAW

Donovan Sylvester Haberman, 2204 Middleberry Road, North Sacramento, Calif.
Filed Feb. 26, 1963, Ser. No. 261,119
2 Claims. (Cl. 143—6)

1. A portable table for a circular saw including a saw blade, comprising

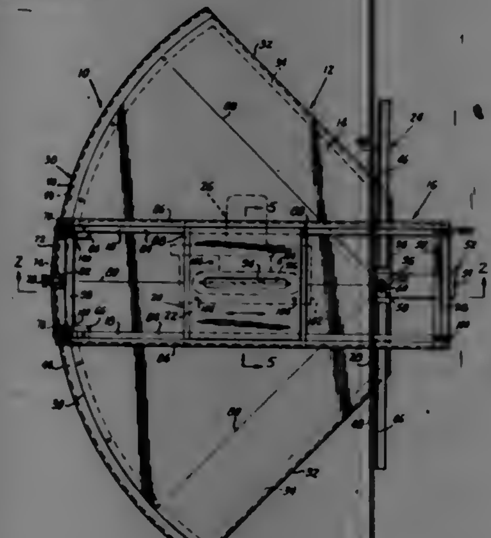
(1) a base means including a substantially horizontal table member bounded in plan view by a broken line

perimeter of a quadrant of a circle diminished at the perimeter portion opposite the arc by an isosceles triangle whose equal sides are approximately one-third the radius of the quadrant,

(2) saw guide means including a pair of laterally fixedly spaced parallel track members, each of such length that their ends overlie the arcuate angle indicating front portions of the perimeter of the base means and also overlie the straight work piece guiding back portion of the perimeter opposite the arcuate portion, the track ends all being directly supported upon the base and in equal vertical spaced relation with respect to said table member,

(3) one end of said saw guide means being pivotally secured to said base means at a position overlying the midpoint of said straight back portion of the table perimeter for selective angular movement thereabout of over ninety degrees with respect to said table member, the other end of said guide means simultaneously selectively travelling the front arcuate angle indicating perimeter of said base,

(4) saw support means including a square plate member having an elongated central slot means for receiving the saw blade therethrough, and means securing the saw to said plate member, said plate member including first opposed edges parallel to said slot and similar shaped second opposed edges transverse to said slot,



(5) whereby said first opposed edges may be slidingly received in said track members for cross-cut sawing operations on a work piece positioned between said table member and said track members, and said second opposed edges may be slidingly received in said track members for rip-sawing operations on said work piece,

(6) said track members each being block-C-shaped in cross section and having a lower inwardly extending horizontal guide flange with an upstanding horizontal top runner spaced from the free end of the lower guide flange, a vertical web portion connected to and extending from said lower guide flange, and an upper inwardly extending horizontal securing flange, the vertical distance between the horizontal top portions of the lower flange and the horizontal bottom portion of the upper flange being less than the vertical thickness of said square plate,

(7) the cross sectional shape of each edge of the plate including a vertical terminal edge receivable in sliding clearance with said channel, a top oblong rabbet contiguous to the terminal edge and in sliding clearance with two faces of said upper inwardly extending securing flange, and a horizontal base interrupted only by a groove of such shape as to slidingly mate with said upstanding horizontal top runner,

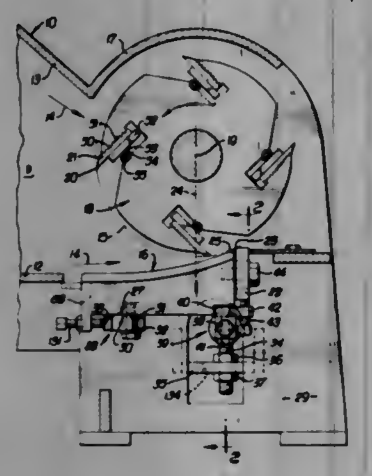
(8) whereby four vertical faces and four horizontal faces of one track member, and an equal number of faces on one edge of said saw support plate accurately and firmly control the relative working position of the saw blade in every operative position thereof.

3,195,592
WOOD CHIPPER WITH ADJUSTABLE BED KNIFE

Llewellyn J. Hall, Claremont, Calif., assignor to Wayne Manufacturing Company, Pomona, Calif., a corporation of California

Filed Nov. 30, 1962, Ser. No. 241,195

3 Claims. (Cl. 144—172)



1. In fibrous feed chipping apparatus:

(a) a cutter head rotatable about its axis to carry cutter means along a rotary course,

(b) a bed plate having a feed guide surface exposed to and directed toward said course,

(c) a bed knife carried by said plate and having an edge proximate the periphery of said course,

(d) first adjustment means to bodily shift the bed knife in a first linear direction toward and away from said course and relative to said bed plate,

(e) a pivot part spaced from said bed knife and supporting the bed plate for rocking adjustment carrying the bed knife toward and away from said course,

(f) second adjustment means to adjustably hold the bed plate in a selected angular position with respect to said pivot,

(g) and third adjustment means to adjustably shift the bed plate along a second linear direction substantially normal to said first linear direction while the plate remains supported on the pivot part.

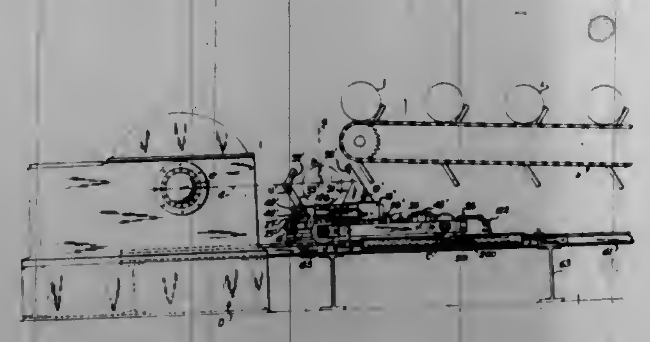
3,195,593
APPARATUS FOR HANDLING LOGS

Howard E. Price, Painesville, Ohio, assignor to The Coe Manufacturing Company, Painesville, Ohio, a corporation of Ohio

Filed June 15, 1961, Ser. No. 117,458

5 Claims. (Cl. 144—209)

1. In apparatus for feeding logs and the like to a machine having spaced axially aligned rotatable spindles between which a log is adapted to be supported and rotated with its longitudinal center aligned or approximately aligned with the axis of rotation of the spindles, a log carrier, a plurality of spaced clamp assemblies, each clamp assembly having a least two clamp members at least one of which has a dihedral or V-shaped abutment face, means supporting the respective clamp members of each of said clamp assemblies in said log carrier for linear movement towards and from one another in generally horizontal paths, discrete power means for moving the respective clamp members of each of said clamp assemblies simultaneously toward one another along said generally horizontal paths and an imaginary line parallel with the axis of rotation of said spindles at predetermined speeds to cause the abutment faces thereof to center and clamp a log positioned therebetween with its longitudinal center aligned or approximately aligned with said imaginary line, means for supporting said log carrier for movement in a generally horizontal path transversely of said imaginary line, and power means for moving said log carrier along said last mentioned horizontal path.

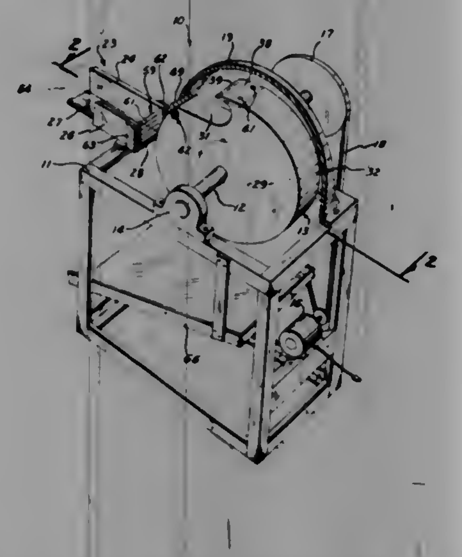


3,195,594
MATERIAL CUTTING MACHINE

Evert V. Bloomquist and Gerald E. Bloomquist, both of P.O. Box 807, Wausau, Wis.

Filed Jan. 9, 1963, Ser. No. 250,407

7 Claims. (Cl. 146—78)



1. A machine for cutting solid material comprising:

(a) a frame,

(b) a body member rotatably mounted on said frame, said body member having a circular-shaped peripheral surface with at least one axially extended cavity defining a leading and trailing edge,

(c) first knife means secured to and extended substantially tangential to the peripheral surface of said body member, said first knife means having a cutting edge extended axially of and circumferentially forward from the trailing edge of said cavity thereby positioning the cutting edge radially of said cavity,

(d) second knife means secured to said body member adjacent and forward of the leading edge of said cavity, said second knife means having at least one cutting member extended circumferentially of and radially outwardly from said body member,

(e) guide means secured to said frame for directing the material to be cut into engagement with the peripheral surface of said body member, and

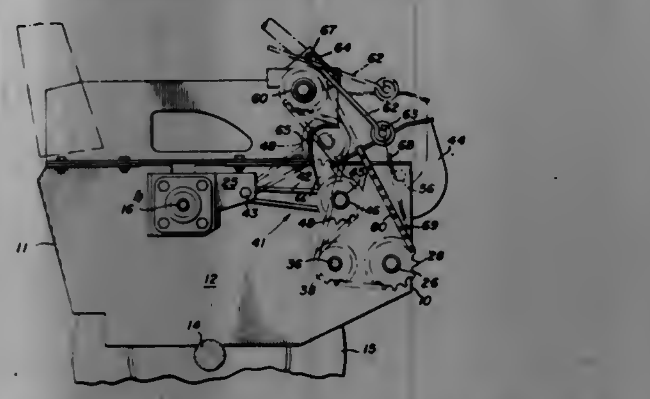
(f) cutting means positioned in said guide means for severing the material substantially normal to the direction of rotation of said cutter head.

3,195,595
HARVESTER FEED ELEMENT DRIVE ARRANGEMENT

James Corwith, Naperville and Wilbur H. Clendenin, Downers Grove, Ill., and Owen Koth, Jr., Phoenix, Ariz., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey

Filed Aug. 3, 1962, Ser. No. 214,658

9 Claims. (Cl. 146—120)



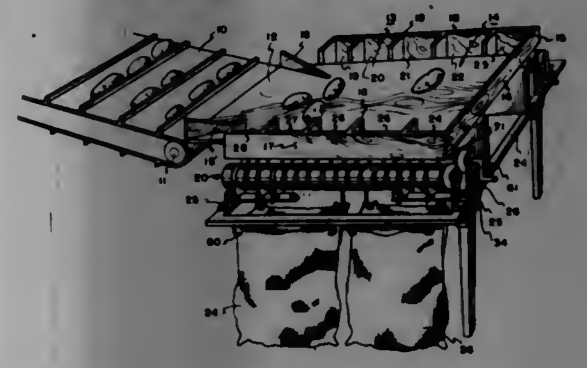
4. In a harvesting machine of the type having a cylinder, chopping means within said cylinder and material handling means for feeding material into said cylinder, the improvement in said material handling means comprising: upper and lower shafts mounted on said machine, means mounting said upper shaft for movement on an axis eccentric of its axis of rotation toward and away with respect to the lower shaft, upper and lower feed means secured to respective shafts and defining a material passageway therebetween, and means for driving both ends of said upper shaft and oriented to impose a downward force upon the upper shaft in proportion to the volume of material passing between said feed means tending to lift said upper feed means, said means for driving comprising wheels on each end of each shaft and an endless drive element connecting the wheels at each end of each shaft, each element having a downwardly moving run having a rear side engaging the forward side of the wheel of the upper shaft and having a forward side wrapped about the rear side of the related wheel on the lower shaft.

3,195,596
APPARATUS FOR PRODUCING SEED POTATO CUTTINGS

Soren Eskel Peterson, 2689 South 3rd East, Salt Lake City, Utah

Filed Jan. 21, 1963, Ser. No. 252,697

5 Claims. (Cl. 146—162)

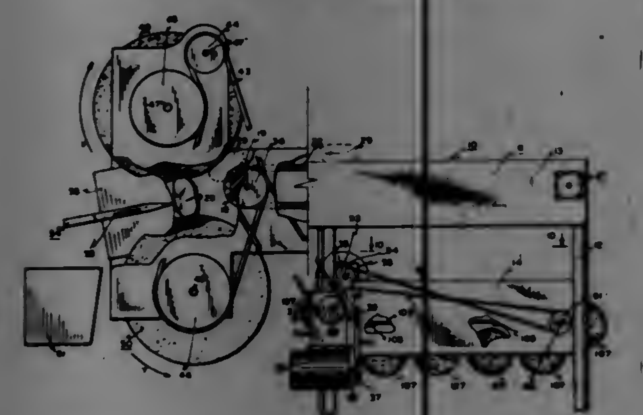


1. Potato seed cutting apparatus including, in combination, a pair of resilient, elongate feeder rollers disposed in parallel relationship and in proximity with each other and having respective annular grooves in mutual correspondence; means for journaling said feeder rollers affixed thereto; means coupled to said feeder rollers for driving the same in mutual counter-revolvement to carry potatoes fed thereat through said feeder rollers, between the same; and elongate cutter bar means disposed parallel to and adjacent said feeder rollers and between the same and having cutting means disposed within corresponding annular grooves of said rollers for cutting potatoes

proceeding through said feeder rollers into sections, said cutter bar means and feeder rollers being so constructed and arranged with respect to each other that said feeder rollers introduce at and feed through said cutter bar means potatoes which are received by said feeder rollers for passage therethrough.

3,195,597
MACHINE FOR CUTTING POTATOES INTO POTATO SEED

Soren E. Peterson, 2689 South 3rd East,
Salt Lake City, Utah
Filed June 3, 1963, Ser. No. 284,909
6 Claims. (Cl. 146—164)



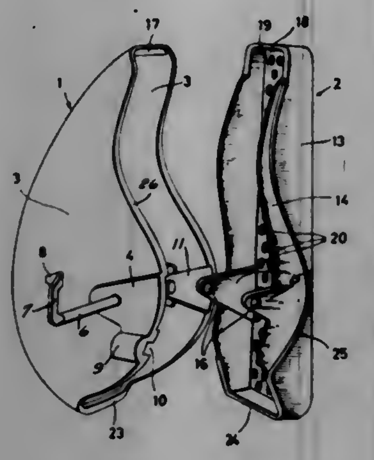
1. A potato seed cutting machine including, in combination, a stand; mutually spaced, initial and terminal rollers disposed in a horizontal plane and journaled to said stand; a conveyor belt mounted upon and over said rollers; means for driving at least one of said rollers mechanically coupled thereto; mutually spaced, upper and lower, horizontally disposed, resilient, deformable, friction roller means journaled to said frame and disposed parallel to and proximate said terminal roller; knife means transversely disposed with respect to said frame and medially disposed between said friction roller means for cutting potatoes into seed, said knife means, friction roller means, conveyor belt, and conveyor belt terminal roller being so constructed and arranged with respect to each other that potatoes placed upon said conveyor belt are translated thereby for passage along said conveyor belt toward said terminal roller and from there frictionally through the space between said upper friction roller means and said conveyor belt terminal roller proximate thereto for frictional transport thereby to and through both of said resilient deformable roller means for the frictional thrusting by the latter through said knife means, and means for counter-rotating said friction roller means to effect said frictional transport through said knife means, said terminal roller being so positioned with respect to said friction roller means that that portion of said conveyor belt which at any one time engages said terminal roller is disposed at least in part between said upper and lower, resilient, deformable, friction roller means.

3,195,598
DEVICE FOR COMMINUTING VEGETABLES, FRUIT OR THE LIKE, BY GRATING

Hans Koch, Munich-Pasing, Germany, assignor to Hans Koch and Viktoria Koch, trading as Ritterwerk F. Ritter & Sohn, Munich-Pasing, Germany
Filed Aug. 22, 1962, Ser. No. 218,692
Claims priority, application Germany, Aug. 28, 1961, R 31,004
7 Claims. (Cl. 146—177)

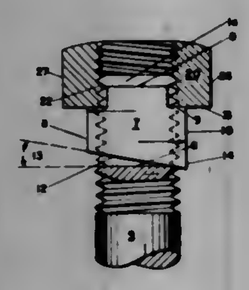
1. A cutter plate attachment for use with a handle part, said handle part defining a cavity having one open side, the attachment comprising:

(a) a plate member formed with a plurality of apertures therethrough;
(b) cutting means at each aperture;
(c) an edge member transversely extending from said plate member and integral therewith, said edge member having a guide face slidably engageable with said handle part for guiding said attachment into an operative position relative to said handle part in which said plate member substantially closes said open side; and
(d) fastening means on said edge member for fastening the same to said handle part in said operative position,
  (1) said fastening means including a shaft member having an axis,
  (2) said edge member being formed with bearing means rotatably receiving said shaft member, and having abutment face means engageable with said handle part for preventing rotary movement of said attachment about the axis of said shaft member.



3,195,599
SELF-LOCKING SAFETY BOLT

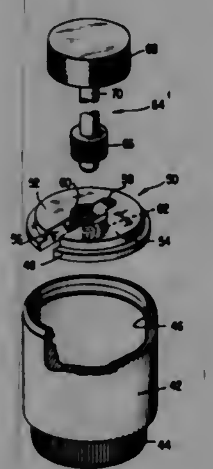
David H. Brook, 2037-A Texas Ave., San Antonio, Tex.
Filed July 15, 1963, Ser. No. 294,827
8 Claims. (Cl. 151—7)



1. In a lock nut assembly, the combination of a threaded bolt having an axially extending slot, said slot traversing the screw from side to side and interrupting the threads thereof, said slot having parallel walls and a floor which is perpendicular to the longitudinal axis of the bolt, a nut adapted for threaded engagement with said bolt, a deformable T-shaped insert received in said bolt slot coaxial therewith, said T-shaped insert having a stem portion with a width only slightly less than that of the inner root diameter of the bolt threads and a head portion having side edges with a width slightly greater than the crest of said bolt threads, said stem lying within the confines of said thread root, said head portion having an inclined leading edge which when placed in operative position contacts the floor of said bolt slot at one edge thereof forming an axis of gyration and defining an acute angle therewith, and the side edges of said head portion lying generally parallel to the longitudinal axis of the bolt, said locking assembly further characterized in that when the nut is tightened over the stem portion of the insert and compresses said head portion, the walls thereof exert an unequal pressure against the nut which generates a turning moment about said axis of gyration thus creating an additional locking action.

3,195,600
CAPTIVE SCREW DEVICES

Charles F. Middleton, Jr., Marlboro, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed July 29, 1963, Ser. No. 298,275
1 Claim. (Cl. 151—69)

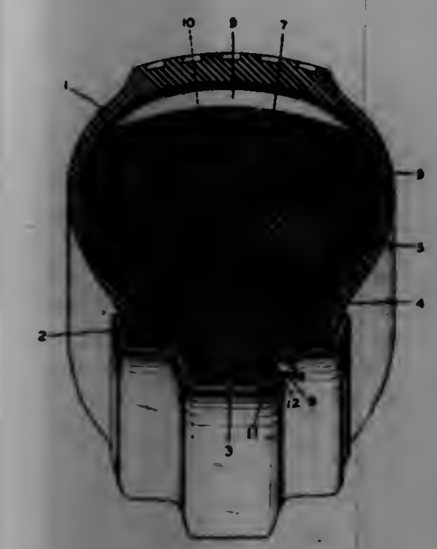


A captive screw retainer device, comprising, in combination, a tubular member having attaching means at one end thereof adapted to be mounted in an aperture in a support plate or the like, a closure member for the opposite end of said tubular member, said closure member having an elongate slot therein transverse the length of said tubular member, with a pair of opposed portions of the side walls of said slot having mutually cooperating screw threads therein intermediate the extremities of said slot, the diameter of said screw threads being greater than the width of the remainder of said slot, a captive screw member having an enlarged head portion and a shaft the diameter of which is less than the width of said elongate slot and a portion of the length of which includes a screw thread adapted to threadedly engage said first-mentioned screw thread, and flange and groove means on the closure member and tubular member, respectively, for mounting said closure member within said tubular member for rotation in its own plane around the axis of said tubular member, whereby said captive screw may be threaded into captive relationship and then be loosely retained in said slot for limited movement in a plane parallel to the side walls of said slot.

3,195,601
SAFETY TIRE COVERS FOR VEHICLE WHEELS

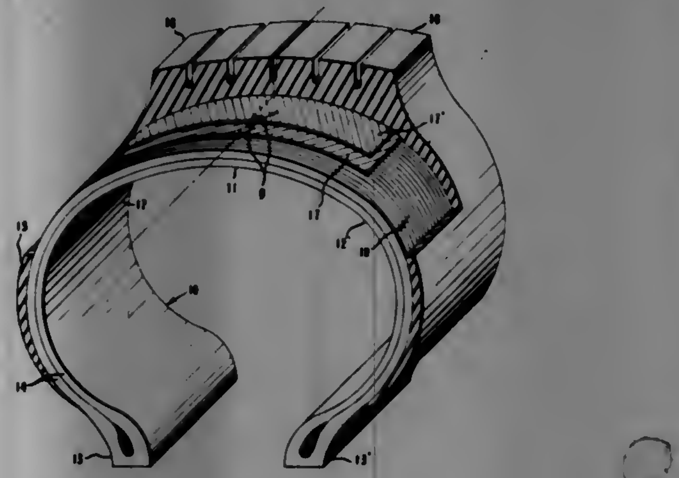
Georges Louis Travers, Clermont-Ferrand, France, assignor to Compagnie Generale des Etablissements Michelin, Raison Sociale Michelin & Cie, Clermont-Ferrand, France
Filed Dec. 19, 1963, Ser. No. 331,799
Claims priority, application France, Dec. 20, 1962, 919,351
5 Claims. (Cl. 152—313)

1. A safety filler for a pneumatic tire casing comprising at least two rings assembled concentrically one on the other, each ring including an annular resilient foam-like mass having gas-tight cells containing a gas under pressure and an outer sheath of gas-tight material united with and enclosing said foam-like mass, and heat-conducting metallic filaments in the foam-like mass of the innermost ring.



3,195,602
PNEUMATIC TIRE

Robert L. Keefe, Jr., Chadds Ford, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 27, 1963, Ser. No. 261,416
3 Claims. (Cl. 152—354)



1. In a pneumatic tire comprising a carcass and a tread portion, said carcass comprising elastomer-embedded, extensible, textile cords disposed essentially parallel to each other and at an angle not less than 70° to the equatorial plane of the tire and said tread portion being made of solid elastomer and including the tread proper, shoulder portions and sidewall portions in overlying contact with said carcass, a reinforcing belt disposed above the outer periphery of said carcass and underneath said tread, said belt extending circumferentially in a complete circle around the tire and extending laterally for a width not less than the width of said tread and not greater than the inner diameter of the tire cross section, said belt consisting of at least one ply of an endless elastomer ribbon having embedded therein a plurality of extensible textile cords which have an ultimate elongation of between 10% and 25%, said cords being disposed in parallel relation to each other and each running lengthwise of said ribbon.

3,195,603
PNEUMATIC TIRE AND PROCESS OF MANUFACTURE

Lavern James Ahles, Newark, and Joseph Zimmerman, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

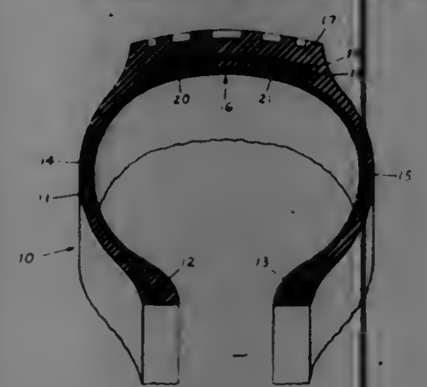
No Drawing. Filed Apr. 14, 1964, Ser. No. 359,761
7 Claims. (Cl. 152—359)

1. A cured pneumatic tire reinforced with substantially dry cords consisting essentially of a nylon composition, said composition being selected from the group consisting of melt blends of polyhexamethylene adipamide with (1) polyhexamethylene isophthalamide, (2) polyhexamethylene 5-t-butyl isophthalamide or (3) a copolymer of hexamethylene 5-t-butyl isophthalamide and hexamethylene isophthalamide, said cords having an (E) of less than 15, a modulus at 75° C. of at least 20 grams/denier and a hot-to-cold modulus ratio of at least 0.5.

3,195,604
OUTER TIRE COVER WITH RADIAL CARCASS AND RIGID CROWN

Gabriel Xavier Roger Boussu, Chamalieres, and Georges Louis Travers, Clermont-Ferrand, France, assignors to Michelin & Cie, Clermont-Ferrand, Puy-de-Dome, France

Filed Oct. 2, 1962, Ser. No. 227,847
Claims priority, application France, Oct. 4, 1961, 1,739
5 Claims. (Cl. 152—361)



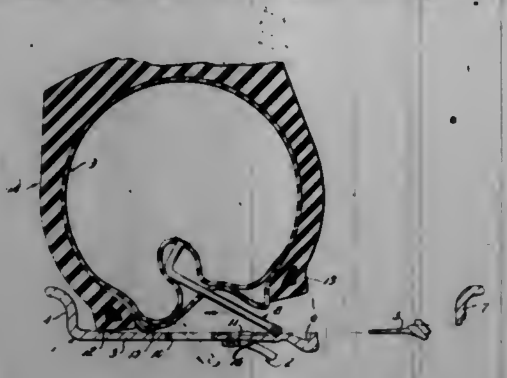
1. A tire casing comprising a tread, sidewalls on opposite sides of said tread and beads at an edge of each sidewall, a single carcass ply of radially directed cords extending from each bead through said sidewall at least to the adjacent edge of said tread, at least two crown plies of cords in said tread, the cords in each crown ply being substantially parallel and the cords in one of said crown plies crossing the cords of the other crown ply and the cords of both of said crown plies being inclined to the median plane of said tire casing, and a single pair only of marginal reinforcing plies in said tread and adjacent said carcass ply, said marginal plies consisting of metallic members sheathed in an elastomer and disposed substantially parallel to the cords of said carcass ply, said marginal plies being spaced-apart transversely of said tread and having outer edges disposed not substantially outwardly of the outer edges of said crown plies and being mainly resistant to stresses in a direction substantially parallel to the cords of said carcass ply.

3,195,605
TIRE RIM

Robert William Mayfield, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Jan. 18, 1963, Ser. No. 252,446
3 Claims. (Cl. 152—396)

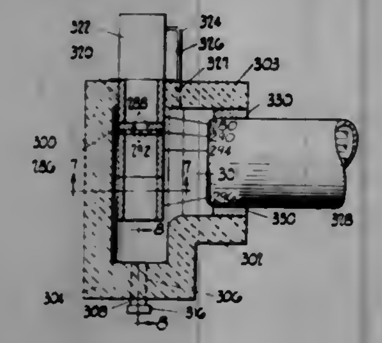
1. A rim for a tube-carrying vehicle tire, having a valve hole, and a valve-guide comprising an outwardly facing trough of varying depth communicating at its one end with the rim valve hole and having its maximum depth near its other end, whereby to trap the end of the tube-valve during mounting of the tire on the rim.



3,195,606
COMBUSTION AND HEATING APPARATUS

Minor W. Stout, Webster Groves, Mo.
(7020 Manchester, St. Louis, Mo.)

Filed Dec. 11, 1959, Ser. No. 858,963
10 Claims. (Cl. 158—1)

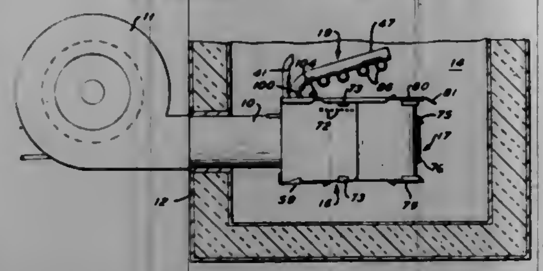


1. The combination of a heat-receiving means and a combustion apparatus that is adapted to supply heat to said means and that comprises a heat-receiving device, a pressurized combustion head, wall means that form a combustion throat which force products of combustion to move toward said device, means forming a refractory wall, said combustion head being adapted to force burning fuel and products of combustion toward said refractory wall, means including further walls which form a second combustion throat that guides and directs burning fuel and products of combustion from said combustion head to said refractory wall, said second combustion throat having an orifice plate intermediate the ends thereof with an orifice that forces the burning fuel and products of combustion to converge, to become denser and to move faster, said orifice plate having a trailing face, said combustion throat having a ported member adjacent the trailing face of said orifice plate that permits said burning fuel and products of combustion to diverge, to become less dense and to move slower and thereby create a reduced pressure within said ported member, said second combustion throat having at least a portion of the exterior thereof exposed within the first said combustion throat, said second combustion throat extending toward but terminating short of said refractory wall to permit burning fuel and products of combustion that strike said refractory wall to rebound from said refractory wall and to pass along the exterior of said second combustion throat, some of said rebounding products of combustion responding to reduced pressure within said ported member to enter said ported member and to heat and cause turbulence in the burning fuel and products of combustion passing through said second combustion throat and thereby enhance the full combustion of said burning fuel.

3,195,607
COMBUSTION APPARATUS

William G. Swartz, North Hills, and William P. Swartz, Willow Grove, Pa. (both of Box 543, North Hills, Glenside, Pa.)

Filed May 5, 1964, Ser. No. 365,076
15 Claims. (Cl. 158—4)

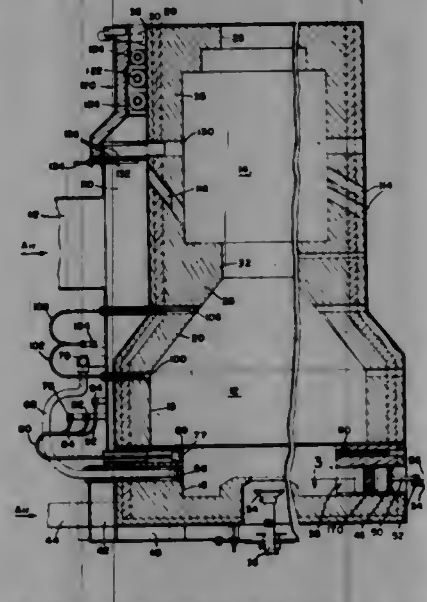


1. Combustion apparatus comprising an air supply tube having an inner end for disposition within a furnace, an air delivery assembly in said end of said tube having a centrally located liquid fuel nozzle carried thereby, said nozzle having air delivery passageways formed therealong for limited delivery of air with the fuel, a housing and target assembly means of sheet metal having vertical enclosing wall portions surrounding a space into which the discharge path of said fuel nozzle is directed, the target portion of said assembly means having a central divider opposite said fuel nozzle, a pendant baffle in said assembly means and within said space interposed between said nozzle and said target and having a delivery opening therethrough and side margins spaced inwardly from the enclosing wall portions for gas flow within said space from said target around said margins for recirculation through said opening, said air delivery assembly having a burnoff assembly means connected thereto and extending thereabove with air delivery outlets supplying air at a plurality of locations above said space.

3,195,608
VOLATILE WASTE INCINERATOR

Temple S. Voorheis, Palo Alto, and Ralph R. Vosper, Santa Clara, Calif., assignors to Coen Company Inc., San Francisco, Calif., a corporation of California

Filed Apr. 8, 1963, Ser. No. 271,082
8 Claims. (Cl. 158—5)

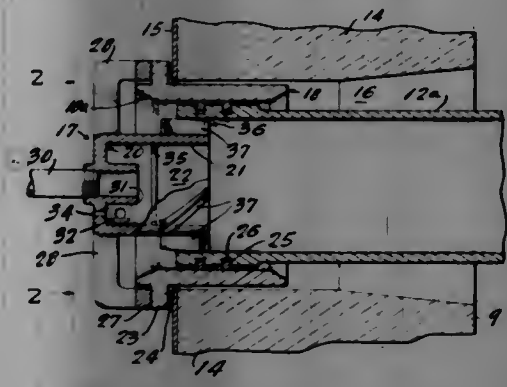


1. Apparatus for selectively separately consuming reducing constituents and gaseous oxidizing constituents of a rocket fuel under controlled temperature conditions comprising a combustion chamber, means for preheating said combustion chamber, means for injecting an oxidizing constituent into said chamber, means for injecting a reducing fuel into said chamber, means for controlling the rate at which said reducing fuel injecting means injects reducing fuel into said chamber, means for injecting air into said chamber, means for controlling the rate at which said air injecting means injects air into said chamber, means for injecting the reducing constituent into said chamber, means for sensing the temperature of the interior of said chamber, means for selectively connecting said temperature sensing means to said reducing fuel injecting rate controlling means and said air injecting rate controlling means, an after-burner chamber in communication with said combustion chamber, and means for introducing sufficient air into said after-burner chamber to exceed an amount necessary to completely oxidize effluents conveyed thereto from said combustion chamber, whereby when the oxidizing constituent, air, and reducing fuel are injected into said combustion chamber the mixture thereof is ignited by said preheating means and the temperature as sensed by said temperature sensing means is controlled by controlling the rate at which reducing fuel and air are injected into said combustion chamber, and when the reducing constituent, reducing fuel and air are injected into said combustion chamber the mixture thereof is ignited by said preheating means and the temperature as sensed by said temperature sensing means is controlled by controlling the rate at which reducing fuel is injected into said combustion chamber, the combustion products of said combustion chamber being conveyed to said after-burner chamber.

3,195,609
SELF STABILIZING RADIANT TUBE BURNER

John D. Nesbitt and Herbert M. Kohn, Toledo, Ohio, assignors to Midland-Ross Corporation, Toledo, Ohio, a corporation of Ohio

Filed Nov. 28, 1960, Ser. No. 72,221
7 Claims. (Cl. 158—7)



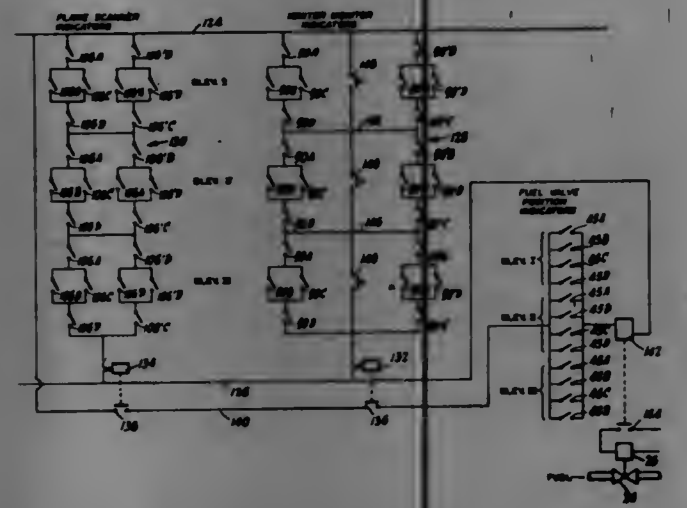
1. The method of initiating and stabilizing the combustion of a gaseous fuel stream within a heating tube having at its inlet end a combustion cup comprised of a backplate and a cylindrical wall, said combustion cup being in fluid communication with said heating tube; which comprises passing a fuel stream axially through the backplate and into said combustion cup and discharging said fuel stream within said combustion cup at a point intermediate the ends thereof; passing a first air stream, comprising 3 to 7% of the total air required for stoichiometric combustion of the fuel stream, tangentially into said combustion cup and discharging the first air stream within the combustion cup at a point upstream of the point where the fuel stream is discharged to cause said first air stream to swirl about said fuel stream to create a region of reduced pressure at the point where the fuel stream is discharged and to divert a portion of the fuel stream toward said backplate by virtue of the reduced pressure created by said first air stream to form a combustible mixture with a portion of said first air stream; igniting said mixture at a point adjacent said backplate to create a stable flame front within said combustion cup at a point very closely adjacent said backplate; and passing an annular second air stream into said heating tube to support the combustion of the remaining portion of the fuel stream.

3,195,610
FLAME FAILURE CONTROL FOR A VAPOR GENERATOR BURNER SYSTEM

Jack A. Schuss, Hartford, and Virginius Z. Caracristi, West Hartford, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware

Filed Nov. 29, 1962, Ser. No. 240,797

10 Claims. (Cl. 15[illegible]—28)



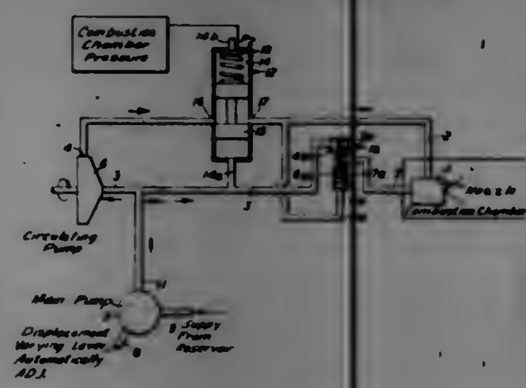
1. The combination of a furnace chamber; a burner adapted to fire in said furnace chamber; a fuel line connecting said burner to a fuel source; a valve interposed in said fuel line; a signal responsive valve operator adapted to open and to close said valve; an igniter for igniting said burner; first sensing means adapted to emit a signal when the ignition energy output of said igniter is sufficient to ignite the fuel admitted to said burner; second sensing means associated with said burner adapted to emit a signal when said burner exhibits a flame; third sensing means associated with said valve adapted to emit a signal when said valve is substantially fully open; means connecting said sensing means and said operator for opening said valve upon receipt by said operator of a signal from said first sensing means and means for holding said valve open upon receipt of a signal from said second and third sensing means.

3,195,611
FUEL SUPPLY SYSTEMS

Stanley R. Tyler, Cheltenham, England, assignor to Dowty Fuel Systems Limited, Cheltenham, England

Continuation of application Ser. No. 842,762, Sept. 28, 1959. This application Sept. 7, 1[illegible]62, Ser. No. 222,107

4 Claims. (Cl. 15[illegible]—36.3)


Combustion Chamber Pressure
Circulating Pump
Main Pump
Displacement Varying Lever Automatically ADJ.
Supply From Reservoir

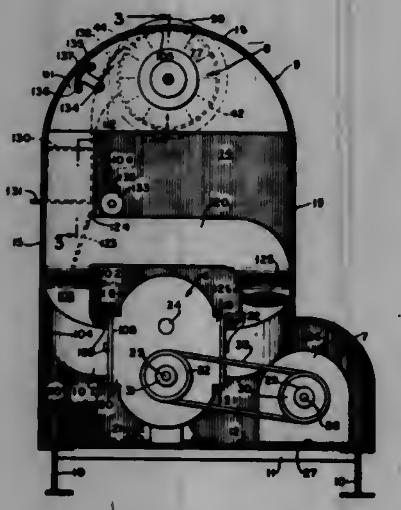
1. In combination, a spill spray nozzle; means defining a liquid circulating system for the nozzle including a circulating pump having an inlet and outlet, a supply connection between the pump outlet and the nozzle to deliver the pump output to the nozzle, and a spill connection between the nozzle and the pump inlet to return any spill flow to the pump; a source of liquid for the system; liquid feed means interconnecting the liquid source with the spill connection to add liquid to the system at the pump inlet by way of the spill connection; and liquid flow control means which are operable under the condition in which rate of liquid addition to the system exceeds the pump output, to reduce such output to adjust the distribution of augmented flow in the supply and spill connections.

3,195,612
LIQUID FUEL BURNER FOR OUTDOOR DRYER INSTALLATIONS

Edward H. Fraenzel, 3013 Westover Drive, Danville, Va.

Filed May 6, 1963, Ser. No. 278,024

5 Claims. (Cl. 158—77)



1. In a liquid fuel burner for outdoor dryer installations, comprising a vertical housing having a front wall provided with an opening in the upper portion thereof, an air motor casing mounted in said housing in back of said opening in the upper portion of said vertical housing, said casing providing a motor chamber, a cylindrical extension on said motor casing communicating with said chamber forming an air discharge passage therefrom, a motor shaft rotatably mounted in said chamber in said casing, a rotor on said shaft having vanes adapted to be driven by air entering the casing through an inlet opening therein, a burner cup on said motor shaft extending through the opening in said front wall and arranged concentrically with respect to said cylinder. a motor driven blower in the lower portion of said housing beneath said air motor casing having an inlet and an outlet, an electric motor drivingly connected to said blower, duct means common to at least one wall of said housing connected to said outlet and to the air intake in said motor casing, and a frusto-conical member secured to said housing about the marginal edge of said opening therein and arranged concentrically with respect to said cylinder and burner cup for directing air in a convergent path to the burner cup, said motor driven blower, air motor casing and duct means being completely confined in said housing.

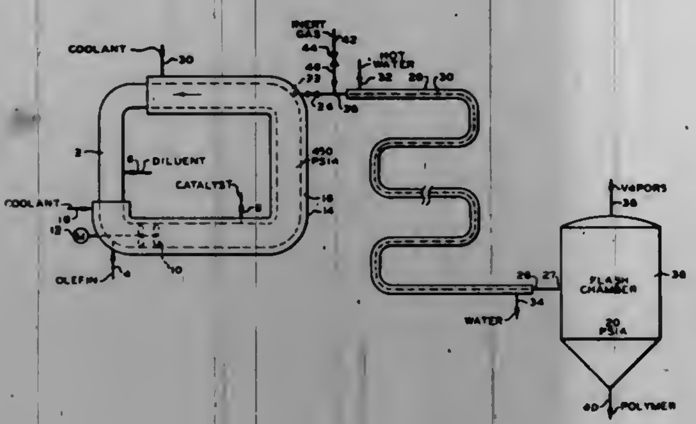
3,195,613
METHOD FOR CONTINUOUSLY DISCHARGING THE CONTENTS OF A PRESSURIZED VESSEL

Harold M. Hawkins, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 9, 1961, Ser. No. 147,386

4 Claims. (Cl. 159—47)

1. A method for the discharge of a solids-fluid slurry from a first pressure zone to maintain substantially constant pressure therein, said method comprising introducing slurry, as removed from said first pressure zone, into an elongated confined zone, vaporizing substantially all the liquid of said slurry during flow through said elongated confined zone, and passing said contents into a third zone operating at a pressure less than about half that of said first zone, the pressure differential between said first zone and said third zone and the size of said elongated confined zone being such for the amount and condition of the slurry that sonic velocity is attained by the slurry flowing through said confined zone, thus obtaining and maintaining a desired discharge rate of slurry from said first zone by build-up of pressure in said elongated confined zone.

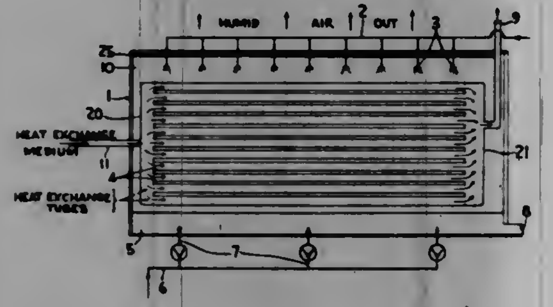


3,195,614
PROCESS OF CONCENTRATING SOLUTIONS OF SODIUM AND POTASSIUM CHLORIDE AS FALLING FILMS ON HEATED SURFACES

Kent E. Hatfield, Corpus Christi, Tex., assignor to Pittsburgh Plate Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Dec. 1, 1961, Ser. No. 156,263

4 Claims. (Cl. 159—49)



1. The process of concentrating an aqueous solution of sodium chloride and potassium chloride to obtain a solution having a higher concentration of potassium chloride which comprises,

contacting said solution of sodium chloride and potassium chloride with a heated solid surface maintained at a temperature lower than the boiling temperature of said solution of sodium chloride and potassium chloride to heat said solution of sodium chloride and potassium chloride to a temperature above that at which potassium chloride precipitates to avoid precipitation of potassium chloride from said solution and to release water vapor at the exposed surface of said solution,

contacting the surface of said solution of sodium chloride and potassium chloride on said heated surface with a sweep gas to remove water vapor therefrom and concentrate said solution in the region adjacent the interface between said gas and said solution to precipitate sodium chloride in said concentrated region of said solution while keeping sodium chloride in solution at the interface between said solution and said heated solid surface, and

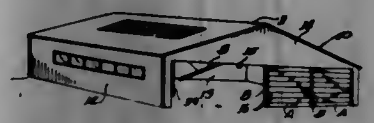
recovering a solution having a higher concentration of dissolved potassium chloride than that of said starting solution.

3,195,615
RETRACTABLE GUIDE POST FOR OVERHEAD DOORS

Ray H. Neisewander, 1010 E. Edwards St., Springfield, Ill.

Filed Feb. 7, 1963, Ser. No. 256,968

3 Claims. (Cl. 160—113)



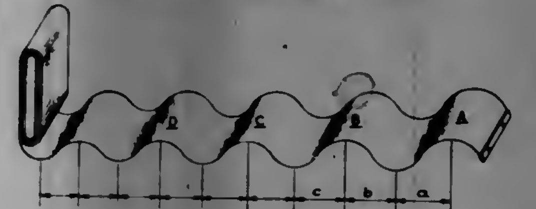
1. In combination, a building structure having a door opening and having a pair of adjacent overhead doors for closing said opening, a retractable guide post assembly for guiding movement of said doors between horizontal raised and vertical lowered positions, said assembly comprising a support member connected to said building between said doors and above said opening, a substantially straight and rigid guide post having a pair of longitudinal tracks on opposite sides thereof for guiding said doors as the same are moved between lowered and raised positions, a hinge assembly connecting the upper end of said post to said support member and having a hinge axis normal to the vertical plane of said lowered doors for lateral and upward swinging movement of said post through said opening and into a raised position above said opening, said hinge assembly restraining said post from any movement other than lateral swinging movement along said plane and between raised and lowered positions, means operatively associated with said post for limiting swinging movement of the same to only one direction laterally from a vertical lowered position thereof, and means connected to said post and to said building for swinging said post into its raised position to provide a single undivided door opening when both of said doors and said post are raised.

3,195,616
CORRUGATED, MULTI-CONVOLUTED SELF-RECOILING SHEET

Russell E. Taber, 510 Dogwood Valley Drive NE., Atlanta, Ga.

Filed June 1, 1962, Ser. No. 199,504

7 Claims. (Cl. 160—121)



1. A sheet of polyester film in the form of a flattened, multi-convoluted coil, said sheet when extended forcibly under tension having a plurality of permanently set transverse corrugations aligned parallel to the coiling axis of said sheet, said sheet also having the property of returning to said flattened coil state when released from tension.

3,195,617
DOOR OPERATING MECHANISM

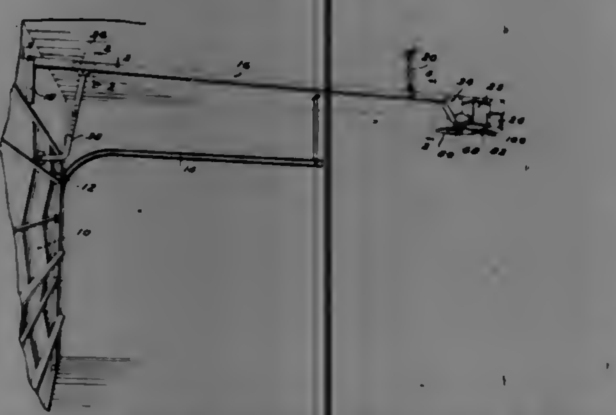
Glenn Berry, Birmingham, Charles T. Briggs, Jr., and Clarence F. Treppa, Royal Oak, and Edson L. Barlow, Jr., Rochester, Mich., assignors, by direct and mesne assignments, to The Stanley Works, New Britain, Conn., a corporation of Connecticut

Filed Mar. 13, 1961, Ser. No. 95,301

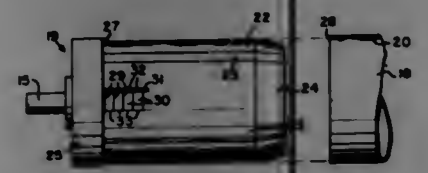
5 Claims. (Cl. 160—193)

1. In a door operator the combination comprising a track having a carriage supported thereon for movement lengthwise thereof, an electric motor supported on said track adjacent one side thereof and having a rotor drive

shaft disposed perpendicular to said track, a housing, a radio receiver-motor control unit protectively enclosed in and solely supported by said housing, detachable fastener means removably supporting said housing on said one side of said track adjacent said motor, bracket means secured to said track and extending from said one side thereof adjacent said housing, a threaded spindle journalled in said bracket means adjacent one face of said housing and parallel to said motor shaft, one end of said spindle being disposed within said track, means drivingly connecting said one end of said spindle with said carriage for moving said carriage along said track in response to spindle rotation, the other end of said spindle extending beyond said housing, means drivingly interconnecting said other end of said spindle with said motor shaft for rotating said spindle in response to motor rotation, a pair of spaced nuts threadably received on said spindle in non-rotatable sliding engagement with said bracket means for travel along said housing face in response to spindle rotation, said control unit including a limit switch and means electrically connecting said switch to said motor comprising connector means disconnectable externally of the housing, said switch having a movable switch actuating arm extending from said one face of said housing into the space between said nuts such that said nuts alternately engage said arm to operate said switch at the desired opposite extremes of travel of the door.

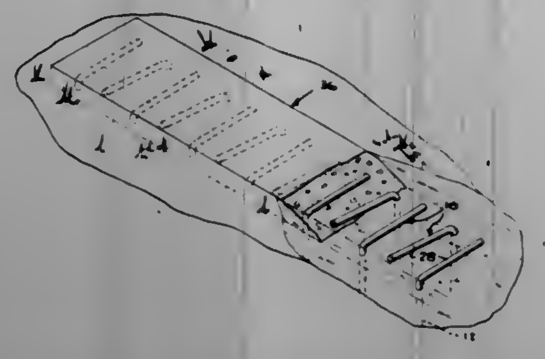


3,195,618
PIN END PLUG FOR METAL WINDOW SHADE ROLLER
James A. Anderson and Paul J. Erpenbeck, Muskegon, Mich., assignors to Breneman Hartshorn Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Sept. 28, 1962, Ser. No. 226,810
2 Claims. (Cl. 160—323)



1. A pin end plug adapted to be inserted into and frictionally held in one end of a hollow roller barrel comprising,
  a cylindrical sheet metal member,
  a pin projecting from one end of said member,
  a plurality of longitudinally spaced circumferentially directed slits in said sheet metal member forming outwardly bendable tabs, said slits being perpendicular to the longitudinal axis of said roller barrel,
  the longitudinal spacing between adjacent pairs of slits defining adjacent tabs being a fraction of the longitudinal projecting dimension of said pin,
  whereby the length of the roller barrel and plug assembly may be adjusted in fractional increments of the longitudinal projecting dimension of said pin.

3,195,619
HEAT TRANSFER METHOD TO PRECLUDE ICE FORMATION ON PAVING
Joseph Robert Tippmann, Fort Wayne, Ind., assignor of one-half to John Edward Baker, Washington, D.C.
Filed Dec. 19, 1961, Ser. No. 160,539
2 Claims. (Cl. 165—1)

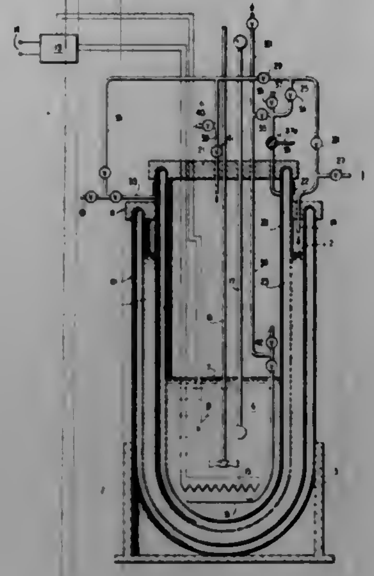


1. The method of maintaining a ground surface covered by a slab of paving at a temperature to preclude the formation of ice thereon which comprises positioning a plurality of closed elongated members in a horizontally spaced relationship, each having a portion extending in an upright direction below said surface with the upper end adjacent to and spaced below, the paving, positioning substantially horizontal condensation chambers in embedded relation in the paving in a network, with the condensation chambers each being attached to one of said upright-extending portions to complete the closed elongated member, each of said members being partially filled with a medium in a liquid state and convertible into a gaseous state upon imposition of heat in the range of at least substantially 45° F. thereto and convertible from the gaseous state to the liquid state upon imposition of cold in the range of at least substantially 32° F., thereto, the lower end portions of said members being submerged below said surface to an extent such as to lie below the frost line of the subterranean earth, the liquid medium in the lower end portions of said members being subjected to the heat of adjacent regions of the subterranean earth to thereby gasify some of said medium and cause the medium converted to the gaseous state to be evolved from the liquid medium and flow into the condensation chambers of said members, the medium in the gaseous state when in the condensation chambers of said members being subjected to the cold of the adjacent paving to thereby condense the medium in the gaseous state and be returned to and absorbed in the respective liquid mediums to heat the paving to the temperature to preclude formation of ice.

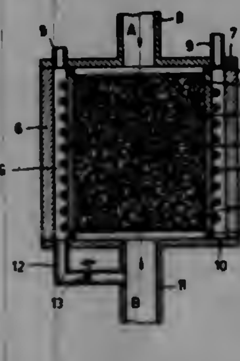
3,195,620
PROCESS AND APPARATUS FOR MAINTAINING CONSTANT LOW TEMPERATURES
Ralph G. Steinhardt, Jr., Hollins College, Va., assignor to Hollins College Corporation, Hollins College, Va., a non-profit corporation of Virginia
Filed June 14, 1963, Ser. No. 287,847
18 Claims. (Cl. 165—2)

1. A process for producing and maintaining a preselected low temperature in the range below −100 C. which comprises confining a body of a first liquid within a double-walled zone, immersing said double-walled zone with said body of liquid in a second liquid which is confined in a second zone, thermally insulating said zones from the outside environment, maintaining said second liquid at a first-order transition point which corresponds to a constant temperature which is substantially lower than said preselected low temperature, interposing a dry gas barrier within the double walls of said double-walled zone, adjusting said gas barrier to cause said first liquid

to be constantly cooled at a slow rate of cooling, measuring the temperature of said first liquid, and maintaining said first liquid at a temperature within ±0.05° C. of said preselected temperature by heating it intermittently as required at a net heating rate approximately equal to the rate at which said first liquid is cooled when heat is not being supplied.

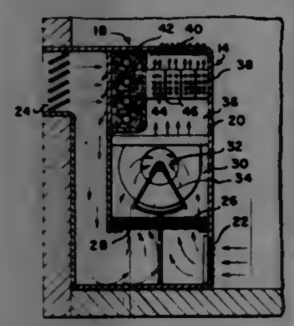


3,195,621
HEAT EXCHANGER
Johannes Rudolphus van Geuns and Johannes van der Ster, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Aug. 28, 1962, Ser. No. 219,881
Claims priority, application Netherlands, Sept. 19, 1961, 269,394
4 Claims. (Cl. 165—10)



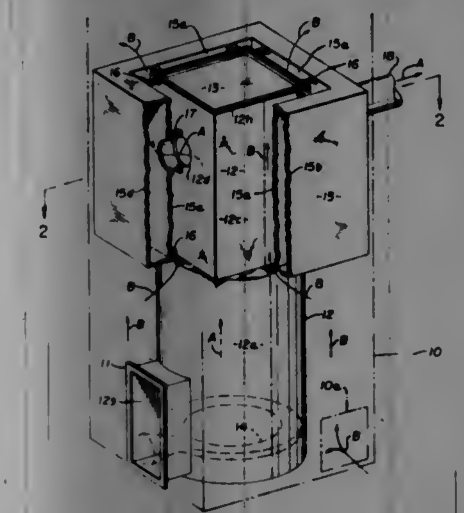
1. A heat exchanger comprising an interior housing, a combination heat-absorbing and heat-emitting filling mass in said interior housing, said filling mass being traversed alternately in one direction by a medium to be cooled and in the other direction by a medium to be heated, means so arranged that with different thermal capacity flow intensities of the media to be cooled and heated, such part of said medium having the higher thermal capacity flow intensity can be passed back and in thermal contact with said interior housing, said heat exchanger being provided at spaced locations with separate ducts, said ducts including valve means which when operative connect the ducts alternately with said medium to be heated and with said medium to be cooled whereby said medium traverses said filling mass alternately in opposite directions, said filling mass being in heat exchanging contact with the inside of said interior housing, said means including a thermally conductive surface-enlarging structural part provided on the outside surface of said interior housing, and an exterior housing surrounding but spaced from said interior housing forming a channel therebetween for at least a part of said main flow of medium passing in one direction through said heat exchanger to flow back in an opposite direction and in contact with said structural part whereby heat is extracted from said filling mass and said heat exchanger is balanced.

3,195,622
LATERAL VALVE CONTROL FOR AIR CONDITIONING EQUIPMENT
George J. Haufler and Robert W. Greene, Jr., Philadelphia, Pa., assignors, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Jan. 23, 1961, Ser. No. 84,246
2 Claims. (Cl. 165—101)



1. In an air conditioning system having improved dehumidification and humidity control at part load performance, a heat exchange unit having means for passing air to be cooled and dehumidified through said unit, comprising a plurality of individual coils disposed in parallel across the airflow passage, means for passing air to be cooled in parallel streams over said individual coils, means for supplying a chilled liquid heat transfer medium to each of the individual coils in parallel, means for thermally isolating one coil from another, valve means for modulating the supply of chilled liquid to each of said coils sequentially, each of said coils having the liquid thereto modulated from full-on to full-off before modulation of the liquid to another coil commences, and means responsive to the temperature of the cooled space controlling said valve means.

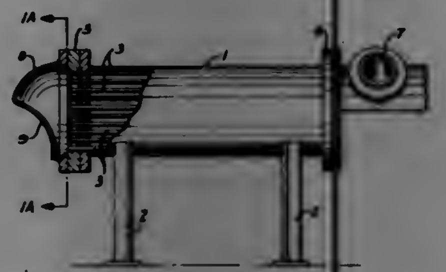
3,195,623
ROUND-TO-RECTANGULAR HEAT EXCHANGER
Almon J. Chapin, Oberlin, Ohio, assignor to The Johnson Furnace Company, Cleveland, Ohio, a corporation of Ohio
Original application Nov. 7, 1958, Ser. No. 772,508. Divided and this application Oct. 13, 1961, Ser. No. 144,914
5 Claims. (Cl. 165—129)



1. In a furnace adapted to burn a combustible fuel, a casing rectangular in horizontal section at least at its end where products of combustion are discharged, a round-to-rectangular hollow tubular heat exchanger within said casing and completely surrounded by said casing, said heat exchanger and casing being coextensive in

length, said heat exchanger being substantially circular in section at a fire pot end thereof, there being an opening in said fire pot end for the introduction of combustion equipment, there being an opening in the opposite end of said heat exchanger for discharge of products of combustion, said heat exchanger being closed save for said openings, the interior of said heat exchanger providing a confining passageway for the products of combustion between said opening and said fire pot end to said discharge opening at said opposite end, said heat exchanger being substantially rectangular in section at said opposite end and spaced inwardly from the rectangular portion of said casing, a smooth round-to-rectangular transition zone in said heat exchanger between said two ends, there being means for air to enter between said casing and heat exchanger at said fire pot end and to leave at said opposite end, said heat exchanger and casting providing a confining passageway in the space between them for said air when flowing between said entering means and said leaving means, whereby said fire pot end has a minimum tendency to buckle and boom under a temperature change, air flows through said transition zone with a minimum of turbulence, and said rectangular casing fits in a square corner of a room.

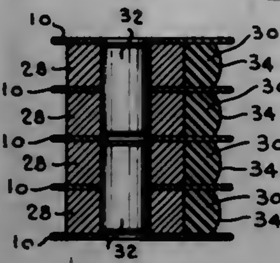
3,195,624
HEAT EXCHANGERS
William Gwynfab Richards and Robin Sydney Burton, Sunbury-on-Thames, Middlesex, England, assignors to The British Petroleum Company Limited, London, England, a British joint-stock corporation
Filed Oct. 9, 1962, Ser. No. 229,364
Claims priority, application Great Britain, Nov. 16, 1961, 41,034/61
9 Claims. (Cl. 165—158)



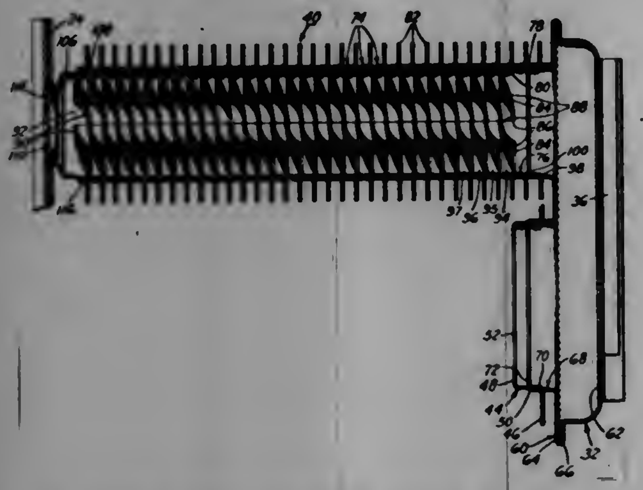
1. In a heat exchanger including forward and return banks of tubes, a return header plate, means securing said tubes to said header plate, and means to supply liquid to said forward tubes, a return head cover having an internal surface, said surface comprising a first portion having a concave surface and a second portion having a convex surface, said concave surface intersecting said convex surface to form an interface therebetween, means mounting said return head cover over said return header plate so that said concave portion extends generally over the outlets of said forward tubes and said convex portion extends generally over the inlets to said return tubes, whereby liquid emerging from said forward tubes generally impinges on said concave surface of said return head cover and is deflected onto said convex surface of said return head cover from where the liquid is deflected into said return tubes to flow in said return tubes at a substantially uniform velocity.

3,195,625
HEAT EXCHANGER PLATE AND SEAL
Meredith C. Thomson, 335 W. 2nd St., Oconomowoc, Wis.
Filed Nov. 8, 1961, Ser. No. 151,036
7 Claims. (Cl. 165—166)

1. A plate-type heat exchanger assembly including a plurality of plates each having a pass area, a gasket surrounding the pass area of each plate and disposed between adjacent plates so as to define a flow path between the plates and gasket, said gasket being rigidly secured to and forming a generally unitary assembly with a rigid member surrounding the outer periphery of the gasket, said rigid member having oppositely facing planar faces arranged in metal-to-metal contact with each pair of adjacent plates and forming with said plates a rigid metal-to-metal stacked arrangement of said plates and said rigid members, and means engaging at least the outer opposite faces of said rigid stack to exert a clamping force on the alternate plates and rigid members in said rigid stack to obviate flexing of said plates at the seal areas during operation and also passing through said rigid members and the adjacent plates to locate said rigid members and the adjacent plates with respect to each other.



3,195,626
HEAT EXCHANGER
Frederick Druseikis, Rochester, Robert W. Haley, Scottsville, and Paul R. Lagonegro, Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 9, 1962, Ser. No. 208,316
7 Claims. (Cl. 165—179)



1. A tubular heat exchanger including, a plurality of interfitting rings, each ring comprising an annular body having an outwardly extending, annular fin at one end and a plurality of inwardly extending, segmental helical fins at its other end, stop means on said annular body engageable with the adjacent ring to space the annular fins equidistantly apart, the ends of the segmental helical fins of adjacent rings abutting each other and defining a plurality of internal helical passages in the heat exchanger equal to the number of segmental helical fins on each ring.

3,195,627
HEAT EXCHANGERS
Alfred Minor Goodloe, Westfield, N.J., assignor to General Cable Corporation, a corporation of New Jersey
Filed Apr. 12, 1961, Ser. No. 102,497
13 Claims. (Cl. 165—181)

1. A heat exchanger including a metal tube,

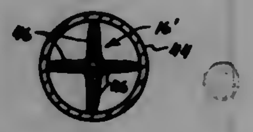
(a) a knitted wire mesh insert formed of wire loops and located within the tube,

(b) the insert being of much greater length than width and having its length extending axially in the tube,

(c) the loops being crowded together transversely of the length of said insert out with the crowded loops of the wire mesh in position to contact with fluid flowing along the inside of the tube to produce turbulence of the fluid adjacent to the wire mesh,

(d) the insert being shaped with partition or wall portions of double wall mesh and having a symmetrical pattern about a longitudinal axis of the tube, the partition portions dividing the interior of the tube into a plurality of axially-extending passages,

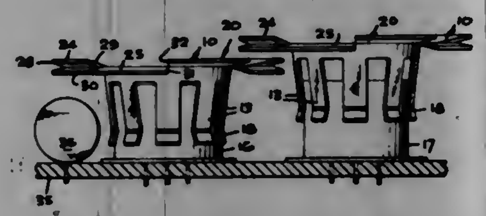
(e) the partition portions having faces spaced from the inside surface of the tube across extending angular spans of the circumference of the tube so that said faces and the sides of the tube form sides of said passages,



(f) the partition portions at the outer radial limits of the double wall mesh touching the inside surface of the tube in heat-exchanging relation therewith, and

(g) heat-conducting bonding material securing wire loops at said outer radial limits of the partition portions to the inside surface of the metal tube whereby the partition portions remain in contact with the inner peripheral surfaces of the tube in spite of bending of the length of the tube to arcuate shapes.

3,195,628
TRANSISTOR CONVECTION COOLER
John C. McAdam, Burbank, Calif., assignor, by mesne assignments, to International Electronic Research Corporation, a corporation of California
Filed Nov. 21, 1961, Ser. No. 153,896
3 Claims. (Cl. 165—185)



1. In a cooler for a transistor a substantially annular body of sheet metal, an annular rim on one end of the body, said rim being of substantial breadth providing a collar extending in an axial direction, said collar having an inside surface facing generally in a radially inward direction, a plurality of circumferentially disposed resilient legs extending in a generally axial direction from one edge of said rim, the free end of each of said legs having a radially inwardly extending formed portion smaller in diameter than the circumference of the transistor adapted to engage the transistor, an inwardly facing and radially outwardly tilted tip spring biased inwardly and adapted to slide over the transistor when the cooler is applied thereto, said collar having the inside face thereof throughout the circumference spaced radially outwardly with respect to the location of said formed portions, a radially outwardly extending heat dissipating flange on the end of the body opposite said legs, said flange comprising a plurality of separate segments attached to said rim on the edge thereof opposite from the edge to which said legs are attached, each of said segments having a breadth in a radial direction less than the distance between inside edges of diametrically opposite segments, each of said segments being displaced in a generally axial direction with respect to the next adjacent segment to produce a staggered effect whereby to create a turbulence in convection currents flowing around the cooler.

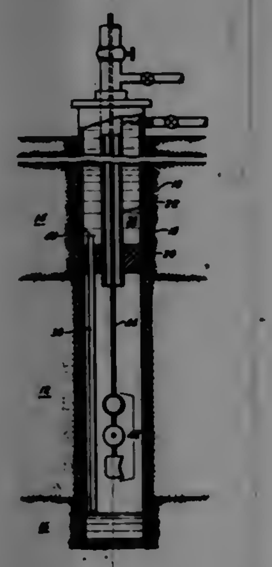
3,195,629
USE OF PARTIALLY OXIDIZED OIL IN A WATERFLOODING PROCESS
Robert O. Leach, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Dec. 31, 1962, Ser. No. 248,210
15 Claims. (Cl. 166—9)

1. In the process for recovering oil from an oil-bearing formation penetrated by at least one injection well and at least one producing well, in which process a volume of air and a volume of alkaline water are injected into said formation through said at least one injection well, and then flooding water is injected through said at least one injection well and into said formation, the improvement comprising injecting into said formation ahead of said flooding water a volume of oil equivalent to at least about 100 barrels of oil per linear foot of thickness of formation to be flooded, the alkaline water being at least about 0.1 molar with a base and the volume of the air being at least about ½ the volume of the alkaline water.

3,195,630
SEALING FORMATIONS
Henry B. Fisher, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed May 22, 1961, Ser. No. 127,413
10 Claims. (Cl. 166—30)

1. A method of sealing a porous formation which comprises injecting into said formation urea in a manner such that it will release carbon dioxide and ammonia in the formation and therein causing essentially only at least one of the carbon dioxide and ammonia to react with a previously placed material in said formation to form an insoluble sealing agent.

3,195,631
METHOD FOR PERFORATING A WELL
Francis M. Smith, Butler, Pa., assignor to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
Filed Jan. 24, 1963, Ser. No. 253,630
4 Claims. (Cl. 166—35)



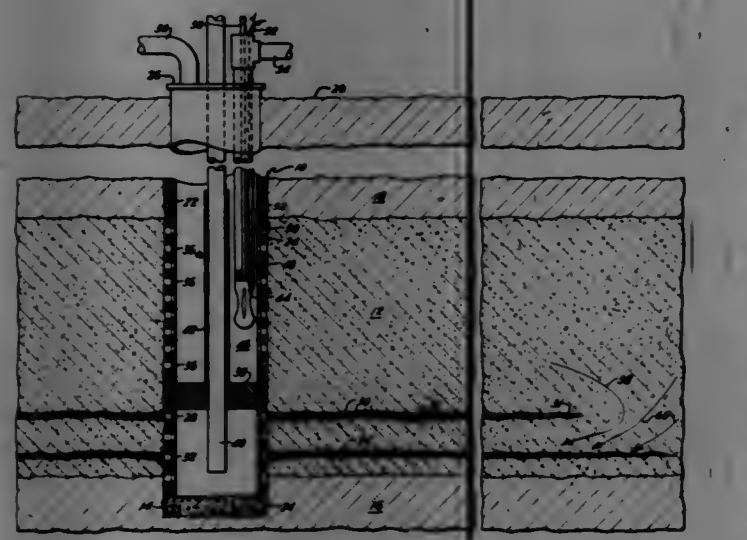
4. In a method of perforating a well having casing filled with liquid set to a depth below the desired level of the perforations, the improvement comprising running tubing into the well to a depth less than the depth of the desired perforations, setting a packer in the well around

the lower end of the tubing at a depth less than the depth of the desired perforations to close the annulus between the tubing and casing, suspending a dip tube in the well from the packer to a depth greater than the depth of the desired perforations, said dip tube opening above the packer into the annulus between the tubing and casing, injecting a gas into the upper end of the tubing to displace liquid in the well below the packer downwardly to the lower end of the casing and upwardly through the dip tube to displace the liquid in the casing, between the packer and the lower end of the dip tube into the annulus surrounding the tubing above the packer, maintaining liquid in the annulus surrounding the tubing above the packer lowering perforating means through the tubing to the level of the desired perforations and setting off the perforating means.

3,195,632
RADIAL BURNING IN-SITU COMBUSTION PROCESS UTILIZING A SINGLE WELL

James H. Henderson, Gibsonia, and Malcolm R. J. Wyllie, Allison Park, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware

Filed June 17, 1957, Ser. No. 666,155
1 Claim. (Cl. 166—39)

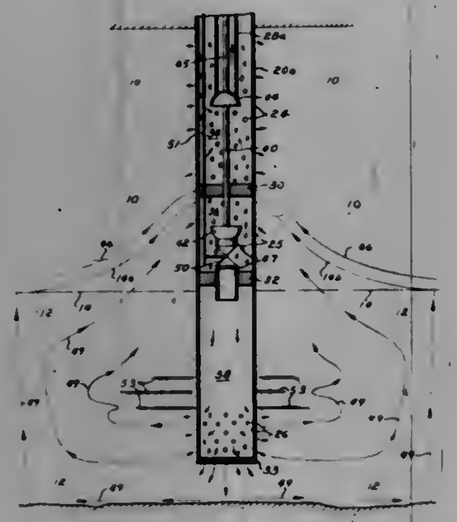


A process for producing oil from a pay zone utilizing a single well penetrating the pay zone comprising forming a first substantially horizontal fracture in the pay zone, said first fracture being in the bottom one-fourth of the pay zone and extending at least 50 feet radially from the well through the pay zone, propping the first fracture open with solid particles, forming a second substantially horizontal fracture above the first fracture, said second fracture extending substantially the same distance into the pay zone as the first fracture and being in the bottom one-third of the pay zone, displacing cement into the second fracture to form a substantially horizontal barrier above the first fracture, setting a packer in the well adjacent the barrier to divide the well into an upper zone above the packer and a lower zone below the packer, running tubing down the well and through the packer to provide a conduit extending down the well to the lower zone, said tubing and the wall of the well defining an annulus above the packer, injecting an oxygen-containing gas down the annulus and into the pay zone immediately above the barrier, igniting oil in the formation above the barrier, continuing the injection of the oxygen-containing gas to continue combustion of oil in the pay zone above the barrier to sweep oil radially outward from the well above the barrier and into the first fracture, delivering oil through the first fracture radially inward to the well, and lifting oil delivered into the well through the first fracture through the tubing string to the surface.

3,195,633
METHOD AND APPARATUS FOR PRODUCING FRESH WATER OR PETROLEUM FROM UNDERGROUND RESERVOIR FORMATIONS WITHOUT CONTAMINATION OF UNDERLYING HEAVIER LIQUID

Charles E. Jacob, 8949 Reseda Blvd., P.O. Box 349, Northridge, Calif.

Filed Aug. 26, 1960, Ser. No. 52,103
23 Claims. (Cl. 166—42)



1. A method of removing a lighter liquid from an underground reservoir formation in which said lighter liquid overlies a heavier less desirable liquid, with a normal static interface between said lighter and heavier liquids, comprising: providing a well which penetrates the reservoir stratum saturated with the lighter liquid and a substantial distance below said normal static interface into said stratum saturated with the heavier liquid; dividing said well into lower, intermediate, and main upper chambers, by sealing said well at two spaced locations, with the top of said lower chamber being at about the level of said static interface, with a passageway between said lower and intermediate chambers; circulating a portion of heavier liquid into said middle chamber of the well and thence through said passageway into said lower well chamber, and injecting said portion of heavier liquid outwardly from said lower well chamber at a substantial distance below said normal static interface; and removing to the surface the lighter liquid passing from the reservoir formation into the main upper chamber of the well.

3,195,634
FRACTURING PROCESS

William Armistead Hill, 517 Roosevelt St., Borger, Tex.

Filed Aug. 9, 1962, Ser. No. 215,829
2 Claims. (Cl. 166—42)

1. Process of treating formation containing a deposit chosen from the group consisting of oil and gas which process comprises the steps of

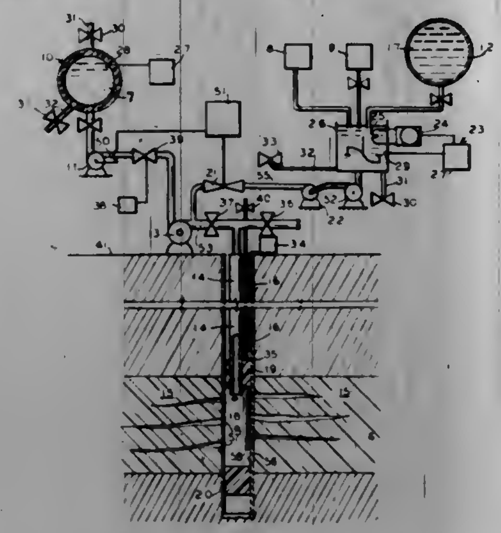
(a) forming a liquid-liquid mixture comprising liquid carbon dioxide and water

(b) injecting said mixture at such pressure and below a temperature sufficient to maintain said carbon dioxide in a liquid state into a well which penetrates from the surface into an earth formation containing deposits chosen from the group consisting of oil and gas, and

(c) fracturing said formation with said mixture,

(d) and then releasing the pressure on said formation and discharging a mixture comprising gaseous carbon dioxide, substantially all of the water provided in said liquid-liquid mixture, and well debris from said earth formation into the well and from said well at the surface, and

wherein the amount of liquid carbon dioxide admixed with the water provides a CO_2 gas-water ratio, measured at 14.7 p.s.i.a. and 80° F., of from 300 to 1500 cubic feet of gas per 42 gallon barrel of water.



3,195,635
SPACERS FOR FRACTURE PROPS

Clarence R. Fast, Tulsa, Okla., assignor to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

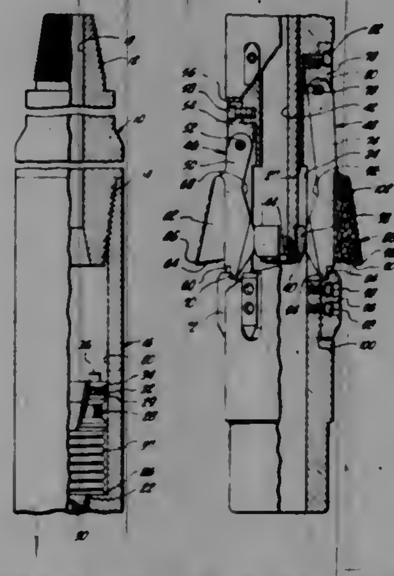
No Drawing. Filed May 23, 1963, Ser. No. 282,582
8 Claims. (Cl. 166—42)

1. In a process for fracturing a formation penetrated by a well, in which process a fracturing liquid is injected into the formation under a pressure sufficient to fracture the formation and deposit in the fracture a mixture of permanent props and spacer particles soluble in well fluids, the improvement comprising employing as said spacer particles prilled urea of substantially the same particle size as said permanent props.

3,195,636
APPARATUS FOR CUTTING AND MILLING IN WELL BORES

Bruce J. Cordary, Los Alamitos, and Robert W. Weber, Long Beach, Calif., assignors to The Servco Company, Long Beach, Calif., a corporation of Nevada

Filed Sept. 7, 1962, Ser. No. 222,052
8 Claims. (Cl. 166—55.8)



1. An apparatus for cutting and milling a tubular conduit disposed in a well bore comprising:

(a) a tubular body adapted to be secured to a drill string and having a passage;

(b) a piston reciprocably movable within the passage;

(c) a first plurality and a second plurality of cutter arms, each secured to the tubular body and adapted to occupy an retracted position and an expanded position;

(d) openings in the tubular body accommodating the arms so that a portion of each arm extends inwardly into the passage;

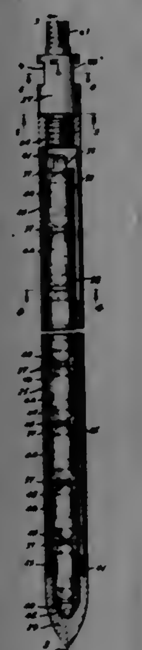
(e) each arm having means engageable by the piston,

  (i) said means on the first plurality and the second plurality of cutter arms being shaped relative to each other so that movement of the piston successively engages said means to produce outward movement of the first plurality of arms to the expanded position to operatively engage the tubular conduit at an initial preselected level prior to outward movement of the second plurality of arms to the expanded position to operatively engage the tubular conduit at substantially the same preselected level.

3,195,637
CHEMICALLY HEATED TOOL FOR REMOVAL OF PARAFFIN

Alfred E. Wayte, Williston, N. Dak., assignor to Willayte Corporation, Williston, N. Dak., a corporation of North Dakota

Filed Nov. 15, 1960, Ser. No. 69,489
10 Claims. (Cl. 166—58)



1. An elongated heat producing tool for removing paraffin from oil wells, said tool comprising an elongated hollow sleeve closed at both ends, a plurality of capsules, said capsules being formed of dissolvable material, said capsules each containing a chemical, an elongated rack, said capsules being mounted in said rack at intervals along the length of said sleeve, fluid in said chamber, said fluid being adapted to react with said capsules to produce an exothermic heat reaction, said sleeve having a pressure release valve means for releasing excess pressure produced by said heat reaction.

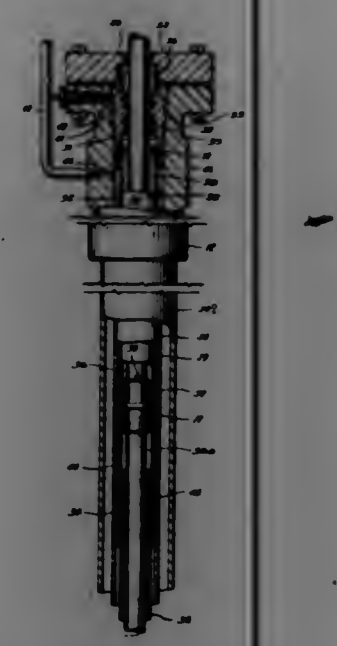
3,195,638
SUBMARINE WELLHEAD APPARATUS

Robert K. Le Rouax, Houston, Tex., assignor to Cameron Iron Works, Inc., Houston, Tex., a corporation of Texas

Filed Aug. 3, 1959, Ser. No. 831,088
9 Claims. (Cl. 166—66.5)

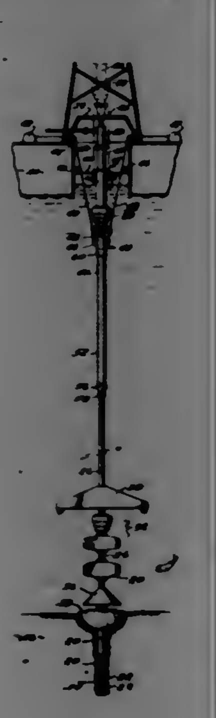
1. Well apparatus, comprising a wellhead having a bore therethrough, a first hanger within the wellhead for suspending a casing therefrom, a second hanger within the wellhead for suspending a tubing concentrically within the casing, a Christmas tree having a flow path therethrough for connecting with a flow line, an expansion

joint including a tubular member passing through the tubing hanger to support the tree above the wellhead and fluidly connect the flow path of the tree with the tubing, means for extending and retracting the tubular member to raise and lower the tree with respect to the wellhead,



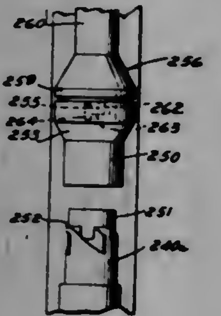
and pressure responsive means on the tubular member beneath the upper end of the wellhead for balancing the upward force on the tubular member due to the well pressure on the lower end of the tubular member in all positions of said tubular member.

3,195,639
OFF-SHORE DRILLING AND PRODUCTION APPARATUS
Robert O. Pollard, Downey, and Charles E. Wakefield, Jr., Bakersfield, Calif., assignors to Richfield Oil Corporation, Los Angeles, Calif., a corporation of Delaware
Filed Oct. 16, 1961, Ser. No. 145,168
8 Claims. (Cl. 166—66.5)



1. Apparatus for removing an upper portion of a drilling apparatus extending from a vessel on the surface of a body of water into a well in a formation underlying said body of water, comprising: a landing base affixed to said formation, drilling apparatus comprising an upper removable part and a lower part, said lower part having a sleeve at the upper end thereof, and said upper part having a telescopic part extending therefrom, said telescopic part being adapted for receipt in telescopic relationship in said sleeve and of sufficient length to permit the raising of said blowout preventer to the surface of said body of water without losing fluid contact through said drilling apparatus with said well, means for independently supporting said upper and lower parts of said drilling apparatus from said vessel, releasable fastening means operatively associated with the upper end of said sleeve and said telescopic part, and means for raising said upper part upon release of said fastening means.

3,195,640
BIT GUIDE SETTING TOOL
Arthur E. Wilde, Santa Ana, Calif., assignor to Shaffer Tool Works, Brea, Calif., a corporation of California
Original application Apr. 22, 1958, Ser. No. 730,172. Divided and this application Oct. 15, 1962, Ser. No. 230,477
3 Claims. (Cl. 166—85)



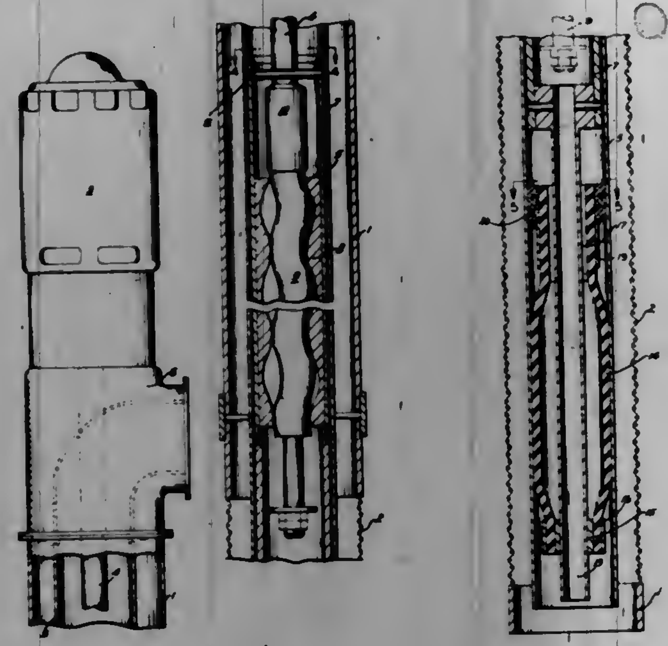
3. A bit guide setting tool for well drilling apparatus having a casing safety release joint including a mandrel, said bit guide setting tool comprising:

(A) a bit guide having a tubular body for releasable attachment on the upper end of said mandrel, said body being enlarged at the upper end,
  (a) and having an upwardly flaring inner passage with a cylindrical part at the upper end defined by an annular flange, said flange having a pair of diametrically arranged interior J-slots therein comprising a pair of laterally spaced substantially parallel generally vertical portions interconnected by a transverse portion, one of the vertical portions being open at the upper end, the transverse portion joining said one vertical portion at the bottom thereof and the other vertical portion intermediate the ends thereof;
(B) and a setting tool for attaching the bit guide to said mandrel, said setting tool having
  (a) a cylindrical portion adapted to be received within the cylindrical part of the bit guide and having a downwardly bulging free end wall,
  (b) and oppositely arranged pins which extend radially outwardly of the cylindrical portion of the setting tool and receivable in said J-slots.

3,195,641
BOTTOM HOLE PUMP RETAINER
John G. Becker, 260 Euclid Ave., Long Beach, Calif.
Filed May 6, 1963, Ser. No. 278,173
1 Claim. (Cl. 166—106)

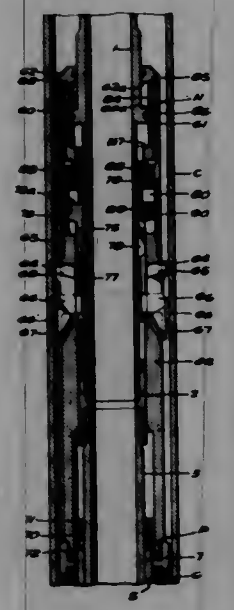
A bottom hole pump retainer for wells comprising,
flow pipe in the well,
a pump barrel removably mounted in the flow pipe,
a pump arranged within the barrel,
a tube depending from the barrel, said tube being of less diameter than the barrel,
a flexible and distendable boot,

splines on the outside of the tube adjacecnt the upper end thereof,
clamp means securing the boot to the splined area of



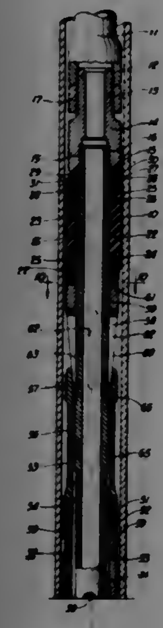
the tube, packing means between the upper end of the boot and said flow pipe,
and means sealingly attaching the lower end of the boot to said tube.

3,195,642
REVERSE ACTING ANCHOR FOR WELL PACKERS AND THE LIKE
Martin B. Conrad, P.O. Box 1026, Downey, Calif.
Continuation of abandoned application Ser. No. 854,769, Nov. 23, 1959. This application Mar. 12, 1964, Ser. No. 352,714
36 Claims. (Cl. 166—134)



1. A well tool comprising, a longitudinally extended body connectible to a string of pipe so as to be disposed in a well bore having casing therein, first casing engaging means carried by said body and expandible into engagement with said casing, second casing engaging means carried by said body including an expander and a plurality of slip elements wedgingly contacting said expander and actuator means for causing said slip elements to be wedged into engagement with said casing upon movement of said body in one direction relative to said expander, said actuator means including a first member interengageable with said slip elements and a second member interengaged with said expander, means for moving said first and second members oppositely upon movement of said body in the other direction relative to said expander for forcing said slip elements and said expander oppositely and out of wedging engagement with the casing.

3,195,643
PUMP ANCHORS WITH SLIPS AND PACKER
Dixon T. Harbison and James A. Burns, Fort Worth, Tex., assignors to Harbison-Fischer Manufacturing Co., Fort Worth, Tex., a corporation of Texas
Filed Feb. 8, 1963, Ser. No. 257,296
5 Claims. (Cl. 166—138)



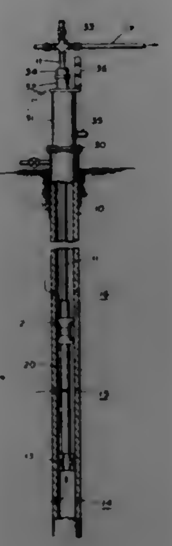
1. A pump anchor for well pumps including, an elongate mandrel, first setting means on the mandrel having outwardly-facing pipe engaging and gripping elements carried for outward movement, second setting means on the mandrel having inwardly-facing mandrel engaging and gripping elements carried for inward movement, the second setting means having a wedge-shaped portion telescoping the first setting means for forcing the gripping elements thereof outwardly and forcing the gripping elements of the second setting means inwardly, friction shoe means carried on the mandrel and connected to one of the setting means, the friction shoe means and first and second setting means forming a setting assembly, locking and unlocking means carried by the friction shoe means and the mandrel for limiting movement of the friction shoe means longitudinally of the mandrel, annular packing means surrounding the mandrel, and means on the mandrel for forcing the packing means against the setting assembly to distort the packing means into a packing position, the second setting member having slots extending longitudinally through its mandrel gripping elements, the slots terminating short of the ends of the second setting member.

3,195,644
VALVE SYSTEM FOR SEQUENTIAL FLOW FROM MULTIZONE PRODUCING WELLS
James Roy McCoy, Lubbock, Tex., assignor to Harvest Queen Mill & Elevator Company, Dallas, Tex., a corporation of Texas
Filed June 5, 1962, Ser. No. 200,128
8 Claims. (Cl. 166—147)

1. A downhole valve for control of flow from a first producing zone above a packer in a well and a second producing zone below said packer, which comprises:

(a) a tubular cylinder adapted to be secured in fixed relation to said packer with first localized perforations in the wall thereof above said packer, second localized perforations spaced above said first perforations and third localized perforations spaced above said second perforations,

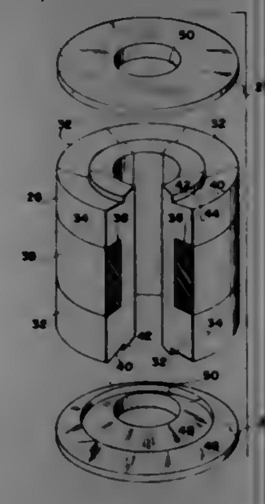
(b) a hollow piston closed at the bottom having a side wall aperture therein, said piston being movable for selective registration of said aperture with either of said second and third perforations,



(c) packing means between the confronting walls of said cylinder and said piston for preventing fluid flow longitudinally therebetween, and

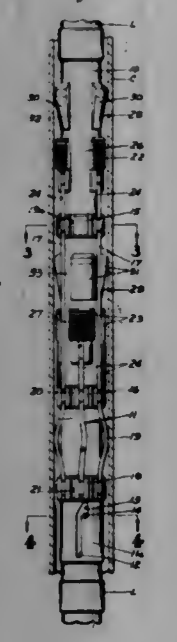
(d) means for forming an enclosed flow channel exteriorly of said cylinder between said first perforations and said second perforations.

3,195,645
PACKER BACK-UP RING STRUCTURE
Glenn L. Loomis, Pasadena, Tex.; Jean Doyle Loomis, executrix of Glenn L. Loomis, deceased, assignor to Jean Doyle Loomis
Filed Feb. 2, 1962, Ser. No. 170,537
3 Claims. (Cl. 166—201)



1. In a packing structure for forming a seal between a rod-like element and a surrounding wall of a well pipe or the like: a substantially cylindrically-shaped resiient packer mounted on the rod-like element; a pair of annular ring elements carried on said rod-like element and each having a cone shaped surface on one end thereof, one of said ring elements abutting an end of said packer; an expansible segmental back-up ring carried on the rod-like element and having inverted cone shaped surfaces on each end thereof, said segmental back-up ring being interposed between said pair of annular ring elements with the cone surface of each annular ring element abutting respectively the inverted cone surfaces of said segmental back-up ring, said segmental back-up ring including a plurality of metallic segments; resilient means circumscribing said segmental back-up ring for maintaining the segments in a retracted position as a unit; means abutting the other of said ring elements and maintaining the same stationary with respect to said one ring element; means engaging said packer on the end opposite to the end engaging said one ring element for compressing said packer longitudinally and expanding the same transversely while also causing said annular ring elements to move toward one another to radially expand said segmental back-up ring; and means on each of said annular ring elements and on each end of said expansible segmental back-up ring for limiting radial expansion of the same to a predetermined amount.

3,195,646
MULTIPLE CONE LINER HANGER
Cicero C. Brown, % Brown Oil Tools, Inc., P.O. Box 19236, Houston, Tex.
Filed June 3, 1963, Ser. No. 285,067
7 Claims. (Cl. 166—208)



5. A liner hanger for well pipes, comprising a tubular mandrel connectible into a liner string, a tubular slip cage slidably mounted on the mandrel, connection means releasably securing the cage to the mandrel, means carried by the slip cage operable to frictionally engage a surrounding well pipe, two vertically spaced sets of circumferentially spaced pipe-gripping slips mounted in fixed longitudinal relation on the cage about the mandrel, means supporting said slips on the cage for radial movement, a downwardly tapering slip expander cone mounted on the mandrel above each of the sets of slips for radially expanding the latter in response to relative downward movement of the mandrel, each of said expander cones comprising a plurality of circumferentially spaced cone segments positioned for longitudinal alignment with the related slips, the spaces between the slips and cone segments providing fluid by-pass passages between the mandrel and a surrounding well pipe.

3,195,647
SPRINKLER HEAD AND METHOD OF ADJUSTING SAME
Layard E. Campbell, Rowayton, Conn., and Ingemar B. Asp, Ossining, N.Y., assignors to The Reliable Automatic Sprinkler Co., Inc., a corporation of New York
Filed Sept. 14, 1962, Ser. No. 223,650
13 Claims. (Cl. 169—1)

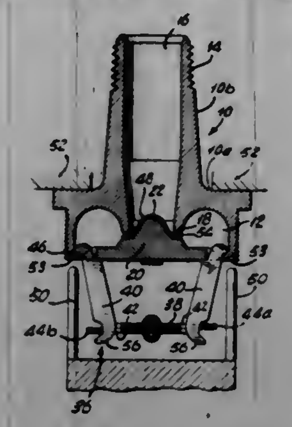
1. A sprinkler head comprising:

(a) a body portion with a port therein;

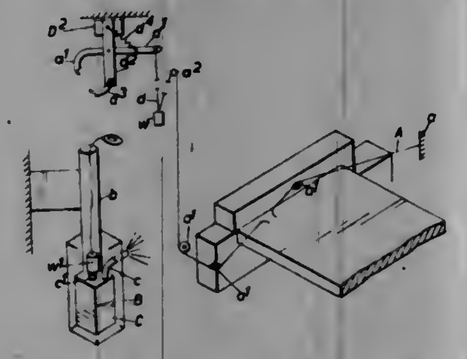
(b) sealing means for the port;

(c) a temperature responsive connector which is held against the sealing means by a portion of the body portion to seal the port; and

(d) a deformable portion of the body portion which is deformed to adjust the force the temperature responsive connector and the sealing means exert on each other by increasing the force the body portion exerts on the sealing means and upon the temperature responsive connector.

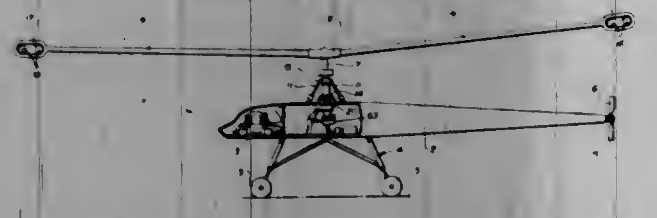


3,195,648
FIRE EXTINGUISHING SYSTEMS
Joseph Atack, Huddersfield, England, assignor to Atack Fire (Robots) Limited, Croyden, England, a corporation of Great Britain
Filed July 28, 1964, Ser. No. 385,583
5 Claims. (Cl. 169—42)



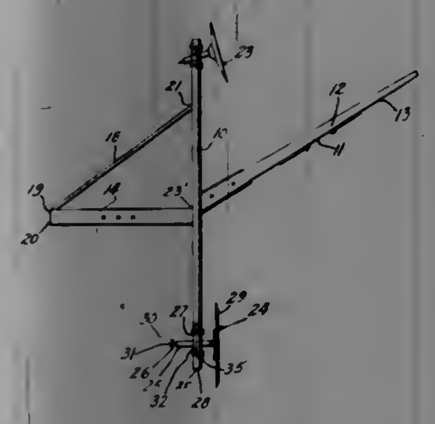
1. An actuating device for a fire extinguisher and an extinguishing system of the type comprising a suspended weight, a thermoplastic line, a stationary point to which one end of the line is attached, a plurality of pulleys over which the line passes in a zig-zag configuration the other end of the line being affixed to and supporting the weight, a second weight, a bracket, arms on the bracket from which the second weight is suspended and a slack cord connected between the first weight and the arms, the arms being arranged to be separated to release the second weight by the tightening of the slack cord on the release of the first weight due to rupture of the line by heat on the incidence of a fire.

3,195,649
AIRCRAFT ENGINE LUBRICATION SYSTEM
John B. Nichols, Atherton, and Alfred Bonnell, Jr., Los Altos, Calif., assignors, by mesne assignments, to Hiller Aircraft Company, Inc., Menlo Park, Calif., a corporation of Delaware
Filed Dec. 17, 1963, Ser. No. 331,281
7 Claims. (Cl. 170—160.23)



1. A helicopter lubricant replenishment system for helicoper engines which are mounted adjacent the tips of the rotor blades of a helicopter, said rotor blades surmounting a rotor column and being rotatable therewith about the axis thereof when said engines are operating to propel said helicopter; said replenishment system comprising a supply tank mounted as a part of said rotor column and being rotatable therewith, a supply of lubricant in said tank, said tank being substantially symmetrical and substantially coaxial with said column and completely surrounding the axis thereof to obviate imbalance of centrifugal forces as the tank rotates with said lubricant therein, supply lines extending from said supply tank through said rotor blades to said engines through which lubricant is flowable when lubricant replenishment in said engines is required, and valve means in said supply lines adjacent each of said engines which is selectively actuatable by a crewman of said helicopter to cut off flow of lubricant to a given engine as required during operation thereof.

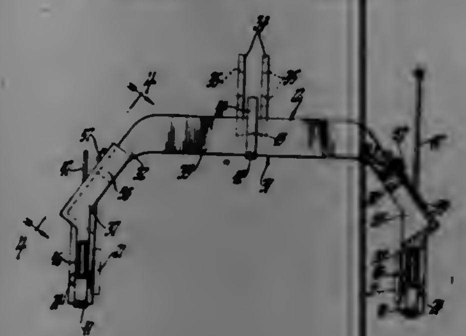
3,195,650
FIELD MARKER
Oliver Watmough, General Delivery, Lethbridge, Alberta, Canada
Filed July 5, 1963, Ser. No. 293,592
1 Claim. (Cl. 172—126)



A field marker comprising in combination, a longitudinal frame member, a draft tongue secured to an intermediate portion of said frame member and projecting obliquely to one side thereof, a laterally projecting support arm secured to the intermediate portion of said frame member at the other side thereof, a pair of ground engaging discs carried by the end portions of said frame member at said one side thereof, at least one of said discs being horizontally angularly adjustable relative to the frame member, and means for mounting said adjustable disc on said frame member, said mounting means comprising a rigid horizontal elongated strap disposed at said other side of the frame member opposite from said adjustable disc, said strap being angulated intermediate its ends to provide a fulcrum at its point of angulation and a pair of angularly offset strap end portions extending in opposite directions from said fulcrum, axle means connected to said strap at said fulcrum and projecting through a transverse opening in said frame member to said first mentioned side of the frame member, said adjustable disc being mounted on the projecting portion of said axle means, said strap fulcrum rockably engaging said other side of said frame member whereby the horizontal angular relationship of said axle means and of said adjustable disc to the frame member may be adjusted, and a pair of adjusting bolts extending through apertures provided in said frame member at opposite sides of said opening, said bolts engaging the respective angularly offset end portions of said strap whereby to retain the strap in position on the frame member and whereby to permit adjustment of the strap through rocking about its fulcrum by loosening of either of said bolts and corresponding tightening of the other.

3,195,651
ADJUSTABLE QUICK HITCH

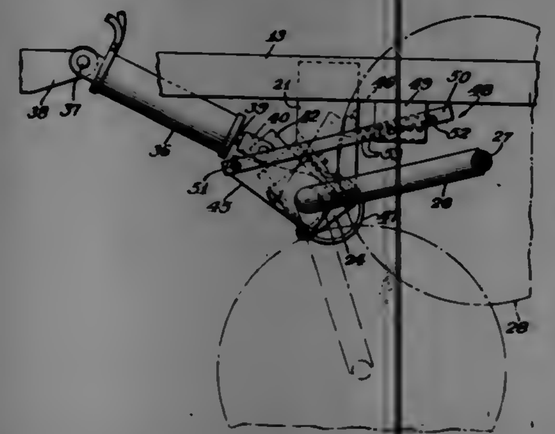
Everett W. Todd, Dearborn, Mich., assignor to Massey-Ferguson Inc., Detroit, Mich., a corporation of Maryland
Filed Jan. 22, 1964, Ser. No. 339,451
4 Claims. (Cl. 172—272)



1. A quick hitch attachment for a tractor of the three-point hitch type having a pair of spaced apart draft links and an upper hitch link comprising in combination, a rigid frame member defining a pair of downwardly and outwardly diverging legs interconnected by a generally horizontal saddle portion, a bracket secured to said saddle portion for connection to the trailing end of said upper link, an extension member secured to each of said legs and extending downwardly and outwardly therewith, each of said extension members carrying a laterally extending pin for connection with the trailing end of one of said draft links, an upper rearwardly extending hook defining an upwardly opening notch secured to said saddle portion, and a lower rearwardly extending hook defining an upwardly opening notch formed at the lower portion of each of said extension members, said extension members being slidably mounted on said legs whereby adjustment of said members relative to said legs results in simultaneously changing the relative vertical and horizontal locations of said upper and lower hooks.

3,195,652
DISK HARROW

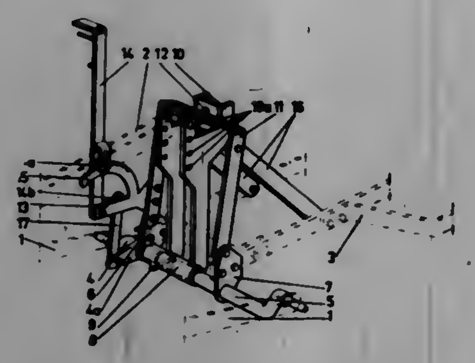
Donald A. Murray, Stockton, and Reuben E. Anderson, Ripon, Calif., assignors to International Harvester Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 17, 1963, Ser. No. 273,774
3 Claims. (Cl. 172—414)



1. In a trailing implement having a tool-carrying frame and a wheel-carrying axle mounted on the frame for rocking movement to vertically move the wheels from a lowered to a raised position relative to the frame, a fixed arm secured to the axle, a free arm rockably mounted on the axle, an extendable and retractable power transmitting member anchored at one end to the frame and connected at its other end to said free arm for rocking the latter, means forming an abutment on said fixed arm engageable with said free arm upon rocking the latter in one direction to lower the wheels relative to the frame, yieldable means forming a connection between said fixed arm and said free arm and effective upon rocking said free arm to also rock said fixed arm in the other direction to raise the wheels relative to the frame, and means acting between said axle and the frame to limit the rocking of said fixed arm in said other direction, said yieldable means being yieldable to accommodate additional rocking of said free arm relative to the fixed arm in said other direction.

3,195,653
DEVICE FOR CONTROLLING PLOWS, PARTICULARLY MULTI-FURROW PLOWS

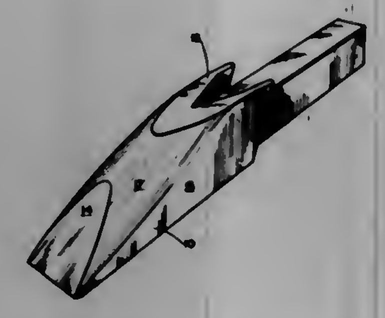
Torsten August Andersson and Erik Herbert Carlsson, Overum, Sweden, assignors to Aktiebolaget Överums Bruk, Overum, Sweden, a company of Sweden
Filed Sept. 3, 1963, Ser. No. 306,087
Claims priority, application Sweden, Sept. 4, 1962, 9,568/62
2 Claims. (Cl. 172—449)



1. For use with an agriculture tractor of the type having a rear-mounted hydraulic-actuated three-point implement supporting structure comprising two pull rods and one compression bar; a plow structure having a rigid frame, said frame incorporating an upstanding bail structure, a transverse shaft journalled in said frame and adapted to be connected to said pull rods by its crank-shaped ends, an upstanding mast member rigidly connected to said shaft between its ends and adapted to be connected to said compression bar at a selected one of several predetermined positions, the top end of said mast member having an upwardly facing open slot extending in the fore-and-aft direction, said slot accommodating with an amount of play the cross member of said bail structure to permit relative tilting movements between said bail structure and said column member.

3,195,654
SUBSOILER CHISEL

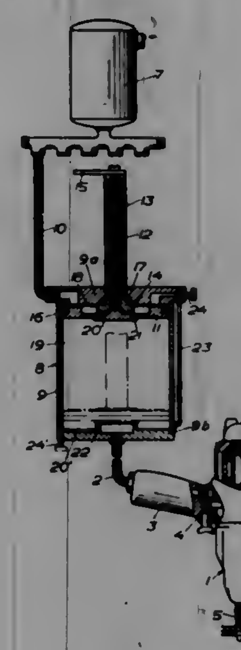
Leonard Norris, Reinbeck, and Eric M. McElhinney, Jesup, Iowa
Filed June 6, 1962, Ser. No. 200,474
1 Claim. (Cl. 172—699)



A subsoiler chisel comprising a blade having a generally flat bottom, said bottom terminating at its front end in an edge, the side edges of said blade being generally flat and disposed at right angles to said bottom, a top planar surface inclined upward from said front edge in a flat surface inclined to said bottom at an angle of approximately thirty degrees, a generally cylindrical top on said blade, the central axis of said top being inclined upwardly at a lesser angle than said planar surface, and a shank attached to a rear part of said blade and extending rearwardly therefrom and adapted to be received in a subsoiler, and a rearwardly facing V-shaped notch cut in said blade above said shank, said notch being adapted to receive the front sharp edge of a subsoiler blade, said shank being generally uniform in cross section and being of substantially lesser width than said blade whereby said blade defines a rearwardly facing shoulder.

3,195,655
METHOD AND APPARATUS FOR CONTROLLING THE DEGREE OF TIGHTNESS OF BOLTS OR NUTS DRIVEN BY AN IMPACT WRENCH

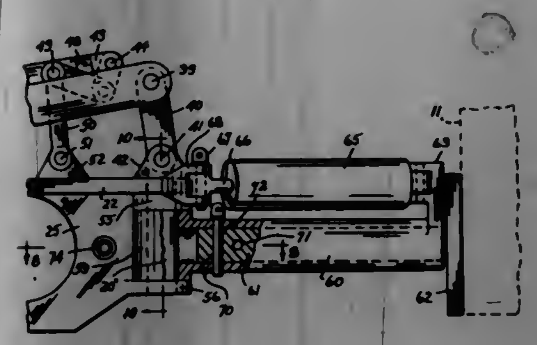
Karl Gösta Kårdén, Nacka, Sweden, assignor to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed Dec. 2, 1960, Ser. No. 73,316
17 Claims. (Cl. 173—1)



1. A method for controlling the degree of tightness of a series of bolts or nuts driven by the aid of a pressure fluid operated impact wrench having a throttle valve connected to a fluid supply, comprising applying the impact wrench in turn over each bolt or nut to be driven, supplying pressure fluid to operate the impact wrench when in engagement with each bolt or nut in response to actuation of the throttle valve, storing a predetermined quantity of pressure fluid from said fluid supply, dispensing said predetermined quantity of pressure fluid to the impact wrench upon actuation of said throttle valve, and automatically interrupting the wrench operating fluid supply to the impact wrench upon having delivered said predetermined quantity for the driving of each bolt or nut.

3,195,656
STRAIGHT LINE EARTH DRILLING APPARATUS

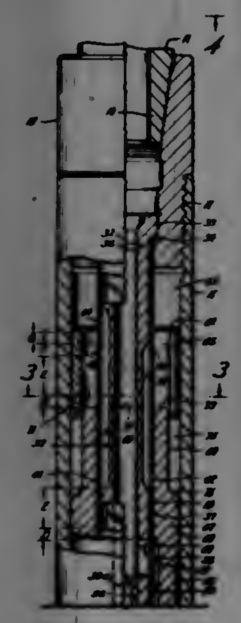
William E. Johnson, Orlando, Fla., and Jerry R. Lairson, Wake Forest, N.C., assignors to The Hydra-Might Company, St. Petersburg, Fla.
Filed June 2, 1961, Ser. No. 114,392
9 Claims. (Cl. 173—38)



1. In an earth drilling apparatus, the combination of a mobile carrier, a support mounted on said carrier for turning movement about a horizontal axis, a frame mounted on said support for turning movement about an axis transverse to said horizontal axis, an elongated boom having an inner end portion pivotally connected to said frame for swinging movement of the boom in a plane parallel to said transverse axis, and a drill carried by the outer end of said boom.

3,195,657
PERCUSSION DRILL

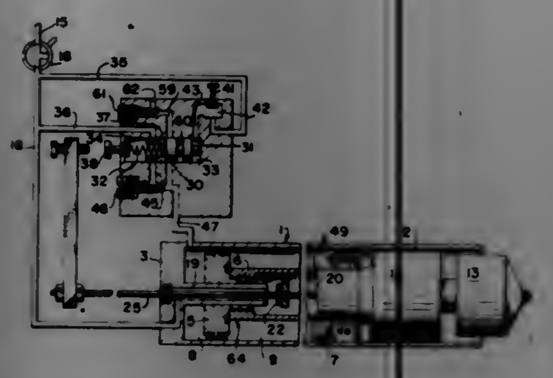
Samuel L. Collier, Houston, Tex., assignor to Mission Manufacturing Company, Houston, Tex., a corporation of Texas
Original application Dec. 5, 1960, Ser. No. 73,613. Divided and this application June 26, 1964, Ser. No. 378,126
2 Claims. (Cl. 173—137)



1. Percussion drilling apparatus comprising a casing forming a working chamber having a connection at its rear end for operating fluid and an anvil at its forward end, a hammer piston reciprocable in said chamber, valving means to alternately direct fluid from said connection into the rear end portion of said chamber and to exhaust said portion to cause said piston to beat upon said anvil, a compartment adjacent said working chamber rear end portion, wall structure separating said compartment from said chamber rear portion, and a passage extending through said wall structure from said compartment to a port in the wall of said chamber rear portion, said port being positioned to be traversed and closed by said piston, as it approaches the rear end of its travel, to reduce the effective compression space to which said piston is exposed and, thereby, expedite the piston turn around while providing the volume of compressed working fluid in said compartment to supplement the working fluid applied to said piston during the forward stroke thereof.

3,195,658
AIR RETURN SYSTEM FOR AIR FEED DRILL

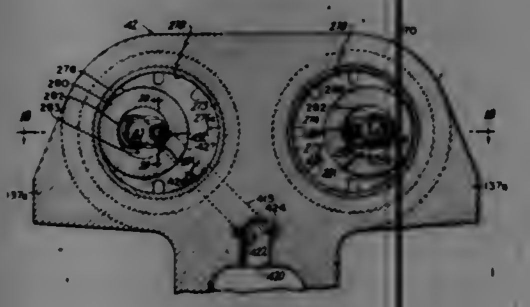
Thomas S. Reed, Athens, Pa., and Hugh B. Taylor, Waverly, N.Y., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed July 25, 1962, Ser. No. 212,207
5 Claims. (Cl. 173—158)



1. A fluid-operated tool for rotating and axially reciprocating a tool implement, said tool comprising: a tool body; a piston slidably mounted in said body for axially reciprocating movements therein and carrying a fluid-operated motor and a spindle on its front end; said tool body containing a pair of piston chambers separated by said piston and adapted to receive fluid pressure alternately for reciprocating said piston, said pair of piston chambers including a forward feed chamber and a retraction chamber; exhaust means operative to normally exhaust said retraction chamber when the pressure in the retraction chamber is low and operative to seal the retraction chamber when the pressure in the retraction chamber is high; and valve means connected to said piston chambers for admitting fluid pressure alternately into said piston chambers.

3,195,659
SONIC PILE DRIVER

Willard B. Goodman, Sherman Oaks, Calif., assignor to Albert G. Bodine, Jr., doing business as Bodine Soundrive Company, Los Angeles, Calif.
Filed Jan. 17, 1962, Ser. No. 166,745
18 Claims. (Cl. 175—55)



18. A sonic driver for a pile or the like, comprising:

a sonic oscillator embodying a relatively massive body;

means for coupling said oscillator body to a pile or the like to be driven;

said oscillator body having therein a cylindrical raceway having a central longitudinal axis contained in a plane perpendicular to the axis of the pile;

an inertia roller of less mass than said body in and adapted to roll around said raceway in an orbital path, said roller having a co-axial raceway therein;

a smaller roller in said raceway in said first mentioned roller adapted to roll therearound in an orbital path and to thereby roll said first mentioned roller in its orbital path around said first mentioned raceway;

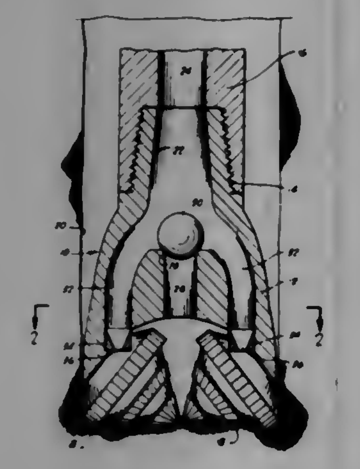
a rotatable arm mounted at one end on said body for rotation about an axis co-axial with said raceway in said body;

a pin parallel to the axis of rotation of said arm carried by the free swinging end of said arm; and

an eccentric bushing on said pin mounting said second mentioned roller for rotation on its axis.

3,195,660
DRILLING BIT

George M. McKown, 2318 NW. 43rd, Oklahoma City, Okla.
Filed Apr. 5, 1962, Ser. No. 185,355
7 Claims. (Cl. 175—65)



5. A method for operating a downhole valve mechanism comprised of an annular seat formed in a fluid passageway which is to be opened and closed and a valve member having a specific gravity less than that of the fluid being passed through the fluid passageway and adapted to seat on the annular seat to block fluid passage therethrough, the method comprising the steps of:

pumping the valve member downwardly to the valve seat by pumping a liquid of greater specific gravity than the valve member downwardly through the fluid passageway at a velocity greater than the rate at which the valve member will rise through the liquid until the valve member is seated,

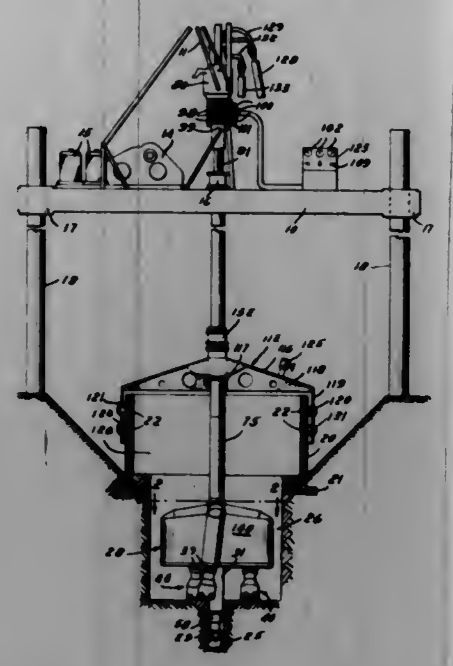
maintaining the valve member seated on the valve seat by maintaining a pressure differential across the valve member sufficient to overcome any buoyant force exerted by the liquid on the valve member; and

reducing the pressure differential across the valve member to permit the valve member to float free of the valve seat and open the valve mechanism and permit the subsequent downward passage of fluid through the passageway.

3,195,661
LARGE BORE HOLE DRILLING APPARATUS

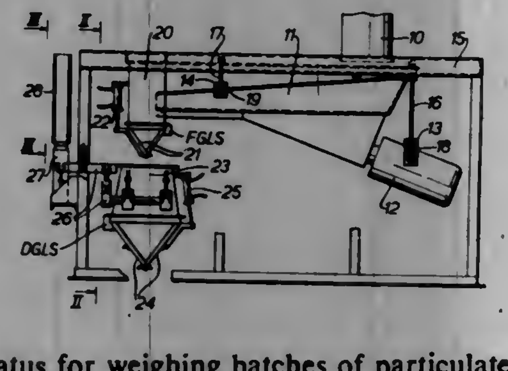
John Gordon Jackson, Denver, Colo., and Verne Smith, Corona Del Mar, Calif., assignors to Gas Drilling Services Co., Denver, Colo., a co-partnership
Filed Oct. 15, 1959, Ser. No. 846,718
10 Claims. (Cl. 175—95)

9. Apparatus for drilling large bore holes adapted to be lowered and raised by a drill string, comprising: a supporting member adapted to be secured to said drill stem; a plurality of rotary drilling bits operably carried by said supporting member, said bits being inclined upwardly in the direction of rotation of said supporting member and being variously spaced from the axis of rotation of said supporting member so that when the supporting member is rotated said bits travel in annular concentric paths; and means for rotating said bits on their respective axes.



3,195,662
WEIGHING OF PARTICULATE MATERIALS

Robert C. Joiner and Ambrose T. Upfold, Sarnia, Ontario, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada, a corporation
Filed July 17, 1963, Ser. No. 295,738
Claims priority, application Canada, July 25, 1962, 854,539
7 Claims. (Cl. 177—81)



1. Apparatus for weighing batches of particulate material comprising

(a) a weight hopper,

(b) scale means supporting the weigh hopper for determining the weight of material therein,

(c) a supply hopper fitted with bottom door means situated above the weigh hopper,

(d) door operating means for opening and closing said door means,

(e) feeding means for feeding material into the supply hopper selectively at a fast or slow rate,

(f) cycle initiating means connected to said door operating means for opening said door means and connected to the feeding means for actuating the latter at fast rate,

(g) first means associated with the scale means for sensing a first predetermined weight of material in the weigh hopper,

(h) second means associated with the scale means for sensing a second predetermined weight of material in the weigh hopper, said second weight being greater than said first weight,

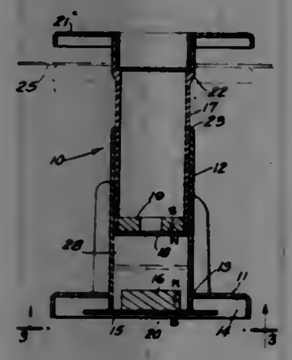
(i) said first means being connected to the feeding means to initiate feeding at slow rate on sensing said first weight of material in the weigh hopper,

(j) said second means being connected to said door operating means for closing said door means and connected to the feeding means to stop feeding thereof on sensing said second weight of material in the weigh hopper,

(k) and means for emptying the weigh hopper.

3,195,663
SCALES

Robert T. Thoimpson, Palatine, Ill., assignor to General Magnetic Corporation, Detroit, Mich., a corporation of Illinois
Filed Dec. 11, 1962, Ser. No. 243,777
4 Claims. (Cl. 177—201)



1. A magnetic weighing scale comprising:

a base;

a first elongated cylindrical guide member of non-magnetic material mounted on said base and projecting vertically therefrom;

a first permanent magnet mounted in axial alignment with said first guide member, said first permanent magnet being magnetized axially of said first guide member;

a second elongated cylindrical guide member of non-magnetic material engaged in interfitted axially aligned relation with said first guide member for vertical sliding movement relative thereto, said second guide member including a support for an object to be weighed;

a second permanent magnet, mounted on said second guide member in axial alignment therewith, and magnetized in a direction parallel to the axis thereof, said permanent magnets being oppositely polarized so that said second guide member is normally maintained at a predetermined spacing relative to said base;

a cylindrical magnetic shunt member, mounted on said first guide member in predetermined axial spacing relative to said base and separated from said second permanent magnet by at least one of said guide members, for concentrating the external field of said second permanent magnet and extending the range of said scale;

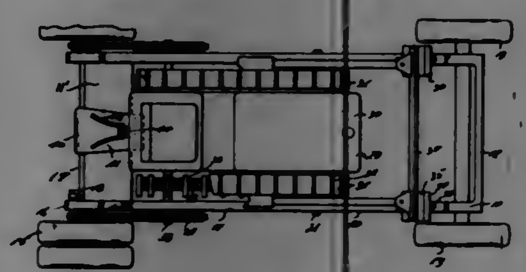
and scale marks on one of said guide members indicative of relative displacement therebetween effected by the disposition of an object to be weighed on said support.

3,195,664
TRANSPORTER FOR ENDLESS TRACK VEHICLES

Arthur Friesen, Virden, Manitoba, Canada
Filed Jan. 9, 1964, Ser. No. 336,796
Claims priority, application Canada, Jan. 9, 1963, 690,881
4 Claims. (Cl. 180—1)

1. A transporter for endless track vehicles of the earth moving blade type, comprising in combination a chassis, a pair of ground engaging wheels mounted at the front end of said chassis and a pair of ground engaging wheels

mounted at the rear end of said chassis, a pair of spaced and parallel endless drive tracks mounted within said chassis engageable by the cleats of the tracks of the vehicle carried on said chassis, means to mount said drive tracks, means operatively connecting said drive track mounting means to one of said pairs of said ground engaging wheels of said chassis, and means to position and anchor the vehicle carried by said transporter, said means to position and anchor the vehicle carried by said transporter comprising a ramp on said chassis adjacent the rear end thereof and mounted centrally thereon, said ramp including a pair of upwardly converging guide flanges, said ramp adapted to receive the hitch of said vehicle as it is driven onto said chassis, said hitch and the rear end of said vehicle being elevated as it rides up said ramp, and at least one blade engaging cleat adjacent the forward end of said chassis, said cleat having a blade edge engaging notch formed thereon.

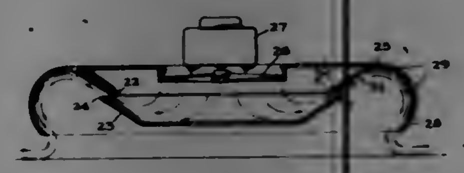


3,195,665
PLENUM CHAMBER GROUND EFFECT MACHINE

Melville W. Beardsley, Severna Park, Md., assignor, by mesne assignments, to A. Fred S[illegible]robin, Washington, D.C.

Filed Nov. 23, 1960, Ser. No. 71,252

4 Claims. (Cl. 180—7)



1. A vehicle able to support itself above a surface by fluid pressure comprising
   a plenum shell open toward the surface and including an upper surface and downwardly and inwardly curving sides,
   a fluid flow pump located to discharge fluid into said shell,
   means for deflecting fluid within said plenum shell located in the path of fluid from said fluid flow pump and adjacent thereto and extending upwardly and outwardly,
   a wall section extending downward from said upper surface of said plenum shell,
   and an edge portion of said means for deflecting fluid spaced from said wall section in substantially parallel and overlapping relationship to said wall section whereby the fluid from said fluid flow pump is deflected through the spacing between said wall section and said edge portion of said means for deflecting fluid,
   said downwardly curving sides curving inwardly and having a minimum effective radius of curvature exceeding the distance between said edge portion of said means for deflecting fluid and said wall section adjacent thereto.

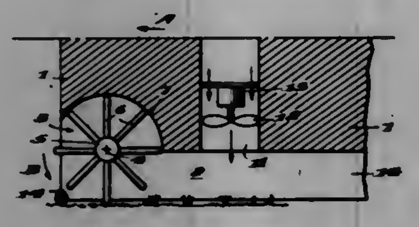
3,195,666
AIR-CUSHION BORNE VEHICLE

Nigel Wickham Lewis, Swindon, and Geoffrey Hugh Williams, Reading, England, assignors to Vickers-Armstrongs (Engineers) Limited, London, England, a British company

Filed Jan. 15, 1963, Ser. No. 251,619

Claims priority, application Great Britain, Jan. 22, 1962, 2,329/62

2 Claims. (Cl. 180—7)



1. An air-cushion vehicle comprising a body, a flexible skirt depending from the periphery of the underside of the vehicle body, thereby defining an air-cushion space, the bottom of the skirt being ordinarily clear of the surface over which the vehicle travels, said skirt having a front transversely extending part, a rear transversely extending part, and two longitudinally extending side parts, one of said side parts arranged on each side of the vehicle, means independent of said transversely-extending parts and carried on said body for forcing air into said space, at least one of said transversely extending parts being formed by a rotatable member extending across the vehicle and mounted on the vehicle body for free rotation about a substantially horizontal axis, said rotatable member carrying flexible, radially directed vanes, the underside of the vehicle body being formed with a transversely extending recess having an arcuate wall, the clearance between said rotatable member and said wall being such that air loss therebetween is minimized.

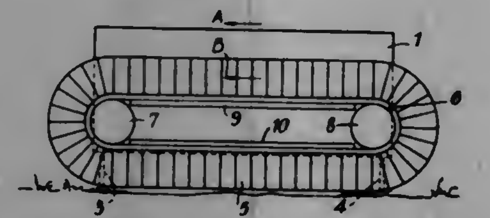
3,195,667
AIR-CUSHION BORNE VEHICLES

Geoffrey Hugh Williams, Reading, England, assignor to Vickers-Armstrongs (Engineers) Limited, London, England, a British company

Filed Jan. 18, 1963, Ser. No. 252,451

Claims priority, application Great Britain, Jan. 22, 1962, 2,328/62

10 Claims. (Cl. 180—7)



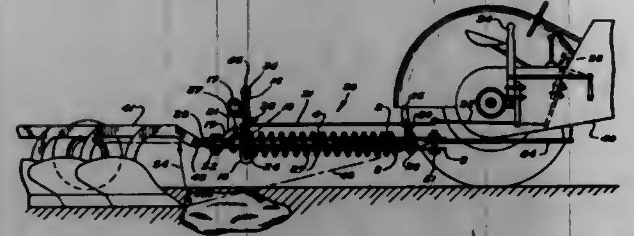
1. An air-cushion borne vehicle comprising a vehicle body, a first flexible skirt part carried by the body below the front part thereof and extending transversely of the vehicle body, a second flexible skirt part carried by the vehicle body below the rear part thereof and extending transversely of the vehicle body, two skirt bands of flexible material carried one on each of the two longitudinal sides of the vehicle body and extending longitudinally thereof, each skirt band being in the form of a closed loop and including a projecting flexible skirt the lower run of which extends downwardly below the underside of the vehicle body, the two skirt bands and said first and second skirt parts together with the underside of the vehicle body forming and enclosing an air-cushion space containing an air cushion therein for supporting the air-cushion borne vehicle, and means mounting the skirt bands on the vehicle body for movement of each skirt band relative to the vehicle body and around its own closed loop.

3,195,668
DRAFT APPLIANCE

Henry Hansen, Rte. 3, Aberdeen, S. Dak.

Filed July 30, 1962, Ser. No. 213,399

5 Claims. (Cl. 180—14.5)



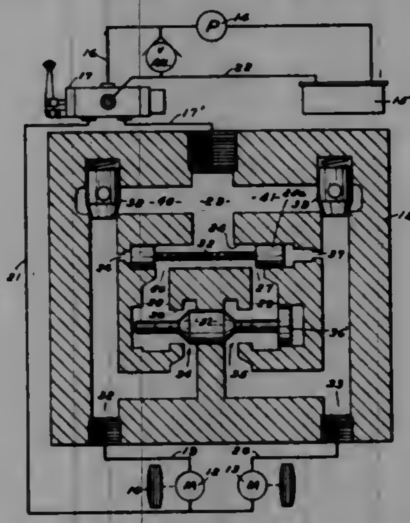
1. A load responsive draft appliance comprising in combination;
   a longitudinally extending frame member adapted for connection to a vehicular source of motive power;
   a second frame member having a transversely disposed notch and being reciprocally mounted within said longitudinally extending frame member and being movable laterally with respect to said frame member;
   longitudinally disposed, concentrically mounted biasing means for maintaining said frame members in a first draft transmitting position; and
   line of draft responsive release means mounted on one of said frame members and in draft transmitting engagement with said second frame member when said frame members are in said first relative position, said release means including a first roller stationarily disposed on said frame member for releasable engagement with the notch in said second frame member and a second roller, including laterally disposed biasing means therefore, said second roller being disposed to resiliently engage said second frame member and being responsive to the direction of the draft loads applied to said appliance to release said second frame member at varying draft loads in accordance with the direction of said loads.

3,195,669
DIFFERENTIAL FOR HYDRAULIC MOTOR DRIVE SYSTEM

Kenneth Court, Detroit, Mich., assignor to Sperry Rand Corporation, Troy, Mich., a corporation of Delaware

Filed July 10, 1963, Ser. No. 293,973

9 Claims. (Cl. 180—66)



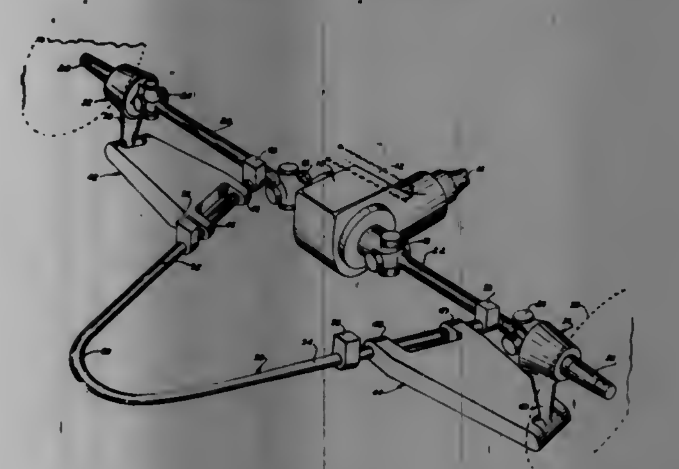
1. In a hydraulic system, the combination comprising
   a vehicle including a pair of drive wheels,
   a hydraulic motor individual to each wheel for driving each wheel,
   a hydraulic pump for supplying hydraulic liquid to each motor,
   a flow divider valve interposed between the pump and the motors and responsive to the flow of liquid to each motor to tend to maintain equal flow to each motor,
   and means hydraulically connected to said system and responsive to a pressure differential of hydraulic fluid flowing to said motors for restricting the flow to the motor having the higher pressure of the hydraulic fluid by a predetermined amount and unrestricting the flow to the motor having the lower pressure by a predetermined amount.

3,195,670
TORSION BAR VEHICLE SUSPENSION

Michael R. D. Dunn, Coventry, England, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 7, 1963, Ser. No. 314,100

2 Claims. (Cl. 180—73)



1. A vehicle suspension system having a chassis and a differential gear unit secured to said chassis, left and right shaft assemblies, said shaft assemblies each comprising an inner universal joint connected to the power output of said differential gear unit, a shaft connected to said inner universal joint at its inner end, an outer universal joint connected to the outer end of said shaft, a stub shaft connected to said outer universal joint, said stub shaft being connected to a road wheel, said shaft assemblies each being of a fixed length and constructed to position said wheels laterally of said differential gear unit, a pair of left bearing supports and a pair of right bearing supports secured to said chassis, a U-shaft torsion bar having a first leg journalled in said left bearing supports and a second leg journalled in said right bearing supports, left and right laterally extending suspension arms, said suspension arms each having spaced apart mounting portions at their inner ends, one of said mounting portions being secured to said torsion bar and the other of said mounting portions being rotatably connected to said torsion bar, means rotatably supporting said stub shafts and having a depending portion, hinge means connecting the outer ends of said suspension arms with said depending portion.

3,195,671
AUTOMATIC RADIO REMOTE CONTROL VEHICULAR SPEED GOVERNING MECHANISM

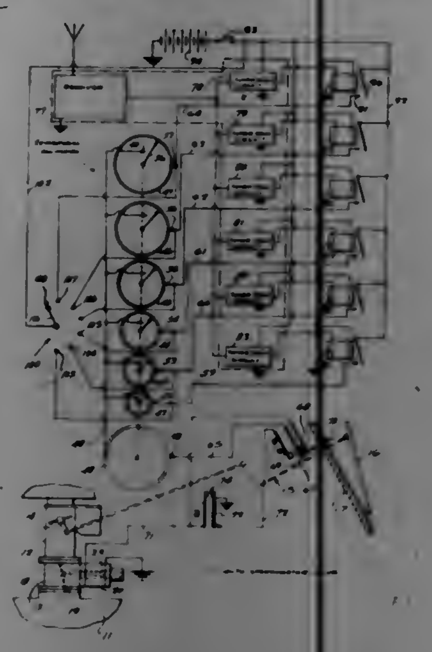
Richard A. Wolfe, Sr., Abita Springs, La.
(Box 50, Natchitoches, La.)

Filed Nov. 16, 1962, Ser. No. 238,113

10 Claims. (Cl. 180—82.1)

1. In a motor vehicle, a fuel supply conduit, normally open valve means in said supply conduit, electromagnetic closing means operatively connected to said valve means, a source of current, a speed-responsive switch, means to close said switch at a predetermined speed of the vehicle, a receiver provided with a plurality of tuned output circuits responsive to different signal frequencies and each

having a switch means closing responsive to the reception of a predetermined signal frequency by the radio receiver, and means connecting said electromagnetic closing means to said source through said speed-responsive switch and

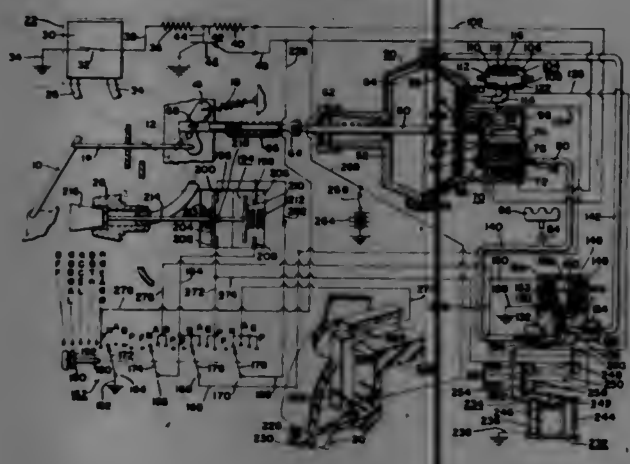


one of said switch means, whereby said electromagnetic closing means will be energized responsive to reception of a radio signal of proper frequency to close said one of the switch means if the vehicle exceeds said predetermined speed.

3,195,672
MULTIPLE OPERATION MODE ROAD VEHICLE CONTROL SYSTEM

John B. Brennan, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 29, 1963, Ser. No. 276,318
15 Claims. (Cl. 180—82.1)



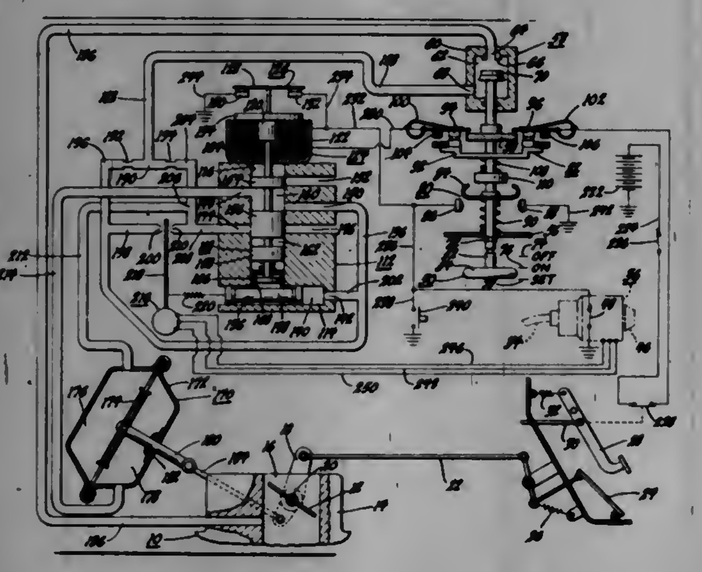
1. A vehicle road speed warning and control system for a vehicle having a vehicle engine speed control mechanism, said system comprising,

first means for generating a speed error signal,
second means for moving said vehicle engine speed control mechanism under power,
third means for manually moving said vehicle engine speed control mechanism,
a source of power for said second means,
fourth means receiving said signal and power from said source for delivering power to said second means in response to said signal for urging said vehicle engine speed control mechanism toward a decreasing speed direction,
fifth means receiving power from said source and selectively operable to deliver power to said second means for urging the vehicle engine speed control mechanism toward an increasing speed direction,
first normally open switch means connected to close in response to power at said second means from said fourth means,
second normally open switch means for electrically bypassing said first switch means,
holding means for closing and holding said second switch means closed when energized,
mode selector switch means for selectively conditioning selective ones of said means to provide any of a plurality of selective system conditions, said plurality of selective system conditions comprising at least an "off" condition and a system operational condition,
operator controlled switch means for activating the system in at least one of the plurality of system conditions,
and a source of electrical energy having one side connected to said first and fourth means and to said mode selector switch means.

3,195,673
VEHICLE ROAD SPEED CONTROL MECHANISM

James R. Cassano and William E. Fritz, Rochester, N.Y., assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed July 31, 1963, Ser. No. 299,037
5 Claims. (Cl. 180—82.1)

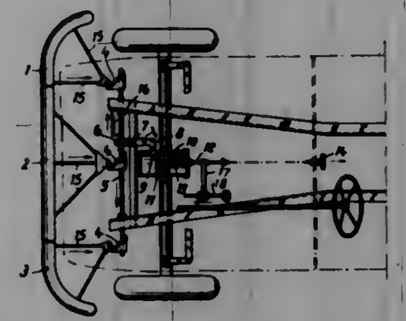


1. A vehicle road speed maintaining control comprising; a fluid pressure first system including, first and second sources of differential fluid pressure, a servomotor having a power wall and first and second fluid pressure chambers separated thereby, means for connecting said power wall to the vehicle engine throttle valve to increase and decrease vehicle speed by power movement of said power wall, first conduit means having a restrictive fluid flow connection with said first pressure source and a variable orifice connection with said second pressure source and connected to said servomotor first chamber, hysteresis actuated orifice control means including a hysteresis actuator for controlling said orifice and having reference speed means for imparting a reference speed signal to said orifice control means, second conduit means having a restrictive fluid flow connection with said first fluid pressure source and a variable orifice connection with said second fluid pressure source controlled by said orifice control means in inverse relation to control of said first conduit means orifice connection by said orifice control means and connected to said reference speed means and further connected to said servomotor second chamber, first valve means for connecting and disconnecting said first and second servomotor chambers to said second pressure source and having reference speed setting means operable to set said reference speed means concurrently with said disconnecting action, and second valve means for connecting and disconnecting said first pressure source with said first and second conduit means; a second system having a source of energy for powering said first valve means, system energizing and deenergizing control means including means for opening and closing said second valve means and for powering said first valve means from said source of energy to disconnect said first and second servomotor chambers from said second pressure source and for setting said reference speed means when said second valve means is opened; and a vehicle speed sensitive power generator for generating power as a function of vehicle speed and actuating said hysteresis actuator to control said orifice control means cooperatively with said reference speed means to control fluid pressures delivered to said servomotor chambers for maintaining a constant vehicle speed.

3,195,674
BRAKE ACTUATING MECHANISM FOR MOTOR VEHICLE

Daniel Schmidt, Neuss-Weckhoven, Erprather Muhlen, Germany

Filed Apr. 9, 1963, Ser. No. 271,618
Claims priority, application Germany, Mar. 19, 1963, Sch 32,965
7 Claims. (Cl. 180—83)



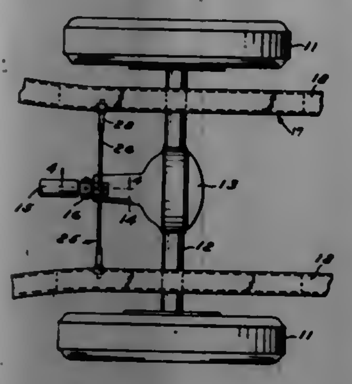
1. A brake actuating mechanism for motor vehicles comprising in combination impact receiving means mounted on the outside of the motor vehicle and adapted to recede upon impact, said impact receiving means having inwardly extending rigid contact arms, a slide rod having inclined contact surfaces adapted to be engaged by said contact arms and operative to move said slide rod transversely of said contact arms, a pressure cylinder, a piston rod mounted in said pressure cylinder and connected to the brakes of the motor vehicle at one end, a piston head on said piston rod at the other end, a spring means placed around said piston rod and adapted to be compressed between said piston head and one end of the piston cylinder, a pivotally mounted locking lever connected to said slide rod and having a nose portion pivotable into said cylinder to engage and lock said piston head in the inoperative position, and manually operable means for actuating said piston rod to compress said spring means, said locking lever being pivoted by said slide rod to disengage said piston head and release said spring means to actuate the vehicle brakes.

3,195,675
SUPPORT MEANS FOR VEHICLE AXLE TO CONTROL MOVEMENT THEREOF WITH RESPECT TO THE VEHICLE CHASSIS

William E. Rudnicki, Detroit, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Oct. 21, 1963, Ser. No. 317,663
4 Claims. (Cl. 180—88)

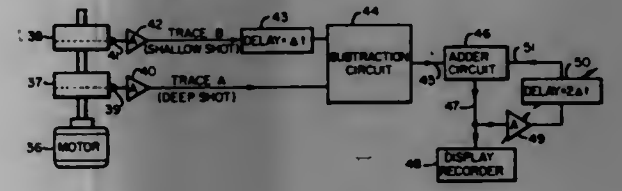
1. A motor vehicle having a frame, road wheels disposed on opposite sides of said frame, a transversely extending axle means interconnecting said road wheels, spring means resiliently supporting said axle means on said frame for rising and falling movement with respect thereto, and cable means extending transversely of said frame, said cable means having its end portions connected to said frame and its center portion directly attached to said axle means at a point longitudinally spaced from the center axis of said axle means.



3,195,676
CANCELLATION OF SECONDARY SEISMIC REFLECTIONS

Joseph D. Eisler and Daniel Silverman, Tulsa, Okla., assignors to Pan American Petroleum Corporation, Tulsa, Okla., a corporation of Delaware

Filed Apr. 25, 1960, Ser. No. 24,355
2 Claims. (Cl. 181—.5)



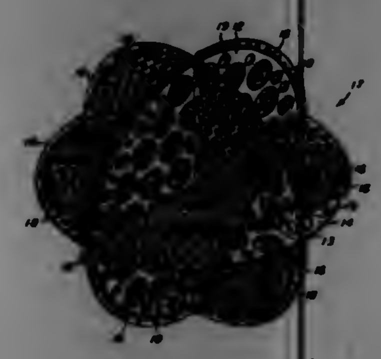
1. In a method of substantially canceling shot-point secondary reflections from a seismic record trace which comprises the steps of

creating seismic waves at at least two substantially different depths in a shot hole,
reproducibly recording a plurality of seismic traces, each trace representing the resulting seismic waves received from one of said depths after travel through the earth to a receiver spaced from said shot hole,
simultaneously reproducing said plurality of traces while time-delaying each shallower-depth trace relative to the greatest-depth trace by a time interval Δt equal to the travel time of compressional seismic waves between said greatest depth and said shallower depth, to place any secondary reflections present in said traces in time coincidence, and
subtracting at least one shallower-depth trace as a subtrahend trace from said greatest-depth trace as a minuend trace, with corresponding wave amplitudes in said traces adjusted to be substantially equal, to produce a remainder trace wherein said secondary reflections have substantially canceled themselves but primary reflections are self-distorted by being subtractively superimposed out of time coincidence in said subtracting step,
the improvement wherein said primary reflections are recovered substantially free of said self-distortion which comprises the steps of
progressively adding said remainder trace and a feedback trace to produce a summation trace, said feedback trace being a reproduction of said summation trace delayed a time interval $2\Delta t$ to place the primary

reflections in said feed-back trace in time coincidence with their occurrences in said subtrahend trace which produced said distortion, whereby due to being of similar amplitude and opposite phase they cancel in said summation trace, and

recording said summation trace as the primary-reflection record trace substantially free of both secondary reflections and primary-reflection distortion.

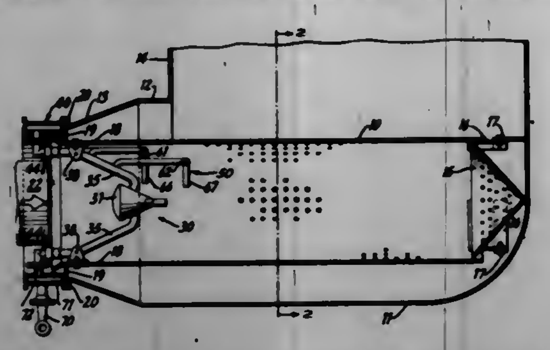
3,195,677
TRIPLANE REFLECTOR WITH CONTROLLED FREQUENCY-DEPENDENT TARGET STRENGTH
Herbert V. Hillery and Frederick O. Bohls, Austin, Tex., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Feb. 28, 1962, Ser. No. 176,881
2 Claims. (Cl. 181—5)



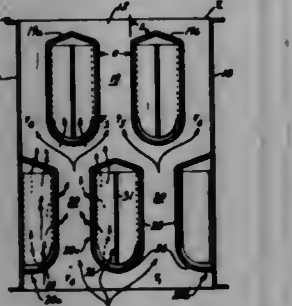
2. A triplane reflector having a predetermined cut-off frequency enabling the reflector to transmit sound waves of a wavelength shorter than cut-off and to reflect sound waves of a wavelength greater than cut-off, said reflector being adapted to serve as an acoustic target in a fluid medium, comprising a plurality of substantially acoustically-inoperative intersecting perforated planar framework members mounted together at respective right angles to one another to define a triplane framework structure, a plurality of flexible acoustically operative perforated planar members each of which is superimposed in mating registry with one of said framework members and connected thereto, said acoustically-operative planar members being composed of a material having a specific acoustic impedance lower than the specific acoustic impedance of the fluid medium in which said triplane reflector is to serve as a target, the diameters of the perforations in each of said perforated planar framework members being considerably in excess of the thickness of each respective planar framework member and the diameters of the perforations in said flexible acoustically-operative planar members being determined in accordance with said predetermined cut-off frequency, the material of said perforated acoustically-inoperative planar framework members being aluminum, the material of said flexible acoustically-operative perforated planar members being cork-neoprene, and the diameter d of said perforations being determined by the formula $d=113/f_{\infty}$ wherein f_{∞} is the cut-off frequency and d is the diameter in centimeters.

3,195,678
AERODYNAMIC COUPLING FOR JET NOISE SUPPRESSORS
James A. Morgan, Wycoff, N.J., and Frederic M. Oran, Riverdale, N.Y., assignors to Industrial Acoustics Company, Inc., New York, N.Y.
Filed Feb. 23, 1962, Ser. No. 175,001
20 Claims. (Cl. 181—33)

1. Coupling means for adapting a jet exhaust sound suppressor to variable diameter jet exhausts comprising a plurality of supports each movably coupled at one end to said suppressor, and a diffuser structure movably coupled to the other end of each support so as to be located substantially within said exhaust and to receive the impact thereof, said movably coupled ends of said supports being located in a region protected by said diffuser structure.



3,195,679
SOUND ATTENUATOR AND METHOD OF PRODUCING SAME
John Duda, Dumont, N.J., Uno Ingard, South Lincoln, Mass., and Frederic M. Oran, Riverdale, N.Y., assignors to Industrial Acoustics Company, Inc., New York, N.Y., a corporation of New York
Filed Feb. 8, 1961, Ser. No. 87,953
11 Claims. (Cl. 181—56)

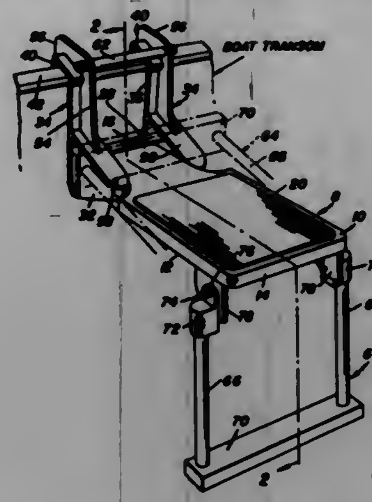


1. Apparatus for attenuating acoustic energy in a fluid stream comprising at least one cell structure including a leading surface and a side surface; means defining a first channel for said fluid stream, said cell structure being disposed within said first channel so that said fluid stream is directed toward said leading surface, and so that the major portion of said fluid stream flows along said side surface; said leading surface having at least one port therein; said side surface having at least one aperture therein; and means for defining a second substantially unobstructed channel coupling said port to said aperture and for bypassing a portion of said fluid stream via said second channel and thereafter injecting the same into said major portion of said fluid stream via said aperture at an increased velocity.

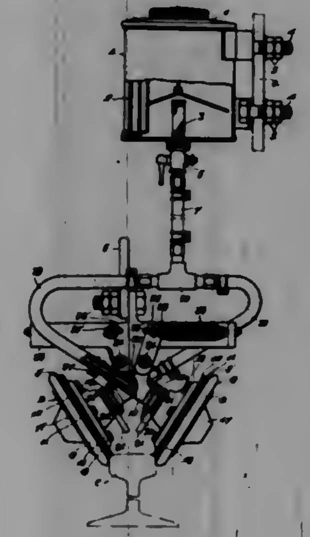
3,195,680
SMALL CRAFT BOARDING PLATFORM
Devoe C. Thornburg and John C. Kelly, Sr., both of Winchester, Ind., said Kelly, Sr., assignor to Devoe C. Thornburg
Filed July 2, 1963, Ser. No. 292,388
4 Claims. (Cl. 182—92)

1. In combination, a pair of opposed spaced parallel attaching units designed and adapted to be mounted in a given vertical position on the outboard surface of a boat transom, a plurality of coordinating upper and lower horizontally disposed platform attaching and retaining bolts carried by and joining said units together, a safety-type boarding platform projecting rearwardly from and lateral to said transom and having a forward end portion constituting an attaching and retaining shank, said shank being fitted between said units and having portions thereof oriented with and located in cooperating relationship with said bolts, a stirrup-like emergency boat boarding ladder comprising a pair of depending rigid legs

straddling said platform and having their upper ends hingedly mounted on a cooperating outer end portion of said platform, said legs being of a length less than the length of said platform and being provided at lower ends thereof with an intervening and cooperatively attached step, said step being of a length greater than the width of said platform and of a transverse cross-section slightly greater than the corresponding cross-section of said legs and constituting and providing a conveniently grippable hand-hold.

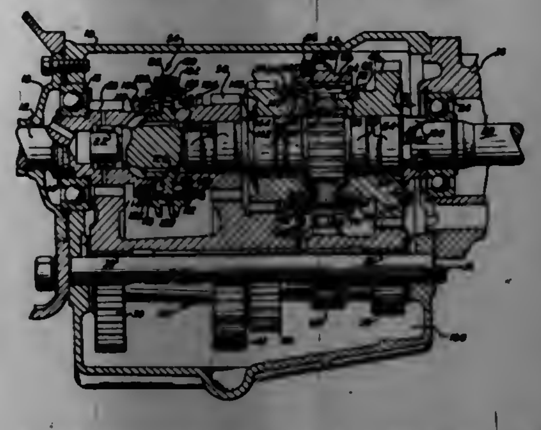


3,195,681
OIL APPLICATOR DEVICE FOR WHEELS AND/OR RAILS
Kiyotaka Hirata, 9–11 1-chome, Kawara-cho, Takamatsu-shi, Kagawa-ken, Japan
Filed Feb. 12, 1963, Ser. No. 257,897
Claims priority, application Japan, Feb. 14, 1962, 37/5,738
6 Claims. (Cl. 184—3)



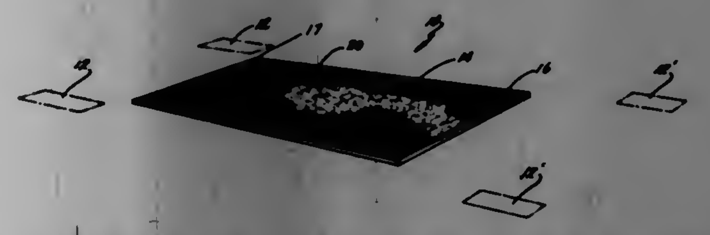
6. An oil applying device for rails comprising an oil supply tank, at least two oil applicator units positioned to apply oil to the opposite edges of a rail,
  branched line means for feeding oil from said tank to each of said applicator units,
  each of said branched line means including a flexible pipe section intermediate between the applicator unit and the branch of said line,
  a first connector means for attaching said oil supply tank to a vehicle operating on said track,
  a second connector means to pivotally attach the ends of the branch lines beyond the flexible section to another and lower portion of said vehicle to position said applicators for contact with said rail,
  spring and lever means between said applicator units and said second connector means to releasably press said applicator units against the edges of said rail.

3,195,682
LUBRICATING MEANS FOR BEARINGS
Josef Reneerkens, Bensberg-Refrath (Rhine), Germany, assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 21, 1962, Ser. No. 246,606
13 Claims. (Cl. 184—11)



1. In a transmission having a rotatable shaft and a gear rotatably mounted on bearing means on said shaft, means for lubricating said bearing means, said means including fluid pumping means secured to and rotatable with said shaft, a source of lubricating fluid connected to said pumping means, and means on said pumping means directing said fluid to said bearing means, said latter means including a slot extending across the periphery of said pumping means and being inclined towards said bearing means, said slot along its length being open to communication with said lubricating fluid.

3,195,683
METHOD AND DEVICE OF OIL COLLECTION AND DISPOSAL
William W. Peterson and Oliver N. Gregg, Grand Rapids, Mich., assignors to Compositions Incorporated, Grand Rapids, Mich., a corporation of Michigan
Filed Feb. 13, 1963, Ser. No. 258,230
3 Claims. (Cl. 184—106)

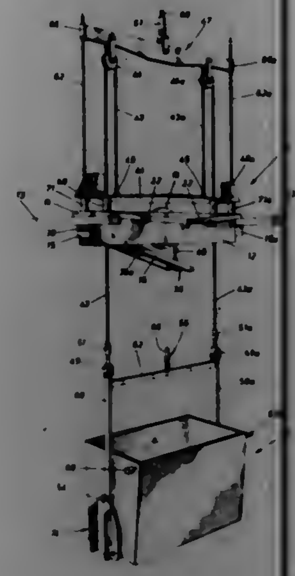


1. A method of neatly collecting and disposing of waste oil comprising the steps of: forming a mixture of cellular, expanded particulate refractory with a water-repellent binder; compressing the refractory and binder into a porous, oil-absorbent, water-repellent element; supporting said element in an area where oil is prevalent, to contact said oil for a period of time; and burning said waste oil out of said element, for reuse of said element.

3,195,684
CROSSHEAD FOR SKIP HOISTS
Roderick Thompson MacAlpine, R.R. 3, Fenelon Falls, Ontario, Canada
Filed Feb. 4, 1963, Ser. No. 256,046
6 Claims. (Cl. 187—96)

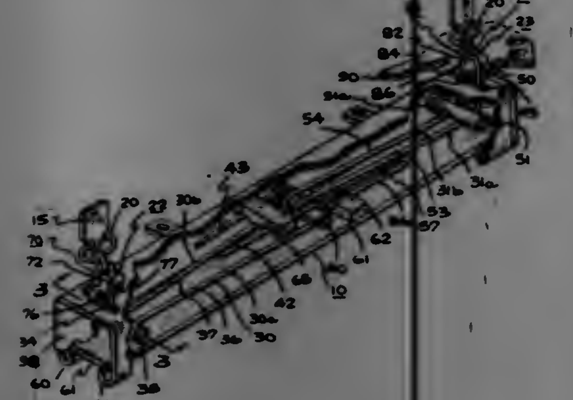
1. A crosshead for use in a mine shaft in combination with a skip, guide means extending from the upper extremity of said shaft to a point above the bottom of the shaft for guiding and stabilizing the travel of the crosshead within the shaft, and stationary support means disposed in the shaft at the level of the lower extremity of said guide means comprising, locking means carried by said crosshead for engaging said support means in positive locked engagement and for simultaneously disengag-

ing the skip from the crosshead upon abutment of the crosshead with said support means in its downward travel, means for lowering the skip to the bottom of the shaft and for raising the skip to the crosshead, means actuable by abutment of the skip with crosshead during upward movement of the skip relative to the crosshead for releasing said locking means from engagement with the support means while concurrently positively coupling the skip with the crosshead for travel together in the guided portion of the shaft, and hoisting means for raising and lowering the skip and crosshead in the shaft.



3,195,685
DEVICE AND METHOD FOR DECELERATING MOVING MASSES

Fred J. Blackstone, 25 Draper, Plattsburgh, N.Y.
Filed June 13, 1963, Ser. No. 287,540
8 Claims. (Cl. 188—1)



1. A device attachable by two straps to opposite sides of a deceleratable mass, said device comprising a housing, bearings carried by said housing, a central shaft and two end shafts, said shafts being freely rotatable in said bearings, two elongated U-shaped wires which are stiff but

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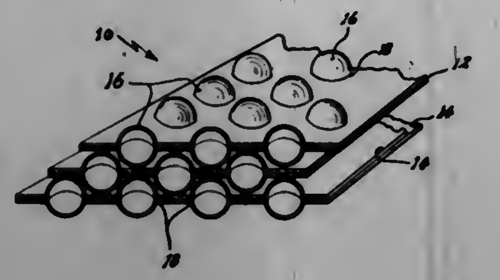
3,195,686
ENERGY ABSORBENT STRUCTURE

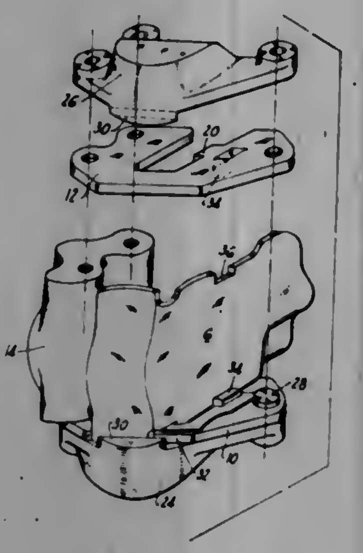
Richard M. Johnson, Dallas, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 27, 1964, Ser. No. 347,981
2 Claims. (Cl. 188—1)



1. A device for absorbing energy on impact comprising a plurality of uniform hollow spheres, layers of flat material having holes therein, said holes being arranged in a geometric pattern to hold said spheres in a sandwiched relation so that each of said spheres in a layer of spheres not in the outer periphery of said device is in contact with eight other spheres in adjacent layers of spheres.

3,195,687
CALIPER FOR DISC BRAKES

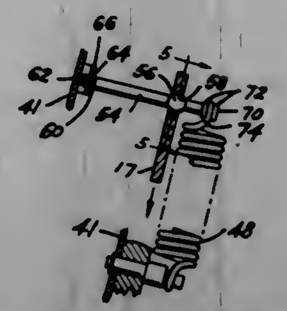
René Alphonse Louis Thirion, Paris, France, assignor to Société Anonyme D.B.A., Paris, France, a company of France
Filed Dec. 18, 1962, Ser. No. 245,559
Claims priority, application France, Jan. 5, 1962, 883,996
3 Claims. (Cl. 188—73)



1. In a disc brake having a rotatable disc, a caliper

3,195,688
SHOE RETRACTING MECHANISM

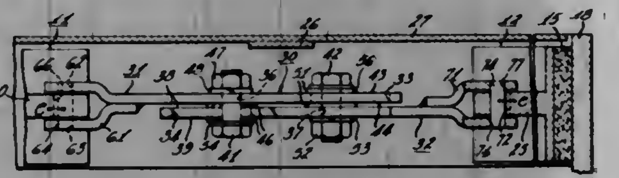
Rudolph A. Goepfrich, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Continuation of application Ser. No. 73,794, Dec. 5, 1960. This application Sept. 20, 1962, Ser. No. 226,768
8 Claims. (Cl. 188—78)



1. A drum brake comprising: a backing plate including support ledges, a pair of friction-material-lined arcuate T-section brake shoes slidably supported on said ledges and having adjacent ends, actuating means disposed between each of said adjacent ends, anchoring means disposed between each of said adjacent ends, an opening in the webs of each of said shoes adjacent each end thereof, four levers each of which is transversely received through a respective opening, each of said levers having a curved protuberance defining a bearing engaging the wall of its respective opening, said backing plate having retaining means receiving one lever end of each of said levers, said retaining means comprising an aperture for each of said one lever ends, each of said one lever ends comprising a round boss engaging the undersurface edge of its respective aperture for pivotal movement thereat, each lever having a second lever end projecting from said shoe web in a direction away from said backing plate, and four return springs each of which is fastened in tension between a respective second lever end and a stationary part of the brake, whereby a retractile force is imparted through said bearings to said shoes urging each shoe to its retracted position defined by engagement with said anchoring means.

3,195,689
MECHANICAL TYPE AUTOMATIC BRAKE ADJUSTER

Neil J. Ryskamp, Markham, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed May 31, 1963, Ser. No. 284,587
6 Claims. (Cl. 188—79.5)



1. An automatic adjuster for a brake of the type having a pair of floatingly mounted semicircular brake shoes adapted to be moved away from one another in one direc-

ment with said surfaces includi mounted on said other slide memb with and extending through said

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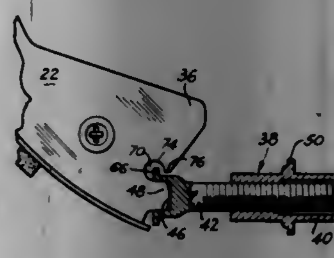
3,195,690
ADJUSTING STRUT AND CONNECTIO

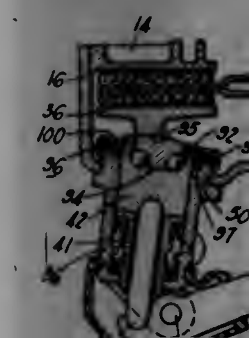
Donald D. Johannesen, Travis Ge E. Prather, South Bend, Ind., a Corporation, South Bend, In Delaware
Filed Dec. 19, 1963, Ser.
9 Claims. (Cl. 18



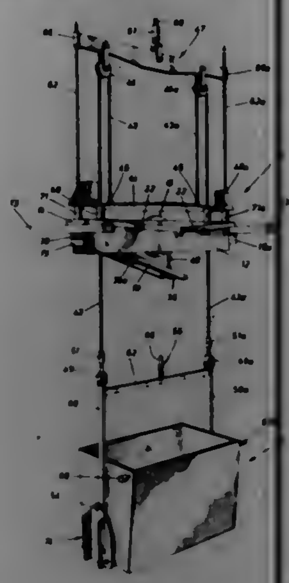
9. In a brake, a pair of brake to end relationship, a strut betwe shoe ends, one of said shoe ends said strut having cooperating ab said one ends having an openin said one ends having a portion fi ing into said opening, a portion defines said opening embracing and arranged relative thereto to f between and retain such projectin ing and thereby secure said one e one end of one of said shoes, and necting the other end of said str ends on the other shoe.

3,195,691
ACTUATOR FOR D

Richard T. Burnett, South Bend, Bendix Corporation, South Ben Delaware
Application Aug. 8, 1960, Ser. N No. 3,096,855, dated July 9, 1 of application Ser. No. 403,67 Patent No. 2,955,681, dated O and this application Dec. 13,
1 Claim. (Cl. 18



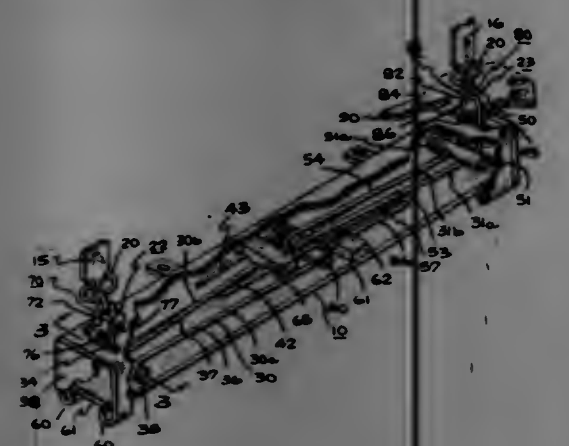
ing the skip from the crosshead upon abutment of the crosshead with said support means in its downward travel, means for lowering the skip to the bottom of the shaft and for raising the skip to the crosshead, means actuable by abutment of the skip with crosshead during upward movement of the skip relative to the crosshead for releasing said locking means from engagement with the support means while concurrently positively coupling the skip with the crosshead for travel together in the guided portion of the shaft, and hoisting means for raising and lowering the skip and crosshead in the shaft.



3,195,685

DEVICE AND METHOD FOR DECELERATING MOVING MASSES

Fred J. Blackstone, 25 Draper, Plattsburgh, N.Y.
Filed June 13, 1963, Ser. No. 287,540
8 Claims. (Cl. 188—1)

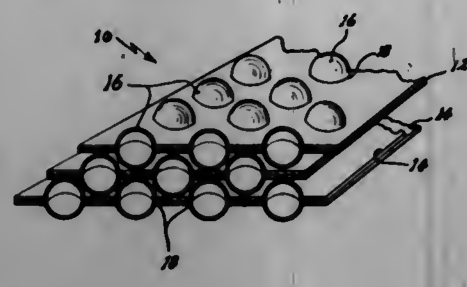


1. A device attachable by two straps to opposite sides of a deceleratable mass, said device comprising a housing, bearings carried by said housing, a central shaft and two end shafts, said shafts being freely rotatable in said bearings, two elongated U-shaped wires which are stiff but deformable, two attachment fittings for connecting one of said straps to one of said wires at the base of the U-shape of said wires, said wires having intermediate portions bent about said central shaft, one of said wires being guided by one end shaft, the other of said wires being guided by the other end shaft, guide means constraining said intermediate portions of said wires about said central shaft, the free end portion and the portion of each wire connected to the attachment fitting being on the same side of said central shaft, whereby when the decelerating mass imposes forces on said wires, the forces on said central shaft are in opposite directions, tending to rotate the central shaft in the same direction so as to minimize binding of the wires on the central shaft.

3,195,686

ENERGY ABSORBENT STRUCTURE

Richard M. Johnson, Dallas, Tex., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Air Force
Filed Feb. 27, 1964, Ser. No. 347,981
2 Claims. (Cl. 188—1)

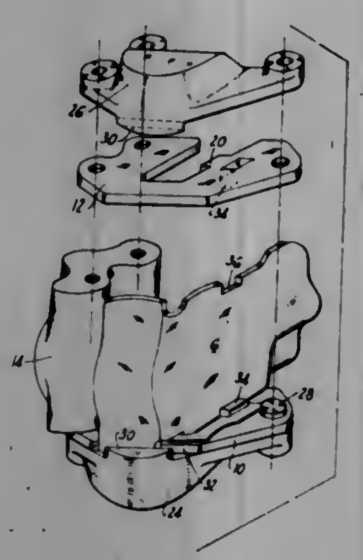


1. A device for absorbing energy on impact comprising a plurality of uniform hollow spheres, layers of flat material having holes therein, said holes being arranged in a geometric pattern to hold said spheres in a sandwiched relation so that each of said spheres in a layer of spheres not in the outer periphery of said device is in contact with eight other spheres in adjacent layers of spheres.

3,195,687

CALIPER FOR DISC BRAKES

René Alphonse Louis Thirion, Paris, France, assignor to Société Anonyme D.B.A., Paris, France, a company of France
Filed Dec. 18, 1962, Ser. No. 245,559
Claims priority, application France, Jan. 5, 1962, 883,996
3 Claims. (Cl. 188—73)

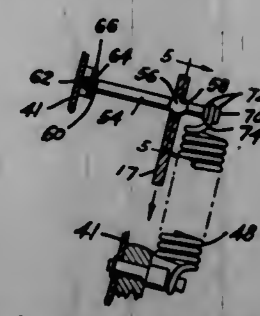


1. In a disc brake having a rotatable disc, a caliper comprising: a cylinder housing on at least one side of said disc, a pair of circumferentially spaced generally C-shaped sheet metal yoke members embracing said cylinder housing and straddling said rotor, means embraced by said yoke members and interconnecting said yoke members on the other side of said disc, a pair of circumferentially spaced generally C-shaped castings straddling said rotor and engaging a respective one of said yoke members, said castings being substantially thicker than said yoke members to provide reinforcement therefor, said castings embracing said yoke members, and means securing said castings and yoke members to said cylinder housing on one side of said disc and to said interconnecting means on the other side of said disc.

3,195,688

SHOE RETRACTING MECHANISM

Rudolph A. Goepfrich, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Continuation of application Ser. No. 73,794, Dec. 5, 1960. This application Sept. 20, 1962, Ser. No. 226,768
8 Claims. (Cl. 188—78)

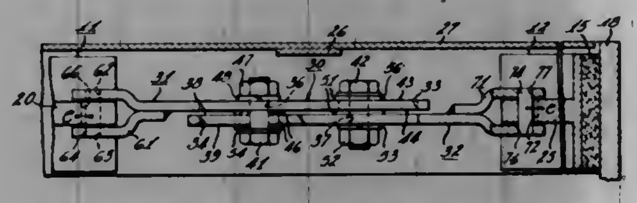


1. A drum brake comprising: a backing plate including support ledges, a pair of friction-material-lined arcuate T-section brake shoes slidably supported on said ledges and having adjacent ends, actuating means disposed between each of said adjacent ends, anchoring means disposed between each of said adjacent ends, an opening in the webs of each of said shoes adjacent each end thereof, four levers each of which is transversely received through a respective opening, each of said levers having a curved protuberance defining a bearing engaging the wall of its respective opening, said backing plate having retaining means receiving one lever end of each of said levers, said retaining means comprising an aperture for each of said one lever ends, each of said one lever ends comprising a round boss engaging the undersurface edge of its respective aperture for pivotal movement thereat, each lever having a second lever end projecting from said shoe web in a direction away from said backing plate, and four return springs each of which is fastened in tension between a respective second lever end and a stationary part of the brake, whereby a retractile force is imparted through said bearings to said shoes urging each shoe to its retracted position defined by engagement with said anchoring means.

3,195,689

MECHANICAL TYPE AUTOMATIC BRAKE ADJUSTER

Nell J. Ryskamp, Markham, Ill., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed May 31, 1963, Ser. No. 284,587
6 Claims. (Cl. 188—79.5)

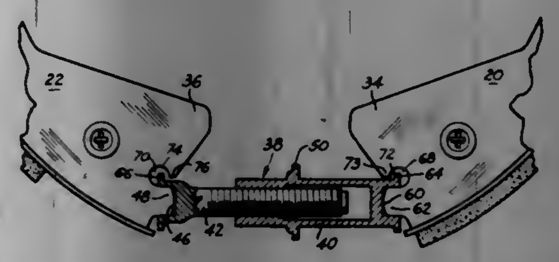


1. An automatic adjuster for a brake of the type having a pair of floatingly mounted semicircular brake shoes adapted to be moved away from one another in one direction into frictional engagement with a brake drum, said adjuster comprising: first and second elongated slide members having adjacent end portions in juxtaposed relation to one another and remote end portions adapted for pivotal connection with said shoes, respectively, with lost motion in said one direction, a pair of parallel friction surfaces formed on opposite sides of one of said slide members and extending in said one direction, walls transverse to said surfaces defining a slot in said one slide member in interrupting relation to said surfaces, said slot being elongated in said one direction, a pair of nonmetallic friction washers having flat faces in frictional engagement with said surfaces, respectively, and fastening means holding said washers in frictional engagement with said surfaces including a tension member mounted on said other slide member for movement therewith and extending through said washers and slot.

3,195,690

ADJUSTING STRUT AND BRAKE SHOE CONNECTION

Donald D. Johannesen, Travis George Budd, and Edwin E. Prather, South Bend, Ind., assignors to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Dec. 19, 1963, Ser. No. 331,770
9 Claims. (Cl. 188—79.5)

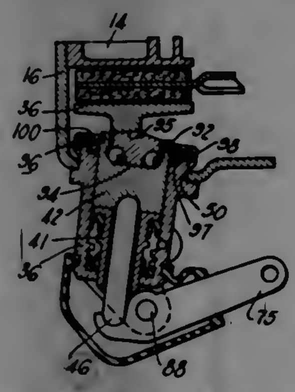


9. In a brake, a pair of brake shoes arranged in end to end relationship, a strut between one pair of adjacent shoe ends, one of said shoe ends and one of the ends of said strut having cooperating abutting surfaces, one of said one ends having an opening therein, the other of said one ends having a portion fixed thereto and projecting into said opening, a portion of said one end which defines said opening embracing said projecting portion and arranged relative thereto to form an interlock therebetween and retain such projecting portion in said opening and thereby secure said one end of said strut to said one end of one of said shoes, and means operatively connecting the other end of said strut to the other of said ends on the other shoe.

3,195,691

ACTUATOR FOR DISK BRAKE

Richard T. Burnett, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Application Aug. 8, 1960, Ser. No. 48,160, now Patent No. 3,096,855, dated July 9, 1963, which is a division of application Ser. No. 403,672, Jan. 13, 1954, now Patent No. 2,955,681, dated Oct. 11, 1960. Divided and this application Dec. 13, 1962, Ser. No. 244,526
1 Claim. (Cl. 188—106)

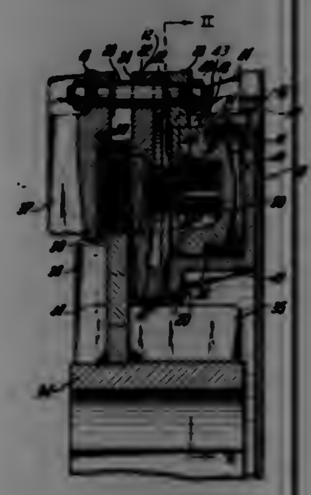


In a disk brake: a rotor, friction means for engaging said rotor, a fluid cylinder housing having a bore therein, a piston T-shaped in cross section slidably mounted in said bore and having the flanged portion in front, a force transmitting member slidable in said bore abutting the front of said piston and operatively connected to said friction means, first sealing means engaging the wall of said bore and attached to said piston for slidable movement therewith, said bore having an end wall at the rear thereof with the rear of said piston extending through an opening in said rear wall, second sealing means interposed between said piston and said wall and located to the rear of said first sealing means, said second sealing means being secured to said wall, said seals forming an expansible chamber therebetween, a fluid inlet for communicating fluid to said chamber whereby fluid force will act on said flange to thrust said piston and force transmitting means forwardly and thereby said friction means into engagement with said rotor, an opening in said piston extending the longitudinal length thereof, a rigid member extending through said opening with the front end of said rigid member having a relative motion connection with said force transmitting member; mechanical actuating means operatively engaging the rear of said rigid member for moving the same and said force transmitting member forwardly and thereby said friction means into engagement with said rotor whereby said friction means is mechanically and fluidly actuated.

3,195,692

FLUID PRESSURE RELEASED BRAKE

Robert Herr, Remscheid, Otto Ortlinghaus and Jürgen Lemp, Wermelskirchen, and Adolf Ortlinghaus, Remscheid, Germany, assignors to Gebr. Ortlinghaus, Wermelskirchen, Germany, a firm
Filed Dec. 24, 1963, Ser. No. 333,036
Claims priority, application Germany, Jan. 29, 1963, O 9,206
9 Claims. (Cl. 188—170)

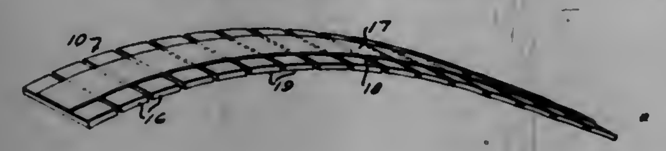


1. A braking arrangement for an intermittently driven machine shaft, comprising, in combination, support means; an annular cylinder fixedly mounted on said support means and having two annular walls, an open end, and a closed end; an annular brake disc rigidly connected with at least one of said annular walls of said annular cylinder, arranged in front of said open end thereof and being formed in an outer border zone thereof with a plurality of angularly spaced apertures, the outer one of said annular walls of said cylinder being at least in part axially spaced from said brake disc; an annular piston fluidtightly guided in said annular cylinder for movement in axial direction while being prevented from turning relative thereto, said piston defining with said closed end of said cylinder a working space, said piston having a plurality of projections projecting in radial outward direction through the space between said brake disc and said outer one of said annular walls of said cylinder beyond the latter; a pressure ring coaxial with said brake disc and located at and spaced from the side thereof facing away from said cylinder; a plurality of connecting means fixedly connecting said pressure ring and said projections for simultaneous movement in axial direction, said connecting means extending respectively through said apertures in said brake disc and being slidably guided therein; a second brake disc secured to said shaft for rotation therewith and engaged between said pressure ring and said annular brake disc; pretensioned springs engaging said annular piston and loading the same in a braking sense; and passage means communicating with said working space between said annular piston and said closed end of said cylinder for feeding pressure fluid into and out from said working space, so that the braking arrangement may be released by feeding pressure fluid into said working space.

3,195,693

BRAKE LINING

Warren H. Parker, 1451 32nd St., Oakland 8, Calif.
Filed Feb. 1, 1963, Ser. No. 255,595
3 Claims. (Cl. 188—251)

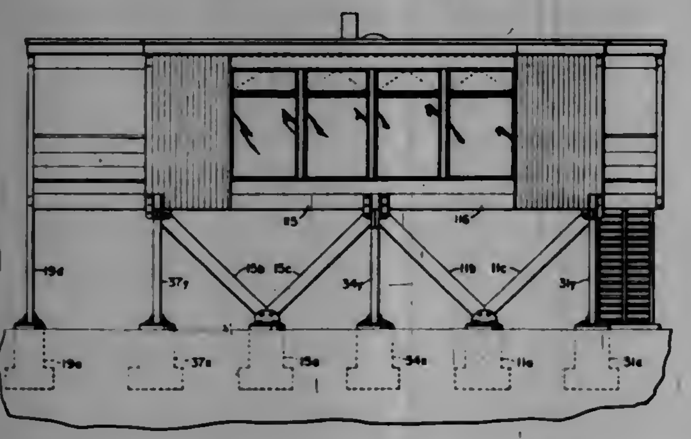


1. A lining for brake shoes having an arcuate brake-lining supporting surface, comprising; a plurality of separate segmental sections having a curved side conforming with said surface; and flexible elastic means securing said sections together in closely-spaced longitudinal alignment and permitting flexure and variable spacing between adjacent sections.

3,195,694

WIND-RESISTANT BUILDING

Antonio P. de Castro, Bedford, Mass., assignor to June D'Augusta, Lexington, Mass.
Filed Aug. 7, 1961, Ser. No. 129,582
3 Claims. (Cl. 189—1)



1. A foundation floor beam assembly for a wind-resistant building comprising floor load-beams, a plurality of transverse rows of sunken piers to each of which are anchored the lower ends of a pair of obliquely positioned load-bearing struts, and a plurality of longitudinal rows of sunken piers to each of which are anchored the lower ends of a pair of obliquely positioned bracing struts; said longitudinal rows being symmetrically positioned in staggered relationship to said transverse rows; the upper ends of said struts being attached to said floor beams; the upper ends of said load-bearing and bracing struts being contiguous to one another; said bracing struts being at right angles to the long dimension of said floor beams; said load-bearing struts being in a substantially vertical plane with their attached floor beam; said struts being otherwise exposed to the atmosphere.

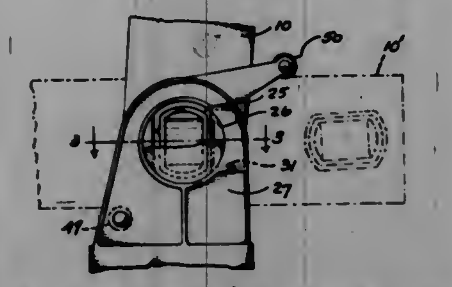
3,195,695

PORTABLE LOGGING TOWER

Maurice J. McIntyre, Sedro Woolley, Wash., assignor to The Humboldt Company, Seattle, Wash., a corporation of Washington
Filed Sept. 28, 1961, Ser. No. 141,465
3 Claims. (Cl. 189—11)

1. A tower structure comprising a base equipped with a cylindrical tower mounting bearing, a tower having its lower end supported by said mounting bearing, said

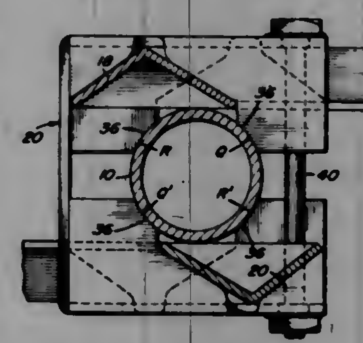
mounting bearing being formed with a horizontal passage leading to one edge thereof, a first horizontal pivot pin secured to the lower end of the tower and adapted to be pivotally contained in said bearing, said passage being of lesser vertical height than the diameter of said bearing from which it leads and said first pin being of cylindrical form with flattened side surfaces in one direction, said flattened side surfaces being in planes parallel with the longitudinal axis of said tower whereby said first pin will only pass through said passage when the tower is in a horizontal position, a second pin pivotally mounting said first pin medially of the ends of said first pin for limited rocking movement by said second pin, and said second pin being so fixed at its opposite ends in the tower as to extend horizontally when the mast is in an upright position of use, and swings to a vertical position with the swinging of the tower to lowered, horizontal position, thus to axially rotate the said first pin for the movement of its diametrically reduced portion through said bearing passages.



3,195,696

ANCHOR SHOE FOR POSTS

Nicholas Stefan, Baltimore, Md., assignor to Anchor Post Products, Inc., Baltimore, Md., a corporation of New Jersey
Filed Jan. 12, 1961, Ser. No. 82,303
1 Claim. (Cl. 189—30.5)

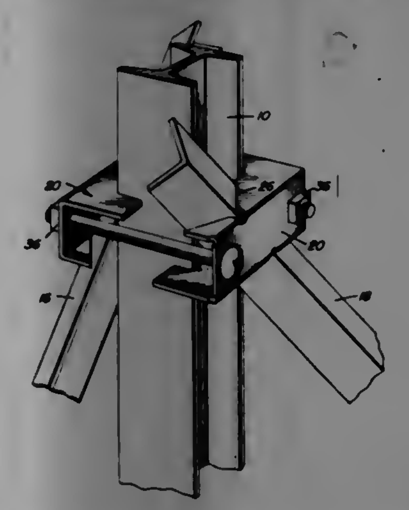


A ground anchored structural device for rigidly holding a structural member having a circular cross section in a fixed position by means of a pair of diagonally positioned stakes, said device including two base channel shaped members and a narrow strip integrally joining one end of each of said channel shaped members together in spaced relationship and having an aperture in the opposite ends of said channel shaped members, with each said channel shaped member having a web and a pair of flanges joined thereto, each said channel shaped member having its pair of flanges positioned inwardly of said web and parallel with each other, with each said flange including a V-shaped notch and an ear, each said ear having an edge of arcuate shape for forming an edge contact with said circular cross section structural member and with each said edge of arcuate shape being positioned between its respective V-shaped notch and an end of its respective channel, a pair of diagonally positioned stakes, said stakes corresponding in shape to said V-shaped notches, with said V-shaped notches and arcuate edges of said ears of said flanges of said channel shaped members being oppositely and diagonally disposed with respect to each other, with one stake being positioned in each of the resulting pair of V-notches on each of the opposite sides of said structural member, in opposite diagonal directions, and bolt means for extending through said apertures in said channel shaped members for tightening the edge contacts of the ears of said channel members against said structural member as well as edge contacts of said stakes against said structural member and said device.

3,195,697

SPLIT ANCHOR SHOE FOR FOUR CORNERED STRUCTURE

John S. Case, Baltimore, Md., assignor to Anchor Post Products, Inc., Baltimore, Md., a corporation of New Jersey
Filed Mar. 22, 1962, Ser. No. 181,707
7 Claims. (Cl. 189—30.5)



1. An anchor shoe arrangement for rigidly holding a multi-cornered structural member in a fixed position by means of diagonally driven stakes, comprising, an anchor shoe having a pair of sections reversed end-for-end with respect to each other for encompassing and clamping a pair of diagonally positioned stakes to a multi-cornered structural member, each said section consisting of a channel shaped structure having a web and parallel extending edge-serrated spaced sides extending from said web, with one end of each side having a first notch with its vertex extending inwardly toward said web and located off-center of each of said sides and extending into the end thereof, the other end of each side having a second notch oriented substantially perpendicularly with said web and opening toward its respective first notch, with said second notches being diagonally disposed relative to each other to receive the corners of said multi-cornered structural member, and means for holding said sections in an operative position adjacent said stakes.

3,195,698

PARTITION STRUCTURES

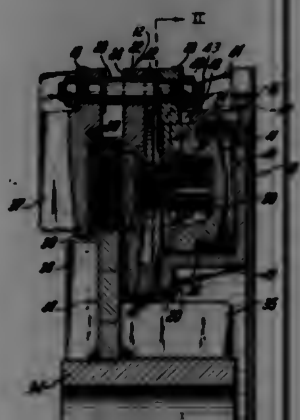
Nicholas D. Codrea, Los Angeles, Calif., assignor, by mesne assignments, to H. B. Rothbard
Filed Apr. 11, 1960, Ser. No. 21,219
2 Claims. (Cl. 189—34)

1. A base structural element for use in inside partition structures containing panels, said element comprising: a relatively long, hollow body member having an open lateral channel formed in each of two opposing sides thereof, each of said channels being adapted to receive and to hold a panel; a lateral opening formed in a third side of the body member, said lateral opening being in communication with the hollow interior of the body member, and the body member being adapted to receive electrical conductors laid within the hollow interior thereof through said lateral opening therein; a lateral closure member separate from said sides defining said channels adapted to cover said lateral opening and define electrical outlets; means on the body member and lateral

to the rear of said first sealing means, said second sealing means being secured to said wall, said seals forming an expansible chamber therebetween, a fluid inlet for communicating fluid to said chamber whereby fluid force will act on said flange to thrust said piston and force transmitting means forwardly and thereby said friction means into engagement with said rotor, an opening in said piston extending the longitudinal length thereof, a rigid member extending through said opening with the front end of said rigid member having a relative motion connection with said force transmitting member, mechanical actuating means operatively engaging the rear of said rigid member for moving the same and said force transmitting member forwardly and thereby said friction means into engagement with said rotor whereby said friction means is mechanically and fluidly actuated.

3,195,692
FLUID PRESSURE RELEASED BRAKE

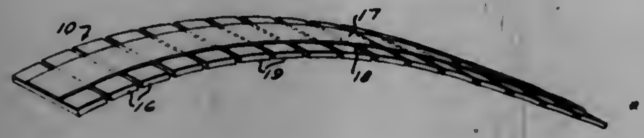
Robert Herr, Remscheid, Otto Ortlinghaus and Jürgen Lemp, Wermelskirchen, and Adolf Ortlinghaus, Remscheid, Germany, assignors to Gebr. Ortlinghaus, Wermelskirchen, Germany, a firm
Filed Dec. 24, 1963, Ser. No. 333,036
Claims priority, application Germany, Jan. 29, 1963, O 9,206
9 Claims. (Cl. 188—170)



sense; and passage means communicating with said working space between said annular piston and said closed end of said cylinder for feeding pressure fluid into and out from said working space, so that the braking arrangement may be released by feeding pressure fluid into said working space.

3,195,693
BRAKE LINING

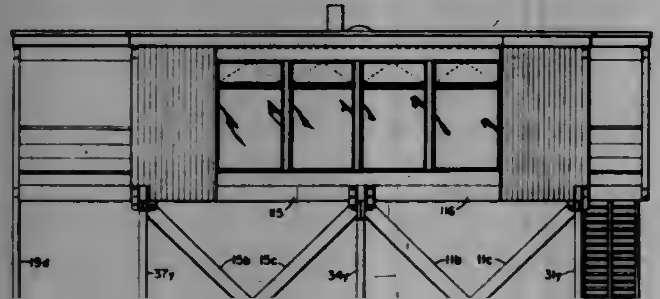
Warren H. Parker, 1451 32nd St., Oakland 8, Calif.
Filed Feb. 1, 1963, Ser. No. 255,595
3 Claims. (Cl. 188—251)



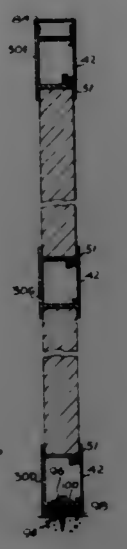
1. A lining for brake shoes having an arcuate brake-lining supporting surface, comprising; a plurality of separate segmental sections having a curved side conforming with said surface; and flexible elastic means securing said sections together in closely-spaced longitudinal alignment and permitting flexure and variable spacing between adjacent sections.

3,195,694
WIND-RESISTANT BUILDING

Antonio P. de Castro, Bedford, Mass., assignor to June D'Augusta, Lexington, Mass.
Filed Aug. 7, 1961, Ser. No. 129,582
3 Claims. (Cl. 189—1)



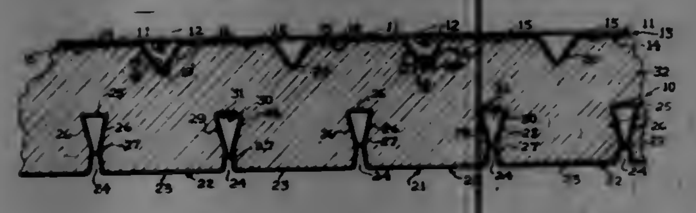
closure member for removably securing the lateral closure member to the body member over the lateral opening of the body member; the body member and lateral closure member being adapted to function as an electrical conduit; and a detachable lip forming one side of



one of said channels formed in the body member, said detachable lip bounding one side of said lateral opening and containing means for receiving and securing said lateral closure member, and said detachable lip being removably secured to the body member within the hollow interior thereof.

3,195,699
INSULATED WALL CONSTRUCTION

Charles Richard Johnston, 80 E. Jackson Blvd., Chicago, Ill.
Filed Jan. 8, 1962, Ser. No. 164,707
5 Claims. (Cl. 189—34)



1. A wall structure formed from aligned insulated wall panels,

(a) each panel composed of a pair of spaced apart parallelly extending sheets of metallic material with the sheets of each panel secured along their longitudinal edges to corresponding sheets of adjacent panels to provide a continuous wall having inner and outer wall surfaces,

(b) the wall surface of each sheet of each panel provided with longitudinally extending spaced apart ribs with the ribs of each sheet extending inwardly from its wall surface in the direction of the wall surface of the other sheet,

(c) flanges provided by opposite longitudinal edges of each sheet of each panel,

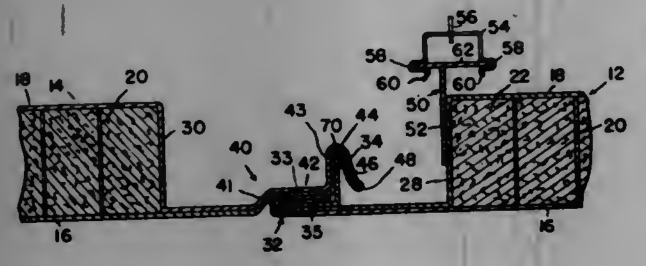
(d) said flanges of each sheet in mating relation with flanges of a confronting longitudinal edge of an adjacent sheet for continuously positioning and connecting the sheets of each adjacent panel together so that the inner and outer wall surfaces thereof are in alignment,

(e) said mating flanges of each sheet cooperating to form end ribs equally-spaced from the ribs formed in the surfaces of each sheet when each sheet of adjacent panels are connected along their longitudinal edge so as to form a continuous wall, and

(f) a core of insulating material between said sheets for bonding said sheets of each panel togther throughout their length and width to form an insulated wall structure of spaced apart parallelly extending inner and outer wall surfaces.

3,195,700
EXPANSIBLE ACOUSTICAL SYSTEM

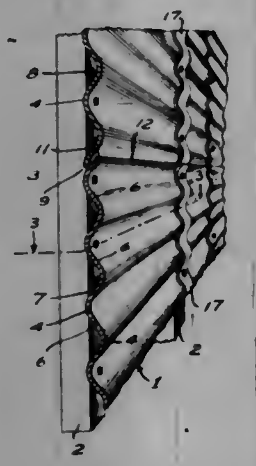
William G. Kemp, Pontiac, Mich., assignor to The Soundlock Corporation, Hazelhurst, Ga., a corporation of Delaware
Filed Apr. 21, 1961, Ser. No. 104,726
17 Claims. (Cl. 189—85)



1. In a ceiling structure composed of individual separable panels arranged edge to edge to form a continuous ceiling, a connection between the edges of adjacent panels, said connection including an upwardly extending flange carried by the edge of one of said adjacent panels, and a downwardly opening hook carried by the edge of the other of said adjacent panels engaged over and supported by said flange, said flange having an extension at right angles thereto, the panel edge by which said flange is carried having a return bent margin defining a channel slidably receiving said flange extension in tight friction contact, and means positively limiting movement of said adjacent panels away from one another.

3,195,701
COOLING TOWER WALL

Everett M. Brazelton, Burlingame, Calif., assignor, by mesne assignments, to Fluor Products Company, Inc., Santa Rosa, Calif., a corporation of California
Filed Apr. 6, 1962, Ser. No. 185,553
1 Claim. (Cl. 189—86)



A cooling tower wall, said wall including a plurality of vertically extending and horizontally spaced frame members, said wall further comprising:

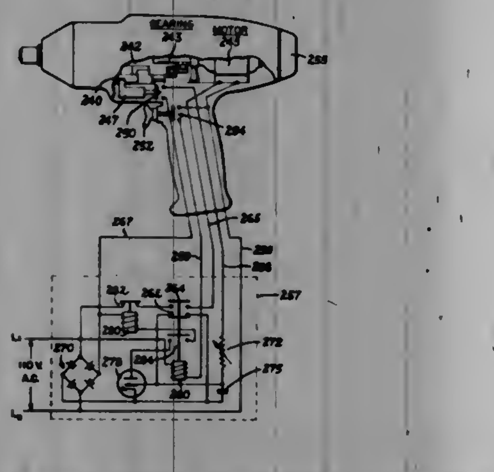
a series of corrugated sheets having the axis of their troughs and crests extending horizontally along said wall, each sheet having two horizontal edges parallel to the axis of the corrugations, the upper of said edges of each sheet terminating in an outwardly projecting lip and the lower edge of each sheet terminating in an inwardly projecting end, the outwardly projecting lip of each corrugated sheet overlapping the end of the next higher sheet outwardly of said horizontally spaced frame members;

strips overlying the abutting edges of horizontally adjacent sheets;

whereby each succeeding higher corrugated sheet may be supported behind the outwardly projecting lip of the next lower sheet during application of said corrugated sheets to said spaced frame members obviating the need for scaffolding during the assembly of said sheets on said spaced frame members.

3,195,702
APPARATUS FOR CONTROLLING TIGHTNESS OF FASTENERS

Robert H. Alexander, Miamisburg, Ohio, assignor, by mesne assignments, to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Nov. 16, 1960, Ser. No. 69,756
14 Claims. (Cl. 192—.096)



1. A rotary impact device comprising a rotary motor, a rotary hammer connected for driving thereof by said motor, an anvil mounted for rotary movement in driving engagement with said hammer, parts acting on said hammer and responsive to deceleration of said hammer to disengage said hammer from said anvil and to provide for acceleration of said hammer producing a subsequent blow on said anvil tending to rotate said anvil, means connected to supply power to said motor including a control arranged to govern the supply of power, and cycle control means connected to said power control operative upon initiation of the striking action of said hammer upon said anvil for terminating the power supply to said motor in response to application of a predetermined amount of energy to said anvil by said hammer.

3,195,703
VERY FAST ACTING ELECTROMAGNETIC FRICTION CLUTCH-BRAKE DRIVE

George E. Comstock 3d, Huntington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed May 17, 1963, Ser. No. 281,093
7 Claims. (Cl. 192—84)

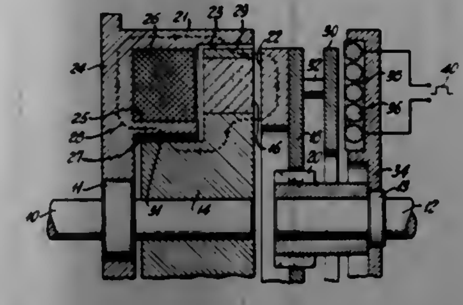
1. An electromagnetic friction clutch-brake drive comprising,

a first clutch plate including means for rotational support of the plate,.

a second clutch plate including means for rotational support so that the second clutch plate is axially movable over a predetermined gap for engagement with said first clutch plate,

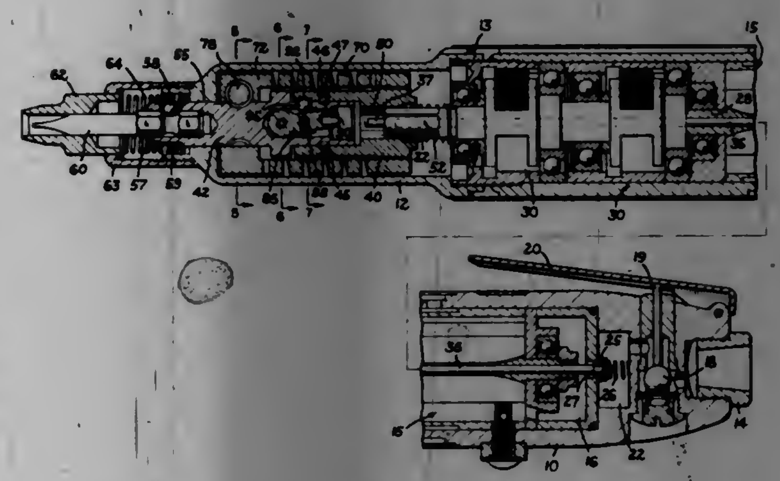
means for establishing electromagnetic flux extending across the gap between said first and second plates for moving said second plate into engagement with said first plate, and

means for establishing a pulsed magnetic field extending to said second clutch plate to induce eddy currents therein to momentarily supplement the electromagnetic flux bringing the first and second clutch plates into engagement.



3,195,704
TORQUE RESPONSIVE CONTROL FOR MOTOR DRIVEN TOOL

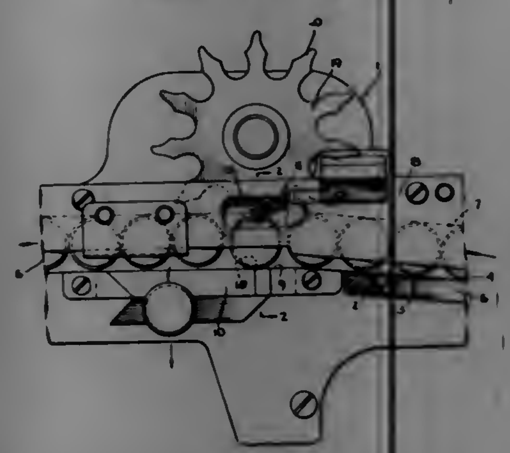
Eugene Linsker, Dayton, Ohio, assignor to Rockwell Manufacturing Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 2, 1962, Ser. No. 214,293
10 Claims. (Cl. 192—150)



1. A power fastener driving tool having a torque responsive control, comprising a motor, control means for the supply of power to said motor, a drive shaft rotatable by said motor, a drive body connected to said drive shaft for rotation therewith and for movement along the axis of rotation of said drive shaft, a driven body mounted for relative rotation with respect to said drive body and having an adapter for holding a tool such as a fastener driver bit, a control rod having one end adapted to operate said power supply control means and terminating at its other end adjacent to said driven body, a torsion spring connected at opposite ends to said drive body and to said driven body to resist relative rotation therebetween with a predetermined force, a release member carried by said driven body and having a pocket in one end thereof for receiving said other end of said rod, means normally cocking said release member to a position offset from said rod for causing an edge of said release member to engage said rod and to push said rod for actuating said power supply control means to initiate operation of said motor, and a means for sensing relative rotation between said driving body and said driven body in response to overcoming the resisting force of said spring and for causing said release member to move until its said pocket is aligned to receive said other end of said rod allowing a power shutoff movement of said rod.

3,195,705
AUTOMATIC CLOSURE CAP SELECTOR

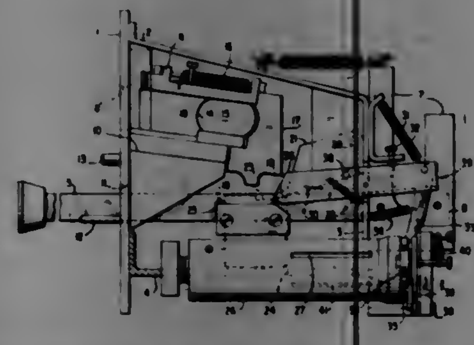
Charles S. Ochs and Joseph C. Runco, Lancaster, Ohio, assignors to Anchor Hocking Glass Corporation, Lancaster, Ohio, a corporation of Delaware
Filed Sept. 18, 1962, Ser. No. 224,410
12 Claims. (Cl. 193—43)



1. A selector for articles having spaced circular edges with one edge having a greater diameter than the other comprising the combination of a channel for guiding a moving line of said articles and being inclined from the horizontal in a transverse direction, a guide rail along the lowermost edge of said channel for engaging and supporting the sides of articles moving through said channel, and a pressure means on the uppermost edge of said channel positioned to engage the uppermost circular edge of each article on the inclined channel whereby those articles having their greater diameter uppermost are tilted with respect to said channel and pass out of the channel over said guide rail under the force of gravity.

3,195,706
COIN CONTROLLER FOR GAMES AND THE LIKE

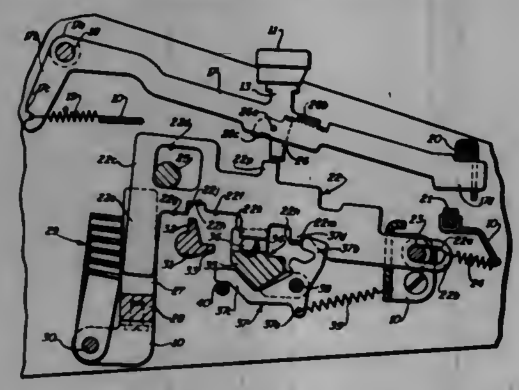
Xaver Leonhart, Aufhausen an der Isar, Germany
Filed July 23, 1963, Ser. No. 297,053
Claims priority, application Germany, July 27, 1962, L 42,560
5 Claims. (Cl. 194—55)



1. A coin controller for vending machines comprising, a housing, an operating bar mounted for longitudinal displacement in said housing, a plurality of coin-receiving slots in said housing, each adapted to receive a single size coin of different denomination, first coin-retainer means mounted on said operating bar and adapted to receive coins of smaller denominations from certain of said plurality of coin-receiving slots, second coin-retainer means mounted on said operating bar and adapted to receive larger denomination coins from another of said coin-receiving slots, a lever pivoted intermediate its ends on said housing and disposed in the path of movement of said second coin-retainer means and adapted to be pivoted by a coin of larger denomination projecting from said second coin-retainer means, a flap pivoted to said housing in the path of movement of said first coin-retainer means, said flap connected to normally block longitudinal displacement of said operating bar and adapted to be pivoted by coins of smaller denomination projecting from said first coin-retainer means out of blocking position, means connected to open said first coin-retainer means to release the coins therefrom on longitudinal displacement of said operating bar, means connecting said lever and flap whereby said flap is moved from said blocking position upon pivoting of said lever to permit longitudinal displacement of said operating bar, blocking surface means having a slot positioned below and spaced longitudinally from said second coin-retainer means, a pawl connected to said lever, ratchet means connected to said blocking surface means and cooperating with said pawl whereby the slot of said blocking surface means is moved one step toward registration with said second coin-retainer means to open the same and release the coins therefrom through the slot each time said operating bar is moved longitudinally.

3,195,707
KEYLEVER SIGNAL STORING MECHANISM

John M. Reynard, Tariffville, Conn., assignor to Royal McBee Corporation, New York, N.Y., a corporation of New York
Filed July 16, 1962, Ser. No. 209,869
19 Claims. (Cl. 197—16)

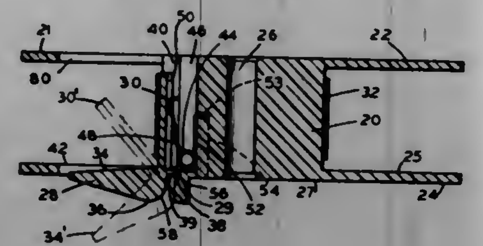


1. In a keyboard for a writing machine, in combination,
a frame,
a plurality of key levers pivotally mounted on said frame,
an actuating finger on each of said levers,
an interposer for each of said levers pivotally mounted on said frame beneath said levers respectively, and adapted to be engaged and pivoted by a key lever finger upon depression of its key lever,
a horizontal fulcrum shaft mounted on said frame beneath said interposers,
a horizontal clutch actuating bar movably mounted on said frame beneath said interposers,
and means on said shaft operable upon downward pivotal movement of any one of said interposers to latch said one interposer and to effect clutch actuating movement of said bar.

3,195,708
ONE PIECE RIBBON SPOOL HAVING AN INTEGRALLY MOLDED REVERSING TRIP

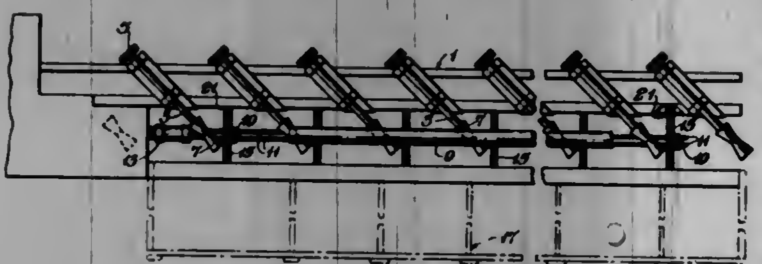
Henry J. Bledinger, Syracuse, N.Y., assignor to The Syracuse Stamping Company, Inc., Syracuse, N.Y., a corporation of New York
Filed July 29, 1963, Ser. No. 298,091
4 Claims. (Cl. 197—175)

1. A one piece inked ribbon spool of pliable resilient plastic having a cylindrical drum, and an integral side flange with a planar inside face, a groove in the surface of said drum extending parallel to the spool axis and extending to the inside plane of said side flange, said groove having spaced side slits extending to the outside surface of the flange defining a hinge membrane portion lying in the plane of said side flange, an aperture in the side flange extending radially outwardly from the groove and said slits, an L shaped reverse trip having an arm adapted to lie in said groove beneath a convolution or more of ribbon wound on the drum and a radially outwardly extending pad adapted to lie in said aperture and disposed at right angles to said arm and joining said arm in a knee, said knee being integrally joined to the spool radially inward of said arm by the membrane portion formed between said slits.



3,195,709
CONVEYOR AND ARTICLE TRANSFER DEVICE

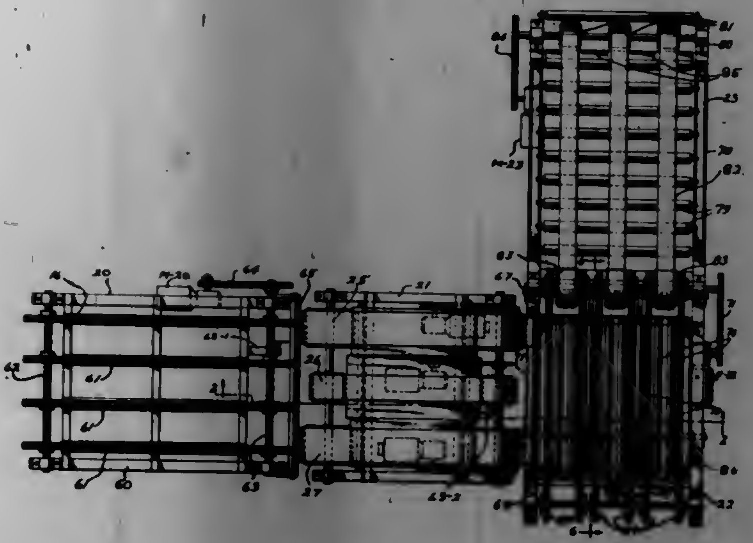
Willis J. Physioc III, Boonsboro, Md., assignor, by mesne assignments, to The Pangborn Corporation, Hagerstown, Md., a corporation of Delaware
Filed Sept. 28, 1962, Ser. No. 226,867
1 Claim. (Cl. 198—27)



An article conveyor and discharge assembly for feeding successive articles comprising an elongated conveyor stand, a plurality of spaced-apart conveying means supported along the top of the conveyor stand, means supported below and between the article conveying means for raising the article being conveyed to a position above and out of the contact with the conveying means, said article raising means having a slanted top surface whereby the raised articles roll down said slanted surface, article collecting means positioned adjacent the conveyor for receiving the articles discharged from the article raising means, actuating means connected with the article raising means for raising and lowering the article raising means, said article raising means comprising an elongated tie bar, a plurality of plate members pivotally connected at spaced points to said tie bar and said conveyor stand, the top edge of each plate member tapering downwardly toward said article collecting means, said actuating means being connected to said tie bar, said actuating means raising said plate members in an arcuate path opposed to the direction of the article travel to raise the leading articles of successive articles above said conveying means, and lowering said plate members in the direction of the article travel to give the oncoming articles an extra push in their normal direction of travel to prevent jamming of said oncoming articles, and said actuating means including a pressure cylinder secured to one end of said tie bar and timing means connected to said pressure cylinder to regulate the raising and lowering of said plate members.

3,195,710
EQUIPMENT FOR ARRANGING PACKAGES

Norman M. Robinson, Coatesville, Pa., assignor to Certain-Teed Products Corporation, Ardmore, Pa., a corporation of Maryland
Filed July 9, 1963, Ser. No. 293,681
7 Claims. (Cl. 198—33)



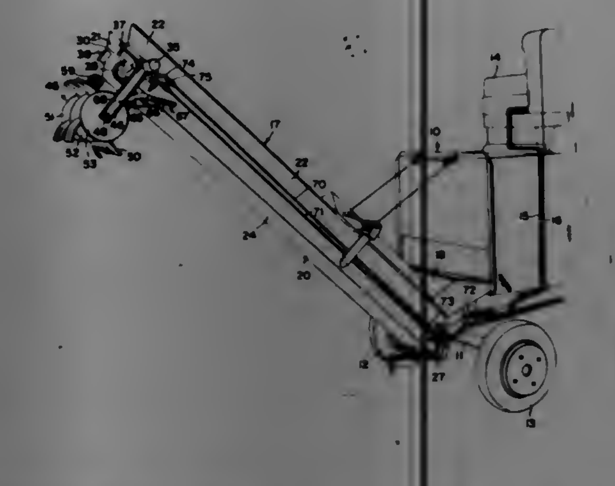
1. A mechanism for selectively orienting packages comprising three conveyors mounted in generally side by side relation, said conveyors being adapted to receive packages from an input station and to deliver them in desired orientation to an output station, the two outboard conveyors of said three conveyors having their package supporting surfaces, positioned at substantially the same level, said outboard conveyors being spaced apart a distance greater than the width of a package to be oriented and less than the length of such a package, the inboard conveyor of said three conveyors having its package supporting surface positioned at a level lower than that of the other conveyors, power means connected with each of said conveyors for normally moving the package supporting surfaces thereof toward said output station, including means for moving the package supporting surfaces of the outboard conveyors at substantially the same speed, and mechanism for selectively altering the relative speed of the package supporting surface of one of said outboard conveyors, with respect to the speed of the other outboard conveyor.

3,195,711
ELEVATOR DRIVE AND DISTRIBUTOR

Alexander Bogdan, East Moline, Frank D. Jones, Moline, and James D. Wilkins, Geneva, Ill., assignors to Deere & Company, Moline, Ill., a corporation of Delaware
Continuation of abandoned application Ser. No. 104,714, Apr. 21, 1961. This application July 3, 1963, Ser. No. 295,589
3 Claims. (Cl. 198—103)

1. A discharge elevator for use with a harvester movable forwardly over the ground, comprising: an elongated and rigid elevator housing extending from a lower material intake end adjacent to and for receiving material from the harvester to an upper discharge end remote from the harvester, the housing being composed of oppositely disposed upright side walls interconnected by laterally disposed wall means; means mounting the lower end of the housing on the harvester; a sprocket drive shaft extending between the side walls at the upper end of the housing; a sprocket shaft extending between the side walls at the intake end of the elevator; sprockets mounted on the sprocket shafts; a chain conveyor mounted over the sprockets; a rotary type hydraulic motor supported on the elevator housing adjacent its upper end and drivingly connected to the upper drive shaft; hydraulic conduit means mounted on the side walls and extending from the harvester to the hydraulic motor at the upper end of

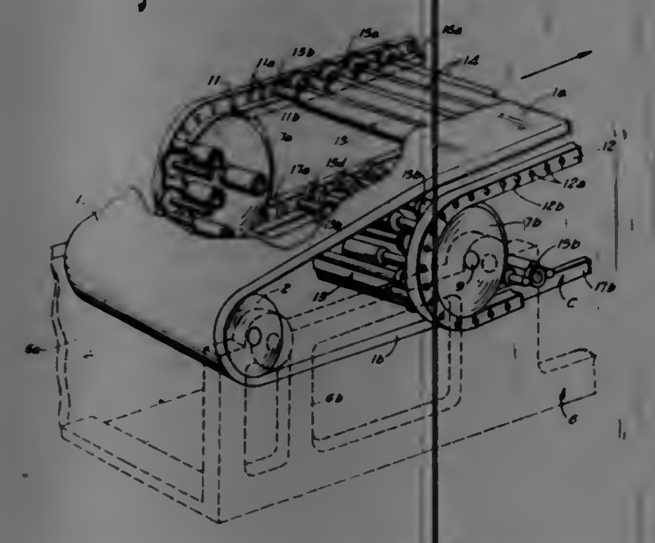
the elevator; a rotary distributor disposed beneath the discharge end of the elevator housing for receiving material gravitating therefrom composed of a horizontal shaft, a series of angularly spaced radial arms on the horizontal shaft, and a series of axially spaced radial discs mounted on the horizontal shaft between the radial arms; structure depending from opposite sides of the elevator housing



for supporting the rotary distributor; and a drive mechanism extending from the drive shaft of the elevator to the horizontal shaft for effecting rotation of the latter and at a rate permitting portions of the material to pass between the arms and to contact the arms at varying radial distances from the shaft to thereby vary the distance of throw by the arms.

3,195,712
MOVABLE CONVEYOR-TYPE STRIP FOR PEDESTRIANS

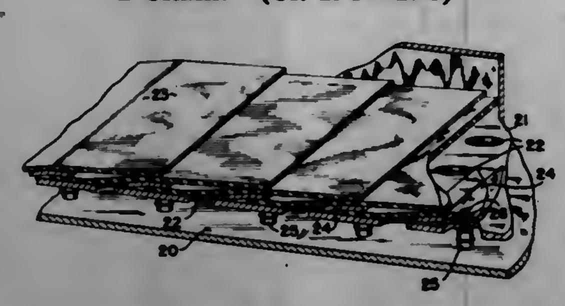
Antonio Boschi, Milan, Italy, assignor to Pirelli S.p.A., Milan, Italy
Filed May 28, 1962, Ser. No. 197,976
Claims priority, application Italy, June 7, 1961, 10,487/61
5 Claims. (Cl. 19[illegible]—184)



1. A conveyor apparatus comprising a movable endless belt forming a load-conveying run, motor means for driving said belt, a plurality of rollers having end sections and extending transversely to and beneath said run for supporting said run across its width, a pair of transversely spaced tracks for supporting said end sections of said rollers, a pair of transversely spaced endless chain elements for receiving said rollers with a radial play, each of said rollers comprising a run supporting section having a diameter greater than the diameter of said end sections, and means located between said run supporting section and each of said end sections for maintaining said rollers in substantially parallel disposition on said tracks during operation of the conveyor apparatus.

3,195,713
VIBRATORY CONVEYOR WITH SHINGLED DECK

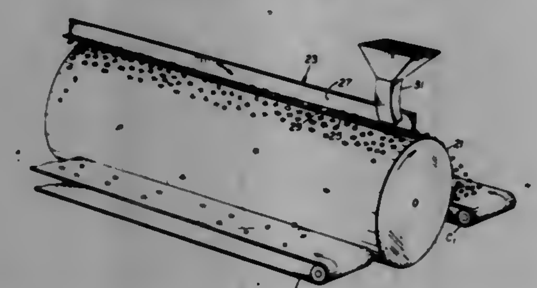
John M. Morris, Louisville, Ky., and Robley W. Evans, New Albany, Ind., assignors to Rex Chainbelt Inc., a corporation of Wisconsin
Filed May 24, 1961, Ser. No. 112,432
1 Claim. (Cl. 198—220)



In a vibratory apparatus, in combination, a material receiver, means for vibrating the receiver along a path having at least a vertical component, said receiver having at least one perforation in its bottom, a rigid member overlying said perforation and forming an elongated chamber above the conveyor bottom, said member having at least one row of perforations, and a second member resiliently connected to the first member and adapted to be resiliently urged against the first member to close said perforations during those portions of the vibratory cycle of the receiver when the downward acceleration is substantially less than the acceleration of gravity whereby said perforations are closed at all times a material is in contact with said bottom and are opened during a portion of the time that the material is tossed free of the receiver bottom.

3,195,714
FEEDING MECHANISM FOR DRY FLOWABLES

John L. Gyllenberg, Baker, Oreg., assignor to Chemical Lime Company, Baker, Oreg., a partnership
Filed Apr. 30, 1962, Ser. No. 191,357
5 Claims. (Cl. 198—220)

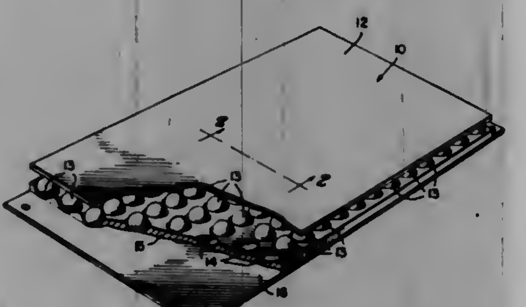


1. A feeding mechanism for dry flowables comprising:
- a trough which varies in size from one end to the other and defining an elongate material receiving recess;
- and means for oscillating the trough in a direction lengthwise thereof in a manner to cause material to advance from the large end of the trough toward the small end;
- at least one longitudinal edge of the trough being horizontal,
- the elongate recess of said trough being inclined to the horizontal from the large end upwardly to the small end.

3,195,715
VIBRATORY CONVEYOR

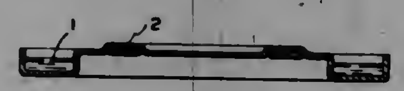
Jacob G. Baker, P.O. Box 28248, Dallas 28, Tex.
Original application Jan. 31, 1961, Ser. No. 86,044, now Patent No. 3,123,203, dated Mar. 3, 1964. Divided and this application Dec. 26, 1963, Ser. No. 333,593
7 Claims. (Cl. 198—220)

1. A vibratory conveyor comprising a stationary base member, a vibratory work member spaced above said base member movable with respect thereto having an upwardly facing work surface for supporting objects to be conveyed, said stationary base member and work member each having confronting active surface portions, a plurality of hard roller bodies disposed between said members having opposed working surface portions in engagement with said active surface portions of both of said members at vertically alined points of contact for supporting said work member above and in substantially horizontal parallel relation with said base member, said roller bodies each having a like configuration defined by a convex curve of revolution about the vertical axis through the points of contact thereof, said active surface portions of said work member imparting corresponding rotation to each of said roller bodies about mutually parallel horizontal axes responsive to vibration of said work member in substantially horizontal directions, said active surface portions of said members having shapes coacting with the shapes of the working surface portions of said roller bodies to cause said roller bodies to exert horizontal and vertical thrust force components on said work member upon rotation of said roller bodies responsive to vibration of said work member to propel objects placed on said work surface along said work surface, the working surface portions of said roller bodies and said active surface portions having such radial symmetry with respect to the vertical axes through their points of contact with each other that said work member may be vibrated in any horizontal direction to effect travel of objects placed on said work surface along the work surface in any horizontal direction.



3,195,716
MIXED GETTER DEVICES, WITH EVAPORATED AND NOT EVAPORATED GETTERING MATERIAL, FOR MAINTAINING THE VACUUM IN ELECTRONIC TUBES

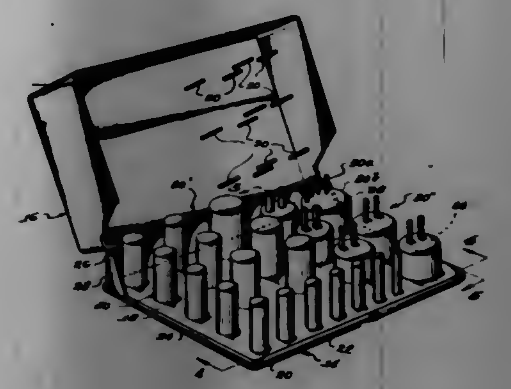
Paolo Della Porta, Via Gallarate 215, Milan, Italy
Filed Apr. 13, 1961, Ser. No. 102,754
6 Claims. (Cl. 206—.4)



1. In a mixed getter device for maintaining a vacuum in electronic tubes including an evaporable gettering material and non-evaporable gettering material, a getter container means having a shape defining a closed peripheral path for the purpose of carrying induced high frequency heating currents, a first upset portion on said container coextensive with said peripheral path defining a first groove, said first groove containing an evaporable gettering material, and a second upset portion on said container coextensive with said first upset portion and selectively spaced therefrom defining a second groove, said second groove containing a non-evaporable gettering material, whereby said high frequency currents in said closed peripheral path simultaneously evaporate and activate, respectively, said evaporable and non-evaporable gettering materials.

3,195,717
O-RING SERVICE KIT

Harold H. Senter, Los Angeles, Calif., assignor to Plastic and Rubber Products Company, Los Angeles, Calif., a corporation of California
Filed Dec. 5, 1962, Ser. No. 242,489
7 Claims. (Cl. 206—16)

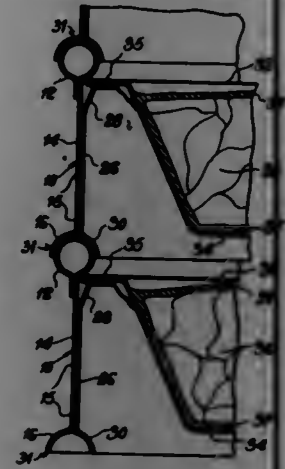


7. An O-ring service kit comprising:
- a molded plastic container having a flat rectangular base having a rear wall rising from its rear edge and a multiplicity of normally upright O-ring supporting posts rising from its normally upper surface;
- a cover including a rectangular top wall, side walls along opposite side edges of the top wall, and front and rear walls along the front and rear edges, respectively, of the top wall;
- means hinging said rear cover wall on said rear base wall for swinging of said cover about an axis parallel to said rear edges between an open position wherein said base is exposed and a closed position wherein said cover top wall is disposed over and spaced from said base and said cover side and front walls seat at their lower edges against the base;
- releasable latch means to lock said cover in said closed position;
- a plurality of first, normally upright posts rising from said base over which O-rings are adapted to be placed;
- a plurality of second, normally upright posts rising from said base over which O-rings are adapted to be placed;
- the normally upper ends of said second posts being spaced a distance from said top wall when said cover occupies said closed position;
- a third, normally upright post extending from the upper end of each second post over which O-rings are adapted to be placed and having a smaller diameter than its respective second post;
- O-rings on said posts;
- said first posts and third posts terminating substantially in a common plane and being disposed in close proximity to said top wall when said cover is closed, such that the O-rings are retained on said first and third posts by said cover when the latter is closed;
- a holddown for each second post depending from the normally underside of said cover top wall in a position such that the normally lower end of each holddown is laterally offset slightly from the normally upper end of its respective second post and is disposed to engage the upper O-ring on its respective second post when said cover is closed, whereby said holddowns retain the O-rings on said second posts; and
- said posts having different diameters corresponding to the internal diameters, respectively, of different sized O-rings and being diametrically sized to receive their respective O-rings with a slip fit, whereby said posts aid in preserving the original diameter and circular shape of the O-rings on the posts.

3,195,718
DISPLAY PACKAGE

Alvin A. Sobel, Paramus, N.J., assignor to Coronet Paper Corporation, Carlstadt, N.J., a corporation of New Jersey

Filed May 5, 1961, Ser. No. 107,980
11 Claims. (Cl. 206—45.32)

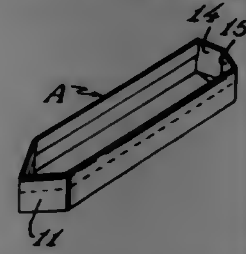


1. A package comprising a plate, an outward flange at the top of said plate, an outer band surrounding said plate, said outer band comprising a first strip of material, a second strip of material joined to said first strip of material to form said outer band, said first strip and said second strip being coextensive in their longitudinal dimensions, an inwardly-turned annular flange at the upper edge of said second strip, an inwardly-projecting annular bead at the lower edge of said second strip, an outwardly-projecting annular bead at the lower edge of said first strip, a substantially closed annular bead at the upper edge of said first strip, said inwardly-projecting annular bead and said outwardly-projecting annular bead together forming an annular foot, a sheet overlaying said plate held in position between said inwardly-turned annular flange on said second strip and said outward flange on said plate, said closed annular bead and said annular foot being shaped such that the annular foot of one package nests on the closed annular bead of the next lower package when said packages are stacked.

3,195,719
UNITIZING TRAYS

Jerry B. Giesler, Lombard, Ill., assignor to Waldorf Paper Products Company, a corporation of Minnesota

Filed Nov. 15, 1961, Ser. No. 152,442
7 Claims. (Cl. 206—47)

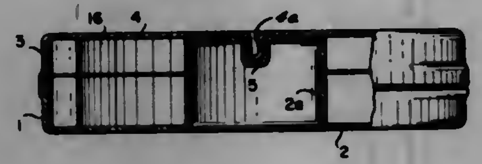


6. A combination package including a rectangular object, a cylindrical object of substantially the same thickness, and a connecting tray, the tray including parallel side walls extending across said rectangular object and partially across said cylindrical object in side by side relation of the objects, a bottom wall connecting said side walls and underlying said rectangular object and at least a portion of said cylindrical object, an end wall connecting an end of said side walls and extending across an end of said rectangular object and being of substantially equal length to the width of the end wall, and a substantially semi-cylindrical second end wall connecting the other ends of said side walls and extending around substantially one half of the circumference of the cylindrical object.

3,195,720
CASSETTE FOR PHOTOGRAPHIC FILM OR PHOTOGRAPHIC PAPER

Jean Louis De Cannieré, Mortsel-Antwerp, Albert Emiel Smolderen, Wilrijk-Antwerp, and Lucien Paul Jacquemin, Mortsel-Antwerp, Belgium, assignors to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company

Filed Aug. 28, 1961, Ser. No. 134,281
Claims priority, application Belgium, Oct. 14, 1960, 596,016
6 Claims. (Cl. 206—52)



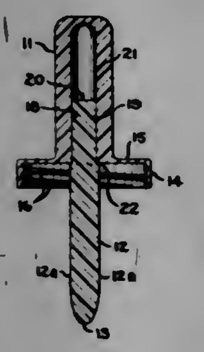
1. A cassette containing a roll of film material comprising two cylindrical halves permanently interlocked in a light-tight manner, each of said halves having:

(a) a bottom wall,
(b) a resiliently deformable side wall, said side wall having a peripheral groove spaced from the outer edge thereof and providing an annular marginal tongue between said outer edge and said annular groove, said marginal tongue of one half snap engaging said annular groove of the other half in the locked position of said halves,
(c) each of said halves being provided with a slot in its wall, said slots being aligned in said locked position so that film may be passed therethrough, said slots being further provided with light sealing material,
(d) a first projection on one of said halves engaging a first recess on the other of said halves so as to axially align said halves,
(e) and a second projection on one of said halves engaging a second recess on the other of said halves to prevent rotational movement of said halves.

3,195,721
ROLL HOLDER

Charles L. Weckesser, Norwich, N.Y., assignor to The Norwich Pharmacal Company, a corporation of New York

Filed June 5, 1964, Ser. No. 372,903
5 Claims. (Cl. 206—52)

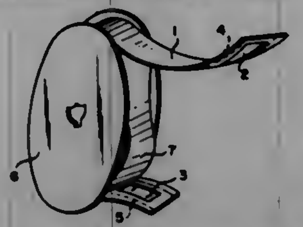


1. In combination, a container comprising a continuous side wall and a bottom integral with said side wall and having a threaded portion adjacent the upper edge of said side wall, a roll holder comprising a cover having a threaded circumferential flange portion engaged with the threaded portion of said container, a handle projecting upwardly and integral with the cover, a blade projecting downwardly from said cover inside of said container, said blade being connected to said handle and rotating independently thereof about a vertical axis through the center of the blade and a roll material on said blade positioned by the frictional contact between the edges of said blade and the inner surface of said roll.

3,195,722
SEALING BAND FOR FILM SPOOLS

Emanuel Hubert Duden, Mortsel-Antwerp, Belgium, assignor to Gevaert Photo-Producten N.V., Mortsel-Antwerp, Belgium, a Belgian company

Filed Feb. 25, 1963, Ser. No. 260,914
Claims priority, application Belgium, Feb. 27, 1962, 41,426, Patent 614,427
4 Claims. (Cl. 206—53)



1. A band for sealing a wound roll of flexible material comprising:

(a) a band, the width of said band being at least equal to the width of the flexible material,
(b) at least one aperture adjacent each end of said band, the aggregate width of said apertures being at least half the width of said band,
(c) a pair of strips having a self-adhesive surface, said surface attached to the same side of said band, the width of said strips being less than the width of said band,
(d) said strips positioned over said apertures with a portion of said self-adhesive surface attaching said strips to said band, and a portion of said self-adhesive surface covering the aperture,
(e) said strips being spaced a predetermined distance from one another on said band substantially equal to the circumference of said wound roll providing overlapping of the ends of said band and corresponding strips after winding said band around said roll of flexible material,
(f) the self-adhesive surface of one of said strips being attached to the outer surface of said roll of flexible material,
(g) the self-adhesive surface of the other of said strips being attached to said one of said strips.

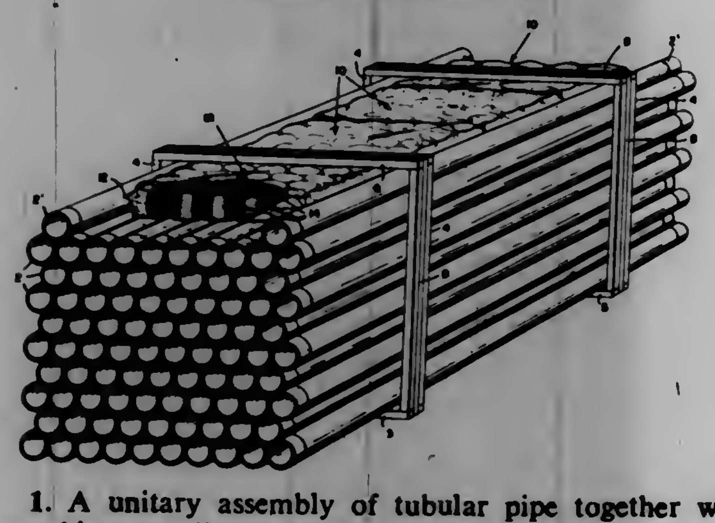
ERRATUM

For Class 206—65 see:
Patent No. 3,196,229

3,195,723
HANDLING AND SHIPMENT OF TUBULAR PRODUCTS

Frank MacDonnell, West Nyack, and Harold Fredericks, Pearl River, N.Y., assignors to The Flintkote Company, New York, N.Y., a corporation of Massachusetts

Filed Feb. 28, 1964, Ser. No. 348,230
4 Claims. (Cl. 206—65)

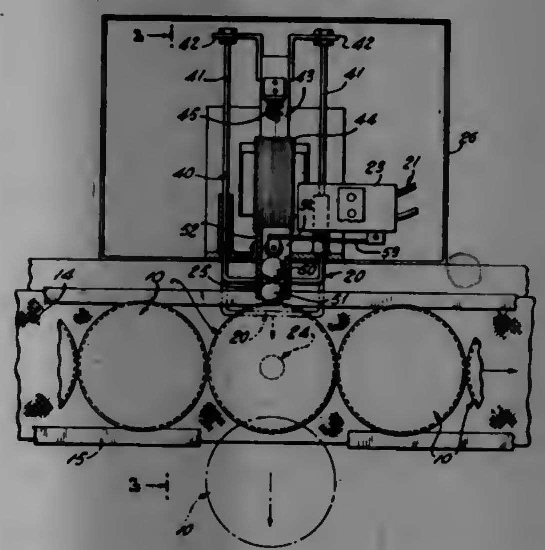


1. A unitary assembly of tubular pipe together with matching couplings which comprises horizontal rows of pipe sections stacked closely together in parallel relation, the uppermost row having a pair of parallel pipe sections spaced apart by a distance greater than the diameter of a single pipe section creating a gap therebetween, a plurality of couplings enclosed in a container of a durable sheet material, said container being positioned within said gap and means securely binding said pipe sections and couplings together as a unit, said means comprising a right-angular, four-sided frame work constructed around the pipe sections.

3,195,724
MACHINE FOR TESTING SEALED CANS AND FOR REJECTING DEFECTIVE CANS

Francis M. Whitacre, 148 Shoreview Road, Manhasset, N.Y.

Filed Aug. 22, 1961, Ser. No. 133,092
2 Claims. (Cl. 209—88)



1. A machine for testing sealed substantially cylindrical containers having respective flexible end walls flexed in accordance with internal pressures, comprising

(a) conveyor means for moving the containers successively in line in a direction past a sensing station while supporting said containers in upright positions with said flexible end walls on top,
(b) means for ejecting a container sideways from said line at said sensing station including an ejector plunger at said sensing station on one side of said direction of movement of said containers movable back and forth in a direction transversely of said direction of movement of said containers, said plunger being located in position to eject a container at said sensing station when said plunger is moved forth in said transverse direction, a circuit for controlling the powering of said plunger for operation including two switches in series in said circuit, and means for moving said plunger in a direction to eject a container at said sensing station from said line immediately and automatically upon the simultaneous closing of said switches,
(c) means at said sensing station for sensing when the upper flexible end walls of said containers fail to flex in accordance with requirements as said containers move successively past said sensing station and for closing one of said switches when said sensing means senes the failure of a container to meet said requirements, said means for sensing the flexible end walls of said containers comprising a spherical sensing ball supported for gravitational movement at said sensing station into engagement with the flexible end walls of said containers as said containers move in said line, said ball being free of any spring pressure and being supported for free universal rotation and for translational movement up and down by the contours of said end walls, and
(d) a second sensing means at said sensing station on said side of the direction of movement of said containers for sensing the peripheral wall of said con-

tainers at said sensing station and for closing the other switch when said second sensing means senses the presence of a container at said sensing station,

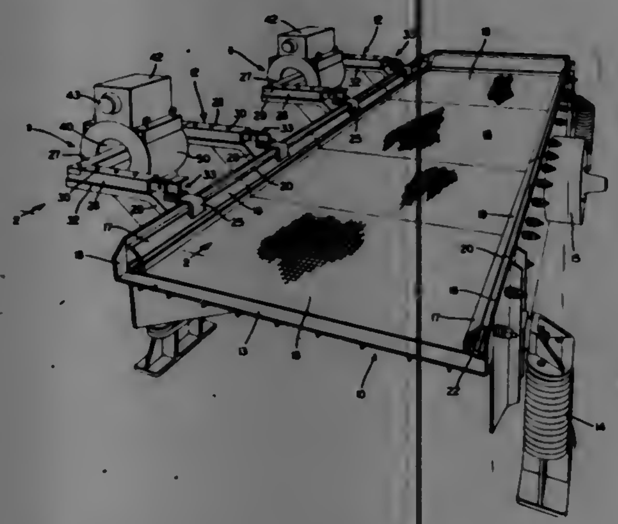
(e) said two sensing means being located to sense simultaneously at said sensing station two parts of each container in a substantially central common plane substantially at right angles to said line of direction, and to close thereby said switches simultaneously when a sensed container has an end wall which fails to flex in accordance with requirements, whereby the plunger is powered to eject the latter container from said line of direction.

3,195,725

ELECTRICALLY HEATED SCREEN CONSTRUCTION AND METHOD

Thomas W. Hannon, Canton, Ohio, assignor to F. R. Hannon & Sons, Inc., Canton, Ohio, a corporation of Ohio

Filed Aug. 2, 1961, Ser. No. 128,866
14 Claims. (Cl. 209—238)



11. The method of supplying electrical energy to a substantially continuously vibrating screen of an electrically heated screen unit to resistance heat the screen during said continuous vibration, including the steps of rigidly suspending a transformer secondary on the screen unit for vibration directly with the screen, electrically connecting the transformer secondary with the screen forming an electrical circuit through the secondary and through the screen, positioning the secondary extending with a portion spaced from the screen, positioning a transformer primary spaced from the screen and substantially free of the effect of the vibratory movement of said screen, positioning the primary relative to the secondary substantially laterally surrounding the secondary spaced portion for inducing electrical energy in said secondary upon electrical energization of said primary, and maintaining the relative positioning of the primary and secondary totally free of any physical connection which would restrict free vibratory movement of the secondary relative to the primary and which would transmit any appreciable amount of the vibratory movement of the secondary to the primary.

3,195,726

CONTROL VALVE MEANS FOR SWIMMING POOL FILTER AND BACKWASH OPERATIONS

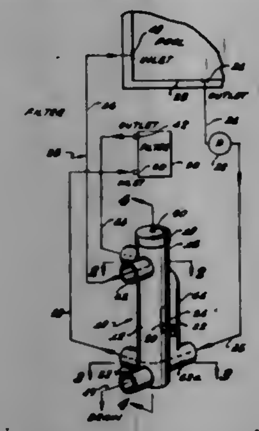
Phillip E. Saurenman and Paul J. Saurenman, Pasadena, Calif., assignors, by mesne assignments, to Saurenman Co., Inc., South El Monte, Calif., a corporation of California

Filed June 18, 1962, Ser. No. 203,048
8 Claims. (Cl. 210—169)

3. In a swimming pool filtering system including a filter and a pump interconnected and connected to the pool by a conduit system, and a drain conduit connected to the filter for disposing of debris accumulated therein, a valve comprising:

a body formed with an internal chamber and having a plurality of spaced apart ports in the chamber wall including first and second ports fluid connected to the inlet and outlet, respectively, of the filter, third and fourth ports fluid connected to the pool outlet, a fifth port fluid connected to the pool inlet, and a sixth port fluid connected to the drain conduit;

a plunger mounted in said chamber and movable between first, second, and third operating positions;



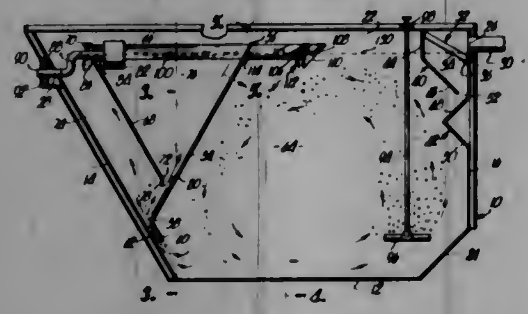
and means on said plunger blocking in said first operating position said fourth and sixth ports, but permitting fluid passage through said chamber between said first and third ports and said second and fifth ports, blocking in said second operating position said first, third, and fifth ports, but permitting fluid passage through said chamber between said second and fourth ports, and blocking in said third operating position said second, third, fourth, and fifth ports, but permitting fluid passage through said chamber between said first and sixth ports.

3,195,727

WASTE PRODUCTS TREATMENT APPARATUS HAVING FLOATING SOLID FEEDBACK STRUCTURE

Gary W. Kibbee, Kansas City, Kans., assignor to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey

Filed Sept. 18, 1961, Ser. No. 138,804
9 Claims. (Cl. 210—195)



1. In treatment apparatus for liquid carried solid waste comprising:

(I) treatment tank means having upstanding wall portions and having a waste inlet and a waste outlet at predetermined levels that limit the uppermost surface level of liquid waste in said tank means,

(II) means extending above said uppermost surface level and dividing said tank means into

(A) a treatment chamber on one side thereof including said inlet, and

(B) a settling chamber on the other side thereof including said outlet;

(III) means establishing flow of waste in a first path in said treatment chamber generally along a face of said means extending above said uppermost surface level; and

(IV) said means extending above said uppermost surface level substantially spanning said tank means above said uppermost surface level so as to prevent flowing waste in said treatment chamber from entering said settling chamber at said uppermost surface level;

the improvement in means for moving to said treatment chamber buoyant solid waste particles floating on the surface of the liquid in said settling chamber, comprising:

(1) means providing communication through said means extending above said uppermost surface level between the upper surface layer of liquid in said treatment chamber and the upper surface layer of liquid in said settling chamber,

(2) flow deflector means having a first surface facing said first flow path and a second surface shielded from said first flow path, said flow deflector means obscuring said means providing communication and being positioned on the side of said means extending above said uppermost surface level in said treatment chamber in said first flow path,

(3) said means providing communication and said flow deflector means defining a generally horizontal passage interconnecting the upper surface layer of the settling chamber and the upper surface layer of the treatment chamber,

(4) said flow deflector means having a portion spaced from a wall portion of said tank means to provide continuous communication at the upper surface layer between said generally horizontal passage and the upper surface layer of said treatment chamber which includes said first flow path,

(5) and said means providing communication and said flow deflector means being so constructed and arranged as to cause said waste in said first flow path to impinge against said first surface of said flow deflector means so as to provide an area of reduced pressure in said treatment chamber adjacent said flow deflector means to draw buoyant solid waste particles floating on the upper surface layer of liquid in said settling chamber solely through said generally horizontal passage to the upper surface layer of the treatment chamber to cause said buoyant solid waste particles to be drawn into said first flow path in said treatment chamber,

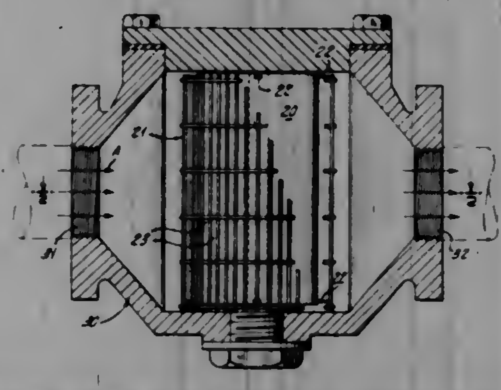
whereby such buoyant solid particles are subjected to treatment in said treatment chamber.

3,195,728

MAGNETIC FLUID FILTER

Heinrich Sommermeyer, Ronneburgerstrasse 13, Gera, Germany

Filed Apr. 7, 1961, Ser. No. 101,552
Claims priority, application Germany, Apr. 25, 1960, S 68,221
1 Claim. (Cl. 210—223)



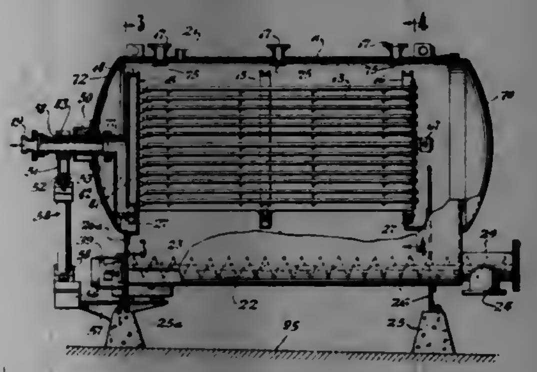
A magnetic filter for fluids, comprising a housing, inlet means opening into only one side of said housing, outlet means disposed diametrically opposite said inlet means on said housing, a cylindrical magnet spaced in a direct path between said inlet and said outlet means within said housing, and a flow dividing screen member comprising a cylindrical grid of wires having axially elongated openings coextensive with the cylindrical surface of said magnet for dividing the input flow to said filter into a large number of streams flowing within the field of said magnet, the axis of said screen member being substantially transverse to the flow of liquid through said inlet and said outlet means, and said screen being spaced between said magnet and said housing to form a flow channel from said inlet to said outlet means, at least a portion of said channel comprising the space between said screen member and said housing, so that if said screen member becomes clogged, fluid flows through said filter between said inlet and said outlet means without a substantial pressure drop across said filter.

3,195,729

UNITARY ROTATABLE PRESSURE LEAF FILTER

Aloysius C. Kracklauer and Frank H. Passalaqua, Conroe, Tex., assignors, by mesne assignments, to C.I.T. Corporation, Houston, Tex., a corporation of New York

Filed Mar. 3, 1961, Ser. No. 93,234
10 Claims. (Cl. 210—330)



10. A filter assembly comprising:

a filter tank;

a plurality of filter units within said tank, each of said units having a substantially flat filtering surface and an opposed non-filtering surface;

means mounting said units in spaced substantially parallel relation;

a plurality of axially spaced rings, each encircling said units and fixed to said mounting means;

a pair of roller means for each ring, each pair resting on the interior of said tank and engaging the exterior of a respective ring to mount the ring, the filter unit-mounting means, and the filter units for unitary rotation between a first position in which the filter units are horizontal and a second position in which the filter units are vertical;

means for imparting said rotation;

vibrating means connected to said filter units at a corresponding first end of each unit, said vibrating means comprising:

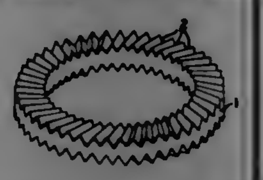
- a lug fixed to each filter unit at said first end;
- an elongated member extending transversely to said filter units adjacent said first end;
- means fixedly connecting said member to each of said lugs;
- a trunnion on said member extending away from said filter units and aligned axially with said rings;
- a collar slippingly mounted on said trunnion;
- a rod having an inner end connected to said collar and extending outwardly through the wall of said tank;
- and means connected to the outside end of said rod for imparting vibration thereto in an axial direction;

filtrate-receiving manifold means inside said tank and

adjacent a second end of each unit opposite said first end thereof;
means connecting said manifold means with the interior of each filter unit;
and means mounting said manifold means for rotation with said filter units.

3,195,730
FILTERING ASSEMBLY

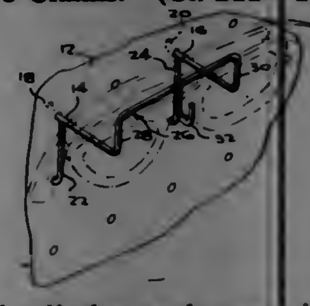
Jacques Muller, La Garenne-Colombes, France, assignor to Rellumit Inter, S.a.r.L., La Garenne-Colombes, France, a corporation of France
Continuation of application Ser. No. 625,436, Nov. 30, 1956. This application June 29, 196[illegible], Ser. No. 206,428
Claims priority, application France, Jan. 18, 1956, 706,598, Patent 1,141,[illegible]29
2 Claims. (Cl. 21[illegible]—[illegible]88)



1. A filtering assembly comprising a plurality of thin filtering plates disposed in superimposed relationship to define a tubular filtering column through which a liquid to be filtered flows from one periphery thereof to the other, each filtering plate being annular and provided with a plurality of microscopic grooves in both surfaces thereof, said grooves being contiguous to each other, each groove extending between the inner and outer peripheral edges of the plate, each groove having a triangular cross section which has a predetermined size to keep minute foreign particles of at least said predetermined size from entering the groove, each groove progressively increasing in depth and width in the direction of filtration of the liquid so that minute particles less than said predetermined size will pass freely through the groove during filtration without becoming wedged therein, the lengthwise axes of all the grooves in each surface being inclined in the same general direction and being tangent to an imaginary circle on the interior of the plate which is concentric with the axis of the annular plate; said grooves in having a similar inclination in each surface of each filter plate contacting the top surfaces of the grooves in an adjacent filter plate in crosswise relationship thereby utilising a large proportion of the peripheral surface of the tubular filtering column.

3,195,731
SPECTACLES DISPLAY RACK

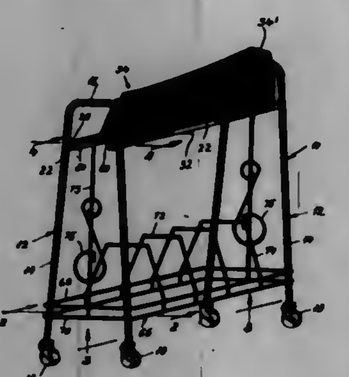
Weldon B. Bomar, Jr., 4423 Merrell Road, Dallas, Tex.
Filed Dec. 18, 1963, Ser. No. 331,571
8 Claims. (Cl. 211—13)



1. A spectacle display rack comprising:
(a) support means,
(b) means for supporting the crossed bows of folded spectacles having one end connected to said support means,
(c) anti-displacement means carried by said bow support means and spaced from said one end thereof,
(d) and nose bridge support means carried by said anti-displacement means on the portion thereof facing away from said one end of said bow support means.

3,195,732
PHONOGRAPH RECORD RACK STAND

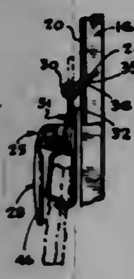
Sandor Schwartz, 324 Empire Blvd., Brooklyn 25, N.Y.
Filed July 10, 1963, Ser. No. 294,130
1 Claim. (Cl. 211—40)



A rack for disk-shaped phonograph records comprising a rectangular-shaped frame including end frame members constituted by inverted U-shaped tubes, bracing bars secured to and across the legs of the tubes adjacent the top thereof, channel-shaped metal rails connected rigidly to the bottom surfaces of the bracing bars, a plurality of wire record-supporting subframe units hingedly connected to the channel-shaped metal rails, each unit constituted by a pair of inverted U-shaped wires connected at their bottom ends, one of said wires of the pair being narrower than the other, the bight portion of one wire arranged outwardly beyond the bight portion of the other wire, the outwardly arranged bight portions being parallel and serving as handles for manipulating the subframe units, the end frame members serving as abutments for the subframe units when the latter are swung from the vertical position, the hinge connection between the record-supporting frames and the channel-shaped metal rails constituting laterally extending feet portions on the legs of one wire rod of the subframe unit, said channel-shaped metal rails having a series of aligned socket openings in one wall thereof receiving said laterally extending feet portions, one of said U-shaped wires tapering inwardly from its connected end whereby its bight portion exerts a clamping action against a supported record, and means for preventing lateral displacement of the subframe units, said means comprising wire rods extending from end to end of the rack and secured to the bracing bars closely spaced from and between the legs of the narrower U-shaped wires, said frame having space for supporting albums of records below the subframe units.

3,195,733
CLASP

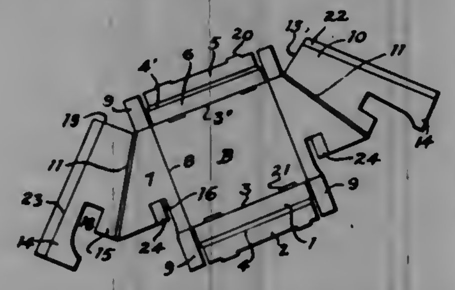
Leon H. Best, Galva, Ill., assignor to John H. Best & Sons, Inc., Galva, Ill., a corporation of Illinois
Filed Nov. 20, 1963, Ser. No. 324,984
1 Claim. (Cl. 211—45)



In a rug display device, a rug display stand having a main body portion with a support surface extending obliquely upward and adapted to display a series of rug samples or the like thereon; a plurality of slotted channel members secured to said main body portion of said display stand, each of said channel members having a plurality of longitudinally extending slots, said slots on said individual channel members being aligned in transverse rows, and a plurality of clasps for attaching said rug samples to said stand, each of said clasps having a rigid, T-shaped connector of one piece wire form including a shank, an eye at one end of the shank and a crosshead at the other end of the shank, said crosshead being insertable in a slot of said channel member and turned in a transverse direction to be retained therein, said clasp including a pair of releasable clamping jaws adapted to clamp the rug sample, said clamping jaws being hinged to said connector, said clasps being attachable to the same rug sample being in the same transverse row of slots to hold said rugs in cascade fashion on said main body portion, said shank being extendible through one of said slots to position said eye adjacent the bottom of said slot but free of said slot to extend outward thereof in close proximity to a support surface of said body portion, and a bail member pivotally mounted in said eye and connected to said clamping jaws for pivotal movement of said clamping jaws and said rug sample about said eye adjacent the bottom of said slot.

3,195,734
SHELF SUPPORTED DISPLAY RECEPTACLES

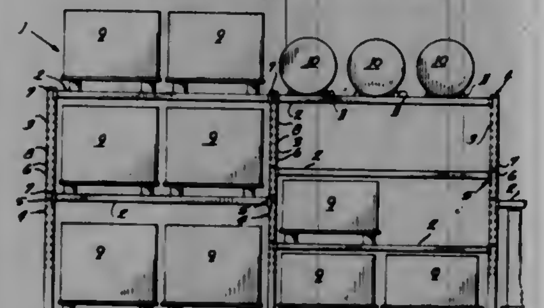
Richard E. Paige, 95 Madison Ave., New York, N.Y.
Filed Apr. 24, 1963, Ser. No. 275,395
4 Claims. (Cl. 211—134)



3. A receptacle having a front and sides each comprising two distinct layers connected along their upper edges, a bottom joined to one layer of said front, a back at the rear connected to said bottom, and one layer at each side being joined to the front along the vertical edges thereof, the other layer at each side being superposed on said one layer, said layers at the sides each having a notch at the rear, said notches being in coinciding positions, said sides having in each layer a portion extending rearward adjacent the back, said one layer at each side having means adjacent the notches to connect it to the back, each said one layer having a portion turned over along the upper edge of one of said notches.

3,195,735
DETACHABLE STRUCTURE AND JOINT THEREFOR

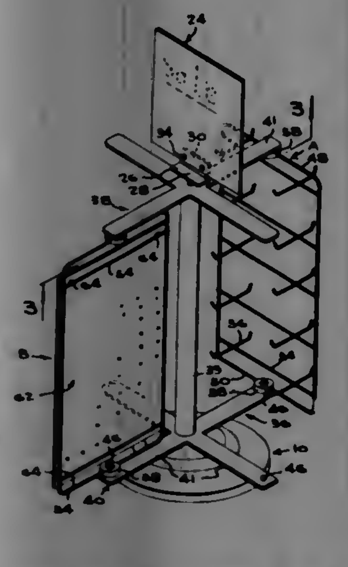
Richard S. Jay, Evanston, Ill., assignor to Jarke Manufacturing Company
Filed Mar. 2, 1962, Ser. No. 177,015
2 Claims. (Cl. 211—148)



1. A joint in a demountable structure comprising: a vertical column of channel cross section having a web disposed between a pair of flanges and two vertical rows of equally spaced mounting slots formed in said web, each of said mounting slots being enlarged at its upper end and having a smaller tapered lower portion forming a first camming surface; a horizontal beam of channel cross section having a web disposed between a pair of flanges, each of said flanges being correspondingly notched so as to abut said web and one of said flanges of said vertical column; tab means of L-shaped cross section having one of its legs formed to define a pair of hook-like members which are spaced apart by the same distance as said mounting slots formed in said web of said vertical column, each of which has a tapered portion forming a second camming surface, and the other one of its legs secured to said web of said horizontal beam at its end in a position such that said vertical column is forcibly urged within said notched portion of said flanges of said horizontal beam by the cooperative action of said first and said second camming surfaces when said hook-like members are engaged in said mounting slots; said slots being of greater length longitudinally of said column than said tab means, thereby leaving a space in the upper end between the tab means and one end of the slot engaged therewith; and a spring member being made of a resilient strip material and having a main body portion with a U-shaped configuration and U-shaped reversed end loops disposed generally parallel with the main body portion, said spring means serving to lock said beam against vertical movement in the engaged mounting slots by reason of the parallel portions of the spring means main body portion and the end loops being inserted in said space in the upper end of a pair of said mounting slots to form an abutment for said beam.

3,195,736
ROTARY DISPLAY RACKS

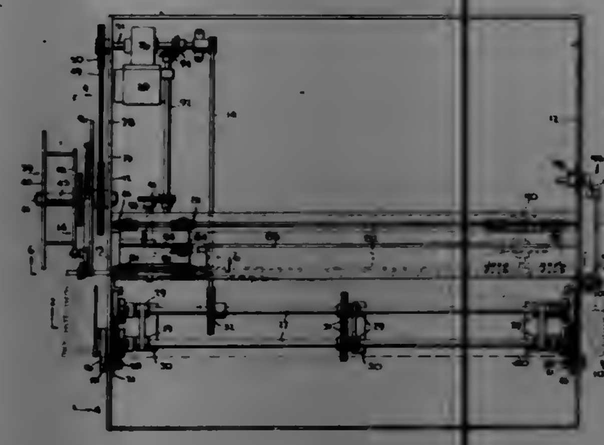
Weldon B. Bomar, Jr., 4423 Merrell Road, Dallas, Tex.
Filed Dec. 18, 1963, Ser. No. 331,424
5 Claims. (Cl. 211—163)



1. A rotary display rack comprising a base, a fixed standard rising from the base, a main rotor comprising a vertical tube receiving the standard, upper and lower spiders fixed on related ends of the tube, said spiders having central portions rotatably journaled on the standard, means removably engaged on the upper end of the standard and retaining the main rotor in place, said spiders having vertically aligned arms which radiate from said central portions, and at least one panel disposed between and removably journaled on a pair of aligned spider arms, said panel comprising an open rectangular frame having upper and lower horizontal resilient wire members and having bearing means at the mid-portions thereof removably and pivotally mounting the frame on pivots on the spiders, vertical side members, and vertically-spaced horizontal hanger bars extending between and fixed to the side members.

3,195,737
APPARATUS FOR SEPARATING INDIVIDUAL BILLETS FROM BUNDLES

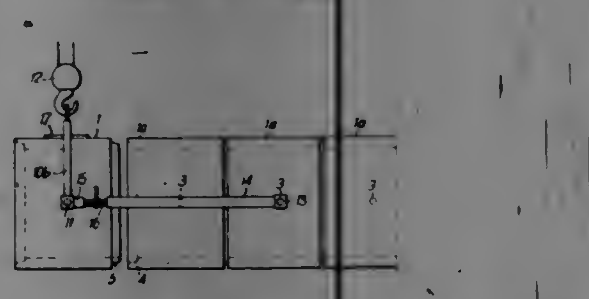
Alan Melrose, Brooklyn, N.Y., assignor to Burns & Roe Inc., New York, N.Y., a corporation of New Jersey
Filed May 29, 1962, Ser. No. 198,623
6 Claims. (Cl. 214—1)



4. In apparatus of the class described, spaced parallel rails for supporting thereacross a bundle of billets to be separated, means for shifting said rails laterally relatively to one another whereby to enable same to accept bundles of billets of various lengths, transfer means positioned adjacent one of said support means, said transfer means including a member formed to receive individually billets from said bundle, cam means projecting and retracting said member radially to receive a billet when projected and release same when retracted, means pivoting said member in timed relation to the radial movement thereof to advance the individual billet along said rails, means pivoting with said member and engaging said billet being advanced to prevent longitudinal movement thereof relatively to said member, wiping means adjacent the path of said member to prevent movement therewith of additional billets, means urging said bundle towards said transfer means, means reciprocable transversely of said billet support means in timed relation to movement of said transfer means to comb a billet received by said transfer means out of said bundle, and gating means adjacent the other of said rails positioned to prevent whipping of said individual billet and operable in timed relation to the movement of said combing means to allow said billet to advance from the bundle and to obstruct advance of said bundle upon reverse movement of said reciprocable means.

3,195,738
LARGE-SIZE CONCRETE PIPE WITH A SUBSTANTIALLY ELLIPTICAL RING-SHAPED OR HELICAL REINFORCING MEANS

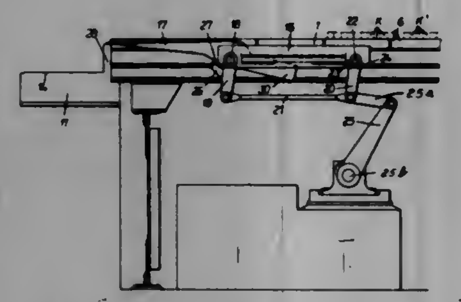
Ove Carl Gunnar Lärkfeldt, Stockholm, and Frank Ellert Fransson, Goteborg, Sweden, assignors to AB Skånska Cementgjuteriet, Stockholm, Sweden, a corporation of Sweden
Filed May 3, 1963, Ser. No. 277,850
Claims priority, application Sweden, May 3, 1962, 4,964/62
1 Claim. (Cl. 214—1)



In combination with a large-size concrete pipe having a circular cross section and a substantially elliptical ring-shaped or helical reinforcing means, hitch means for hitching the pipe to a transport device, said hitch means comprising radially extending holes in the outer wall of the pipe, said holes being located on either side of the pipe substantially in a horizontal central plane containing the major axis of the reinforcing ellipse and further located substantially in a cross sectional plane containing the centre of gravity of the pipe, said transport device comprising a stirrup-shaped lifting yoke the ends of which are provided with pins fitting into the said holes in the wall of the pipe, each end of the yoke having connecting means for one end of a contracting device the other end of which is connectable by means of a pin to the corresponding hole of a second pipe of the same sort so that the first pipe can be forced by means of said contracting device toward the said second pipe while maintaining the main axis of the reinforcing ellipses of the first and second pipes in a horizontal plane.

3,195,739
MEANS FOR PILING BILLETS

Ewald Hein, Kreuztal, Westphalia, and Friederich Wilhelm Busch, Dusseldorf, Germany, assignors to Siemag Siegener Maschinenbau G.m.b.H., Dahlbruch, Germany, a corporation of Germany
Filed Apr. 27, 1962, Ser. No. 190,657
3 Claims. (Cl. 214—6)



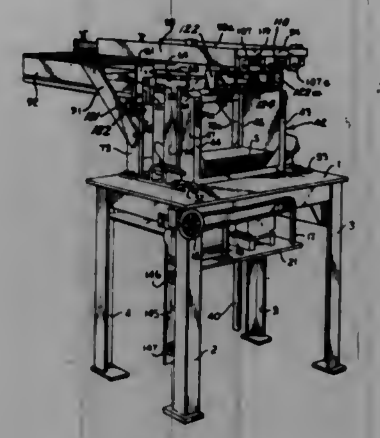
1. Means for transferring a plurality of aligned billets on a hod bed to a table adjacent said hot bed, said means comprising a plurality of aligned slides movable transversely of said billets, an arm on each slide pivoted thereto, the extent of movement of said slides being such that when said slides have reached the limit of their movement across said hot bed the said arms will extend therebeyond, means for temporarily maintaining said arms in horizontal position when in extended position beyond said hot bed, means for pushing a group of aligned billets transversely of said hot bed until they are positioned on said arms in horizontal position above said table, means permitting said arms thereafter to swing downwardly under the weight of said billets until the outer ends of said arms are at substantially the level of the table on which said billets are to be deposited, means for withdrawing said slides and arms away from said table, means for stripping the billets from said sloping arms as the arms leave said table to cause said billets to be successively deposited on the said table in parallel aligned relationship.

3,195,740
DESTACKER

Harold J. Lange, Bay City, Mich., and Grant Pollard, Chicago, Ill., assignors to National Electric Welding Machines Co., Bay City, Mich., a corporation of Michigan
Filed Jan. 24, 1962, Ser. No. 168,480
11 Claims. (Cl. 214—8.5)

1. In a machine for feeding successive and equal thicknesses of sheets from a stack thereof, the combination comprising: frame structure; stop means vertically slidably mounted on said frame structure for limiting forward movement of all of said stack excepting the topmost

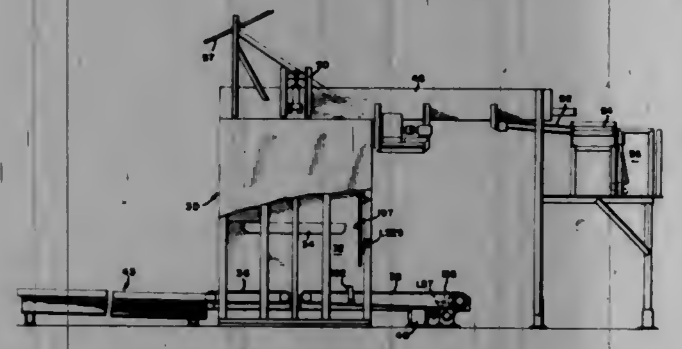
of said thicknesses; follower means normally resting on the top of said stack and adjustably secured to said stop means to define a gap therebetween substantially equal to said thickness whereby said thickness may be admitted therethrough and greater thicknesses are not admittable therethrough; switch means actuatable by vertical movement of said follower means; lift means controlled by



said switch means for lifting said stack; reciprocable shuttle means for engaging said topmost thickness and moving same through said gap and off said stack; whereby said follower means drops to the level of the next one of said thicknesses of said sheets to actuate said switch means and raise the top of said stack to its previous level whereat said follower means actuates said switch means to stop said lift means.

3,195,741
ARTICLE UNSTACKING APPARATUS

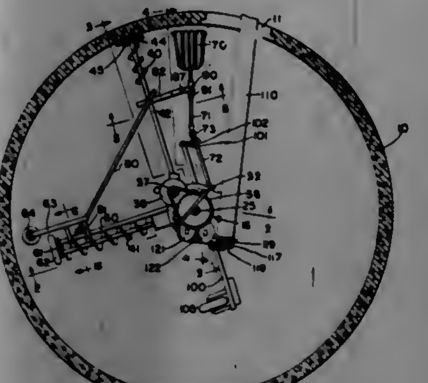
Warren S. Raynor, Port Hope, Ontario, Canada, assignor to Mathews Conveyer Company, Ellwood City, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 54,997, Sept. 9, 1960. This application Nov. 28, 1962, Ser. No. 246,645
18 Claims. (Cl. 214—8.5)



1. Apparatus for unstacking articles stacked in layers comprising a frame, lift means for raising and lowering a stack of articles within a lift shaft defined by said frame, an apron mounted on said frame for movement along a path extending between a retracted position at one side of said lift shaft and an extended position overlying said lift shaft, means operable when said apron is in said retracted position for locating said lift means within said shaft to position the uppermost layer of a stack of articles supported upon said lift means in the path of said apron, reversible drive means operable when said uppermost layer is located in the last mentioned position for driving said apron to said extended position by passing said apron through said stack beneath said uppermost layer of articles, and means responsive to the arrival of said apron at said extended position for reversing said drive means to drive said apron to said retracted position with said uppermost layer of articles supported thereon.

3,195,742
SILO UNLOADER

Sylvan H. Sime, Kiester, Minn., assignor to Deere & Company, Moline, Ill., a corporation of Delaware
Original application Jan. 10, 1962, Ser. No. 165,394, now Patent No. 3,144,144, dated Aug. 11, 1964. Divided and this application Sept. 25, 1963, Ser. No. 311,465
20 Claims. (Cl. 214—17)



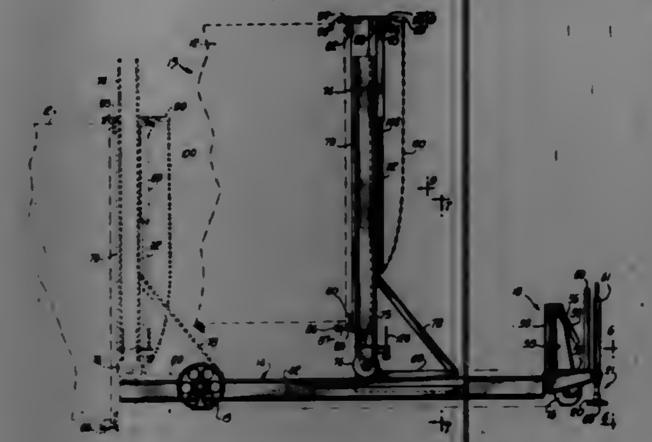
1. A material unloader for use in a silo having an upright silo wall with a material outlet in one side thereof comprising: a main frame structure including an inverted cup-shaped impeller chamber having an upright annular wall with a lower terminal edge and a side discharge opening in the wall; means supporting the frame structure adjacent the center of the silo; a vertical drive shaft extending through and concentric with the axis of the chamber with a lower end below the chamber; an impeller including at least one laterally extending and vertically disposed impeller blade fixed to the shaft with an outer upright edge closely adjacent the chamber wall and a lower edge substantially coplanar with the lower edge of the wall; sweep means disposed radially in the silo beneath the chamber and extending substantially from the center to the wall of the silo and including a pair of laterally extending and angularly spaced auger drive shafts, a first auger flighting on one of the shafts having an outer end closely proximate the silo wall and an inner end spaced from the chamber effective to sweep an annular trough adjacent the silo wall; a second auger flighting on the other auger shaft extending between the annular trough and the chamber wall; a flipper fixed to and extending radially from one of the auger shafts beneath and inboard of the chamber and adapted to flip material upwardly in the path of the impeller blade; a discharge housing having one end connected to the chamber adjacent to and for receiving material through the side discharge, and extending therefrom to the outlet in the silo wall, a conveyor within the housing for discharging material through the wall opening; and a drive mechanism for effecting rotation of the sweep means over the surface of the material in the silo.

3,195,743
CONTAINER TRANSFER DEVICE

Jack E. Gutridge, Dyer, Ind., and Jack W. Borger, Calumet City, Ill., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Original application Feb. 16, 1961, Ser. No. 89,859, now Patent No. 3,094,226, dated June 18, 1963. Divided and this application July 26, 1962, Ser. No. 212,549
3 Claims. (Cl. 214—75)

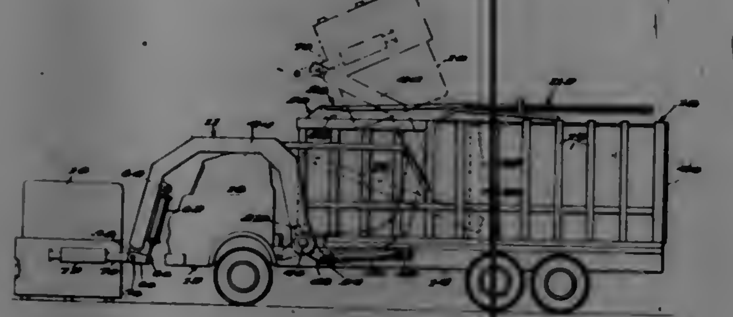
1. In a container transfer means wherein a vertically movable container attachment means is mounted for movement longitudinally of a wheel-supported horizontal frame member to and from an end of said frame member for container loading and unloading and stabilized positioning centrally of said horizontal frame member for transporting thereof, the provision of spaced container engaging means on said attachment means comprising a

lower container edge support and an upper container edge releasable clamping means, said clamping means including at least one container hook member which is adapted to hook over a vertically projecting portion of a container, depending lever means on which said hook member is pivotally mounted, said depending lever means being pivotally mounted on said container attachment means, the pivot point of said hook member being offset rearwardly from the pivot point of said lever means to provide for locking of said hook member in container clamping position and to provide for lifting of said hook member relative to said container attachment means upon pivoting of said lever means, and separate means attached to said hook member to pivot said hook member about its pivot point to move said hook member relative to said lever means out of clamping engagement with a container.



3,195,744
VEHICLE BODIES

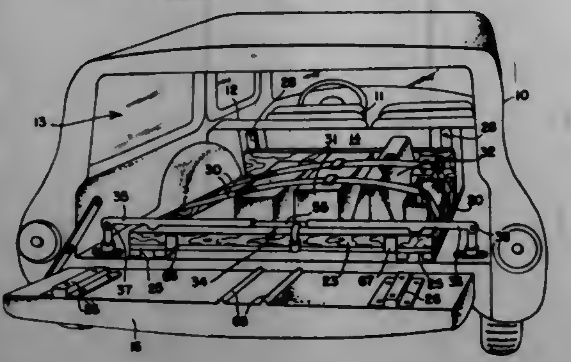
Neil F. Wender, Knoxville, Tenn., assignor to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed Aug. 16, 1961, Ser. No. 131,766
7 Claims. (Cl. 214—[illegible]2)



4. In a vehicle having a refuse body provided with an elongated packing chamber having an inner ceiling surface and having a packer device operating lengthwise of the chamber along said inner ceiling surface, said body having an opening in the top thereof through said inner ceiling surface, the combination therewith, of a cover for the opening, means mounting the cover for movement lengthwise of the body and externally thereof to a position over the opening, said mounting means including first tracks extending along opposite sides of the opening from a point adjacent the opening to a point further from the opening for guiding one end portion of the cover substantially to and away from the opening, second tracks extending lengthwise of the first tracks and extending rearwardly and upwardly away from the opening for guiding the opposite end of the cover substantially to and away from the opening, said tracks moving the cover into the opening when in registry therewith with the inner surface of the cover forming a continuation of the ceiling surface of the chamber for uniform movement of the packer device therealong when the cover is in place.

3,195,745
SAFETY STORAGE TRAY

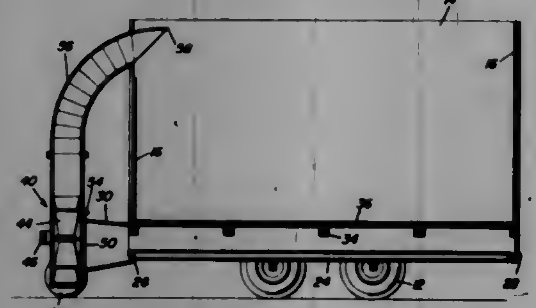
Hiram W. Cretsinger, 1401 S. 1st St., Redfield, S. Dak.
Filed Feb. 1, 1963, Ser. No. 255,529
5 Claims. (Cl. 214—83.24)



3. In a station wagon having a rear storage compartment, a tail gate opening for said rear compartment, a tail gate member for closing said tail gate opening, said tail gate member being hinged at a lower portion thereof and movable to have a surface substantially coplanar with the surface of said storage compartment, of: a pair of guide rails fixedly attached to said surface of said storage compartment and the surface of said tail gate, a storage tray slidably mounted on said guide rails, said storage tray being movable from a first position within said station wagon to a second position substantially outside of the main body of said station wagon, and a locking device comprising a pair of upright posts rotatably mounted with respect to the floor of the station wagon compartment adjacent opposite sides of said storage tray and adjacent the rear portions thereof, a pair of tubular members, one pivotally mounted to each of said posts, a latch bar slidably mounted within said tubular members, said latch bar being adapted to move to a position wherein it clears one of said tubular members, a pair of latching dogs, each fixedly attached to one of said tubular members and adapted to extend through a portion of said tray into the floor of said storage compartment, said latch bar being adapted to move to position wherein it is partially within each of said tubular members and holds them in locked position.

3,195,746
HAY HARVESTER, LOADER AND UNLOADER

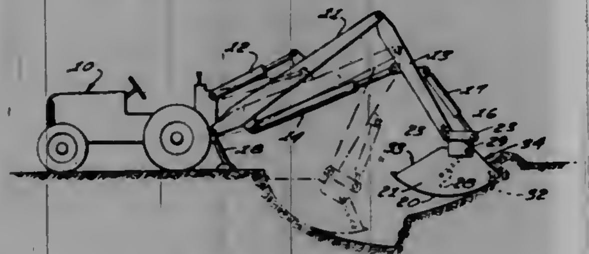
Leslie David Heubach, Rte. 4, Elmira, Ontario, Canada
Filed Sept. 12, 1961, Ser. No. 137,567
5 Claims. (Cl. 214—83.28)



1. An unloader comprising a mobile load carrying body, an open top elongated pneumatic conveying tunnel extending beneath the bottom of said body and opening upwardly thereinto, a plurality of closure panels spaced, longitudinally along said tunel and forming a closure for the top of the tunnel, said closure panels being vertically spaced a substantial distance above the bottom of said tunnel whereby said tunnel may have a substantial quantity of loose material disposed therein while still also defining an air passage, said closure panels being individually selectively removable for communicating a selected area of the load carrying body with a corresponding portion of said tunnel, and a pneumatic blower communicated with one end of the tunnel for conveying and pulling material from the load carrying body by suction, said blower including a discharge spout for discharging material into a storage area.

3,195,747
BACKHOE AND BUCKET INCORPORATED THEREIN, AND METHOD OF DIGGING EARTH

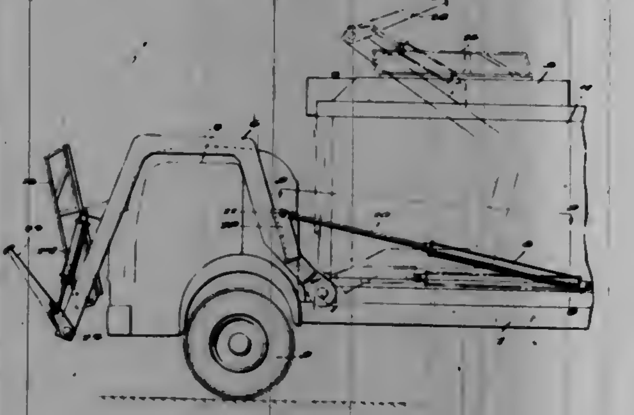
Michael J. Kashergen, Westminster, Calif., assignor to Kash Products Incorporated, Huntington Beach, Calif., a corporation of California
Filed June 5, 1961, Ser. No. 116,656
8 Claims. (Cl. 214—138)



1. A bucket for mounting on a backhoe apparatus, comprising a generally channel-shaped metal element having a shovel mouth at one end thereof and a backhoe mouth at the other end thereof, means to form earth-cutting edges at the ends of at least the web of said channel-shaped element, said web being curved from one of said earth-cutting edges to the other, a baffle plate pivotally mounted in said channel-shaped element to block substantial flow of earth therethrough in one direction only, and stop means to limit movement of said baffle plate in said one direction.

3,195,748
FRONT END LOADERS

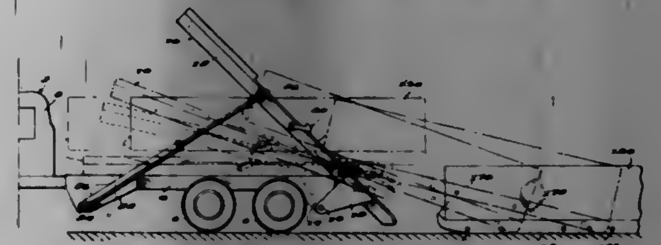
George R. Dempster, P.O. Box 3127, Knoxville 17, Tenn.; William A. Herpich, 739 Hardin Way W., Galion, Ohio; and Neil F. Wender, P.O. Box 3127, Knoxville 17, Tenn.; Trust Company of Georgia, executor of said George R. Dempster, deceased
Original application July 14, 1959, Ser. No. 827,007, now Patent No. 3,078,000, dated Feb. 19, 1963. Divided and this application Aug. 3, 1962, Ser. No. 214,755
6 Claims. (Cl. 214—302)



1. In a front end loader of the character described, the combination with a motor vehicle of the type having a chassis frame, a body on the frame adapted to receive material therein, and an operator's cab in front of the body, of a loading mechanism comprising an elongated frame extending lengthwise of the vehicle and having means on the front end portion thereof to lift a container over the cab to a dumping position and to dump the contents therefrom into the top of the body, means pivotally mounting the rear end portion of the frame on the body for upward swinging movement to said dumping position, and power devices at opposite sides of the body, means mounting each power device at one end on the body and at the opposite end on the lifting frame.

3,195,749
CONTAINER LOADING AND UNLOADING MECHANISM

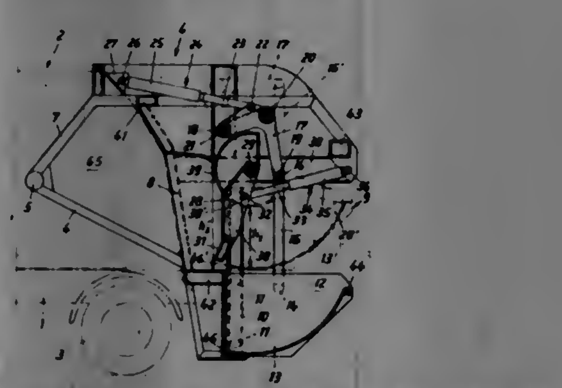
John Saylor Dempster, Charles R. Cooley, and Glenmore G. Garrett, Jr., Knoxville, Tenn., assignors to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee
Filed Feb. 15, 1962, Ser. No. 173,511
5 Claims. (Cl. 214—505)



1. In a container loading and unloading mechanism of the character described, the combination of a frame adapted to be inclined and to receive and support thereon a separable container; connecting means on the frame and movable lengthwise of the frame for releasably engaging and moving a container onto or off of the frame; latch means on the frame movable to a first position to engage a container at any one of a number of points for preventing movement of the container off the frame when the frame is inclined and the connecting means is not engaged with the container, and movable to a second position to allow movement of the container onto or off of the frame; spring means for biasing the latch means to the first position; fluid pressure actuated power means for moving the latch means to the second position; operator-controlled valve means for controlling the flow of fluid pressure to or exhausting fluid pressure from the power means; switch means for actuating the valve means to exhaust fluid pressure from the power means; and means on the connecting means for actuating said switch means when the connecting means is adjacent one end of the frame.

3,195,750
REFUSE COLLECTING VEHICLE

Adolf Ochsner, Kusnacht, near Zurich, Switzerland, assignor to J. Ochsner & Cie., AG., Zurich, Switzerland
Filed Sept. 30, 1964, Ser. No. 400,362
Claims priority, application Switzerland, Oct. 1, 1963, 12,072/63
7 Claims. (Cl. 214—518)

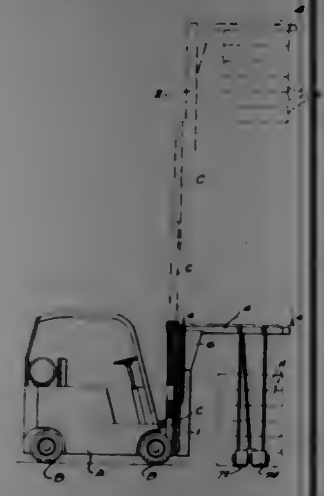


1. In a refuse collecting vehicle: loading and packing gear for handling bulky refuse, means arranged to support said gear on said vehicle, a trough-shaped refuse-receiving skip forming part of said gear and provided with a part-cylindrical bottom surface, rollers carried by said skip for rolling movement along upright guideways whereby said skip may be raised and lowered on said vehicle, a pair of double-acting lifting rams connected to said skip by a pair of lever linkages for raising and lower-

ing said skip, a packing plate arranged above said skip for swinging movement and mounted so as to close a refuse storage space in said vehicle when said packing plate is in a first position, said packing plate being swingable into a second position wherein refuse in said skip is precompacted by said packing plate upon movement of said skip into an upper position thereof, a pair of double-acting packing rams connected to said packing plate for swinging said packing plate, said part-cylindrical bottom surface of said skip having an axis which is substantially coincident with the axis of swing of said packing plate, and said packing plate being swingable by said packing rams from said second position to said first position whereby said precompacted refuse in said skip is forced into said vehicle refuse storage space by said packing plate.

3,195,751
CORE LIFT FOR INDUSTRIAL TRUCKS

Ellwood H. Meyers and Robert L. Kepler, Cleveland, Ohio, assignors to Morrison Company, Cuyahoga County, Ohio, a corporation of Ohio
Filed Feb. 21, 1962, Ser. No. 174,872
5 Claims. (Cl. 214—62[illegible])



1. A lift attachment for lifting articles having central openings and comprising a frame;

a support thereon;

a lift head including a body, at least three weight supporting shoes, connecting means connecting the shoes to the body in spaced relation to each other about an upright central axis for movement outwardly from the axis in paths spaced from each other about said axis to an extended position and inwardly toward the axis to a retracted position;

at least three flexible cables depending from the support and operatively connected to the head and suspending the head from, and beneath, the support for free lateral swinging of the head;

power operable means for paying out the cables concurrently for lowering the head and for retracting the cables concurrently for lifting the head;

said head, when the shoes are in retracted position, being receivable through the central openings of the articles by lowering the head axially through the central openings while the articles are supported in a stack with the axes of their central openings upright;

additional power operable means carried by the head for moving the shoes, substantially concurrently, to and from said positions, selectively;

said shoes being operative when in an extended position to engage and support any selected one of the articles in which the head is disposed, and when in a retracted position, to release said selected one of the articles, the lowermost limits of said shoes being close to the bottom of the head in all positions of the shoes;

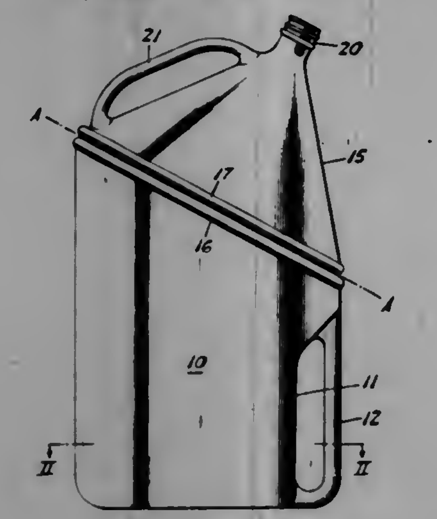
said cables being operatively connected to the shoes, respectively, near the outer faces of the shoes, each for movement of its point of connection outwardly and inwardly relative to the central axes of the head with its associated shoe upon movement of its associated shoe to extended and retracted positions, respectively;

guide means mounted on the support and engaging the cables, respectively, at the points of dependency of the cables from the support;

and said guide means being spaced outwardly from an upright central axis and spaced apart from each other circumferentially of said central axis, so that, when the head is freely suspended by the cables, the location of the point of connection of each cable with the head and its point of dependency are approximately vertically aligned with each other, when the shoes are in extended position against the walls defining the central openings of the articles, respectively, the cables are substantially at said walls, respectively.

3,195,752
CONTAINER

James V. Cox, 205 Main St., West Seneca 24, N.Y.
Filed May 31, 1963, Ser. No. 284,599
3 Claims. (Cl. 215—1)



1. A molded plastic container including a body portion comprising an upright cylindroid terminating at its upper end at a plane extending at an oblique angle to the axis of said cylindroid such that the intersection of said plane with said cylindroid is circular, said container having a frusto-conical upper end portion molded integrally with said body portion and so proportioned that its base circle coincides substantially with the upper end of said cylindroid at said oblique plane, said frusto-conical upper end portion terminating at its upper end in a mouth portion, a handle on said body portion at the lower side thereof as defined by said oblique plane, a second handle on said upper end portion at the high side thereof, and encircling reinforcing bead formations at the upper end of said body portion and the lower end of said upper end portion, said beads being parallel and closely adjacent to define a line of severance therebetween.

3,195,753
PROTECTIVE COVER FOR BOTTLE NIPPLES OR THE LIKE

Harland S. Fisher, Longmeadow, and Charles A. Dumas, Westfield, Mass., assignors to United States Envelope Company, Springfield, Mass., a corporation of Maine
Filed Aug. 6, 1963, Ser. No. 300,197
1 Claim. (Cl. 215—11)

A normally flat protective cover of flexible material for nursery bottle nipples comprising an envelope having

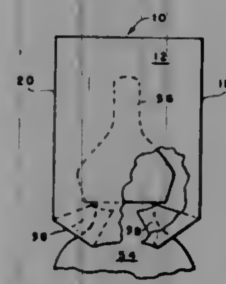
(a) a closed top edge,

(b) a bottom edge open for the full length thereof,

(c) closed side edges extending between the top edge and the bottom edge,

(d) said bottom edge including end segments adjacent the side edges of substantial length in relation to the total length of the bottom edge, each of said segments intersecting a side edge at an angle at least slightly greater than 90° and less than approximately 135°,

(e) a web-like member extending from each bottom edge end segment along both the front and back panels of said envelope, the portions of the web-like members extending from the front panel's bottom edge end segments being connected by a fold line to the adjacent portions of the web-like members extending from the back panels' bottom edge end segments at their ends closest to the side edges of the envelope, thereby creating a continuous web along each of the bottom edge's end segments from the front panel to the back panel of the envelope,

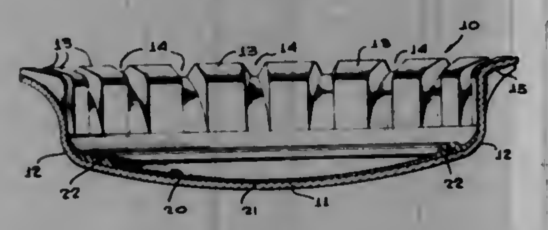


(f) said web-like members being defined from the envelope body by fold lines and being folded back into the pocket of said envelope along said fold lines to assume a doubled-over position entirely within the envelope when same is in its normal flat position, and

(g) the free edges of said web-like members having a contour which assumes a generally circular shape when the lower side edges of the envelope are compressed.

3,195,754
ALUMINUM CONTAINING SEAL LINERS FOR BEER CONTAINERS AND LIKE SUBSTANCES

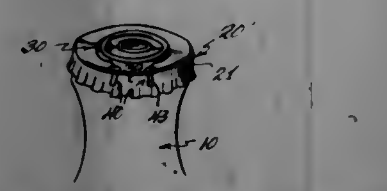
Halford E. Brockett, Elmhurst, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Filed Mar. 18, 1963, Ser. No. 265,848
9 Claims. (Cl. 215—39)



1. A closure seal for containers of carbonated malt beverages, comprising a shell adapted for mechanical engagement with the container and extending over the container mouth, and a liner in said shell and being a shaped mass having a thickened annular portion for engaging and sealing the container lip and composed of a thermoplastic elastomer selected from the group consisting of plasticized vinyl chloride polymers, polystyrene, polyethylene, and rubber and having in substantially uniform distribution therein particles of aluminum in the proportion of 1 to 40 percent by weight of the total liner material.

3,195,755
TEAR OFF CROWN

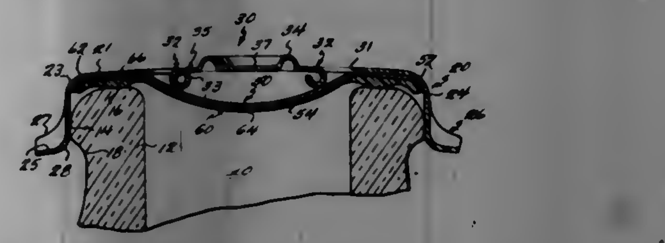
Jerry F. Scharf, Havertown, Pa., assignor to Crown Cork & Seal Company, Inc., Philadelphia, Pa., a corporation of New York
Filed June 4, 1964, Ser. No. 372,612
14 Claims. (Cl. 215—46)



1. A tear off crown closure adapted to be applied to sealingly engage the mouth of a container comprising in combination: a metal crown shell formed from relatively light gauge metal which can be easily torn, said metal shell comprising a circular top portion, a substantially cylindrical skirt depending from said circular top portion, and an integral annular locking flange extending radially outward of said cylindrical skirt, said top portion being formed with an arcuate incision providing a lanced tab, and weakened score portions located at the ends of said incision and extending therefrom, said score portions having a substantially circular shape located on the outer area of the top of said crown shell and immediately narrowing into a line score portion extending to and over the corner radius and down the cylindrical skirt, a rigid insert disc fitted into the inside of said metal crown shell; and a resilient sealing liner secured to the inner surface of said rigid insert disc and a short portion of the inner side wall of the crown shell to secure said rigid insert within said crown shell, said liner being adapted to sealingly engage the container whereby when said crown closure is operatively applied to the container, said locking flange will retain said liner in sealing engagement with the container.

3,195,756
PULL CROWN CAP

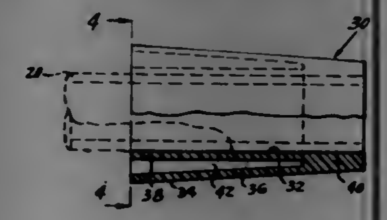
John J. Luviano, Jenkintown, Pa., assignor to Crown Cork & Seal Company, Inc., Philadelphia, Pa., a corporation of New York
Filed Nov. 18, 1964, Ser. No. 412,110
14 Claims. (Cl. 215—46)



1. A pull cap crown closure adapted to be applied to sealingly engage the mouth of a container comprising in combination: a metal crown shell formed from relatively light guage metal which can be easily torn, said metal shell comprising a circular top portion, a substantially cylindrical skirt depending from said circular top portion, and an integral annular locking flange extending radially outward of said cylindrical skirt; the circular top portion of said metal crown being provided with an arcuate incision providing a pull tab; weakened score portions located at the ends of said incision and extending therefrom, said score portions having a substantially circular shape located on the outer area of the top of said crown shell and immediately narrowing into a line score portion extending to and over the corner radius and down the cylindrical skirt; a rigid insert disc fitted into the side of said metal crown shell; a resilient sealing liner secured to the inner surface of said rigid insert disc, said liner being adapted to sealingly engage the con-

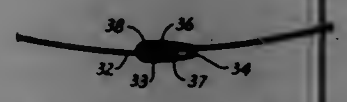
tainer mouth whereby when said crown closure is operatively applied to the container mouth, said locking flange will retain said liner in sealing engagement with the container, the edge of said incision being separated from said pull tab and said pull tab being provided with a curled gripping surface so that the pull cap crown can safely be removed from the container.

3,195,757
STOPPERING ELEMENT
Merle T. Creamer, 1849 E. Stuart St., and Arthur J. Guest, 517 E. Grove St., both of Pomona, Calif.
Filed Apr. 15, 1964, Ser. No. 59,846
6 Claims. (Cl. 215—7)



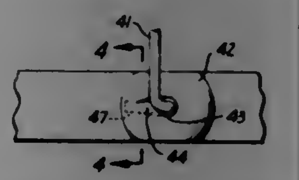
1. In a device for closing the neck of a material containing bottle or the like,
the improvement which comprises a hollow internally cylindrical shaped and externally frusto-conical shaped stoppering element formed of a temperature cured polyvinyl chloride resin, of a hardness between approximately 60 and 64 Shore-A, an elongation under tension of approximately 400% and a density of approximately 1.2, and including plasticizers stabilized against degradation by heat or ultraviolet light.

3,195,758
SURGICAL APPARATUS
Robert C. Beacham, El Cerrito, Calif., assignor to Cutter Laboratories, Inc., a corporation of Delaware
Filed Nov. 12, 1963, Ser. No. 22,763
1 Claim. (Cl. 215—10)



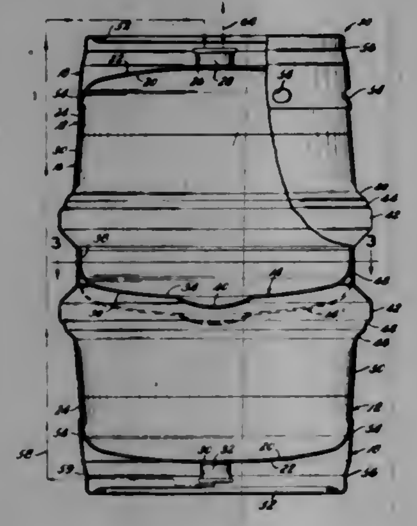
In a parenteral solution bottle having a groove about its bottom end for reception of a bail supporting band, the improvement comprising a metal band having a first rectangular aperture at a first end, a projecting tongue at a second end, the tongue being inserted through said aperture and bent upon itself through 180° to project beyond the first band, the end of the tongue being in turn bent again upon itself and inserted between the first band end and the second band end.

3,195,759
SURGICAL APPARATUS
Robert C. Beacham, El Cerrito, Calif., assignor to Cutter Laboratories, Inc., a corporation of Delaware
Filed Nov. 6, 1964, Ser. No. 09,546
4 Claims. (Cl. 215—10)



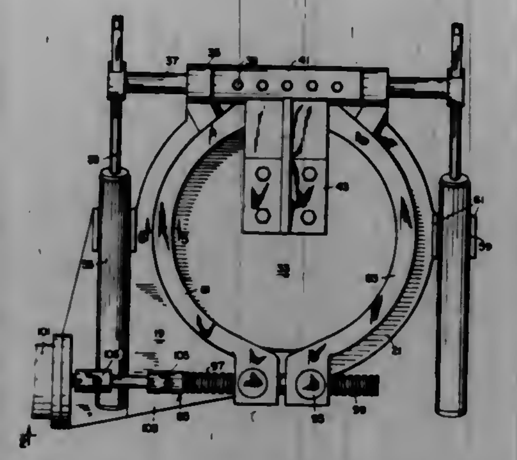
1. In a parenteral solution bottle having a cylindrical groove about its bottom end in which a bail supporting band is fitted, the improvement comprising a connection between a bail and the band comprising two outwardly pressed bosses provided in the band spaced 180° apart, each boss including an aperture therein and an inwardly extending notch extending longitudinally of the band from said aperture, and a bail having a V-shaped end at each end thereof, each V-shaped end extending at 90° to the plane of the bail, each end being inserted through one of said apertures to extend within the projecting boss.

3,195,760
SINGLE WALLED DOUBLE COMPARTMENT CONTAINER
Walter William Bulgrin, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Mar. 13, 1962, Ser. No. 179,379
1 Claim. (Cl. 220—5)



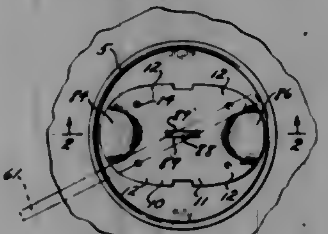
A single walled double compartment barrel comprising,
a first dome shaped shell,
a tapered flange having a predetermined diameter at one extremity of said first dome shaped shell,
a single walled chime skirt attached to said first dome shaped shell,
a generally cylindrical center band,
a first tapered marginal flange at one end of said center band attached to said tapered flange of said first dome shaped shell,
an annular flat intermediate surface in said center band,
a second tapered marginal flange at the other end of said center band,
a second dome shaped shell identical to said first dome shaped shell,
a tapered flange having the same predetermined diameter as said tapered flange of said first dome shaped shell at one extremity of said second dome shaped shell and attached to said second tapered marginal flange of said center band,
a single walled chime skirt attached to said second dome shaped shell,
a third dome shaped shell identical to said first and second dome shaped shells,
a tapered flange having the same predetermined diameter as said tapered flanges of said first and second dome shaped shells at one extremity of said third dome shaped shell and attached to said flat intermediate surface of said center band forming two compartments within said barrel,
a generally centrally located spherical embossment in said third dome shaped shell facilitating drainage of the contents of one compartment of said barrel,
and apertures in said first and second dome shaped shells at the axial extremity of said barrel, said apertures adapted to receive connecting means providing an external communication of fluids between the two compartments of said barrel.

3,195,761
DIGESTER CAP ASSEMBLY (SWING CAP)
John N. Coats, 2010 SW. Park Drive, Lake Oswego, Oreg.
Filed Feb. 9, 1962, Ser. No. 172,247
5 Claims. (Cl. 220—36)



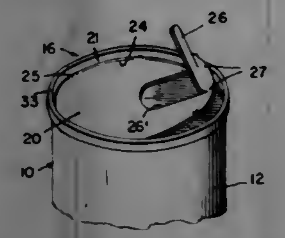
1. A digester cap arrangement comprising a cap for closing the mouth of a digester;
first fluid operated power means for moving said cap between a closed operative position relative to said mouth and an open inoperative position relative to said mouth;
second fluid operated power means independent of said first means for clamping said cap against said mouth;
a common source of fluid under pressure for said first and second power means,
valve means for directing fluid under pressure from said source first to one power means and then to the other to effect a desired sequence of operation,
said second means comprising a pair of arcuate arms for embracing said cap and a portion of said mouth;
and means for clamping said arms against said cap and portion;
the last named means comprising a pair of spaced elements threadedly engaging the ends of said arcuate arms and operable when turned one way to separate said arms and operable when turned the opposite way to move said arms toward one another.

3,195,762
CLOSURE PLUG
Herbert P. Senoff, 695 Parkway Ave., Trenton, N.J.
Filed May 16, 1962, Ser. No. 195,238
1 Claim. (Cl. 220—39)



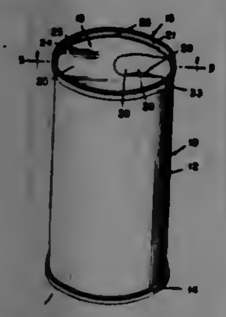
In a closure plug including a base, an upstanding side wall therearound, and an actuating member including a center planar base portion and upwardly extending protuberances adjacent the base portion, the improvement comprising: the center planar base portion having outer edges; a curvilinear bend portion being adjacent the outer edges; the protuberances including a generally curvilinear vertical wall portion interconnected to the curvilinear bend portion; and a partial dome portion being interconnected to said wall portion; said wall portion and dome portion forming a continuous free edge juxtaposing the inner surface of the side wall of the closure plug.

3,195,763
RECEPTACLE AND OPENING MEANS THEREFOR
Louis Fried, 67 S. Munn Ave., East Orange, N.J., and A. Ralph D'Andrea, 6357 Greene St., Philadelphia, Pa.
Continuation of application Ser. No. 633,711, Jan. 11, 1957. This application Nov. 10, 1960, Ser. No. 70,902
17 Claims. (Cl. 220—54)



1. A wall construction for a receptacle comprising a body of sheet material adapted for sealed attachment to a receptacle wall, said sheet having a pull-out portion retained in place by a weakness line in the material, and the material of the sheet within the contour of said portion having a pull tab permanently fixed thereto, and the pull tag being of bendable material and adapted to be bent out for grasping to facilitate the pulling out of the portion.

3,195,764
RECEPTACLE AND OPENING MEANS THEREFOR
Louis Fried, 67 S. Munn Ave., East Orange, N.J., and Angelo Ralph D'Andrea, 6357 Greene St., Philadelphia, Pa.
Continuation of application Ser. No. 70,902, Nov. 10, 1960. This application Jan. 10, 1962, Ser. No. 165,730
35 Claims. (Cl. 220—54)

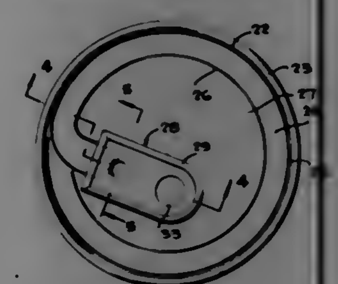


1. A wall construction for a receptacle comprising a body of sheet material adapted for sealed attachment to a receptacle wall, said sheet having a pull-out portion retained in place by a weakness line in the material, and the material of the sheet within the contour of said portion having a pull tab permanently fixed thereto, and the pull tab being adapted to be bent out and grasped by the fingers of a human hand to facilitate the pulling out and total removal of the portion with the said pull tab affixed thereto.

3,195,765
TEAR STRIP CONNECTED TO PULL TAB BY MEANS OF AN INTEGRAL RIVET
John Henchert, Oak Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York
Original application Feb. 10, 1961, Ser. No. 88,473, now Patent No. 3,151,766, dated Oct. 6, 1964. Divided and this application June 19, 1963, Ser. No. 289,018
3 Claims. (Cl. 220—54)

1. In a container, a tear strip assembly for facilitating the opening of said container without the use of any additional device, said tear strip assembly being formed in a panel of said container and comprising a tear strip forming an integral part of said container panel, said tear strip being primarily defined by two spaced score lines in said panel and including a starting end, a pull member overlying said tear strip starting end for facilitating the manual tearing of said tear strip from said

container panel to effect the opening of said container, a permanent connection joining the tear strip starting end to the pull member, said two score lines being joined by a starting score line portion at least partially defining said tear strip starting end, said starting score line portion being of a greater depth than said two score lines and presenting a line of least resistance to rupture to facilitate the starting of the tearing of said tear strip from said container panel, and said pull member protectively overlying said starting end portion and being adapted to rest on said container panel outwardly of said tear strip to resist accidental rupture of said container panel along said starting score line portion by an accidental inward displacement of said tear strip starting end, said permanent connection including an opening through said tear strip starting end and an integral tubular boss depending from said pull member, said boss extending through said tear strip opening and being upset behind said tear strip and sealing said tear strip opening.



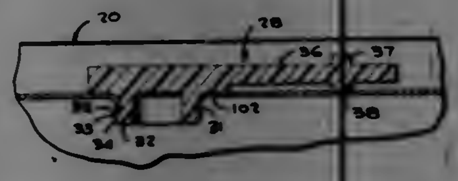
3,195,766

PLASTIC PULL TAB TO METAL TEAR STRIP CONNECTION WITH PLUG GRIPPING FEATURE

John Henchert, Oak Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Original application Feb. 10, 1961, Ser. No. 88,473, now Patent No. 3,151,766, dated Oct. 6, 1964. Divided and this application June 19, 1963, Ser. No. 289,069

2 Claims. (Cl. 220—54)



1. A tear strip assembly comprising a panel, a tear strip defined in said panel by spaced weakening lines in said panel, said tear strip having a starting end defined at least in part by a weakening line of lesser strength than adjacent portions of said spaced weakening lines, and a pull tab overlying and connected to said tear strip starting end for facilitating the removal of said tear strip, said pull tab being of a greater width than the underlying portion of said tear strip and resting on said panel outwardly of said tear strip to resist accidental rupturing of said panel by inward displacement of said tear strip starting end, said tear strip having an opening therethrough and said pull tab having a plug portion extending through the tear strip opening and locking behind said tear strip to both directly seal said opening and secure said pull tab to said tear strip, the tear strip opening being defined by a downwardly directed flange and said plug portion having an annular shoulder locked behind said flange, said plug portion being upwardly flared beneath said shoulder and formed of a resilient deformable plastic to facilitate the insertion of said plug portion through the tear strip opening, said flange having an inwardly directed lower part whereby an upward pull on said plug portion will result in an inward deflection of said flange and a firmer gripping of said plug portion.

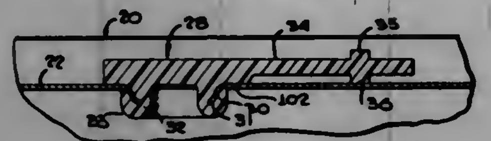
3,195,767

PLASTIC PULL TAB TO METAL TEAR STRIP CONNECTION WITH MECHANICAL INTERLOCK

John Henchert, Oak Park, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Original application Feb. 10, 1961, Ser. No. 88,473, now Patent No. 3,151,766, dated Oct. 6, 1964. Divided and this application June 19, 1963, Ser. No. 289,070

3 Claims. (Cl. 220—54)



1. A tear strip assembly comprising a metal tear strip having a starting end, and a plastic pull tab, said tear strip starting end having a flanged opening therethrough defined by a flange, said pull tab having a plug portion extending through said tear strip opening and being reversely curled around said flange and substantially encasing said flange with said plug portion sealing the opening, said plug portion being tubular to facilitate the curling of the lower part thereof, and said flange having an inwardly directed lower part whereby an upward pull on said plug portion will result in an inward deflection of said flange and a firmer gripping of said plug portion.

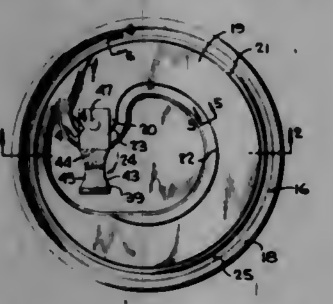
3,195,768

EASY OPENING PULL TAB CAN END WITH WIDE TEAR STRIP

John S. Bozek, Chicago, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed June 28, 1963, Ser. No. 291,415

24 Claims. (Cl. 220—54)



1. A container end having a major portion thereof removable as a unit, a peripheral tear strip defined in said container end by an outer peripheral weakening line and an inner weakening line connected together by a connecting starting weakening line in part defining a starting end of said tear strip, said container end having an axially offset central portion having a border of which a major portion thereof conforms in outline to said inner weakening line, said offset central portion stiffening said container end and thereby resisting parting of said weakening lines, a portion of said offset central portion conforming in outline and being disposed closely adjacent to a portion of said outer weakening line adjacent a terminal end of said outer weakening line to facilitate the final tearing of that portion of the container end defined by said outer weakening line from the remainder of the container end.

3,195,769

BURST DIAPHRAGM AND METHOD OF MAKING SAME

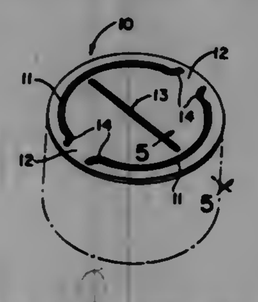
Gerald A. Miller, 17386 Raymer, Northridge, Calif.

Filed Aug. 31, 1961, Ser. No. 135,376

15 Claims. (Cl. 220—89)

1. An article of manufacture comprising a one-piece imperforate burst diaphragm of essentially ductile metal having a plurality of independent nonintersecting failure grooves each having a thin narrow flat bottom lying in

the plane of the face of the diaphragm and which groove bottoms are hard and brittle in comparison with the ductile character of substantially all other portions of the diaphragm, said failure grooves being distributed in an arc adjacent but spaced inwardly from the perimeter of the diaphragm and including one groove crossing the center of the diaphragm where its bottom is subjected to the greatest stress and fails first when the diaphragm is subjected to a predetermined pressure differential, said failure grooves including a plurality of arcuate grooves arranged in a ring with their ends spaced closely apart circumferentially of the diaphragm to provide a plurality of narrow hinge tabs interconnecting central portions of the diaphragm with perimeter portions thereof lying outside said arcuate grooves, said one groove extending across the central portion of the diaphragm with its ends terminating near but short of the midportion of an associated pair of said arcuate grooves, whereby the central portion of said diaphragm is separable into a plurality of arcuate sectors when said grooves fail with each sector being held captive to the rim portion of the diaphragm by said hinge tabs, and each of said arcuate grooves having terminal ends of materially different and sharper curvatures than the curvatiure of the midportions of said arcuate grooves.



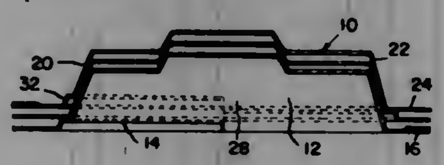
3,195,770

PLASTIC CAPSULE PACKAGING

Duane W. Robertson, Troy, Mich., assignor to Holley Plastics Company, Warren, Mich.

Filed Feb. 18, 1963, Ser. No. 259,071

2 Claims. (Cl. 220—23.6)



1. A member for use in forming a multi-capsule plastic package comprising a substantially flat elongated rectangular plastic sheet having a plurality of symmetrical pockets therein for receiving articles to be packaged, said pockets being spaced apart longitudinally of the plastic sheet a dimension substantially equal to that of the corresponding dimension of the pockets and have opposite side and end walls converging away from the plane of the plastic sheet, one of said end walls having an offset therein adjacent the plane of the plastic sheet including a portion extending substantially horizontally parallel to the plastic sheet connected to the one end wall and a portion extending substantially parallel to the plane of the one end wall connected between the plastic sheet and horizontally extending portion, each of said side walls having a similar offset portion therein extending over substantially half the length thereof at the end thereof adjacent said one end wall including a portion extending substantially horizontally parallel to the plane of the plastic sheet connected to the respective side wall and a portion extending between the parallel portion and the plastic sheet substantially parallel to the respective side wall.

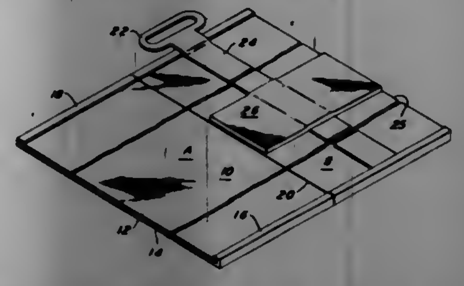
3,195,771

ARTICLE CARRIER

Maurice Denenberg, 468 Wyngate Road, Wynnewood, Pa.

Filed May 1, 1962, Ser. No. 191,576

11 Claims. (Cl. 220—116)



1. A carrier comprising a one piece body made from a lightweight laminated material, said body being tubular and having open ends, means securing side edge portions of said body together in overlapping relation, a reinforced bottom plate between layers of said laminated material, said body having holes therethrough on opposite sides of said overlapped side edge portions, said holes being above said bottom plate, the axis of said holes being substantially perpendicular to the plane of said bottom plate, a handle adjacent said side edge portions, and said handle having an extension portion extending between and secured to layers of said laminated material.

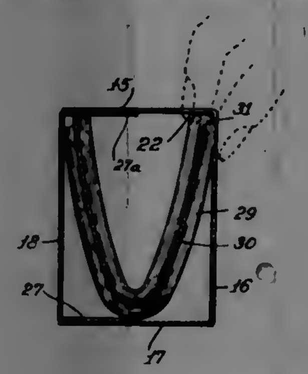
3,195,772

DISPENSING CARTON SUITABLE FOR PLASTIC BAGS AND THE LIKE

Kenneth T. Buttery, Kalamazoo, Mich., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich., a corporation of Delaware

Filed Oct. 4, 1963, Ser. No. 314,025

18 Claims. (Cl. 221—33)



1. A dispensing carton containing a plurality of thin sheet-form articles to be dispensed therefrom in readily dispensable position, said carton having a plurality of side and end panels defining an enclosure, and means for providing an exit slot for said sheet-form articles positioned at an edge of one of said panels, a sheet-form insert member contained in said carton in arcuate position having its leading edge disposed at said exit slot means, said sheet-form articles being folded around said leading edge and disposed along the sides of said insert member, whereby, when said exit slot is provided, the fold of each sheet-form article may be successively engaged and the sheet-form article extracted from said carton.

3,195,773

ARTICLE HANDLING APPARATUS

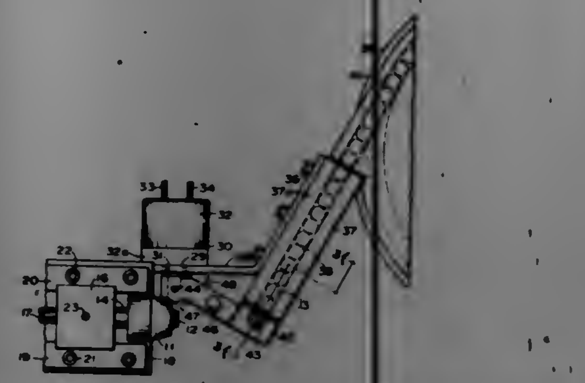
Durwood J. Hopkins, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Apr. 8, 1964, Ser. No. 358,178

8 Claims. (Cl. 221—212)

7. Apparatus for loading a metallic member into a member receiving orifice in a vacuum chuck, said apparatus comprising, loading means provided with a recess actuable between a metallic member receiving posi-

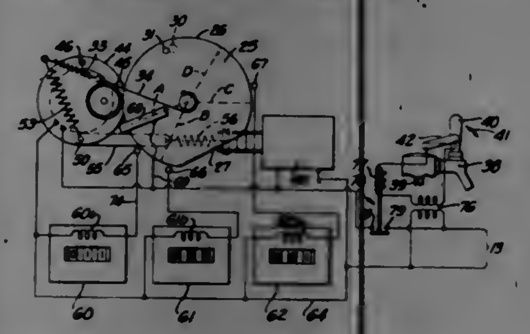
tion and a chuck loading position, motor means for at times reciprocating said loading means between said positions, a chute at said receiving position for successively supplying each of a plurality of metallic members to said recess each such member being supplied to such recess in such a position that it is readily insertable by said loading means into said orifice, and magnetic means for retaining in said recess during the actuation of said loading means from said receiving position to said loading position each said metallic member supplied to such recess.



3,195,774
DEVICE FOR MONITORING THE VOLUME OF LIQUID DISPENSED THROUGH A VALVE

Paul Pipersky and Emil Pipersky, both of 5023 Rosecrans, Hawthorne, Calif.

Filed Apr. 27, 1964, Ser. No. 362,594
16 Claims. (Cl. 222—26)

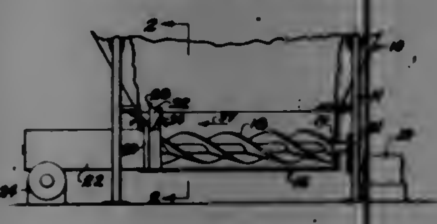


1. A monitoring device for monitoring the volume of liquid dispensed through a valve movable between open and closed positions, said monitoring device including in combination:
- a switch and means for connecting same to said valve to actuate said switch upon movement of said valve from closed to open position;
- a plurality of counters; and
- means, operatively connecting said switch and said counters for actuating said counters sequentially in response to the elapsed time said valve is open.

3,195,775
BRIDGE BREAKER FOR HOPPER VALVE

James O. Thomas and Floyd T. Read, Birmingham, Ala., assignors to Read Steel Products, Inc., a corporation of Alabama

Filed Aug. 1, 1963, Ser. No. 299,242
4 Claims. (Cl. 222—52)

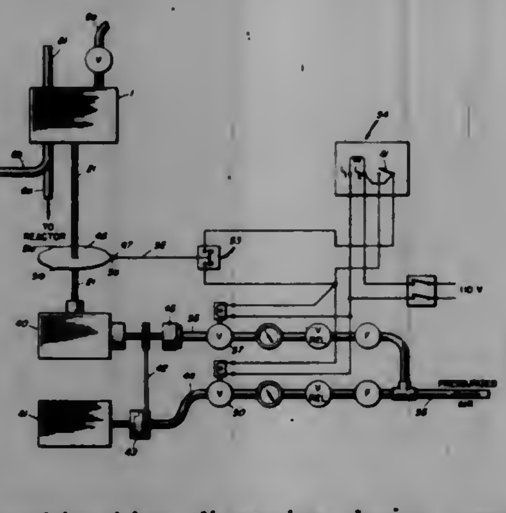


1. A bridge breaker for a generally horizontally extending trough-like hopper member mounted subjacent a supply bin in position to receive granular materials from said bin and having a discharge passageway adjacent one end thereof with means to convey granular materials longitudinally of said trough-like hopper member to said discharge passageway,
- (a) a movable plate-like actuating member mounted for pivotal movement within the confines of said trough-like hopper member adjacent and at an elevation above said discharge passageway in position to move to one location in response to the presence of said materials adjacent and at an elevation above said discharge passageway,
- (b) means urging said plate-like actuating member to another location while there is a bridge of said materials adjacent and at an elevation above the discharge passageway,
- (c) a vibrator unit mounted in position to impart vibration to the hopper member upon being energized, and
- (d) means operatively connecting said plate-like actuating member to said vibrator unit to energize said vibrator unit while said actuating member is in said another location and to deenergize said vibrator unit while said actuating member is in said one location.

3,195,776
AUTOMATIC CATALYST DISPENSER

Charles D. Helm, Annapolis, and Charles B. Bayles, Severna Park, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

Filed Dec. 3, 1962, Ser. No. 241,718
14 Claims. (Cl. 222—63)

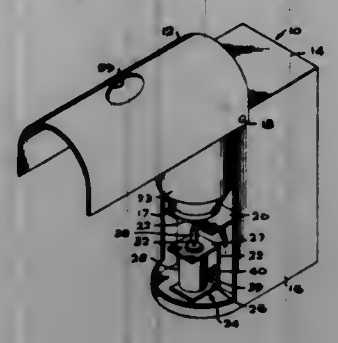


12. A multiposition dispensing device comprising a rotatable disc having at least one passageway therethrough, a stationary flange above said disc having at least two passageways therethrough, a stationary flange below said disc having at least one passageway therethrough and at least one less passageway than the rotating disc, the passageways in the upper flange, rotating disc and lower flange being mutually aligned, gasket means between the rotatable disc and each of said flanges with pasageways therethrough corresponding in number and aligned with respect to the element with which they are associated, drive means connected to said rotatable disc, motor means connected to said drive means by a clutch means, brake means connected to said drive means for stopping the motion thereof, control means operatively connected to said clutch means for simultaneously releasing the brake means and engaging the clutch means for rotation of said disc from a position wherein a passageway in the lower flange is aligned with respect to a passageway in the rotatable disc and for engaging the brake means and simultaneously releasing the clutch means in response to the subsequent alignment of a passageway in the lower flange with respect to another, consecutive passageway in the rotatable disc.

3,195,777
ELECTRIC ACTUATED INSECT SPRAY

Charles M. Hart, Downey, Calif., assignor to Vita-Pakt Citrus Products Co., Covina, Calif., a corporation of California

Filed Aug. 14, 1963, Ser. No. 302,057
5 Claims. (Cl. 222—.70)

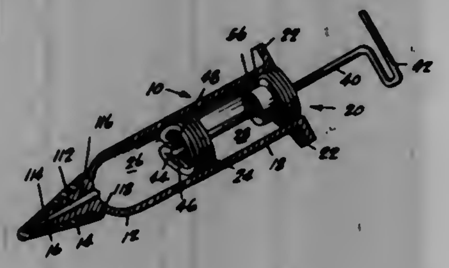


2. An electrically actuated pressure spray for insecticides operating at timed intervals comprising a housing, a bracket in the housing and a pressurized liquid container mounted on said bracket, said container having a hollow tubular trigger, a trigger actuator comprising a solenoid having a reciprocating plunger extending toward said trigger and in axial alignment therewith, a collar on said plunger having a bore receptive of said trriger and a side opening jet in said collar in communication with said bore, and a periodic timer connected to the solenoid adapted to periodically trip said trigger, to effect a spray from said jet into the atmosphere.

3,195,778
STORAGE AND MIXING CARTRIDGE

J Edwin Coates, Santa Monica, Calif., assignor to Alta Engineering Company, Santa Monica, Calif., a partnership of California

Filed Sept. 17, 1963, Ser. No. 309,429
17 Claims. (Cl. 222—80)

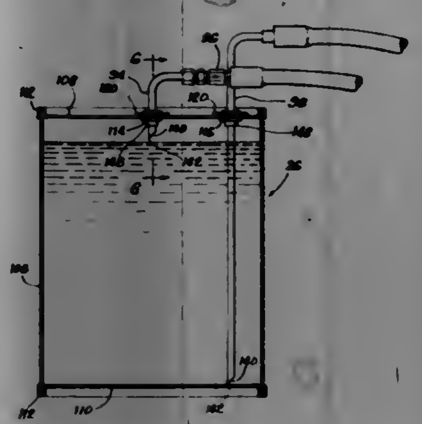


10. A dual compartment container for separately storing two ingredients and subsequently intermixing them without exposure to air or contaminants, comprising: an elongate, generally cylindrical shell to contain the two ingredients and having normally closed end walls; a partition extending generally diametrically across the entire span of said shell at an intermediate point in the length of the latter to divide it into two compartments at opposing ends of said shell sealed from each other to store said two ingredients separately; a dasher extending across a substantial portion of the span of said shell and having an elongate handle extending through an end wall in slidable and rotatable sealing engagement therewith; severing means extending from said dasher toward the adjacent face of said partition and having a sharp severing edge; said handle being operable to move said severing means into engagement with said partition and rotate said severing means in pressural contact therewith to cut through the thickness of said partition and establish a flow path for passage of either ingredient from one side of the partition to the other; the handle being further operable to reciprocate the dasher throughout the length of the shell to mix the contents.

9,195,779
BEVERAGE DISPENSER

Stanley Nicko, Chicago, Ill., assignor to Flake Ice Machines, Inc., Chicago, Ill., a corporation of Illinois

Filed Apr. 29, 1963, Ser. No. 276,515
11 Claims. (Cl. 222—82)

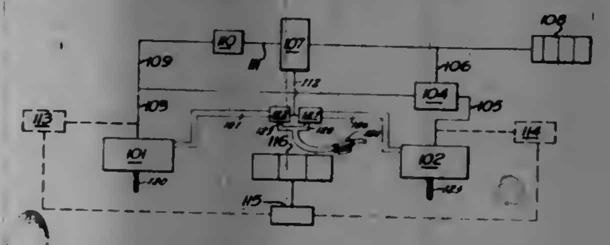


5. A closure plug for a can,
- said plug comprising a plug member of soft resilient rubberlike material,
- said member being generally circular in cross section,
- upper and lower generally cylindrical openings extending axially into the upper and lower ends of said member,
- said member having an imperforate diaphragm interposed between said upper and lower openings,
- and an enlarged annular recess in said lower opening immediately below said diaphragm for receiving the remains of the diaphragm when punctured by a tapping pipe or the like.

3,195,780
APPARATUS FOR DISPENSING PRESELECTED MIXTURES OF LIQUIDS

Ronald McGavin Garland, Richmond, Surrey, and Ernest Stanley Ashford, Hurst Green, Oxted, Surrey, England, assignors, by mesne assignments, to Veeder-Root Incorporated, Hartford, Conn., a corporation of Connecticut

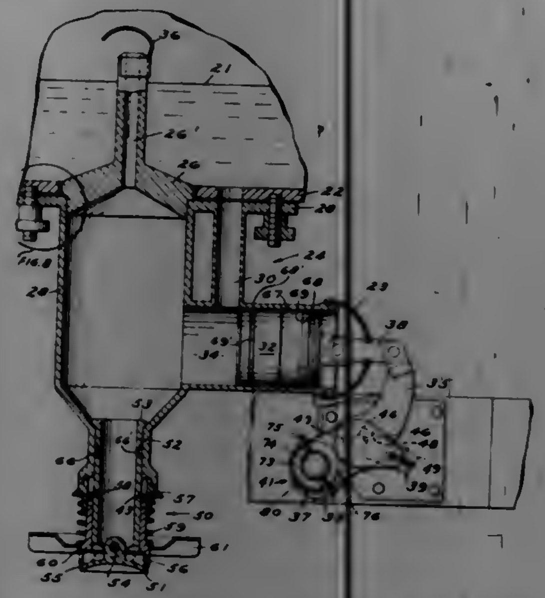
Filed Jan. 22, 1962, Ser. No. 167,882
Claims priority, application Great Britain, Jan. 23, 1961, 2,656/61
9 Claims. (Cl. 222—134)



1. Apparatus for dispensing preselected mixtures of two liquids comprising a separate flow line for each liquid and a common discharge nozzle in communication with said flow lines, each flow line including a flow meter and an output control valve for controlling the flow of liquid to said nozzle, each of said flow meters having an output shaft, a summing differential means connected to the flow meter output shafts for adding the speeds of rotation of said output shafts and having an output shaft, a cam-operated valve control means for actuating said output control valves in response to variations in rotary speed of the summing differential output shaft and one of said meter output shafts, said cam-operated valve control means including two relatively rotatable and relatively longitudinally movable parts, one of said parts being connected to said summing differential output shaft to be driven thereby and the other part being operatively connected to one of said meter output shafts to be driven thereby.

3,195,781
LIQUID FILLING APPARATUS

Harry B. Egleston, Livonia, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 22, 1962, Ser. No. 232,139
4 Claims. (Cl. 222—148)

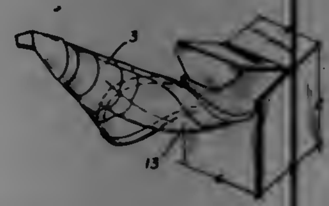


1. A filler unit for a liquid container filling machine having a controlled unvarying liquid level comprising, in combination,

(a) a liquid supply filler bowl,
(b) a filler housing mounted to the filler bowl,
(c) an inlet passage mounted to said filler bowl,
(d) a filler cylinder housing adjacent to and connecting the inlet passage and the filler housing,
(e) a piston and piston actuation means positioned within and adjacent to said filler cylinder housing,
(f) a bell cap as part of said filler housing,
(g) said bell cap having a liquid passage extending above the controlled unvarying liquid level permitting passage of liquid from the filler housing into the filler bowl and preventing passage of liquid from the filler bowl into the filler housing,
(h) said piston and piston actuation means controlling the amount of liquid in the filler housing by closing the inlet passage and discharging liquid through the bell cap liquid passage until the desired amount of liquid remains in the filler housing.
(i) a valve unit to dispense the liquid from the filler housing after the piston and piston actuation means meters the desired amount of liquid in the filler housing, and
(j) said valve unit operating independent of the piston actuation means.

3,195,782
COMBINED DISPENSING CARTON AND MEASURING CUP

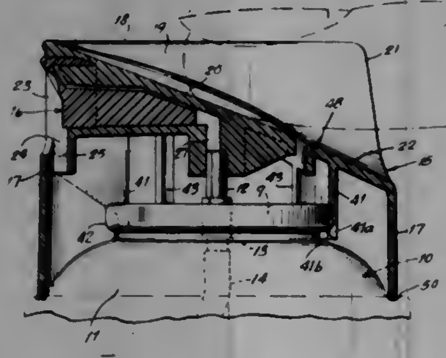
Dorothy L. Eckley, 270 Marshall St., Lakewood 26, Colo.
Filed Aug. 31, 1964, Ser. No. 393,212
15 Claims. (Cl. 222—158)



1. A combined dispensing carton and measuring cup for granular materials, comprising a hollow box-like body adapted to stand in an upright position and providing a complete enclosure for its granular content when filled, the box having a scored portion in one upright wall adjacent its top defining a terminus of its top portion, said scored portion being narrower at the bottom and wider at the top whereby to form a pouring opening with tapering sides after separation of the scored portions, a generally funnel-shaped flexible bag having six sides and a top extension which is secured adjoining the bottom scored portion for suspension of the bag adjoining the pouring opening with its top spread open, the diameter of the open top of the bag being substantially greater than the maximum width of the pouring opening, the bag having at least double layers of sufficient stiffness disposed along its top edge, along its back and in its lower portion for maintaining the top open while the bag is suspended for reception of granular material poured through said pouring opening.

3,195,783
ACTUATOR CAP

Philip L. Crowell, Racine, Wis., assignor to S. C. Johnson & Sons, Inc., Racine, Wis.
Filed Feb. 18, 1963, Ser. No. 259,090
11 Claims. (Cl. 222—182)



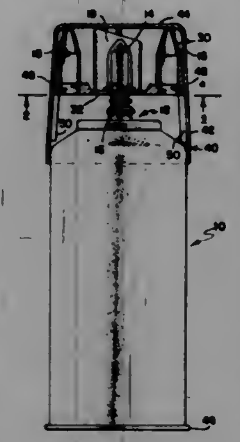
1. An overcap member for aerosol dispensing container members of the type having an upstanding tubular discharge valve stem, such overcap comprising: a body portion of molded plastic material, such body portion having an upstanding peripheral wall and a top portion within which a depressible tab area is provided and which has on its underside, means for engaging said stem and a passage of large cross-section extending inwardly from said peripheral wall to a region where it is in communication with said stem, a separately formed elongated insert element lodged in said passage and extending longitudinally thereof, a portion along the outer surface of said insert element, in conjunction with a portion of the wall surface within said passage, serving conjointly to form an elongated passage of small predetermined cross-section substantially smaller than the cross-section of the passage in said body portion and in communication at one end with said stem and having its discharge end of said peripheral wall, a recess on one of said members and a projection on the other of said members, said recess and projections cooperating to prevent relative rotational movement of said members.

3,195,784
MULTI-TIP DISPENSING DEVICE

Arnold E. Aaland, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware
Filed Apr. 11, 1963, Ser. No. 272,299
5 Claims. (Cl. 222—182)

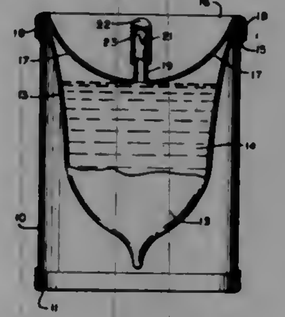
1. A decorating tip assembly for a pressurized dispensing can and the like, which can has a discharge stem from which a product such as frosting is dispensed, said assembly comprising:

(a) a ring-like frame,
(b) a plurality of decorating tips,
(c) a plurality of breakable connecting pieces by which each of said tips is secured to said frame,
(d) tip mounting means fixedly secured to said frame and positioned at a location other than that of said plurality of breakable connecting pieces,
(e) said assembly being unitary and having a general ring-like configuration so that said assembly can be inserted in an original storage position around said stem,
(f) said tip mounting means being arranged to interfit with any of said tips which are broken away from said frame, whereby a selected one of said tips can be broken from said frame, applied onto said stem for use in product dispensing, and be subsequently removably secured to said frame by being interfitted with said mounting means, and
(g) said mounting means being so arranged that with said tips so removably secured to said frame, the tips and mounting means are arranged with the frame in a general ring-like configuration so as to be able to be placed around said stem in a subsequent storage position.



3,195,785
DISPENSING PACKAGE

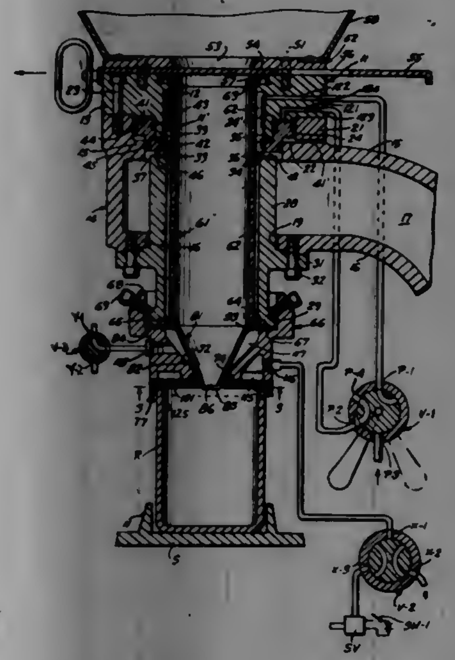
John Anderson Oram, Leighton Buzzard, England, assignor of one-third to Hall, Pollock and Vande Sande, Washington, D.C., a partnership
Filed Aug. 27, 1962, Ser. No. 219,545
Claims priority, application Great Britain, May 17, 1962, 18,949/62
4 Claims. (Cl. 222—183)



1. A dispensing package for liquids, said package having a relatively stiff outer wall member of sufficient strength and a base broad enough to support the package in an upright stable position, a collapsible closed inner member supported by said outer member, outlet means for said inner member, said outer member having means to facilitate the application of force to the flexible closed inner member to dispense contents of the package, a recessed upper closure for said outer member, said inner member comprising a plastic bag the edges of which are clamped between the upper edge of said outer wall member and said closure in liquid sealing relation, said recess forming an open reservoir for a limited amount of liquid to be dispensed by the package, said reservoir being concave and covering the major part of said closure, said outlet means comprising a slotted tube projecting into the concave side of said upper closure and positioned to dispense liquid into said reservoir, said reservoir being readily accessible for the repeated application of said liquid in use.

3,195,786
METHOD AND EQUIPMENT FOR FILLING OPEN MOUTHED RECEPTACLES WITH COMMINUTED MATERIAL OR THE LIKE

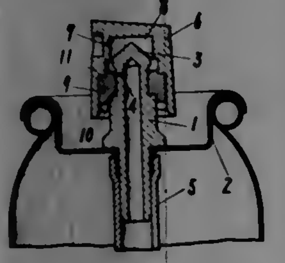
Clarence W. Vogt, Box 232, Westport, Conn.
Filed July 11, 1962, Ser. No. 209,025
12 Claims. (Cl. 222—394)



3. As an article of manufacture a substantially frusto-conical member of resilient deformable material having a transverse wall at the smaller diameter end thereof, said wall having a plurality of slits therethrough defining closure flaps, said flaps forming a valve and normally being in position with adjacent edges in engagement to effect closure of said valve, the portion of said frusto-conical member adjacent said transverse wall having a plurality of slits extending longitudinally thereof and in communication respectively with the slits in the transverse wall.

3,195,787
AEROSOL DISPENSER

Seiichi Kitabayashi, 2–2246 Nishisugamo, Toshima-ku, Tokyo, Japan
Filed Nov. 18, 1963, Ser. No. 324,403
Claims priority, application Japan, Nov. 24, 1962, 37/51,874
2 Claims. (Cl. 222—394)

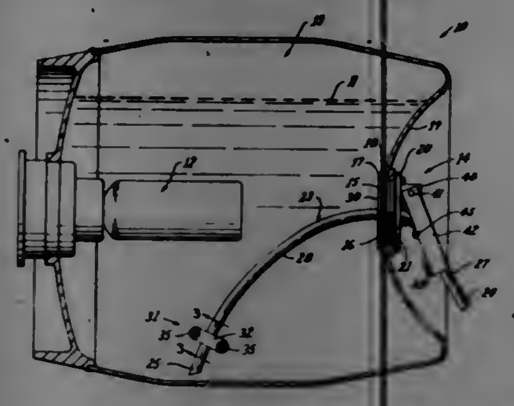


1. An aerosol dispenser comprising a reservoir having a wall, an eductor tube extending through and fixedly connected to said reservoir wall in an air tight manner, said eductor tube having a closed end exteriorly of said reservoir, a side bore adjacent said closed end and a peripheral step, a push button having an emission orifice and an interior expansion chamber in communication with said orifice, a ring shaped gasket having said eductor tube extending therethrough and normally closing said eductor tube side bore and having one end mounted on

said eductor tube step and said push button expansion chamber having an interior step mounted on the other end of said ring shaped gasket and having the closed end of said eductor tube positioned therein whereby pushing said push button compresses said ring shaped gasket placing said eductor tube side bore in communication with said push button expansion chamber.

3,195,788
CONTAINER DISPENSING MEANS AND PARTS THEREFOR OR THE LIKE

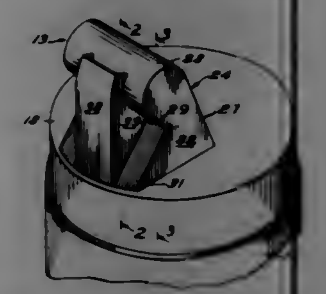
John B. Wilson, Richmond, Va., assignor to Reynolds Metals Company, Richmond, Va., a corporation of Delaware
Filed June 27, 1962, Ser. No. 205,720
13 Claims. (Cl. 222—3[illegible]9)



1. In combination, a container for carrying a fluid under pressure and having a wall provided with an aperture passing therethrough, and a dispensing means for selectively dispensing said fluid from said container, said dispensing means including a flexible tube having a first portion disposed in said container, a second portion disposed outside said container and a third portion disposed in said aperture, said third portion being stretched and inwardly compressed in said aperture whereby the natural resiliency of said tube causes said first and second portions thereof to tend to move toward said wall to provide a fluid seal at said aperture, said first portion of said tube being deformed by means to provide a restriction in said dispensing means, said dispensing means including means for selectively pinching closed said second portion of said tube to prevent dispensing of said fluid and for unpinching said second portion of said tube to permit dispensing of said fluid.

3,195,789
MEASURING AND DISPENSING DEVICE

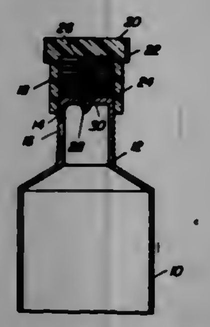
Ewald Robert Hoffman, Berkeley, Calif.
(6004 Chabolyn Terrace, Oakland, Calif.)
Filed Nov. 29, 1963, Ser. No. 326,757
5 Claims. (Cl. 222—[illegible]5)



1. A measuring and dispensing device of the class described comprising a hollow member having an open lower end and closed upper end, means including a pair of parallel spaced flat partitions within a central region of said member extending upwardly from said lower end to positions downwardly spaced from said closed upper end and defining a measuring reservoir in a central upper portion of said member between said partitions and passages within said member on opposite sides of said reservoir, said passages extending upwardly from the open lower end of said member and laterally communicating with said reservoir through areas of communication defined between said closed upper end and the upper end edge portions of said partitions at said positions downwardly spaced from said closed upper end, and means defining a dispensing chute extending upwardly from the lower end of said member and having a base region in subjacent communication with said reservoir.

3,195,790
CAPTIVE CAP FOR COLLAPSIBLE TUBE

Ronald P. Garver, Rte. 1, Rimersburg, Pa.
Continuation of application Ser. No. 765,746, Oct. 7, 1958. This application Jan. 24, 1963, Ser. No. 253,713
1 Claim. (Cl. 222—543)



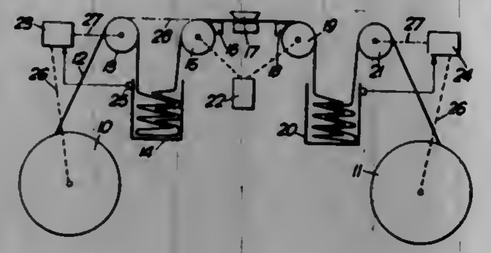
In combination, a tube neck having a side wall, an end wall provided with an aperture and located at the end of said tube neck side wall, said tube neck side wall having external threads, said side wall having a discharge opening therein spaced from said end wall with at least some thread located between said discharge opening and said end wall, a closure cap having a cap end wall and a skirt provided with internal threads engaging the threads of said neck side wall, said cap being threadedly movable to positions which cover and uncover said discharge opening with said cap side wall remaining engaged at all times with the threads of said neck side wall and being threadedly movable partway onto said neck before covering said discharge opening, a solid rod integrally attached to the cap end wall and passed through the aperture in said neck end wall, said rod being substantially smaller in diameter than the diameter of said aperture which is, in turn, considerably smaller in diameter than the internal diameter of said neck, a frusto-conical shaped stop attached to said rod at its base and captive within the neck, said stop adapted to engage said tube end wall to prevent the cap from becoming separated from said neck and to act as a closure for said aperture, said stop being made of a material having the characteristics of polyethylene which is resilient, slightly larger than said aperture in the neck end wall, and disposed in said cap for snap action squeezing through the aperture in the neck end wall in response to threadedly moving said cap partway onto said neck, said stop engaging said neck end wall in response to turning said cap partway off said neck, said rod being shorter than said cap skirt whereby said stop will engage said neck end wall in response to turning said cap partway off said neck.

3,195,791
MAGNETIC TAPE RECORDING AND REPRODUCING APPARATUS

David Thomas Gwillim, London, England, assignor to Decca Limited, London, England, a British company
Filed Dec. 26, 1962, Ser. No. 247,231
Claims priority, application Great Britain, Dec. 27, 1961, 46,333
5 Claims. (Cl. 226—95)

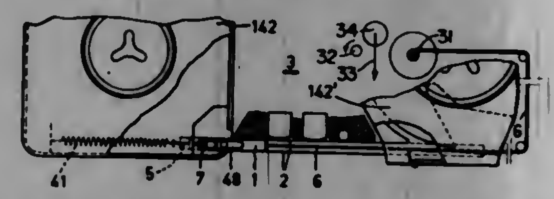
1. A tape spool capstan for drawing tape off a spool and feeding it either directly to a tape drive capstan or

into a reservoir, wherein the tape spool capstan comprises a hollow rotatable apertured capstan member with apertures in the surface over which the tape runs and a fixed internal member with a chamber connected to a source of vacuum, the chamber in the fixed member extending over that part of the periphery corresponding to the arc over which the tape runs around the tape spool capstan when being fed direct to the tape spool from the tape drive capstan, said chamber in the fixed member being arranged in this arc so that the vacuum holds the tape into the tape spool capstan over this arc and said fixed internal member having an aperture of less cross-sectional area than said chamber in a further part of the arc through which the tape runs over the capstan when feeding into the tape reservoir from the tape spool capstan, said further aperture being connected to said source of vacuum to hold the tape onto the capstan when the tape is being fed into the reservoir.



3,195,792
SELF THREADING TYPE TAPE RECORDER/REPRODUCER

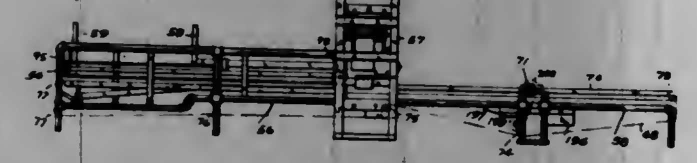
Friedrich Louzil, Vienna, Austria, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 20, 1962, Ser. No. 238,901
Claims priority, application Austria, Nov. 20, 1961, A 8,734/61
9 Claims. (Cl. 226—92)



1. In a recorder/reproducer apparatus having a slide adapted to transfer magnetic tape from a supply spool to a take-up spool the improvement comprising a catch means movably mounted on said slide from an operative to an inoperative position, means supported on said apparatus for contacting and moving said catch means into gripping engagement with said tape, guide means receiving said slide and for contacting and maintaining said catch means in engagement with said tape upon movement of said slide toward said take-up spool, and means for moving said slide.

3,195,793
PALLET OR PLATFORM PRODUCING MACHINE

Thomas D. Hadnagy, 17 Briar Lane, Roslyn Heights, N.Y.
Filed May 10, 1962, Ser. No. 193,787
16 Claims. (Cl. 227—27)



1. A machine for producing pallets embracing longitudinal beams and first and second groups of cross-members secured thereto, said machine including a frame having forward and rear ends, a carriage, retaining means for retaining said beams against displacement with respect to said carriage, power means for reciprocating said carriage between said frame ends, beam magazine adjacent the forward end of said machine, means responsive to the position of said carriage for delivering beams from said beam magazine to said retaining means, a cross-member magazine disposed at a position intermediate said beam magazine and the rear end of said frame, means for delivering said first cross member group from said cross member magazine to positions upon the edges of said beam members, securing means for securing said first group of cross members to said beams while maintaining their relative positions during movement of said carriage towards the rear end of the frame, means for inverting said beams and said first group of cross members, means for controlling said power means to cause said carriage to thereupon move towards the front frame end, means functioning during such latter movement to cause said second cross member group to be disposed upon said beams and said securing means securing said second group to said beams and said carriage continuing its movement towards the forward end of said frame.

3,195,794
MOLTEN MATERIAL APPLICATOR

Robert N. Baehr, 136 Neptune Ave., New Rochelle, N.Y., and Raymond Baehr, 601 Washington Ave., Washington Township, Bergen County, N.J.
Filed June 10, 1963, Ser. No. 288,581
2 Claims. (Cl. 228—53)

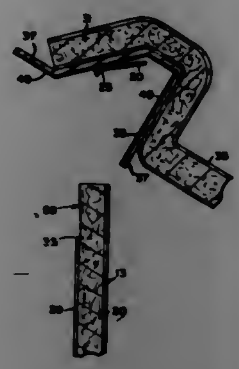
1. A tool for application of molten material, such as solder, comprising a heating tip, the base of which is partially encircled by a partial ring on to which is attached a detachable cannula into which the heating tip extends and which is graduated at one end thereof to a perforation, whereby material inserted through the open area between the ends of the partial ring and into the cannula between the exterior surface of the heating tip and the interior surface of the cannula may be melted and dripped through the aforesaid perforation on to a selected point of application.

3,195,795
CONTAINER

Isaac L. Wilcox, Fulton, N.Y., assignor, by meme assignments, to Phillips Petroleum Company, a corporation of Delaware
Filed Aug. 20, 1963, Ser. No. 303,960
3 Claims. (Cl. 229—7)

1. A container formed of paperboard and having engaging parts with contacting surfaces, the entire surface of one engaging part being coated with a thermoplastic material, the major portion of the contacting surface of said other engaging part being coated with like thermoplastic material for bonding the parts together, a strip of foil

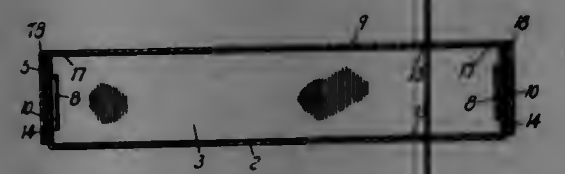
bonded to the remaining portion of said other part and having bonded to its surface confronting said one part, a coating of material non-heat-sealable to the thermoplastic material on said one part, the surface of said one



part confronting said foil being provided in a restricted area with a material overlying and bonded to said thermoplastic material on said one part, and being heat-sealable to the coating on said foil.

3,195,796
LINED CARTONS

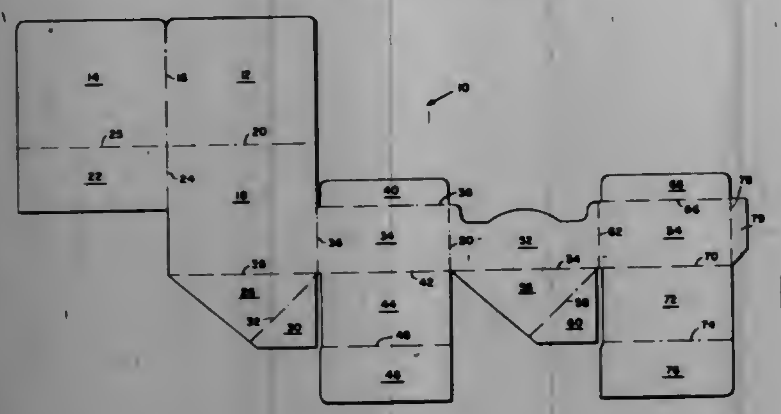
Kenneth T. Buttery, Kalamazoo, Mich., assignor to KVP Sutherland Paper Company, Kalamazoo, Mich.
Filed Nov. 15, 1962, Ser. No. 237,858
8 Claims. (Cl. 229—[illegible]4)



1. A carton comprising an outer ply formed of an integral blank of fiberboard cut and scored to provide a body unit including a bottom, rear, front and end walls, the front and rear walls having corner flaps at their ends which are disposed in overlapping engagement with the end walls and having tongue portions retainingly engaged with slits provided therefor in the end walls, and a cover unit including a top hingedly connected at its rear edge to the upper edge of the body member rear wall and front and end members embracing portions of the front and rear walls of the body unit when the cover is in closed position, there being outer partially severing slits at the juncture of the top and its said end members, and an inner ply of nonfibrous polyolefin-like material extending throughout and unitarily bonded throughout to the inner side of said body and cover units and the hinging portion thereof, the end members of the cover when the carton is in its closed position overlapping and being retainingly bonded to said body unit end walls and in overlapping relation to said flaps and in closure relation to slits in said end walls, the front cover member overlapping and being releasably bonded to the outer side of the front wall, said cover top having continuous slits in the inner side thereof disposed in inwardly spaced parallel relation to the juncture of said cover and its said end members and extending through said inner ply and into but not through said outer ply so that upon disengagement of the front cover member from the front wall and swinging it on its hinge connection to the rear wall the outer ply of the portion of the cover between said slits and the juncture of said cover and its end members are peelingly fractured, the remaining portions between the slits and end walls constituting flap-like closure units which are overlapped by said cover top when it is in reclosed position.

3,195,797
SHIPPING AND DISPLAY CONTAINER

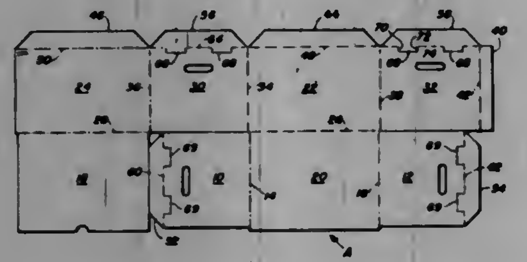
Richard A. De Feo, Ardmore, Pa., assignor to Bayuk Cigars Incorporated, Philadelphia, Pa., a corporation of Maryland
Filed Dec. 16, 1963, Ser. No. 330,664
7 Claims. (Cl. 229—27)



1. A collapsible display container for the reception of two side by side rows of merchandise comprising
a rear panel,
a pair of side panels hingedly connected to the rear panel,
a front panel hingedly connected to the side panels,
a pair of inner bottom panels hingedly connected respectively to the lower edges of the side panels,
a pair of outer bottom panels hingedly connected respectively to the lower edges of the front and rear panels,
one of the outer bottom panels being hingedly connected to one of the inner bottom panels along a line substantially bisecting one corner of the container and the other of the outer bottom panels being hingedly connected to the other inner bottom panel along a line substantially bisecting the corner of the container diagonally opposite the first mentioned corner, and
an upstanding divider panel hingedly connected to the inner edge of one of the inner bottom panels.

3,195,798
BOX

Roy K. Wilson, Zanesville, Ohio, assignor to The Greif Bros. Cooperage Corporation, Zanesville, Ohio, a corporation of Delaware
Filed Mar. 2, 1964, Ser. No. 348,417
10 Claims. (Cl. 229—37)

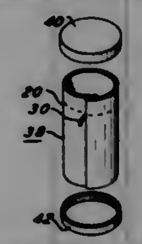


1. In a corrugated fiberboard box having a body with a plurality of walls and being open at one end, and a closure member separate from said body for closing said one end; said closure comprising a main panel extending across said one end of the body and a plurality of walls depending from and foldably connected along fold lines to the edges of said main panel, the closure walls lying parallel to and in closely outwardly spaced relation to the walls of said body, some of the closure walls terminating in integral foldably connected reentrant flaps disposed in parallel relation to and between the closure and body walls, said flaps terminating short of said main panel, the other closure walls being provided with openings defined in part by the fold lines between the walls

and main panel, a pluarlity of body flaps respectively foldably connected to the ends of the body along fold lines at said one end of the body and extending inwardly of the body in underlying relation to said main panel, each of said body flaps having at least one integral tab extending outwardly of the body from the fold line between the body flap and wall and lying in the same general plane as the body flap, each tab next adjacent one of said redirected flaps extending between said main panel and the end of the redirected flap and terminating short of the next adjacent closure wall, the tabs on the other body flaps extending into said openings in said other closure walls, the lower surfaces of said tabs are engageable by the ends of said redirected flaps and the lower bordering edge portions of said openings to impede lifting of the closure from said one end of the body.

3,195,799
CANS AND METHOD OF MAKING THE SAME

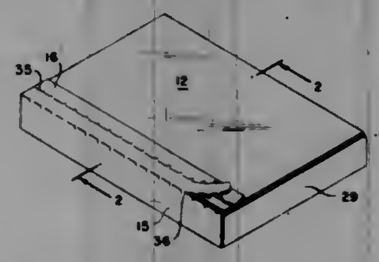
Maurice Denenberg, 468 Wyngate Road, Wynnewood, Pa.
Filed May 8, 1962, Ser. No. 193,284
7 Claims. (Cl. 229—51)



1. A can body comprising a multi-layer tubular laminate having an innermost non-porous layer defining the inner tube surface, flexible tearing means having an end accessible at the can body exterior and extending between the outer surface of said innermost layer and another layer of said laminate, and means securing said tearing means along a tear line to the outer surface of said innermost layer with sufficient strength to overcome the cohesive strength of said innermost layer under a pulling force from the accessible end of said tearing means to tear material from said innermost layer and open said innermost layer the extent of said tear line.

3,195,800
CONTAINER WITH TEAR STRIP OPENER

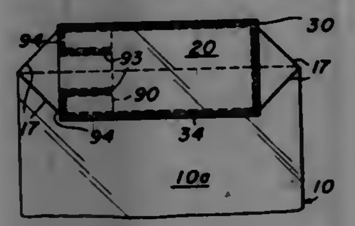
Raymond A. Cote, Metuchen, N.J., assignor to International Paper Company, New York, N.Y., a corporation of New York
Filed Dec. 23, 1963, Ser. No. 332,392
1 Claim. (Cl. 229—51)



An article of manufacture comprising an end-loading, reclosable carton
formed from a substantially rectangular one-piece blank having a cover front panel, a cover top panel hingedly connected along a first lateral fold line to the cover front panel, a back panel hingedly connected along a second lateral fold line to the cover top panel, a base bottom panel hingedly connected along a third lateral fold line to the back panel, a base front panel hingedly connected along a fourth lateral fold line to the base bottom panel, a sealing flap hingedly connected along a fifth lateral fold line to the base front panel, laterally disposed tear strip means in the sealing flap, a laterally disposed area of pre-printed adhesive on the sealing flap, cover end tabs hingedly connected along longitudinal fold lines to the cover front panel, cover end flaps hingedly connected along the longitudinal fold lines to the cover top panel, back tabs hingedly connected along the longitudinal fold lines to the back panel, bottom end flaps hingedly connected along the longitudinal fold lines to the base bottom panel, and front tabs hingedly connected along the longitudinal fold lines to the base front panel
and wherein the cover front panel lies perpendicularly to the cover top panel, the cover top panel lies perpendicularly to the back panel, the back panel lies perpendicularly to the base bottom panel, the base bottom panel lies perpendicularly to the base front panel, the base front panel lies perpendicularly to the sealing flap outwardly of the cover front panel, the sealing flap lies parallelly to the cover top panel, the tear strip means in the sealing flap is disposed over the top cover panel with portions thereof overlying the line of intersection of the top cover panel and the cover front panel and with other portions thereof extending inwardly from the line of intersection to the laterally disposed area of pre-printed adhesive on the sealing flap, the area of pre-printed adhesive on the sealing flap lies against the cover top panel and forms a manufacturer's joint therewith, the cover end flaps lie perpendicularly to the cover top panel, the cover end tabs lie perpendicularly to the cover front panel and are fastened to the cover end flaps, the back tabs lie perpendicularly to the back panel and are fastened to the cover end flaps, the front tabs lie perpendicularly to the base front panel outwardly of the cover end tabs, the bottom end flaps lie perpendicularly to the base bottom panel and are fastened to the front tabs.

3,195,801
BLOCK BOTTOM BAG

Lloyd George Symons, St. Lambert, Quebec, James Stuart Glass, Pointe-Claire, Quebec, Canada, and Lindley Craig Greenhalgh, deceased, late of Baie d'Urfe, Quebec, Canada, by Margaret Clare Greenhalgh, executrix, Kent, England, assignors to St. Regis-Consolidated Packaging Limited
Filed Apr. 16, 1962, Ser. No. 189,227
Claims priority, application Canada, June 8, 1961, 825,249
7 Claims. (Cl. 229—62.5)



1. A bag which is foldable into a flat condition when empty and has a parallelepipedal shape when filled, said bag comprising, when empty, a flattened tube formed from heat-sealable thermoplastic material and having parallel ends which are at right angles to the axis of the tube, a first fold line extending transversely across one side of said tube near each end thereof, the first fold lines being parallel to one another and equidistantly spaced from their respective ends of the tube, a second set of fold lines in each side of the tube extending at an angle of 45 degrees to the axis of the tube from the two points of intersection of each of said first fold lines with the sides of said tube, and a rectangular bottom for each end of the tube, each bottom being formed from thermoplastic heat-sealable material and being non-integral with said tube, each of said bottoms being joined by at least three lines of heat-sealing, extending along three of its

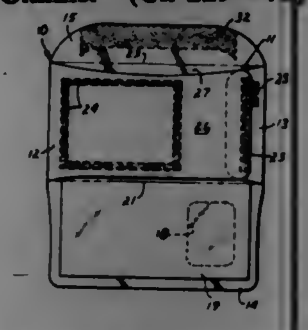
edges, to three of the edges of the rectangle formed by separating one of the ends of the tube and folding it (a) along the first fold line and (b) along the two fold lines at 45 degrees thereto, in which a generally rectangular inwardly extending valve flap, of the same width but shorter length than the rectangle formed by separating and folding one of the ends of the tube, is interposed between said rectangle and the rectangular bottom joined to said rectangle, is aligned with said rectangle at one corner thereof and is joined to said corner of said rectangle by three lines of heat-sealing extending along the three outer edges of its periphery, and in which the said valve flap is joined to said rectangular bottom by lines of heat-sealing extending along two of the three outer edges of its periphery but not along the third one, and in which said valve flap is additionally joined to said rectangular bottom by two parallel lines of heat-sealing extending parallel to but inwardly spaced from the said two lines of heat-sealing joining edges of the rectangular valve flap to the rectangular bottom.

3,195,802
MULTI-COMPARTMENT ENVELOPE

William F. Jacobs, Minneapolis, Minn., assignor to Quality Park Envelope Company, a corporation of Minnesota

Filed Aug. 20, 1962, Ser. No. 217,983

2 Claims. (Cl. 229—72)



1. An envelope having a rectangular front panel with an addressee window therein and score lines along the perimeter thereof; side panels adjacent each side of the front panel and integrally joined thereto along the score lines for folding over the front panel to form a main compartment therewith; a rear panel having a window adjacent one side thereof, said rear panel disposed along the lower edge of said front panel and integrally joined thereto along a score line for folding over said side panels to form therewith a second compartment rearward of said main compartment; a protective liner bonded substantially coextensive over the inner surface of said front and rear panels for covering the respective windows of said front and rear panels and for forming a protective liner on one surface of the main and second compartments; a rectangular adhesive area and a vertical adhesive area disposed on the outer surfaces of said side panels for securing said rear panel when the same is folded over said side panels, the rectangular and vertical adhesive areas being spaced apart to provide a non-adhesive area in registry with the window of said rear panel for forming the second compartment when said rear panel is folded over said side panels; and a closure panel integrally joined to the top of said front panel along one of the score lines for sealing said envelope closed.

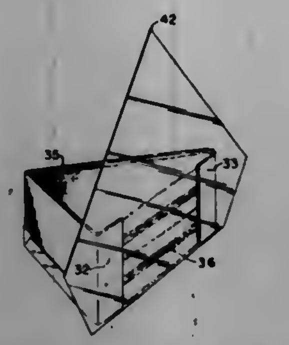
3,195,803
FOOD WRAPPER

Thomas E. Ford, Arlington, Mass., assignor to Trans World Services, Inc., Arlington, Mass., a corporation of Massachusetts

Filed May 31, 1963, Ser. No. 284,600

5 Claims. (Cl. 229—87)

1. A food wrapper having, in combination, a rectangular cardboard side member having a lateral score line for folding to a right angle position, and a rectangular sheet of relatively thin wrapping material having a pair of adjacent sides sealed in substantially uniform overlapping relation to one edge of the side member with the corner defined by said sides substantially coinciding with said score line, the sheet further having a sealed flat fold at said corner containing the excess of material thereof when the side member is set up in said position, the dimensions of said sheet being sufficient to permit its folding about the side member while in said position to define a triangular enclosed space and to overlie the edge of the side member opposite to said sealed edge.

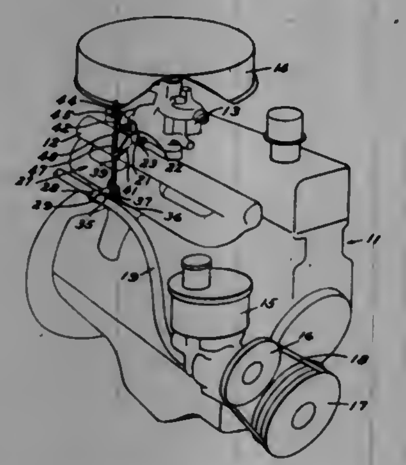


3,195,804
AUTOMATIC THROTTLE ADVANCE MECHANISM

Carl G. Ragla, Dearborn Township, Wayne County, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Mar. 13, 1963, Ser. No. 264,942

5 Claims. (Cl. 230—3)



1. A motor vehicle comprising an internal combustion engine, throttle means for varying the speed of the engine and for establishing a normal idle speed, an accessory pump driven by said engine, a flexible conduit for conveying fluid under pressure from said pump to an accessory for actuating the latter, means contacting the exterior of said flexible conduit for sensing pressure induced changes in the size of said flexible conduit, and linkage means interconnecting said last named means with said throttle means for advancing the idle speed of said engine in response to increases in the fluid pressure in said flexible conduit.

3,195,805
TURBOCHARGER DIFFERENTIAL PRESSURE CONTROL

Robert L. Cholvin, El Segundo, and Alexander Silver, Tarzana, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Oct. 25, 1961, Ser. No. 147,611

10 Claims. (Cl. 230—9)

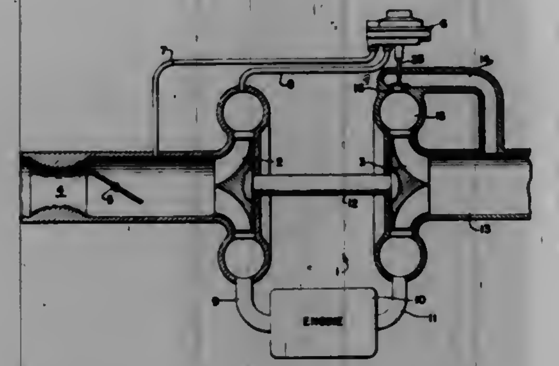
1. A control system for a turbocharger of the type having a compressor driven by a turbine, comprising:

(a) means for altering the flow of fluid supplied to the turbine so as to vary the pressure of fluid discharged from the compressor;

(b) means for actuating said flow altering means, including first and second movable walls, defining a chamber between faces thereof;

(c) means for applying turbocharger compressor intake pressure to the other face of one of said movable walls;

(d) means for applying turbocharger compressor discharge pressure to the other face of the other of said movable walls;



(e) means providing restricted communication between said chamber and said intake pressure applying means,

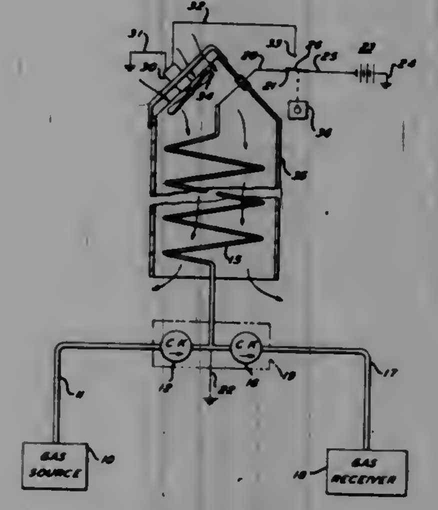
said actuating means being responsive to the pressures applied to said other faces of said movable wall means and the pressure in said chamber to maintain a predetermined pressure differential between said turbocharger compressor intake and discharge pressures.

3,195,806
PUMPS FOR FLUIDS

John C. Bowen, Davisville, and Robert C. Wolf, Hatboro, Pa., assignors to Pressure Products Industries, Inc., Hatboro, Pa., a corporation of Pennsylvania

Filed May 31, 1963, Ser. No. 284,538

7 Claims. (Cl. 230—69)



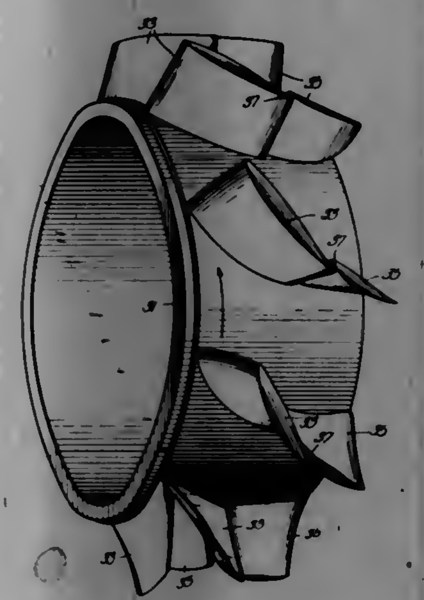
1. A pump for fluids comprising a connection to a source of fluid, an inlet valve member connected to said connection, a fluid chamber connected to said valve member and having a wall of electrical conductive material, a delivery valve member connected to said fluid chamber, and means for intermittently heating said chamber for expansion of fluid therein and delivery of fluid through the delivery valve member, said means including a source of electrical energy and connections to spaced portions of said wall for applying current thereto from said source for heating said wall.

3,195,807
TURBO-MACHINE WITH SLOTTED BLADES

Herman E. Sheets, Mystic, Conn., assignor to General Dynamics Corporation, Groton, Conn., a corporation of Delaware

Original application Oct. 20, 1958, Ser. No. 768,490, now Patent No. 3,075,743, dated Jan. 29, 1963. Divided and this application Dec. 21, 1962, Ser. No. 246,620

11 Claims. (Cl. 230—134)



1. In a blower or pump or the like of the axial flow turbo-machine type, a blade having a cross-sectional profile of the non-laminar airfoil type, said blade having a lower pressure surface and an upper suction surface, a slot extending through said blade from said lower surface generally in the downstream direction of the blade chord to an exit in said upper surface and disposed generally longitudinally of the blade in substantially a radial direction, said upper surface having a predetermined point of minimum static pressure thereon at the design operating condition of the blade, said upper surface having an area of maximum static increase thereon downstream of said point of minimum static pressure at the design operating condition of the blade, said slot having its exit in said upper surface located at a distance within the range of 5% to 7% of the total blade chord downstream from the start of said area of maximum static pressure increase following said point of minimum static pressure at the design operating condition of the blade, and said slot having a width at its narrowest point within the range of two times to 2.66 times the thickness of the boundary layer at the location of the slot exit on said upper surface at the design operating condition of the blade, whereby fluid is ejected from the slot exit in a downstream direction to cooperate with fluid passing over said upper surface and energize the boundary layer passing thereover in a downstream direction.

3,195,808
PUMP

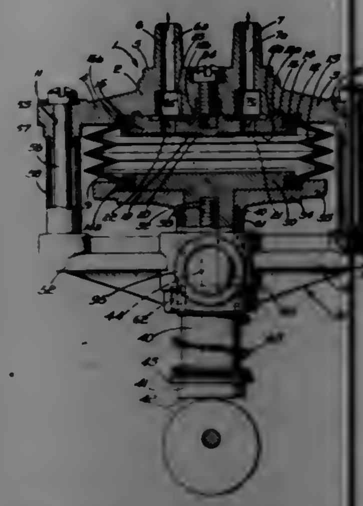
Harley R. Holt, River Forest, Ill., assignor to Ray-Wayland Corporation, Chicago, Ill., a corporation of Illinois

Filed Oct. 12, 1962, Ser. No. 230,207

10 Claims. (Cl. 230—160)

1. An air pressure pump comprising a cover plate, an inlet passage in said plate, an outlet passage in said plate, a valve plate, an inlet passage in said valve plate aligned with said inlet passage in said cover plate, an outlet passage in said valve plate aligned with said outlet passage in said cover plate, a flapper valve element secured to one surface of said valve plate and overlying said inlet passage, a second flapper valve element secured to the opposite surface of said valve plate and overlying said outlet passage in said valve plate, a bellows having one of its ends clamped between said cover plate and said valve

plate, a bottom plate, an attaching plate, the opposite end of said bellows being clamped between said bottom plate and said attaching plate, a piston sleeve extending from said bottom plate, a cap member at the outer end of said piston sleeve, means securing said attaching plate to said



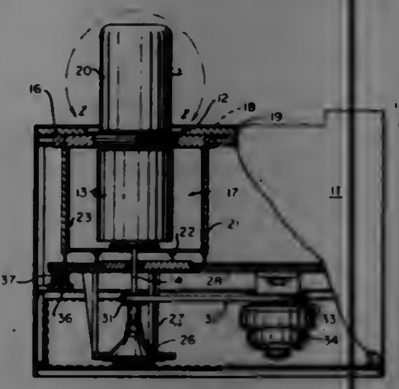
cap through said piston sleeve, a bearing member surrounding said sleeve and means securing said bearing member to said cover plate, yielding means operative between said bearing member and said cap element, to urge said bottom and attaching plates away from said cover plate and to open said bellows.

3,195,809
CONTINUOUS FLOW CENTRIFUGE HAVING A ROTARY FACE SEAL

Edward G. Pickels, Atherton, and Richard C. Stallman, San Carlos, Calif., assignors to Beckman Instruments, Inc., a corporation of California

Filed Mar. 27, 1962, Ser. No. 182,813

1 Claim. (Cl. 233—2)



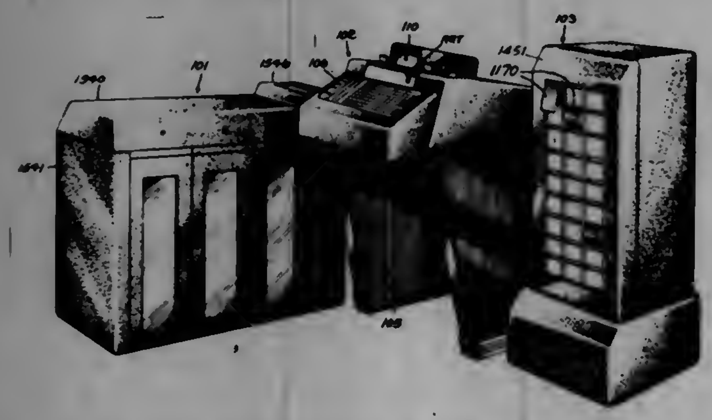
A centrifuge including a rotor, means engaging the bottom of said rotor to support and drive the same, a fluid feed and removal shaft assembly secured to the upper end of said rotor and adapted to rotate therewith, said fluid feed and removal shaft assembly including an axial passage and an annular passage surrounding the same, a stationary face seal member, stationary fluid feed and removal lines, fluid passages formed through said stationary member in fluid communication with said lines, a rotary face seal member secured to and in fluid communication with the upper end of said shaft and comprising a rotatable face member making sliding contact with said stationary member and providing fluid communication between said axial and annular passages and stationary fluid feed and removal lines, and fluid pressure means for axially urging said rotary face member and said stationary member into pressurized sealing contact with one another, said means including means defining a pair of spaced apart cylinders, means connecting one of said cylinders in fluid pressure communication with said stationary fluid feed line, means connecting the other of said cylinders in fluid pressure communication with said stationary fluid removal line, a piston extending into and between said cylinders and responsive to the fluid pressure in said cylinders, stationary means in engagement with one of said cylinders, the other of said cylinders being in engagement with said stationary member, whereby the sealing contact between the rotary face member and the stationary member is responsive to the fluid pressure in the cylinders and in the stationary fluid feed and removal lines.

3,195,810
ACCOUNTING APPARATUS

Arthur J. Fettig, Grosse Pointe Farms, Don M. Jenks, Ferndale, Charles Lasdine, Detroit, Earl P. Maidment, Royal Oak, and Byron A. Runde, Farmington, Mich., assignors to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Original application Dec. 26, 1957, Ser. No. 705,443, now Patent No. 3,089,641, dated May 14, 1963. Divided and this application June 18, 1962, Ser. No. 208,661

9 Claims. (Cl. 235—60)



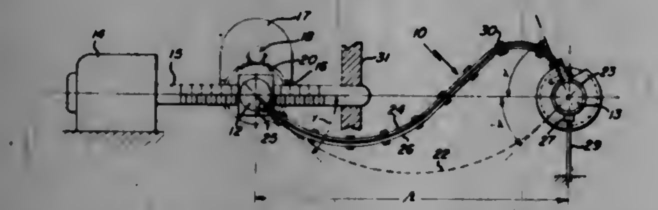
1. An accounting apparatus having amount differential mechanism, a plurality of registers, means to select said registers for cooperation with said differential mechanism, a plurality of manipulative means each corresponding to a different one of said registers to control said register selecting means for the selection of a register, and variable program control means including, for each of at least some of said registers, means selectively presettable to enable a corresponding one of said manipulative means, when it has been manipulated to select said register, to select a further register for cooperation with said amount differential mechanism.

3,195,811
DAMPING STABILIZER DEVICES

Michael Daniloff, Cambridge, Mass., assignor to Raytheon Company, Waltham, Mass., a corporation of Delaware

Filed June 1, 1962, Ser. No. 199,501

10 Claims. (Cl. 235—61)



1. In combination, a deformable element of a length representing a preset length of path between two preselected points, means to apply a rotation to one end of the element in response to a first input signal, means for varying the distance between the extremities of said element in response to a second input signal proportional to the distance between said preselected points, means for extracting an output signal in response to the rotation of the other extremity of said element, and means for applying a frictional damping force to said element acting along the surface of said element.

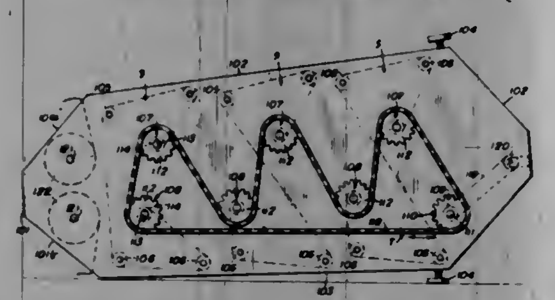
10. A device for damping rotation of a shaft including movable and stationary surfaces containing a damping fluid, a damping disc immersed in said fluid, means for varying the distance between said movable and stationary surfaces determined by the angular acceleration of the motion of the movable surfaces in respect to the stationary surfaces for producing a damping force upon said disc which varies as said acceleration, being a maximum at the beginning and end of said motion.

3,195,812
MULTIPLE FIGURE DISPLAY DEVICE

Silas T. Gallegos, 1326 Dartmouth NE., Albuquerque, N. Mex.

Filed Sept. 30, 1963, Ser. No. 312,628

3 Claims. (Cl. 235—86)



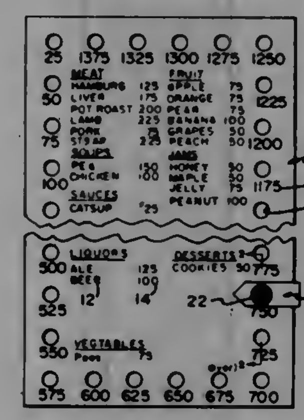
1. In a machine of the type described, a casing having open top and bottom ends, a transparent sheet closing each of said top and bottom ends, a plurality of sections within said casing, each section comprising a pair of idler rolls freely rotatably mounted within said casing adjacent said top end, a second pair of idler rolls freely rotatably mounted adjacent said bottom end, a first roller mounted within said casing below said first pair of idler rolls and offset with respect thereto, a second roller mounted within said casing above said second pair of idler rolls and offset with respect thereto, a paper roll for each section bearing indicia or its face, one end of said paper roll being attached to the first roller with the paper passing over the idler rolls of the first pair, thence over the idler rolls of the second pair and the other end of the paper being attached to the second roller, a drive roller mounted in the casing, a sprocket for said drive roller and first and second rollers of each section, and a chain trained around said sprockets whereby rotation of the drive roller imparts rotation to said first and second rollers of each section thereby feeding the paper from one roller to the other roller and vice versa whereby the indicia on the paper between the idler rolls of the respective pairs is visible through the transparent sheets.

3,195,813
CALORIE COUNTER

James H. Hart, 4 Rockyhill Road, Andover, Mass.

Filed Feb. 25, 1963, Ser. No. 260,575

2 Claims. (Cl. 235—90)



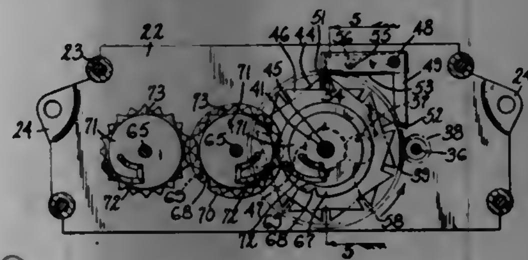
1. A calorie counter comprising a single sheet member, a plurality of fixed columns of indicia on each side of said sheet member relating to foodstuffs, a series of figures positioned adjacent said indicia of foodstuff, each figure indicating the calorie value of said indicia of foodstuff adjacent thereto, a totalizing scale comprising a series of numerals disposed in arithmetic progression around the margin of said sheet member for indicating the changing total calorie value of selected foodstuffs, openings in the margin of said sheet member adjacent said numerals and an indicator character adapted to be inserted from either side of said sheet member into any of said openings adjacent said numerals to indicate the changing total calorie value.

3,195,814
METER DEVICE

Robert A. Steinkamp, Middletown, Conn., assignor to Ripley Company, Inc., Middletown, Conn.

Filed Apr. 30, 1963, Ser. No. 276,839

15 Claims. (Cl. 235—113)



1. Means for converting continuous rotation to intermittent incremental rotation for electrically reading incremental positions comprising a shaft, drive means for driving said shaft, a hub mounted for free rotation on said shaft, a pluri-lobed ratchet wheel on said shaft, a pluri-lobed ratchet wheel on said hub, the direction of slope of the camming portion of one ratchet wheel being reversed from that of the other ratchet wheel, means acting between said first and second ratchet wheels to urge said second ratchet wheel in the same direction of rotation as said first ratchet wheel on the continuously moving shaft, and means engaging both ratchet wheels for preventing movement of said second ratchet wheel until said first ratchet wheel has travelled a preselected angular amount and for thereafter releasing said second ratchet wheel to permit approximately the same angular travel of said second ratchet wheel.

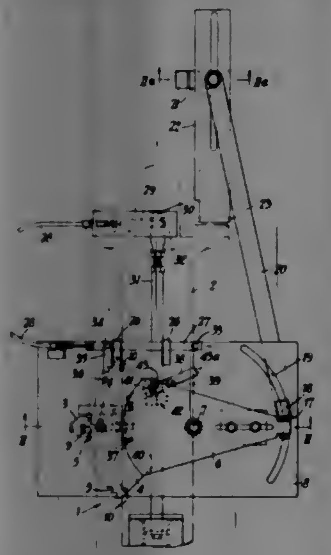
3,195,815
DEVICES FOR COUNTING AND CONTROLLING CONSECUTIVE OPERATIONS OF A MACHINE

Frederick John Sackley, Kent, England, assignor to Vickers-Armstrongs (Engineers) Limited, London, England, a British company

Filed Apr. 17, 1964, Ser. No. 360,627

Claims priority, application Great Britain, Apr. 25, 1963, 16,407/63

10 Claims. (Cl. 235—132)



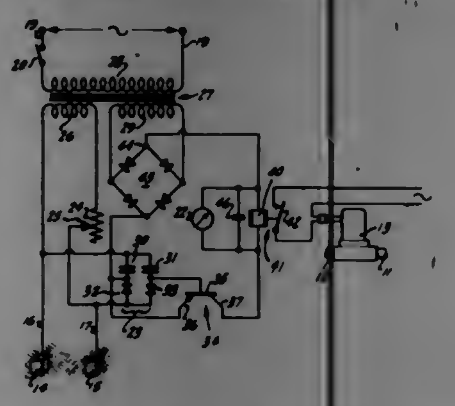
1. A repeat counting device for controlling a cyclically operable machine to enable a predetermined number of

cyclic operations of the machine to be included in a desired sequence, said device comprising a support, a toothed sector, mounting means pivotally mounting said toothed sector in said support including a pivot secured in said support, a sector plate pivotally mounted on said pivot and carrying said toothed sector, a driving element operable in timed relationship with the cyclic operations of the machine and mechanically engageable with said toothed sector to impart thereto a preset number of angular stepwise movements each corresponding to a cyclic operation of the machine, means for presetting the number of stepwise movements to be made by said toothed sector during its angular travel from a start position to a stop position, said presetting means comprising a setting block mounted in said support for movement along a curved path, adjustable means for securing said setting block in adjusted position along said path according to the number of stepwise movements to be made by the toothed sector, an abutment at the end of said sector plate remote from said toothed sector, said abutment being engageable with said setting block to determine the start position of the angular travel of the toothed sector and associated sector plate in accordance with the adjusted position of said setting block, and means for returning said toothed sector from said stop position to said start position for a repetition of the desired sequence of cyclic operations of the machine.

3,195,816

LOW-VOLTAGE SPRINKLER CONTROL SYSTEM

Richard H. Mercer, 16 Barber Ave., San Anselmo, Calif.
Filed Mar. 13, 1962, Ser. No. 179,349
2 Claims. (Cl. 239—[illegible]3)

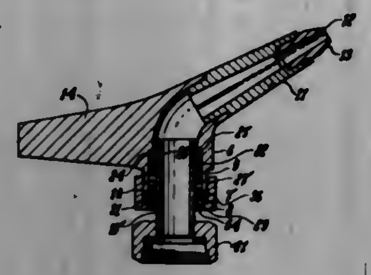


2. For use in controlling the moisture content of soil by automatic operation of a sprinkling system when said moisture content falls below a predetermined value, a pair of nonpolarizable electrodes adapted to be buried at spaced-apart locations in the soil, a source of alternating current not exceeding about 7 volts connected across said electrodes, a current- and potential-limiting resistor in series with said electrodes and said source to prevent the potential across said electrodes exceeding about 2 volts A.C., a potential-sensing bridge circuit having its input terminals connected directly across and in parallel with said electrodes, the arms of said bridge circuit comprising condenser means and rectifier means connected together to convert said A.C. current flow between said electrodes to an amplified direct-current value at the output terminals of said bridge circuit, and an independent power circuit for supplying an operating potential to solenoid valve means for control of a sprinkler system operative over the area where said electrodes are buried, said power circuit including a transistor, the control terminals of said transistor being connected to said output terminals of said bridge circuit so that said transistor and said pair of electrodes are mutually isolated from each other by said bridge circuit and the power terminals of said transistor being connected in series circuit with said power circuit.

3,195,817

ROTARY WATER SPRAYING DEVICES

Robert Douglas Ridgeway Sandie, Mildura, Victoria, Australia, assignor to Die Casters Proprietary Limited, Victoria, Australia, a corporation of Victoria
Filed Oct. 24, 1963, Ser. No. 318,645
Claims priority, application Australia, Oct. 24, 1962, 23,547/62
5 Claims. (Cl. 239—252)



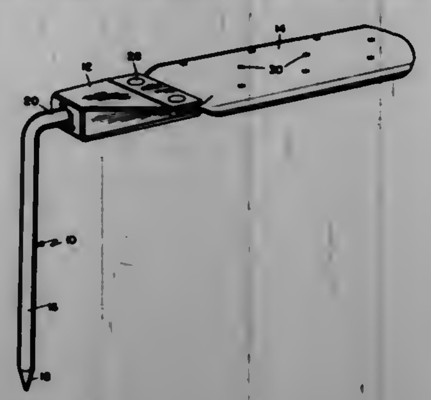
1. An improved rotary short arm water sprinkler comprising a hollow body member and mounting means for securing it to an associated water delivery pipe, said mounting means including a stationary spindle or pillar having an open ended passage therethrough and being provided with means for detachably connecting it to said hollow body member in coaxial relationship with the main axis thereof, part of said spindle being accommodated within the hollow body member and the remainder of said spindle projecting axially therefrom and being provided at its outer end with means for detachably coupling it to a water delivery pipe, said spindle being provided at an intermediate point in its length with a laterally projecting annular flange forming inner and outer abutments and being also fitted with a collar which is slidable on the inner end portion of said spindle, a helical spring under predetermined compression located between said collar and the opposed inner abutment on said flange, the outer end portion of said collar forming an endless bearing surface adapted to engage an associated bearing ring carried by said hollow body member, a rubber or like resilient sealing ring encircling said spindle and engaging the outer abutment on said flange, and an associated bearing ring composed of polytetrafluorethylene or other plastic material having a similar low initial co-efficient of friction and carried by said hollow body member and having an endless inclined bearing surface on that face adjacent to said rubber ring, said bearing surface being inclined transversely and inwardly towards the opposite face of the ring, said compression spring urging said hollow body member and said spindle apart in an axial direction so as to maintain said collar in engagement with its relatively rotatable bearing ring on the hollow body member and to also maintain said associated sealing and bearing ring in relatively rotatable engagement in such a manner that the sealing ring is compressed radially and inwardly by said inclined bearing surface and thus yieldingly opposes rotation of said body member about its stationary spindle when in use while simultaneously providing a rotary water seal between said relatively rotatable sealing and bearing rings.

3,195,818

SPRINKLER HOSE SWIVEL STAKE

De Myles T. Herberg, 8888 Hammond Drive, San Diego 23, Calif.
Filed Sept. 9, 1963, Ser. No. 307,686
5 Claims. (Cl. 239—276)

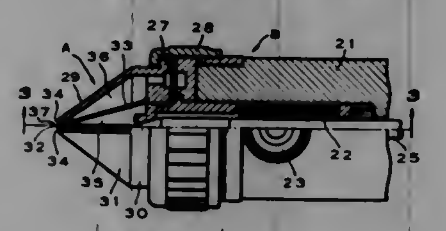
1. In a watering system, the combination comprising:
a flexible, perforated hose of the type having means for connection of one end thereof to a source of pressurized water;
swivel closure means closing the other end of said hose;
anchoring means attached to said swivel closure means, said anchoring means tethering said swivel closure means and said other end against movement axially of the hose, and enabling free rotational adjustment of said hose, when anchored, about the longitudinal axial of the hose.



3,195,819

SPRAY NOZZLE FOR COATING ARTICLES

Tamotsu Watanabe, 28 Yasukata-cho Ohta-ku, Tokyo, Japan
Filed Feb. 27, 1963, Ser. No. 261,373
Claims priority, application Japan, Mar. 14, 1962, 37/9,798
1 Claim. (Cl. 239—601)



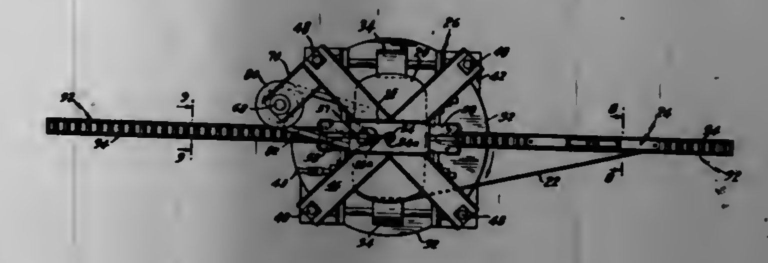
A spray nozzle for atomizing liquid coating materials comprising a substantially bell-shaped housing having a long and narrow aperture therethrough, said aperture scribing an arcuate path on a plane passing through the longitudinal axis of said aperture, a first plate extending into said aperture from within said bell-shaped housing on one side of said plane, said first plate having an end substantially following said arcuate path and terminating at a sharp edge within said aperture, and a second plate extending into said aperture from within said bell-shaped housing on the other side of said plane, said second plate having an end substantially following said arcuate path and terminating at a sharp edge within said aperture, said first and second plates forming therebetween a first narrow arcuately shaped outlet through which the liquid coating material passes, said first plate cooperating with said bell-shaped housing to define a second narrow arcuately shaped outlet, said second plate cooperating with said housing to define a third narrow arcuately shaped outlet, each of said second and third outlets disposed on an opposite side of and substantially parallel to said first outlet, said second and third outlets communicating with a supply source of compressed air.

3,195,820

METHOD FOR WINDING TORODIAL POWER TRANSFORMERS

Andrew A. Halacsy, Elizabeth, N.J., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed July 13, 1961, Ser. No. 123,859
9 Claims. (Cl. 242—4)

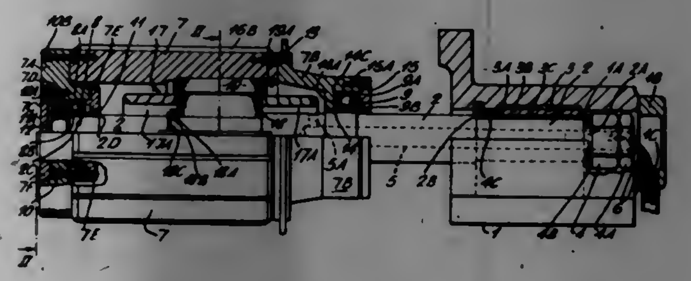
5. A method of winding a power transformer that includes a core having a central aperture comprising the steps of securing a portion of a length of wire against movement relative to the core, the wire being in the form of an elongated coil whose turns extend along the coil and around its ends, and passing said coil in lengthwise strokes of reciprocation through said aperture and indexing said core through a half-revolution between each stroke of the coil and the next stroke, thereby to wind successive turns of wire on said core.



3,195,821

HIGH SPEED WINDING COLLET

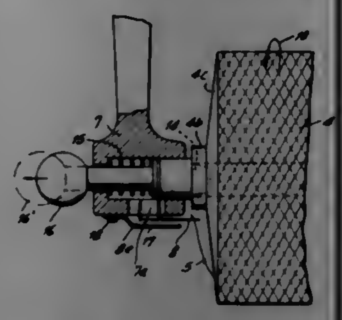
Arthur Ronald Woosey, Prescot, and Geoffrey Allan Warren, St. Helens, England, assignors to Fibreglass Limited, St. Helens, England
Filed Sept. 27, 1963, Ser. No. 312,191
Claims priority, application Great Britain, Sept. 28, 1962, 36,843/62
4 Claims. (Cl. 242—18)



1. A rotary collet device for winding filamentary material, said device comprising:
a stationary shaft having a stepped cylindrical outer surface thereon, said shaft having a first bearing race receiving surface thereon, and said shaft having a squirrel cage electric motor field winding receiving surface thereon, said field winding receiving surface being disposed between a first shoulder and a circumferential groove in said shaft;
a squirrel cage motor field winding received on said field winding receiving surface of said shaft and abutting said shoulder, said field winding being retained on said shaft in position by a spring ring disposed in said groove, said field winding being readily removable from said shaft upon removal of said spring ring;
first and second anti-friction bearings having inner races received on said first and second bearing race receiving surfaces of said shaft, respectively;
a collet having a front end cover removably secured to the front end thereof, said cover mounting the front end of said collet rotatably to said shaft by clamping to the outer race of said first bearing, said collet having a squirrel cage rotor secured in an inner bore thereof and disposed around said field winding for imparting motion to said collet when said field winding is appropriately energized, and said collet having a back cover removably secured thereto and clamped to the outer race of said second bearing for mounting the back end of said collet rotatably to said shaft, said front cover and said first bearing being readily removable from said collet and said shaft and facilitating removal of said field winding from said shaft while said collet and said back cover remain in position on said shaft.

3,195,822
DEVICE FOR ELIMINATING THROW-OFF YARN IN WINDING MACHINES

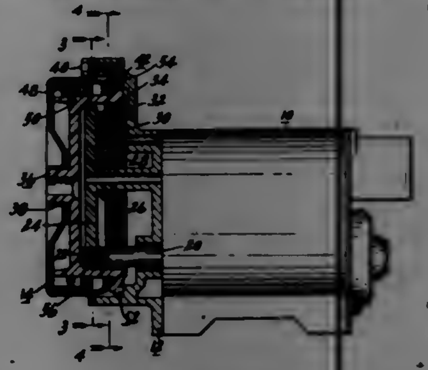
Rudolf Becker, Charlotte, N.C., assignor to Walter Reiners, Monchen-Gladbach, Germany
Filed Aug. 28, 1963, Ser. No. 305,084
12 Claims. (Cl. 242—19)



1. With a machine for winding yarn packages, particularly cross-wound coils on cores, having holder means for journalling a core at the core ends, in combination a device for eliminating winding on a core end of lateral yarn throw-off from the package being wound, said device comprising yarn severing means mounted near a journalled core end and axially beside the package area of the core, said severing means having a cutting edge at a location between the core and the package periphery in the path of yarn laterally thrown off the package whereby said cutting edge is engageable with the throw-off yarn for severing the yarn at said location.

3,195,823
FLEXIBLE CABLE DRIVE

Milton E. Simmons, Rochester, N.Y., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Mar. 12, 1963, Ser. No. 264,680
6 Claims. (Cl. 242—54)

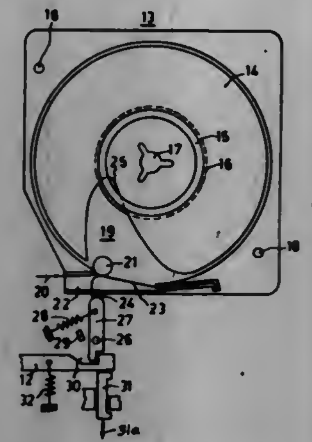


1. A flexible cable drive including, a coil storage chamber, an elongate flexible cable having one end connected with an object to be moved and the other end portion coiled within said chamber, a rotatable deformation element adjacent said chamber having a polygonal surface in driving engagement with said cable for coiling and uncoiling said cable in said chamber, means separating said storage chamber from said rotatable element having helical ramp means therethrough for guiding said cable in its movement in either direction to and from said storage chamber; and means operable to rotate said deformation element.

3,195,824
TAKE-UP APPARATUS FOR TAPE RECORDERS

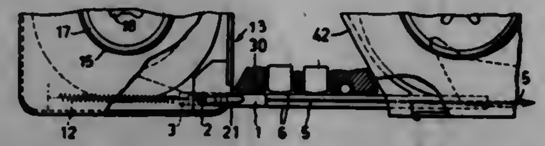
Friedrich Laa and Friedrich Louzil, both of Vienna, Austria, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Mar. 29, 1962, Ser. No. 183,523
Claims priority, application Austria, Apr. 4, 1961, A 2,696/61
4 Claims. (Cl. 242—55.13)

4. In a magnetic tape dictating machine having a rewind mechanism, the combination comprising; a take-up magazine having a rotatable reel therein, an aperture in said magazine, a magnetic tape having a tag at one end receivable in said aperture and engageable by said reel for winding said tape on said reel, means moveably mounted on said machine and operatively connected with said magazine, said means having a first position in which said aperture is open for passage of said tag therethrough and a second position in which said aperture is closed against passage of said tag but open for passing said tape therethrough, means for moving said first named means between said first and second positions, and means connecting said last named means with the rewind mechanism of said machine for moving said first named means during rewind operation of said machine to said first position.



3,195,825
RECORDING AND REPRODUCING APPARATUS

Friedrich Louzil, Vienna, Austria, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Nov. 15, 1962, Ser. No. 237,816
Claims priority, application Austria, Nov. 17, 1961, A 8,704/61
3 Claims. (Cl. 242—55.13)

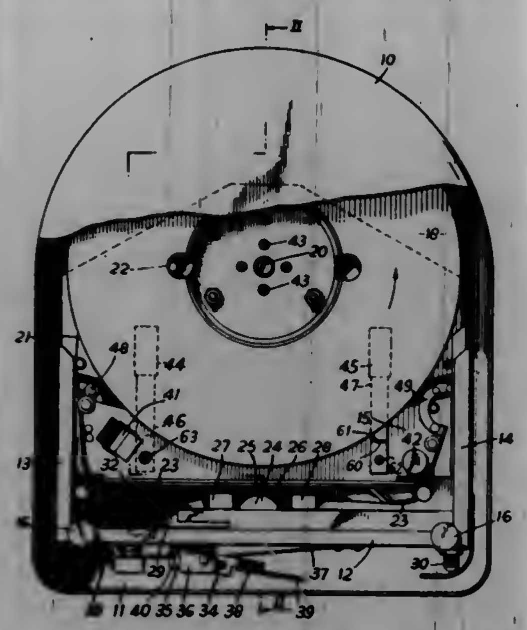


1. In a recorder/reproducer apparatus having a slide adapted to transfer magnetic tape from a supply spool to a take-up spool, the improvement comprising a guide member mounted on said apparatus and extending between said supply and take-up spools, a slide receivable in said guide member for longitudinal movement relative thereto, a catch member, means pivotally securing said catch member on said slide for movement from a retracted to an operative position, and said catch member engaging said guide member for pivotally moving it to its operative position upon movement of said slide.

3,195,826
MAGNETIC TAPE CASSETTES

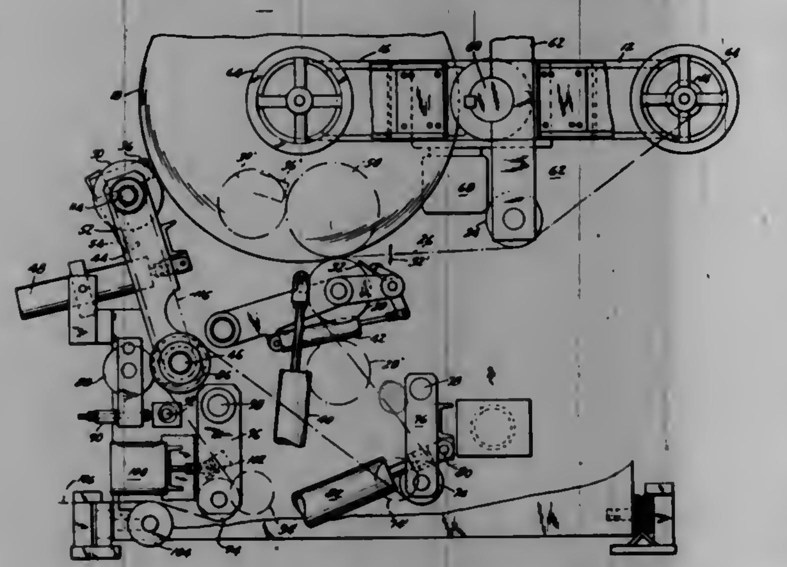
Alec Smith, Banstead, Surrey, England, assignor to Clarke & Smith Manufacturing Company Limited, Wallington, Surrey, England, a British company
Filed May 27, 1963, Ser. No. 283,500
Claims priority, application Great Britain, June 5, 1962, 21,699/62
9 Claims. (Cl. 242—55.13)

1. A tape cassette comprising two rotatably-mounted spools, a tape extending between the said spools, the said spools being so disposed within the cassette that either one of said spools is engageable by an external driving element rotating in one direction only to draw the tape from the other spool onto the driven spool, control devices subjecting each spool to a drag sufficient to prevent overrunning of the spool when tape is drawn from it, and a braking device associated with each spool to prevent tape spillage, each braking device comprising a pivoted arm balanced about its pivot, a brake element on the said arm engageable with the rim of the spool, spring means biassing the arm towards engagement of the brake element with the rim, and a guide element on said arm cooperating with the tape whereby the brake element is held out of engagement with the rim of the spool when the tape is under tension.



3,195,827
SPLICER FOR MOVING WEB

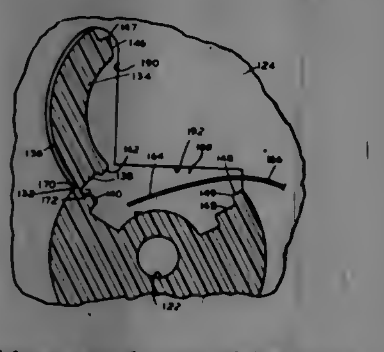
George J. Schowerer, West Englewood, and Bernard Simon, Irvington, N.J., assignors to Champlain Company, Inc., Roseland, N.J., a corporation of New York
Filed Dec. 18, 1961, Ser. No. 160,169
19 Claims. (Cl. 242—58.2)



1. Automatic splicer means for use with a web supply means including a support for an expiring mill roll, a support for a new mill roll, said new mill roll having a starting edge with adhesive tape, means guiding the expiring web close to the new mill roll, movable arms, a speed-up roller carried by said arms and bodily movable into or out of engagement with the new mill roll regardless of change in new mill roll diameter, means to drive the speed-up roller to bring the new mill roll up to speed, said means functioning regardless of change in position of the arms, a contact roller movable to press the expiring web against the new mill roll, and a knife adjacent the contact roller, said automatic splicer means comprising a detectable element adhered to the new mill roll ahead of the starting edge and adhesive tape of the new mill roll, a sensing device mounted on the aforesaid arms for movement toward or away from the new mill roll with the speed-up roller, whereby the sensing device is located at about the same distance from the surface of a new mill roll regardless of the diameter of the new mill roll, circuitry responsive to said sensing device when traversed by the detectable element, means responsive to a first operation of said circuitry caused by said detectable element traversing said sensing device to operate the contact roller, and means responsive to a second operation of said circuitry caused by said detectable element again traversing said sensing device upon another rotation of the new mill roll to operate the knife, whereby severance of the expiring web takes place promptly after adherence to the leading edge of the new mill roll and cannot take place before such adherence.

3,195,828
RIBBON SPOOL

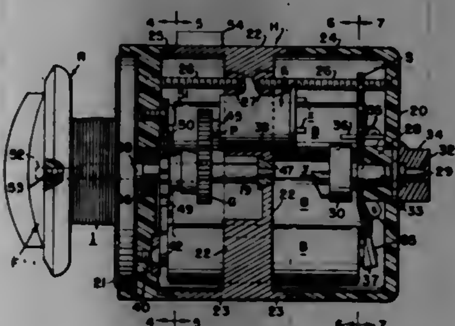
Carl J. Kuckhoff and Henry J. Biedinger, Syracuse, N.Y., assignors to The Syracuse Stamping Company, Inc., Syracuse, N.Y., a corporation of New York
Filed July 1, 1963, Ser. No. 291,849
5 Claims. (Cl. 242—74.1)



3. An inked ribbon spool comprising a one piece spool molded of non-rigid plastic, said spool having a cylindrical drum for receiving the convolution of ribbon to be wound thereon, said drum having a substantially rectangular recess therein extending radially thereinto from the peripheral surface thereof, and a segment complemental to the peripheral portion of said recess molded integral with the spool and having a thin flexible membrane hinge connecting one edge thereof integrally to a side wall of said recess.

3,195,829
POWER UNIT-REEL ASSEMBLY FOR FISHING RODS

Rodolfo R. Balaguer, Fort Lauderdale, Fla., assignor to J. D. Hedges and Company Limited Partnership, Kingston, Jamaica, a limited partnership of Cuba
Filed July 1, 1963, Ser. No. 292,015
10 Claims. (Cl. 242—84.2)



7. A motorized fishing reel having a frame fixedly mounting a motor and, laterally thereof, a plurality of interconnected battery cells in connection with the motor for operation thereof, the frame comprising a circular disk-like body and a bearing plate carried by the body in spaced relation thereto and providing therewith an enclosed chamber, means for detachably securing the bearing plate to the body, removal of the bearing plate ex-

posing one face of the frame body, the frame body being formed with a plurality of circular openings disposed an equal distance from and axially parallel with the axis of the frame body and circularly thereof, the motor and battery cells being each mounted within one of the parallel openings and supported therein with one end portion of each extended into the chamber to be accessible for withdrawal from and/or replacement in its mounting, a reel shaft rotatably carried by the bearing plate and extended beyond opposite faces thereof, a spool affixed to the reel shaft exteriorly of the bearing plate, a drive shaft extended from the motor into the chamber, means drivingly connecting the motor drive shaft with the reel shaft for operation thereof and freely separable therefrom when the bearing plate is detached from the frame body, and a mounting for the reel extended outwardly from the frame body for attachment to a fishing rod.

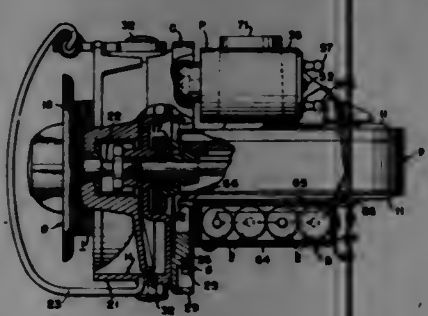
3,195,830

MOTORIZED FISHING REEL

Rodolfo R. Balaguer, Fort Lauderdale, Fla., assignor to J. D. Hedges and Company Limited Partnership, Kingston, Jamaica, a limited partnership of Cuba

Filed July 1, 1963, Ser. No. 292,019

10 Claims. (Cl. 242—84.21)



10. A spinning type fishing reel comprising a hollow frame, having spaced substantially flat parallel walls, a head rotatably supported by said frame, a reel spool mounted on said frame and being disposed substantially concentrically with respect to said head, an electric motor, motor support means, means for readily connecting and disconnecting said motor support means with said frame adjacent one of said frame walls and extending outwardly from such frame wall, power transmission means drivingly connecting said motor with said head, a source of electrical energy, a casing for supporting such source of electrical energy, means for readily connecting and disconnecting said casing with said frame such that the casing is supported on the opposite one of said walls whereby said motor and said source of electrical energy comprise separate units supported at opposite sides of the frame, said casing extending outwardly away from the associated wall, and means disposed completely exteriorly of said frame and being independent thereof for providing an electrical connection between said source of electrical energy and said motor, whereby a conventional spinning type fishing reel is readily converted to motorized operation.

3,195,831

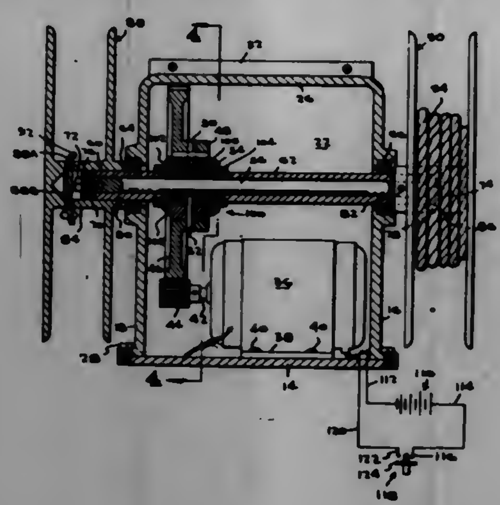
MEANS FOR RETRIEVING AND STORING WATER SKI ROPES

Robert D. Shriner, 1740 E. 14th St., and Harold C. Voss, 1312 E. 1st St., both of Pueblo, Colo.

Filed June 1, 1962, Ser. No. 199,462

4 Claims. (Cl. 242—84.5)

1. A water ski tow rope retrieving device comprising a differential housing for mounting in a boat and including a pair of oppositely-disposed and spaced end walls, a shaft supported on and extending between and beyond the remotely-disposed sides of said end walls, a pair of sleeves telescoped over said shaft and rotatable relative thereto, said sleeves having their respective remotely-disposed ends extending beyond the remotely-disposed sides of said end walls, a reel to receive said tow rope fixedly secured to each remotely-disposed ends of said sleeves, the adjacent inner ends of said sleeves being axially spaced from one another, a bevel gear connected to each of said inner ends of said sleeves, a driven gear surrounding said shaft and carrying a pair of diametrically-opposed bevel gears meshing with said first-named bevel gears, and means for driving said driven gear.



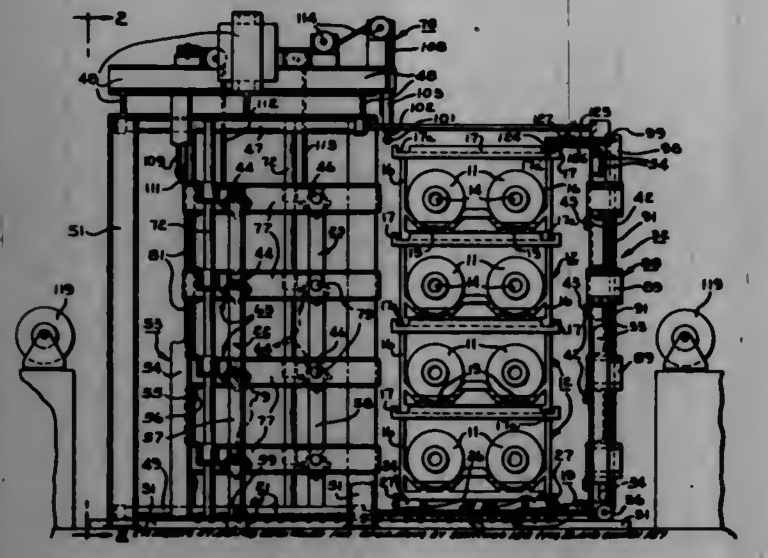
3,195,832

APPARATUS FOR REMOVING STRANDS FROM ARTICLES

Richard C. Kirchmeyer and Warren E. Petersen, Omaha, Nebr., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 21, 1962, Ser. No. 246,400

10 Claims. (Cl. 242—129.6)



1. Apparatus for removing strands from a plurality of reels supported on pallets, which comprises:

horizontal, parallel arbors;

means for supporting said arbors;

means for moving the pallets and the reels thereon adjacent said arbors;

stop means for limiting the movement of the pallets and cooperable with said moving means to position the pallets such that the axes of bores in the reels are aligned with the longitudinal axes of said arbors, whereby said arbors can be received through the bores; and

means for lifting said arbors vertically to lift the reels off the pallets so that the reels can rotate on said arbors and the strands can be pulled from the reels in unison.

3,195,833

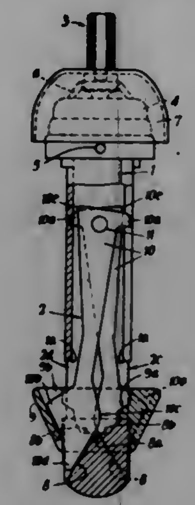
BOBBIN HOLDERS FOR TEXTILE MACHINES

Joseph Noguera, London, England, assignor to Casablancas High Draft Company Limited, Manchester, England, a company of Great Britain

Filed Feb. 11, 1963, Ser. No. 257,540

Claims priority, application Great Britain, May 25, 1962, 20,273/62

7 Claims. (Cl. 242—130.2)



1. A rotary suspension bobbin holder comprising a spindle-like body adapted to enter the open end of the bobbin, leg means carried by said body movable longitudinally and axially thereof, a collar slidable on said body, bobbin-retaining means on said leg means having a position projected into the path of movement of said collar to enable it to hold the bobbin and having a position out of said path, projection means on said leg means spaced from the second mentioned means movable to projected and retracted positions with respect to said path alternately with the movements to and from the first mentioned projected and retracted positions, said collar being engageable with said projection means to effect release movement of said leg means, and ramp means on the body to project said leg means to the bobbin-holding position upon movement against said ramp means following said last mentioned release movement.

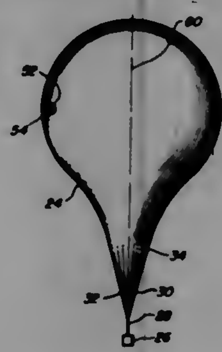
3,195,834

ROTATING BALLOON SYSTEM

William F. Huch, St. Paul, Minn., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Sept. 20, 1963, Ser. No. 310,511

3 Claims. (Cl. 244—31)



1. A free, high altitude balloon system, comprising:

(a) an inelastic film balloon defining a contained air mass;

(b) means for replenishing said air mass with ambient air from the surrounding atmosphere as the balloon ascends and descends; and

(c) means, including an orifice in said balloon in communication with said air mass and with the surrounding atmosphere, whereby air escapes through said orifice and imparts rotational motion to said balloon.

3,195,835

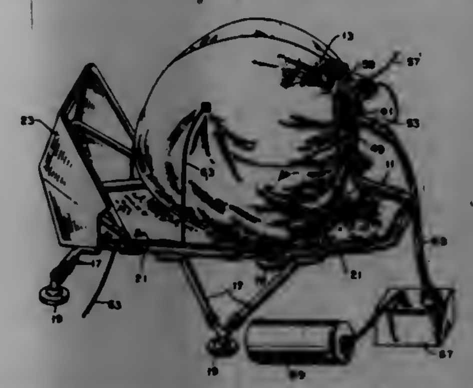
BALLOON LAUNCHING APPARATUS

David G. Eyre, Long Branch, and Moses B. Sharenow, Asbury Park, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed June 3, 1964, Ser. No. 372,431

4 Claims. (Cl. 244—31)

(Granted under Title 35, U.S. Code (1952), sec. 266)



2. A balloon launching system comprising in combination a support for said balloon, and a canopy secured to said support that enshrouds said balloon during its inflation, said canopy having an elongated opening throughout substantially the length of said canopy to one end thereof thereby forming a pair of opposing mating flap portions, said canopy further including a plurality of looped ties spaced about its open peripheral edge, a threading loop secured at the end of one of said flap portions, a stud also secured to said same flap portions as the threading loop over which said loop can be engaged, an eyelet opening in the other of said flaps, a strap secured at one end to said canopy and having an eyelet opening at its other end in register with said first eyelet and wherein both of said eyelet openings are adapted to be engaged over said stud, and a plurality of looped ties spaced about the open peripheral edge of said canopy and through which said threading loop can be threaded to form an opening through which the neck portion of said balloon can be inserted whereby when said threading loop, with the looped ties held thereby, is confined beneath the said stud between the outer flap of said canopy and the strap engaged on said stud, the balloon will be restrained in said canopy.

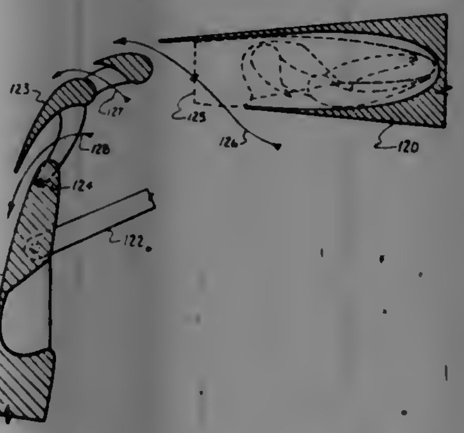
3,195,836

HIGH LIFT SLOTTED FLAP

Alberto Alvarez-Calderón, 1560 Castilleja St., Palo Alto, Calif.

Original application Apr. 16, 1962, Ser. No. 187,903. Divided and this application May 24, 1963, Ser. No. 283,114

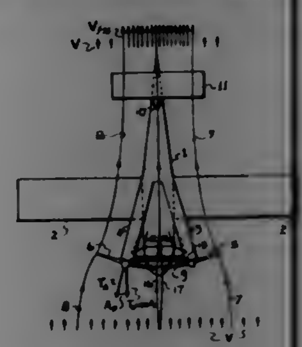
5 Claims. (Cl. 244—42)



1. An aircraft wing having a trailing edge portion with an undersurface; a trailing edge flap mounted on said wing and adapted to be moved between a high speed position in which said trailing edge flap is faired with said wing adjacent to said trailing edge portion and a high

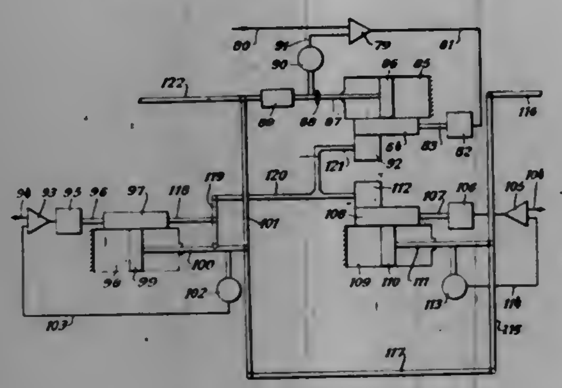
lift position inclined to and external from said wing with said trailing edge flap in said high lift position having an upstream edge, an upper surface and a lower surface; a vane mounted on said trailing edge flap by means of a bracket extending from said vane and pivoted to said flap at a spanwise pivotal axis located adjacent to said upstream edge, with said vane being adapted to be moved with respect to said trailing edge flap by angular motion about said pivotal axis which inverts said vane between a retracted vane position in which said vane is trailing said upstream edge and is located below and adjacent said trailing edge flap when said trailing edge flap is in said high speed position, and an extended high lift vane position ahead of said trailing edge flap in which the trailing portion of said vane is spaced from a surface portion of said trailing edge flap adjacent to said upstream edge to define first converging slot walls therebetween for fluid flows from below said wing and across said first slot, said vane being further positioned with respect to said wing with the upstream leading portion of said vane being spaced from said undersurface of said wing to define second converging slot walls therebetween for fluid flows from below said wing and across said second slot when said trailing edge flap is in said high lift position.

3,195,837
HEAVIER THAN AIR FLYING APPARATUS WITH A PLURALITY OF AIRSCREWS
Alberto Alvarez-Calderón, 1560 Castilleja St., Palo Alto, Calif.
Filed Feb. 25, 1963, Ser. No. 260,428
18 Claims. (Cl. 244—55)



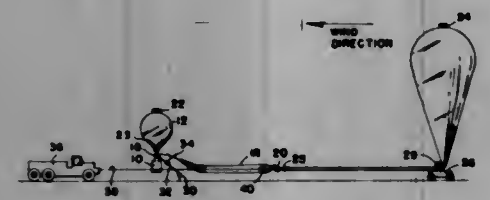
1. A flying vehicle having a central body portion with a forward end, a central plane passing through a longitudinal axis of said body, and a vehicle center of gravity, a pair of propulsive powerplants one mounted on each side of said vehicle adjacent to said forward end one separate from the other, with each of said powerplants having a powerplant longitudinal axis outwardly and forwardly oriented with respect to said central plane at an outward angle, an upstream powerplant end portion located ahead of said center of gravity at a distance approximately at least as great as the perpendicular distance between said powerplant upstream end portion and said central plane and an operative regime in which fluid is impelled rearwardly and inwardly from said powerplant along said longitudinal axis toward said central plane during which regime a lateral force perpendicular to said longitudinal axis, approximately horizontal, and away from said central plane is developed at said front end of each of said powerplants with said force having a line of action passing well ahead of said center of gravity; said powerplants and vehicle having as an inherent characteristic of stability that when in normal simultaneous operation the powerplants have their respective lateral forces substantially cancelling each other, and when one of said powerplants ceases operation the lateral force developed by the remaining operative one of said powerplants immediately produces a turning couple tending to rotate said vehicle about a vertical axis through said center of gravity to the side of said operative powerplant.

3,195,838
CONTROL FAULT VETO
Geoffrey Stanley Bishop, Luton, England, assignor to Elliott Brothers (London) Limited, London, England, a British company
Filed Dec. 26, 1963, Ser. No. 333,528
Claims priority, application Great Britain, Jan. 4, 1963, 583/63
8 Claims. (Cl. 244—78)



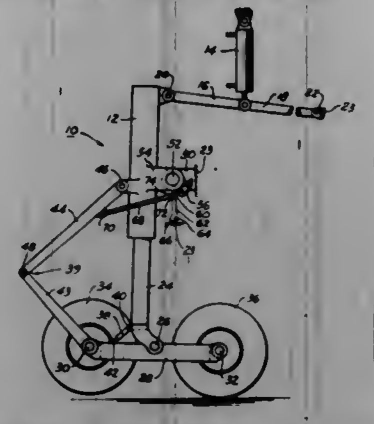
1. A control arrangement for aircraft comprising means to derive a measure of a force and moment to be exerted on the aircraft structure as commanded by the setting of a pilot's primary control, a first device to measure the force and moment actually being exerted and to produce a signal dependent upon the difference, a first actuator responsive to the difference signal to act upon the aircraft primary control system, a second and independent device to measure the attitude of the aircraft and to provide a signal corresponding to the departure of the attitude from a desired attitude, a second actuator associated with the second device to act upon the aircraft primary control system, and veto means associated with the two actuators whereby one device is able to veto the action of the other if the signals of the two devices are of opposite senses indicating that one of the devices has developed a fault.

3,195,839
BALLOON PAYLOAD LAUNCHING TECHNIQUE
Delmar A. Dietsche, St. Paul, Minn., assignor, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Sept. 27, 1962, Ser. No. 226,628
20 Claims. (Cl. 244—98)



1. The method of launching a payload into the atmosphere by the use of two balloons which comprises attaching the payload to a first deflated balloon which is secured to a first anchor point, attaching the payload to a second deflated balloon which is substantially larger than the first balloon and which is secured to a second anchor point which is remotely positioned relative to the first anchor point, inflating said first balloon with sufficient lifting gas to lift the payload into the atmosphere when said balloon is released, inflating said second balloon with a larger amount of lifting gas than the first balloon, and releasing both balloons from their respective anchor points so that each is free to ascend into the atmosphere.

3,195,840
AIRCRAFT LANDING GEAR
Raymond P. Tollar, South Bend, Ind., assignor to The Bendix Corporation, South Bend, Ind., a corporation of Delaware
Filed Oct. 10, 1963, Ser. No. 315,192
5 Claims. (Cl. 244—102)



1. In an aircraft an undercarriage comprising:

a shock absorber with means pivotally mounted to said aircraft;

a collapsible drag strut means for holding said shock absorber means in a vertical position;

an actuating device operatively connected to said drag strut and pivotally connected to said aircraft to cause said drag strut to pivot said shock absorber;

a bogie landing gear pivotally connected to said shock absorber, said gear including a bogie beam adapted to rotatably mount a fore and an aft wheel means;

a positioning means interconnecting said bogie beam said shock absorber to hold said beam such that said aft wheel means is held lower than said forward wheel means, said positioning means being arranged to allow said beam to pivot to cause said forward wheel and said rear wheel to assume the same attitude after said rear wheel has come into ground contact;

a scissors link attaching the bogie beam adjacent its forward end to said shock absorber adjacent the means pivotally mounting said shock absorber to said aircraft;

a cam attached to said means pivotally mounting said shock absorber to rotate about an axis upon retraction of said shock absorber as by collapsing said drag strut by said actuating device;

a cam follower pivotally mounted to said aircraft, said follower having means permitting limited rotation in one direction and arranged to be impeded in the other direction by a vertical face on said cam; and

a connecting rod attached at one end to said cam follower and at the other end to an upper section of said scissors link whereupon said scissors link will be caused to oppose said positioning means as said undercarriage is being retracted.

3,195,841
DOUBLE WALL CELLULAR BEAM STRUCTURE
Fritz F. W. Krohn, Del Mar, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware
Filed Nov. 21, 1962, Ser. No. 239,133
20 Claims. (Cl. 244—123)

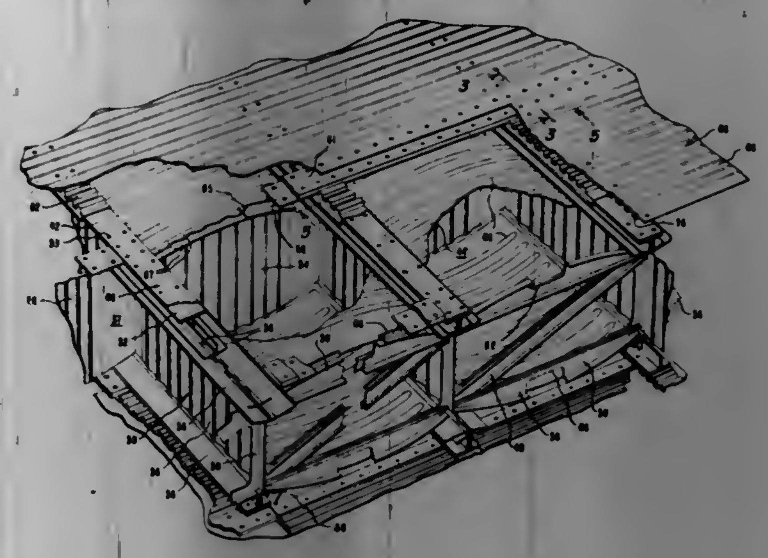
13. In a combination forming portions of an aircraft wing:

a framework of spar and bulkhead structural members covered on top and bottom with a plurality of covering panels;

said spar and bulkhead members each including a longitudinal corrugated member having corrugations lying perpendicular to said covering panels;

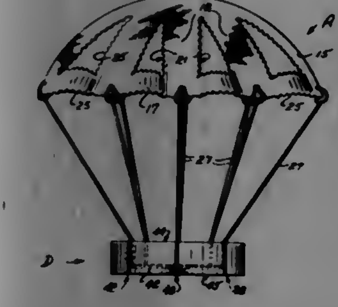
longitudinal cap means secured to the top and bottom of said corrugated members for rigidly connecting said spar members and said bulkhead members to said covering panels;

expansion joint means for attaching said covering panels to said bulkhead cap means;



and means for attaching said covering panels to said spar cap means in a manner allowing thermal expansion of said covering panels relative to said cap means.

3,195,842
PARACHUTE
Kenneth R. A. Wilson, Sunland, Calif., assignor to Irving Air Chute Company, Inc., Lexington, Ky., a corporation of New York
Filed Mar. 3, 1964, Ser. No. 349,041
5 Claims. (Cl. 244—145)

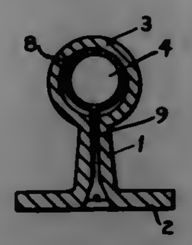


1. A canopy for a parachute including a body portion having a peripheral segment and a plurality of radial segments adjoining each other in juxtaposition to define a plurality of triangular sections forming a drag producing surface in the shape of a flat regular polygon, the peripheral edge of said body portion being provided with a plurality of serrations, and each triangular section including a triangular vent opening through said body portion, the ratio of the combined area of said triangular vents to the area of the complete body portion being the desired geometrical porosity of the drag producing surface expressed as a proper fraction.

3,195,843
SUPPORT BRACKET
Cyril A. Olbrich, Auburn, N.Y., assignor to Nautalloy Products, Inc., Auburn, N.Y., a corporation of New York
Filed Sept. 24, 1963, Ser. No. 311,019
3 Claims. (Cl. 248—74)

1. A support body of extruded metal comprising base flange portions, a connecting shank and support, said support body having a bore disposed therein of substantially cylindrical shape, the thickness of said shank being less than the exterior diameter of said support body, said shank and support body containing a threaded hole to

accommodate a threaded set screw, the axis of said hole being substantially perpendicular to the axis of said bore,

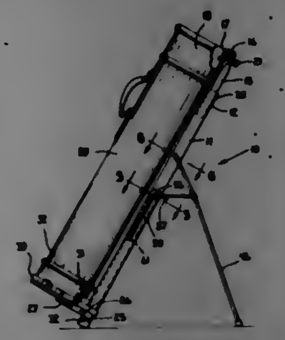


and a set screw disposed within said threaded hole and adapted to bear against a pipe supported within said bore.

3,195,844

GOLF BAG SUPPORT

Kenneth L. Roepke, 2430 W. 66th St., Indianapolis, Ind.
Filed Jan. 16, 1964, Ser. No. 338,101
2 Claims. (Cl. 248—96)

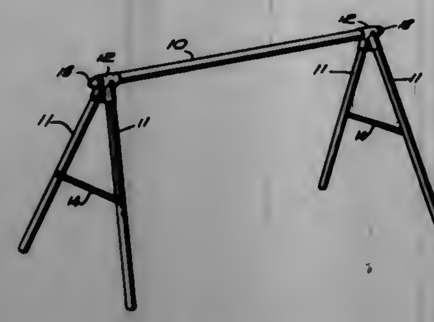


1. A support device for a golf bag comprising an elongated tubular member of a length substantially equal to a golf bag, a second tubular member fixedly telescoped within one end of said elongated member and having a hook on the distal end thereof, said hook curving back towards the proximal end of said second member and adapted to hook onto the edge of a golf bag at its open end, a third tubular member slidably received within the other end of said elongated tubular member, said third member having a cross bar secured to the end thereof within said elongated member, said elongated member having opposed elongated longitudinal slots through which said bar projects, a tension spring connected at one end to the other end of said elongated member and at the other end to said cross bar and normally projecting said third member to a position wherein said cross bar engages the ends of the slots toward said other end of said elongated member, said tension spring being received within said elongated tubular member and third member, said third member having a longitudinally extending slot through which tension spring extends, a pair of legs each swingably connected to said elongated member between said slots and said one end of said elongated member, a pair of links each pivotally connected at one end to one of said legs and pivotally connected at the other end to said cross bar, a rigid C-shaped member fixed to said elongated member adjacent the other end thereof and having its concave portion opening away from said elongated member below said hook, a foot secured to said C-shaped member and flush with the other end of said elongated member, said foot and C-shaped member adapted to cradle the closed end of a golf bag, and a strap associated with said C-shaped member and adapted to hold a bag against said C-shaped member and foot, said cross bar being curved into a concave shape which opens in the same direction as said C-shaped member for reception of a golf bag, said cross bar having oppositely opening slots at said element longitudinal slots and receiving the walls of said element at said element longitudinal slots to resist rotation of said cross bar and maintain it in a position opening in the same direction as said C-shaped member.

3,195,845

OUTDOOR PLAY GYM

John A. Conti, Dothan, Ala., assignor to Hedstrom Union Company, Fitchburg, Mass.
Filed Aug. 5, 1963, Ser. No. 299,784
2 Claims. (Cl. 248—163)

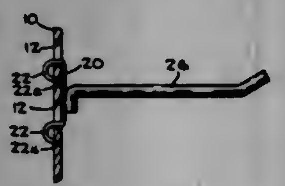


1. An outdoor play gym of the type requiring no nuts, bolts, or screws and the like to secure the legs thereto comprising: a generally cylindrical crossbar for supporting a swing; an elongated strap positioned cross-wise on said crossbar near an end thereof, said strap having an intermediate portion in conforming engagement with and secured to a circumferential wall portion of said crossbar and having opposite unengaged end portions bowed inwardly about the longitudinal axis of said strap thereby forming a pair of diverging opposing cylindrical shells, the portion of each of said shells adjacent said crossbar being generally saddle-shaped for defining a pair of wedge-shaped wells between said shells and opposite sides of said crossbar, said crossbar being curved about a horizontal axis, each said shell portion being curved about a different axis; closure means mounted between said shells, said closure means being arranged and adapted to form with said shells a pair of diverging, open-ended sockets, and an elongated leg having an end portion slidably received in one of said sockets, said end portion including an integral resilient tongue extension comprising a longitudinally curved sheet material element, said tongue extension being wedged into said well when said portion is received in said one of said sockets, and said tongue extension being deformed within said well to prevent the pulling out of the leg from said one of said sockets.

3,195,846

ARTICLE SUPPORT BRACKET

Anthony H. Dahlhauser, 20274 Blauer Drive, Saratoga, Calif.
Filed Dec. 3, 1962, Ser. No. 241,865
3 Claims. (Cl. 248—224)

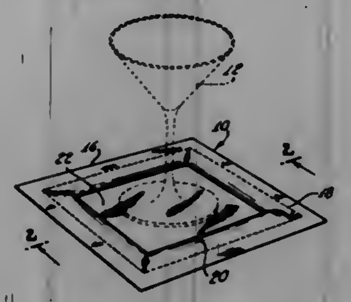


1. In combination with a board having a plurality of like apertures thereon at regularly spaced vertical and horizontal intervals when the board lies in a vertical plane, an article support bracket removably mounted on said board including a vertically-disposed base member dimensioned to engage said board between vertically-adjacent apertures therein, hook members secured to said vertically-disposed base member at the upper and lower extremities thereof and bent in the same direction downwardly therefrom, the position and dimensions of said hook members being such that they can simultaneously pass through vertically-adjacent apertures in said board when the surface of said board and the board-engaging surface of said base member are parallel, said hook members extending through said vertically-adjacent apertures with the free end of each of said hook members extending toward said base member and spaced from said base member a distance not less than the thickness of said board.

3,195,847

ABSORBABLE SUPPORT

Elizabeth L. Squires, 116 E. 73rd St., New York, N.Y.
Filed Apr. 6, 1961, Ser. No. 101,223
1 Claim. (Cl. 248—346.1)

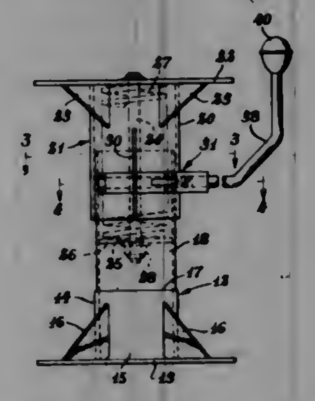


An absorbable coaster comprising a waterproof base sheet, a flexible band united to said base sheet in superimposed relation to form a plurality of plies therewith and adjacent to the peripheral border thereof, means for securing said superimposed band to said base sheet to form an inner flexible retaining flap on said band, and an insert having its outer margin disposed under the distended flap for retention against said base sheet the remaining portion thereof being exposed to function as an absorbent.

3,195,848

PEDESTAL

Charles M. Miller and Merrill E. Staley, Elkhart, Ind., assignors to The Adams & Westlake Company, Elkhart, Ind., a corporation of Illinois
Filed Mar. 25, 1964, Ser. No. 354,538
2 Claims. (Cl. 248—411)

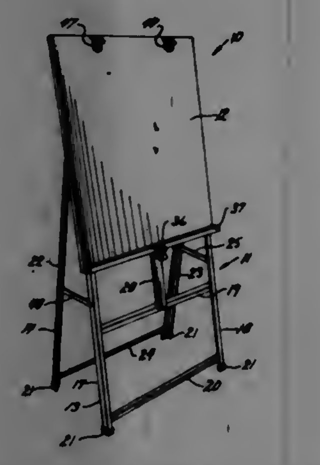


1. A seat supporting pedestal comprising a fixed base assembly having a bottom plate member and an upstanding, upwardly opening tubular section forming a fixed post member, a vertically and rotatably adjustable top assembly having a seat carrying top plate and a depending tube member with its lower end portion telescoped over the upper end portion of said post member, a guide pin depending axially in said tube member, a cross plate secured in said post member intermediate its top and bottom ends and having an aperture for receiving the lower end of said guide pin in sliding relation therein, a nut on the end of said guide pin for engaging said cross plate to limit the upward movement of said top assembly, a compression spring on said guide pin with its lower end seated on said cross plate and its upper end seated against said top plate, said tube member having a slot in the bottom margin of its side wall which extends axially of said tube member, a pair of socket forming tube members secured in transverse axial alignment on opposite sides of the slot adjacent the lower end of said depending tube member, a clamping bolt seated at one end in one of said socket forming tube members and extending in slidable relation through the other socket forming member with a threaded end projecting from the latter, a nut forming member on the free end of said clamping bolt and a handle forming lever extending upwardly from said nut forming member so that its upper end is within easy reach of a person on the seat whereby the tube sections may be drawn towards each other by swinging movement of the handle to constrict the lower end of said depending tube member and clamp the top assembly in adjusted position on said post member.

3,195,849

EASEL CONSTRUCTION

Robert B. Maddox, Cincinnati, Ohio, assignor to Robert B. Maddox Associates, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Jan. 2, 1964, Ser. No. 337,708
2 Claims. (Cl. 248—441)

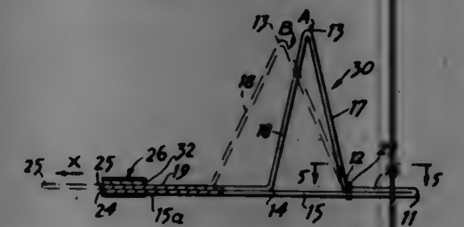


1. In combination an easel frame comprising two inverted U-shaped frame members each of which comprises a cross element and two parallel arm elements, the arm elements of said members being interconnected intermediate the ends thereof by pivoted brace members, said frame members being interconnected adjacent the ends of the arm elements adjacent the cross elements by upper pivoted brace members, a cross member interconnecting the arms of one frame member at a point adjacent the mid point of said arm elements, an intermediate support member equally spaced between said arm elements of the one frame member extending from said cross element to said cross member, an easel board comprising a flat surface structure having three edge members secured to the periphery of the easel board of the flat structure on the rear surface thereof along the top and down the two sides thereof, the two side edge members being spaced apart a distance sufficient to receive the arm elements of said one U-shaped member therebetween, said side edge members having inwardly extending plate-like members secured thereto adjacent the ends thereof remote from the top edge member and extending inwardly over the rear surfaces of said arm elements of the first U-shaped member to interengage said board and frame in sliding relationship, stop means on the rear surface of said flat surface structure for abutting the cross element of the one U-shaped member to limit movement of the easel board relative to the frame in a first direction, said inwardly extending members disposed to engage the upper brace members to limit the movement of the board relative to the frame in a second direction, a sill member carried by the front face of said flat structure at the bottom edge thereof, a holding member secured to said sill member intermediate the side edges of said easel board and vertically aligned with said intermediate support member, said holding member comprising a pair of plate-like members, a pivot pin hinging said plate-like members together, a spring encompassing the pivot pin with the ends thereof engaging the plate-like members, one of said plate-like

elements being secured to the sill member, the other plate-like member carrying a handle on one side thereof and a resilient bumper on the other side thereof, said spring urging said bumper into frictional engagement with the intermediate support member.

3,195,850
COMBINATION ENCLOSURE AND STAND FOR BOOKS AND LIKE ARTICLES

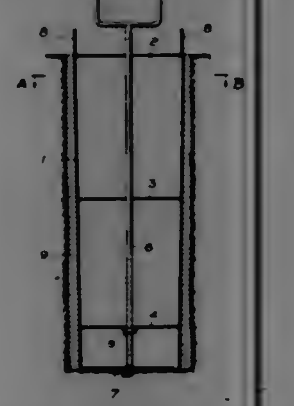
Charles Steiner, 25 Sutton Place S., New York 22, N.Y.
Filed Dec. 24, 1963, Ser. No. 333,107
4 Claims. (Cl. 248—45[illegible])



1. A stand for books and like supporting device comprising a one-piece elongated blank having transverse fold lines in spaced apart relation, which define a plurality of panel sections, outermost sections and intermediate sections, respectively, one of the outermost sections terminating in a transverse and tapered end edge, the other outermost section including a member shaped to produce friction upon slidable engagement of said tapered end edge therewith, whereby said other outermost section constitutes a base on which said one outermost section and said intermediate sections are propped, one of said intermediate sections being angularly braced against another of said intermediate sections, so that a book and like object may be retained in angular position when said book is placed against one of said intermediate sections, and a predetermined narrow intermediate section positioned between said other outermost panel section and said one intermediate panel section, which narrow intermediate section extends rearwardly of said one and said other intermediate panel sections and serves to reinforce said base in erected condition of the stand.

3,195,851
FORMWORK FOR THE INSIDE SURFACE OF A WALL STRUCTURE CONFINING A VERTICAL OPENING

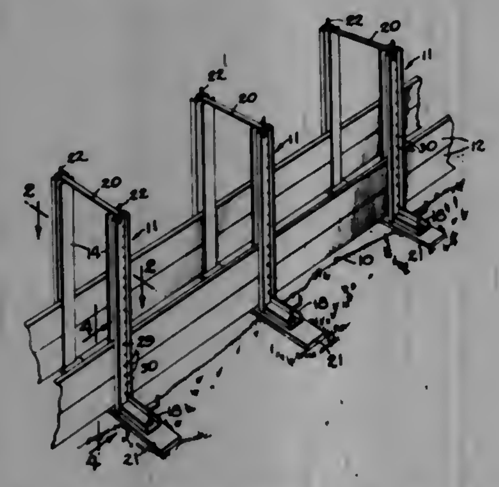
Franz Hofmann, Schoenberg 7, Post Regau, Oberosterrelch, Austria
Filed Aug. 23, 1963, Ser. No. 303,987
3 Claims. (Cl. 249—1[illegible])



1. A mold for the production in situ of tubular linings of cementitious materials, comprising a tubular sheet metal shell having a central longitudinal axis of symmetry and of regular geometrical form in planes normal to said axis, said shell tapering uniformly upwardly and outwardly from its first lower end to its second upper end, first and second partition plates fixed, respectively, adjacent the lower and upper ends of and within said shell, a third partition plate secured to and within said shell intermediate said first and second partition plates, each said plate having its peripheral edges integrally secured with the contiguous inner wall of said shell, at a plurality of locations equiangularly spaced about said axis, a nut fixed with said lower partition on said axis, a shaft extending in and along said shell in coincidence with said axis and having its lower end portion threadedly engaging said nut, said shaft extending through and having bearing support in said second and third plates, an abutment plate sized and shaped for a loose fit within the lower end of said shell below said first partition plate, a thrust bearing between the lower end of said shaft and said abutment plate, said bearing normally connecting said abutment plate against separation from said shaft while permitting relative rotation therebetween, means connected with the upper end of said shaft, above the level of the upper end of said shell, for effecting rotation of said shaft and thereby, relative axial translation of said shaft and abutment plate relatively to said shell.

3,195,852
CONCRETE FORM STRUCTURE

Vernon J. Lundell, % Lundell Manufacturing Company, Inc., Cherokee, Iowa
Filed July 17, 1963, Ser. No. 295,659
4 Claims. (Cl. 249—34)



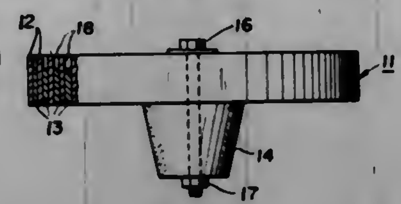
1. In a concrete form structure, a wall element supporting post comprising, in combination, an upright body portion for receiving in fixed but removable relation the ends of one or more wall defining elements, a supporting foot projecting at right angles from the lower end of said upright body portion, pins projecting from the upper end of said upright body portion and from the lower side of said supporting foot, upper and lower spacing elements loosely and slidably engaging said upper and lower pins, respectively, for securing said post to a companion post to define a spaced wall form in predetermined paired spaced relation, said lower spacing element adapted to rest on the ground beneath said foot supporting said body portion, and an adjusting element threaded through said foot outwardly of said lower pin, said adjusting element acting when rotated to raise or lower said supporting post relative to said lower spacing element, said pins and cooperating spacing elements permitting free movement of said post in response to adjustment of said adjusting element.

3,195,853
CHILL MAT

Roy E. Ferree, Valencia, Pa., assignor to Eastern Splash-Mats Incorporated, Valencia, Pa.
Filed Mar. 18, 1963, Ser. No. 265,958
2 Claims. (Cl. 249—206)

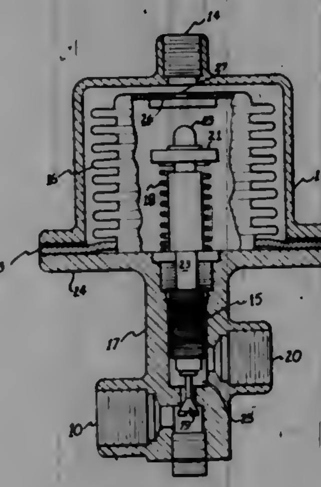
1. An ingot mold insert formed of a unitary body comprising a central plug of ceramic material having wound, therearound, convolutions of steel alternating with convolutions of lesser height of a different alloying

metal having a lower melting point in contacting relationship, which convolutions are adapted to rest on and to become anchored by said plug to the bottom surface of an ingot mold and to cover substantially the entire bottom surface thereof, whereby said convolutions of steel will remain on said bottom surface while said different alloying metal will melt and form pools between said steel convolutions of greater height and rise substantially uniformly through the body of molten steel poured into the ingot mold.



3,195,854
VALVE FOR NITROGEN COOLING SYSTEM

Charles William Pflieger, New Hartford, N.Y., assignor to The Partlow Corporation, New Hartford, N.Y., a corporation of New York
Filed Feb. 20, 1962, Ser. No. 174,487
3 Claims. (Cl. 251—61)



1. A moisture-free valve for liquid nitrogen refrigeration comprising a valve body, a cup assembly mounted on said valve body and a valve system within said cup assembly and said valve body; said valve system comprising a valve stem, a bellows seal supporting said valve stem in said body and a spring mounted on said valve stem, said spring being disposed between said body and said valve stem, said spring being otherwise free-riding; said valve body having an inlet and an outlet thereto; said cup assembly having a power bellows mounted therein operable against said valve stem, said power bellows having a small port in the top thereof and being adapted to be operated by a temperature control; all aforesaid internal parts being sealed against air-contact.

3,195,855
TAPPER KEG VALVE

Carl C. Bauerlein, Clearwater, Fla., assignor to The Dole Valve Company, Morton Grove, Ill., a corporation of Illinois
Filed Dec. 14, 1962, Ser. No. 244,611
4 Claims. (Cl. 251—120)

1. A fluid control valve comprising a housing having a chamber formed therein and having side and end walls defining said chamber,

an inlet passage opening through one of said walls of said housing to said chamber,

a flexible diaphragm forming one end wall of said housing,

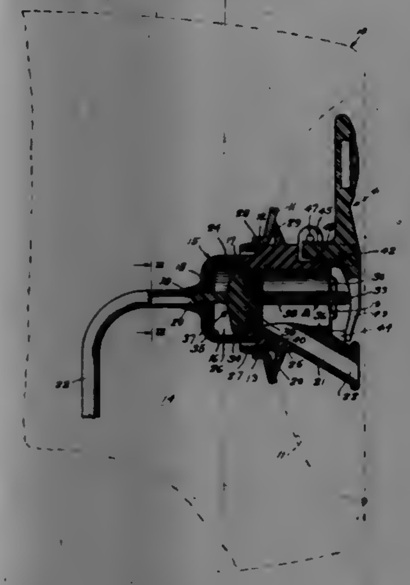
an outlet opening through said side wall of said housing to said chamber,

a valve rod connected to said diaphragm and extending into and guided by said inlet passage,

a valve seat formed within said chamber between said inlet passage and said outlet and facing in the direction of said inlet passage,

a valve member connected to said rod and movable therewith and cooperable with said seat to control the flow of fluid through said valve,

flow restrictor means for retarding the flow of fluid from said inlet passage toward said outlet once said valve is in an unseated position,

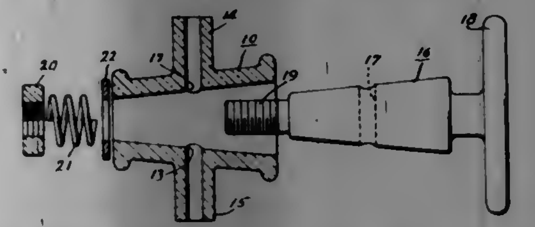


a handle pivotally mounted on said housing having a resilient finger formed integrally therewith, said resilient finger having an outer free end engageable with a portion of said housing,

wherein a central portion of said finger overlies and is engageable with the outer free end of said rod so that pivotal movement of said handle in one direction will bow said finger to effect a movement of said rod.

3,195,856
TAPERED PLUG VALVE

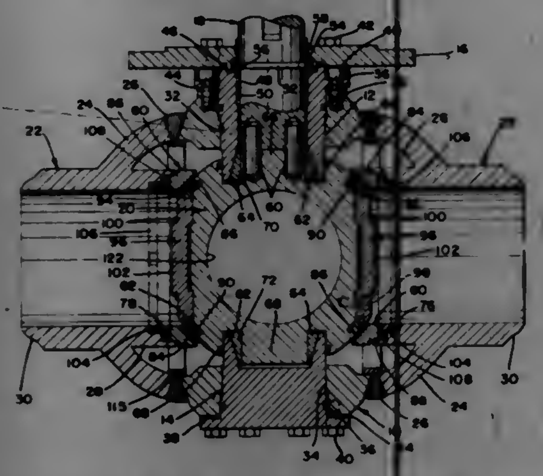
Frank C. Arrison, 2905 Edge Hill Road, Huntingdon Valley, Pa.
Filed Mar. 5, 1963, Ser. No. 262,887
2 Claims. (Cl. 251—181)



1. A tapered plug valve of the type described comprising a valve body formed of a vitreous material, said valve body including means defining an axial bore extending through said valve body which is tapered toward one end thereof forming a valve seat for the receipt of either a synthetic fluoro-carbon resin plug or a vitreous plug, said plug being frusto-conical and tapered toward one end conforming to the taper of said bore so that it may be snugly nested therein, a threaded stem projecting from said one end of the plug beyond said one end of the valve body, a compression spring positioned over said stem, a nut mounted on said stem to maintain said compression spring in engagement with said one end of the valve body and thereby urge said plug in fluid-tight relationship with the valve seat, said bore being tapered so that the ratio of the axial length of the bore to the difference between the diameter of the bore at one end and the diameter of the

bore at the opposite end is between 4 to 1 and 7 to 1, and said valve seat having a finish of between 7 to 20 micro-inches.

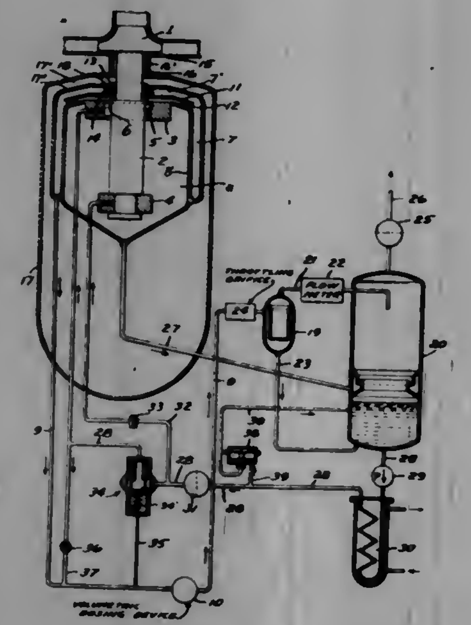
3,195,857
BALL VALVE CONSTRUCTION
Homer J. Shafer, Brookwood Way, Mansfield, Ohio
Filed May 2, 1962, Ser. No. 191,831
6 Claims. (Cl. 251—3[illegible]9)



1. In a welded ball shut-off valve having ball seating surfaces, a fixed axis ball shut-off and flow ports leading to opposite sides of the ball, an improved ball sealing assembly comprising,
an annular groove formed in each end of said ball shut-off opposing an adjacent seating surface in ball closed position and being undercut at its radially outer periphery,
a resilient ring seal adapted to engage said adjacent seating surface and having its radially outer periphery fitting said undercut portion of said annular groove,
a flexible ring seal retaining ring having its outer periphery overlapping the radially inner periphery of said ring seal,
and a retainer plate overlapping the radially inner periphery of said retaining ring and detachably secured to said ball shut-off,
said ring seal retaining ring and retainer plate being of such dimensions as to be insertable through said flow ports to ball sealing position.

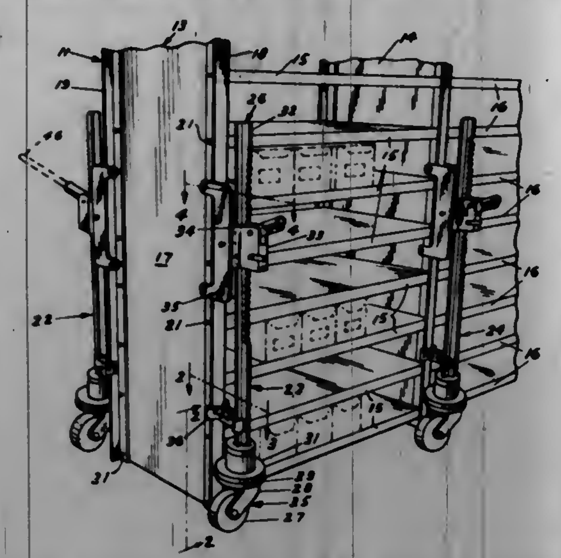
3,195,858
SHAFT SEAL
Kurt Schwarz, Toronto, Ontario, Canada, assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland
Filed Dec. 5, 1963, Ser. No. 328,353
Claims priority, application Switzerland Nov. 1, 1963, 13,530/60
6 Claims. (Cl. 253—[illegible]9)

1. In combination with a turbomachine for a gaseous operating medium and having a casing, a rotor in said casing, a shaft connected to said rotor and extending outside of said casing, a bearing for said shaft outside of said casing, a housing for said bearing, and gas sealing means surrounding said shaft between said casing and said housing:
an annular chamber formed in said housing adjacent to said bearing and surrounding said shaft,
a lubricant storage vessel,
first conduit means connecting said vessel and said annular chamber for supplying a liquid lubricant to said annular chamber at a predetermined pressure exceeding the pressure of the gaseous operating medium of said turbomachine at the side of said gas sealing means facing said housing,
said housing having a portion forming an annular space surrounding said shaft adjacent to said annular chamber and continuing into a discharge channel,
said housing having a portion providing an annular clearance around said shaft between said annular chamber and said annular space for permitting throttled flow of lubricant from said annular chamber into said annular space,
said housing having a portion forming an annular passage around said shaft between said gas sealing means and said annular space for permitting flow of gas from said gas sealing means into said annular space,
a discharge pipe connected to said discharge channel,
second conduit means interconnecting said discharge pipe and said vessel,
a volumetric dosing device interposed in said second conduit means and pressurewisely separating said vessel from said discharge pipe, the throughput capacity of said dosing device being greater than the rate of flow of the lubricant through said annular clearance at said predetermined pressure, the excess capacity permitting flow of a predetermined volume of gas from said turbomachine through said gas sealing means, and
a flow control means interposed in said first conduit means,
said flow control means including means responsive to the difference between the pressure in said first conduit means and the pressure in said second conduit means for opening said flow control means upon an increase of said difference and conversely.

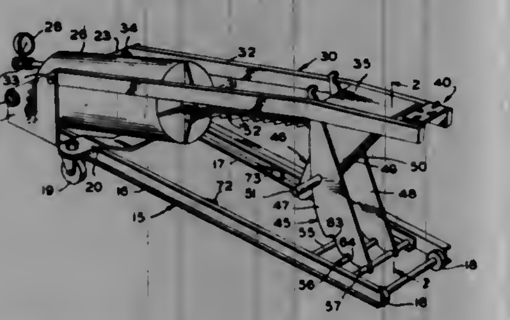


3,195,859
UNICYCLE LIFT
Willman E. Jackson and William T. Johns, Romeo, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Dec. 28, 1962, Ser. No. 248,114
4 Claims. (Cl. 254—2)

1. A device for use in moving a structural object, said device consisting of lift means and a caster having a single roll element, said lift means comprising a base member and a lift jack mounted on and rigidly supported by said base member, said lift jack comprising a rack bar, load engaging means adapted to be detachably secured to said object, load lifting means movably mounted on said rack bar and adapted to engage said load engaging means and to work against said rack bar and said load engaging means when said load engaging means, said load lifting means and said rack bar are operatively connected, and adjusatble positioning means mounted on said rack bar and adapted to slidably engage said object and hold said object in fixed lateral relationship to said rack bar, said caster being mounted on said base member opposite said lift jack.



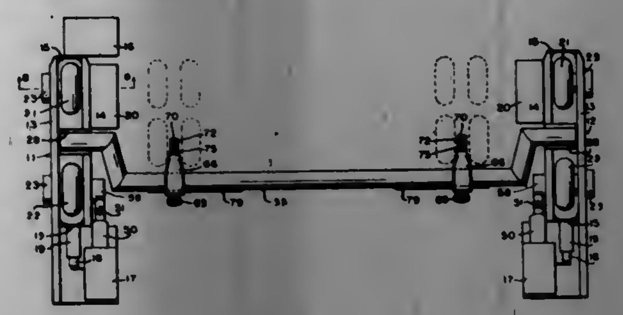
3,195,860
LIFTING DEVICE
Victor A. Simms, Anaheim, Calif., assignor of fifteen percent to Gausewitz & Carr, Orange, Calif., a partnership
Filed Feb. 11, 1963, Ser. No. 257,489
14 Claims. (Cl. 254—2)



1. A lifting device comprising
a duality of arms,
means pivotally interconnecting said arms,
a base engaged by one end of one of said arms,
a movable element engaged by one end of the other of said arms,
and means for rotating said arms about said ends and said pivotal interconnecting means
for separating said ends of said arms and thereby moving said movable element,
said base and said one end of said arm including cooperable means for allowing said one end of said one arm upon said rotation of said arms to progessively rock relative to said base about a plurality of axes progressively spaced from the said rotating means,
said movable element and said one end of said other arm including cooperable means for allowing said one end of said other arm upon said rotation of said arms to progressively rock relative to said movable element about a plurality of axes progressively spaced from the said rotating means.

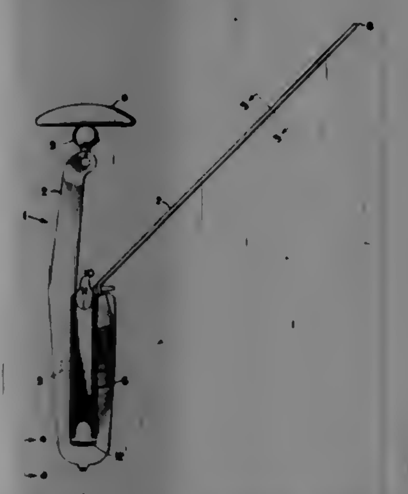
3,195,861
TANDEM TAXI TENDER FOR AIRPLANES
Richard W. Norton, Cincinnati, Ohio, assignor to General Aeromation, Inc., Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 11, 1963, Ser. No. 272,255
2 Claims. (Cl. 254—2)

1. A tandem taxi tender for airplanes comprising;
(a) a pair of spaced chassis,
(b) each chassis having a pair of side frames,
(c) a pair of wheels removably mounted in each of said chassis,
(d) an elevating structure supported in each of said side frames between said wheels comprising a square sleeve clamped in each side frame with a sliding member of square configuration and non-rotatably slidable therein,



(e) hydraulic pistons connected to said sliding members for operating said elevating structures,
(f) a transverse member rigidly and non-rotatably secured to said sliding members, and
(g) arms extending forward and adjustable on said transverse member for forming a rigid connection with the main landing gears of an airplane.

3,195,862
WINGED SHEAVE BLOCK
Delmar C. Sherman, Chattanooga, Tenn., assignor to Sherman & Reilly, Inc., Chattanooga, Tenn., a corporation of Tennessee
Filed May 31, 1962, Ser. No. 199,014
2 Claims. (Ci. 254—197)

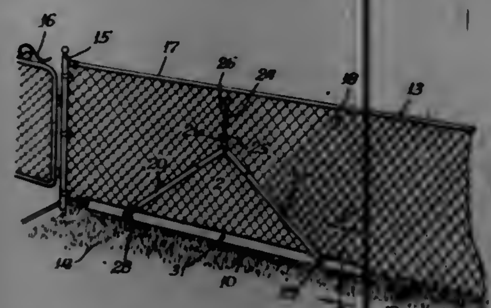


1. In a sheave block for stringing an electric power transmission line from above, a partially open block comprising a frame supporting an axle pin, a sheave having a peripheral groove therein rotatably mounted on the pin, means for attaching the frame to a support in a substantially vertical position and an inclined wing attached to and extending upwardly from the frame for receiving the line, said wing comprising a closed loop of metal free at its outer looped end, having a round cross section, being wider than the block in a plane extending in the same longitudinal direction as the plane of the groove in the sheave and being of such a length as to extend appreciably above the top of the block.

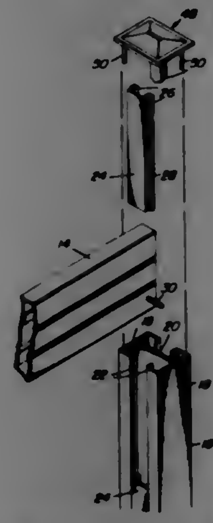
3,195,863
TOOL GUARD
Frank A. Korecky and Anna Korecky, both of 229 Anderson Terrace S., Des Plaines, Ill.
Filed Sept. 30, 1963, Ser. No. 312,648
8 Claims. (Cl. 256—1)

2. A tool guard for preventing a cutting tool from engaging the depending projections of a fance comprising, a channel member formd to effectively shield a series of

depending projections of a fence when applied thereto, a pair of struts, means interconnecting said struts and said channel members so that said struts and said channel members define a triangle with the interconnection of said struts being the apex of said triangle, and means connected to said struts at said apex and adapted to be engageable with a fence at a position above the depending projections thereof, said means interconnecting said struts and said channel member being formed so that said struts are manually adjustable to a position within the confines of the longitudinal edges of said channel member for compact storage of said tool guard.



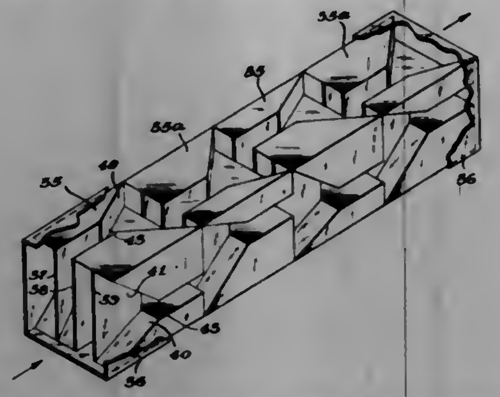
3,195,864
POST AND RAIL FENCE
John S. Case, Towson, Md., assignor to Anchor Post Products, Inc., Baltimore, Md., a corporation of New Jersey
Filed Mar. 15, 1962, Ser. No. 179,990
1 Claim. (Cl. 256—65)



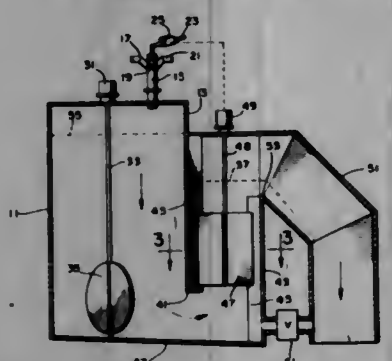
In combination, a pair of spaced hollow posts each having a pair of spaced longitudinally and inwardly extending flanges defining a slot along the inner side thereof, a plurality of rails, each having its ends received in said slot in each said post to form a fence, with each said rail having a pin member extending transversely therethrough at a pair of opposite corners and across said flanges in the interior of said posts to retain the ends of said rails in their respective slot and to permit said rails to pivot to conform to sloping terrain, and a filler strip slidably engaged with said flanges for spacing said rails from each other.

3,195,865
INTERFACIAL SURFACE GENERATOR
Richard E. Harder, Williamsburg, Va., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 9, 1960, Ser. No. 54,933
16 Claims. (Cl. 259—4)

11. A device adapted to divide and recombine a stream comprising: a conduit having means therein defining at least one baffle; said baffle comprising a body having a first end and a second end; said body defining at least four channels communicating with said first and second ends and having stream dividing means at said ends; each of said channels having a first opening and a second opening; each of said openings having a generally elongated cross-sectional configuration in a plane normal to the longitudinal axis of said conduit; the major axes of said generally elongated cross-sectional configurations of said first and said second openings being noncoplanar; said channels being so constructed and arranged that rotation of the flow lamina of said stream is less than the angular displacement between said stream dividing means at said first end and said stream dividing means at said second end.



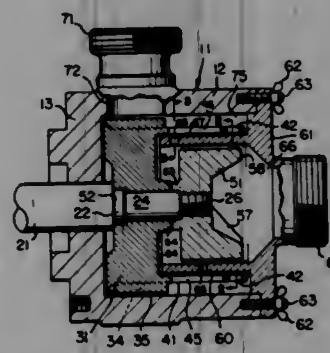
3,195,866
STOCK CONSISTENCY BLENDING APPARATUS
John N. Coats, 2010 SW. Wembly Park Drive, Lake Oswego, Oreg.
Filed Jan. 22, 1962, Ser. No. 167,597
5 Claims. (Cl. 259—7)



1. A consistency blending apparatus comprising,
mixing tank means including a main tank portion having an upper end and a lower end,
said upper end having an inlet therein,
directing means for directing liquids of different consistencies simultaneously into said inlet to effect premixing thereof prior to their entry into the main tank portion,
said directing means including supply means for a diluting liquid,
said main tank portion having an outlet formed in the lower portion thereof,
a discharge passageway leading from said outlet upwardly and then back downwardly,
said discharge passageway providing a weir between the upward and downwardly extending portions thereof,
said weir being located at a level below that of the upper end of said main tank portion so that the level of liquid in said main tank portion may be maintained at a level above that of said weir to provide for gravity feed of liquid from said main tank portion through said outlet and then up and over said weir,
mixing means in said main tank portion for agitating and mixing the liquid therein,
consistency regulator means having consistency sensing means disposed in said upwardly extending portion of said passageway to sense the consistency of the mixed liquid,

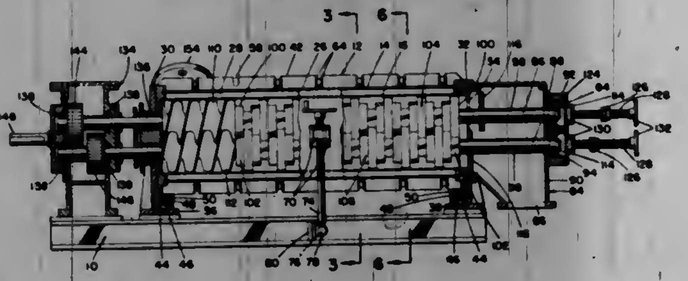
and means whereby said consistency regulator means varies the supply of said diluting liquid so as to maintain the consistency of the mixed liquid substantially constant.

3,195,867
HOMOGENIZING APPARATUS
Harry W. Mould, Jr., Buffalo, N.Y., assignor, by mesne assignments, to Liberty National Bank and Trust Company, Buffalo, N.Y., a national banking association
Filed Jan. 23, 1962, Ser. No. 168,142
15 Claims. (Cl. 259—9)



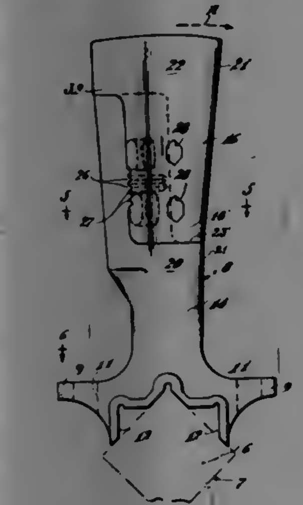
1. Homogenizing apparatus comprising a housing, a plurality of annular elements mounted in said housing in coaxial, radially-spaced relation, one of two radially adjacent elements having a plurality of identically-shaped apertures therethrough equally spaced from one another axially, the other of said two elements having a plurality of circuferentially spaced axially-extending slots therethrough, means for effecting relative rotation between said two elements, said housing having inlet and outlet ports at raidally opposite sides of said elements for admitting fluid to and exhausting it from said housing, and means for directing incoming fluid successively through said apertures, said slots, and said outlet port, whereby upon relative rotation between said two elements and the passage of fluid through said housing, said apertures in said one element evenly distribute said fluid along the axial length of the radial space between said two elements, and the confronting marginal edges of said apertures and slots, respectively, cooperate to shear the fluid in the radial space between said two elements.

3,195,868
CONTINUOUS MIXER
Bernard A. Loomans, York, and Ambrose K. Brennan, Jr., Thomasville, Pa., assignors, by mesne assignments, to Baker Perkins Inc., New York, N.Y., a corporation of New York
Filed Mar. 21, 1962, Ser. No. 181,278
11 Claims. (Cl. 259—104)



1. A mixer comprising housing means in the form of parallel intersecting cylinders, axially arranged pairs of radially interengaging rotatable members mounted on shafts, extending axially of said cylinders, for rotation therein, each member in cross section each having convex flanks joined at both outer ends by arcuate crests formed on radii at least substantially equal to the radius of their associated cylinder, drive means for rotating said members in the same direction, and the flanks of each of said members being substantially generated by portions of the crests of the other member, whereby the creasts of each of said members wipes the walls of its associated cylinder and the flanks of each of said members is wiped by portions of the crests of the other member.

3,195,869
MIXER FOR ABRASIVE AGGREGATES
Ralph C. Paine, Avon, Mass., assignor to Warren Brothers Company, Cambridge, Mass., a corporation of West Virginia
Filed Jan. 10, 1963, Ser. No. 250,641
1 Claim. (Cl. 259—144)

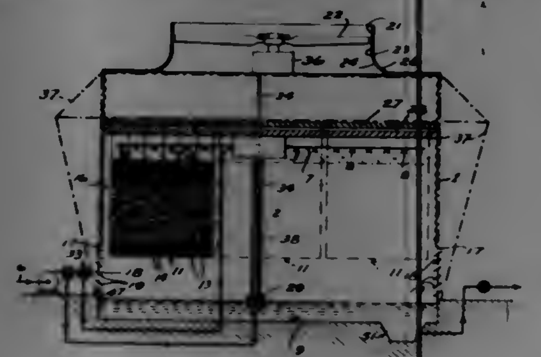


A mixer arm for rotation through a body of abrasive mix comprising a shank and a blade detachably mounted thereon, said arm in its radially outer portion being comprised entirely of blade and being characterized in that it has a shoulder face disposed in alignment with the normal direction of rotation of said arm, a rounded upstream edge into which said shoulder face merges and which in turn merges into an impelling surface disposed at an acute angle to said direction of rotation, said arm having an intermediate portion comprising the radial inner portion of said blade and the radial outer portion of said shank, said radial outer portion of the shank constituting only that portion of the arm spaced from said shoulder base and said impelling surface, said arm in its intermediate section being further characterized in that a bore is provided normal to said impelling surface, said impelling surface being counterboard for the reception of a bolt head and said radial outer portion of the shank being recessed in the region of said bore for the reception of a nut to be threaded onto said bolt, said arm being further characterized in that a further radially innermore intermediate portion of said arm is comprised entirely of said shank, said arm being further characterized in that it retains the same cross sectional shape in both intermediate portions and outer portion, said arm gradually increasing in size in proportion to its radial dimension, said arm being further characterized in that the innermost section thereof has a configuration comprising an upstream edge and impelling face which constitutes a radial inward extension of said impelling surface and previously recited upstream edges.

3,195,870
HELICOPTER TYPE FANS FOR COOLING TOWERS
Martin V. Gruber, Campbell, and Ernest E. Goltein, Belmont, Calif., assignors, by mesne assignments, to Fluor Products Company, Inc., Santa Rosa, Calif., a corporation of California
Filed June 6, 1962, Ser. No. 200,375
2 Claims. (Cl. 261—25)

1. A cooling tower comprising:
a casing forming a contact chamber with an upper portion and a lower portion and a plan section, said

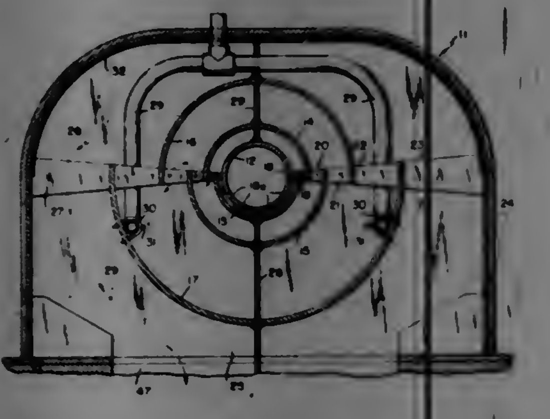
lower portion having an air inlet therein and said upper portion having an air outlet therein,
distribution means including a header with nozzles thereon located in said upper portion for spreading water over the plan section whereby said water showers through the contact chamber from the upper portion to the lower portion,
a water inflow conduit for delivering water to said distribution means,
fill means located beneath the distribution means within the contact chamber to retard the fall of water,
a helicopter-type fan means operatively associated with said contact chamber to force air from the air inlet to the air outlet whereby the air comes into direct contact with the water showered from said distribution means, said fan means having a plurality of



variable-pitch blades and being inclinable from a horizontal plane,
a water turbine for driving said fan means,
transmission means for connecting said turbine to said fan, said water turbine being disposed in said lower portion of said casing,
a water inflow conduit connecting said water turbine with a source of water to operate said turbine,
a riser conduit connecting said turbine with said distributing means to supply water from said turbine to said distribution means,
a fluid by-pass loop means connecting the water inlet conduit to the distribution means in parallel-flow relationship relative to the water turbine, and
a control means for diverting a portion of water from the water inflow conduit through the by-pass loop to shunt the water turbine thereby regulating the turbine power output to the fan.

3,195,871
STEAM EXPANSION CHAMBER

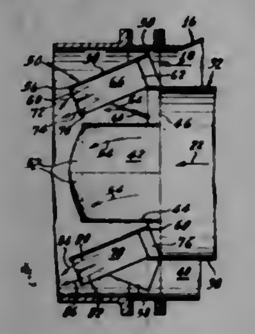
John B. Prather, Hastings on Hudson, N.Y., assignor to Gibbs & Hill, Inc., New York, N.Y., a corporation of New Jersey
Filed Aug. 16, 1961, Ser. No. [illegible]31,932
6 Claims. (Cl. 261—1[illegible]5)



1. A gas expansion chamber comprising: first, second and third diaphragms each having opposite ends, opposite edges, and a concave surface, the concave surface of said first diaphragm facing the concave surface of said second diaphragm with the edges of said second diaphragm straddling said first diaphragm and overlapping and spaced a first distance from the edges of said first diaphragm, the concave surface of said third diaphragm facing the concave surface of said second diaphragm with the edges of said third diaphragm straddling said second diaphragm and overlapping and spaced a second distance from the edges of said second diaphragm, said second distance being greater than said first distance, first wall-forming means closing one end of said first diaphragm and the corresponding ends of said second and third diaphragms except for an aperture located in said wall-forming means between said first and second diaphragms, second wall-forming means closing the ends of said first, second and third diaphragms opposite the ends closed by said first wall-forming means, first nozzle-forming wall means extending between and attached between one pair of overlapped edges of said first and second diaphragms, second nozzle-forming wall means extending between and attached between one pair of overlapped edges of said second and third diaphragms, one of said edges of each of said pairs of edges being the same edge, said first and second nozzle-forming wall means assisting in conjunction with said pairs of edges and said first and second wall-forming means in channeling gas flow as well as supporting said first, second and third diaphragms relative to one another and permitting desired gas expansion.

3,195,872
BURNER CONSTRUCTIONS FOR HOT BLAST STOVES

Heinz Schneider and Ludwig Walther, Duren, Rhineland, Germany, assignors to Zimmermann & Jansen Gesellschaft mit beschrankter Haftung, Duren, Rhineland, Germany, a corporation of Germany
Filed Feb. 4, 1963, Ser. No. 255,793
12 Claims. (Cl. 263—19)

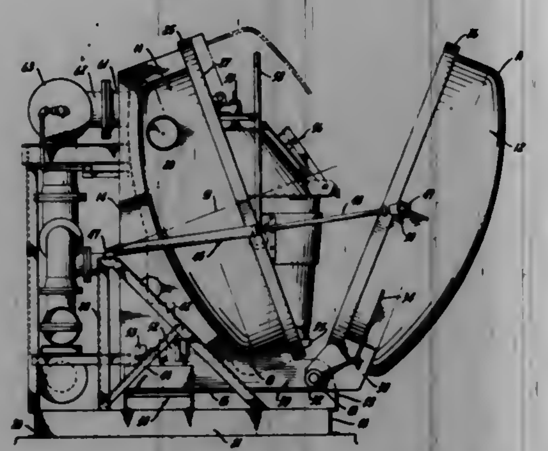


1. A burner head comprising a first tubular member provided with mixing conformations formed at one end thereof and defining a first fluid flow path, a second tubular member surrounding the first tubular member and defining with the first tubular member a second fluid flow path, said mixing conformations comprising a first series of elongated guide channels having inlet ends located within the first tubular member and outlet ends located in the second fluid flow path and directing fluid from the first fluid flow path into the second fluid flow path, and a second series of elongated guide channels having inlet ends located between the first and second tubular members and outlet ends located in the first fluid flow path and directing fluid from the second fluid flow path into the first fluid flow path.

3,195,873
VACUUM DEGASSING SYSTEM

Herbert S. Philbrick, Jr., Chicago, Ill., assignor to John Mohr and Sons, Chicago, Ill., a corporation of Illinois
Filed Mar. 27, 1961, Ser. No. 98,381
8 Claims. (Cl. 266—34)

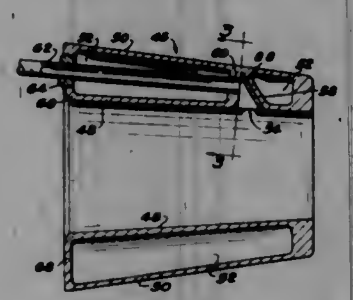
1. A vacuum tank for use in degassing molten metal, said tank including a first and second tank half, said first and second halves forming, by themselves, a vacuum tank of a size sufficient to receive a container of molten metal, said halves being substantially symmetrically shaped and opening along a parting line formed approximately at the major dimension of the tank, at least one of said tank halves being pivotable about a generally horizontal axis into sealing engagement with the other tank half, means supporting the tank with its parting line disposed generally vertically to thereby form an upwardly, outwardly diverging opening for the reception of a container for molten metal when the tank halves are in an open position, a



fluid operated cylinder and piston means, said cylinder and piston means being pivotally connected to a stationary support structure and the movable half of the tank, said cylinder and piston means being so positioned as to lie substantially perpendicular to the parting line throughout the extension and retraction of the cylinder and piston means, a support structure for a container of molten metal within the tank, and a vacuum connection opening into the tank.

3,195,874
TUYERE

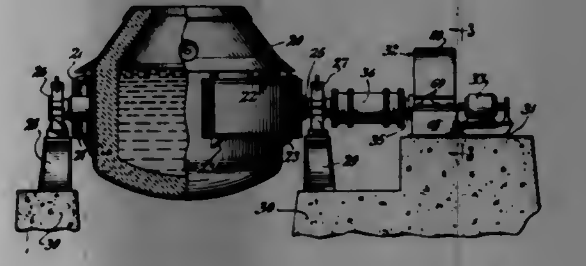
Robert E. Zimmermann, Genoa, Italy, assignor to Koppers Company, Inc., a corporation of Delaware
Filed Nov. 5, 1962, Ser. No. 235,204
1 Claim. (Cl. 266—41)



A tuyere for use in injecting hot blast air and solid particulate material into a blast furnace comprising:
(a) a first conduit having an axis of flow;
(b) an outer wall surrounding said first conduit in spaced apart relation thereto;
(c) end walls connecting said first conduit and said outer wall and forming an annular cooling space around said first conduit;
(d) a hollow protrusion on said first conduit disposed within said annular cooling space and communicating with the interior of said first conduit;
(e) means to inject blast air through said first conduit;
(f) a second conduit disposed in said annular cooling space and piercing one end wall and a wall of said hollow protrusion whereby said second conduit communicates with the interior of said protrusion;
(g) means to flow a stream of air and solid particulate matter in said second conduit;
(h) a target disposed within said hollow protrusion and obliquely positioned to said axis of flow whereby the solid particulate matter flowing from said second conduit into said hollow protrusion strikes said obliquely positioned target and is deflected thereby into said flow of blast air, said target being semi-hemispherical in shape, and said second conduit and said semi-hemispherical target being capable of resisting abrasion by said particulate matter.

3,195,875
STEEL-MAKING APPARATUS

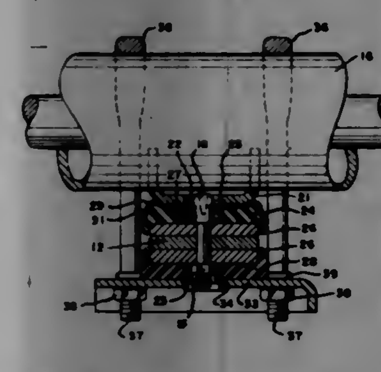
John F. Mummert, Birmingham, Ala., assignor to Chicago Bridge & Iron Company, Chicago, Ill., a corporation of Illinois
Filed Mar. 7, 1962, Ser. No. 178,043
16 Claims. (Cl. 266—36)



8. In combination:
a processing vessel;
a hollow ring around said vessel;
means mounting said vessel on said ring;
a pair of trunnions extending outwardly from the ring and in diametrically opposed directions;
stanchion means for supporting each trunnion;
and self-aligning bearing means on one of the trunnions and supported atop one of said stanchion means;
said one stanchion means comprising means mounting the top of the one stanchion means for angular movement relative to the bottom of the one stanchion means, in response to axial thrust of the trunnions resulting from expansion caused by heat arising during normal processing operations in said vessel, and in a direction having a component extending in the direction of said axial thrust;
the length of said one stanchion means being sufficiently great, compared to the length of said axial thrust, to confine the angle of said angular movement within the limits for which said self-aligning bearing means will adjust itself.

3,195,876
SPRING MOUNTING

Clark A. Tea, Southfield, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed Jan. 25, 1963, Ser. No. 254,017
8 Claims. (Cl. 267—52)



7. For use in a motor vehicle, an axle tube, a leaf spring having an intermediate portion extending beneath said tube, a spring plate positioned beneath the intermediate portion of said leaf spring, a pair of relatively thick rubber pads on opposite sides of said leaf spring, said pads each being of a generally rectangular shape

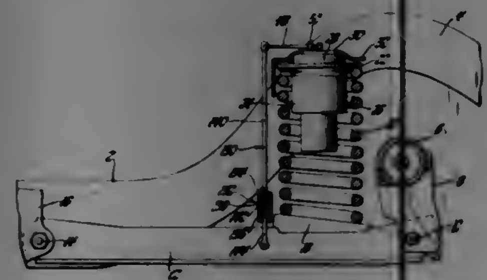
with a central portion and end portions spaced from said central portion, side flanges joining said portions, said spaced portions and said flanges defining a pair of intermediate apertures, one of said pads being positioned between said leaf spring and said axle tube and the other of said pads being positioned between said leaf spring and said spring plate, a pair of U-bolts having their intermediate portions encircling said axle tube and having threaded end portions extending through said spring plate, nuts threadedly engaging the threaded ends of said U-bolts to clamp said spring plate, leaf spring, rubber pads and axle tube together.

3,195,877
SELF-ENERGIZING HYDRAULIC LEVELING DEVICE FOR VEHICLE SUSPENSION

Casimer J. Cislo, Detroit, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Feb. 11, 1963, Ser. No. 257,629

6 Claims. (Cl. 267—64)



5. A self-energizing hydraulic leveling device comprising, a fixed element, a movable element arranged in telescoping relation with said fixed element, means forming a space between said elements adapted to cause relative axial movement therebetween upon introduction of hydraulic fluid therein, a pressurized fluid chamber contained within said fixed element, passage means providing communication between said chamber and said space, a fluid reservoir contained within said fixed element, passage means providing communication between said space and said reservoir, valve means displaceable in opposite directions from a neutral position interrupting communication between said space and said reservoir and between said chamber and said space movable to a first position enabling communication from said chamber to said space only and to a second position enabling communication from said space to said reservoir only, means including a pump providing communication between said reservoir and chamber, a common operating element for said valve means and said pump, and means mounted externally of said fixed element for actuating said common element.

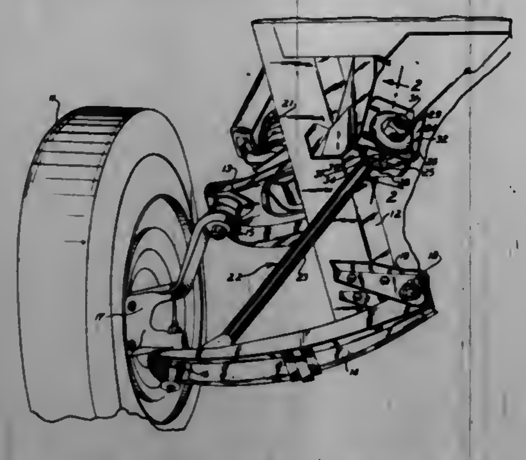
3,195,878
AUTOMOTIVE SUSPENSION SYSTEM HAVING A DUAL STAGE SPRING MEANS

Frederick Rosky, Dearborn, and Carl E. Wenzel, Garden City, Mich., assignors to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 18, 1963, Ser. No. 331,989

10 Claims. (Cl. 267—67)

1. An automotive suspension system comprising a sprung member, an unsprung member, and suspension means supporting said unsprung member for vertical and horizontal movement relative to said sprung member, said suspension means including a unitary dual stage spring means, said dual stage spring means comprising a first spring means and a second spring means, only said first spring means being operative during initial horizontal movement of said unsprung member to provide a relatively low degree of resistance to movement caused by horizontal forces of low magnitude acting on said unsprung member, said first and second spring means being operative to provide an increasing degree of resistance to continued movement due to horizontal forces of larger magnitude acting on said unsprung member.

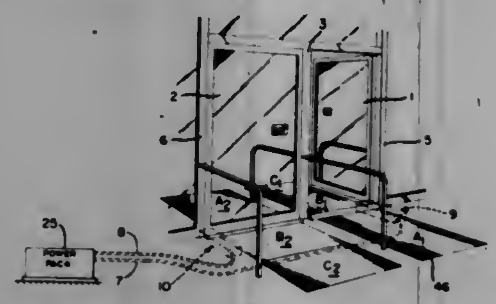


3,195,879
AUTOMATIC DOOR OPERATOR

Frank Bond, Wallace S. Kegg, and Richard F. Moranz, Cleveland, Ohio, assignors to Lakewood Manufacturing Co., Westlake, Ohio, a corporation of Ohio

Filed Apr. 25, 1962, Ser. No. 190,167

7 Claims. (Cl. 268—33)



2. A door operator having an electrical safety and actuating control system which includes

first normally open switch means having a closed position for energizing a first circuit means to open a normally urged closed door and maintain said door open for a preset interval of time after said first switch means returns to open position,

second normally open switch means having a closed position for energizing a second circuit means to prevent said first circuit means from being energized if said second circuit is energized first, and for maintaining said door open until after said first and second switch means return to open position and said preset interval of time has expired if said first switch means is closed first and said second circuit is energized while said first circuit is still energized,

third normally open switch means for energizing a third circuit means for stopping the opening or closing movement of the door.

3,195,880
DOOR OPENING MECHANISM

Donald D. Ritchey, Albuquerque, N. Mex.

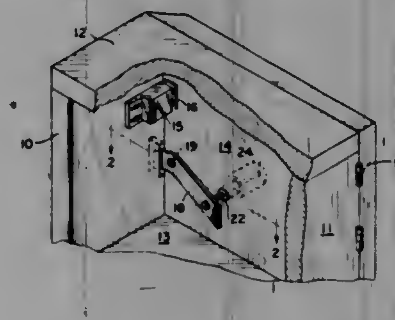
(701 Elm St., Boulder City, Nev.)

Filed Dec. 15, 1961, Ser. No. 159,608

4 Claims. (Cl. 268—72)

1. A door opening device having a high original mechanical advantage changing to a reducing mechanical advantage, comprising a door frame and a door movably mounted on the door frame, a lever mounted on the door and movable about an effective fulcrum in the direction of movement of the door and having an operating handle positively connected directly to one end of the lever and spaced a substantial distance from the other end of the lever and movable relative to the door in the direction of

door movement with the handle located on one side of a door, a variable force applying portion at the other end of the lever engaging an element fixed to the door frame at the opening edge of the door, articulated mounting means between the ends of the lever movably supporting the lever including the handle for rocking movement of the lever whereby the effective length of the moment arm between the handle and the effective fulcrum is many times greater than the length between the force applying portion of the lever and the effective fulcrum, said effective fulcrum including cam means for varying the moment arm between the effective fulcrum and the force applying portion of the lever to cause the mechanical advantage to continuously vary from a high mechanical advantage to a small mechanical advantage as the door is opened further, readily yieldable means including said lever and said handle retaining the lever in the door open position whereby when the door is being closed, the lever receives the force of the closing door at the said force applying portion of the lever absorbing at least some of the momentum of the closing moving door with decreasing mechanical advantage and increasing velocity whereby the deceleration of the moving door results in acceleration of the lever thereby reducing the impact of the final movement of the closing door and thereafter producing a further force in the closing direction after the door is closed and the lever is abruptly stopped.

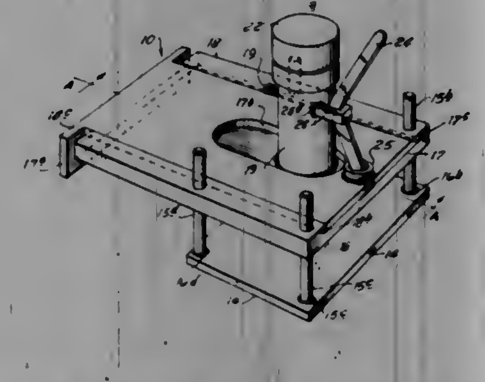


3,195,881
BOX-SETTING DEVICE

John E. Morell, P.O. Box 191, Alpine, Tex.

Filed Oct. 31, 1963, Ser. No. 320,285

3 Claims. (Cl. 269—216)



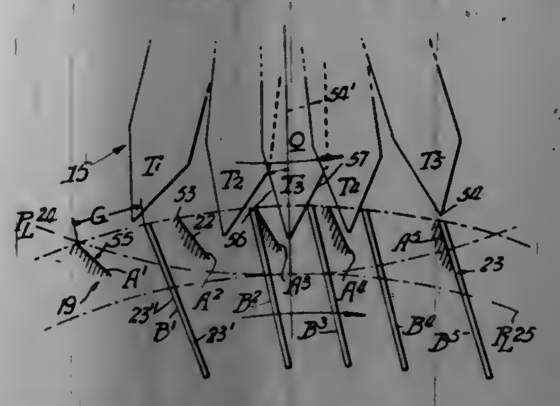
1. A device for aligning an electrical switchbox on and with a building structural member comprising: A lower plate; an upper plate slidably contained in said lower plate having one end extending below said lower plate; a platform positioned below said lower plate having a plurality of guide rods extending upwardly through said lower plate; lever means connected to said upper plate to move said one end of said upper plate relative to said platform to releasably hold said switchbox between said one end of said upper plate and said platform; and adjustment means secured to said lower plate and co-acting with said platform for changing the distance between said platform and said lower plate.

3,195,882
ROTARY ZIGZAG FOLDING APPARATUS

Ernst Daniel Nystrand, Green Bay, Wis., assignor to Paper Converting Machine Co., Inc., Green Bay, Wis.

Filed Aug. 27, 1963, Ser. No. 305,244

13 Claims. (Cl. 270—73)



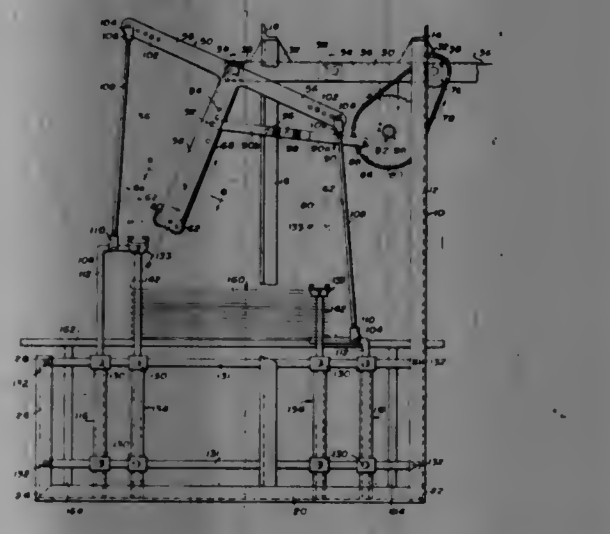
1. In folding apparatus, a frame, a pair of members journaled in said frame in parallel, side-by-side relation, means for rotating said members at the same angular velocity, means for feeding a web between said members, each of said members being equipped with at least one tucker element and one gripper element, said members being so oriented relative to each other to position the tucker element of one member in web-tucking engagement with the gripper element of the other member to cooperate in folding said web, the movement of the tip of each member defining a cylindrical envelope, with the envelope of each gripper element tip having a greater diameter than the envelope of each tucker element, said rotating means being constructed to rotate the gripper element tip at a greater lineal velocity than the tucker element tip during folding.

3,195,883
APPARATUS FOR FOLDING FABRICS

Wyndham F. Southwell, Wilkesboro, and Nicholas Wehrmann. North Wilkesboro, N.C., assignors to L & L Manufacturing, Inc., a corporation of Delaware

Filed May 6, 1963, Ser. No. 277,996

6 Claims. (Cl. 270—79)



1. Folding apparatus for strip material, comprising means for providing a material-supporting surface at a preselected fixed position, means for laying-up a strip of material in zig-zag folded arrangement on said support surface, said laying-up means including a swinging arm and a pair of spaced-apart inwardly-turning rollers mounted on the end of said arm in generally horizontal relationship with each other, means to feed a strip material between said rollers, means to turn said rollers at a surface speed at least as great as the speed of the strip material fed thereto, at least one pair of paddles each adapted to be moved upwardly and then permitted to

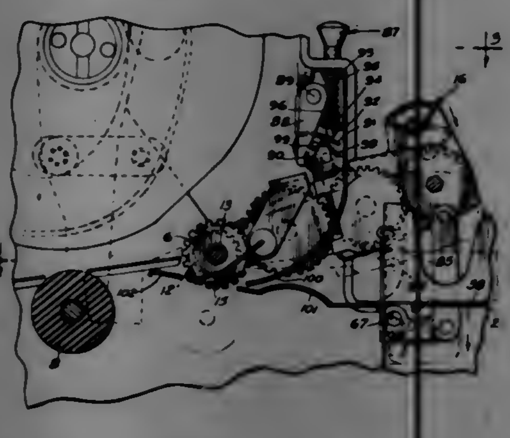
move downwardly to engage and press a just-formed fold of said strip material, and means operating in timed relationship to said swinging arm to alternately operate the paddles of a pair to press the folded-over edges of said strip material on each side while a fold on the other side is being provided by said laying-up means.

3,195,884
DUPLICATING MACHINES

John W. Carlson, Chicago, Ill., assignor to Speed-O-Print Business Machines Corporation, Chicago, Ill., a corporation of Illinois

Filed Apr. 18, 1962, Ser. No. 1[illegible]8,342

8 Claims. (Cl. 271—10)



1. In a duplicating machine having a storing station for storing a stack of sheets of paper to be printed, a printing station spaced from said storing station, rotatable feed means disposed between said stations in spaced relation to said storing station for engaging and feeding sheets of paper to said printing station and means for oscillating said rotatable means to thereby alternately rotate said rotatable means through a feeding rotation and through a reverse rotation,

(a) roller means

(1) disposed at said storing station

(2) in position to engage the top sheet of such a stack of sheets disposed at said station, and

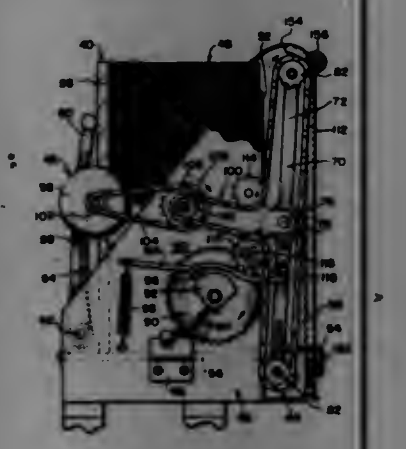
(b) means operatively connected to said rotatable means and to said roller means for rotating the latter through a rotation and in a direction effective to move said top sheet from said storing station into engagement with said rotatable means during said reverse rotation of said rotatable means.

3,195,885
PAPER TRANSFER ARRANGEMENT

Albert T. Rowell, Sr., 4900 W. Lunt Ave., Skokie, Ill.

Filed Dec. 23, 1963, Ser. No. 332,556

11 Claims. (Cl. 271—1[illegible])



1. In a device for making photomechanical reproductions of a document on photosensitive paper, a paper transfer mechanism removably positioned within a housing for simultaneously transporting a single sheet of unexposed paper from a stack to an exposure station and transporting a single exposed sheet of paper from said exposure station to a developing station, comprising:

(a) a base;

(b) a roller-supporting frame mounted on said base for limited pivotal movement about a horizontal axis;

(c) a pair of upper and lower cylindrical rollers rotatably mounted on upper and lower portions of said frame for rotation about a pair of horizontal axes extending parallel to each other and to the pivotal axis of said frame;

(d) said base including a pair of inner and outer vertical walls disposed on opposite sides of said frame to present flat surfaces facing away from said rollers and forming storage and exposure stations, respectively;

(e) said inner and outer walls having openings in their upper and lower portions to permit the movement of said rollers into the planes of said walls as said frame pivots on its axis;

(f) said base including resilient means for compressing a stack of unexposed photosensitive paper against the surface of said inner wall at said storage station;

(g) means for driving said rollers;

(h) cam means associated with said driving means for causing said frame to pivot alternately between a one position wherein the upper roller projects into the upper opening of said inner wall to engage and transport a sheet of unexposed paper from said storage station up and over said upper roller to said exposure station, and wherein the lower roller projects into the lower opening of said outer wall to engage and transport a sheet of exposed paper from said exposure station, toward said developing station; and another position wherein the upper roller projects into the upper opening of said outer wall to engage and transport said sheet of unexposed paper into said exposure station; and

(i) a retaining element carried at the lower end of said frame for engagement with the lower extremity of said unexposed sheet of paper when said frame is in said other position to retain said unexposed sheet of paper at said exposure station.

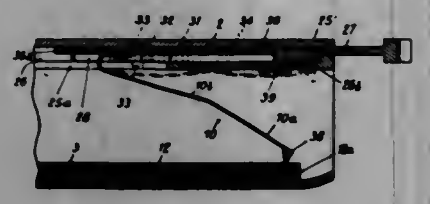
3,195,886
DISTRIBUTOR OF PAPER SHEETS AND LIKE ARTICLES

Charles Houver, 1 Blvd. Anatole France, Meudon, Seine et Oise, France

Filed Dec. 3, 1962, Ser. No. 241,863

Claims priority, application France, Dec. 7, 1961, 881,316, Patent 1,307,689; Apr. 6, 1962, 893,625, Patent 81,391; May 21, 1962, 898,198, Patent 81,818

11 Claims. (Cl. 271—42)



1. A distributor of paper sheets, comprising

a case having a top wall, a bottom wall, two opposite disposed lateral walls and one end wall and having a front opening opposite said end wall,

said case being adapted to receive a plurality of sheets disposed in superposed position to form a stack,

means for moving the uppermost of said sheets through said front opening of said case for a predetermined length to be gripped and completely removed,

said moving means including a flexible member extending with its free end toward the top sheet and having a friction lining of resilient material on said free end,

a push member slidably guided for movement in a direction away from said front opening of said case and parallel to said top wall,

spring means urging said push member in the direction of said front opening of said case, so that upon release of said push member after its movement from said front opening, the push member performs a return movement by the force of said spring means towards said front opening simultaneously removing the uppermost of said sheets,

said flexible member being secured to said push member and joining the movements of the latter,

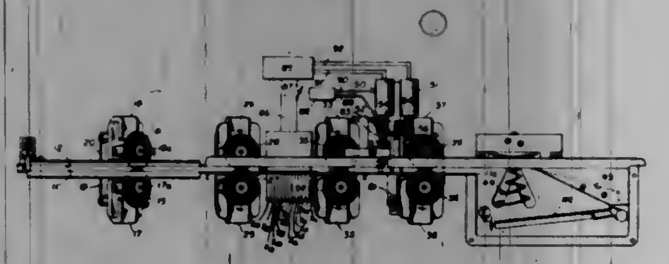
said flexible member comprising a spring blade having at its sheet engaging end an angular edge of triangular cross-section, said angular edge pushing along the uppermost of said sheets during the spring-forced return movement of said push member, said spring blade having a slightly bent portion at its free end to form an obtuse angle with its remaining portion, in order to impart a better efficiency to said spring blade.

3,195,887
SHEET TRANSPORT SYSTEM

Harley F. Bean, Dallas, Tex., assignor, by mesne assignments, to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Sept. 11, 1961, Ser. No. 137,363

3 Claims. (Cl. 271—53)



1. A document handling and encoding system including a plurality of work positions comprising a document input station having a floor and a pair of closely spaced vertical walls, said walls being flared away at their upper extremities from the vertical position to more readily receive documents, a document channel extending horizontally from said input station and in alignment therewith and having a floor and closely spaced parallel sides, an output hopper communicating with said channel for receiving documents therefrom, a plurality of pairs of independently driven motors mounted at driving stations along said channel, one pair of motors positioned at said input station, with one motor of each of said pairs positioned on one side of said channel and the other motor on the other side thereof with the axis of each pair parallel, one to the other, and to the planes of said sides and tilted away from said input station, a disc-like fiber brush mounted on each of said motors and driven thereby with each of the brushes extending through the side adjacent thereto into a tangent relation one with the other within said channel wherein said brushes are driven as to have a primary component of movement within said channel away from said input station and a secondary component of movement directed downwardly towards said floor, said plurality of pairs of motors being driven at substantially the same speed and mounted at progressively increasing distances away from said input station and with their axis being tilted to a progressively lesser degree with distances from said input station, a first document stop extending into said channel and defining a first work position, a second document stop also extending into said channel, downstream from said first document stop, and defining a second work position, means positioned adjacent said document input station for manually selecting one or the other of said work positions by causing a withdrawal of the first document stop upon selection of said second work position, and withdrawal of the second document stop upon selection of said first work position, sensing means for detecting the arrival of a document along said channel at said first or second work positions, and means coupled from said sensing means for withdrawing the appropriate stop after completion of the work at the selected work position to permit the advancement of a document to the output hopper.

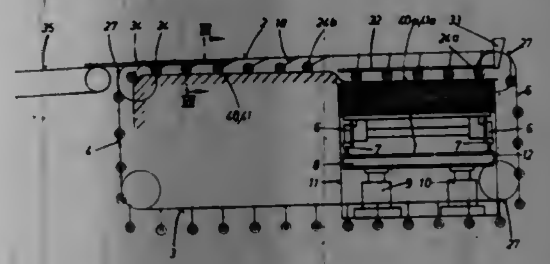
3,195,888
STACKING ARRANGEMENT FOR SHEET METAL STRIPS, ESPECIALLY FOR SURFACE SENSITIVE SHEET METAL STRIPS

Günther Morath, Walter Waldura, and Klaus Schneider, St. Ingbert, Saar, Germany, assignors to Verwaltungsgesellschaft Moeller und Neumann Offene Handelsgesellschaft

Filed May 14, 1962, Ser. No. 194,453

Claims priority, application Germany, May 15, 1961, M 49,055; Nov. 22, 1961, V 21,635

10 Claims. (Cl. 271—78)



1. In a stacking arrangement for sheet metal strips, a horizontal table upon which the sheets are stacked, a conveyor for feeding the sheets to the table comprising endless flexible means movable in a horizontal plane along the table, a plurality of spaced roller devices, means suspendiing the roller devices from the flexible means for pivotal movement relative thereto and for translation thereby toward the table, means cooperating with the roller devices during their approach to the table for maintaining them at an upper predetermined level above the plane of the table at which at least a pair of rollers devices supports a sheet for conveyance toward the table, second means cooperating with the roller devices for guiding and maintaining them at a level lower than the predetermined level and above the table as they reach the table, and abutment means engageable with the forward edge of the sheet while supported on the roller devices when entirely positioned over the table to permit sequential withdrawal of the roller devices from beneath the sheet and sequential travel of the following roller devices over the sheet from which the preceding roller devices are being withdrawn.

3,195,889
ROTATING CIRCULAR SKI SLOPE

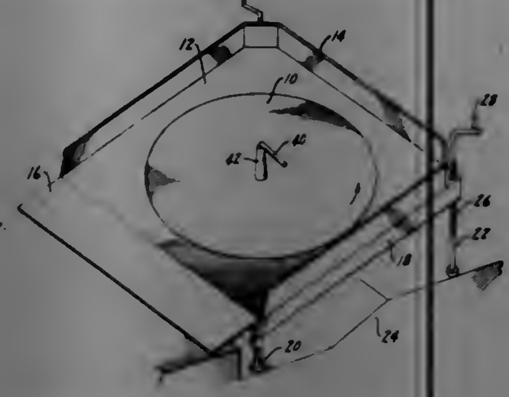
Raymond L. Hall, Box A, Morris Plains, N.J.

Filed Feb. 5, 1962, Ser. No. 171,236

11 Claims. (Cl. 272—56.5)

1. A ski slope assembly adapted for snowless skiing including a rotating ski receiving surfacing having a radius substantially greater than an average ski length, said surfacing having a predetermined profile and the axis of rotation of said surfacing being inclined to the vertical, a stationary platform surrounding said ski receiving surfacing and having the same general profile, said ski receiving

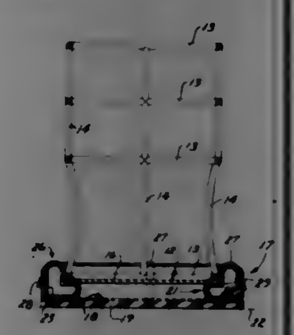
surfacing being resilient, slippery and sufficiently flexible to permit a ski edge to sink therein, said surfacing being sufficiently strong to resist edgewise movement of the



ski, to provide edge control, and means for rotating said ski receiving surfacing, within the confines of the platform, and at predetermined speeds.

3,195,890
RESILIENT ACTION JUMPING TOY

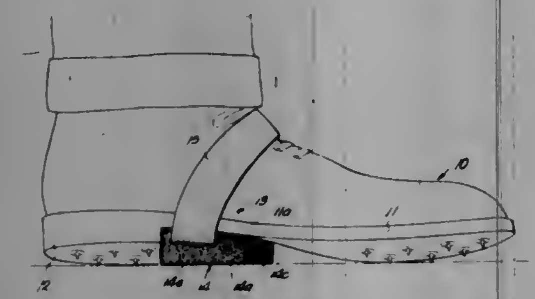
Selon V. Salls, 3040 The Mall, Los Angeles 23, Calif.
Filed June 4, 1962, Ser. No. 1[illegible]9,711
1 Claim. (Cl. 272—57



A jumping toy comprising: upstanding framework means fixedly provided with a substantially horizontal, substantially circular, disk-shaped foot-engageable platform means at the bottom thereof having a substantially horizontal foot-engageable top surface of larger area than that adapted to be coextensive with the feet of a person supported thereby; and effectively compressible elastic energy-storing means carried immediately below said platform means for forcible intermittent effective impact and engagement with an underlying ground surface whereby to intermittently elastically store energy upon impact thereof with said ground surface and to subsequently release said elastically stored energy whereby to provide a vertical oscillatory movement to said foot-engageable platform means and said framework means carried thereby, said elastic energy-storing means comprising effective ground-engageable elastically compressible coupling means positioned immediately below said foot-engageable platform means for effectively coupling said foot-engageable platform means directly with respect to said underlying ground surface for relative longitudinal movement of said foot-engageable platform means toward and away from said underlying ground surface, said elastically compressible coupling means comprising an elastically compressible hollow tubular member of toroidal shape having an enclosing wall member of flexible material defining a completely enclosed hollow interior chamber of toroidal shape adapted to be provided with and contain an elastically compressible medium therein, said elastically compressible hollow tubular member being provided with an effectively inner annular step portion directly receiving and supporting a corresponding circumferential peripheral portion of the disk-like bottom of said foot-engageable platform means, said elastically compressible hollow tubular member also being provided with a circularly disposed bottom and ground-engageable contact surface portion directly and vertically spacedly underlying said circumferential peripheral portion of said disk-like bottom of said foot-engageable platform means and positioned for direct impact and contact with said underlying ground surface during said oscillatory movement of said foot-engageable platform means and said framework means, said elastic energy-storing means also including a plurality of retaining strap means removably encircling corresponding portions of said elastically compressible hollow tubular member and said foot-engageable platform means positioned immediately thereover for retaining said elastically compressible hollow tubular member in operative relationship immediately below said circumferential peripheral portion of the disk-like bottom of said foot-engageable platform means and for positioning said circularly disposed bottom ground-engageable contact surface portion of said coupling means at a lowermost position for direct intermittent impact with said underlying ground surface during said oscillatory movement thereof.

3,195,891
WEDGE MEANS ELEVATING THE OUTSIDE EDGE OF A GOLFER'S SHOE

Richard H. Rogers, 2525 Woodscrest Blvd., Lincoln, Nebr.
Filed Aug. 31, 1962, Ser. No. 220,768
1 Claim. (Cl. 273—32)

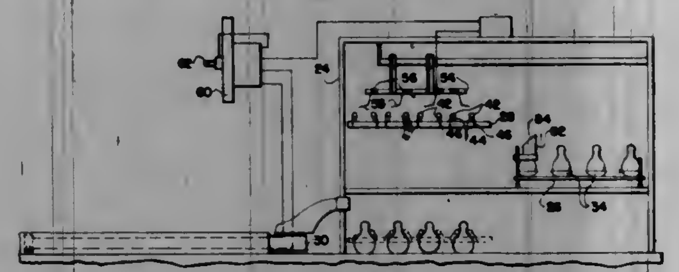


The combination with a golf shoe having bottom heel and sole surfaces lying substantially in a common plane and an intermediate elevated arch, of a golf swing improving device comprising a wedge member nested in said arch and having a pair of side edges running generally in the same direction as the side edges of the shoe, said wedge member also having a bottom, ground contacting surface and an upper, arch contacting surface, said ground contacting surface lying in a plane which is skewed with respect to said common plane, the skew being such that said ground contacting surface has one side edge thereof disposed below said common plane with the surface converging toward the common plane as it proceeds toward the other side edge, and means for releasably holding said wedge member in said nested condition.

3,195,892
AUTOMATIC CYCLING SYSTEM FOR PIN SETTING MACHINES

William J. Hildebrant, Weatogue, and Vincent A. Malatesta, Ellington, Conn., assignors to Connecticut Technical Corporation, Hartford, Conn., a corporation of Connecticut
Filed June 29, 1962, Ser. No. 206,231
14 Claims. (Cl. 273—43)

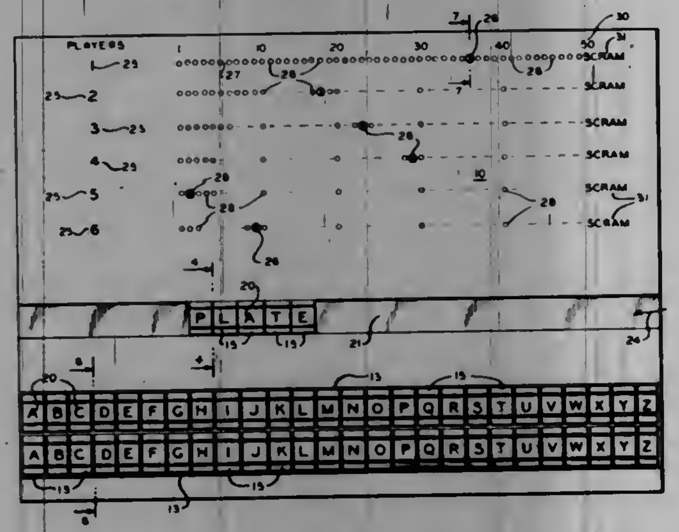
14. In an automatic bowling pin setting machine the combination comprising a pin table located above the pin deck of a bowling alley and movable vertically between raised and lowered positions, a distributor table adapted to receive and carry a full set of pins and movable with said full set of pins into and out of a pin discharge position located below the raised position of said pin table, a plurality of pairs of pin gripping members carried by said pin table with the two gripping members of each of said pairs being movable relative to each other between relatively open positions at which they are adapted to fit loosely over the head of a bowling pin and relatively closed positions at which they are adapted to grasp and lift the head of a pin positioned therebetween, means for moving said pairs of gripping members in unison so that at any one time all of said pairs are either in their open positions or closed positions and for changing the state of said gripping members each time said pin table is lowered to either said pin deck or said distributor table, and



means for moving said gripping members from their closed to their open positions as said distributor table moves to its pin discharge position and when said pin table is in its raised position with said gripping members in their closed positions with the result that after said pin table is lowered to said pin deck with its gripping members open and thereafter raised without taking with it any standing pins said pin table may be lowered directly to said distributor table to grip a new set of pins without first being lowered to and raised from said pin deck to shift the state of said gripping members.

3,195,893
WORD FORMING GAME BOARD AND PLAYING PIECES THEREFOR

Milton Friedman, 119 Pitt Road, and Alan Perlmutter, 120 Pitt Road, both of Springfield, N.J.
Filed June 22, 1961, Ser. No. 118,871
2 Claims. (Cl. 273—130)

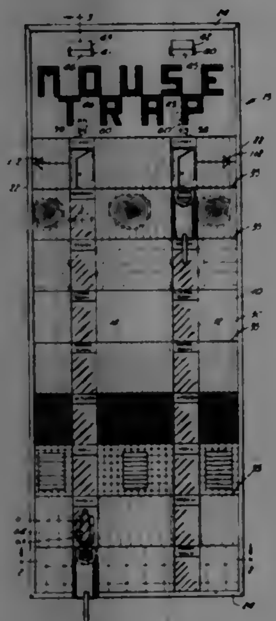


1. A word-forming game for use by a plurality of players for serially selecting letters and positioning them in word building arrangement, comprising:

- (a) a game board;
- (b) a plurality of letter-bearing gamepieces to be serially selected by said players;
- (c) holders for said gamepieces;
- (d) said holders being integral with and extending across said game-board;
- (e) a center rack extending across said game-board and open at each end for receiving the gamepieces serially therein for building a word;
- (f) a plurality of relatively closely spaced parallel scoring lines extending across said game-board above and parallel to said center rack to mark point penalties against players finalizing a word in the rack;
- (g) a marker for each player;
- (h) only a single scoring line for each player;
- (i) complementary means on said scoring lines and said markers whereby said markers may be moved along said lines and retained in any position thereon;
- (j) indicia markings on said game-board in a single line parallel to said scoring lines to denote penalty points;
- (k) player identifying indicia in a relatively vertical line adjacent the corresponding ends of the scoring lines;
- (l) said gamepieces and said center rack having complemental engaging surfaces so that the gamepieces are inserted within the rack at the open ends thereof and are held in sliding engagement therewith.

3,195,894
MAGNETICALLY CONTROLLED RACING GAME WITH MEANS FOR INDICATING THE WINNER

Elwood C. Alsaker, 403 1st Ave. NW., and Sidney R. Pappas, 1505 4th Ave. SW., both of Austin, Minn.
Filed Sept. 4, 1963, Ser. No. 306,491
8 Claims. (Cl. 273—134)



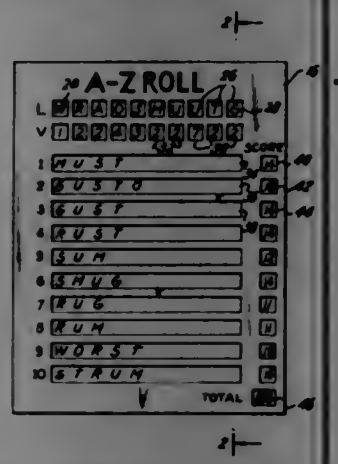
1. A magnetic game device comprising:

- (a) an elongated non-magnetic base member having a plurality of spaced apart channels therein,
- (b) an indicator section positioned at one end of said base member common to said channels including a pivoted indicator member in each channel having magnetic means positioned at one extremity of the indicator member and indicia means positioned at the other extremity of said indicator member,
- (c) a movable player piece having a magnet therein positioned in each of said channels,
- (d) cover means including transparent sections positioned over said base member enclosing said channels, said transparent sections overlying said channels, and longitudinally spaced apart markings on said cover means,
- (e) a moving player piece for each channel including a magnet positioned therein, said moving player piece being adapted to be manually moved on the surface of said cover means over said channels,
- (f) the magnets of said movable player piece and said moving player piece being normally oppositely poled to cause said movable player piece to be moved in said channel by said moving player piece through the influence of said magnets therein,
- (g) the magnetic means on said indicator member being

adapted to be moved out of a predetermined position when the magnet of said movable player piece is brought into proximity therewith to pivot said member and display said indicia,

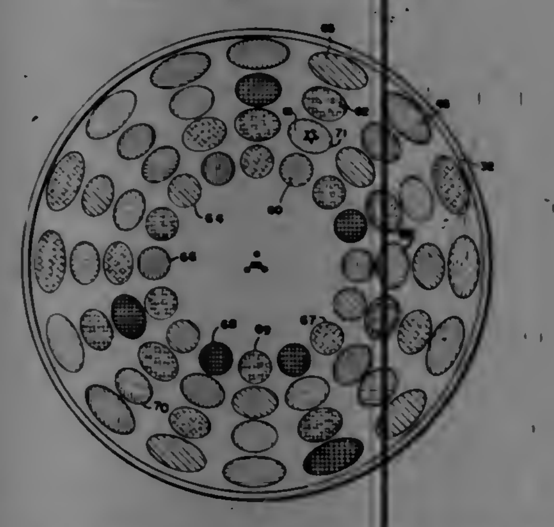
(h) and a game piece adapted to be used by the players of said game device to determine the extent of manual movement of said moving player piece on said cover means.

3,195,895
WORD GAME APPARATUS COMPRISING DIE AND SCORE CARD
John J. Kropinski, 45—36 39th Place, Long Island City, N.Y.
Filed Sept. 11, 1962, Ser. No. 222,777
4 Claims. (Cl. 273—135)



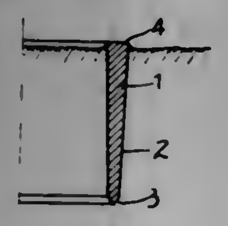
1. A word game apparatus comprising a letters die, a numbers die, and a scoring folder, said letters die having faces carrying different single letters of the alphabet, said numbers die carrying numerals, said scoring folder having a first line of openings to receive letters on a sheet of paper in the folder, a second line of openings therebeneath to receive numbers representing the score values of the individual letters, a series of elongated line openings for receiving words made up of the letters, and an opening for each line opening to receive the score value of a word written in that line opening.

3,195,896
CHANCE CONTROLLED GAME APPARATUS WITH APERTURED GAME BOARD AND DISK WITH INDICIA VISIBLE THROUGH SAID APERTURES
Bill Markham, Los Angeles, Calif., assignor to Lakeside Industries, Inc., Minneapolis, Minn., a corporation of Delaware
Filed Feb. 11, 1963, Ser. No. 257,555
1 Claim. (Cl. 273—135)



A game board device comprising a substantially planar top panel, means for supporting said top panel in spaced relation to a supporting surface, said top panel being provided with a plurality of openings therethrough, said openings being located in one of a plurality of concentric annular rows and being arranged also in radial rows and grouped into four distinct groups, upright dividers on said top panel, one positioned between each pair of adjacent groups of openings, a disc rotatably mounted about the axis of said concentric rows of openings, said disc being spaced below and closely adjacent said top panel and being parallel thereto, a plurality of spots of indicia of at least four different types on said disc, said spots of indicia being arranged in annular rows concentric with and corresponding in diameter to the annular rows of openings, said spots of indicia also being arranged in radial rows spaced the same number of degrees apart as the radial rows of openings, the annular rows of spots most closely adjacent the axis of rotation being substantially circular and the spots in successive annular rows increasing in ellipticity in proportion to its distance from the rotational center of the disc so that the spots are visible through the openings even if the spots are not perfectly aligned with the openings, hand grip means for manual rotation of said disc, resilient means for stopping said disc in position with a spot visible through each of said openings, and a plurality of pawns comprising four separate groups, each of said groups of pawns having indicia thereon corresponding to one of the types of indicia on said disc, said pawns being of size and shape to cover said openings.

3,195,897
SIMULATED GOLF HOLE
Georges Auguste Charles Marie Labrique, 14 Rue de l'Association, Brussels, Belgium
Filed Sept. 6, 1961, Ser. No. 136,718
Claims priority, application Belgium, Sept. 9, 1960, 472,824, Patent 594,877
4 Claims. (Cl. 273—177)



1. In a game of golf, the provision in a putting green of a unitary annular member of vertically elongated cross-sectional configuration, said unitary member defining the hole, the top edge portion of said annular member terminating in a horizontally extending flange which projects above the soil of the green throughout its entire periphery so as to be clearly visible, the lower edge portion being positioned below the upper surface of the soil, said lower edge portion terminating in a sharp edge, whereby to facilitate placement of said annular member in the soil.

3,195,898
NET SUPPORTING ARRANGEMENT
Eugene M. Respini, 2725 Brownboro Road, Louisville 6, Ky.
Filed Feb. 1, 1962, Ser. No. 170,385
3 Claims. (Cl. 273—181)

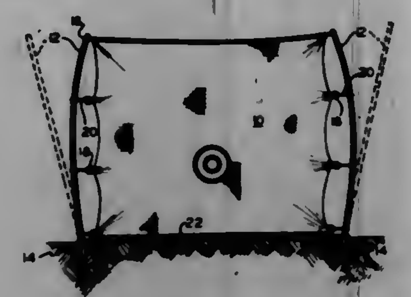
1. Apparatus of the character described, comprising:

(a) sheet means adapted to be supported in a generally upright position to impede the flight of an object;

(b) a pair of opposite side poles connected at their upper ends to the respective upper corners of said sheet means;

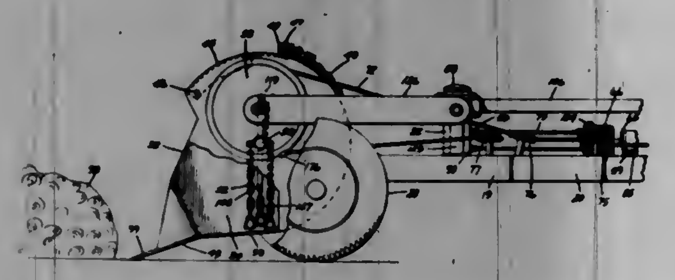
(c) base means including joint means co-operable with the bottom ends of said poles to mount said bottom ends in oppositely directed, substantially outwardly tilted dispositions with said pole upper ends being spaced substantially outwardly from said upper corners of said sheet means before said upper end connections are made, said pole upper ends being deflected inwardly to a substantial degree in connected relation with said sheet means;

(d) said base means comprise a pair of inverted J-shaped ground stakes adapted to be forced into the ground in spaced-apart mirror relation to receive the respective bottom ends of said side poles;



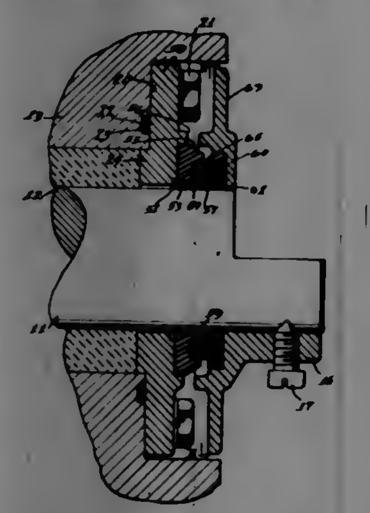
(e) the main legs and short legs of said stakes including extended-surface, ground-engaging portions disposed in generally vertical planes substantially normal to the plane of said sheet means.

3,195,899
MATERIAL CONVEYING AND SCATTERING IMPLEMENT
Charles D. Neuenschwander, R.R. 4, Bluffton, Ind.
Filed Dec. 17, 1963, Ser. No. 331,203
11 Claims. (Cl. 275—3)



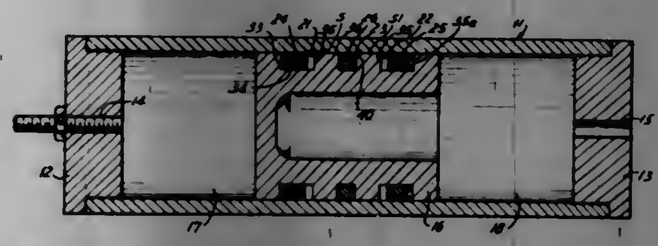
7. A self-loading material conveying and scattering implement comprising: a main frame having transversely spaced longitudinally extending side elements; a pair of wheels respectively mounted on said side frame elements on an axis transverse with respect thereto for supporting said frame upon the ground for movement in forward and reverse directions, said wheels being respectively disposed outwardly of said frame elements; a pair of upstanding supports respectively mounted on said frame elements and spaced apart transversely of the direction of said movement; a part-cylindrical material container having a side wall joined to spaced, parallel opposite end walls, said end walls and side wall mutually defining an opening communicating with the interior of said container, said container having a major axis extending longitudinally through said end walls, scoop means joined to said side wall at one side of said opening; a shaft rotatably journaled in said end walls and extending longitudinally through said container on a first axis adjacent said major axis; a plurality of flail elements secured to said shaft in said container at spaced intervals therealong and normally hanging downwardly therefrom; means respectively rotatably mounting said end walls on said supports on a second axis extending longitudinally through said end walls and container parallel and eccentric with respect to said major axis, said container being transversely disposed between said supports, said side frame elements and said wheels, said second axis being positioned with respect to said first axis so that said container has a first rotational position with said opening facing generally rearwardly and with said scoop means inclined downwardly and rearwardly adjacent the ground for loading material through said opening into said container when said implement is moved rearwardly, and a second rotational position with said opening facing generally upwardly and said side wall spaced from the ground thereby to distribute scoop material around said flail elements and to convey said material in said container; means for selectively rotating said container between said first and second positions thereof; and means for selectively rotating said shaft whereby said flail elements scatter said material contained in said container in said second position thereof outwardly through said opening during movement of said implement in said forward direction; said axis of said wheels extending longitudinally through said end walls and said container when in said first position thereof.

3,195,900
BEARING SEAL CONSTRUCTION
Otto R. Schoenrock, 138 N. Taylor Ave., Oak Park, Ill.
Filed Sept. 22, 1961, Ser. No. 140,108
2 Claims. (Cl. 277—9)



1. An oil seal for a joint between two relatively rotatable parts comprising a first seal retaining plate concentric with said parts and fixedly mounted on one of said parts and retained from axial movement by said part, a second seal retaining plate concentric with said parts and fixedly mounted on the other of said parts, annular resilient seal mounting means fixedly mounted on said retainer plates and facing each other, an annular face seal mounted in each seal mounting means, said face seals being in axial alignment with each other and being pressed into sealing engagement with each other by the resiliency of said mounting means, and one of said seal mounting means having an axially extending sealing lip extending axially beyond the face seal supported by said mounting means and having sealing engagement with the face seal mounted in the other of said seal mounting means.

3,195,901
SEALING MEANS FOR SLIDABLE MEMBER IN A PRESSURE UNIT
Jean Mercier, 1185 Park Ave., New York, N.Y.
Filed Mar. 7, 1961, Ser. No. 94,047
2 Claims. (Cl. 277—58)



1. Equipment of the character described comprising a cylindrical container unit and a plunger unit slidably mounted in said container unit, one of said units having

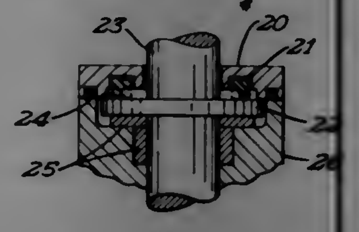
three longitudinally spaced annular grooves, a resilient sealing member in each of said grooves, each of the sealing members in the grooves on each side of the intermediate groove comprising an annulus, the sides of each annulus remote from the intermediate groove being bifurcated to define a pair of spaced annular lips, with the bifurcated sides of each annulus directed outwardly of the intermediate groove at least a portion of each of said lips on the inner and outer periphery of said annulus normally engaging the wall of the associated groove in one of said units, and the opposed wall of the other of said units to define a seal, the engaging portion of each of said lips being conformed to define a relatively thin sealing edge, the thickness of said annulus being greatest at said thin sealing edge, said sealing member in the intermediate groove being an O ring, the width of each of the grooves on each side of the intermediate groove being greater than the width of the annulus to permit longitudinal movement of the latter in the associated groove.

3,195,902
ROTARY SEAL WITH SERPENTINE CONFIGURATIONS

Richard E. Tisch, Woodland Hills, Calif., assignor to Minnesota Rubber Company, Minneapolis, Minn., a corporation of Minnesota

Filed Aug. 2, 1960, Ser. No. 47,090

8 Claims. (Cl. 277—95)



1. A ring-like sealing device comprising an annular member formed throughout of resilient flowable material and being adapted to perfect a seal between a pair of opposed contiguous surfaces one of which rotates relative to the other when said ring-like device is placed within a circular groove formed in one of the surfaces about the axis of rotation of the relatively rotating surface, said member in its free form having a relatively narrow annular sealing surface at one of its sides extending along its circumferential length and having a relatively broad sealing surface at its opposite side extending along its circumferential length, said relatively narrow annular sealing surface being serpentine in configuration whereby each segment of said annular relatively narrow sealing surface along its length will move back and forth over the surface against which it will bear and seal as the surfaces rotate relative to each other, the outer confines of said annular member considered axially being in the same plane at all points along its circumference, said relatively narrow annular sealing surface being disposed between the innermost and outermost surface of said annular member.

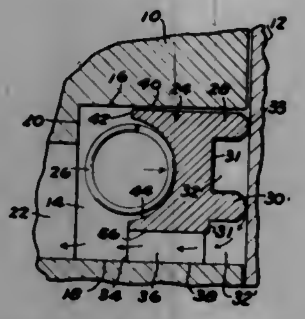
3,195,903
PISTON OIL CONTROL RING

Donald M. Hesling, Muskegon, Mich., assignor to Sealed Power Corporation, Muskegon, Mich., a corporation of Michigan

Filed Feb. 5, 1962, Ser. No. 171,093

1 Claim. (Cl. 277—78)

An oil ring assembly for use in the oil groove of an internal combustion engine piston comprising a one-piece annular parted ring having top and bottom surfaces respectively adapted to face the combustion chamber and crankcase ends of the piston, said ring having only two cylinder wall engaging portions consisting of a pair of axially spaced cylinder scraping lands extending radially outwardly from the ring and being circumferentially continuous except at the ring parting, said ring being imperforate between the radial planes of said lands whereby said lands and the outer periphery of the ring therebetween define an unventilated circumferentially extending oil collecting groove in the ring, the one of said lands closest to said ring bottom surface being spaced axially therefrom to define with the outer periphery of said ring below said one land a circumferentially uninterrupted oil collecting space, said ring having a series of circumferentially spaced radially extending slots in said bottom surface thereof for draining oil radially inwardly from said oil collecting space to the area of the piston oil groove behind the ring, said ring having a circumferentially continuous groove in its inner peripheral surface located substantially between the radial planes of said scraping lands and above said oil drainage slots, and an annular coil spring expander engaging said ring solely in said last-mentioned groove to thereby exert radial expanding forces on said ring in substantially balanced relation with said lands.

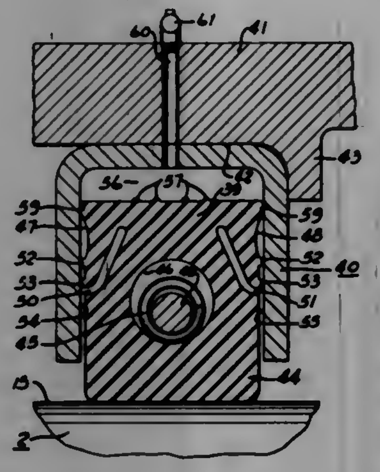


3,195,904
ROLL NECK SEAL

Vernon J. Gilbert, Indiana, Pa., assignor, by mesne assignments, to Link-Belt Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 25, 1962, Ser. No. 233,064

1 Claim. (Cl. 277—95)



A rotary shaft seal for use against opposed radial sealing faces defining an annular closed chamber surrounding a shaft, an elastomer seal element in the form of an annularly disposed elastomer having integral annular head and body portions disposed radially of each other and separated by inwardly extending side chambers on each side of the seal element, said body portion having a continuous broad surface to engage on and seal with the shaft, said head and body portions extending into said closed chamber, an annular flange extending outwardly from each side of said head when free and directed toward the body portion and extending over at least part of said side chambers, annular raised sealing ridge means on the outer face of each flange to normally engage and seal with said sealing faces, the sides of said body portion normally having a clearance space from said sealing faces, an annular abutment on each side of said head portion under contraction when in

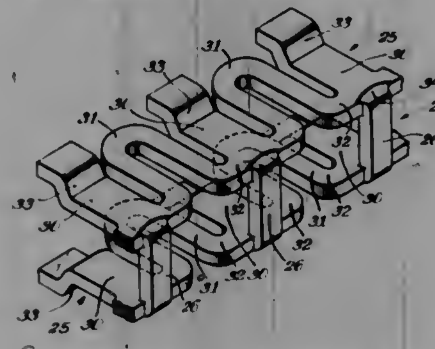
normal sealing engagement with said sealing faces and solid elastomer material in a direct path across said head portion between said abutments to prevent said elastomer from rolling over in said closed chamber when the shaft moves axially causing said body portion to engage the seal face.

3,195,905
PISTON RING ASSEMBLY

Arthur M. Brenneke, Hagerstown, Ind., assignor, by mesne assignments, to Perfect Circle Corporation, Hagerstown, Ind., a corporation of Indiana

Filed Oct. 6, 1958, Ser. No. 765,632

42 Claims. (Cl. 277—140)



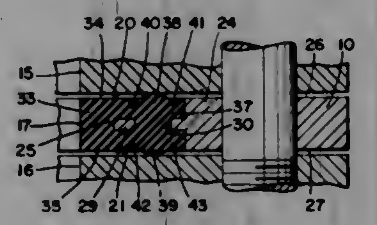
1. A piston ring assembly comprising a pair of cylinder-engaging rails, and a spacer-expander for holding the rails axially spaced and for forcing the rails outwardly, said spacer-expander comprising a pair of independently functioning unitary circumferentially expansible axially spaced annular spring structures bearing axially and oppositely against the respective rails and having means engaging the inner peripheries of the rails for forcing them outwardly, and axially extending struts integrally connecting said spring structures, said means also exerting an axial force on the rails for forcing the rails at their inner peripheries against the sides of the groove to form a seal therewith.

3,195,906
COMPOSITE SEALING RING WITH COMPRESSION STOP

William F. Moyers, Los Angeles, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio

Filed Mar. 28, 1961, Ser. No. 98,557

4 Claims. (Cl. 277—180)



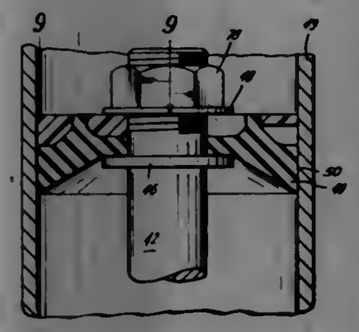
1. A sealing ring for use between a pair of members having opposed faces movable toward each other, said sealing ring comprising an outer ring of rigid material adapted to be clamped between said faces and serving when so clamped to limit said movement of said faces toward each other, an inner ring of deformable resilient material radially inward of said outer ring and attached thereto, said inner ring having a first portion of substantial width, said inner ring also having a second portion including a part between said first portion and said outer ring of greater thickness than said outer ring whereby said part will be sealingly engaged and deformed by said faces in advance of said engagement of said outer ring by said faces, and each of said rings defining a peripheral boundary of said sealing ring with said inner ring having an opening therethrough, said second portion including a pair of grooves on each end thereof on opposite sides of said part for receiving displaced material from said part upon said deformation thereof and said first portion being of a width at least as great as the thickness thereof whereby said deformation of said part is ineffective to cause appreciable displacement of the material of said first portion adjacent said opening therein.

3,195,907
PACKING WITH FRANGIBLE SUPPORT

Carl J. Eckenrod, Houston, Tex., assignor to Wyatt Industries, Inc., Houston, Tex., a corporation of Texas

Filed Jan. 19, 1962, Ser. No. 167,352

4 Claims. (Cl. 277—188)



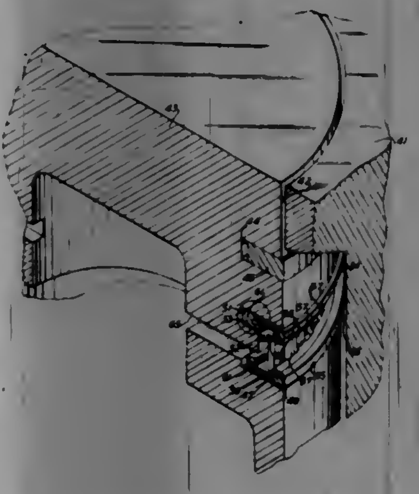
1. A packing comprising an annular body substantially of resilient sealing material having a side wall for sealingly engaging a cylindrical companion surface and an end wall for receiving axial forces applied to said body, and a plastic back-up ring embedded in said end wall and with its edge located substantially flush with said side wall for resisting edgewise deformation of said body material upon application of axial forces thereto, said ring, initially, being unitary and having frangible weakened regions extending thereacross and effective to enable said ring to be fractured upon application of axial forces to said body to cause radial expansion thereof.

3,195,908
FABRICATED PISTON RINGS

Frank C. Hutto, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

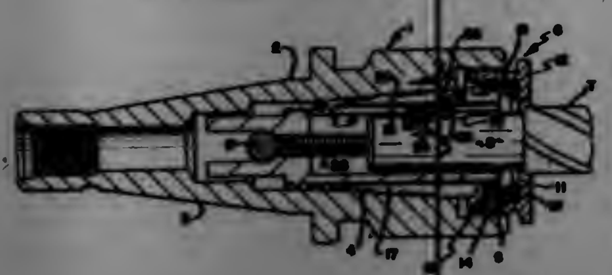
Filed Jan. 23, 1964, Ser. No. 339,810

11 Claims. (Cl. 277—206)



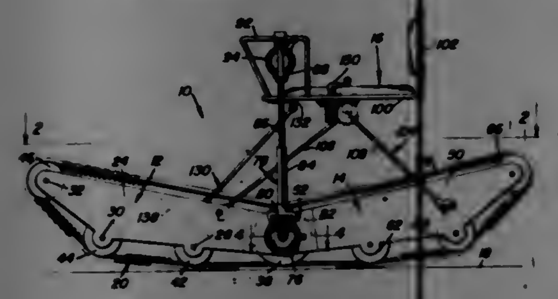
1. An internal combustion engine having a cylinder wall, a piston received in said cylinder wall, a ring groove in said piston, and a fabricated piston ring in said ring groove, said fabricated piston ring having a first flange, a second flange, a web integrally connecting said first and second flanges, said web having a surface in engagement with said cylinder wall, said first and second flanges being in contact with a surface of said ring groove whereby they are resiliently confined within said ring groove, and a third flange integrally connected to said first flange and having a line contact with a surface of said ring groove.

3,195,909
COLLET CHUCK AND THE LIKE
Franklyn E. Winnen, Cleveland, Ohio, assignor to Erickson Tool Company, Solon, Ohio, a corporation of Ohio
Filed June 6, 1963, Ser. No. 286,071
12 Claims. (Cl. 279—51)



1. A chuck comprising a body; a collet arranged to be radially contracted when axially moved in said body; a nosepiece on said body for so axially moving said collet; and a radially disposed locking pin in said collet having an inner end adapted to radially overlap a shoulder on the shank of a tool to prevent axial withdrawal of the tool from said collet, said locking pin having a beveled edge through which said pin is cammed radially outward upon axial insertion of a tool shank into said collet.

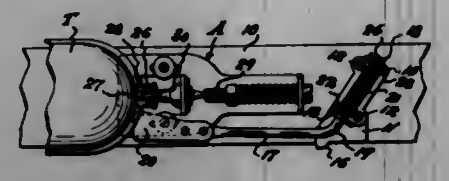
3,195,910
STAIR-CLIMBING VEHICLE
Alois Steiner, 408 43rd St., Union City, N.J.
Filed Feb. 12, 1964, Ser. No. 344,496
9 Claims. (Cl. 280—5.22)



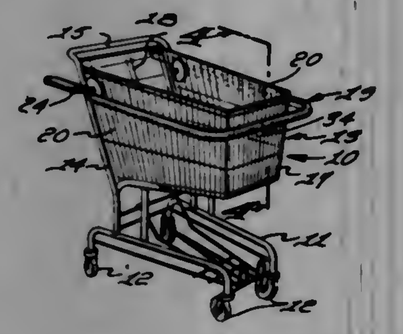
1. In an occupant-controlled obstruction climbing vehicle, a drive axle, a pair of frame sections respectively extending forwardly and rearwardly from the drive axle, traction means operatively connected to the drive axle for propelling the frame sections along the ground, means pivotally mounting said pair of frame sections on the drive axle, and means mounting the traction means on the drive axle and the frame sections for redistributing the propelling force in response to angular displacement of one of the frame sections by an obstruction to increase the traction along the other of said frame sections, said traction mounting means including a pair of spaced ground supporting wheel assemblies rotatably mounted by each frame section, load supporting wheel means connected to said drive axle in alignment between one of said wheel assemblies of each frame section for support of the vehicle on level ground, the pair of wheel assemblies on one of the frame sections supporting the vehicle on the ground when the other frame section is angularly displaced by said obstruction engaging the traction means.

3,195,911
LOOSE SKI ARRESTING DEVICE
Mitchell H. Cubberley, 121 Bell St., Belleville, N.J.
Filed Jan. 10, 1963, Ser. No. 250,528
5 Claims. (Cl. 280—11.13)

1. In combination with a ski equipped with a safety boot attachment binding adapted to release the boot from the ski under abnormal stresses and strains, means to stop a ski detached from the boot from sliding away movement, said means comprising a base plate affixed to the ski in spaced away relation to a portion of said binding and in oblique angular relation to a longitudinal edge of the ski and divergent to the axis of the binding, a brake arm having a journal stem at one end angular thereto, said base plate having longitudinally spaced apart upstanding perforate bearing members to receive the journal stem, whereby to pivotally support the brake arm for swinging movement toward said binding to an out-of-service position overlying the ski inwardly of a side edge thereof and so as to be held therein by a boot releasably attached to the ski, and a torsion spring mounted around said journal stem between said bearing members, one end of said spring impinging said base plate and the other end thereof being engaged with said journal stem, the tension of said spring being operative to bias the brake arm for swinging movement through an arcuate path oblique to the axis of the ski from said inward out-of-service position outwardly across said ski edge to an in-service position, wherein it is exteriorly dependent from the ski when the same is released from the restraint of the boot.



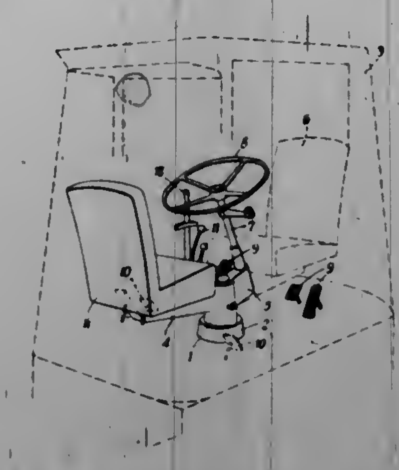
3,195,912
BUMPER FOR A NESTABLE CART
Herbert H. Howard, 20345 Ruston Road, Woodland Hills, Calif., and Frank Bobrick, 5450 Norwich, Van Nuys, Calif.
Filed June 26, 1963, Ser. No. 290,828
9 Claims. (Cl. 280—33.99)



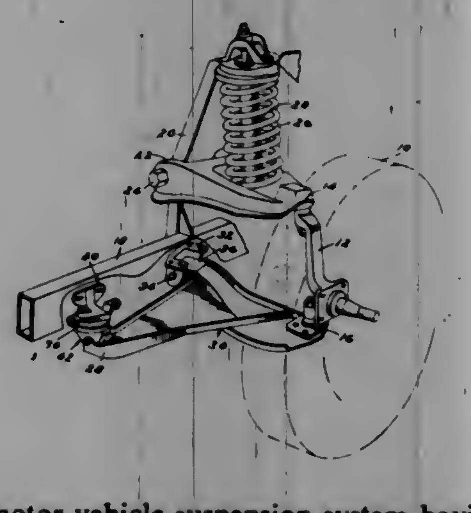
1. A shopping cart bumper comprising
a substantially U-shaped member adapted to fit around
 the sides and front of a shopping cart,
 said member having outwardly directed surfaces
 adapted to contact adjacent objects,
and means for attaching said member to a shopping
 cart about a transverse axis adjacent but inwardly
 of the distal ends of said U-shaped member, for
 allowing said U-shaped member to pivot upwardly
 about said axis for nesting with such a member on
 an adjacent shopping cart.

3,195,913
ROTATABLE SEAT AND STEERING COLUMN ARRANGEMENT FOR VEHICLES
Arnold Hallsworth, Sunderland, England, assignor to British Crane & Excavator Corporation Limited
Filed Nov. 8, 1962, Ser. No. 236,386
Claims priority, application Great Britain, Nov. 9, 1961, 40,150/61
8 Claims. (Cl. 280—87)

1. Reversible steering mechanism for wheeled vehicles comprising a steering shaft and a driving seat mounted oppositely to one another and in fixed angular relationship about a vertical axis about which they are adapted to be rotated as a single unit, a member rotatable about the sid vertical axis and in driving engagement with said steering shaft, a steering box mounted upon the vehicle and adapted to steer the vehicle wheels, said member being in operative engagement with said steering box, reversible gearing disposed between the steering shaft and the rotatable member, and means for disconnecting the drive from the steering shaft to the rotatable member.



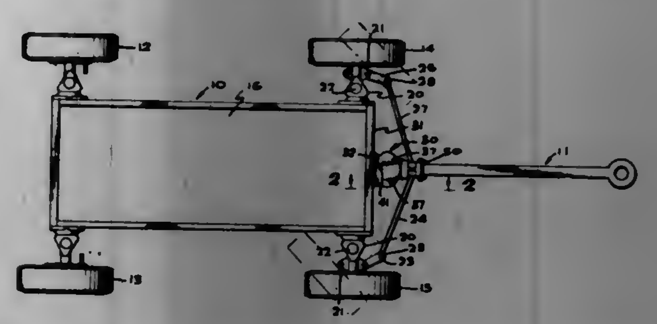
3,195,914
VEHICLE SUSPENSION
Frederick Rosky, Dearborn, Mich., assignor to Ford Motor Company, a corporation of Delaware
Filed Jan. 15, 1962, Ser. No. 166,226
8 Claims. (Cl. 280—96.2)



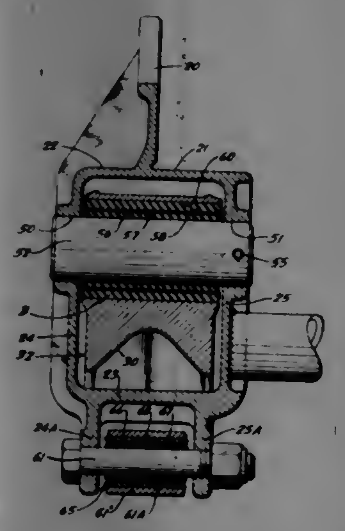
1. In a motor vehicle suspension system having sprung and unsprung components, suspension means interconnecting said components, said means having spaced apart pivotal connections with said sprung components, one of said connections being adapted for both vertical and horizontal movement of said means, the other of said connections having an intermediate link interposed between said sprung component and said suspension means, spring means interposed between said link and said sprung components and adapted to control the movement of said link.

3,195,915
STEERING TORQUE LIMITING DEVICE
Robert I. Moore, 3235 San Fernando Road, Los Angeles, Calif.
Filed June 6, 1963, Ser. No. 285,930
7 Claims. (Cl. 280—103)

1. A steering torque limiting mechanism comprising a bracket assembly, a linkage system comprising an aft link section and a forward link section pivotally connected to each other, said aft link section being pivotally attached to said bracket assembly and having a steering attachment mounted directly thereon including an extension rigid on the aft link section and said forward link section having a draw bar attachment mounted directly thereon including a link element rigid on the forward link section, cooperating guide means respectively on said bracket assembly and on said forward link section which remain in operative engagement during pivotal movement of said forward link section through a given normal steering angle for restraining said link sections against relative pivotal movement, thereby to cause pivotal steering movements of said aft link section through said angle with said forward link section, and which cooperating means move out of operative egagement to release said forward link section for pivotal movement relative to said aft link section upon pivotal movement of said forward link section beyond said normal steering angle, and stops acting between said bracket assembly and said aft link section at the ends of the arc of said angle, whereby to limit steering movement of said steering attachment when said draw bar attachment goes beyond the limit of steering movement of the steering attachment.



3,195,916
TANDEM SPRING SUSPENSIONS
Clifford G. Cain, Springfield, Mo., assignor to Alaska Juneau Gold Mining Company, Springfield, Mo., a corporation of West Virginia
Filed May 1, 1961, Ser. No. 106,864
10 Claims. (Cl. 280—104.5)



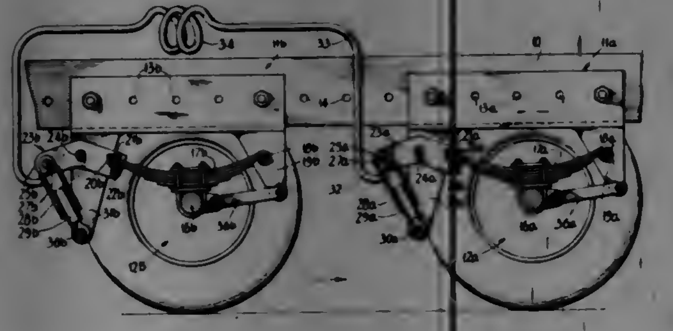
1. In a tandem spring suspension for a vehicle having tandem axles: a pair of elongated spring means having spaced outer ends and adjacent inner ends; an equalizer having spaced fore and aft parts engageable respectively by the inner ends of the spring means and having an opening at its medial section; a support for the equalizer coaxial with the opening thereof enabling the equalizer to pivot about said support as the result of a force impressed on the equalizer by an inner end of one of the spring means; and a compound bushing interposed between said support and the opening of said equalizer; said bushing consisting essentially of (1) a center sleeve of rigid material, (2) an inner bearing of resilient material firmly secured to the inner surface of said sleeve, and

(3) an outer bearing of resilient material firmly secured to the outer surface of said sleeve, said inner bearing engaging said support with a frictional force and said outer bearing engaging said medial section of the equalizer with a different frictional force, whereby at small angles of equalizer tilt the bearings merely twist while at predetermined large angles of equalizer tilt the bushing as a whole slips on said support, overcoming frictional resistance between the inner bearing and said support.

3,195,917
FIXED OR VARIABLE WHEEL-BASE TANDEM AXLE MECHANICAL SUSPENSIONS HAVING HYDRAULIC LOAD-EQUALISER MEANS FOR SEMI-TRAILERS

Kenneth William Holmes Baldock, Bentleigh, Victoria, Australia, assignor to Trailmobile Inc., Cincinnati, Ohio

Filed Sept. 25, 1963, Ser. No. 311,580
5 Claims. (Cl. 280—104.5)



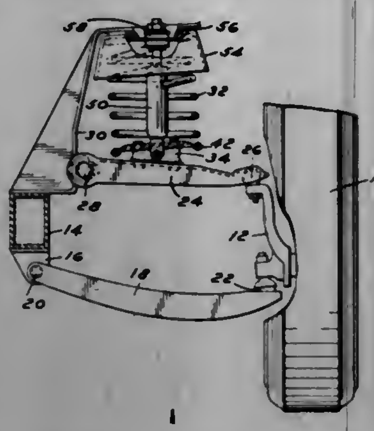
1. A variable wheelbase tandem axle mechanical suspension for semi-trailers comprising a main frame, a first axle assembly and a second axle assembly mounted on said main frame, each assembly having conventional half-elliptic supporting springs, one on each side of the vehicle, at least one of said such assemblies being locatable and fixable in a number of fore-and-aft positions relative to the vehicle, whereby the distance between the axle centers and their fore-and-aft position relative to the trailer can be altered and consequently the wheelbase of the suspension is variable as to extent and location, a cooperating rocker having projecting arms and pivotally mounted intermediate its ends on each assembly, one end of each supporting spring being carried by a bearing in one arm of said co-operating rocker, a closed hydraulic system, the other arm of each rocker of the first assembly being operatively connected to the corresponding other arm of the rocker of the second assembly on the same side of the vehicle by said closed hydraulic system so as to provide an axle-load equalising means, said closed hydraulic system including an interconnecting non-rigid conduit composed at least partly of flexible tubing formed with at least one loop so as to be extensible and retractable to accommodate the variable distance between the two axle assemblies.

3,195,918
VEHICLE SUSPENSION CONSTRUCTION HAVING RESILIENT SPRING SEAT

Charles W. Poole, Royal Oak, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware

Filed Dec. 30, 1963, Ser. No. 334,303
7 Claims. (Cl. 280—124)

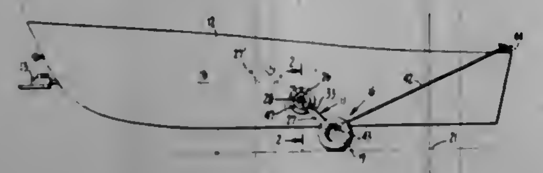
1. An independent vehicle suspension system including a vehicle chassis, a wheel, a support member for said wheel, a lower suspension arm pivotally interconnecting said chassis and said support member, an upper suspension arm pivotally interconnecting said chassis and said support member, said upper arm being shorter than said lower arm, a coil spring interposed between said chassis and said upper arm, a spring seat receiving the lower end of said coil spring, a rubber block mounted on said upper arm and supporting said spring seat, a shock absorber having one end secured to said chassis and its other end pivotally connected to said rubber block, said shock absorber being located within said coil spring.



3,195,919
REMOVABLE TRAILER CHASSIS FOR BOATS AND THE LIKE

Robert L. Lossman, Berkeley, Calif. (246 Jersey St., San Francisco, Calif.)

Filed May 21, 1963, Ser. No. 282,019
6 Claims. (Cl. 280—124)



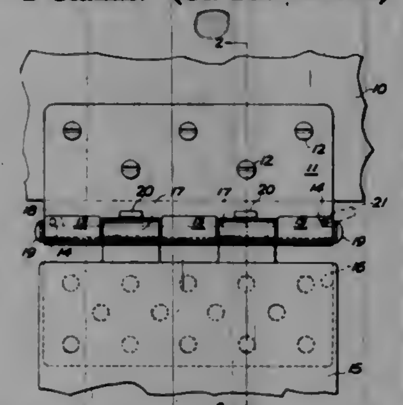
1. In combination with a trailer, a substantially horizontally extending cylindrical tubular member mounted on a side wall of said trailer and disposed wholly within the interior of said trailer, said tubular member having an inner end wall and an outer opening providing access from the exterior of said trailer, a stub shaft removably journaled in said tubular member for rotation about its axis and having a radially enlarged portion disposed exteriorly of said tubular member, said enlarged shaft portion having an annular shoulder disposed in abutting relationship with the outer end of said tubular member to limit axially inward movement of said shaft, a wheel support arm having one end secured adjacent the outer end of said shaft and disposed generally transversely thereto, a wheel mounted for rotation on the other end of said arm, a helical spring disposed concentrically about said shaft portion, a stop member mounted adjacent said side wall substantially flush with the exterior surface thereof and defining a generally arcuate shaped recess in said side wall, said recess extending along a generally circular centerline disposed concentrically about said tubular member and in end alignment with said spring, said stop member including an end wall disposed transversely adjacent one end of said recess and a substantially radially extending wall disposed over a segment of said recess adjacent said end wall, said stop member being adapted to have the innermost end portion of said spring inserted into said recess in abutting relationship with said end wall and restrained thereby against rotation in one direction about said shaft, said radially extending wall restraining said innermost spring portion against axially outward movement relative to said trailer, and said spring having a portion adjacent its outermost end engaging said support

arm for restraining said spring against rotation in the other direction about said shaft and restraining said shaft against axially outward movement relative to said trailer, said shaft thereby being resiliently restrained against rotational movement in one direction.

3,195,920
REPLACEABLE TRUCK FLAP

Victor D. Knisely, R.D. 1, Columbiana, Ohio, and Charles H. Rennels, 509 Laird Ave., Poland, Ohio

Filed Mar. 22, 1963, Ser. No. 267,151
2 Claims. (Cl. 280—154.5)

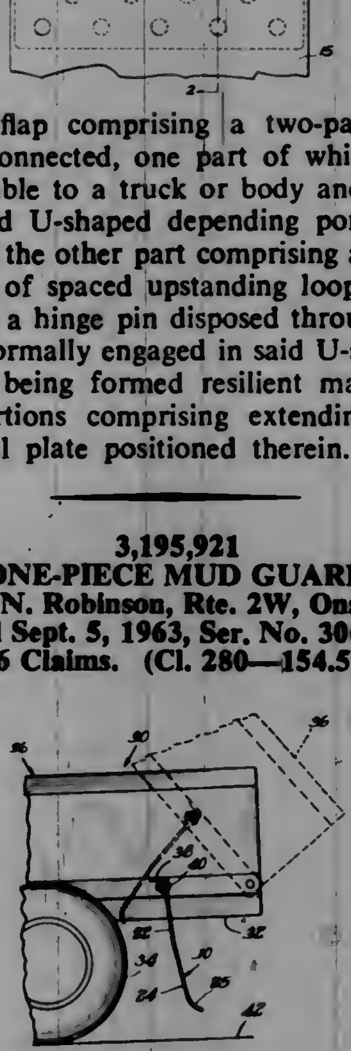


1. A truck flap comprising a two-part construction hingedly interconnected, one part of which comprises a bracket attachable to a truck or body and having a plurality of spaced U-shaped depending portions along its lower edge and the other part comprising a flat body having a plurality of spaced upstanding looped portions on its upper edge, a hinge pin disposed through said looped portions and normally engaged in said U-shaped portions said flat body being formed resilient material with the upstanding portions comprising extending parts of an apertured metal plate positioned therein.

3,195,921
ONE-PIECE MUD GUARD

Roland N. Robinson, Rte. 2W, Onarga, Ill.

Filed Sept. 5, 1963, Ser. No. 306,883
6 Claims. (Cl. 280—154.5)

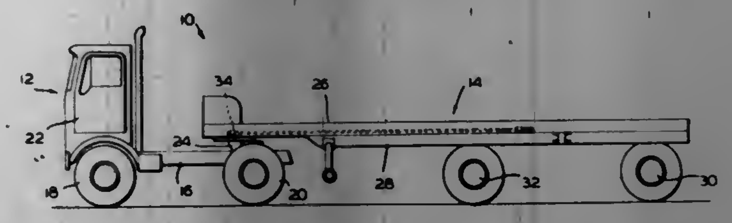


1. A mud deflector for vertical mounting behind the rear road-wheels of a truck, semi-trailer, or the like comprising: a bonded laminous structure of polyester resin-reinforced fibrous glass material having a front surface for confronting such road-wheels and a rear surface opposite therefrom, said front surface being substantially smooth throughout and formed from a fibrous glass mat material so as to afford minimum resistance to the runoff of liquids, mud, or the like for obviating the buildup of road deposits thereon, said rear surface being formed from a woven fibrous glass material, said deflector including an upper, laterally extending margin having an opening therein to receive fastener means for attachment of said deflector in operative relationship with such road-wheels, and at least one reinforcing lamina of fibrous glass mat material arranged in the upper area of said mud deflector between said front and rear surfaces and extending through said upper margin to impart strength and stiffness thereto for resisting deformation of said deflector in the wind stream.

3,195,922
STEERING ASSEMBLY FOR TRAILERS

Carl E. Humes, 907 Franklin Ave., Steubenville, Ohio

Filed Nov. 28, 1962, Ser. No. 240,550
3 Claims. (Cl. 280—426)



1. Steering means for a trailer of the type wherein the front end is pivotally connected by a king pin to a fifth wheel of a towing vehicle, the fifth wheel including a rearwardly opening king pin receiving slot, and the rearward end of the trailer is supported on a pair of longitudinally spaced rearwardly positioned pivotally mounted wheeled axle assemblies comprising a first toothed wheel mounted to the trailer for rotation in a generally horizontal plane above the fifth wheel of the towing vehicle, a horizontally offset and generally vertically depending crank secured to rotate with the first toothed wheel and engage the king pin receiving slot in the towing vehicle fifth wheel, a second toothed wheel mounted to said trailer for rotation in a generally horizontal plane rearwardly of the first toothed wheel, chain means about the first and second toothed wheels interconnecting the first and second toothed wheels for simultaneous rotation, a generally horizontally extending arm secured to rotate with said second toothed wheel, a tongue centrally extending from the most forwardly of the pair of wheeled axle assemblies, said tongue extending generally normal to the longitudinal axis of the said most forwardly of the pair of wheeled axle assemblies, bearing means slidably interconnecting the extended end of said arm and said tongue and means interconnecting the most forwardly of the pair of wheeled axle assemblies and the other of said pair of wheeled axle assemblies, said interconnecting means including means for pivoting said other of the wheeled axle assemblies in the opposite direction to the direction of pivoting of the most forward of the pair of wheeled axle assemblies and the rear wheels of the towing vehicle to provide a coordinated turning path for said pair of wheeled axle assemblies.

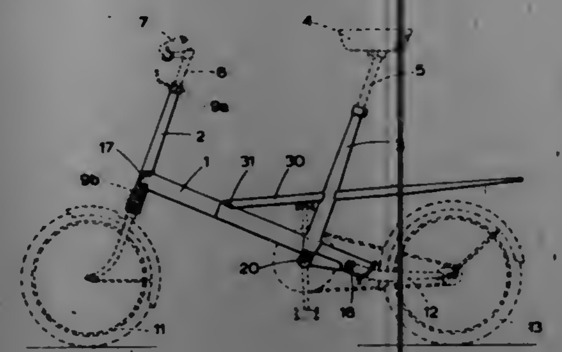
3,195,923
FRAMES FOR TWO-WHEELED CYCLE VEHICLES

Alexander Eric Moulton, Bradford-on-Avon, England, assignor to Moulton Consultants Limited, Bradford-on-Avon, England, a British company

Filed Nov. 19, 1962, Ser. No. 238,463
Claims priority, application Great Britain, Dec. 1, 1961, 43,068/61
8 Claims. (Cl. 280—281)

1. A frame for a two-wheeled pedal cycle vehicle comprising a tubular main frame backbone adapted to extend longitudinally of the vehicle downwardly inclined rearwardly thereof, a front tube upstanding from the front end of the backbone and adapted to house a steering column, a seat tube upstanding from the backbone rearwardly spaced from the front tube and adapted to be surmounted by a saddle, a tubular housing for a pedal crank axle extending transversely of and adhered to the underside of the backbone at a point immediately below the junction of the seat tube and backbone, a bracket member adhered to side portions of said housing and extending rearwardly and partially enveloping and adhered to the lower part of the backbone, said bracket member serving to provide support during pedal thrusts for the

housing relative to the backbone, and a substantially straight longitudinal bracing member extending from a point on the upper side of the backbone ahead of the



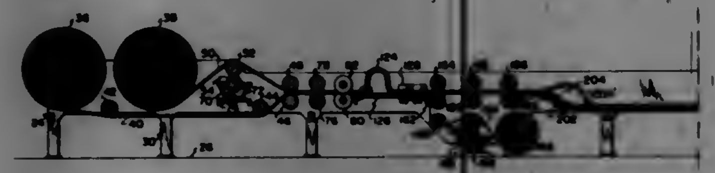
seat tube at a distance equal to at least one third of the distance separating the seat tube from the front tube rearwardly to adjoin the seat tube at a position below the midpoint thereof.

3,195,924
BOOK COVER BOARDS AND BOARD STRUCTURES AND APPARATUS AND METHOD FOR MAKING THE SAME

Leewood C. Carter and Edward K. Mullen, Westfield, N.J., assignors to Book Covers, Incorporated, Newark, N.J., a corporation of New Jersey

Filed Dec. 26, 1962, Ser. No. 246,966

17 Claims. (Cl. 281—29)



1. A cover board structure for books, said structure comprising (1) a first multi-layer leaf board portion, (2) a second multi-layer leaf board portion, (3) a multi-layer spine board portion disposed between and in spaced relation to said first and second multi-layer leaf board portions, said first and second multi-layer leaf board portions each having rounded corners distant from said multi-layer spine board portion, and (4) a hinge material portion bonded to and extending across an entire outside surface of said multi-layer spine board portion but only a part of an outside surface of each said multi-layer leaf board portions, said hinge material being indented substantially flush into each of said multi-layer leaf board portions.

3,195,925
CARRIER AND EASEL MEANS FOR LOOSELEAF BINDERS AND THE LIKE

Elbert L. Walker, Jr., 4456 Clarissa Ave., Los Angeles, Calif.

Filed June 24, 1963, Ser. No. 289,950

7 Claims. (Cl. 281—33)

1. Combined carrier and easel means for a book or binder having hingedly connected hard covers, said means comprising:

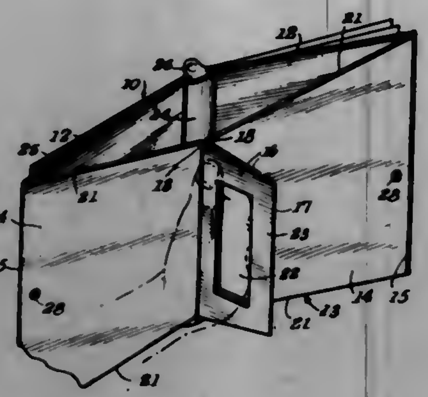
(a) a hard panel connected to each book or binder cover on a hinge line extending along the height of the cover and parallel to the cover hinges,

(b) a second and narrower hard panel connected along hinge lines to the free edges of each of the first-mentioned panels,

(c) a hinged connection between said second panels, and

(d) portions constituting carrying handles formed in said second panels,

(e) one wide panel and both hinge-connected narrow panels being unfoldable on their hinged connections to a flat condition with one of the book or binder



covers flatly supported on the latter wide panel, and

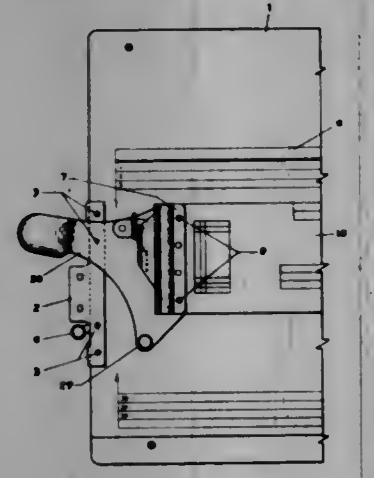
(f) the other wide panel and book cover being disposed in the form of a triangular easel overstanding the flatly arranged narrow panel, the book cover constituting a sloping support for the sheaf of pages.

3,195,926
PEG BOARD

Jacob Hirsch, 420 North St., Harrison, N.Y.

Filed Nov. 6, 1963, Ser. No. 321,937

6 Claims. (Cl. 282—29)



1. In a peg board for the simultaneous posting of data on checks or similar paper onto journal sheets and ledger sheets and provided with a journal sheet carrying member slideably movable along one edge of the board and a carriage movable diagonally from an initial position to a second position and mack, said carriage carrying a check holder with aligning pins, the back and forth movement of the carriage permitting entries from the check or other paper at two different points on the journal sheet to appear on the same line but laterally displaced, the improvement which comprises,

(a) a separate element movable parallel to the journal sheet carrying member through a distance equal at least to one journal sheet line,

(b) means actuated by the first movement of the carriage from its initial position to move the separate element through a distance corresponding to one journal sheet line,

(c) latching means connecting the journal sheet carrying member to the separate member at the end of the movement, and

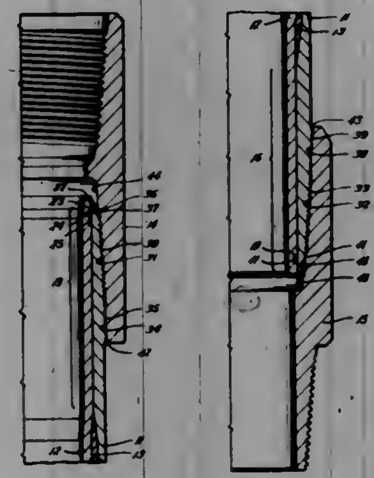
(d) means actuated by the movement of the movable carriage back to its initial position permitting the separate element, and with it the journal sheet carrying member latched thereto, to move a distance equal to one journal sheet line.

3,195,927
WEIGHT PIPE

Willard B. Kimbrell, Great Bend, Kans., assignor, by mesne assignments, to Flexweight Drill Pipe Co., Inc., Great Bend, Kans., a corporation of Kansas

Filed Apr. 4, 1962, Ser. No. 185,116

6 Claims. (Cl. 285—1)



1. A weight pipe comprising

an outer member prestressed in axial tension and having an upper end and a lower end,

an inner tube prestressed in axial compression disposed in said outer member and having an upper end and a lower end,

the upper end of said inner tube being press fitted with an interference fit within the upper end of said outer member forming an overload releasable joint between said upper ends,

the lower end of said inner tube being press fitted within the lower end of said outer member forming a joint between said lower ends but the press fit joint between the upper ends of said inner tube and outer member requiring less overload torque to cause relative motion therebetween than would be required to cause relative motion at the joint between the lower ends of said inner tube and outer member whereby the joint at said lower ends is stronger with respect to torque resistance than the press fit joint between the upper ends of said inner tube and outer member,

the outer diameter of the upper end of the inner tube at the joint with the upper end of the outer member being larger than the diameter of the lower end of the inner tube at the joint with the lower end of the outer member,

means cooperatively disposed between the inner tube and outer member adjacent the upper ends thereof to transmit axial tension from the inner tube to the outer member when said overload releasable joint has released but allowing rotation of said upper end of the outer member relative to said inner tube when said overload releasable joint has released,

said inner tube being separated from said outer member between said joints forming an annular chamber extending from the joint between said upper ends to the joint between said lower ends,

both of said joints being rendered fluid tight, and

a fluid having a density greater than 1.4 filling said chamber,

said joints being constructed and arranged to maintain said tension and compression so long as said overload releasable joint is not released.

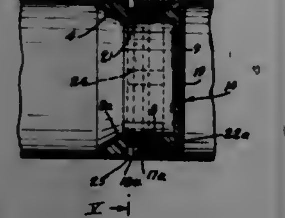
3,195,928
COUPLING FOR PIPES AND THE LIKE

Horst A. G. Pasternack, Essen (Ruhr), Germany, assignor to Wasag-Chemie A.G., Essen, Germany

Filed July 5, 1962, Ser. No. 207,754

Claims priority, application Germany, June 7, 1960, W 27,982; July 5, 1961, W 30,299

14 Claims. (Cl. 285—18)



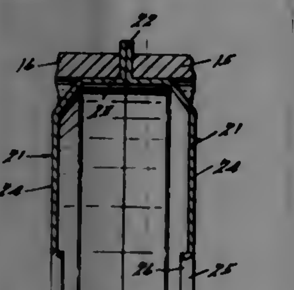
1. A coupling comprising a female coupling member having an open and an internal shoulder which faces away from said open end; a male coupling member extending through said open end and into said female coupling member and having an external shoulder located inwardly of said internal shoulder and facing said open end, said external shoulder having an outer diameter smaller than the inner diameter of said internal shoulder; and a normally expanded split ring surrounding said male coupling member, said ring having a first split annular portion which is located in said female coupling member intermediate said shoulders and an exposed second split annular portion which extends outwardly and beyond said open end, said first portion having an outer diameter greater than the inner diameter of said internal shoulder and an inner diameter smaller than the outer diameter of said external shoulder when the ring is expanded whereby said first portion normally retains said male coupling member in said female coupling member, said ring being compressible in response to application of radially inwardly directed pressure against said second portion thereof so that the outer diameter of said first portion is reduced to less than the inner diameter of said internal shoulder and the ring then permits withdrawal of said male coupling member from said female coupling member, said male coupling member further having an annular external shoulder abutting against said exposed second annular portion of said ring and extending radially at least to the outer periphery of said second annular portion so that the likelihood of accidental compression of said ring is substantially reduced.

3,195,929
FLASH COLLECTOR AND METHOD

Ernest G. Ott, Dearborn, Mich., assignor to American Metal Products Company, Detroit, Mich., a corporation of Michigan

Filed Aug. 22, 1962, Ser. No. 218,622

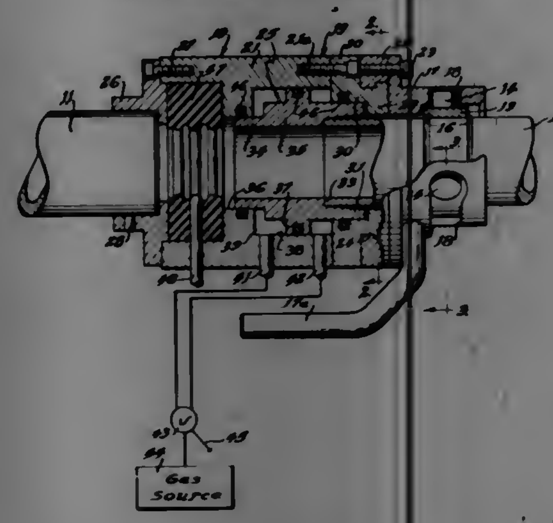
5 Claims. (Cl. 285—22)



1. The combination with a pair of tubular ends to be butt-welded together of flanged cuplike elements disposed within the ends with the flanges extending thereover, the facing cup-shaped elements forming a chamber spanning the ends for receiving the internal flash material during the welding operation.

3,195,930
DEVICE FOR COUPLING A CHARGING APPARATUS TO A REACTOR NOZZLE

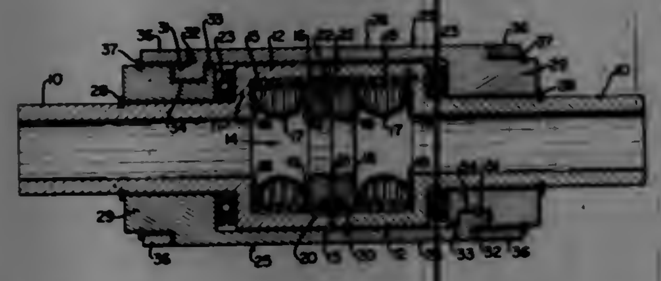
Robert J. Ascherl, Latina, Italy, Eugene T. Hubbard, Livermore, Calif., and David R. Resner, Kennewick, and Cecil R. Oak, Richland, Wash., assignors to the United States of America as represented by the United States Atomic Energy Commission
Filed Sept. 20, 1963, Ser. No. 310,503
3 Claims. (Cl. 285—27)



1. A device for coupling a charging machine with one end of a nozzle of a process tube of a reactor in alignment with the nozzle, said device comprising a housing connectable to a region of the tubular nozzle slightly spaced from its said one end and extending in spaced relation around the nozzle and beyond its said one end, whereby an annular space is formed between the housing and the outer surface of the nozzle directly adjacent its said one end, an alignment ring projecting around the nozzle into said annular space and fitting the housing at this region, the ring having an internal shoulder abuttable with said one end of the nozzle, the internal shoulder being spaced from the end of the ring lying within the annular space, the ring having a tapering interior decreasing in diameter from the said end to the said internal shoulder so as to fit the nozzle only at the said internal shoulder, means for shifting the alignment ring with respect to the housing to abut the shoulder of the ring with said one end of the nozzle and thereby to produce a seal between the ring and the nozzle, and means for connecting the housing to the charging machine.

3,195,931
SYMMETRICAL HOSE COUPLING

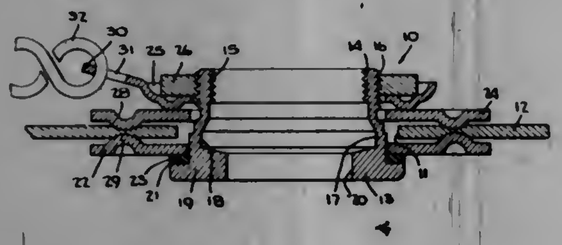
Magnus V. Braunagel, Littleton, Colo., assignor, by mesne assignments, to Space Technology and Research Corporation, Denver, Colo., a corporation of Colorado
Filed Mar. 18, 1963, Ser. No. 269,231
4 Claims. (Cl. 285—70)



1. A conduit coupling comprising two conduit sections aligned for coupling, a pair of coupling sections of larger dimensions than the conduit sections of which each one is attached to one of said conduit sections and disposed in abutting relationship with each other for forming a chamber establishing communication between the two aligned conduit sections, a pair of apertured gaskets of which each one is slidably disposed transversely adjacent the abutting zone inside one of the two coupling sections, a pair of coiled springs of which each one is nested inside one of the coupling sections for urging the gaskets into fluid-sealing engagement with each other, a pair of curved bellows sections of which each one is brazed respectively to a coupling section and a gasket in resilient fluid-tight relationship with its convex surface facing internally of the coupling section, said bellows sections being enclosed one each within a respective coiled spring and adapted to translate fluid pressure inside the conduit sections acting radially outward against its convex surface into axial pressure for urging the gaskets into relatively tighter fluid-sealing engagement with each other, and coupling sleeve means for housing the resulting coupling assembly.

3,195,932
TUBULAR MEMBER FOR FLEXIBLE WALL JOINT

Lester Clifford Morton, Dunmurry, Northern Ireland, assignor to National Distillers and Chemical Corporation, Richmond, Va., a corporation of Virginia
Filed Mar. 26, 1962, Ser. No. 182,589
1 Claim. (Cl. 285—200)

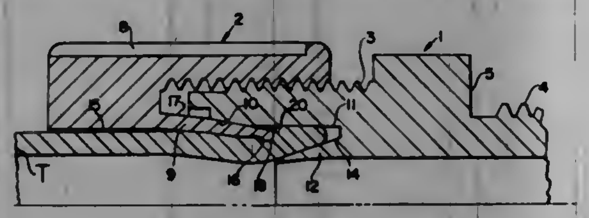


A fluid control valve body fitting adapted for insertion into an aperture in the wall portion of a container made of resilient material or the like comprising a tubular body member having an external shoulder portion adjacent the lower end portion thereof, a lower washer slideably engaged with said shoulder portion, an upper washer slideably disposed about the periphery of said body member, said upper washer substantially overlying and being adjacent said lower washer, the adjacent faces of said washers having respective opposed ridge portions disposed in substantially mating relation, said washers being adapted to receive the wall portion of said housing adjacent said aperture between said ridge portions in their operative position, and means for clamping said washers toward each other including a third washer overlying said upper washer having a downwardly facing circular ridge portion of substantially lesser diameter than that of the other said ridge portions bearing against said upper washer and means engageable with said tubular body and overlying said third washer for urging the ridge portion of said third washer against said upper washer, whereby said fitting is adapted to be sealed with respect to said wall portion, and further comprising means for sealing said lower washer against said shoulder portion.

3,195,933
GLAND TYPE COUPLING FOR TUBES

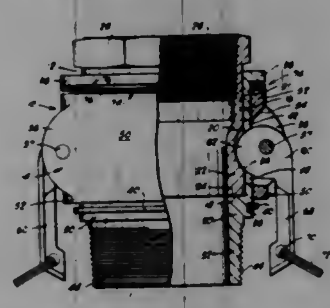
Arthur W. Jacobs, 5994 Columbia Road, North Olmsted, Ohio
Filed Oct. 27, 1960, Ser. No. 65,330
1 Claim. (Cl. 285—247)

A flareless tube coupling assembly for a rubber-like flexible tube comprising a body formed with a tube-end receiving cavity defined by a bore one wall of which defines a flare mouth surrounding the inserted tube, a length of rubber-like flexible tube having an end inserted in said cavity, said body having an annular wedge-shaped lip disposed axially inwardly adjacent the inserted end of the tube, a cylindrical outer wall radially spaced above said lip and of approximately the same diameter as the tube and the radially outer wall of said lip being frusto-conical and of such a diameter at its small end to fit within the inserted tube end, the distance between said lip and said cylindrical wall being dimensioned to radially squeeze the tube wall upon axial advance of the tube end thereinto; a ferrule surrounding the tube the internal diameter of which is slightly larger than the external diameter of the tube, a radially inwardly extending flange on the inner end of said ferrule of an axial length less than that of the wall defining said flare mouth, said inner end of said ferrule confronting such flare mouth wall for contraction thereby into tube-gripping engagement upon axial advance of said ferrule; and a nut integral with said ferrule and in threaded engagement with said body operative, when turned, first to axially advance said ferrule to cause contraction of said inner end by such flare mouth into tube gripping engagement and thereafter to continue axial advance of said ferrule and tube whereby the latter is wedged between said lip and said cylindrical wall to establish a fluid tight seal between said body and tube and to hold said tube against turning despite turning of said ferrule by said nut, at least one of the surfaces of said cylindrical wall and said lip being roughened to increase the frictional resistance to turning of the tube during tightening of said nut.



3,195,934
COUPLING FOR FLUID CONDUITS

Reuel C. Parrish, P.O. Box 861, Enid, Okla.
Filed May 31, 1962, Ser. No. 198,893
4 Claims. (Cl. 285—312)

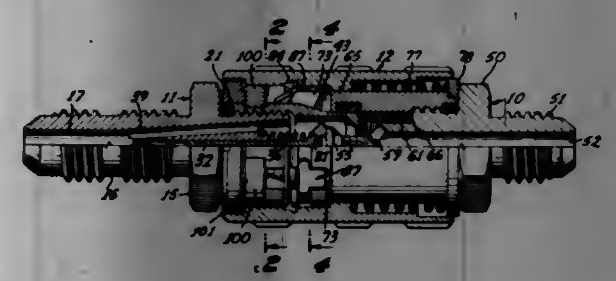


1. A quick connect-disconnect coupling for fluid conduits comprising:

a tubular coupler having an annular seating surface formed around the interior wall adjacent one end and radially outwardly extending abutment means secured to the exterior wall adjacent the other end;
a tubular adapter receivable in the coupler at the end adjacent the abutment means and having an annular seating surface formed thereon for mating with the seating surface formed in the tubular coupler;
an annular concave groove in the exterior wall of the adapter;
a sleeve bracket slidably disposed around the coupler having one end thereof adjacent the abutment means;
lever operated cam means pivotally connected to the sleeve bracket for coaction with the annular concave groove;
aperture means in the tubular coupler for passing the cam means through the coupler for engagement with the annular concave groove;
resilient means disposed between said abutment means and the end of the sleeve bracket adjacent thereto for transmitting a force exerted on the sleeve bracket to the tubular coupling,
whereby upon insertion of the adapter into the coupler and pivotation of the lever operated cam means, the seating surfaces will be firmly pressed together by force transmitted from a side of the annular groove in the adapter through the cam means to the sleeve bracket, and from the sleeve bracket through the spring means to the annular flange around the exterior wall of the coupler.

3,195,935
HYDRAULIC PIPE COUPLING HAVING AN AUTOMATICALLY ACTUATED LOCKING SLEEVE

Frederick L. Beebee, La Canada, Calif., assignor to The Deutsch Company, Los Angeles, Calif., a corporation of California
Continuation of application Ser. No. 93,517, Mar. 6, 1961.
This application Apr. 21, 1964, Ser. No. 366,942
4 Claims. (Cl. 285—316)



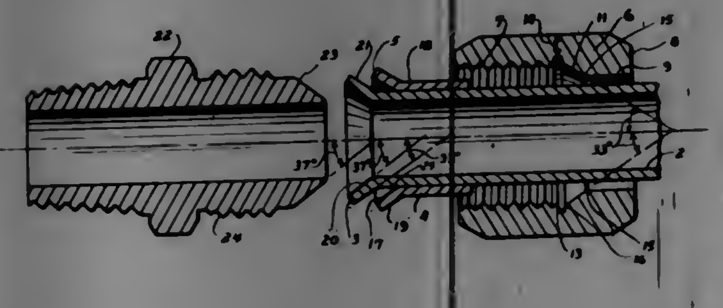
1. A coupling device comprising
a first member for transmitting fluid,
a second member for transmitting fluid,
said first and second members having end portions which can be associated together to provide for the transmission of fluid from one of said members to the other,
a sleeve circumscribing said first member adjacent said end portion of said first member,
said sleeve being axially slidable relative to said first member,
at least one locking member carried by said first member
and movable inwardly towaro the axis thereof, said second member having a recess adjacent said end portion of said second member for receiving said locking member when said locking member is so moved inwardly,
said sleeve having an abutment and being slidable between
a first position in which said abutment holds said locking member in said inward position and a second position in which said abutment is remote from said locking member,
means for holding said sleeve in said second position, said last-mentioned means including
a latching member pivotally carried by said first member and pivotal between a latched and an unlatched position, said latching member being of substantially cruciform shape having two pairs of oppositely extending arms and being pivotal about one of said pairs of arms,
said latching member and said sleeve having abutment surfaces in engagement when said latching member is in said latched position for holding said sleeve in said second position, said abutment surface of said latching member being defined by one of the other pair of said oppositely extending arms,
said latching member having an additional surface on the other one of said pair of arms engageable with said second member

when said first and second members are advanced into said association

to effect pivoting of said latching member to move said latching member to the unlatched position

said abutment surface of said latching member being remote from said abutment surface of said sleeve when said latching member is in said unlatched position for permitting said sleeve to move to said first position, resilient means urging said sleeve toward said first position, and means biasing said latching member toward said latched position.

3,195,936
SPECIAL SLEEVE AND COUPLING B-NUTS
Alfred C. Conder, Huntsville, Ala.
Filed Dec. 17, 1962, Ser. No. 245,208
1 Claim. (Cl. 285—334.5)



A reusable coupling for a tube having a flared end and for withstanding high pressure fluid including

(a) a coupling member having an end face for fitting into the flared end of the tube and having a surface with threads thereon,

(b) a coupling nut having threads that fit over those on the coupling member and that screw along the threads on the coupling member,

(c) a bevel clamping surface on the inside of the nut beyond the threads in the direction away from the coupling member,

(d) the clamping nut having a portion beyond the bevel clamping surface and with a cylindrical bore for passage of a cylindrical portion of the tube through the nut,

(e) the portion of the clamping nut beyond the bevel clamping surface extending for a distance at least as great as the radial thickness of the portion of the nut through which the cylindrical bore extends and said portion of the clamping nut having a radial thickness substantially as great as the radial thickness of the nut at the small end of the bevel clamping surface,

(f) a sleeve with a cylindrical portion that assembles with a sliding fit over the tube end and of an outside diameter to assemble with a sliding fit inside said cylindrical bore of the clamping nut,

(g) the sleeve having a flared frusto-conical end for contact with the outside of the flared end of the tube,

(h) the bevel surface of the nut being in position to clamp against the flared end of the sleeve and being at substantially the same angle to the axis of the tube as is the flared end of the sleeve against which the bevel surface clamps, and the angle of the flared end of the tube being the same as that of the flared surface of the tube which contacts with the flared end of the sleeve,

(i) said angle being between 31° and 41°,

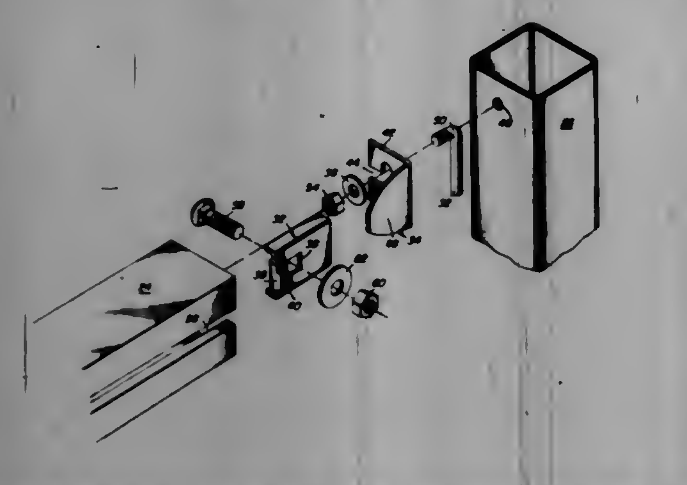
(j) the bevel clamping surface of the nut, where it meets the inside surface of the cylindrical bore of the nut, being rounded off to a radius, the radius being correlated with the size of the tube to relieve localized axial displacement of the sleeve at the juncture of its flared end with the cylindrical portion of the sleeve and to obtain more uniform clamping pressure against the flared ends of the sleeve and tube with the pressure substantially perpendicular to the clamping surfaces, causing the sleeve to become compressed and swedged to effect a complete seal against leakage,

(k) and said sleeve also having a radius where the inside surface of the flared end of the sleeve merges with the inside of the cylindrical portion of the sleeve to further promote uniform clamping pressure of the flared ends of the sleeve and tube,

(l) all of the clamping surfaces of the nut, sleeve, and coupling member being circumferentially continuous to avoid scoring that would render the fitting unsuitable for reuse,

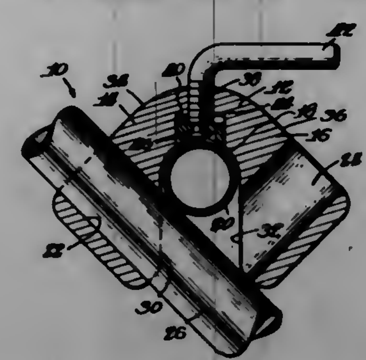
(m) and a groove between the threads and the large diameter end of the bevel clamping surface of the nut providing local yielding of the nut in diametral planes to facilitate the directing of the clamping force and to provide some spring effect to retain high torques over long periods of time.

3,195,937
ADJUSTABLE TERMINAL ATTACHMENT FOR FENCE RAILS
John S. Case, Baltimore, Md., assignor to Anchor Post Products, Inc., Baltimore, Md., a corporation of New Jersey
Filed Feb. 15, 1962, Ser. No. 173,413
4 Claims. (Cl. 287—54)



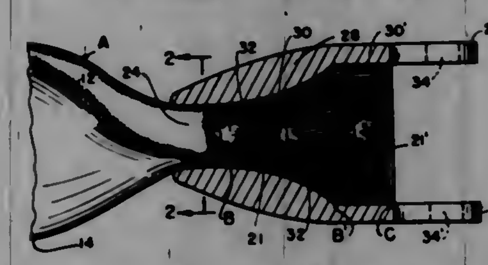
1. An adjustable terminal device for joining a first tubular member having an inwardly flanged longitudinal slot to a second tubular member having an opening in one side, comprising bolt means positioned within said second tubular member and having its threaded end extending through said opening therein, a bracket member having an opening for receiving the extended end of said bolt means exteriorly of said second tubular member, means for tightening along the threads of said extended end for clamping said bracket member to said second tubular member, means for preventing rotation of said bolt means during said tightening, a clamp member positioned within said first tubular member and having a tab portion for engaging the flanges of said longitudinal slot to prevent rotation of said clamp member, said bracket member having a tongue for extending between a portion of said clamp member and the interior edges of said flanges, and means for tightening said clamp member towards said interior edges to thereby clamp said tongue therebetween, with said tongue having at least one curved edge to enable said first tubular member to extend angularly with respect to said tongue.

3,195,938
COUPLING MEANS FOR BUILDING FRAMEWORKS, RACKS, SCAFFOLDS, AND THE LIKE
Louis L. Rifken, 122 S. Grove, Elgin, Ill.
Filed Apr. 9, 1962, Ser. No. 185,958
2 Claims. (Cl. 287—54)



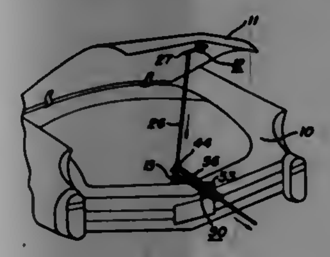
1. A coupling member comprising a body portion having a recess formed centrally thereof and having two opposed sides and a bottom, the bottom forming a central socket adopted to receive a framework member, arms extending outwardly of and as continuations of said body portion, each arm having an opening each adapted to receive a separate framework member, the axis of one opening intersecting the axis of the other opening at a point in a plane passing through the central portion of said bottom and the longitudinal axis of said central socket extending transversely to the axes of said openings, the axis of said central socket being positioned between the bottom of the member and said point of intersection, and a locking member secured in said body and extending into said central socket to engage the framework in said central socket and urge it against the frameworks in said openings to couple same together.

3,195,939
ANCHORING MEANS FOR FLAT BANDS
Roe Howe Lagarde, Oxford, and Clarke Murphy, Jr., Baltimore, Md., assignors to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Jan. 29, 1963, Ser. No. 254,788
5 Claims. (Cl. 287—82)



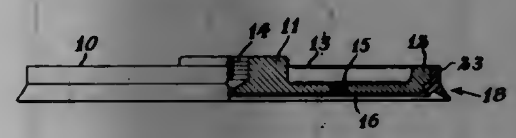
1. A combination end structure for an elongated substantially flat flexible band including parallel lateral edges wherein the band is constructed of multiple interwoven longitudinal and lateral strands and a holding element therefor, the lateral strands of the band adjacent the end of the band being removed for at least the distance equal to one-third the width of the band leaving the longitudinal strands extending outwardly from the woven portion of the band, the woven portion adjacent the unwoven end portion of the band being lapped parallel with the elongated axis of the band, thereby reducing the width of the band adjacent the unwoven portion, the extended unwoven longitudinal strands forming a diverging flare of spaced longitudinal strands beyond the lapped woven portion, an organic plastic material adhering to the spaced unwoven longitudinal strands and filling the spaces therebetween, the plastic material and the unwoven strands forming a tapered lug having diverging sides extending outwardly from the lapped portion toward the ends of the unwoven strands of a predetermined configuration for holding the unwoven strands in extended and fixed position, the holding element having a tapered cavity and an opening adjacent the smaller end thereof of such size and shape as to snugly accommodate the lapped cross-sectional area of the woven band adjacent the smaller end of the lug through which the band is extendable, the cavity in the holding element being of the same configuration and size as that of the lug, said holding element extending throughout the length of the lug and along the folded section of the band for holding the laps in longitudinal alignment with the longitudinal strands extending into the lug.

3,195,940
TRUNK LID HOLD-DOWN MECHANISM
George V. Woodling, 22077 W. Lake Road, Rocky River, Ohio
Filed Aug. 8, 1963, Ser. No. 300,872
12 Claims. (Cl. 292—262)



5. In combination with a trunk body and a trunk lid, hold-down extensible means mounted within said trunk body and interconnecting said trunk lid and said trunk body to hold said trunk lid down to a desired position short of the fully closed position with an open space between the trunk lid and the trunk body, adjustable means to vary the effective length of said hold-down extensible means, and extension means extending from a place within said trunk body and through said open space to a place externally of said trunk body for positioning said adjustable means externally of said trunk body whereby said adjustable means is readily accessible for operation.

3,195,941
VACUUM GRIPPING PAD
Woodruff A. Morey, Flossmor, Ill., assignor to Whiting Corporation, a corporation of Illinois
Filed Aug. 27, 1962, Ser. No. 219,697
4 Claims. (Cl. 294—64)



1. A vacuum gripping member comprising in combination, a generally planar pad having an opening in the bottom face thereof adapted to be placed in communication with means for producing a vacuum, which pad has an upper portion with a generally vertical edge extending around the periphery thereof, and a bottom portion of reduced cross-section thereby forming a downwardly facing shoulder extending around the periphery of the pad, a flexible sealing ring secured to the periphery of said pad and comprising, a generally vertically extending body portion having the inner side thereof engageable with said edge of said pad, said body portion having inner and outer, spaced-apart, work engaging lips depending therefrom, said inner lip being inwardly offset from said edge and received under said shoulder in a snug engagement therewith and extending downwardly beyond the bottom face of said pad, said outer lip extending downwardly beyond the work engaging surface of said inner lip.

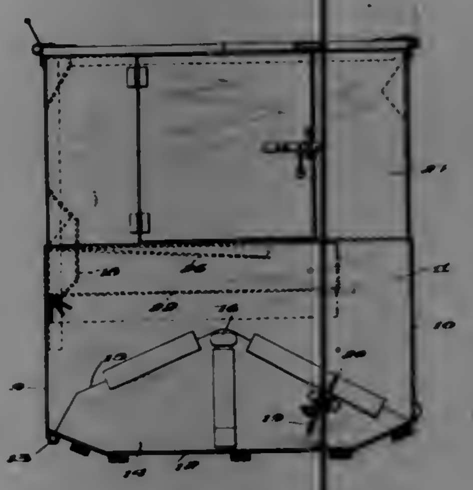
3,195,942

CONTAINERS

George R. Dempster, Knoxville, Tenn.; Trust Company of Georgia, executor of said George R. Dempster, deceased, and John Saylor Dempster, Knoxville, Tenn., assignors to Dempster Brothers, Inc., Knoxville, Tenn., a corporation of Tennessee

Filed Sept. 13, 1962, Ser. No. 223,369

2 Claims. (Cl. 294—69)



1. A container of the character described, comprising a body portion including opposite end walls and a side wall, a bottom discharge door hinged to the body portion adjacent the lower edge of the side wall for downward swinging movement relative thereto, said bottom door including upturned end sections, means connected with the end sections and located externally of the end walls for supporting the container, latch means interconnecting the end walls with the upturned end sections and securing the door in closed relation, and lifting sleeves for the container, said sleeves extending along the inner faces of the end walls in direct abutting relation thereto and spaced appreciably above the bottom door so as not to interfere with opening movement of the door, said sleeves having openings through the side wall for insertion of lifting forks therethrough.

3,195,943

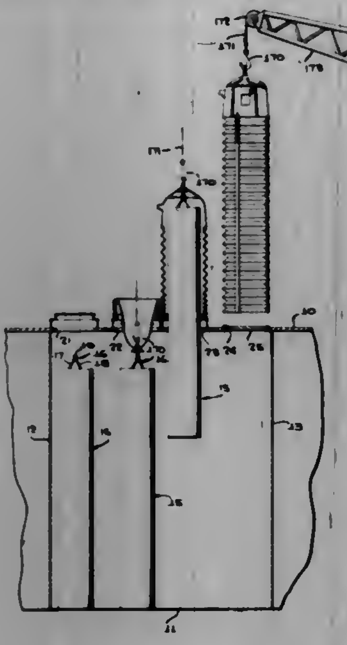
PROTECTIVE TRANSFER COVER APPARATUS

Thomas T. Taylor, Newport News, Clyde E. Kelly, Suffolk, and John H. Rappold, Newport News, Va., assignors to Newport News Shipbuilding and Dry Dock Company, Newport News, Va., a corporation of Virginia

Filed Jan. 29, 1963, Ser. No. 254,668

3 Claims. (Cl. 294—131)

1. Protective transfer cover apparatus comprising a hollow body means formed of flexible water-proof material and including a closed end portion and an opposite open end portion, a rigid framework disposed within said body means at said closed end portion, clamping means for securely attaching said body means to said rigid framework, said framework including a lower attaching means for attaching the framework to an article to be transferred, said rigid framework also including an upper attaching means extending outwardly of said body means for attachment to a suitable transfer mechanism, a portion of said body means adjacent said closed end portion having reinforcing means connected therewith, said body means including a bellows-like collapsible portion intermediate said closed end portion and said opposite open end portion, means for limiting expansion movement of said collapsible portion, means for remotely controlling the collapsing and expanding movement of said collapsible portion, and means for retaining said collapsible portion in its collapsed compact position when desired, and including in combination an auxiliary cover means having a removable lid portion disposed in the central area thereof, said auxiliary cover means also including a portion defining an annular surface for receiving the opposite open end portion of said body means and for maintaining a seal therewith to prevent access of undesired matter into the interior of the auxiliary cover means or the body means.



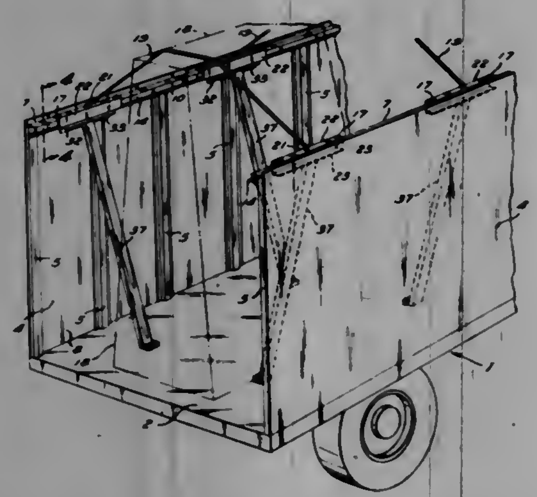
3,195,944

VEHICLE WALL BRACING MEANS

Lawrence C. Simmons, Cleveland, Ohio, assignor to Cleveland Technical Center, Inc., Cleveland, Ohio, a corporation of Delaware

Filed Mar. 25, 1964, Ser. No. 354,534

6 Claims. (Cl. 296—28)



1. Means for bracing the sidewalls of an open-top vehicle having a floor and upstanding sidewalls having at their upper edge portions inwardly projecting flange portions having securing means, comprising opposed bearing means on the flange portions of said sidewalls, each of said bearing means extending longitudinally of the associated sidewalls for a substantial portion of the length thereof and having a portion bearing against the inner edge of said flange portion and an extending portion bearing against the underside of said flange portion; means engaging each of said bearing means and securing means of the associated flange portion to locate said bearing means relative to said flange portion; bracing members extending between the floor of the vehicle and each of said bearing means to exert on said bearing means outwardly directed forces; and means engaging opposed bearing means and extending therebetween to exert on said bearing means forces urging said sidewalls toward each other.

3,195,945

DOOR FOR MOTOR VEHICLES

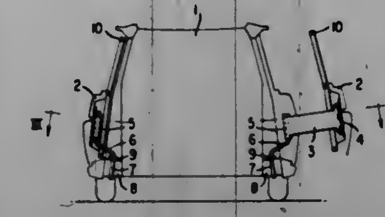
Béla Barényi, Stuttgart-Vaihingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Oct. 9, 1961, Ser. No. 143,842

Claims priority, application Germany, Oct. 7, 1960,

D 34,449

4 Claims. (Cl. 296—46)



1. A swingable door for a motor vehicle having longitudinal bearer means comprising a support arm having one end thereof pivotably secured within said swingable door, bearing means at the other end of said support arm to enable pivotable movement of said support arm in a horizontal plane parallel to the longitudinal motor vehicle axis, an angularly bent member having an upper portion secured to said bearing means and having an intermediate connecting portion and a lower portion substantially parallel to said upper portion and secured to said bearer means, said upper portion extending into the area occupied by said door in the closed position thereof, said lower portion including a surface supported upon said bearer means, said surface and said bearer means being provided with a plurality of aligned apertures, at least one of each pair of aligned apertures being constructed as an elongated slot so that said surface may be moved upon said bearer means during assembly before rigidly securing said surface to said bearer means.

3,195,946

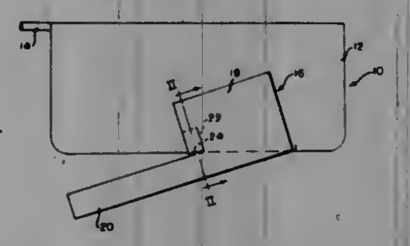
NIGHT DRIVING GLARE SHIELD

John Van Sickle, Elma, N.Y.

(Billington Road, East Aurora, N.Y.)

Filed Apr. 30, 1964, Ser. No. 363,710

5 Claims. (Cl. 296—97)



1. In combination with an automobile sun visor having an opaque main body portion disposed substantially vertically and provided with a substantially horizontal lower edge, a device for shielding a driver's eyes from headlight glare of oncoming traffic,

said device comprising a sheet of glare-reducing material attached to said sun visor and forming an extension of said sun visor parallel therewith and projecting below said lower edge thereof,

said sheet including a base having an upper portion engaged in face-to-face contact with said main body portion of the sun visor and a lower portion projecting below said lower edge of the sun visor, and a blade portion projecting laterally from one edge of said lower portion of said base below said lower edge of the sun visor,

and attachment means on said base adjacent the juncture thereof with said blade portion, said attachment means including an abutment member engaging said lower edge of the sun visor to position said lower portion and said base portion as aforesaid.

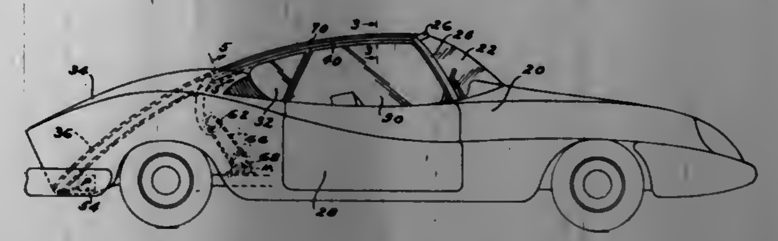
3,195,947

CONVERTIBLE TOP

Robert C. White, 26000 Capitol Ave., Detroit 39, Mich.

Filed Apr. 20, 1962, Ser. No. 189,039

2 Claims. (Cl. 296—107)



1. A vehicle body combination for providing a retractible cover for a vehicle passenger compartment while maintaining a free space above said compartment, when desired, comprising:

(a) a vehicle body having a passenger compartment with vertically adjustable side windows and a storage area adjacent said compartment,

(b) side rails retractibly positionable in parallel relation along the sides of said compartment above the windows having a sealing recess to receive the top edges of said windows and positioned to receive support and rigidity from said windows, said rails having an L-shaped slot along one side facing the passenger compartment,

(c) a sheet of flexible material having a shape retaining quality formed with an inherent transverse camber having at each longitudinal edge a plurality of spaced tabs receivable and slidable in said slots, said sheet being rollable into said storage area of said vehicle,

(d) means in said storage area of said vehicle to move said sheet into a roll, and

(e) means on said rails to lock said tabs releasably in position when said sheet is projected over said passenger compartment with the edges thereof in said slots of said rails.

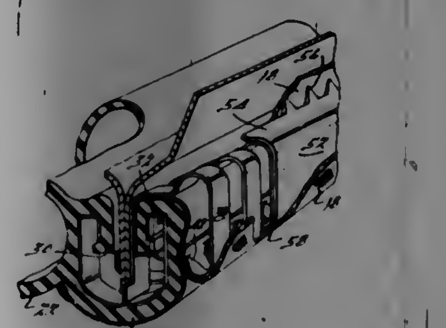
3,195,948

HEADLINING RETAINER FOR A VEHICLE

Mark J. Sturtevant, Grosse Pointe, and De Lane D. Patton, Detroit, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Mar. 23, 1962, Ser. No. 181,920

17 Claims. (Cl. 296—137)

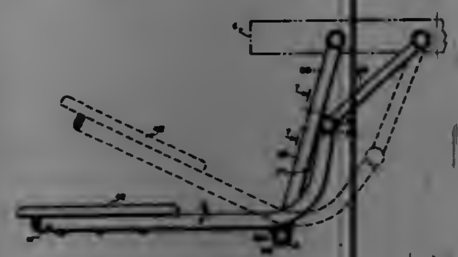


1. An automobile body having a roof with headlining material carried on the underside thereof; said body being further provided with an opening and a flange around a portion of the periphery of such opening, a windcord supported by said flange to conceal the latter and trim the associated portion of the above mentioned opening, and a headlining retention device comprising a series of U-shaped clips each having a first and a second leg with adjacent clips joined together to form a unitary flexible member of substantial length, the first leg of each of said clips being inserted in said windcord for support and the second leg of each of said clips resting against an outer

surface of said windcord and receiving edge portions of said headlining material therebetween to support an edge of the headlining material and provide a neat appearing juncture between said windcord and headlining material.

3,195,949
SUSPENDED SEATING STRUCTURE

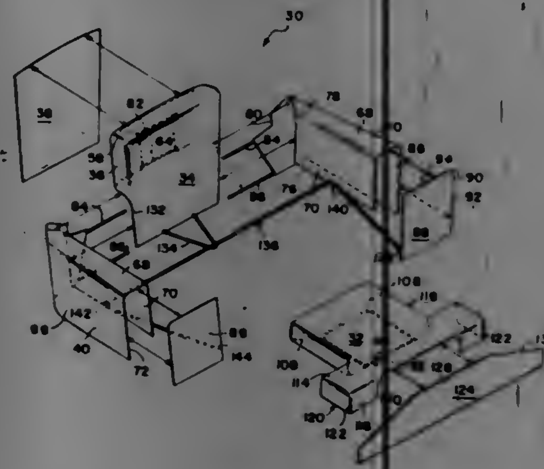
Albert E. Mix, 2767 Claybourne Circle,
Salt Lake City, Utah
Filed Sept. 14, 1964, Ser. No. 396,432
8 Claims. (Cl. 297—140)



1. A suspended seating construction including, in combination, support lever means having a medial pivot fulcrum, a pivot extremity disposed on one side of said pivot fulcrum, and a seat attachment extremity disposed on the opposite side of said pivot fulcrum; a seat integral with said seat attachment extremity of said lever means, a link including a lower extremity pivotally secured to said pivot extremity of said lever means at a mutual pivot journal and constructed for pivotal securement to and underneath an external, horizontal member; and a strut having a first extremity pivotally secured to said pivot fulcrum of said lever means and a second extremity constructed for pivotal securement to said horizontal member forwardly of said link, the pivot axes of said lever means, link, and strut being horizontal and mutually parallel, said lever means and link being constructed and arranged for over-toggling at their mutual pivot journal and for abutting engagement in such condition with said strut when said seat is in its load-supporting position.

3,195,950
SLIP COVER

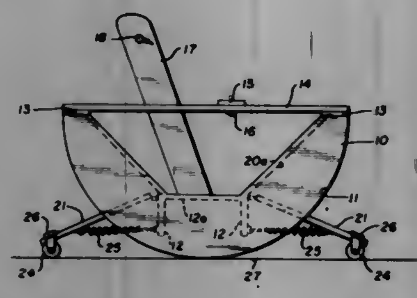
Leo Mednick, 337 E. Roosevelt Blvd., Philadelphia, Pa.
Filed Apr. 30, 1963, Ser. No. 276,893
10 Claims. (Cl. 297—227)



1. A slip cover for upholstered furniture including an arm panel, said arm panel including an outside portion, a top portion and an inside portion, said arm panel having a front edge which extends across said outside, top and inside portions, a front arm panel including an outside edge and a top edge, said front arm panel being secured to said arm panel along said front edge, said top edge being secured to the inside portion and the top portion and said outside edge being secured along a substantial length of the outside portion, whereby the arm of said furniture may be covered by having the front arm panel against the front of the arm of the furniture, with the outside portion being adjusted to the proper height, and the excess of said front arm panel being tucked under the inside portion against the inside arm of the furniture and covered with the inside portion of the arm panel.

3,195,951
ROCKING DEVICE

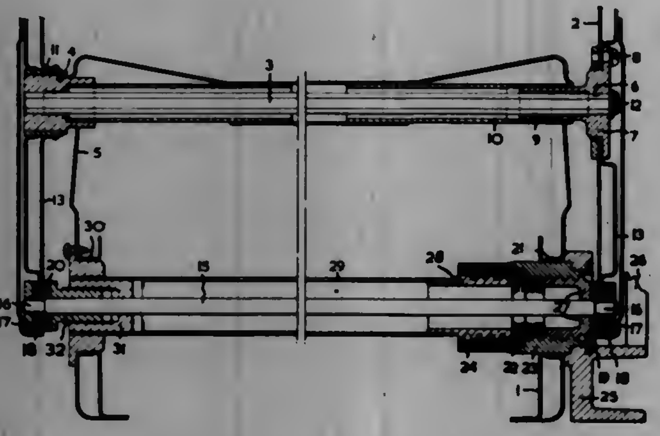
Earl N. Palmer, 3618 Amherst Road, Cheyenne, Wyo.
Filed May 9, 1963, Ser. No. 279,113
7 Claims. (Cl. 297—260)



2. An amusement device of the rocking type including a structure having a body and means for supporting the body in rocking engagement with a flat surface, means for supporting a person on said body, and rocking control means for providing increased resistance to progressive rocking movement in either direction thereof, said control means comprising members mounted for swinging movement with respect to said body in the direction of rocking movement and having end portions positioned for continuous engagement with and bodily movement along the flat surface during at least the major portion of the rocking movement in the respective directions of movement, said members being spring biased to prevent said increased resistance.

3,195,952
SEAT WITH ADJUSTABLE INCLINATION BACK

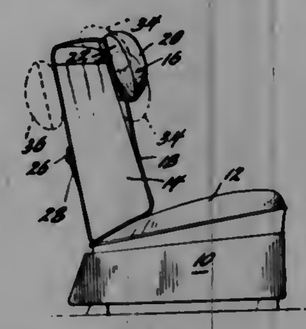
David E. Bache, Dorridge, and James Hirons, Wood End, England, assignors to The Rover Company Limited, Warwickshire, England, a British company
Filed July 22, 1963, Ser. No. 296,507
Claims priority, application Great Britain, July 25, 1962, 26,617/62
9 Claims. (Cl. 297—374)



6. A seat comprising a seat frame, a seat back hingedly connected thereto about a horizontal axis substantially at the rear edge thereof, first and second sectors secured to the seat back at first and second lateral side edges thereof respectively, said sectors each having inner and outer faces, first, second, third and fourth friction surfaces associated with said seat frame, said first and second surfaces being in engagement with the outer and inner faces respectively of said first sector, and said third and fourth surfaces being in engagement with the inner and outer faces respectively of said second sector, inextensible means interconnecting said first and fourth surfaces, expansible means interconnecting said second and third surfaces, and manually operable actuating means connected to said expansible interconnecting means and capable, on actuation, of expanding said interconnecting means.

3,195,953
ADJUSTABLE HEADREST

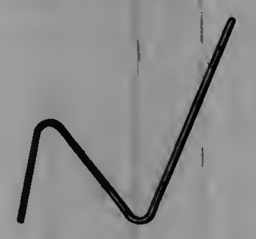
Florence B. Zacks, Columbus, Ohio, assignor to R. G. Barry Corp., Columbus, Ohio, a corporation of Ohio
Filed Nov. 4, 1963, Ser. No. 321,010
2 Claims. (Cl. 297—397)



1. An adjustable headrest for attachment to the seat of a motor car or the like, which seat has a seat-back and a seat-cushion; said headrest comprising a soft, pliable, flexible stuffed fabric cushion adapted to be variously positioned adjacent the upper portions of the forward surfaces of said seat-back, a pair of elastic straps adapted to be disposed in parallel positions vertically across the front and back surfaces of said seat-back, each strap having at one of its ends a hook element and at the other end a loop for use in attaching said headrest to said seat, fabric loops formed on the rearward surface of said cushion and spaced apart laterally, the intermediate elastic portions of said elastic straps passing frictionally through said fabric loops, whereby said cushion may be moved along said straps to suitably adjusted positions and retained therein, the fabric surfaces of the cushion and its loops and the surfaces of the elastic strap, together with the elasticity of the portions of the straps which pass through the loops tending to retain the cushion in any adjusted position.

3,195,954
FOLDABLE EASY CHAIR

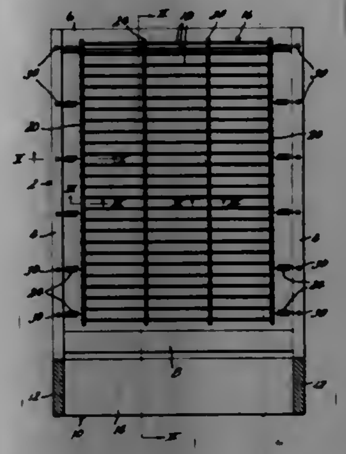
Antonio Alvarez Moreno, Calle Oudrid 6, Madrid, Spain
Filed Mar. 21, 1963, Ser. No. 267,019
Claims priority, application Spain, Apr. 13, 1962, 92,510
2 Claims. (Cl. 297—441)



1. A foldable easy chair, characterized in that it is constituted by a frame susceptible to be coupled together, consisting of eight tubular lengths, of which one is a semicircular element forming part of the top portion of the back, two are straight to constitute the lateral portions of said back, another two are curved in an acute angle and form two legs and the arms, another two are straight and form the front portion, whereas the last is curved and serves as a closing element, thus constituting an easy chair in combination with a triangular piece of canvas, having curved vertices provided wtih a pocket at each vertex for the insertion of one of the three constituent parts of the frame.

3,195,955
SEAT BACK STRUCTURE

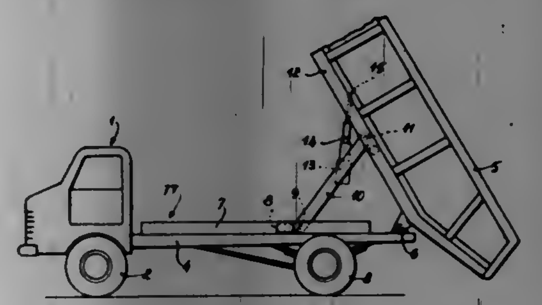
William F. Richardson and Raymond L. McQuitty, Carthage, and Robert O. Isaacs, Joplin, Mo., assignors to Flex-O-Lators, Inc., Carthage, Mo., a corporation of Missouri
Filed Aug. 5, 1963, Ser. No. 299,732
3 Claims. (Cl. 297—452)



1. A seat back structure comprising:
(a) a back frame including a pair of generally parallel, vertically extending side rails,
(b) a plurality of elongated tension springs attached to each of said side rails in vertically spaced relation therealong, and extending horizontally inwardly therefrom,
(c) a pair of vertically extending elongated resilient side strands attached respectively to the inner ends of each of the said tension springs of one of said side rails and
(d) a series of horizontally extending elongated resilient cross strands extending in parallel relation between said side strands and each affixed at its opposite ends to said side strands, said cross strands defining a deck over which padding may be applied.

3,195,956
DUMPING MECHANISM FOR VEHICLES

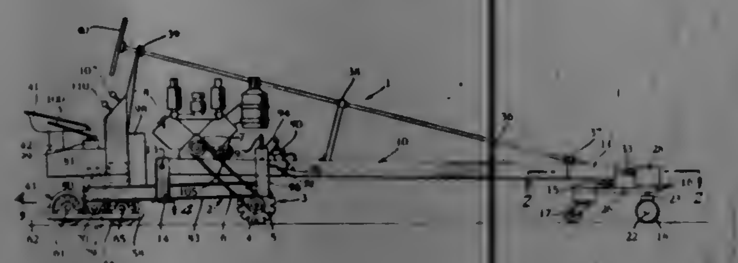
Jean Kou, Paris, France, assignor to "Bennes Marrel," Saint-Etienne (Loire), France, a French joint-stock company
Filed Nov. 14, 1963, Ser. No. 323,664
Claims priority, application France, Nov. 23, 1962, 916,434, Patent 1, 347,894; Oct. 14, 1963, 950,463
4 Claims. (Cl. 298—22)



1. In combination with a vehicle having a dumping body hinged to a pivot spindle on the vehicle, a body dumping mechanism comprising a pair of longitudinal beams rigidly secured to the vehicle chassis, a shoe-member sliding on each of the said longitudinal beams, at least one lift rod articulated at one end on the said dumping body and at the other end on at least one of the said shoe-members, and at least one extensible jack pivotally attached at one end to said lift rod and at the opposite end to said dumping body.

3,195,957
PAVEMENT LEVELING MACHINE WITH MEANS FOR REDUCING EFFECTS OF BUMPS

Cecil W. Hatcher, West Covina, Calif., assignor to Concut, Inc., a corporation of California
Filed Nov. 3, 1961, Ser. No. 150,039
6 Claims. (Cl. 299—39)



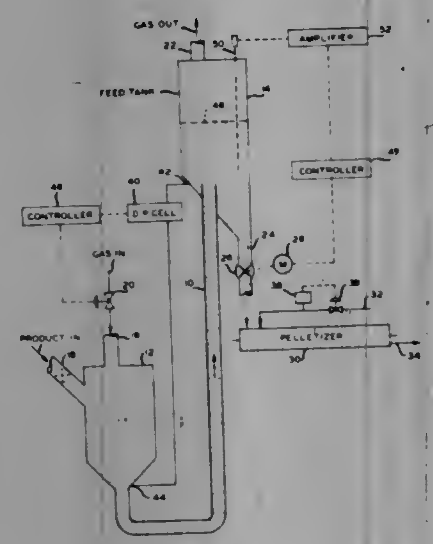
1. In a vehicle-type, pavement leveling machine, the combination of:
(a) frame means having longitudinally spaced front and rear ends;
(b) front wheel means connected to and supporting said frame means adjacent said front end thereof;
(c) a rear wheel assembly connected to and supporting said frame means adjacent said rear end thereof;
(d) rotary cutter means mounted on said frame means intermediate said front wheel means and said rear wheel assembly, and rotatable about a horizontal axis extending transversely of said frame means, for cutting a relatively wide and level path in pavement over which the machine runs;
(e) said rotary cutter means being spaced forwardly from said rear wheel assembly a first longitudinal distance, and said front wheel means being spaced forwardly from said rotary cutter means a second longitudinal distance which is large as compared to said first longitudinal distance so that any tendency of bumps encountered by said front wheel means to move said rotary cutter means vertically is reduced in proportion to the ratio of said first longitudinal distance to said second longitudinal distance;
(f) said rear wheel assembly being behind and in line with said rotary cutter means and the transverse width of said rotary cutter means exceeding that of said rear wheel assembly so that said rear wheel assembly runs on the relatively wide and level path cut by said rotary cutter means to minimize any tendency of bumps in the pavement to cause said rear wheel assembly to move said rotary cutter means vertically;
(g) said rear wheel assembly including two transversely spaced rear wheel frames each having two rear wheels rotatably mounted thereon in tandem; and
(h) means mounting said rear wheel frames on said frame means for independent pivotal movement of said rear wheel frames about a transverse horizontal axis intermediate said tandem rear wheels on said rear wheel frames to further minimize any tendency of bumps in the pavement to cause said rear wheel assembly to move said rotary cutter means vertically.

3,195,958
TRANSPORT OF FINE SOLIDS

Robert R. Goins, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed Sept. 28, 1962, Ser. No. 226,869
10 Claims. (Cl. 302—17)

3. A process for the feeding of particulate solids of changing bulk density at a constant weight flow rate which comprises contacting a mass of said solids with a transport gas in a lower chamber connected with an upper feed chamber by an elongated transport conduit so as to form a dense phase of solids in said gas extending to a selected intermediate level in said feed chamber above the upper end of said conduit; controlling the flow of gas thru said transport conduit so that said level rises as the bulk density of said solids decreases and recedes as said bulk density increases; withdrawing solids from a lower section of said upper chamber and gas from an upper section thereof; and increasing the volume rate of withdrawing solids as said intermediate level rises and decreasing the volume rate of withdrawing solids as said level recedes so as to withdraw solids at a constant weight rate.

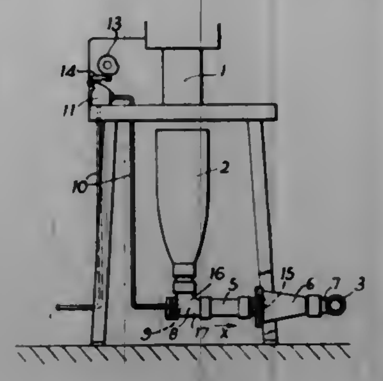
6. Apparatus for conveying particulate solids comprising in combination an upper feed chamber and a lower engaging chamber connected by an upright lift conduit extending into said feed chamber to a lower level therein; a solids inlet and a gas inlet in said lower chamber; a gas outlet in the upper section of said feed chamber and a solids outlet in the lower section thereof, the upper end of said conduit being intermediate said gas and solids outlets and substantially below said gas outlet; a delivery conduit connected with said solids outlet having a rotary feeder therein; a variable speed drive on said feeder; means for passing gas thru the system from said lower chamber, to said lift conduit, and into and thru said feed chamber so as to maintain a level of solids in said feed chamber which rises as the bulk density of solids decreases and recedes as the bulk density thereof increases; means for sensing the level of solids in said feed chamber and increasing the speed of said variable speed drive when the level of solids rises above said level and decreasing said speed when the level of solids falls below said level.



3,195,959
PNEUMATIC COLLECTING SYSTEM

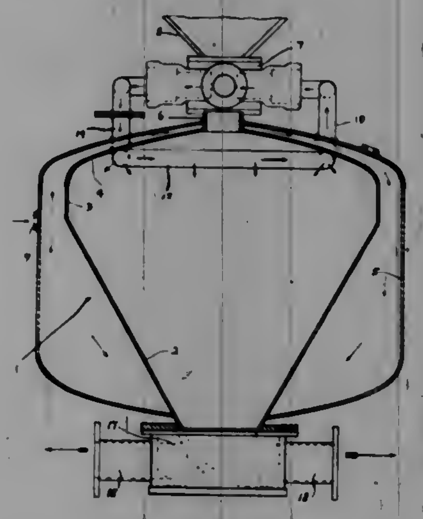
Arthur Brewin, Bushby, and Desmond C. Masters, Leicester, England, assignors to N. Corah (St. Margaret) Limited, Leicester, England, a British company
Filed June 3, 1963, Ser. No. 284,870
Claims priority, application Great Britain, June 7, 1962, 22,018/62; Jan. 22, 1963, 2,627/63
4 Claims. (Cl. 302—27)

1. A system for the collection of goods from a plurality of despatch points, comprising a main service line, a feed conduit connected to each despatch point and to said service line, a blower nozzle associated with each feed conduit and adapted to apply a compressed air impulse downstream of this feed conduit and towards the main service line, and a non-return valve between said nozzle and said service line said non-return valve comprising a flap hinged to and seated against an annular stop surface in said feed conduit immediately in front of said nozzle, such that the flap will be swung upward by the direct impact of an air blast from said nozzle, and thereby opening a passage into said service line, and whereby said flap will be positively closed against the annular stop surface by air pressure directed thereagainst from said service line.



3,195,960
MATERIAL HANDLING SYSTEMS

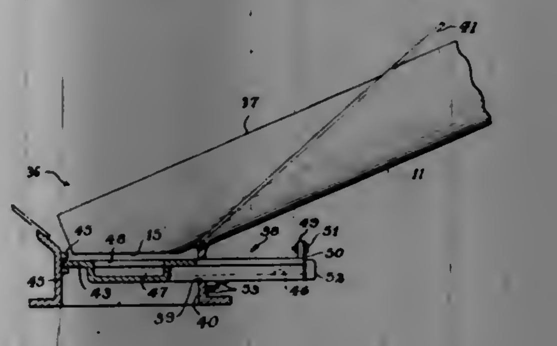
William John Courtney Trythall, 44A Archers Road, Southampton, England
Filed July 23, 1963, Ser. No. 297,123
10 Claims. (Cl. 302—53)



1. A material handling system comprising a material-supply vessel having a closeable opening through which the supply vessel can be filled with material, and a further opening through which said material can be expelled by means of compressed air when said closeable opening is shut, a compressed air storage reservoir extending around the material-supply vessel, an air inlet connected to the compressed air reservoir whereby compressed air can be supplied to and stored in the air reservoir, said air reservoir being of a size sufficient to retain a volume of air which can empty the filled material from the supply vessel, and an air flow connection through which compressed air can flow from the compressed air reservoir to the supply vessel, said air flow connection comprising a volume control valve, the arrangement being such that the valve controlled air flow connection can be closed to permit the compressed air reservoir to be charged with compressed air through the air inlet connection whilst the supply vessel has said closeable opening open to receive a charge of material, and such that when the supply vessel has been charged with material and said closeable opening has been shut the valve controlled flow connection can be opened to permit the compressed air in the compressed air reservoir to flow into the supply vessel to discharge the material therein through said further opening.

3,195,961
PNEUMATIC UNLOADING ARRANGEMENT AND DEVICES THEREFOR

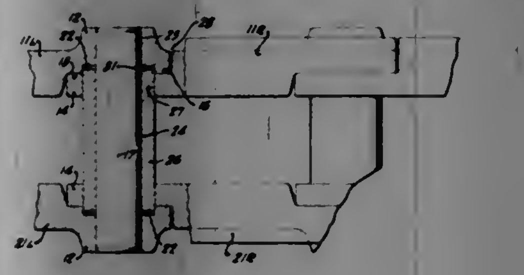
Jack W. Borger, Calumet City, and Victor J. Tome, Chicago, Ill., assignors to Pullman Incorporated, Chicago, Ill., a corporation of Delaware
Original application July 12, 1961, Ser. No. 123,534, now Patent No. 3,177,042, dated Apr. 6, 1965. Divided and this application July 6, 1964, Ser. No. 387,260
6 Claims. (Cl. 302—58)



1. In the discharge end of a hopper, a pneumatic unloading arrangement comprising material discharge suction tube means projecting into said hopper through a side wall portion thereof, air inlet means extending across the discharge end of said hopper directly below the inwardly projecting material receiving end of said tube means, said air inlet means forming a part of a sliding gate adapted for movement into and out of hopper discharge end closing relation for material gravity discharge from said hopper, said air inlet means being in the form of internal air flow passage means in said sliding gate and in communication at one end thereof with the area in said hopper directly below the material receiving end of said tube means and at the other end thereof with the atmosphere externally of said hopper, and movable valve means extending across said passage means to control the admission of air thereinto.

3,195,962
SEAL FOR TRACK LINKS

Allan A. Hayatian, Lomita, Calif., assignor to Westrac Company, Torrance, Calif.
Filed Mar. 25, 1963, Ser. No. 267,615
2 Claims. (Cl. 305—11)

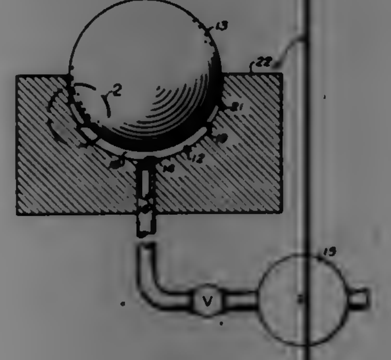


1. A method of repairing a track link assembly worn by prolonged abrasion, said assembly of the type having an outer first link having at a first end thereof a laterally outward offset boss and a flat inner face facing inward on the inner side of said boss, said first link formed with a first bore extending through said boss normal to said inner face and a counterbore in said inner face coaxial with said first bore, a second link having a second end partially overlapping said first end and oscillatable relative to said first link about the axis of said first bore, said second end having an outer face parallel and inwardly offset relative to said inner face, said second link formed with a second bore normal to and extending through said outer face coaxial with said first bore, said second bore

of a diameter larger than said first bore and slightly less than said counterbore, a bushing force fit in said second bore with its outer end projecting beyond said outer face and partially into said counterbore and turnable in said counterbore relative to said first link, and a pin turnable inside said bushing and having an outer end force fit in said first bore, and in which by reason of said prolonged wear the depth of said counterbore is such that the outer end of said bushing is separated from the bottom of said counterbore by a space, which said space is substantially larger than the original distance between the outer end of said bushing and the bottom of said counterbore before such prolonged wear occurred, and which said space permits ingress of abrasive material between said bushing and the bottom of aid counterbore with consequent rapid enlargement of said space, said method comprising disassembling said assembly by removing said outer end of said pin from said first bore, placing a hardened flat washer over said outer end of said pin dimensioned to fill said space, replacing said bushing with a new bushing of substantially the same diameter and length as the previous bushing before such prolonged wear occurred, replacing said pin with a new pin of substantially the same diameter as the previous pin before such prolonged wear occurred, and reassembling said assembly by forcing said outer end of said new pin into said first bore, said washer bearing against the bottom of said counterbore and the outer end of said new bushing and substantially occupying said space whereby ingress of abrasive material between said bushing and the bottom of said counterbore is substantially prevented.

3,195,963
STEPPED GAS BEARING

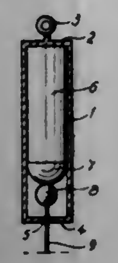
Thure Anderson, Castro Valley, Calif., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Dec. 26, 1962, Ser. No. 247,417
5 Claims. (Cl. 30[illegible])



1. In a gas-lubricated stepped spherical bearing, the combination comprising:
   (a) a generally solid bearing seat defining an upper surface and having a spheroidal concave portion formed into said upper surface,
   (b) means defining a plurality of steps, each of said steps separately formed at a common altitude on the periphery of said concave portion by the abrupt transition of one concentric radius of curvature to another, said transitions being from larger to smaller radii when following said periphery from the nadir toward the upper surface providing an abrupt lower face thereon defining a lower recess in said concave portion, each of said steps including a concave upwardly diverging face, and
   (c) means for the pressurized introduction of a gas, including at least one constricted orifice positioned proximate the nadir of said concave portion.

3,195,964
ANTI-FRICTION BEARINGS

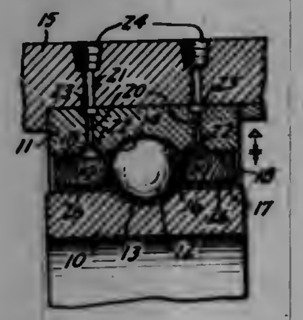
Sven Arne Sieurin, Gjorwellsgatan 14, Stockholm, Sweden
Filed Sept. 5, 1961, Ser. No. 135,976
Claims priority, application Sweden, Sept. 7, 1960, 8,513/60
1 Claim. (Cl. 308—10)



An anti-friction bearing, comprising a vertically disposed housing having an aperture in the lower end thereof; a magnet disposed within said housing, the pole shoe of which is of a spherical shape and spaced from the lower end of said housing; a ball of greater size than said aperture magnetically engaging the lowermost portion of said pole shoe; and a load bearing shaft attached to said ball and extending outward through said aperture, said ball being spaced from the lower end of the housing a predetermined distance to enable the ball to be magnetically attached back to the pole shoe after being displaced therefrom due to an excessive load.

3,195,965
LUBRICATING MEANS FOR AN ANTI-FRICTION BEARING

Horace Bishop Van Dorn, New Britain, Conn., assignor to The Fafnir Bearing Company, New Britain, Conn., a corporation of Connecticut
Continuation of abandoned application Ser. No. 537,725, Sept. 30, 1955. This application Oct. 25, 1961, Ser. No. 148,794
7 Claims. (Cl. 308—187)



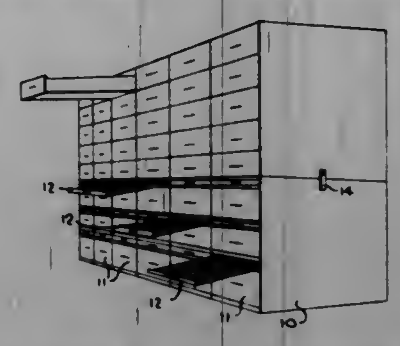
1. An antifriction bearing, comprising spaced rings having opposed raceways therein, antifriction elements riding said raceways and spacing said rings, and retainer means embracing said elements and holding the same in angularly spaced relation, said retainer means and one of said rings having opposed adjacent circumferentially continuous surfaces in closely spaced relation, means including an annular air-supply fluid passage in said retainer means and communicating circumferentially uniformly with the space between said surfaces, and pressurized air-supply means including radially directed passage means communicating with said annular passage for circumferentially uniformly inducing a fluid flow between said surfaces.

3,195,966
STEP-UP FILE CABINETS

Henry Doherty, 37 King St., New York, N.Y.
Filed May 13, 1963, Ser. No. 279,801
8 Claims. (Cl. 312—111)

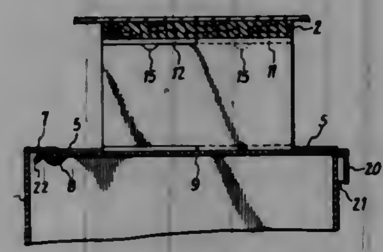
1. A step-up section for standard filing cabinets and the like, comprising a housing, a file drawer disposed for sliding horizontal displacement in said housing, a slot in

the front of said housing and lateral horizontal tracks inside said housing and above said file drawer, and a step portion including means engaging said tracks adapted for sliding horizontal outward displacement in said housing and above said file drawer, said step-up section being adapted to support a standard filing cabinet, and said step portion being adapted to render accessible a high file drawer in an adjacent, similarly supported standard filing cabinet, said step portion further including a rear flange, and means in said housing adapted to serve as an abutment for said flange whereby to limit the outward displacement of said step portion, and to brace the same so it will support the weight of a person standing on the step portion.



3,195,967
HANGING CANISTER SET

James B. Nolan, Cincinnati, Ohio, assignor to The F. H. Lawson Company, Cincinnati, Ohio, a corporation of Ohio
Filed Nov. 19, 1962, Ser. No. 238,636
4 Claims. (Cl. 312—246)

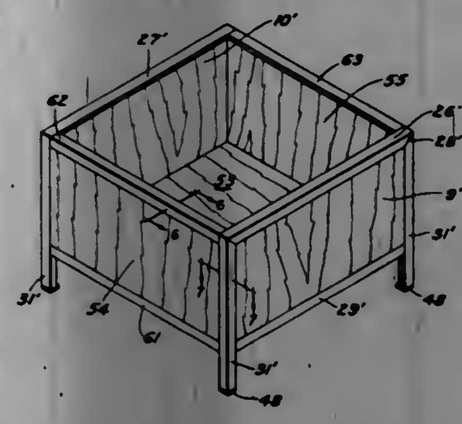


1. A hanging canister comprising a body part having a bottom, front, rear and side walls terminating upwardly in an open top, side flanges projecting inwardly from the upper edges of said side walls, a front flange projecting inwardly from the upper edge of said front wall, said front flange terminating along its free side edge in a lip portion, and mounting means for suspending said body part from a supporting surface, said mounting means comprising a cover plate of a size to close the open top of said body part with the said inturned side flanges overlying and supported on opposite marginal side edges of said cover plate, a groove in said cover plate adjacent the front edge thereof for engaging and releasably securing the lip portion on said front flange, a downturned flange on the rear edge of said cover plate for contact with the rear wall of said body part, and bracket means secured to the upper surface of said cover plate for attaching it to a supporting surface.

3,195,968
KNOCK-DOWN FURNITURE

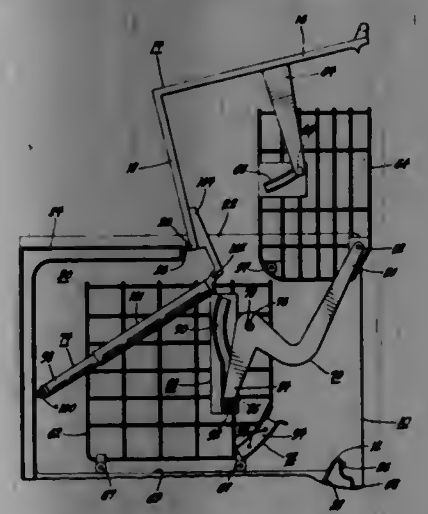
Paul E. Freeman, Tallahassee, Fla., assignor to Lok Trim Corporation, Tallahassee, Fla., a corporation of Florida
Filed Dec. 6, 1962, Ser. No. 242,762
5 Claims. (Cl. 312—255)

1. A knock-down furniture construction comprising in combination a bottom panel and side panels, said bottom panel having its side edges cut on a miter, the said side panels having their lower and vertical edges cut on a miter, the mitered portions of the bottom and side panels abutting each other when the furniture is in assembled relation, and a plurality of substantially identical horizontally and vertically disposed angularly shaped channel members having angularly inturned flanges, said bottom and side panels having rabbets formed on their outer faces adjacent the mitered edges, said channel members enclosing the abutted miter portions of the respective panel members with the inturned flanges of the channel members engaged within the said rabbets to support the furniture in erect condition, the said channel members including a substantially U-shaped filler provided with angularly disposed sides to complete a box-like structure, said channel members and U-shaped filler extending below the bottom panel and providing a furniture leg support.



3,195,969
DOMESTIC APPLIANCE

Lawrence K. Wallen, Royal Oak, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 23, 1963, Ser. No. 310,628
11 Claims. (Cl. 312—269)

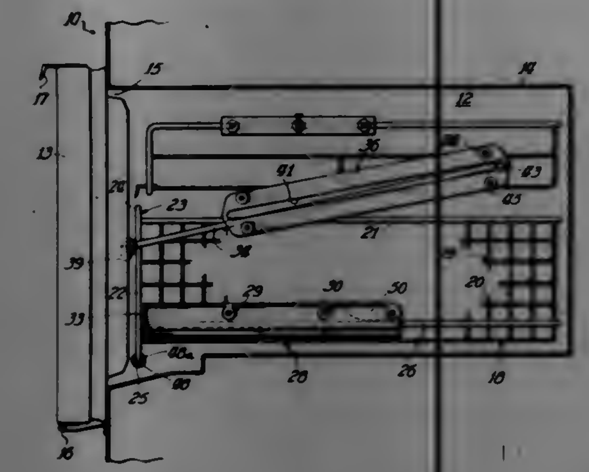


9. In a domestic appliance, the combination of, means forming a compartment having an opening thereto, means for closing the compartment opening, first movable support means located rearwardly of said compartment, second movable support means located forwardly of said compartment, means on said closure means for carrying said second movable support means exteriorly of said compartment through the access opening thereto upon opening movement of said closure means, first means for guidingly supporting said second movable support means during a first predetermined vertical movement thereof, second means for guidingly supporting said second movable support means during a second predetermined vertical movement thereof, said second means including means operable once said second movable means reaches a predetermined vertical position for moving said first movable support means forwardly of said compartment to be accessible through the access opening thereto.

3,195,970
RECEPTACLE-SUPPORTING ASSEMBLY

David P. Chuboff, Mount Prospect, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed Aug. 1, 1962, Ser. No. 213,993
3 Claims. (Cl. 312—311)



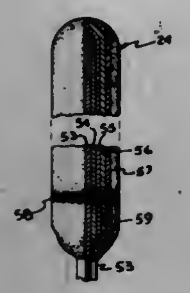
1. In combination, a cabinet having a compartment provided with a front access opening and having oppositely disposed side walls; a door hingedly mounted on said cabinet for movement from a vertical position normally closing the compartment front opening to a horizontal access position; a receptacle in said compartment and comprising a wire basket having side rails extending between and terminating at the front and rear ends of the basket and disposed in recessed portions in the sides of said basket adjacent to the bottom of the basket; a pair of L-shaped guide members secured to the compartment side walls, the laterally extending foot portions of said members extending within said basket recessed portions and engaging said rails for sliding horizontal movement of said basket relative to said compartment and to a position above said door in the horizontal position thereof; a rectangular vertical disposed frame member defining the front end of said basket and connected to the side rails; said frame member having its lower horizontal portion extending downwardly and disposed beneath the bottom wall of the basket and supporting said basket on said door during movement of said basket above said door, said frame member having its spaced vertical portions extending downwardly of said rails for engagement with the front ends of said guide members to limit inward movement of the basket into said compartment.

3,195,971
PROCESS FOR REMOVING ELECTRICALLY CONDUCTIVE COATINGS FROM CERAMICS

Norris I. Perkins, Danvers, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware

Filed Jan. 5, 1961, Ser. No. 80,796
7 Claims. (Cl. 316—1)

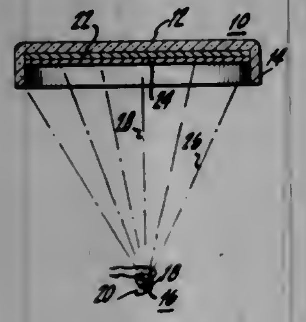
7. The method of treating relatively slender, elongated, ceramic electroluminescent lamps having an electroluminescent phosphor dispersed in a dielectric and having an electrode comprising an adhering, light-transmitting electrically conductive layer of metal oxide, the steps for electrically insulating areas of said conductive coating from the remainder of the lamp comprising: heating a portion of the ceramic of said electroluminescent lamp to a temperature above its melting point by contacting said ceramic with flames, thus fusing said ceramic and absorbing the adhering electrically conductive layer of metal oxide in the melt and then cooling said fused portion to resolidify the ceramic and obtain electrical insulation.



3,195,972
METHOD OF FABRICATING ELECTRON TUBES HAVING PHOTOCATHODES

Alfred H. Sommer, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Sept. 21, 1962, Ser. No. 225,274
9 Claims. (Cl. 316—6)



5. Method of making an electron tube having a relatively short envelope, with a face plate at one end thereof, comprising:

(a) coating a surface of said face plate in vacuum and at a location removed from the remainder of said envelope, with successive coatings of silver and bismuth, whereby said face plate may be spaced a desired distance from a coating source for contributing to uniformity in thickness of said coating,

(b) fully oxidizing said bismuth coating,

(c) sealing said face plate across an opening in said envelope with said surface thereof facing inwardly of said envelope,

(d) evacuating said envelope,

(e) and exposing said oxidized bismuth coating to cesium until peak sensitivity of said coating is reached.

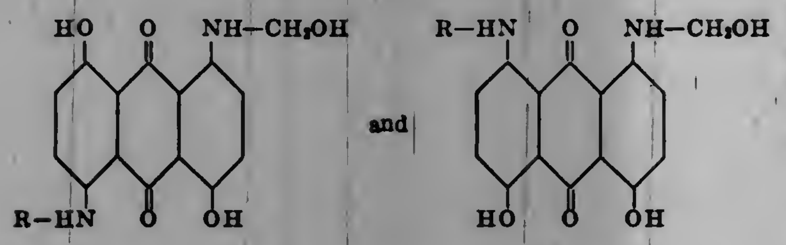
CHEMICAL

3,195,973
N-METHYLOLATED DIAMINO-DIHYDROXYANTHRAQUINONES, MIXTURES THEREOF AND THEIR PRODUCTION

Otto Fuchs and Heinz Rentél, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Mar. 24, 1961, Ser. No. 98,023
Claims priority, application Germany, Apr. 2, 1960, F 30,900; Mar. 2, 1961, F 33,327
12 Claims. (Cl. 8—25)

1. Dispersion dyestuffs having a formula selected from the group consisting of the two formulae



and mixtures thereof, wherein R represents a member selected from the group consisting of a hydrogen atom and a methylol group.

3,195,974
SULFUR DYE BATHS CONTAINING ALKALI METAL BOROHYDRIDES AND PROCESS OF DYEING CELLULOSE TEXTILES THEREWITH

Charles Eric Neale, Greenville, S.C., assignor to Southern Bleachery and Print Works, Inc., Taylors, S.C., a corporation of Delaware

No Drawing. Filed Mar. 26, 1963, Ser. No. 267,931
15 Claims. (Cl. 8—37)

5. In the dyeing of cellulosic textile material with a sulfur dye involving contacting said dye with a sulfur-containing reducing agent selected from the group consisting of sodium sulfide and sodium sulfhydrate in alkaline medium to reduce the dye to water-soluble, cellulose-substantive form, the improvement comprising the step of including with said sulfur-containing reducing agent in contacting said dye, an alkali metal borohydride.

3,195,975
TRI-METHYLOL PROPANE DIALLYL ETHER TREATMENT OF POLYOLEFIN-POLYMERIC NITROGENOUS COMPOUND MIXTURES AND FIBERS AND PRODUCT THEREOF

Vittorio Cappuccio, Terni, Italy, assignor to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy

No Drawing. Filed Aug. 6, 1962, Ser. No. 214,861
Claims priority, application Italy, Aug. 10, 1961, 14,728/61
14 Claims. (Cl. 8—115.5)

1. A process for improving the dyeability of fibers prepared by molten mass extrusion followed by stretching, said process comprising treating said fibers, which are made from a mixture of a crystalline polyolefin consisting essentially of isotactic macromolecules and from about 1 to 25% by weight, based on said polyolefin, of a basic nitrogen compound having a resinous character and being selected from the group consisting of crystalline vinyl pyridine polymers, polyalkylene polyimines, and condensation products of a primary aliphatic amine with epichlorohydrin and piperazine, with trimethylolpropane diallyl ether to thereby increase the dyeability of said fibers and the fastness of the colors thereto.

3,195,976
PURIFICATION OF HYDRAZINE BIS-BORANE

Frank C. Gunderloy, Jr., Menlo Park, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Jan. 10, 1961, Ser. No. 81,895
3 Claims. (Cl. 23—14)

1. Method of purifying hydrazine bis-borane contaminated by a small amount of impurity which promotes thermal degradation of the hydrazine bis-borane, which comprises mixing said contaminated hydrazine bis-borane with sufficient liquid dioxan to dissolve a small portion of the hydrazine bis-borane with said impurity while a portion of the hydrazine bis-borane forms a solid solvate suspended in the liquid dioxan, separating said solid solvate from resulting liquid dioxan solution, washing the separated solid solvate with liquid dioxan, separating liquid dioxan solution from the washed solid solvate, then removing dioxan of solvation from the washed solid solvate to recover purified hydrazine bis-borane.

3,195,977
RECOVERY OF PLUTONIUM AND/OR URANIUM VALUES FROM AQUEOUS SOLUTIONS

Arthur R. Matheson, Ballston Lake, N.Y., assignor to the United States of America as represented by the United States Atomic Energy Commission

No Drawing. Filed Aug. 14, 1952, Ser. No. 304,448
7 Claims. (Cl. 23—14.5)

1. A process of recovering plutonium values from an aqueous chromium (III) and aluminum ions-containing solution, comprising adding an oxidizing agent to said solution whereby the plutonium and chromium are secured in their hexavalent state; incorporating said solution into an aqueous alkali metal hydroxide solution in the presence of a uranyl salt whereby a precipitate of alkali metal uranate is formed and said plutonium values are carried on said precipitate; and separating said precipitate from the aqueous solution.

3,195,978
METHOD OF RECOVERING POTASSIUM VALUES FROM BRINES

Maria G. Dunseth, Arlington, Va., and Murrell L. Salutsky, Silver Spring, Md., assignors to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Nov. 14, 1961, Ser. No. 152,168
13 Claims. (Cl. 23—25)

5. Method of recovering potassium values from brines which comprises adding to said brine sufficient amounts of phosphate (PO_4^{-3}) ions to provide a $PO_4/Mg+Ca$ mole ratio of at least 0.8, adding sufficient amounts of ammonia-free sodium hydroxide to raise the pH of the phosphate treated brine to within the range of from about 7.5 to about 9.5 to precipitate potassium-containing solids from said brine, and separating the precipitated solids from the brine.

10. Method of recovering an aqueous solution of a potassium salt from brines which comprises adding phosphate ions to said brine, raising the pH of the phosphate-treated brine to greater than about 7.5 with an ammonia-free base which does not form a salt less soluble than magnesium potassium phosphate under the conditions prevailing in said brine to precipitate potassium-containing solids from said brine, separating the precipitated solids from the brine, reacting the separated solids with an aqueous solution of an ammonium salt having the formula NH_4A, where A is any anion which will combine with a member selected from the group consisting of potassium and ammonia ions to form a water-soluble

salt, for a sufficient period of time to at least partially solubilize the potassium in said solids, and separating the solution of potassium salt thereby produced.

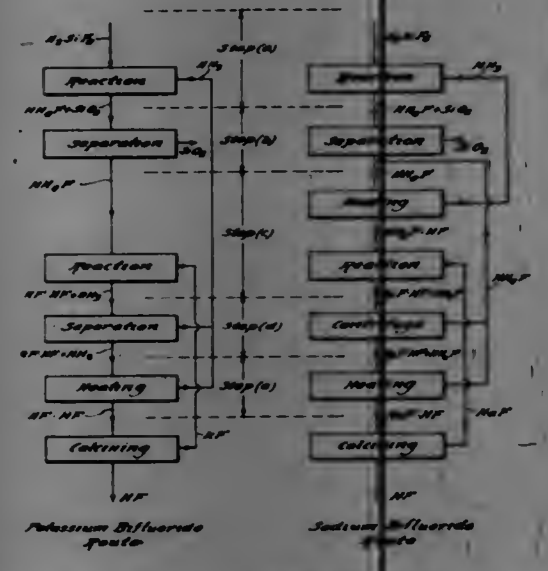
3,195,979

PROCESS OF PREPARING HYDROGEN FLUORIDE FROM FLUOSILICIC ACID

George M. Burkert and Arthur N. B[illegible]mann, Lakeland, Fla., assignors to International Minerals & Chemical Corporation, a corporation of New York

Filed Dec. 18, 1961, Ser. No. 160,202

10 Claims. (Cl. 23—[illegible]53)



1. A process for preparing hydrogen fluoride from fluosilicic acid which comprises the following steps:

(a) reacting fluosilicic acid with ammonia to form ammonium fluoride and silica,

(b) separating said silica from said ammonium fluoride.

(c) introducing said separated ammonium fluoride and an alkali metal fluoride into a treating zone wherein said ammonium fluoride and said alkali metal fluoride are subjected to treating conditions to react a fluoride of ammonia with said alkali metal fluoride to form an alkali metal bifluoride,

(d) separating said alkali metal bifluoride from the mixture resulting from step (c),

(e) heating said separated alkali metal bifluoride to a temperature at least sufficiently high to produce an alkali metal bifluoride substantially free of ammonia and ammonium fluoride and below that at which substantial decomposition of said alkali metal bifluoride is effected,

(f) heating the alkali metal bifluoride substantially free of ammonia and ammonium fluoride from step (e) to a temperature sufficiently high to decompose said alkali metal bifluoride to form hydrogen fluoride and alkali metal fluoride,

(g) separating said alkali metal fluoride and said hydrogen fluoride produced by the heating in step (f),

(h) recycling said alkali metal fluoride separated in step (g) to step (c), and

(i) recovering said hydrogen fluoride separated in step (g).

3,195,980

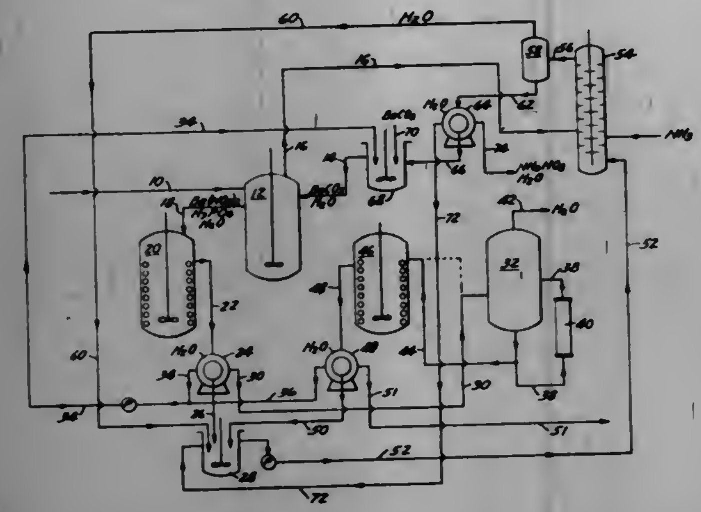
NITRATE REMOVAL FROM PHOSPHORIC ACID LIQUORS

David C. Gattiker and Gerhard J. Frohlich, St. Paul, Minn., assignors to St. Paul Ammonia Products, Inc., St. Paul, Minn., a corporation of Minnesota

Filed Mar. 30, 1962, Ser. No. 183,933

4 Claims. (Cl. 23—[illegible]5)

1. In a process for producing phosphoric acid by dissolving phosphate rock in excess nitric acid to produce an aqueous solution of 35–45 percent phosphoric acid containing excess nitric acid, the improvement comprising the steps of removing said excess nitric acid from said solution by reacting said nitric acid in said solution with barium carbonate and forming barium nitrate and carbon dioxide, removing barium nitrate crystals precipitated from said solution at ambient temperature, reducing the temperature of the solution to a range of about 0° C. to —10° C. and removing barium nitrate crystals precipitated from the solution at this reduced temperature, all of the foregoing steps being carried out while maintaining the pH of the solution at a maximum of about 2.



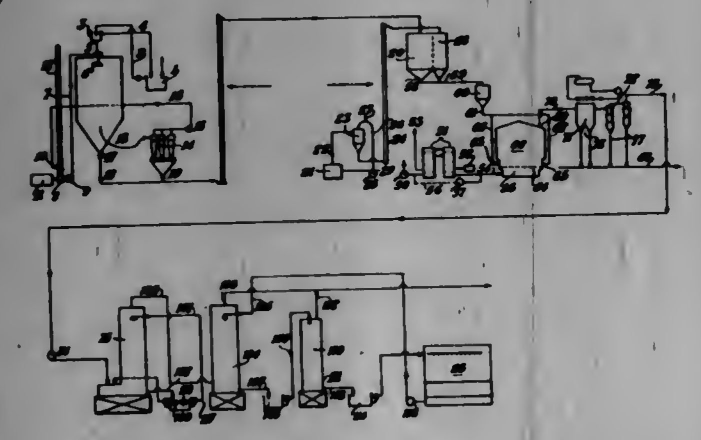
3,195,981

DECOMPOSITION OF IRON SULPHATE

Kenneth Ralph Hansford, Durham, England, Austin L. Roberts, Umbogintwini, Natal, Republic of South Africa, and Arthur Wallace Evans, Middlesbrough, and William Hughes, Durham, England, assignors to British Titan Products Company Limited, Durham, England, a corporation of Great Britain

Filed Dec. 10, 1962, Ser. No. 243,221

7 Claims. (Cl. 23—177)



1. A process for the production of sulphur dioxide by the decomposition of an iron sulphate product of partial dehydration of a higher iron sulphate hydrate, said process consisting essentially of progressively introducing spray-dried partially dehydrated material comprising ferrous sulphate having a composition from $FeSO_4 \cdot 1–3H_2O$ to $FeSO_4 \cdot 1.2–2.5H_2O$ consisting essentially of fine particles, not themselves fluidizable under the conditions prevailing, into a hot bed of up to about 7½ feet depth of fluidizable relatively coarse particles of inert material at a temperature of not above about 1100° C.; introducing a finely divided reducing carbonaceous fuel containing not more than about 5% moisture into the bed; continuously admitting into the bottom portion of the bed an oxygen-containing gas stream in an amount sufficient to fluidize said bed and to burn a portion of said reducing fuel and maintain the temperature of the bed high enough but not above about 1100° C. to promote decomposition of said relatively fine partially dehydrated ferrous sulphate particles to sulphur dioxide and sulphur trioxide; controlling the amount of reducing fuel and oxygen so that there is an excess of the reducing fuel in the bed over that required to burn with the oxygen for maintaining said temperature; utilising said excess to effect reduction of the sulphur trioxide produced to sulphur dioxide whereby the sulphur content of emergent gas in the form of sulphur trioxide is limited to less than about 0.5%; and maintaining a pressure drop of the oxygen-containing gas as it enters the bed at between 1/10 and 20 times the pressure drop across the bed itself.

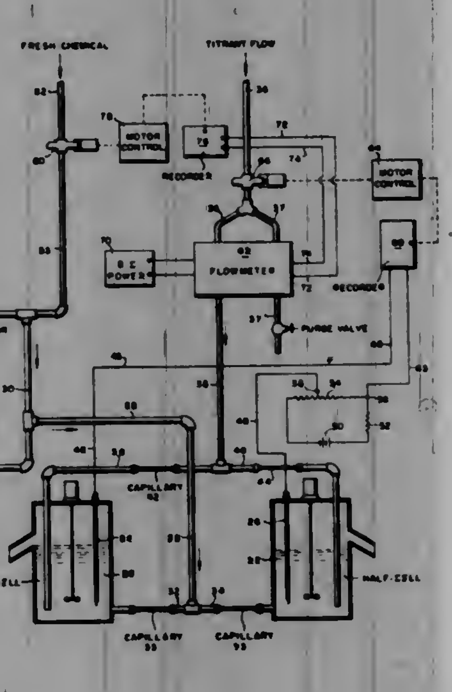
3,195,982

CONTINUOUS AUTOMATIC PROCESS CONTROL METHOD AND SYSTEM

Margie M. Nicholson, Baytown, Tex., assignor, by mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed July 27, 1961, Ser. No. 127,181

4 Claims. (Cl. 23—230)



4. A continuous automatic process control method for controlling the addition of fresh chemical to the process stream comprising the steps of: potentiometrically titrating two sample portions from the process stream, the ratio of titrant to sample in the first portion being more than the ratio of titrant to sample in the second portion; applying a control voltage across the electrodes used to titrate the two sample portions so as to provide potentials to said electrodes lying on the shoulder of the titration curve; electrically sensing any variation of the titration potential from the control voltage; transmitting an error signal; adjusting the titrant flow to correct for said variation and render the titration potential and control voltage equal; and adding fresh chemical to the process stream in response to changes in the total amount of sample and titrant.

3,195,983

CYANIDE DETERMINATION

Jerome A. Platte, Penn Hills Township, Allegheny County, Pa., assignor to Calgon Corporation, a corporation of Pennsylvania

No Drawing. Filed Sept. 6, 1961, Ser. No. 136,200

4 Claims. (Cl. 23—230)

4. Method of continuously determining the cyanide content of an aqueous solution comprising:

(a) continuously distilling said aqueous solution to form a distillate which contains hydrogen cyanide and which is free of interfering substances;

(b) continuously adding to the distillate a basic solution sufficient to prevent the evolution of hydrogen cyanide gas;

(c) continuously adding to the distillate a metal complexing agent which forms a first color when complexed with a heavy metal but which does not form the same color in the free form, and a predetermined amount of a heavy metal ion capable of forming a complex with said metal complexing agent and also capable of forming a cyanide complex in preference thereto to reduce the intensity of said color; and

(d) continuously measuring the absorbence of the distillate.

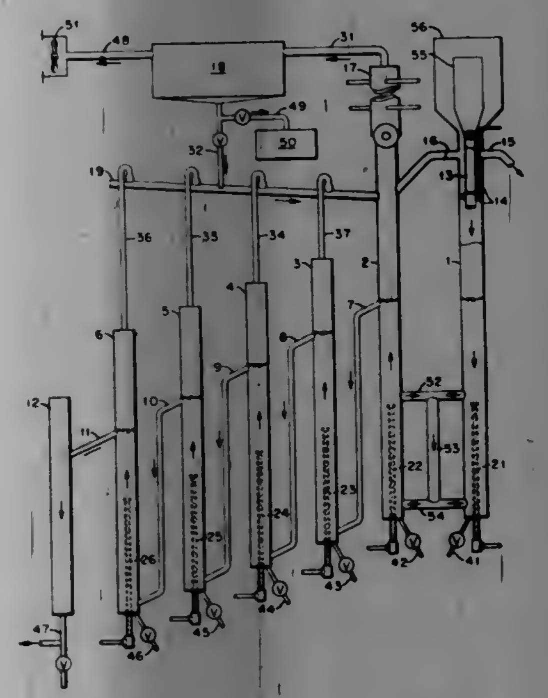
3,195,984

COLUMN DISSOLVER

Arthur E. Sands, Oak Ridge, Tenn., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed May 5, 1960, Ser. No. 27,226

3 Claims. (Cl. 23—267)



1. A system for dissolving particulate solids comprising a plurality of serially-connected vertically-disposed tubular columns including a first column, a second column and a final column, each of said columns having an upper portion, an intermediate portion, and a lower portion; elongated heating means vertically disposed in the lower portion of each column and adapted to form an annulus with said column; vapor outlet means in the upper portion of each of said columns; vapor condensing means communicating with said vapor outlet means; means for returning condensed vapor to said columns; means for controlling the amount of condensate returned to said columns; means for maintaining the upper portion of said columns under subatmospheric pressure; fluid inlet means in the lower portion of each of said columns; fluid outlet means in the upper portion of each of said columns subsequent to said first column, said fluid outlet means being stepped down in cascade fashion in proceeding from the second column to the final column; fluid conduit means providing a passageway from each of said fluid outlet means in the columns subsequent to the first column to the fluid inlet means of the next succeeding column; fluid outlet means in the intermediate portion of said first and second columns; first fluid conduit means interconnecting said fluid outlet means in the intermediate portion of said first and

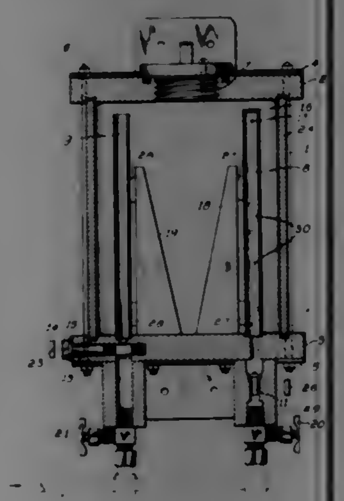
second columns, said first fluid conduit means being provided with fluid outlet means in the mid-portion thereof; second fluid conduit means interconnecting the fluid inlet means in the lower portion of said first and second columns, said second fluid conduit means being provided with fluid inlet means in the mid-portion thereof; third fluid conduit means interconnecting the fluid outlet and fluid inlet means in said first and second conduit means; means for introducing liquids and particular solids in the first column; and liquid removing means in the final column.

3,195,985
CHEMICAL FEEDER

Ernest Elkin, White Plains, N.Y., assignor to Water Consultants Corporation, Port Chester, N.Y., a corporation of New York

Filed July 10, 1962, Ser. No. 08,740

2 Claims. (Cl. 23—272.8)



1. Improvement in chemical feeders comprising a tank having an opening at the top for introduction of solid material into the tank and having means for connection as a by-pass in a liquid flow line, the said means comprising an inlet tube closed below the top of the tank and containing at the bottom of the tank a group of small apertures and near its top a small inlet aperture of less area than the said lower aperture group and directed toward a nearby side of the tank for discharge therefrom to induce crosscurrents in liquid at the aperture level, and an outlet tube having an opening near the top of the tank at substantially the level of the said small inlet aperture establishing a space and a top surface level below the top of the tank, the said inlet and outlet tubes rising through the tank from the bottom to the said outlet level and spaced at opposite sides of the tank, the outlet tube containing a fine-adjusting valve to control fluctuation and throughput of liquid in the tank, the inlet tube containing below the said group of bottom apertures a bore enlarged to form a chamber, and disposed in the chamber a float valve and double seating means to seat the float valve alternatively against fluctuations of liquid through the chamber, whereby to promote uniform conditions in liquid outlet levels into which the said upper small inlet aperture opens.

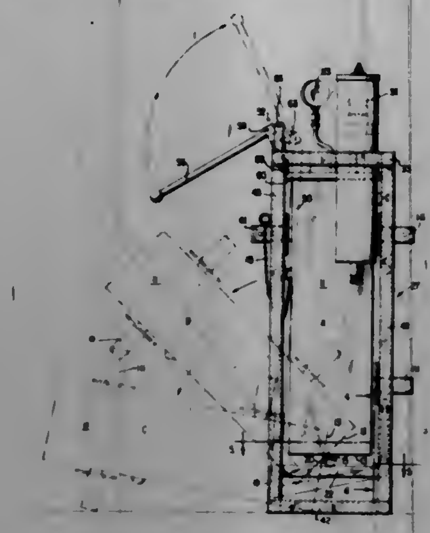
3,195,986
RESILIENTLY MOUNTED CANDLE BURNER

Floyd G. Mann, Harmony, Pa., assignor, by mesne assignments, to Scott Aviation Corporation, Lancaster, N.Y., a corporation of New York

Filed June 6, 1963, Ser. No. 85,986

2 Claims. (Cl. 23—28)

1. A device for recovering gaseous products which comprises a canister having a bottom and a top, said bottom being mounted on a brace having a front end and a back end, said top of the canister being connectable in gas-tight engagement with a cover rigidly mounted on a rigid frame, said cover having a gas outlet, said brace being pivotally suspended on said rigid frame at one of said ends by resilient support means and at the other of said ends by rigid support means, the resilience of the resilient support means being adjustable.

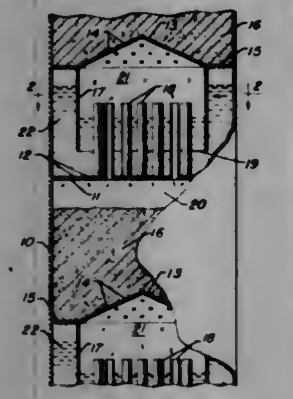


3,195,987
APPARATUS FOR CONTACTING MIXED PHASE FLUIDS WITH A SOLID CATALYST

Leslie C. Hardison, Arlington Heights, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Mar. 26, 1962, Ser. No. 182,591

6 Claims. (Cl. 23—288)



1. In a vertical multiple phase contacting column, a liquid-gas distributor therefor comprising a horizontal perforated plate extending across the interior of the column, a vertical open-ended cylindrical-like casing centrally positioned within the column and spaced above said plate, a vertical fluid transfer conduit disposed over at least one of the perforations in said plate and extending upwardly from said plate into and terminating within said casing, and fluid pervious means for retaining a solid contact mass in a horizontal layer above said casing, said fluid pervious means comprising a centrally positioned perforated conical baffle supported within the column and disposed across the upper end of said casing.

3,195,988
CATALYST HOLDER

Edward S. Roberts, Ridgewood, N.Y., and Michael J. Kalous, Niagara Falls, Ontario, Canada; Michael L. Feuer, executor of the estate of said Michael J. Kalous, deceased, assignors, by direct and mesne assignments, to Pullman Incorporated, a corporation of Delaware

Filed May 11, 1962, Ser. No. 194,015

3 Claims. (Cl. 23—288)

1. A catalyst basket for use in a gaseous ammonia reactor comprising

(a) a first wall defining an opening through which the reactants pass, said first wall having a bottom edge,

(b) a second wall surrounding and spaced from said first wall defining a channel therebetween, said channel being stuffed with packing to provide an air tight seal,

(c) means for holding said packing in compression in said channel,

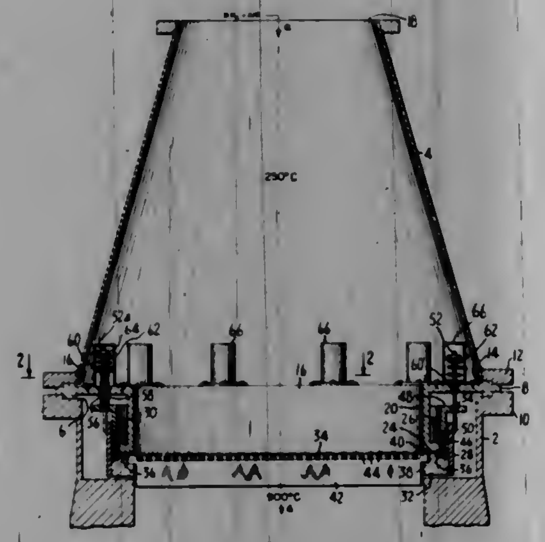
(d) a flange attached to said second wall extending at least part way under said bottom edge of said first wall,

(e) catalyst gauzes positioned across said opening with their edges positioned between said flange and said bottom edge of said first wall,

(f) securing means for compressing the edges of said catalyst gauzes,

(g) means coupled with said first-mentioned means for keeping said packing under compression notwithstanding temperature change, and

(h) means coupled with said securing means for keeping said edges of said catalyst gauzes under compression notwithstanding temperature change.



3,195,989
INTEGRAL TUBE FURNACE AND OXIDIZER

Frederick M. Pyzel, Rye, N.Y., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York

Filed July 9, 1962, Ser. No. 208,265

3 Claims. (Cl. 23—288)

1. A reformer system which includes a primary reformer and oxidizer for use in the production of hydrogen and hydrogen and carbon monoxide mixtures from a hydrocarbon comprising in combination

wall means defining an enclosed heating chamber;

at least one tube positioned to extend through said chamber defining a primary reformer reaction zone;

support means for positioning the tube;

inlet means for introducing a feed comprising hydrocarbon and an oxidant into said tube, said tube containing a suitable catalyst;

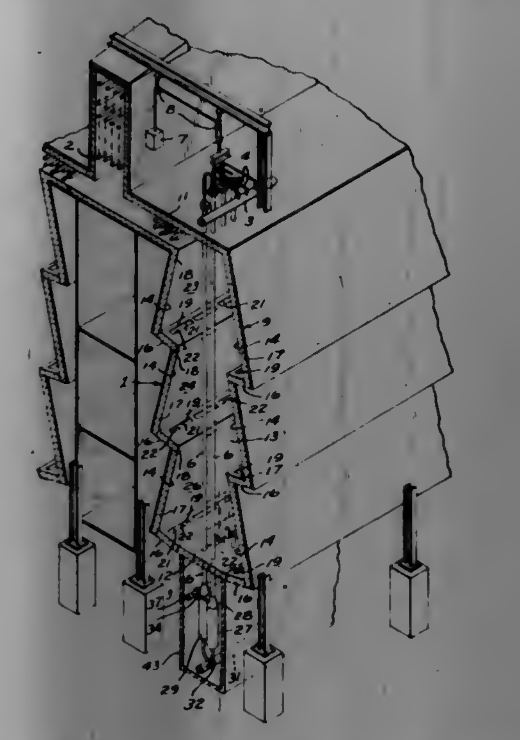
heater means heating said chamber to heat said tube;

vessel means connected in flow series with said tube to receive substantially reformed gas from the tube, said vessel means containing a catalyst and defining an oxidizer reaction zone;

a refractory enclosure entirely encompassing said vessel means and separating said vessel means from said heating chamber and from ambient conditions, said enclosure including a refractory wall common with said heating chamber wall means penetrated by said tube;

means for introducing an oxygen containing gas into said vessel means near the upstream end thereof to react with unconverted hydrocarbon therein;

and outlet means for exhausting product gas from said vessel means.



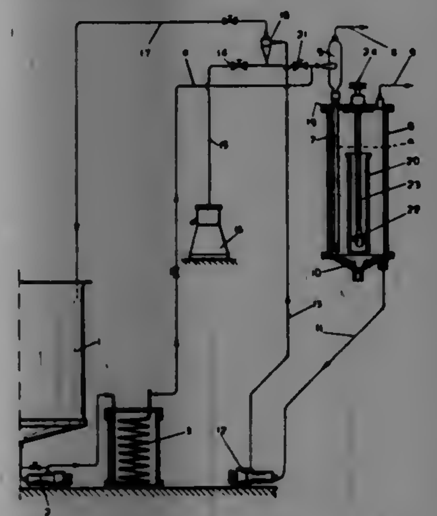
3,195,990
CRYSTALLIZING UNDER VACUUM

Johan F. Witte, Amsterdam, Netherlands, assignor to Werkspoor N.V., Amsterdam, Netherlands, a company of the Netherlands

Filed Apr. 9, 1962, Ser. No. 186,070

Claims priority, application Netherlands, Apr. 14, 1961, 263,605

2 Claims. (Cl. 23—301)



1. A process for crystallizing solutions developing gases when subjected to a vacuum, said process comprising the steps of continuously feeding a solution through a pre-evaporator to a crystallizer in both of which a vacuum is maintained, continuously withdrawing the crystal slurry formed in the crystallizer, passing a portion of the crystal slurry to a classifier to separate said slurry into fine and coarse fractions, supplying a portion of the coarse fraction to the pre-evaporator, and mixing the coarse fraction with the solution to be crystallized in the pre-evaporator while maintaining the absolute pressure in the pre-evaporator greater than that in the crystallizer to an extent that no crystallization of the solution takes place in the pre-evaporator.

3,195,991

PRODUCTION OF COMPOSITE METAL STRIP SUITABLE FOR THE MANUFACTURE OF BEARINGS

Lionel Stern, Kew, Victoria, and Bernard Milton Hadaway, Highett, Victoria, Australia, assignors to Repco Limited, Melbourne, Victoria, Australia, a company of Victoria, Australia

No Drawing. Filed Oct. 10, 1961, Ser. No. 144,035

Claims priority, application Australia, Nov. 7, 1960, 66,296/60

9 Claims. (Cl. 29—197)

1. A process for the production of a composite metal strip from a strip of aluminum-tin bearing alloy bonded to a steel strip through the intermediary of a bonding layer formed of one of a tin free aluminum strip and a strip having a relatively low tin content aluminum alloy; comprising the steps of adhering a strip of aluminum-tin alloy to said bonding layer by a heavy rolling reduction pass, subjecting the duplex strip so formed of the aluminum tin alloy and adhered bonding layer to additional rolling to improve the strength of the bond, and subsequently roll bonding the said duplex strip to a steel strip, all of said rolling and bonding operations being carried out at ambient temperatures.

9. A composite material steel-backed bearing, comprising a bearing layer of aluminum-tin alloy bonded to an intermediate bonding layer of tin-free aluminum, and a steel backing layer bonded to said intermediate layer, the aluminum in the bearing layer being continuous with and adhered directly to the aluminum in the intermediate layer without the interposition of an oxide layer at the bond line between the bearing layer and the intermediate layer produced by the method of claim 1.

3,195,992

GASOLINE COMPOSITION CONTAINING LEAD COMPOUNDS

Donel R. Olson, San Pablo, Maurice R. Barusch, Richmond, Wallace L. Richardson, Lafayette, and George J. Kautsky, El Cerrito, Calif., assignors to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Mar. 27, 1959, Ser. No. 802,322

1 Claim. (Cl. 44—69)

A leaded gasoline composition consisting essentially of a major proportion of a hydrocarbon base fuel of the gasoline boiling range, (a) about 25% by volume of said base fuel boiling in the range of about 90 to about 150° F. and having from about 50 to about 65% by volume of paraffins and naphthenes, from about 20 to about 40% by volume of olefins, not more than about 10% by volume of aromatics and a clear Research octane number of at least 90, (b) about 25% by volume of said base fuel boiling in the range of about 150° to about 200° F. and having from about 20 to about 70% by volume of paraffins and naphthenes, from about 20 to about 60% by volume of olefins and from about 10 to about 30% by volume of aromatics, (c) about 50% by volume of said base fuel boiling in the range of about 200 to about 425° F. and having from about 20 to about 80% by volume of paraffins and naphthenes, from about 20 to about 80% by volume of aromatics and not more than about 20% by volume of olefins, said base fuel having a clear Research octane number of about 85 to about 100, there being incorporated in said base fuel a mixture consisting of from about 25 to about 50% by weight of tetramethyl lead and ethyltrimethyl lead, from about 50 to about 75% by weight of said mixture being present in the gasoline composition in an amount equivalent to about 1.5 to 4 grams of lead per gallon of base fuel.

3,195,993

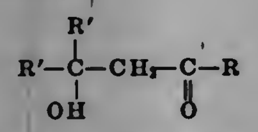
EPOXY RESIN COATED ABRASIVE

Matthew T. Gladstone, Scotia, N.Y., assignor to Norton Company, Troy, N.Y., a corporation of Massachusetts

No Drawing. Filed June 21, 1961, Ser. No. 118,536

5 Claims. (Cl. 51—298)

4. A coated abrasive sheet comprising a flexible backing member, abrasive grains bonded thereto by a maker coat of adhesive, and a size coat of adhesive overlying said maker coat consisting essentially of the reaction product of an epoxy ether having an epoxy equivalent of from 450 to 4000 and from 1 to 10% by weight of amine from the reaction product of (1) a hydroxy-carbonyl compound of the structure:



$$R'-\overset{\displaystyle R'}{\underset{\displaystyle OH}{C}}-CH_2-\underset{\displaystyle O}{\overset{\|}{C}}-R$$

where R and R′ are selected from the group consisting of a combined hydrogen atom and methyl, ethyl, propyl, and butyl radicals, and where at least one R′ represents an alkyl group and (2) an aliphatic polyamine containing not less than four carbon atoms and including at least two amino groups selected from the group consisting of primary and secondary amino groups.

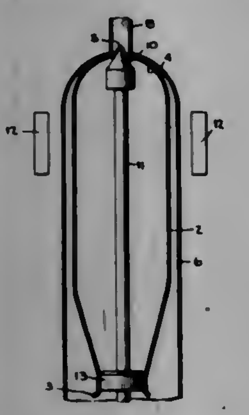
3,195,994

METHOD AND MEANS OF PRODUCING DOUBLE WALLED CONTAINERS

James B. Lindsay, Millburn, N.J., assignor to Kahle Engineering Co., Union City, N.J., a corporation of New Jersey

Filed May 22, 1962, Ser. No. 196,689

5 Claims. (Cl. 65—58)



1. The method of manipulating an inner shell and a larger outer shell each having one end open and the opposite end at least substantially closed to form a double walled container having spaced apart inner and outer side walls and spaced apart end walls comprising the steps of positioning the shells with their open ends downwardly and with the inner shell within the outer shell and with their side walls spaced and the end walls in contact with one another, supporting the shells by engaging the end wall of the inner shell at about its center, thereafter engaging the outer shell with a separate support, providing relative motion between the supports equal to said end wall spacing in a direction to separate the end walls of the shells from one another, and thereafter attaching adjacent portions of the open ends of the shells.

4. Means for manipulating an inner shell and a larger outer shell each having one end open and the opposite end at least substantially closed to form a double walled container having spaced apart inner and outer side walls and spaced apart end walls comprising the combination of first support means for supporting the shells with their open ends downwardly and with the inner shell within the outer shell and with their side walls spaced and their end walls in contact with one another, second support means for independently engaging the outer shell, means

for increasing the spacing of the said support means and spacing the end walls a distance equal to said end wall spacing, and means for thereafter attaching adjacent portions of the open ends of the shells.

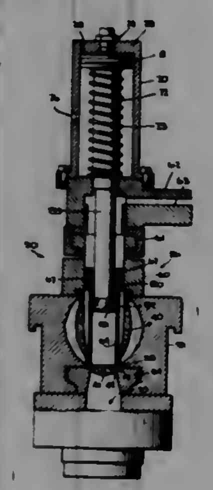
3,195,995

BLOWING MECHANISM AND METHOD OF MAKING ARTICLES WITH TWO OPENINGS

Edward L. Rowe, Baltimore, Md., assignor to Carr-Lowrey-Glass Company of Baltimore County, Baltimore, Md., a corporation of Maryland

Filed Dec. 18, 1961, Ser. No. 160,063

8 Claims. (Cl. 65—70)



1. Apparatus for forming an article having openings at both ends comprising the combination of a parison-forming mechanism for forming a parison having an open end and a closed end, a blow mold assembly having internal article-shaping walls, means for transferring said parison from said parison-forming mechanism to a position between the internal article-shaping walls of said blow mold assembly, means in said blow mold assembly for forming a second opening in said parison at the closed end thereof, means for introducing a fluid under pressure into the parison through the first opening therein to expand the outer surfaces of the parison against the walls of blow mold assembly and form an article, and means for sealing the second opening in said parison during the operation of said fluid introducing means to prevent said fluid from escaping through said second opening.

7. The method of forming an article having openings at both ends comprising the steps of forming a parison having an open end and a closed end, forming a second opening in said parison at the closed end thereof, introducing a fluid under pressure into the parison through the first opening therein to expand the outer surfaces of the parison and form an article, and sealing the second opening in said parison simultaneously with the step of introducing said fluid therein to prevent said fluid from escaping through said second opening.

3,195,996

GLASS PRESSING PLUNGER AND METHOD OF ITS USE

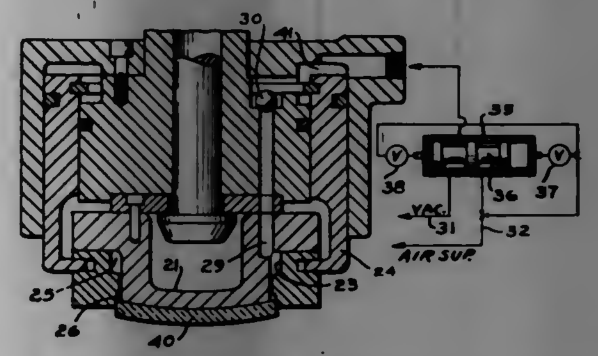
Donald J. Tingley, Corning, N.Y., assignor to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Apr. 11, 1962, Ser. No. 186,776

7 Claims. (Cl. 65—106)

1. The combination with an article pressing mold and an article pressing plunger movable into and out of cooperative article pressing relation with such mold in the pressing of a charge of moldable material deposited therein, of means encircling the plunger for providing therewith an annular cavity having an entrance surrounding the plunger closed by an article pressed between it and the mold, said plunger having a passage in communication with said annular cavity connectable to a vacuum source whereby, by connection of such passage to a vacuum line, said means and plunger embody a vacuum chuck for maintaining a pressed article in engagement with the plunger during its movement out of cooperative relation with the mold.

5. The method which comprises pressing an article in a press mold by arranging a ring over the entrance bordering wall of such mold with its inner boundary projected over the outer margin of such entrance, passing a pressing plunger through such ring into the mold to form an article therein whose upwardly facing boundary region is overlaid by such ring, slightly elevating the ring off such wall to provide an annular cavity over the outer boundary region of the pressed article, connecting a vacuum line into communication with such cavity to adhere the article to the plunger and thereafter withdrawing the plunger from the mold cavity.



7. The method of removal of an article formed in a mold by a pressing plunger and a surrounding ring movable into and out of cooperative relation therewith, which comprises moving the ring into cooperative relation with the mold in advance of the plunger, moving the ring out of cooperative relation with the mold preceding withdrawal of the plunger from cooperative relation therewith, and connecting an annular space between such plunger and ring to a negative pressure source whereby the formed article adheres to the plunger during its movement out of cooperative relation with the mold.

3,195,997

METHOD FOR ACCELERATING GERMINATION AND GROWTH OF PLANTS

Iwao Arai, Toyama-ken, Motoji Yamashita, Uozu-shi, Toyama-ken, and Satoru Yamashita, Setagaya-ku, Tokyo, Japan, assignors to Nippon Carbide Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan

No Drawing. Filed Aug. 1, 1962, Ser. No. 213,849

Claims priority, application Japan, June 12, 1962, 37/23,750

11 Claims. (Cl. 71—2.1)

1. A method for improving the germination and growth characteristics of plant seed which comprises applying to the surface of said plant seed 1-chloro-1,2-dibromoethane in an amount effective to accelerate the rate of germination of said seed.

3,195,998

TRIAZINE COMPOSITION AND METHOD OF INFLUENCING THE GROWTH OF PLANTS THEREBY

Enrico Knüsli, Riehen, near Basel, Jürg Rumpf, Binningen, near Basel, and George Anton Klein, Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

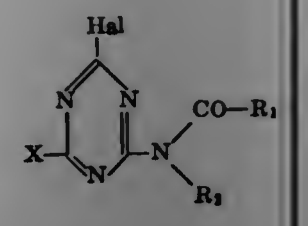
No Drawing. Filed Feb. 17, 1961, Ser. No. 89,930

Claims priority, application Switzerland, Feb. 19, 1960, 1,910/60

10 Claims. (Cl. 71—2.5)

6. A method of controlling weeds which comprises bringing into contact with at least a part of the weeds, in

an amount sufficient to control weeds, a compound of the formula



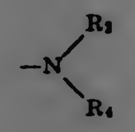
wherein

Hal represents a member selected from the group consisting of chlorine, bromine and fluorine,

R_1 represents a member selected from the group consisting of hydrogen, lower alkyl and lower alkenyl,

R_2 represents a member selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower alkoxy-lower alkyl,

X represents a member selected from the group consisting of chlorine, bromine, fluorine and



in which R_3 is a member selected from the group consisting of lower alkyl, lower alkenyl, lower alkoxy-lower alkyl, lower alkanoyl and lower alkenoyl and R_4 is the same as R_2.

3,195,999

COMPOSITION CONSISTING ESSENTIALLY OF CRYSTALLINE UREA COATED WITH SUGAR

Joe I. Chance, Memphis, Tenn., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed July 24, 1963, Ser. No. 297,222

4 Claims. (Cl. 71—28)

4. Composition consisting essentially of crystalline urea containing about 0.1–0.5% moisture coated with about 0.15–0.5% by weight of a sugar selected from the group consisting of sucrose and raffinose.

3,196,000

PROCESS FOR THE DIRECT REDUCTION OF IRON ORES IN ROTATING CYLINDRICAL FURNACES

Kurt Meyer, Frankfurt am Main, Hans Rausch, Oberursel, Taunus, Günter Heitmann, Frankfurt am Main, and Wolfgang Janke, Oberursel, Taunus, Germany, assignors to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany

No Drawing. Filed Dec. 6, 1962, Ser. No. 242,622

Claims priority, application Germany, Dec. 8, 1961, M 51,122

2 Claims. (Cl. 75—5)

1. In the process for the direct reduction of hard-burned iron ore pellets in a rotating cylindrical furnace in which the iron ore is reduced by means of carbon monoxide formed within the furnace from solid carbon-containing agents admixed with said pellets, the improvement comprising the steps of heating green unreduced iron oxide pellets on a sintering grate having a bottom layer and side layers of protective material to a pellet heat hardening temperature of at least 1200° C. and under non-reducing conditions, cooling the hardened pellets to a temperature of about 600° C., removing both the hardened pellets and protective material from said grate, separating the protective material from the hardened pellets, and then introducing the hardened pellets at a temperature of about 600° C. into said furnace.

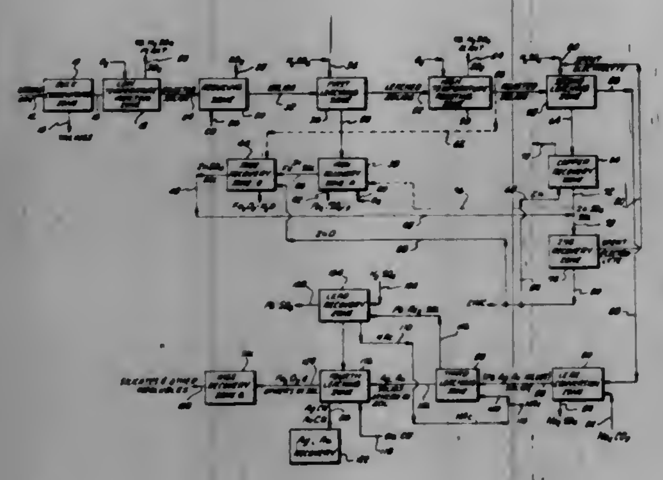
3,196,001

RECOVERY OF METAL VALUES FROM COMPLEX ORES

Orrin F. Marvin, Cottonwood, Ariz.
(1549 W. Madison, Phoenix, Ariz.)

Filed Sept. 5, 1962, Ser. No. 222,761

7 Claims. (Cl. 75—21)



1. A process for recovery of metal values from a complex sulphide ore of the character identified and including copper, lead, zinc and iron, which comprises:

(A) roasting said complex ore at a temperature sufficiently low to prevent any substantial formation of ferrites but sufficiently high to convert at least part of the iron values to ferric and ferrous oxides, and leaving other metal sulphides unoxidized,

(B) heating said complex ore in a reducing atmosphere to convert the said ferric oxide to ferrous oxide (FeO),

(C) leaching said complex ore to separate therefrom the ferrous oxide.

3,196,002

BLAST FURNACE PROCESS

Kenneth W. Stookey, Markle, Ind.

Filed Apr. 17, 1963, Ser. No. 273,768

1 Claim. (Cl. 75—41)

In combination with a blast furnace operation utilizing a hot air blast, the steps comprising: charging at the upper end of the blast furnace a quantity of ore-flux material-and-coke which is combined with a liquid phase heavy hydrocarbon material, internally cooling the blast furnace charge solely with said hydrocarbon material which is added to the charge of ore-flux material-and-coke to effect such cooling internally of said blast furnace at the upper end thereof, progressively heating such hydrocarbon material to effect its thermal decomposition into petroleum coke and volatilized hydrocarbon byproduct, removing and cooling such volatilized hydrocarbon byproduct, condensing the removed volatilized hydrocarbon byproduct and separating such condensed material from the uncondensed hydrocarbon which is volatilized.

3,196,003

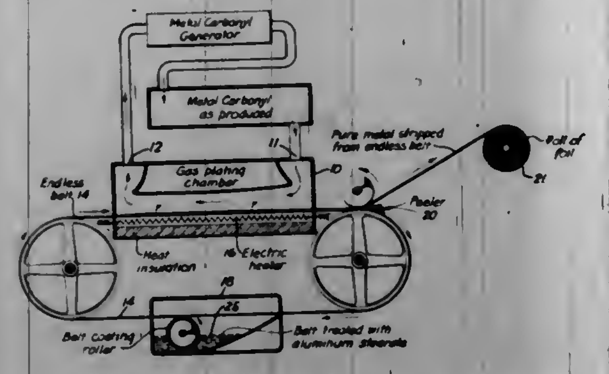
PROCESS OF MAKING METAL STRIPS AND SHEETS FROM WASTE METAL

William C. Jenkin, Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio

Filed Jan. 14, 1963, Ser. No. 251,386

4 Claims. (Cl. 75—62)

1. A process of recovering relatively pure metal from waste metal which comprises chemically cleaning said waste metal, subjecting the resultant clean metal to heat while protected from oxidation to the action of carbon monoxide to produce metal carbonyl, thereafter bringing the metal carbonyl into contact with a heated endless belt substrate surface from which metal is strippable and thermally decomposing the metal carbonyl to deposit metal onto said substrate, and then stripping the metal deposit from the substrate surface, said endless belt being coated with aluminum stearate.



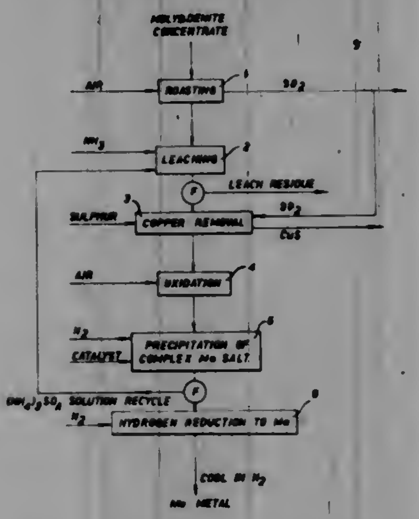
3,196,004

MOLYBDENUM RECOVERY PROCESS

Vasyl Kunda, Fort Saskatchewan, Alberta, Canada, assignor to Sherritt Gordon Mines Limited, Toronto, Ontario, Canada, a company of Canada

Filed Apr. 1, 1963, Ser. No. 269,642

9 Claims. (Cl. 75—84)



1. A process for producing high purity molybdenum which comprises:

(a) leaching molybdenum trioxide bearing material with an aqueous ammoniacal ammonium sulphate solution to obtain substantially complete extraction of molybdenum therefrom and its dissolution in the leach solution;

(b) maintaining the free ammonia concentration of said leach solution at at least about 1 mole of ammonia per mole of molybdenum in solution and maintaining the ammonium sulphate concentration of said leach solution at above about 100 grams per litre;

(c) separating undissolved residue from the leach solution and reacting said solution, in the presence of a catalyst, at a temperature of from about 200° F. to about 450° F. with hydrogen gas provided in sufficient amount to maintain a hydrogen partial pressure above about 200 pounds per square inch, said catalyst being at least one member selected from the group consisting of salts of the precious metals silver, gold, palladium and platinum which are soluble in the ammoniacal leach solution and finely divided metal powders;

(d) continuing said reducing reaction to precipitate molybdenum from said solution as a complex molybdenum salt; and

(e) separating the precipitated complex molybdenum salt from the last-mentioned solution and heating said precipitate, in the presence of a reducing agent, at a temperature below that at which molybdenum trioxide volatilizes to reduce the molybdenum precipitate to substantially pure molybdenum metal.

3,196,005

PROCESS FOR SEPARATING NICKEL AND COBALT FROM IRON

Robert W. Moore, North Attleboro, Mass., assignor to Attleboro Refining Company, Inc., Attleboro, Mass., a corporation of Massachusetts

No Drawing. Filed Dec. 31, 1962, Ser. No. 248,230

10 Claims. (Cl. 75—108)

1. The process of removing iron from an aqueous solution containing ions of the class consisting of ferrous and mixtures of ferrous and ferric and ions of the class consisting of nickel and cobalt, comprising the steps of oxidizing the ferrous ions to the ferric state at a pH not greater than 2, increasing the pH of the solution to between about 3.9 to 4.2, diluting the solution with from 8 to 20 volumes of water per volume of the solution to form an iron-containing precipitate, and separating the precipitate from the solution.

3,196,006

COPPER BASE ALLOYS CONTAINING COBALT, BERYLLIUM, AND ZIRCONIUM

Donald H. Lane, Lima, Ohio, and Frank Emley, Penn Hills Township, Allegheny County, Pa., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed May 10, 1963, Ser. No. 279,604

5 Claims. (Cl. 75—153)

1. A cold worked, age hardened copper base alloy member consisting essentially of from 0.4% to 0.7% by weight of beryllium, from 2% to 3% by weight of cobalt, from 0.12% to 0.4% by weight of zirconium and the balance copper and small amounts of incidental impurities with lead not exceeding 0.005%, the member being cold worked at least 10% and age hardened to a temperature of from 300° C. to 600° C. for a period of the order of 0.25 or more hours to impart relatively high mechanical strength to the member without a substantial decrease in ductility.

3,196,007

BERYLLIUM COPPER COMPOSITION AND METHOD OF PRODUCING GREEN COMPACTS AND SINTERED ARTICLES THEREFROM

Keith G. Wikle, Oak Harbor, Ohio, assignor to The Brush Beryllium Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed June 12, 1962, Ser. No. 201,814

19 Claims. (Cl. 75—200)

1. A method of producing a green compact to be made into a sintered body of beryllium copper alloy and comprising intimately intermixing beryllium copper alloy powder and free copper powder, to form a mixture wherein the beryllium content ranges from about 0.4% to about 3.6%, by weight, of the total mixture, then compacting the mixture at temperatures below sintering to predetermined density.

3,196,008

ELECTROPHOTOGRAPHIC PROCESS FOR FORMATION OF FROST-LIKE DEFORMATION IMAGES IN MECHANICALLY DEFORMABLE PHOTOCONDUCTIVE LAYERS

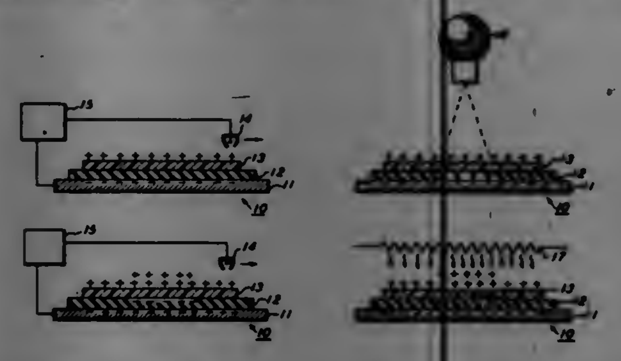
Vsevolod S. Mihajlov and William L. Goffe, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed May 8, 1962, Ser. No. 193,130

17 Claims. (Cl. 96—1)

1. A method of forming a frost image corresponding to an optical image on a photoconductive insulator com-

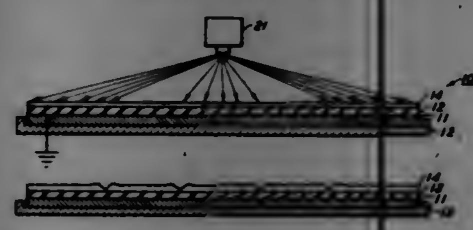
prising forming a latent electrostatic image varying in surface charge density according to the light intensity of said optical image directly on the surface of said photoconductive insulator, said latent electrostatic image forming step including the sub-steps of electrostatically charging the said photoconductive insulator and exposing the said photoconductive insulator to a pattern of activating electromagnetic radiation corresponding to said optical image, at least the maximum charge density in said electrostatic image having sufficient force to offset the surface tension force of said photoconductive insulator when it is softened and softening at least a surface layer of said photoconductive insulator whereby said softened surface of said photoconductive insulator is deformed into a pattern in the configuration of said optical image comprising alternating elevations and depressions, said elevations and depressions being randomly positioned with respect to said surface, and characterized as having a lateral spacing of one to five times the thickness of the softened material supporting said surface.



3,196,009
ELECTROSTATIC IMAGE LIQUID DEFORMATION DEVELOPMENT

Robert W. Gundlach, Victor, and George R. Mott and William D. Hope, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed May 8, 1962, Ser. No. 193,246
5 Claims. (Cl. 96—1)



1. A method of electrophotographic image reproduction comprising the steps of:

(a) applying a uniform electrostatic charge to the surface of a charge deformable, electrically insulating liquid film overlying the photoconductive surface of a xerographic plate; and,

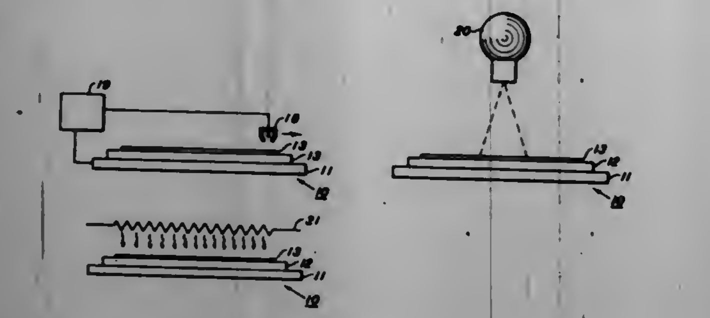
(b) exposing said plate for a controlled time period to a pattern of light and shadow to be reproduced until said film in a liquid state is deformed in response to electrostatic charges at the image gradients conforming to said pattern.

3,196,010
ELECTROPHOTOGRAPHIC PROCESS FOR FORMATION OF DEFORMATION IMAGES IN DEFORMABLE INTERFERENCE FILMS

William L. Goffe, Webster, and Lester Corrsin, Penfield, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed May 8, 1962, Ser. No. 193,272
11 Claims. (Cl. 96—1)

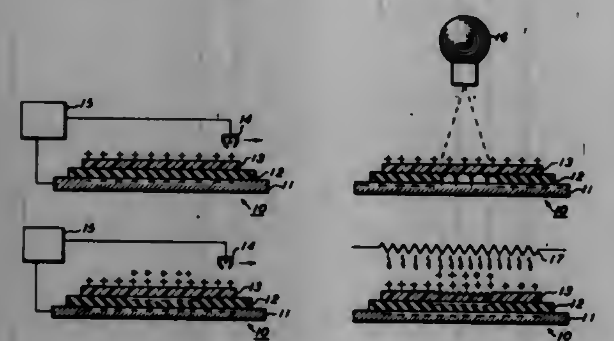
1. The method of forming a photoexact interference effect reproduction of a light pattern comprising applying to the photoconductive insulating surface of a xerographic plate an interference film of mechanically deformable insulating material, said film having a thickness in the range of about 80 to about 125 millimicrons, electrostatically charging the xerographic plate, and exposing the plate to a light pattern.



3,196,011
ELECTROSTATIC FROSTING

Kenneth W. Gunther, Rochester, and Robert W. Gundlach, Victor, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed May 8, 1962, Ser. No. 193,277
52 Claims. (Cl. 96—1)



1. The method of converting a smooth dielectric surface into a frosted light diffusing surface microscopically deformed by electrostatic forces into a pattern of alternating elevations and depressions said elevations and depressions being randomly positioned with respect to said dielectric surface and characterized as having a lateral spacing of 1–5 times the thickness of the material supporting said surface, comprising maintaining said surface at an electrostatic potential such that the lateral repulsive electrostatic surface force exceeds the surface tension force, simultaneously maintaining said surface in a viscous condition, and deforming said layer into said pattern in response to said electrostatic forces.

27. The frosted product of the method of claim 1

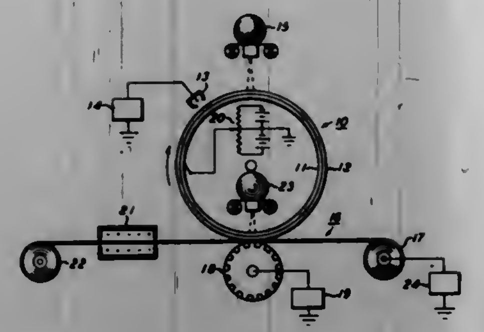
3,196,012
HALF-TONE XEROGRAPHY WITH THERMOPLASTIC DEFORMATION OF THE IMAGE

Harold E. Clark, Penfield, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed June 7, 1962, Ser. No. 200,847
12 Claims. (Cl. 96—1)

1. The method of reproducing a continuous tone pattern of light and shadow comprising the steps of:

(a) applying an electrostatic transfer field effective in a defined geometric halftone field pattern to transfer a continuous tone pattern of electric charge conforming to said pattern of light and shadow from the surface of a uniform photoconductive insulating layer to the surface of a contigously supported layer of deformable insulating material whereby the transferred charge densities on said deformable material are correlated pattern-wise to said applied half-tone transfer field,



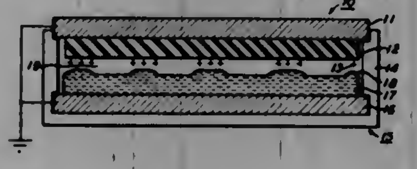
(b) separating the photoconductive insulating layer from the layer of deformable material, and

(c) deforming the deformable material in response to the charge pattern transferred thereto.

3,196,013
XEROGRAPHIC INDUCTION RECORDING WITH MECHANICALLY DEFORMABLE IMAGE FORMATION IN A DEFORMABLE LAYER

Lewis E. Walkup, Columbus, Ohio, assignor, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed June 7, 1962, Ser. No. 200,848
7 Claims. (Cl. 96—1)



6. A method of simultaneously forming a direct reading relief image and a mirror-reverse relief image by induction from a single latent electrostatic image comprising:

(a) coating a conductive plate with first a conductive thermoplastic layer and second an insulating thermoplastic layer having a thickness range of 5 microns to 5 mils,

(b) positioning a photoconductive insulating layer, backed by a transparent conductive layer, in contact with the surface of said insulating thermoplastic layer,

(c) applying a direct current potential between said transparent conductive layer and said conductive plate,

(d) illuminating said photoconductive insulating layer through said transparent conductive layer with an image pattern of light and shadow,

(e) heating said thermoplastic insulating layer and said conductive thermoplastic layer to compliancy allowing the interface between them to deform in response to the electrostatic fields resulting from said image pattern,

(f) cooling said insulating thermoplastic layer and said conductive thermoplastic layer so that they solidify in their deformed configuration, and

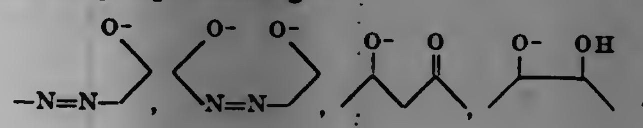
(g) separating said insulating thermoplastic layer and said conductive thermoplastic layer to provide a direct reading image on the insulating thermoplastic layer and a mirror-reverse image on the conductive thermoplastic layer.

3,196,014
PHOTOGRAPHIC PROCESSES

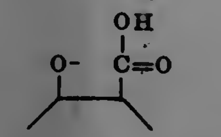
Howard G. Rogers, Weston, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

No Drawing. Filed Jan. 26, 1959, Ser. No. 788,742
The portion of the term of the patent subsequent to Mar. 12, 1980, has been disclaimed
8 Claims. (Cl. 96—29)

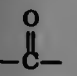
1. In a process for forming a photographic image, the steps which comprise exposing a photosensitive element containing a silver halide emulsion; developing the exposed silver halide emulsion in the presence of an aqueous alkaline solution of a dye, which dye is a silver halide developing agent and contains a metalizable radical selected from the group consisting of



and



radicals; oxidizing said dye in developed areas of said element, as a result of development, thereby providing immobilization of said dye, in developed areas of said element, as a function of the point-to-point degree of development thereof, and a predetermined distribution of mobile dye in the undeveloped areas of said element; transferring, by imbibition, at least a portion of said distribution from said undeveloped areas to an image-receiving element in superposed relationship with said element; contacting at least a portion of said transferred dye with metallic atoms selected from the group consisting of cobalt, nickel, copper and aluminum atoms; effecting thereby attachment of said atoms to the free valences of said metalizable radical to provide heterocyclic ring system formation, each of said ring systems comprising a metallic atom bonded to said —O⁻ group and one of said —U=N—, —OH and



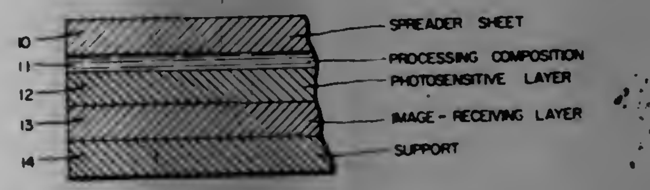
$$-\overset{\overset{O}{\|}}{C}-$$

groups; and thereby providing to said image-receiving element a reversed, at least in part, metal-complexed dye image of the developed image.

3,196,015
DIFFUSION TRANSFER PROCESS

William H. Ryan, Carlisle, Mass., assignor to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware

Filed Jan. 31, 1962, Ser. No. 170,008
3 Claims. (Cl. 96—29)



1. In a diffusion transfer process which comprises the steps of developing an exposed photosensitive emulsion and forming thereby an image-wise distribution of image-forming components in said photosensitive emulsion, as a function of the point-to-point degree of exposure thereof, and transferring, at least part of said image-wise distribution, by diffusion, to a contiguous image-receiving layer to provide thereto a visible transfer image, the improvement which comprises employing a hydroxyethyl polyvinyl alcohol silver halide photosensitive emulsion.

3,196,016

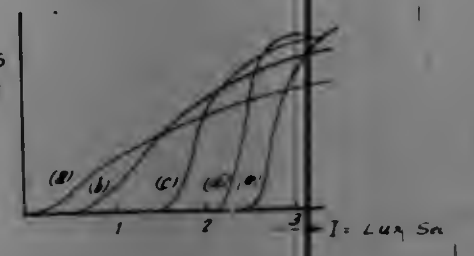
PHOTOCOMPOSING PROCESS FOR THE PRODUCTION OF PROCESS COPIES WITHOUT USE OF A LAYOUT

Anton Seelig, Munich, Germany, assignor to Film-Klischee G.m.b.H., Munich, Germany, a company of Germany

Filed Feb. 6, 1962, Ser. No. 171,394

Claims priority, application Germany, Feb. 14, 1961, F 33,202

4 Claims. (Cl. 96—43)



1. Photocomposing process for the production of a process copy which comprises the steps consisting essentially of impregnating with developing solution a photosensitive base having a lightsensitive coating containing silver chloride, of a steep gradation corresponding to a slope of at least 45° of the gradation curve obtained by plotting the exposure in Lux. sec as abscissa against the degree of blackening produced by such exposure as ordinate, both in logarithmic scale, and of a sensitivity low enough that no blackening occurs unless exposed to at least 1.5 Lux. sec.; projecting a picture of a type negative with visible non-actinic light onto the impregnated base; adjusting the position of the base with respect to the locus of the projection of the type picture thereon; then, without use of a layout, projecting the picture of the type negative on the base with strong actinic light; simultaneouly developing the resulting image; repeating the above defined sequence of steps until the process copy has been completed; and fixing said process copy in a fixative bath.

3,196,017

SENSITIZING DYES FOR PHOTOGRAPHIC SILVER HALIDE EMULSIONS

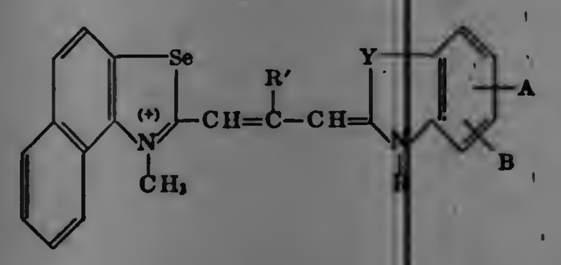
Johannes Götze, Cologne-Stammheim, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany

Filed Mar. 19, 1962, Ser. No. 180,754

Claims priority, application Germany, Mar. 22, 1961, A 37,024

6 Claims. (Cl. 96—106)

1. A photographic silver halide emulsion which contains a cyanine dye having the following formula



wherein Y represents a member selected from the class consisting of sulfur and selenium, A represents a substituent selected from the class consisting of alkyl, alkoxy, phenyl, thienyl and halogen radicals in respectively the 5 and 6 positions of the heterocyclic nucleus, B is a substituent of the group consisting of hydrogen and methyl in respectively the 5 and 6 positions of the heterocyclic nucleus, R′ is a lower alkyl radical and R is a radical of the group consisting of $-CH_2CH_2CH_2SO_3^{(-)}$ and $-CH_2CH_2CH_2CH_2SO_3^{(-)}$.

3,196,018

COATED MENADIONE BISULFITE ADDUCT

William Galler, 986 Wateredge Place, Hewlett Harbor, N.Y.

No Drawing. Filed Aug. 8, 1960, Ser. No. 47,914

7 Claims. (Cl. 99—2)

1. An animal feed premix comprising a carrier material and particles of a water soluble menadione bisulfite adduct in amounts of at least 4 grams per pound of said premix, each of said particles being substantially completely coated with a non-toxic protective film which is substantially moisture impermeable, said film having dispersed therethrough and on its exterior surface, particles of a digestible material distinct from the material of said nontoxic protective film, said premix being adapted for dilution with normal feed ingredients in the formation of a balanced animal feed.

3,196,019

ANABOLIC AND ESTROGENIC COMPOUND AND PROCESS OF MAKING

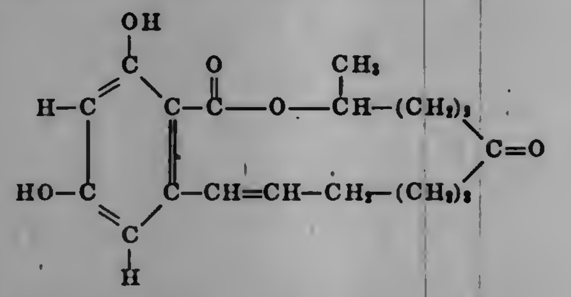
Frederick N. Andrews and Martin Stob, West Lafayette, Ind., assignors to Purdue Research Foundation, a corporation of Indiana

Filed Apr. 6, 1964, Ser. No. 360,797

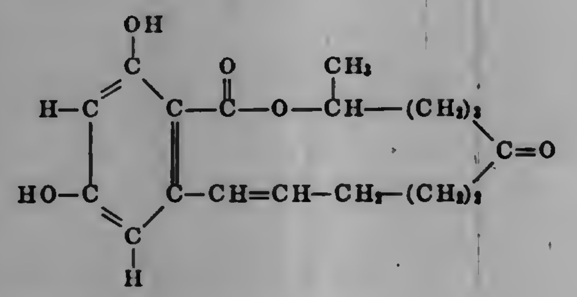
15 Claims. (Cl. 99—2)

4. A process for the production of an anabolic substance which comprises cultivating the organism *Gibberella zeae* (Gordon) NRRL–2830 in a nutrient medium containing a grain selected from the group consisting of corn, wheat, barley and oats, under aerobic conditions to produce an anabolic substance and recovering the anabolic substance from the resulting culture medium.

13. The compound having the formula:



14. A process for producing a growth promoting effect in animals which comprises administering to the animal a feed containing a sufficient amount of a compound having the formula



to promote the growth of the animal.

3,196,020

METHOD FOR PREPARING PROTOPECTIN COMPOSITIONS FOR BAKED GOODS

Lincoln T. Work, 15 N. Crescent, Maplewood, N.J.

No Drawing. Filed Apr. 3, 1962, Ser. No. 184,651

9 Claims. (Cl. 99—100)

1. A process for the preparation of a finely divided, dry protopectin composition which comprises coating the outer surfaces of the particles of said protopectin with a colloidal hydrophilic material selected from the group consisting of starch, gelatin and albumen in aqueous media.

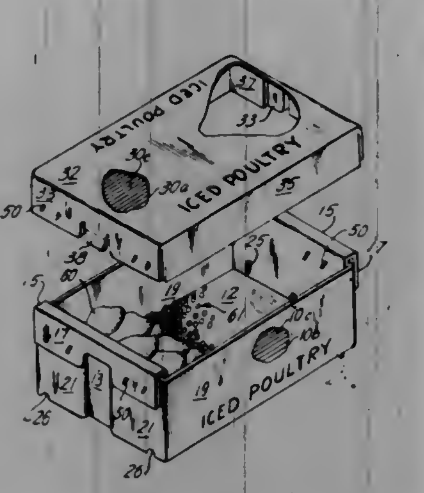
3,196,021

REFRIGERATED COMESTIBLE PACKAGE

Richard E. Oas, Summit, N.J., Carroll P. Dahill, Statesville, N.C., and Hugh B. Johnson, Georgetown, S.C., assignors to International Paper Company, New York, N.Y., a corporation of New York

Original application July 29, 1963, Ser. No. 298,269. Divided and this application June 19, 1964, Ser. No. 389,232

9 Claims. (Cl. 99—192)



1. A comestible articles package comprising comestible articles and a cooling agent disposed in a container comprising a body and a cover of corrugated paperboard having its flutes disposed predominantly longitudinally of the body and the cover and having characteristics of printability and resistance to water, grease, and cold,

the body including a rectangular bottom panel, end panels each hingedly connected at one end to one end of the bottom panel along a foldline and disposed perpendicularly to the bottom panel, ledge panels each hingedly connected at one end to the other end of an end panel along a foldline and disposed perpendicularly to the end panel, end flaps each having a length shorter than an end panel length and hingedly connected at one end to the other end of a ledge panel along a foldline and disposed perpendicularly to the ledge panel, side panels each hingedly connected at one side to one side of the bottom panel along a foldline and disposed perpendicularly to the bottom panel, end supporting panels each having a length shorter than one-half of an end panel width and hingedly connected at one end to one end of a side panel along a foldline and disposed perpendicularly to the side panel and outwardly of an end panel, and end supporting flaps each having a length shorter than one-half of an end panel width hingedly connected at one end to the other end of an end supporting panel along a foldline and disposed parallelly to the end supporting panel and inwardly thereof and

the cover including a rectangular top panel, terminal flaps each hingedly connected at one end to one end of the top panel along a foldline and disposed perpendicularly to the top panel, lateral flaps each hingedly connected at one end to one side of the top panel along a foldline and disposed perpendicularly to the top panel, and terminal supporting flaps each hingedly connected at one end to one end of a lateral flap along a foldline and disposed perpendicularly to the lateral flap,

and wherein the top panel abuts the ledge panels, the lateral panels abut the side panels, and the terminal supporting flaps abut the end flaps.

3,196,022

REFRACTORY PRACTICES

Ernest Paul Weaver, Pittsburgh, Pa., assignor to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 29, 1962, Ser. No. 220,131

9 Claims. (Cl. 106—38.8)

1. In methods of making refractory batches suitable for manufacture of basic refractories bonded with nonaqeuous tar bonding material, including the steps of mixing refractory and tar to form batches, and forming shapes from said batches, the improvement which comprises adding about 0.5 to 1% by weight, based on the total weight of the batch, of anthracene to the batches before forming the shapes to thereby increase the hot strength of resulting shapes.

6. In methods of making refractory batches suitable for manufacture of basic refractories bonded with nonaqueous tar bonding material, including the steps of mixing refractory and tar to form batches, and forming shapes from said batches, the improvement which comprises adding about 0.5 to 1%, by weight, based on the total weight of the batch, of trichlorobenzene to the batches before forming shapes therefrom in order to increase hot strength in said shapes.

3,196,023

AIR FIRED BERYLLIA WARE

John G. Theodore, Willowick, and Chester A. Bielawski, Cleveland, Ohio, assignors to The Brush Beryllium Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 27, 1962, Ser. No. 176,125

4 Claims. (Cl. 106—57)

1. A slip for casting air firable compacts and consisting essentialy of beryllia, as the main constituent, and a powder selected from the group consisting of (a) alumina, (b) alumina trihydrate, and (c) a mixture of alumina and zirconia, said beryllia and powder being suspended in a liquid medium consisting essentially of distilled water and an acid deflocculating agent, and said suspension having a specific gravity less than about 1.4 and a pH of from about 3 to 10, said powder being in an amount of from about .75% to about 3.0%, by weight, of the combined oxides, when fired.

3,196,024

METHOD OF PRODUCING FOAMED SODIUM CHLORIDE OF LOW BULK DENSITY

James Saunders, Edinburgh, Scotland, assignor to Cerebos Limited, London, England, a British company

No Drawing. Filed Oct. 26, 1962, Ser. No. 233,430

Claims priority, application Great Britain, Nov. 2, 1961, 39,328/61

9 Claims. (Cl. 106—122)

1. A process for the production of sodium chloride of relatively low bulk density from cubically crystalline sodium chloride of relatively high bulk density, which process comprises forming an aqueous foam containing particulate cubically crystalline sodium chloride and a foam stabilizer in suspension and then drying and thereafter sub-dividing the dried foam to form particles of sodium chloride of relative low bulk density.

3,196,025

CARBON MIX AND METHOD OF FORMING SAME

Rodolfo R. Balaguer, Fort Lauderdale, Fla., assignor to J. D. Hedges and Company Limited Partnership, Kingston, Jamaica, British West Indies, a limited partnership of Cuba

No Drawing. Filed July 6, 1962, Ser. No. 208,096

9 Claims. (Cl. 106—284)

1. A carbonaceous molding composition consisting essentially of comminuted particles of from about 15% to 80% by weight, of a basic mix and about 20% to 85%,

by weight, of an electrically conductive carbonaceous raw material selected from the group consisting of synthetic graphite, natural graphite, calcined charcoal and calcined petroleum coke, said basic mix consisting essentially of about 30% to 70%, by weight, of coal tar pitch and about 30% to 70%, by weight of carbon black, said basic mix, prior to having been mixed with said electrically conductive raw material, having been heated to a temperature at least equal to the melting point of said pitch but below the temperature at which substantial volatile matter is evolved from said basic mix and thereafter having been cooled, then broken into fragments and then mixed with said electrically conductive raw material, the proportion of said pitch in said molding composition lying in the range of about 10% to 25%, by weight, of said molding composition.

3,196,026
PROCESS FOR THE PRODUCTION OF NON-FOAMED, URETHANE-TYPE POLYMERS

Alfred J. Menard and Thomas H. Williams, both of Seattle, Wash., assignors to Timesaver Products Company, Seattle, Wash., a corporation of Washington
No Drawing. Filed May 9, 1961, Ser. No. 109,238
6 Claims. (Cl. 106—287)

1. The process of making a non-foamed polymeric urethane product from moist materials which comprises reacting together the reactive constituents of a mixture comprising:
  (a) a polyol
  (b) an organic isocyanate
  (c) a urethane-promoting catalyst
  (d) a filler, and
  (e) soluble anhydrite used in at least the stoichiometric amount required to react with substantially all of the water present in the mixture,
  (f) the anhydrite being present in the mixture during the occurrence of the reaction between the polyol and the isocyanate, and remaining in the resulting polymeric urethane product as a component thereof.

3,196,027
COATING MATERIALS FOR INTERIOR OVEN SURFACES

Harrison James White, Cambridge, and Albert M. Creighton, Jr., Manchester, Mass., assignors to Chemical Development Corporation, Danvers, Mass., a corporation of Massachusetts
No Drawing. Filed Aug. 15, 1962, Ser. No. 216,992
2 Claims. (Cl. 106—287)

1. An aerosol composition for coating interior oven surfaces with a clear nonsetting, nonsagging, easily removable protective coating comprising 20 to 40 parts by weight of a film-forming mixture consisting essentially of:
  (a) a mixture of 1 to 30 weight percent of a dimethylpolysiloxane having a room temperature viscosity in the range of 200 to 5000 centistokes as a film-forming release agent, and the balance a volatile nonflammable halogenated hydrocarbon solvent, and
  (b) 0.5 to 10 weight percent based on said dimethylpolysiloxane of a finely-divided silica aerogel, and

60 to 80 parts by weight of a fluorinated methane aerosol propellant.

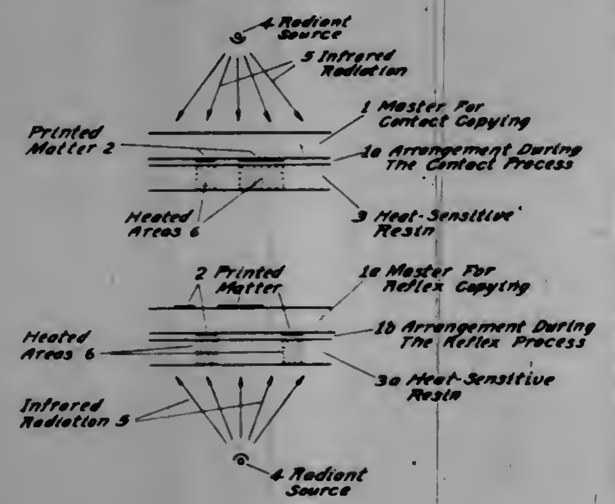
3,196,028
COMPOSITE NICKEL TITANATE-SILICA PARTICLES

Erich K. Zimmermann, Ridgewood, N.J., and Adrian R. Pitrot, Uniondale, N.Y., assignors to National Lead Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Jan. 31, 1962, Ser. No. 170,265
14 Claims. (Cl. 106—303)

1. A new composition of matter consisting essentially of oxidic compounds of nickel, titanium and antimony coated on a particle of silica, wherein said silica is present from about 25% to about 75%, said nickel compound expressed as NiO is present from about 1% to about 8%, said titanium compound expressed as TiO_2 is present from about 10% to about 65% and said antimony compound expressed as Sb_2O_4 is present from about 2% to about 40%, in which all percentages are based on the total weight of said silica and oxidic compounds of nickel, titanium and antimony.

3,196,029
HEAT-COPYING PROCESS

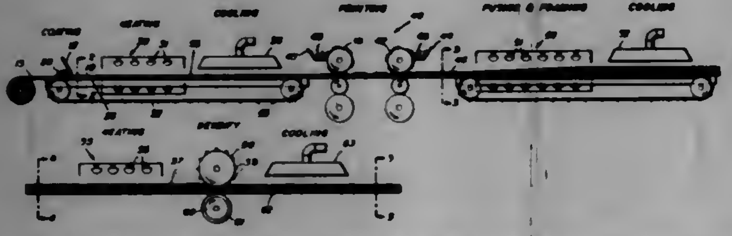
Erwin Lind, Wiesbaden-Biebrich, Germany, assignor to Kalle Aktiengesellschaft, Wiesbaden-Biebrich, Germany
Filed Oct. 19, 1961, Ser. No. 146,323
Claims priority, application Germany, Dec. 10, 1960, 42,365; Dec. 27, 1960, K 42,512; Jan. 7, 1961, K 42,581
27 Claims. (Cl. 117—1.7)



1. A copying process which comprises:
  (a) forming a latent heat image in a heat-softenable resin layer by exposing said layer and an adjacent master to radiant heat and
  (b) developing the latent heat image formed in said layer by contacting it with a developer powder.

3,196,030
DECORATIVE FOAM SURFACE COVERING AND PROCESS THEREFOR

Robert K. Petry, Mountain Lakes, N.J., assignor to Congoleum-Nairn Inc., Kearny, N.J., a corporation of New York
Filed Dec. 29, 1961, Ser. No. 163,319
14 Claims. (Cl. 117—10)

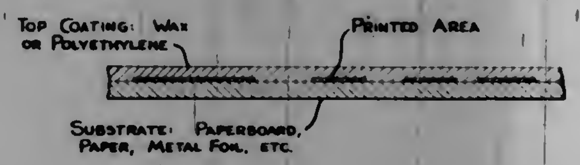


1. A process for producing a sheet of cellular resinous composition foam containing a continuous portion of non-cellular resinous composition of substantial thickness as an integral part of the sheet which comprises applying a coating of a foamable resinous composition containing a blowing agent on one surface of a base, heating the foamable composition to completely expand and fuse the resinous composition and decompose the blowing agent thereby forming a continuous sheet of cellular foam structure, cooling a continuous portion of said continuous foam sheet to set said cellular foam structure in the cooled portion without substantially lowering the temperature of the remaining part of the foam sheet, passing

the foam layer between the nip of two rolls spaced apart a distance substantially less than the thickness of the foam layer thereby collapsing the cellular structure of the remaining heated part of the foam sheet to form a non-cellular portion without collapsing the cellular structure of said cooled layer and thereafter cooling the entire product thus formed.

3,196,031
BONDING OF TOPCOATINGS TO PRINTED SURFACES

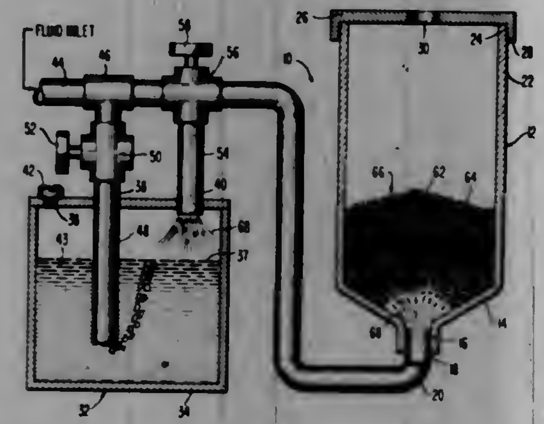
George Eugene Unmuth, Appleton, Wis., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 13, 1961, Ser. No. 144,827
6 Claims. (Cl. 117—15)


Top Coating: Wax or Polyethylene
Printed Area
Substrate: Paperboard, Paper, Metal Foil, etc.

6. A coated sheet material comprising a flexible fibrous base sheet, a printing ink selected from the group consisting of offset, rotogravure, and letterpress printing inks thereon containing an oxidized polyethylene having a molecular weight of between 1500 and 2500, an acid number of 12 to 18, and density at 77° F. between 0.93 and 0.95, and an overcoating selected from the group consisting of hydrocarbon waxes and polyethylene superposed on said printing ink.

3,196,032
PROCESS FOR PRODUCING ELECTROSTATIC INK POWDER

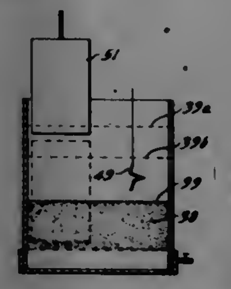
David W. Seymour, King of Prussia, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan
Filed Feb. 20, 1962, Ser. No. 174,460
1 Claim. (Cl. 117—16)



The method of manufacturing electrostatic printing ing comprising the steps of:
  (a) dry mixing ten grams by weight of polyvinyl acetate resin powder material of a particle size of from 25 to 50 microns with one gram by weight of inert lamp-black material of a particle size of from 8 to 25 millicrons, the latter having an opaque dense black consistency,
  (b) introducing the mixture into a fluid bed reactor,
  (c) passing pressurized dry air upwardly through said mixture to form a dense phased fluidized mass,
  (d) passing an acetone vapor in which the resin is soluble through said dense fluidized mass whereby said resin powder is slightly softened and made relatively tacky so that particles of said lamp-black powder become partially imbedded in and bonded to the surfaces of said resin material, and
  (e) air drying said fluidized mass with pressurized air without the solvent to a powder consistency.

3,196,033
PROCESS FOR COATING AN ARTICLE IN AN AERATED BED OF PARTICLES

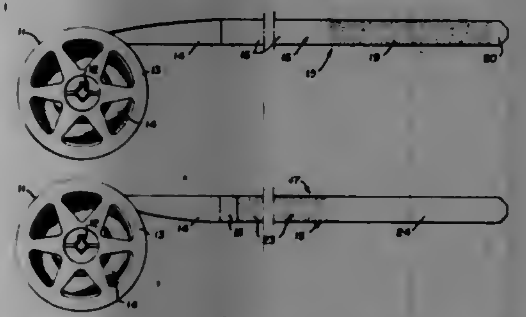
Donald Herbert Brooks, Denver, Johannesburg, Transvaal, Republic of South Africa, assignor, by mesne assignments, to International Protected Metals, Inc., a corporation of New Jersey
Continuation of application Ser. No. 846,376, Oct. 14, 1959. This application Mar. 10, 1964, Ser. No. 350,911
10 Claims. (Cl. 117—21)



1. A coating process which comprises contacting the surface of an article conditioned to retain a coating of particles from a bed of particulate material aerated by the flow of gas therethrough, said bed of material throughout its depth being in a state of uniform and continuous aeration less than that of a fluidized bed of said material and more than that of a loosely settled unaerated bed of said material by the movement of a gas upwardly through said bed at a flow rate to establish a static aerate condition, immersing the article to be coated in said bed while continuing the flow of said gas at a rate to maintain the aerated bed of coating material in a static aerate condition during the coating period and removing the coated article from said bed.

3,196,034
TAB FOR HOLDING FILM ON A REEL

Sam C. Pandolfo III, 933 S. Euclid Way, Denver 9, Colo.
Filed July 25, 1961, Ser. No. 126,593
12 Claims. (Cl. 117—44)



1. A fastener strip of pliable, paper-like material for holding and protectively overlying a roll of film upon a reel by being wrapped around the roll, the roll of film having a maximum and a minimum circumference, the strip having a width substantially the same as a selected film roll and a length exceeding the maximum circumference of the film roll, and including a first longitudinal section at one end of the strip coated with a permanently tacky adhesive on one side thereof, adapted to permit the strip to be attached to an end of the film, an adjacent second longitudinal section of said strip coated with a cohesive adhesive on the said side thereof and being at least equal in length to the maximum circumference of the film roll, and a third longitudinal section of said strip adjacent to said second longitudinal section and coated with a cohesive adhesive on the opposite side of the strip and being of a length sufficient to substantially embrace the minimum circumference of the film roll.

3,196,035

METHOD OF BONDING AN EPOXY COATING TO A POLYISOCYANATE TREATED POLYESTER FIBER BASE

Kotaro Yanagihara, Tokyo, Takenori Suzuki, Kawasaki-shi, and Akira Sakumoto, Tokyo, Japan, assignors to Fuji Tsushinki Seizo Kabushiki Kaisha, Kawasaki, Japan, a corporation of Japan

No Drawing. Filed July 11, 1961, Ser. No. 125,921
Claims priority, application Japan, July 16, 1960, 35/31,905
7 Claims. (Cl. 117—47)

1. The method of preparing an alkali-resistant reinforced plastic construction material, which comprises the steps of coating the exposed surfaces of a polyethylene-terephthalate polyester fiber base with a polyisocyanate compound having at least two isocyanate groups in its molecule and then impregnating the so-coated base with an epoxy resin.

3,196,036

PROCESS FOR CONTROLLING UNDESIRABLE ALDEHYDE AND AMINE ODORS IN TREATED TEXTILE MATERIAL

James F. Cotton, Columbus, Ga., and Sara L. Colquitt, Lanett, Ala., assignors to West Point-Pepperell, Inc., a corporation of Georgia

No Drawing. Filed Aug. 8, 1960, Ser. No. 47,906
6 Claims. (Cl. 117—62)

1. In a process for controlling undesirable aldehyde and amine odors in filamentary and sheet material treated with a member of the group consisting of aldehyde resins, quaternary ammonium water repellents and amine water repellents, wherein said odor control process comprises impregnating said material with a compound supplying the HSO_3^- ion followed by drying in the presence of said ion to effect said odor control, the improvement which comprises applying to the material along with said compound, a mixture of phosphate and reducing sugar.

3,196,037

PREPARATION OF CIGARETTE FILTER TIPS

Victor Emmanuel Yarsley and Witold Titow, % Yarsley Research Laboratories, Ltd., Oaklands, Clayton Road, Chessington, Surrey, England

No Drawing. Filed June 1, 1961, Ser. No. 114,025
Claims priority, application Great Britain, June 3, 1960, 19,750/60
3 Claims. (Cl. 117—42.2)

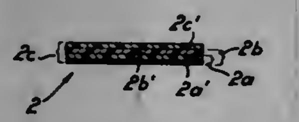
1. A method for the manufacture of cigarette filters from cellulose acetate which has a pitted "active" surface comprising the steps of impregnating a fibrous sheet carrier with a solution of cellulose acetate which has added thereto a precipitant liquid in an amount adjusted to approach the precipitation point, treating the so impregnated carrier with the precipitant to occasion "in situ" formation of the "active" cellulose acetate on the carrier the said impregnated carrier being adapted to be formed into a filter tip for association with a cigarette,

3,196,038

PROCESS AND APPARATUS FOR THE PRODUCTION OF COATED PAPER AND THE LIKE

Walter Schoch, Mannheim, Waldhof, Hans G. Deutscher, Bielefeld, Siegfried Hirsch, Karlsruhe-Durlach, and Heinz Weiss, Mannheim, Germany, assignors to Zellstoff-Fabrik Waldhof, Mannheim-Waldhof, Germany

Filed Oct. 12, 1960, Ser. No. 62,166
Claims priority, application Germany, Dec. 15, 1959, Z 7,721
16 Claims. (Cl. 117—68)



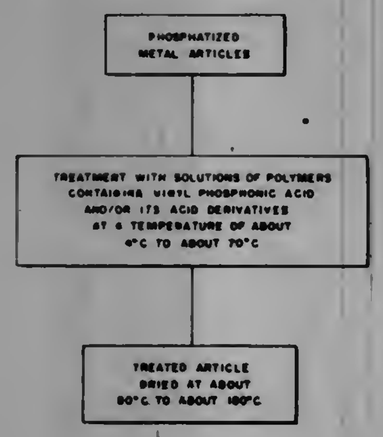
1. A process for the production of coated paper, board and like flexible material which comprises advancing a web of flexible carrier material in a predetermined path; applying to one side of the web a dispersion selected from the group consisting of polyvinyl chloride, polyvinyl acetate, polyvinylidene chloride, esters of polyacrylic acid, polystyrene, polyethylene, paraffin and mixtures of such substances to form a base coat; equalizing the thickness of the base coat by subjecting the top face of the base coat to the action of an air doctor and drying the thus equalized base coat, said equalizing and drying being carried out without contacting the surface of said base coat with any mechanical equalizing or drying means; applying to the base coat at least one softer intermediate coat whose thickness is less than the thickness of the base coat by covering the base coat with a dispersion selected from the group consisting of polyvinyl chloride, polyvinyl acetate, polyvinylidene chloride, esters of polyacrylic acid, polystyrene, polyethylene, paraffin and mixtures of such substances; drying the web after the application of the intermediate coat; applying to the intermediate coat a dispersion selected from the group consisting of polyvinyl chloride, polyvinyl acetate, polyvinylidene chloride, esters of polyacrylic acid, polystyrene, polyethylene, paraffin and mixtures of such substances to form a top coat whose thickness at least equals the thickness of the intermediate coat and which is harder than said intermediate coat; and equalizing the thickness of the top coat by subjecting the top face of the top coat to the action of an air doctor and drying the thus equalized top coat, said equalizing and drying being carried out without contacting the surface of said top coat with any mechanical equalizing or drying means.

3,196,039

PROCESS AND SOLUTION FOR THE AFTER-TREATMENT OF PHOSPHATE COATINGS

Willy Herbst, Hofheim, Taunus, and Ernst Wagner, Frankfurt am Main, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, Frankfurt am Main, Germany, a corporation of Germany

Continuation of application Ser. No. 102,653, Apr. 13, 1961. This application July 7, 1964, Ser. No. 381,614
Claims priority, application Germany, Apr. 16, 1960, F 31,023
5 Claims. (Cl. 117—75)


PHOSPHATIZED METAL ARTICLES
TREATMENT WITH SOLUTIONS OF POLYMERS CONTAINING VINYL PHOSPHONIC ACID AND/OR ITS ACID DERIVATIVES AT A TEMPERATURE OF ABOUT 4°C TO ABOUT 70°C
TREATED ARTICLE DRIED AT ABOUT 80°C. TO ABOUT 180°C

1. A process for improving the corrosion protection of phosphatized metal surfaces, which process comprises after-treating said phosphatized metal surfaces at a temperature of about 4° C. to about 70° C. for a period of from one second to two minutes with a solution containing about 0.008 to about 2 percent by weight of at least one substance selected from the group consisting of (A) a homopolymer of vinyl phosphonic acid and (B) a

copolymer of (1) at least one compound selected from the group consisting of (a) vinyl phosphonic acid and (b) the acid derivatives thereof which contain only one free hydroxyl group per monomer unit at the phosphorus atom, and, as comonomer, (2) at least one compound selected from the group consisting of (a) acrylic acid, (b) methacrylic acid, (c) esters of acrylic acid and methacrylic acid with aliphatic alcohols containing one to five carbon atoms, (d) amides of acrylic acid and methacrylic acid, (e) vinyl acetate, (f) maleic acid anhydride, and (g) crotonic acid, and then drying the treated surfaces at a temperature between about 80° C. and about 180° C.

3,196,040

PROCESS FOR COATING REGENERATED CELLULOSE FILM AND RESULTING PRODUCT

William Paul Kane, Bon Air, Va., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 2, 1961, Ser. No. 149,512
15 Claims. (Cl. 117—76)

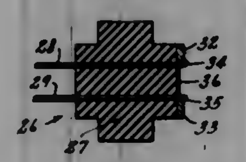
14. A process for coating regenerated cellulose film which comprises dissolving 90–99% of a polyhydrocarbon selected from the group consisting of polyethylene, polypropylene, polystyrene and a copolymer obtained from 50% styrene and 50% isobutylene and 1–10% of a hydrocarbon having a plurality of -N=C=X groups attached thereto wherein X is a chalcogen of atomic weight less than 35, said -N=C=X groups being connected by a divalent hydrocarbon radical, in a volatile organic solvent to form a solution; coating at least one surface of said regenerated cellulose film with said solution; and driving off the solvent from the coating to provide a coating having substantially the properties of said polyhydrocarbon.

3,196,041

METHOD OF MAKING A SEMICONDUCTOR GAP FOR AN INITIATOR

John V. McNulty, Louis I. Knudson, and Edward L. Mooney, all of Norwich, N.Y., assignors to General Laboratory Associates, Inc., Norwich, N.Y., a corporation of New York

Filed Nov. 25, 1960, Ser. No. 71,650
1 Claim. (Cl. 117—201)



The method of making an initiator gap, comprising the steps of:

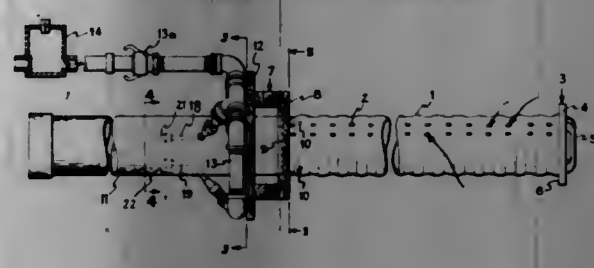
(1) coating a member of insulating material with a suspension of semiconductive particles in a vehicle to form a layer on said member;
(2) drying the suspension so that the dried vehicle serves as an insulator between the semiconductive particles;
(3) connecting spaced localities of the layer in series with a current limiter and a steady source of electrical energy having a predetermined potential;
(4) maintaining said connection until the current flow through the layer drops below a predetermined value and is not accompanied by sparking or glowing, thereby rendering the gap between said spaced localities ineffective to produce sparks upon subsequent application thereto of electrical energy from a source having characteristics similar to said steady source.

3,196,042

METHOD FOR CLEARING COATING MATERIAL FROM PERFORATED PIPE

Harry R. Ralston, West Middletown, Ohio, assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

Filed Mar. 31, 1961, Ser. No. 99,891
3 Claims. (Cl. 117—94)



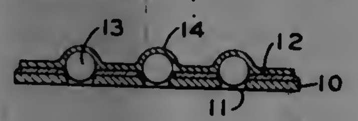
1. A method of simultaneously clearing all of the perforations in a length of perforated pipe which has been dipped in a bath of molten asphalt and a skin formed over the perforations as an incident of the dipping operation, which comprises closing one end of the pipe by means of an essentially imperforate plug following removal of the pipe from the bath but at a time when the freshly applied coating is in a softened condition, and drawing a partial vacuum on the opposite end of the pipe, whereby to reduce the internal air pressure in the pipe and cause the external air to rupture the skin formed over the perforations in said pipe.

3,196,043

METHOD FOR MAKING AN ELECTRODE STRUCTURE

Lawrence A. Harris, Scotia, and Arthur N. De Tommasi, Newtonville, N.Y., assignors to General Electric Company, a corporation of New York

Filed May 17, 1961, Ser. No. 110,823
8 Claims. (Cl. 117—212)



1. The method of making a structure in which successive layers are electrically insulated from each other and mechanically aligned, comprising the steps of applying a coat of insulation to one side of an electrically conductive member having a predetermined pattern of apertures, placing plugs in said apertures on the insulation side of said member, thereafter coating said insulation with a layer of electrically conductive material and removing said plugs.

3,196,044

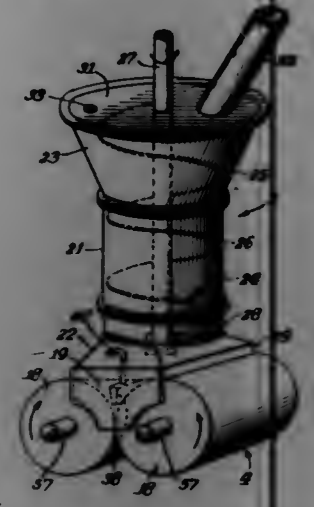
MEANS FOR PRODUCING COMPACTED STARCH

Arthur Kott, Oak Forest, and Richard M. Olson, North Riverside, Ill., assignors to Corn Products Company, New York, N.Y., a corporation of Delaware

Original application Dec. 2, 1959, Ser. No. 856,730, now Patent No. 3,119,719. Divided and this application Sept. 11, 1962, Ser. No. 222,815
6 Claims. (Cl. 127—23)

1. In combination, a pair of cooperating rolls mounted with their axes parallel to each other and having a valley between them, means for driving said rolls concurrently in opposite directions to produce a bite, a casing for confining particulate materials in said valley in contact with said rolls, said casing having an inlet, means for introducing particulate material into said casing through said inlet and maintaining said material under pressure during the operation of said rolls, a flat tubular bar mounted in and disposed lengthwise of said valley, and disposed edgewise to the flow of particulate material adapted to

contact said particulate material under pressure at points adjacent the bite of said rolls, and means providing an exhaust passageway leading from said tubular bar to the outside of said casing.



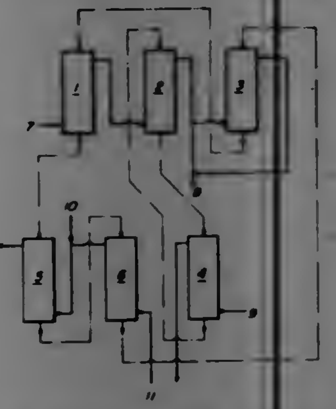
3,196,045
PROCESS FOR PURIFYING SUGAR SOLUTIONS

Kazuhiko Mihara and Takashi Yamashiki, Yokohama, and Koichiro Kondo, Nobeoka-shi, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan

Filed Dec. 14, 1962, Ser. No. 244,834

Claims priority, application Japan, Apr. 5, 1962, 37/12,860

3 Claims. (Cl. 127—46)



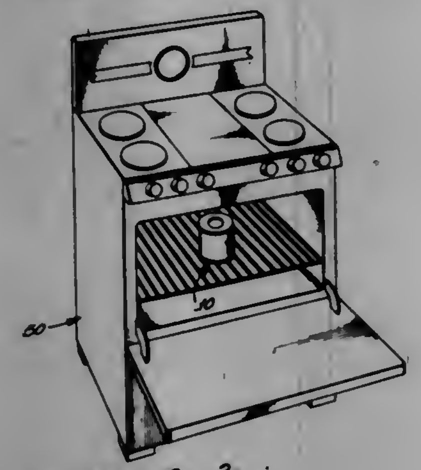
1. A process for purifying sugar solutions which comprises passing said sugar solution first through an anion exchange column with a bed of hydroxyl type strongly basic anion exchange resin, and then passing the treated solution from said anion exchange column through a cation exchange column with a bed of hydrogen type weakly acidic cation exchange resin, whereby said sugar solution is purified and decolored, introducing said anion exchange resin which contains adsorbed impurities into a decoloring column to be decolored and converted to Cl-type resin by contact with a sodium chloride solution, said Cl-type resin being then sent to an anion regenerating column to be regenerated to a hydroxyl type resin therein by contact with a sodium hydroxide solution, recycling an outflow solution of sodium chloride from said anion regenerating column to said decoloring column as a decoloring reagent, said regenerated hydroxyl type resin being sent from the anion regenerating column to a pH adjustment column to contact a portion of the outflow of purified sugar solution from said cation exchange column to effect elevation of the pH of said portion, mixing the portion of the sugar solution which has undergone pH adjustment with the remainder of the purified sugar solution to produce a purified product with a pH between 7 and 8, recycling said hydroxyl type anion exchange resin which is discharged from said pH adjustment column to said anion exchange column for reutilization therein, regenerating said cation exchange resin containing adsorbed impurities to a hydrogen type resin by contact of the cation resin with a mineral acid solution in the cation regenerating column, recycling said hydrogen type cation exchange resin to said cation exchange column for utilization therein, said column being separately arranged but functionally connected, said resins being continuously transferred between respective columns to form movable beds by being continuously discharged from the bottom of each respective column and introduced into the top portion of the next associated column, while the respective solutions are introduced into each column at the lower portion thereof and discharged therefrom at the upper portion thereof to effect counter current contact with the resin passing therethrough.

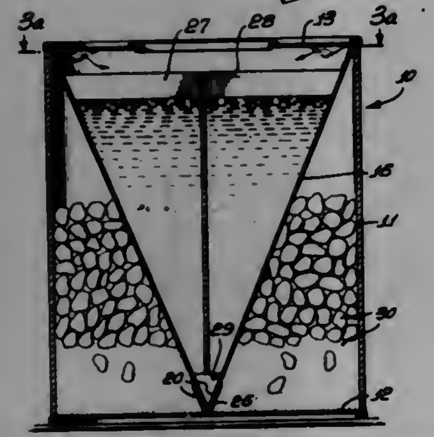
3,196,046
PROCESS FOR CLEANING OVENS

Alan D. Brite, 5147 W. Jefferson Blvd., Los Angeles, Calif.

Original application Mar. 23, 1959, Ser. No. 801,355, now Patent No. 3,051,559, dated Aug. 28, 1962. Divided and this application July 20, 1962, Ser. No. 211,356

6 Claims. (Cl. 134—22)





1. A method for cleaning ovens and the like comprising the steps of placing a container of a mixture of calcium oxide and an ammonium salt in an enclosed oven, adding water to said mixture to form steam and ammonia gas, condensing said steam and gas on the inner surfaces of said oven, and removing said condensate from said surfaces.

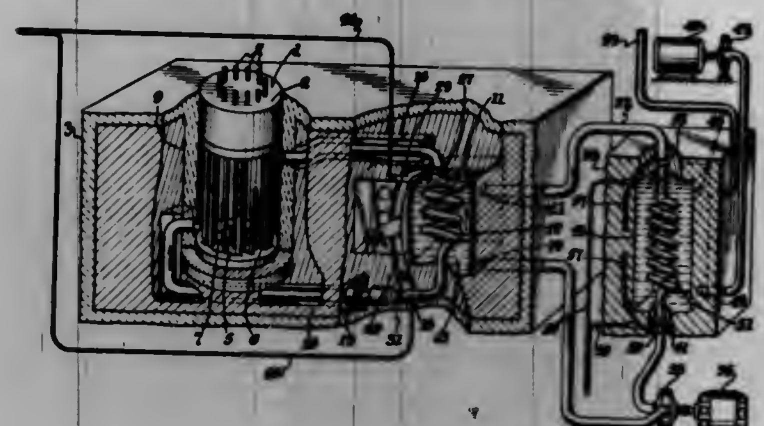
3,196,047
DIRECT CONVERSION OF ATOMIC ENERGY INTO ELECTRICITY

Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio

Filed May 13, 1959, Ser. No. 812,872

7 Claims. (Cl. 136—4)

1. In an apparatus for the direct conversion of nuclear thermal energy into electrical energy, a nuclear thermal energy source of controlled thermal radiation, a chamber having a coolant fluid flowing therethrough, a fluid line passing through said source of thermal radiation and then through said chamber to form a closed path with said heated fluid flowing contra to the flow of said coolant, the portion of said line passing through said chamber being metallic so that hot and cold points are formed thereon by heat exchange between said heated fluid and said coolant, metallic members of a metal dissimilar to the metal of said line connected to said hot and cold points to form hot and cold thermocouple junctions and an electrical resistance circuit connected between said metallic members to utilize the electrical current generated by the temperature gradient between said hot and cold thermocouple junctions.

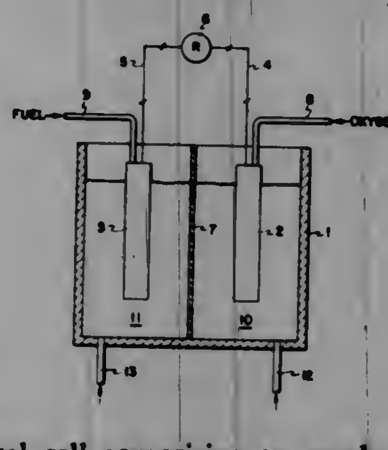


3,196,048
CATHODE CATALYST FOR FUEL CELLS

Joseph A. Shropshire, Scotch Plains, and Barry L. Tarmy, Berkeley Heights, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

Filed Dec. 19, 1961, Ser. No. 160,571

3 Claims. (Cl. 136—86)



1. In a fuel cell comprising an anode, a cathode, an electrolyte compartment, an ion-permeable partition between said anode and said cathode dividing said electrolyte compartment into an anolyte compartment and a catholyte compartment, an aqueous acid electrolyte selected from the group consisting of sulfuric acid and phosphoric acid in each of said anolyte and catholyte compartments, conduction means external to said electrolyte compartment establishing electrical connection between said anode and said cathode, means for admitting a fluid fuel into the anolyte compartment, the improvement which comprises the combination of about 0.5 to 6 wt. percent nitric acid in said catholyte compartment with a gold catalyzed cathode.

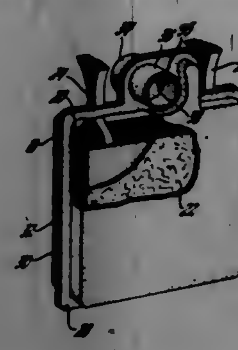
3,196,049
RESERVE TYPE BATTERY

Warren R. Schilke, Anderson, Ind., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed June 1, 1961, Ser. No. 114,140

2 Claims. (Cl. 136—90)

1. A battery comprising at least two aligned electrochemical cell enclosures, each of said enclosures having at least one chamber for holding cell plates, each of said enclosures having at least one mutually corresponding opening therein for introducing an electrolyte into the enclosures, a tubular projection on each of said enclosures surrounding the opening therein, the projections of adjacent cell enclosures nesting within one another in a close fitting relationship to provide an imperforate passage between the enclosures, and means for communicating said passage with the cell chamber of each of said enclosures.



3,196,050
METHOD OF PREPARING A CATALYST IMPREGNATED CARBON ELECTRODE

Charles E. Thompson, Fanwood, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Filed May 29, 1962, Ser. No. 198,512

10 Claims. (Cl. 136—122)

8. In the method of preparing porous carbon impregnated with a metal comprising catalyst which comprises soaking porous carbon in an aqueous solution of a metal containing, water soluble compound and subsequently heating the resulting impregnated structure to decompose said compound, the improvement which comprises the steps of:

(a) heating said porous carbon after impregnation at a temperature in the range of 600° to 900° F. in a carbon monoxide atmosphere, and

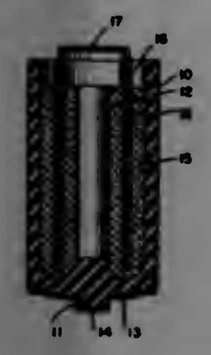
(b) heating the porous carbon in a hydrogen atmosphere at a temperature in the range of about 1000° to 1800° F. until the metal component of said compound is reduced.

3,196,051
METHOD OF ASSEMBLING PRIMARY BATTERIES

Rodolfo Rodriguez Balaguer, Harbor Beach, Fort Lauderdale, Fla., assignor to J. D. Hedges and Company Limited Partnership, Jamaica, British West Indies, a limited partnership of Cuba

Filed July 30, 1962, Ser. No. 213,237

1 Claim. (Cl. 136—175)



In the method of assembling a dry cell battery having a carbon cup open at one end and forming a first cathode, a carbon rod projecting from the base of said cup and disposed generally along the longitudinal axis of said cup and forming a second cathode, an annular metallic anode disposed between said rod and said cup and being substantially concentric therewith, and a predetermined quantity of battery mix disposed between said anode and said cathodes and substantially filling the space therebetween from said base substantially to said one end of said cup, the steps comprising charging a first portion of said quantity of mix into said cup to fill the same substantially to said one end, then compressing said first quantity of mix by contacting the mix in said cup with a plunger, then charging said cup with a second portion of said quantity of mix to again fill said cup substantially to said open end, then compressing said first and second quantities of mix by contacting the mix in said cup with a plunger, repeating said last mentioned charging and compressing steps until said predetermined quantity of mix has been charged into said cup and compressed, and then forcing said annular anode through said mix in said cup and into said concentric position thereof between said rod and said cup, the pressure exerted by said plunger on said mix and the number of successive charging and compressing steps being selected so that the resulting axial density distribution in said battery mix is substantially inverse to that resulting from said annular anode insertion step whereby after said anode insertion step the density of said battery mix in said cup is substantially uniform in an axial direction.

3,196,052

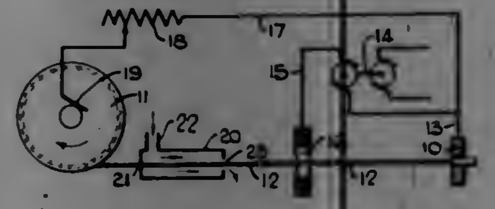
PRESTRESSING WIRE AND METHOD OF MANUFACTURING THE SAME

Kenneth Graeme Hann, Hendrescythan, Creigiau, near Cardiff, Glamorgan, Wales, assignor to Somerset Wire Company Limited, Bridgwater, England, a British company

Filed June 28, 1961, Ser. No. 120,441

Claims priority, application Great Britain, June 1, 1953, 15,235/53; Aug. 10, 1953, 22,055/53

8 Claims. (Cl. 148—12)



1. A method of increasing the resistance to creep under tension of wire for use in reinforced concrete construction, said method comprising subjecting plain carbon steel wire having a carbon content within the range of .35% to .9% to a cold drawing operation by advancing the same through drawing means, applying tension to the drawn wire to effect its advancement through the drawing means, heating the wire after its emergence from the drawing means and while subjected to said drawing tension to a tempering temperature within the range of 220° to 500° C. and maintaining the drawing tension at such value as having regard to the time during which each wire length is maintained at the tempering temperature and the value thereof as to impart a permanent elongation to the wire of not more than about 5% and increase the creep resistance thereof without at the same time applying a tensile force sufficiently great to the wire as to effect failure of the wire under the applied tensile load.

3,196,053

PRODUCTION OF HEAT-TREATED SHEETS

John M. Hodge, Pleasant Hills, Pa., assignor to United States Steel Corporation, a corporation of New Jersey

No Drawing. Filed Aug. 13, 1962, Ser. No. 216,280

3 Claims. (Cl. 148—12.4)

1. A method of producing flat heat-treated steel sheets comprising drastically quenching from an austenitizing temperature a sheet of hot-rolled steel capable of conversion to martensite or lower bainite to transform the same to a microstructure consisting substantially of martensite or lower bainite, such quenching producing distortion therein, tempering said steel at a temperature above about 1000° F. and below its lower critical temperature, cold reducing said steel between 10 and 50% to the desired thickness and then heating the cold-reduced steel at a temperature above its recrystallization temperature but not above said first-mentioned tempering temperature.

3,196,054

PROCESS OF DECARBURIZING AND ANNEALING OF OPEN COIL SILICON-IRON SHEET STOCK WITHOUT INTERVENING SURFACE TREATMENT

Victor W. Carpenter and John M. Jackson, Middletown, and Robert W. Squibb, Zanesville, Ohio, assignors to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio

No Drawing. Filed Aug. 14, 1963, Ser. No. 301,959

8 Claims. (Cl. 148—111)

1. In a process of producing non-aging silicon-iron sheet stock having a good die life, in which the said silicon-iron is reduced to a desired final gauge and is pickled subsequent to any hot rolling practiced in the reduction, the combination of steps consisting of subjecting the reduced stock to a decarburizing anneal in a wet gas decarburizing atmosphere at a temperature in the range of 1200° to 1500° F., and then without intervening surface treatment subjecting the reduced stock to an anneal in a dry non-decarburizing atmosphere at a temperature of substantially 1400° to substantially 1900° F. for developing the ultimate magnetic charactersitics of the sheet stock, at least one of the said anneals being carried on in a muffle with the sheet stock in the form of an open coil.

3,196,055

SHARP TRANSITION EXCHANGE INVERSION COMPOSITION AND A METHOD OF MAKING IT

Walter W. Gilbert, Hockessin, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed June 29, 1961, Ser. No. 120,679

10 Claims. (Cl. 148—121)

1. A method for preparing ferromagnetic compositions exhibiting a large increase in saturation induction with rise in temperature over a temperature interval of not more than 6% C. which comprises (1) melting a composition consisting essentially of 53.5–91.9 atom percent of maganese, 8–35 atom percent of antimony, 0.1–39 atom percent of a transition element selected from the class consisting of chromium, vanadium, germanium, iron, cobalt, nickel, copper, niobium, molybdenum, tantalum, tungsten and rhenium, and from zero up to and including 30 atom percent of at least one element selected from the group consisting of gallium, indium, arsenic, bismuth cadmium, lead, selenium, tellurium, thallium, tin, zirconium, scandium, yttrium, magnesium and zinc, (2) quenching the molten composition to a temperature at least 100° C. below its solidification temperature, (3) annealing the resulting polycrystalline composition at a temperature above 500° C., and (4) cooling the annealed composition at a rate of 10–300° C. per hour.

3,196,056

METHODS FOR PROTECTING FURNACE PARTS AND THE LIKE

Martin N. Ornitz, Wilkinsburg, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware

No Drawing. Filed Sept. 28, 1959, Ser. No. 842,620

4 Claims. (Cl. 148—126)

2. In the process of treating materials at elevated temperatures in the presence of metal parts, which materials

contain metals volatile at said elevated temperature and corrosive to the metal parts, the improvement which comprises coating said metal parts with a refractory metal oxide selected from the group consisting of stabilized zirconia, aluminum and titania.

3,196,057

HEAT TREATMENT OF ALUMINUM BASE ALLOYS CONTAINING TIN

Michael J. Pryor and Douglas S. Keir, Hamden, and Philip R. Sperry, North Haven, Conn., assignors to Olin Mathieson Chemical Corporation

No Drawing. Filed June 19, 1964, Ser. No. 376,545

7 Claims. (Cl. 148—159)

1. A process which comprises:

(A) providing an aluminum base alloy consisting essentially of at least 90% aluminum and from 0.04 to 0.5% tin;

(B) heating said alloy to a temperature of from 540° C. to 640° C. for at least 15 minutes; and

(C) rapidly cooling said alloy to a temperature of lower than 150° C. at a minimum rate of 80° C. per hour, thereby retaining the maximum amount of tin in solid solution.

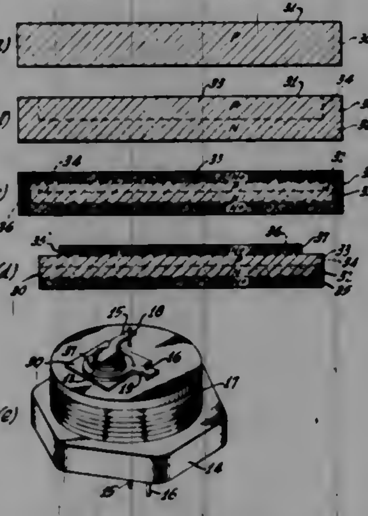
3,196,058

METHOD OF MAKING SEMICONDUCTOR DEVICES

William M. Webster, Jr., Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Original application Aug. 24, 1959, Ser. No. 835,577, now Patent No. 3,006,791, dated Oct. 31, 1961. Divided and this application Feb. 6, 1961, Ser. No. 87,367

4 Claims. (Cl. 148—186)



1. A method of fabricating a high breakdown voltage transistor comprising the following steps:

preparing a given conductivity type monocrystalline semiconductive wafer with two opposed major faces and two wafer ends;

diffusing an active impurity into said wafer at a first and slow rate from a first and low concentration impurity source maintained at a first and low temperature so as to convert a surface zone thereof all around said wafer to opposite conductivity type and form a gradual junction therein;

reducing the wafer thickness from one said major wafer face to about half the original wafer thickness;

diffusing an active impurity into said wafer at a second rate greater than said first diffusion rate from a second impurity source at a second concentration higher than said first impurity source concentration and maintained at a second temperature higher than said first source temperature so as to convert a thin surface region on both said major wafer faces to conductivity of said opposite conductivity type but higher conductivity than said surface zone;

removing the wafer ends to divide the said higher conductivity surface region into two separate zones adjacent said two major wafer faces;

removing a peripheral portion of the high conductivity surface region adjacent the given conductivity type region of said wafer to expose a portion of said given conductivity type region; and,

attaching leads to the remaining portion of each major face and to said exposed portion of said given conductivity type region.

3,196,059

THIXOTROPIC PROPELLANT COMPOSITIONS

John N. Godfrey, Alexandria, Va., assignor to Atlantic Research Corporation, Fairfax County, Va., a corporation of Virginia

No Drawing. Filed Sept. 24, 1963, Ser. No. 311,239

19 Claims. (Cl. 149—19)

1. In a heterogeneous monopropellant or gas-generating composition consisting essentially of a dispersion of finely-divided, insoluble, solid oxidizer in a continuous oxidizable organic fuel matrix, which forms gaseous combustion products, said organic fuel matrix being selected from the group consisting of an inert organic compound which does not contain combined oxygen available for combustion and requires an external oxidizer for combustion and an active organic compound which contains combined oxygen available for oxidation of other molecularly-combined components of said active compound, each of said inert and active compounds being a liquid at ordinary temperatures, said oxidizer being present in amount sufficient to maintain active combustion of the inert organic fuel compound, said organic fuel matrix containing, in addition, from 0 to a minor amount of a gelling agent, the improvement in which said organic fuel matrix, including said dissolved gelling agent when present, is a liquid which is mobile at ordinary temperatures, comprises at least about 8% by weight of said composition, comprises one or more liquid components, all of which have a maximum vapor pressure of about 25 mm. Hg at 100° C., and comprises a solid active organic compound, which does not substantially increase the viscosity of said organic fuel matrix, dissolved in said liquid components, said liquid components consisting essentially of at least about 40% by weight of said inert organic compound and from 0 to about 60% by weight of said active liquid organic compound, said solid, active, organic compound containing combined oxygen in the form of a radical selected from the group consisting of nitroso, nitro, nitrite, and nitrate, said monopropellant being an extrudable, thixotropic composition which requires a finite stress to produce flow, is indefinitely capable, after storage, of continuous flow at ambient temperatures under a maximum shear stress at a wall of about 10 p.s.i., and has a minimum tensile strength of about 0.01 p.s.i.

3,196,060

PROCESS AND APPARATUS FOR THE MANUFACTURE OF HIGH TENSION CABLES

Paolo Gazzana Priaroggia, Milan, Italy, assignor to Pirelli Societa per Azioni, Milan, Italy, a corporation of Italy

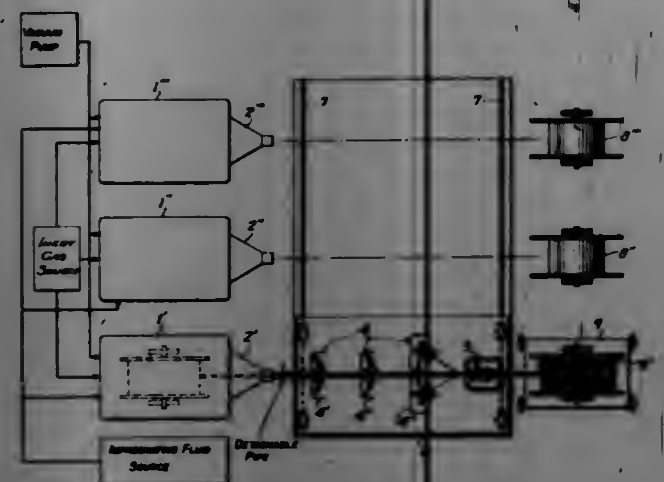
Filed Jan. 25, 1961, Ser. No. 84,844

Claims priority, application Italy, Feb. 5, 1960, 2,006/60

6 Claims. (Cl. 156—56)

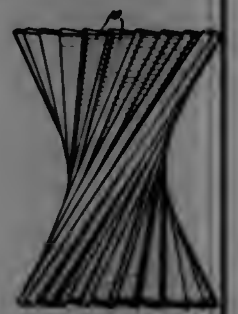
1. A process for the manufacture of a high-tension electric cable having a conductive core encircled by insulation which is covered by a protective layer, said process comprising the steps of drying a length of cable without the protective layer thereon under vacuum at a first, enclosed position and impregnating said length with an insulating fluid at said position, transferring said length from said first position to a second position spaced from said first position while winding said protective layer on

said length at said second position and surrounding the portion of said length intermediate said first and second positions with a flow of a dry inert gas whereby the insulation of said portion is maintained out of contact with air during its passage betweeen said first and second positions.



3,196,061
METHOD OF MAKING AN ORNAMENTAL HYPERBOLOID STRUCTURE

Wallace S. Paulson, 5331 E. Asbury Ave., and David G. Herbener, 2994 S. Ingalls Way, both of Denver, Colo.
Filed Mar. 26, 1962, Ser. No. 182,449
2 Claims. (Cl. 156—63)

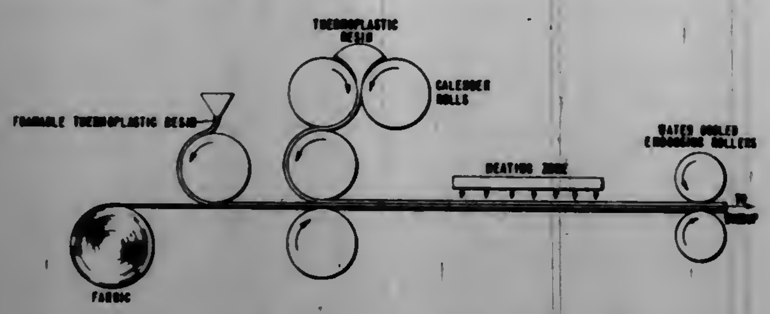


1. The method of forming an ornamental article comprising providing a plurality of similar elongated straight elements having radially extending longitudinal side faces providing a wedge-shaped cross section, assembling said elements in a circular bundle with the adjacent side faces of contiguous elements disposed in slidable contact to provide an elongated straight sided hollow cylinder, twisting the ends of said cylinder in opposite directions while maintaining the adjacent side faces of contiguous elements in contact thereby disposing said elements out of parallel relation with respect to each other and at an angle to the axis of said cylinder, moving the upper and lower ends of said elements radially outwardly from said axis to provide an axially concave annular outer wall thence adhering said elongated elements together.

3,196,062
PRODUCTION OF EMBOSSED PLASTIC SHEET MATERIAL

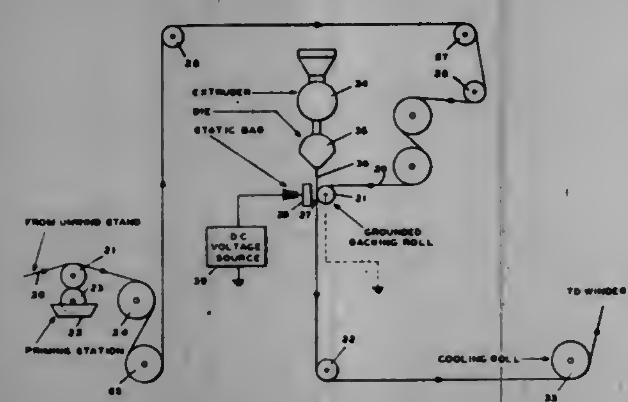
Edward Kristal, New Windsor, Newburgh, N.Y., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Sept. 27, 1961, Ser. No. 141,022
3 Claims. (Cl. 156—79)

1. A method which comprises (1) forming a composite plastic sheet material comprising a layer of nonfoamed thermoplastic resin in superposed adherence with a layer of foamed thermoplastic resin, (2) heating said sheet material until each of said layers is heated to at least its softening point, (3) before either of said layers cools below its softening point, embossing and cooling the layer of nonfoamed resin by passing the sheet material through the nip of a cooled roller embosser in which the nip has a predetermined fixed clearance which is greater than the total thickness of the nonfoamed portion of the sheet material by an amount equal to 30–90% of the thickness of the thickness of the foamed resin portion, and (4) cooling the resulting embossed composite sheet material to room temperature.



3,196,063
COATED PAPER AND METHOD OF PRODUCING THE SAME

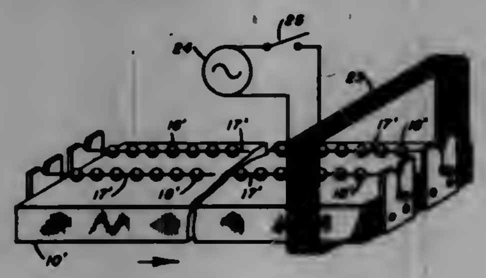
Leon J. Paquin and Owen D. Mosher, Glens Falls, N.Y., and Glenn M. Violette, Greenwich, N.J., assignors to International Paper Company, New York, N.Y., a corporation of New York
Filed Mar. 28, 1962, Ser. No. 183,304
10 Claims. (Cl. 161—250)



10. A paper substrate coated with a film of a compound selected from the group consisting of polymers and copolymers of lower olefins produced by the process comprising the step of extruding the film and the step of subjecting said film to the action of an ionized electrical field of sufficient strength to create a substantial electrical charge differential between the film and the substrate.

3,196,064
METHOD AND APPARATUS FOR THE MANUFACTURE OF BEADS

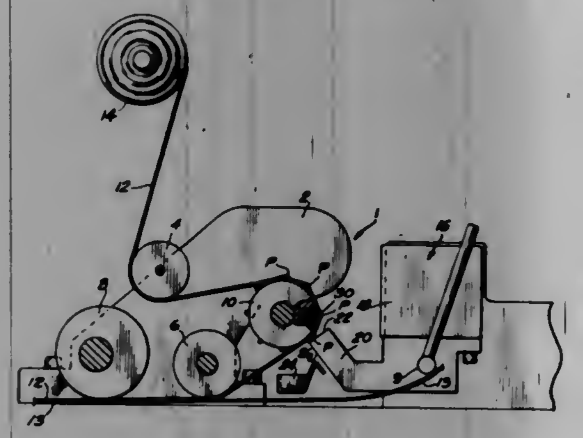
Philip Tell, Summit, N.J., assignor to Tell Manufacturing Company, Inc., Orange, N.J., a corporation of New Jersey
Filed Dec. 14, 1962, Ser. No. 244,710
11 Claims. (Cl. 156—272)



1. In the manufacture of beads, the method which comprises stringing a plurality of thermoplastic beads on a metallic wire in spaced-apart relation, and applying heat to the wire to only slightly soften the interior surfaces of the beads at points which are in engagement with the wire, whereby upon subsequent cooling the beads will be lightly fastened to but readily removable from the wire.

3,196,065
SPOT GLUING OF CONTINUOUS FORMS

Edward Walter Liszewski, Buffalo, and Robert Herman Hornung, Eggertsville, N.Y., assignors to Graphic Controls Corporation, Buffalo, N.Y., a corporation of New York
Filed Oct. 8, 1962, Ser. No. 229,127
4 Claims. (Cl. 156—291)



1. A method for continuously spot bonding a first sheet web to a second sheet web to provide superimposed sheets bonded to one another at spaced intervals, said method comprising the steps of:

periodically pressing resiliently mounted probes against said first sheet web to physically deform linearly spaced portions of said first sheet web into spaced undulations defining raised unruptured adhesive receiving peaks;

supporting adhesive supplying means adjacent said peaks and in a position for applying adhesive thereto;

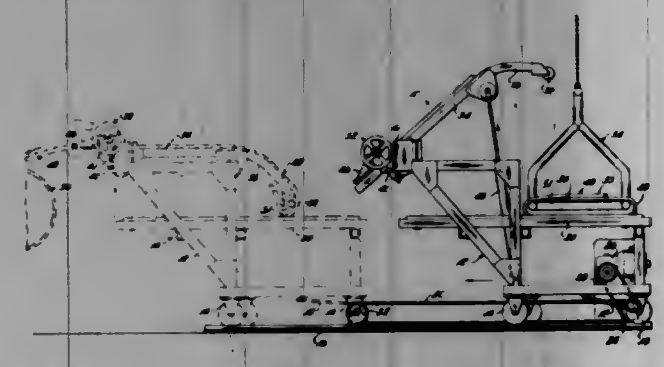
applying adhesive to said peaks to provide sheet bonding means;

superimposing said second sheet web onto said first sheet web for contacting said adhesive coated peaks thereof; and

urging said first and said second sheet webs toward and into contact with one another to bond said sheets adhesively together at spaced intervals corresponding to positions of said adhesive coated peaks.

3,196,066
TIRE MACHINE

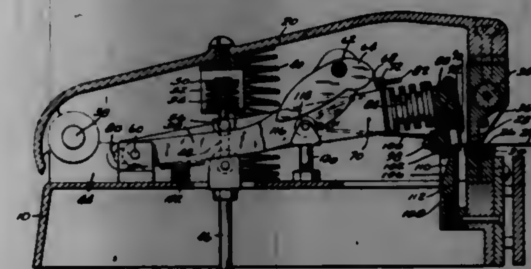
Jack L. Hollis, Cuyahoga Falls, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
Filed Mar. 13, 1963, Ser. No. 264,835
4 Claims. (Cl. 156—405)



1. A server for supplying a stock member to a feed position at a tire-building drum, said server comprising a carriage, first conveyor means on said carriage adapted to support one end of a stock member for motion away from the feed position; and second conveyor means adapted to support the other end of the same said stock member for motion toward the feed position and pivot means on said second conveyor means to reverse the direction of motion of said stock member.

3,196,067
HEAT SEALING MACHINES

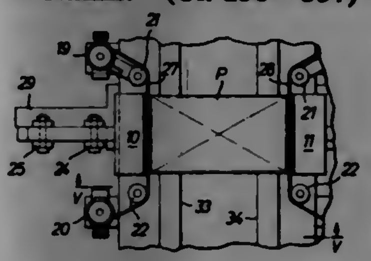
Wilbur H. A. Techtmann, Belgium, Wis., assignor to Techtmann Industries, Inc., Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 9, 1962, Ser. No. 186,155
10 Claims. (Cl. 156—530)



1. In a heat sealer, the combination of laterally spaced pairs of clamping jaws for engaging work to be sealed, one pair of such clamping jaws including a heated die for effecting a seal, means for supporting one jaw of each pair at opposite sides of an open space, a knife disposed between said pairs of clamping jaws and having means guiding it for movement into and from said open space between the pairs of clamping jaws and to and from engagement with work extending across said space and engaged by the respective pairs of jaws, and mechanism for actuating said clamping jaws and knife sequentially into work engagement, said mechanism being adapted to advance the knife into said space through and beyond the work engaged by the jaws, the jaws clamping the work while the knife acts thereon and holding the work in tension as the knife enters said space, one of the jaws mounted on said supporting means having a tapered surface over which the work is tensioned by the complementary jaw actuated by said mechanism.

3,196,068
APPARATUS FOR WELDING THERMOPLASTIC SHEET MATERIAL

Eduard Josef Schoder, Stuttgart-Bad Cannstatt, and Norbert Buchner, Hegnach, Waiblingen, Wurttemberg, Germany, assignors to Fa. Fr. Hesser Maschinenfabrik-Aktiengesellschaft, Stuttgart-Bad Cannstatt, Germany
Filed July 26, 1962, Ser. No. 212,547
Claims priority, application Germany, Aug. 31, 1961, H 43,538
4 Claims. (Cl. 156—537)

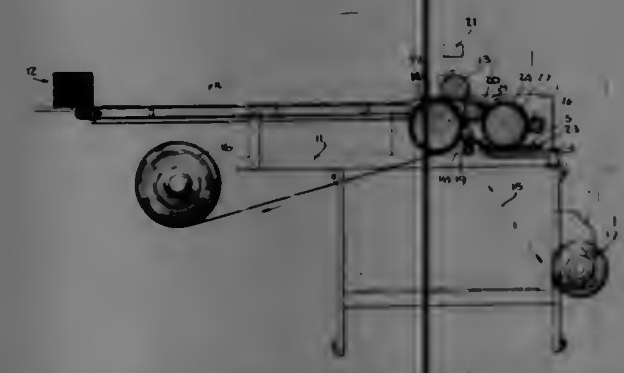


1. Apparatus for welding thermoplastic sheet material comprising a frame member adapted to receive a package having thermoplastic sheet material to be welded, welding tool means pivotally mounted on said frame member, means for moving said tool means relative to the package, heating means for said tool means, linear surface means on said tool means adapted to apply welding pressure to the thermoplastic sheet material for sealing the same, a shielding strip of adhesive resistant material disposed between said linear surface means and the thermoplastic sheet material, a supply reel mounted on said frame member for storing a supply of said shielding strip, a take up

reel mounted on said frame member for receiving used portions of said shielding strip, adjusting means for moving the shielding strip from said supply reel to said take up reel, and rollers receiving said shielding strip to define a guideway between said reels.

3,196,069
LAMINATING MACHINE

Rudolph A. Froehlig, Little Neck, N.Y., assignor to Modern Album and Finishing, Inc., Long Island, N.Y., a corporation of New York
Filed Apr. 21, 1961, Ser. No. 104,602
1 Claim. (Cl. 156—547)

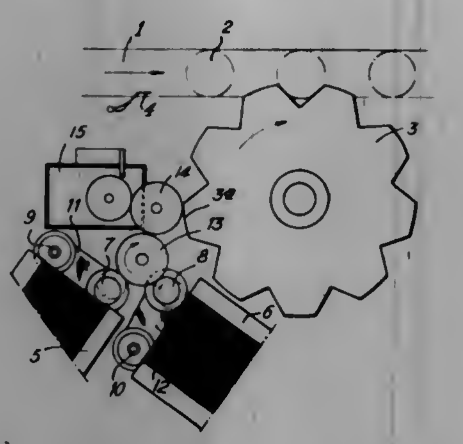


In a laminating machine for adhering printed sheet to a transparent web, a framework having a pair of nip rollers thereon, means for supplying printed sheets between said nip rollers, means for supplying a continuous transparent web between said nip rollers, an adhesive-applying roller in contact with said web and rotating in a direction opposite to the direction of the web for applying an adhesive to said transparent web, an adhesive roller having a resilient surface in contact with said adhesive-applying roller and moving at the same surface speed and being adapted to receive adhesive from a source and transfer it to the applying roller, the axes of said adhesive roller and said adhesive applying roller being parallel to each other on a substantially horizontal plane so that a plane through the tangent line between said adhesive roller and said adhesive applying roller is in a generally upright direction, a doctor roller in contact with the adhesive roller to remove excess adhesive from the adhesive roller, and an idle spreader roller supported by, resting on top of, and in contact with both said adhesive roller and said applying roller to spread the adhesive uniformly over the adhesive applying roller, said spreader roller being completely free from and unattached to the framework of said machine and being intersected by the upright plane through the tangent line between said adhesive roller and said adhesive applying roller.

3,196,070
HIGH-SPEED LABELLING MACHINE

Romuald René Della Vite, Nogent-sur-Marne, France, assignor to Societe Anonyme dite: Societe Francaise d'Etiquetage Virey & Garnier, Nogent-sur-Marne, France, a French company
Filed June 28, 1961, Ser. No. 120,236
Claims priority, application France, May 4, 1961, 860,759, Patent 1,305,394
9 Claims. (Cl. 156—571)

1. In a high-speed receptacle labeling machine, in combination, guide means forming a transport path for a succession of receptacles to be labeled; a rotatable label-applying turret disposed adjacent said path and having a plurality of angularly spaced applicators successively engageable with receptacles passing along said path for applying labels thereto; gumming means adjacent said turret for rendering adhesive corresponding surfaces of a plurality of labels and supplying same to said applicators in succession; and feed means for supplying said labels to said gumming means, said feed means comprising a transfer roller rotatable about an axis parallel to that of said turret, a plurality of label-storage magazines angularly offset about the axis of said transfer roller, a plurality of pick-up rollers each associated with a respective one of said magazines and rotatable about respective axes parallel to said axis and angularly offset about the latter, mechanism coupling said pick-up rollers for alternate displacement thereof into osculating relationship with said transfer roller in one extreme position of each pick-up roller for depositing upon said transfer roller a label carried by the respective pick-up roller from another extreme position of each pick-up roller proximal to the respective magazine for taking up a label therefrom, and drive means for partially rotating each of said pick-up rollers in said other extreme position and releasably locking them in a predetermined angular orientation for enabling the taking-up of a label.



ERRATUM

For Class 161—250 see:
Patent No. 3,196,063

3,196,071
SLIME CONTROL AGENTS

Robert K. Smith, Springfield, and Ellis Abrams, Philadelphia, Pa., assignors to E. F. Houghton & Co., Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Oct. 4, 1962, Ser. No. 228,270
13 Claims. (Cl. 162—161)

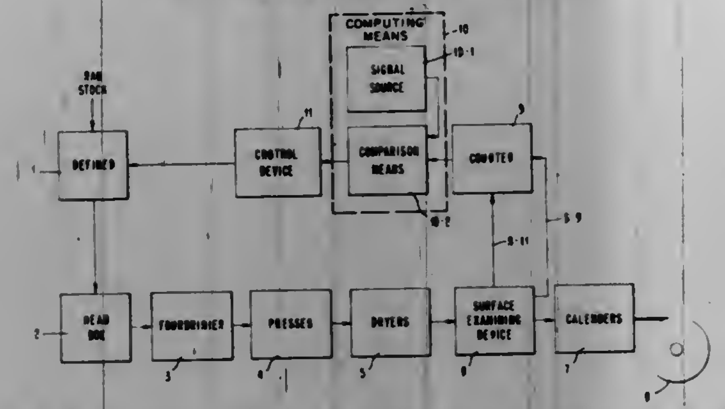
1. A bactericide and fungicide essentially consisting of a reaction product of a polyhydric alcohol having a ratio of hydroxyl groups to carbon atoms of not less than 1 to 3, an aliphatic acid having a carbon chain length of not in excess of four carbon atoms alpha substituted with a halogen, and an aldehyde having a carbon chain length of not in excess of four, in the proportions per mol of said aliphatic acid of one-fifth to two and one-half mols of said aldehyde and one-fifth to one mol of said polyhydric alcohol, said reaction product including an acetal group and an alpha halogen substituted aliphatic acid group.

9. The method of controlling the growth of bacteria and fungi, which comprises adding to an aqueous system in which control is to take place from 10 to 500 parts per million of a reaction product of a polyhydric alcohol having a ratio of hydroxyl groups to carbon atoms of not less than 1 to 3, an alpha halogen substituted aliphatic acid having a carbon chain length of not less than four carbon atoms and an aldehyde having a carbon chain length of not in excess of four carbon atoms in the proportoins per mol of said aliphatic acid of one-fifth to two and one-half mols of said aldehyde and one-fifth to one mol of said polyhydric alcohol, said reaction product having an acetal group and halogenated acetic acid group.

13. The method of claim 9, wherein said reaction product is brought into contact with paper pulp in said aqueous system to combat slime.

3,196,072
CONTROL SYSTEM FOR PAPER-MAKING MACHINES

Louis H. Wirtz, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 12, 1962, Ser. No. 202,011
11 Claims. (Cl. 162—198)



1. A machine for fabricating fibrous material of the type wherein the fibrous material emerges from the machine as a moving sheet comprising, in combination:

means for refining raw material into fibers,
means for processing said fibers into a moving sheet of fabric material,
means for obtaining a replica of the surface structure of said moving fibrous material being fabricated,
means for scanning said replica to produce said first signal representative of the number of surface fibers per unit length of said fibrous material,
computing means including a source of second signal representative of a predetermined number of surface fibers per unit length of material, said computing means being responsive to said first signal from said scanning means for producing a third signal representative of the difference between said first and second signals,
and control means coupled to said refining means, said control means being responsive to said third signal for adjusting the refining means to maintain the number of surface fibers per unit length of the material being fabricated approximately equal to said predetermined number.

11. A method of fabricating a sheet of fibrous material having a predetermined number of surface fibers per unit length comprising the steps of,

refining raw material into fibers,
processing said fibers into a fabric sheet,
pressing a deformable sheet of material onto the surface of said fabric sheet to produce deformations due to the surface structure of the fabric sheet,
counting said deformations over a given length of said deformable sheet,
comparing said count with a predetermined number,
obtaining the difference between said count and said predetermined figure,
and adjusting said refining step in accordance with the difference between said count and said predetermined number to produce said predetermined number of fibers per unit length in the surface of said fabric sheet.

3,196,073
METHOD OF TRANQUILIZING WITH 1,2-DIHYDROXY PROPANE

Maynard B. Chenoweth, Midland, Mich., and Leland C. Hendershot, Evanston, Ill., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Mar. 16, 1961, Ser. No. 96,092
6 Claims. (Cl. 167—53)

1. A method of tranquilizing a warm-blooded animal in a state of at least incipient excitement which comprises the step of administering to such animal propylene glycol in a non-toxic amount sufficient to contain at least 0.25 gram of the dextrorotatory optical isomer of 1,2-propanediol per kilogram body weight of the said animal.

3,196,074
PHENOTHIAZINE COMPOSITIONS AND METHOD OF PREPARING SAME

Earl Huffman, Marshalltown, Iowa, assignor to Devel, Inc., Chicago, Ill., a corporation of Illinois
No Drawing. Filed Nov. 17, 1958, Ser. No. 774,082
11 Claims. (Cl. 167—53)

1. An anthelmintic, insecticide, and fungicide composition which is readily soluble in water comprising phenothiazine and polyoxyethylene ether of mixed fatty acid ester of anhydride of polyhydric alcohol the phenothiazine being present in such quantity that it remains in solution when said composition is added to an aqueous medium.

3,196,075
ASSISTING HEALING OF SKIN-DENUDED AREAS ON THE HUMAN BODY WITH DRIED FIBROUS EGG-SHELL MEMBRANE PRODUCTS AND COMPOSITIONS THEREFOR

Irene Neuhauser, 5759 S. Kenwood, Chicago, Ill.
No Drawing. Filed Oct. 3, 1960, Ser. No. 59,805
8 Claims. (Cl. 167—58)

1. As an article of manufacture for assisting the healing of skin-denuded areas on the body, dry separated egg-shell membrane fibers in a finely divided form suitable for the preparation of form-sustaining egg-shell membrane dry felt sheets.

3,196,076
ANTI-DEPRESSANT 10-(3-DIMETHYLAMINOPROPYL)-3-AZAPHENOTHIAZINE

Frank H. Clarke, Jr., North Caldwell, N.J., assignor to Schering Corporation, Bloomfield, N.J., a corporation of New Jersey
No Drawing. Filed Dec. 20, 1961, Ser. No. 160,933
4 Claims. (Cl. 167—65)

1. The method of treating mental depression which comprises administering to a patient suffering from mental depression a therapeutically effective dose of an anti-depressant chemical compound selected from the group consisting of 10-(3-dimethylaminopropyl)-3-azaphenothiazine and the non-toxic acid addition salts thereof.

3,196,077
PROCESS FOR CULTIVATING FOOT AND MOUTH DISEASE VIRUS ON ADULT PIG SKIN EPITHELIUM

Werner Pilz, Cologne-Longerich, Otto-Erich Schweckendiek, Cologne-Poll, Otto Armbruster, Cologne-Deutz, and Heinz-Georg Garbe, Bensberg, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Oct. 17, 1962, Ser. No. 231,267
7 Claims. (Cl. 167—78)

1. Process for cultivating the virus of foot and mouth disease that comprises incubating the epithelium of the outer skin of slaughtered adult pigs in nutrient solution and in the presence of the virus of foot and mouth disease.

3,196,078
PROCESS FOR COMBATING RETINITIS PIGMENTOSA

Albert B. Chatzinoff, Fresh Meadows, N.Y., and William Oroshnik, Plainfield, N.J., assignors to Ortho Pharmaceutical Corporation, a corporation of New Jersey
No Drawing. Filed Jan. 30, 1962, Ser. No. 169,938
2 Claims. (Cl. 167—81)

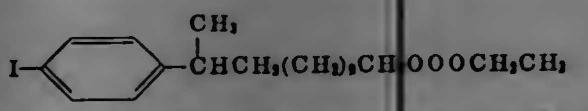
1. A method of combating retinitis pigmentosa which comprises administering to a human being from 100 units to 100,000 units of the 11-cis isomer of vitamin A.

3,196,079
COSMETIC POWDER COMPOSITIONS CONTAINING POLYETHYLENE
Milton Blaustein, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
No Drawing. Filed Oct. 5, 1959, Ser. No. 844,212
5 Claims. (Cl. 167—92)

1. A face powder composition consisting essentially of about 30 to about 80 weight percent of a finely divided cosmetically acceptable polyethylene of about 300 mesh size particles having a density ranging from 0.950 to 0.980 and a crystallinity ranging from 80 to 95 percent and minor amounts of chalk, kaolin, titanium dioxide, zinc oxide, zinc stearate, and perfume.

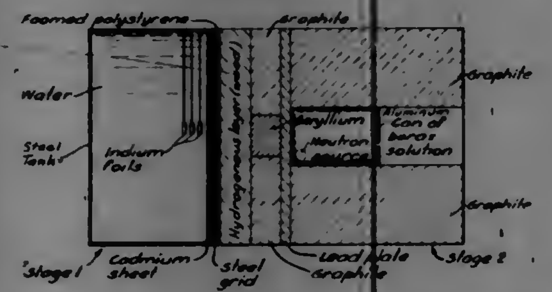
3,196,080
VISUAL AND RADIOGRAPHIC CONTRAST MEDIA AND METHOD OF USE
Nicholas G. Demy, 527 Foothill Road, Somerville, N.J.
No Drawing. Filed Feb. 6, 1963, Ser. No. 256,533
3 Claims. (Cl. 167—95)

1. A radiographic contrast medium consisting essentially of



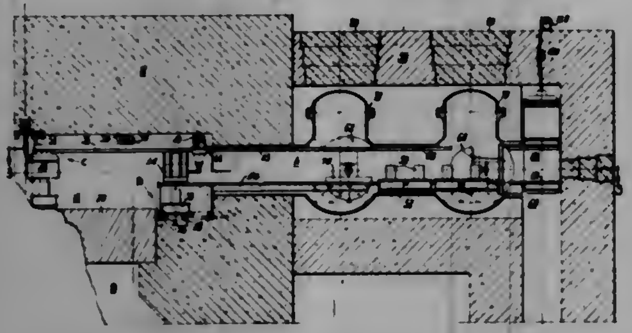
having about 1% by weight of a coloring agent dissolved therein, said coloring agent being selected from the group consisting of: 1,4-bis (p-toluino) anthraquinone; 1-hydroxy-4-p-toluino anthraquinone; and a metallic salt of alkannin, $C_{16}H_{16}O_5$.

3,196,081
NEUTRON REACTORS
Lyle B. Borst, Ossining, N.Y., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Mar. 17, 1961, Ser. No. 96,519
3 Claims. (Cl. 176—11)



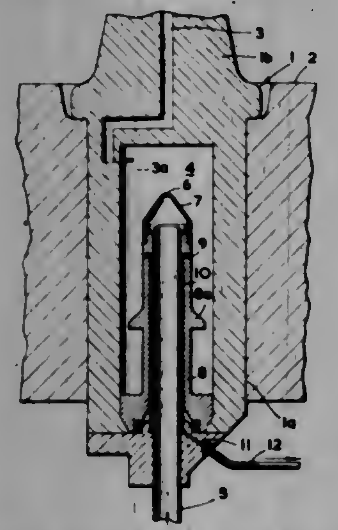
1. In a neutron amplifier having a controllable stimulating neutron source and, associated with said source in cascade, a plurality of amplifier stages each including an input region containing neutron moderator material in which neutrons of epithermal energy from the source are moderated to thermal energy levels and a fuel region containing neutron fissionable material in mass concentration and geometric configuration adapted to augment the neutron flow by a steady state subcritical reaction, and, between each stage and the next succeeding stage, a neutron barrier substantially opaque to thermal neutrons but transmissive to epithermal neutrons, whereby an amplified output of epithermal neutrons is subcritically produced, the improvement which comprises inserting into the moderator zone of a given stage a metal selected from the group consisting of lead and bismuth, said metal being of a thickness ranging from about 0.1 to about 10 inches, said metal being characterized in that it inelastically scatters epithermal neutrons thereby inhibiting the backward flow of said epithermal neutrons from said given stage to the next preceding stage of said subcritical neutron amplifier.

3,196,082
FUEL LOADING AND UNLOADING ARRANGEMENT FOR NUCLEAR REACTORS
Georges Lemesle, Roger Martin, and Marcel Montell, Paris, Roland Roche, Clamart, and Pierre Rouge, Gif-sur-Yvette, France, assignors to Commissariat a l'Energie Atomique, Paris, France
Filed Feb. 12, 1963, Ser. No. 257,894
Claims priority, application France, Feb. 20, 1962, 888,608
12 Claims. (Cl. 176—30)



1. A nuclear reactor comprising a core with parallel spaced fuel channels therein; a shield surrounding the core; a servicing chamber defined in the shield and means providing communication for fuel between said chamber and corresponding ends of said channels; a fuel handling unit in said chamber and means for positioning the unit in servicing relation to a selected channel for insertion and withdrawal of fresh and spent nuclear fuel into and out of said channel; means for conveying fresh and spent fuel into and out of said chamber through the shield; intermediate storage means in the servicing chamber; means for transferring fresh and spent fuel between said conveying means and said storage means; and means on said handling unit for transferring fresh and spent fuel between said unit and said storage means, said storage means being capable of storing an amount of fuel greater than the amount conveyable at one time by said conveying means.

3,196,083
HIGH TEMPERATURE REACTORS
Samuel Brittan Hosegood, Weymouth, Dorset, Bernard William Collins and Cecil Harper, Dorchester, Dorset, and Geoffrey Winton Horsley, Preston, Weymouth, Dorset, England, assignors to United Kingdom Atomic Energy Authority, London, England
Filed Dec. 4, 1961, Ser. No. 156,812
Claims priority, application Great Britain, Dec. 9, 1960, 42,572/60
9 Claims. (Cl. 176—37)

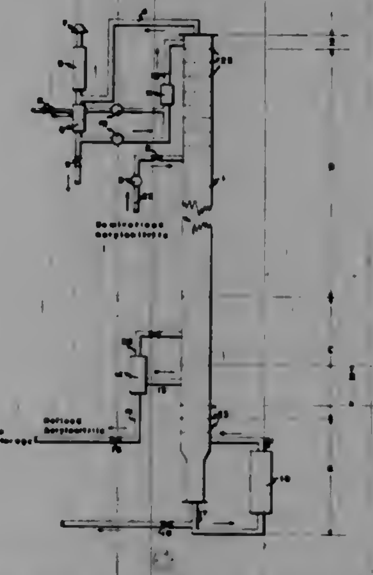


1. In a nuclear reactor having at least one removable core component, a grid plate, a mounting for said component, said mounting having an internal flowpath for gas, said flowpath containing a solid particle separating means for separation of solid particles from gas in said flowpath, and a flow restricting orifice arranged in that order in the direction of flow, and means releasably retaining the mounting in the grid plate.

3,196,084
PROCESS FOR PREPARING CEPHALOSPORIN C
Giulia Biffi, Monza, Milan, and Arpad Grein and Celestino Spalla, Milan, Italy, assignors to Società Farmaceutici Italia, Milan, Italy, a corporation of Italy
No Drawing. Filed July 23, 1963, Ser. No. 296,931
Claims priority, application Italy, July 25, 1962, 15,033/62
1 Claim. (Cl. 195—36)

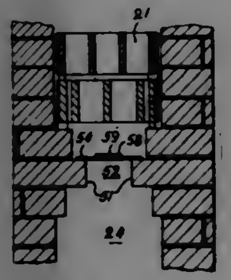
In the process for the preparation of Cephalosporin C by culturing a Cephalosporin C producing mold of the species of which Cephalosporium C.M.I. 49,137 is a member, in a suitable nutrient medium containing a source of carbon, nitrogen and mineral salts, and recovering Cephalosporin C from the fermentation broth; the improvement which comprises adding 4‰ to 6‰ phenylacetic acid amide to the culture broth.

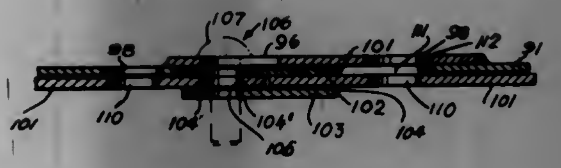
3,196,085
PROCESS FOR PURIFYING ACRYLONITRILE
William A. Dippel, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Feb. 12, 1962, Ser. No. 172,703
4 Claims. (Cl. 202—42)



1. An improved process for purifying acrylonitrile which comprises continuously feeding semirefined acrylonitrile containing hydrogen cyanide into a first zone within a fractionating column, water in the upper part of said first zone being maintained at a higher concentration than that in the feed; continuously adding water to said first zone; continuously removing from an upper zone within said column and above said first zone, hydrogen cyanide, acrylonitrile-water azeotrope, and other components boiling at a temperature lower than said acrylonitrile-water azeotrope; continuously refluxing water and acrylonitrile, the total water fed to said column including said refluxed water being equal to that withdrawn from said upper zone; continuously removing substantially anhydrous purified acrylonitrile in vapor form from a lower zone within said column and below said first zone; continuously heating a liquid column bottom containing acrylonitrile and components having a boiling temperature higher than acrylonitrile in a bottom zone below said lower zone to provide acrylonitrile vapors, said vapors passing upward through the respective zones in said column in heat-exchange relationship with downcoming liquids; and removing from said bottom zone said components boiling higher than acrylonitrile which accumulate therein.

3,196,086
BUS FLUE STRUCTURE OF COKE OVEN BATTERY
Frans Wethly, Manhasset, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Sept. 6, 1962, Ser. No. 221,849
4 Claims. (Cl. 202—142)

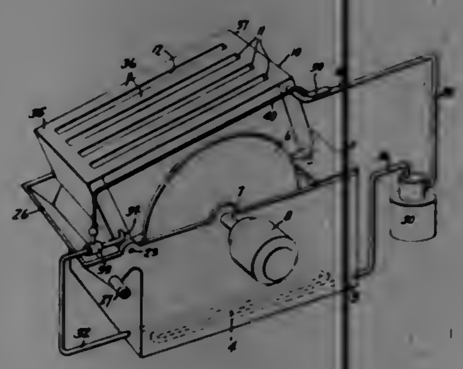




1. In a regenerative coke oven battery having alternate heating walls having heating flues therein and coking chambers with crosswise extending regenerators beneath the coking chambers and communicating with the heating flues, at least one chimney flue, a bus flue in the base portion of each crosswise extending regenerator communicably connecting said regenerator with the chimney flue for outflow of products of combustion from said regenerator to the chimney flue, and means for supplying air to the bus flues in the crosswise extending regenerators serving for inflow of air, each of said bus flues extending along substantially the full length of its regenerator to one side of the battery, the improvement comprising stationary orifice plate means located at the top of each bus flue extending substantially the full length thereof and having a row of closely spaced orifice openings extending in substantially longitudinal alignment along the length of said stationary orifice plate means, slidable orifice plate means in superimposed relation with said stationary orifice plate means in each bus flue, said slidable orifice plate means having an elongated orifice opening at each of the end portions thereof positioned in the portions of the regenerators located adjacent the sides of the battery, which elongated openings in all positions of adjustment of the slidable orifice plate means relative to the stationary orifice plate means is positioned in superimposed relation with respect to a plurality of orifice plate openings at each of the end portions of said stationary orifice plate means so as not to restrict flow through the said orifice openings at the said end portions of said stationary orifice plate means, the said slidable orifice plate means having intermediate portion thereof between said end portions provided with a row of closely spaced orifice openings extending in substantially longitudinal alignment along the length of said intermediate portion, with the respective orifice openings in the said intermediate portion of the slidable orifice plate means positioned relative to the orifice openings in the intermediate portion of the stationary orifice plate means to form aligned pairs of openings in the intermediate portions of both the stationary and slidable orifice plate means through which flow takes place, the orifice openings in the intermediate portion of said slidable orifice plate means having a cross-sectional area larger than the paired orifice

openings in the intermediate portion of the stationary orifice plate means, and slidable orifice plate means having one end thereof positioned adjacent to one side of the battery so that it is accessible from that side of the battery for effecting sliding movement of the slidable orifice plate means relative to the stationary orifice plate means to adjust the size of the interior pairs of aligned openings in said intermediate portions of both of said orifice plate means from the full size of the orifice openings in the intermediate portion of the stationary orifice plate means to any desired reduction in size from said full size.

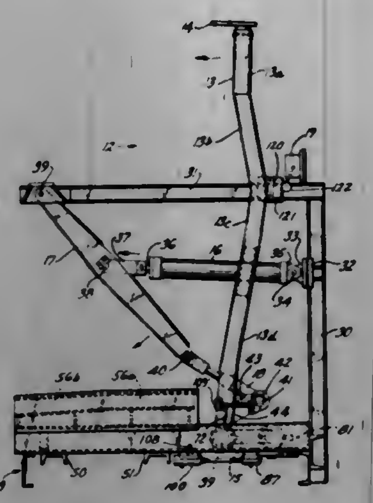
3,196,087
WATER DEMINERALIZING APPARATUS
Edward L. Lustenader, Scotia, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 28, 1961, Ser. No. 98,842
2 Claims. (Cl. 202—236)



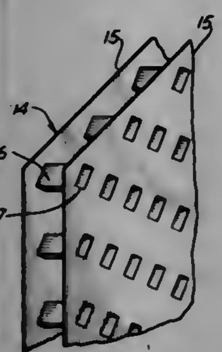
1. In an apparatus for demineralizing water, the combination of means defining a chamber, a plurality of surfaces located in said chamber, means for cooling said surfaces, a plurality of rotatable discs, each disc having a surface adapted to be adjacent a cooled surface, means defining a sump, means for supplying distilland to said sump at a predetermined pressure, means for heating the distilland supplied to the sump, means for rotating the discs through the distilland in the sump whereby a distilland film forms on the discs, said distilland evaporating from the surface of the discs and diffusing through the space between the discs and the cooled surfaces and condensing on the cooled surfaces, means for collecting the condensate from the cooling surfaces, means for maintaining the pressure of the chamber greater than atmospheric pressure and less than the distilland supply pressure to supply the condensate from the chamber at a pressure greater than atmospheric pressure.

3,196,088
APPARATUS FOR CLEANING GAS OFF-TAKES OF A COKE OVEN BATTERY
Donald C. Coleman, Belle Mead, N.J., and Leo G. Schroeder, New Hyde Park, N.Y., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Nov. 5, 1962, Ser. No. 235,426
13 Claims. (Cl. 202—241)

1. Apparatus for cleaning the gas off-takes of a coke oven battery comprising, in combination, a supporting carriage frame, a cleaner arm pivotally mounted on said frame for swinging movement in an up and down direction, a cleaning member on said arm, means for moving said arm to move said cleaning member into said gas off-take, a guide member on said carriage frame, means moveable in said guide member and connected to said arm for pivoting said arm as it moves in said off-take to effect movement of said cleaning member within said off-take in a direction substantially the same as the general direction of flow through the portion of said off-take through which said cleaning member moves, and means for moving said supporting carriage frame and the cleaner arm pivotally mounted on said frame towards and away from the gas off-take.



3,196,089
METHOD OF MAKING HONEYCOMB STRUCTURES
George S. Stoycos, Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio
Filed Sept. 15, 1959, Ser. No. 840,176
3 Claims. (Cl. 204—9)

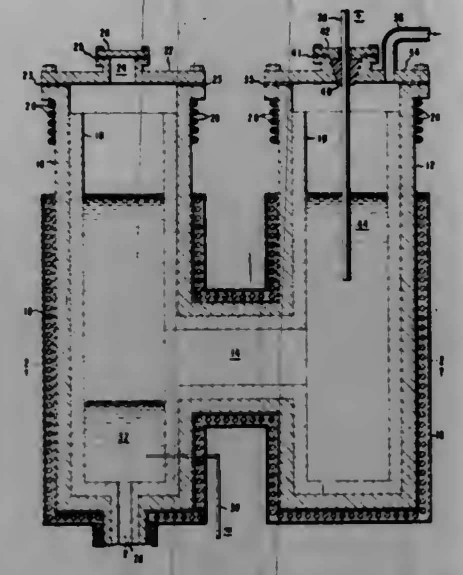


1. In a method of making a honeycomb structure, the steps comprising positioning a pair of platen members with their opposed faces in parallelism and spaced from each other, one of said platen members having spaced apertures therethrough and the other platen member carrying a plurality of pegs projecting therefrom and extending through said apertures, depositing a thin layer of plating material on both of the opposed faces and on the exposed portions of the pegs so as to form an integral honeycomb structure, and mechanically separating the apertured platen member and the platen member carrying the pegs from the honeycomb.

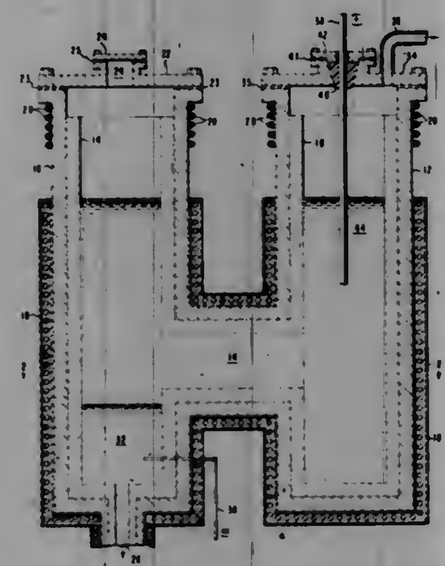
3,196,090
PROCESS FOR PRODUCING FLUORINE AND SODIUM-LEAD ALLOY
Sebastian V. R. Mastrangelo, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Mar. 12, 1962, Ser. No. 178,938
10 Claims. (Cl. 204—60)

1. The process for preparing elemental fluorine and a sodium-lead alloy simultaneously which comprises electrolyzing an electrolyte consisting essentially of molten anhydrous sodium fluoroborate in an inert atmosphere at a temperature of from 385° C. to 500° C. in an electrolytic cell having an anode composed of a member of the

group consisting of graphite, microcrystalline carbon, and silicon carbide, and a cathode consisting essentially of molten lead at substantially the same temperature as the electrolyte, employing an electric current of from 2 to about 25 volts to provide a current density of from 2 to 50 amps./dm.^{2} of anode surface area, recovering a sodium-lead alloy as the cathode product and a gaseous mixture of elemental fluorine and boron trifluoride as the anode product, and separating the elemental fluorine from the boron trifluoride.

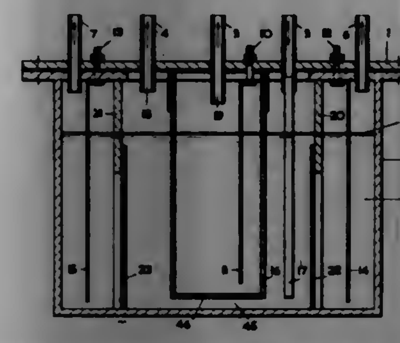


3,196,091
PROCESS FOR PRODUCING FLUORINE AND SODIUM-LEAD ALLOY
Sebastian V. R. Mastrangelo, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Original application Mar. 12, 1962, Ser. No. 178,938. Divided and this application Oct. 1, 1964, Ser. No. 400,835
5 Claims. (Cl. 204—60)



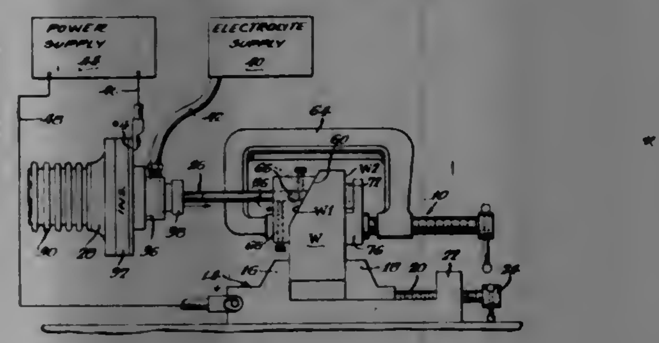
1. The process for preparing elemental fluorine and a sodium-lead alloy simultaneously which comprises electrolyzing an electrolyte consisting essentially of molten anhydrous sodium fluoroborate in an inert atmosphere at a temperature of from 385° C. to 500° C. in an electrolytic cell having an anode composed of gold and a cathode consisting essentially of molten lead at substantially the same temperature as the electrolyte, employing an electric current of from 2 to about 25 volts to provide a current density of from 2 to 50 amps./dm.^{2} of anode surface area, recovering a sodium lead alloy as the cathode product and a gaseous mixture of elemental fluorine and boron trifluoride as the anode product, and separating the elemental fluorine from the boron trifluoride.

3,196,092
METHOD FOR SEPARATING COMPONENTS HAVING AN ACID OR ALKALINE REACTION FROM GASES
Henri Bernard Beer, The Hague, Netherlands, assignor to Hermanus Johannes Jansen, Schiedam, Netherlands
Filed Mar. 27, 1959, Ser. No. 802,334
Claims priority, application Netherlands, Apr. 1, 1958, 226,450
5 Claims. (Cl. 204—130)



1. A process for separating from a mixture of gases a gas the aqueous solution of which has a pH which is more remote from a neutral pH than the other gases in said mixture, comprising preparing an aqueous solution of a salt of a strong non-volatile alkali and a strong non-volatile acid, placing the solution in a sealed electrolysis apparatus having electrodes of opposite polarity separated by a membrane pervious only to ions, passing a current through said electrolysis apparatus, passing the mixture of gases into the electrolyte around the electrode at which the electrolyte has a pH on the opposite side of a neutral pH from the pH of the aqueous solution of the gas to be separated to cause the gas to be separated to enter into a reaction with the electrolyte within the cell, and conducting the gases evolved at the electrodes away from the electrolysis apparatus separately.

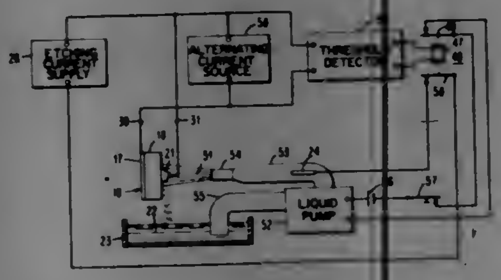
3,196,093
ELECTROLYTIC CAVITY SINKING APPARATUS AND METHOD FOR NON-PARALLEL WORKPIECE SURFACES
Lynn A. Williams, Winnetka, Ill., assignor to Anocut Engineering Company, Chicago, Ill., a corporation of Illinois
Filed June 13, 1960, Ser. No. 35,647
10 Claims. (Cl. 204—143)



1. In electrolytic cavity sinking apparatus of the type having means for holding a conductive workpiece, a hollow conductive electrode, means for relatively moving the workpiece and electrode toward each other, means connected to the electrode and the workpiece for impressing a low-voltage, high-density, direct current therebetween in a sense to make the workpiece anodic, and means for supplying electrolyte through the electrode under high pressure to produce a high velocity flow of electrolyte in the work gap between the workpiece and the electrode, the combination therewith of an electrode guide clamped against the entry surface of the workpiece and being made of a substantially incompressible electrically nonconductive, corrosion-resistant material, said guide having means sealing against the entry surface of

the workpiece in the area surrounding the entrance to the cavity to be formed in the workpiece, an opening through said guide and through which the electrode is adapted to pass, said opening having the same cross sectional shape as the electrode and providing a very close clearance space between the electrode and the inner surface of said guide opening and which is open to the atmosphere at the point remote from said means sealing against the entry surface of the workpiece to provide a limiting flow exit path for electrolyte flowing from the work gap thus to insure that the space between the electrode working face and the entry surface of the workpiece is filled with electrolyte, and a plurality of lateral guide members adjustably held by said guide and projecting into said opening and lightly guiding the electrode against lateral vibration.

3,196,094
METHOD OF AUTOMATICALLY ETCHING AN ESAKI DIODE
Edward M. Davis, Jr., Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 13, 1960, Ser. No. 35,677
4 Claims. (Cl. 204—143)



1. The method of etching an Esaki diode device to reduce the area of its PN junction and concurrently to reduce to a predetermined value the peak current carrying capacity of said device between the positive and negative slopes of its N-shaped current-voltage characteristic curve where the diode exhibits a conductive impedance in the negative resistance region comprising:

passing through said PN junction of said device in its forward direction of conductivity a unidirectional current which has a peak value substantially equal to said predetermined value, said unidirectional current being operative to establish across the diode a control voltage;

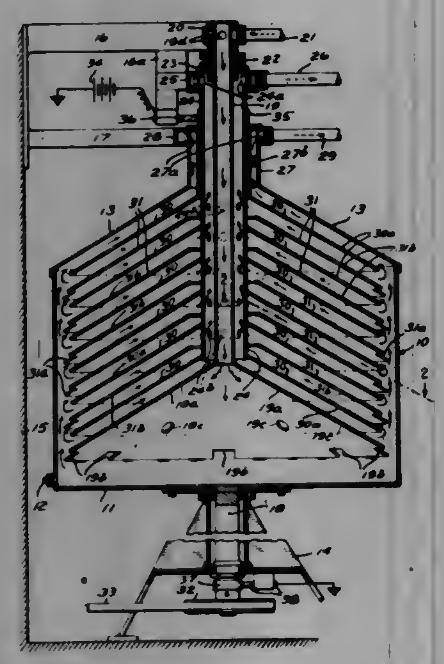
subjecting the exposed portion of said junction and the region of said device thereabout to the jet of an electrolyte having a resistance which is substantially greater than said conductive impedance of said device in its negative resistance region;

simultaneously passing a second current through said junction in the etching direction between said device and said jet of electrolyte to etch material from said device and reduce the area of said junction and concurrently to reduce said peak current carrying capacity to said predetermined value, whereby said control voltage exhibits an amplitude shift; and

utilizing said amplitude shift automatically to terminate said second current and said jet of said electrolyte.

3,196,095
METHOD OF REMOVING SOLIDS IN SOLUTION FROM A LIQUID
Leslie H. Wadsworth, 640 West End Ave., New York 24, N.Y.
Filed Oct. 3, 1960, Ser. No. 60,146
1 Claim. (Cl. 204—149)

The method of separating a liquid and solids in solution in the liquid consisting in the steps of causing the solution to flow into at least one peripheral passage defined by the exterior wall of a container and spaced apart and alternately anode and cathode plates within the container, introducing the solution from said peripheral passages into the space between said plates, causing an electric current to pass between the plates and simultaneously centrifuging the solution in said space by spinning said container and plates together, withdrawing the resulting heavier fraction liquid containing solids in solution to the outside of the container by confining the heavier fraction to flow in a direction that directly opposes the head pressure resulting from the incoming flow of said solution thereby causing said heavier fraction to return to the same peripheral passages from which it had flown into said space and from which it is then discharged to the outside, said heavier fraction displacing a lighter fraction liquid in said space toward the spin axis of the container, said lighter fraction liquid being discharged to the outside in a separate passage disposed proximate said spin axis.



3,196,096
METHOD FOR THE POLYMERIZATION OF OLEFINS BY ULTRASONIC VIBRATIONS
Harry A. Toulmin, Jr., Dayton, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio
No Drawing. Filed Jan. 22, 1962, Ser. No. 167,972
3 Claims. (Cl. 204—154)

1. A process for the polymerization of olefins which consists in subjecting olefins to the action of ultrasonic wave vibrations at temperatures ranging from —100° C. to —200° C. and a pressure ranging from 2 to 50 atmospheres.

3,196,097
PHOTOCHEMICAL SYNTHESIS OF SECONDARY DIARYLAMINES
Gordon M. Ide, Morristown, N.J., and Robert E. Jones, Muskegon, Mich., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed June 8, 1961, Ser. No. 115,604
4 Claims. (Cl. 204—158)

1. A method for preparing a secondary diarylamine from a tertiary alkyldiarylamine which comprises exposing a tertiary alkyldiarylamine to ultraviolet light radiation in the presence of oxygen and recovering the secondary diarylamine thereby produced.

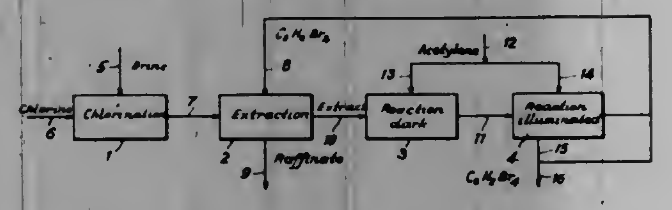
3,196,098
PHOTOPOLYMERIZABLE COMPOSITIONS AND THEIR POLYMERIZATION
Walter E. Mochel, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Oct. 25, 1962, Ser. No. 233,162
18 Claims. (Cl. 204—158)

1. A photopolymerizable composition comprising
(a) a polyboron compound of the formula

$$M_2(B_nH_{n-p-q}X_pY_q)_m$$

wherein
  M is a cation selected from the class consisting of
    silver (I) and
    cerium (III);
  X is halogen;
  Y is selected from the class consisting of hydroxyl, hydrocarbyloxyalkoxy free of aliphatic unsaturation, and hydrocarbylcarbonyl free of aliphatic unsaturation;
  n is an even number from 10 through 12 inclusive;
  p is a cardinal number of 1 to 12, inclusive, being equal to *n* minus *q* when *q* is greater than zero,
  q is a cardinal number of 0 to 2, inclusive; *p*+*q* being at least at most equal to *n*, and *m* is the valence of M; and
(b) at least one substance capable of cationic polymerization.

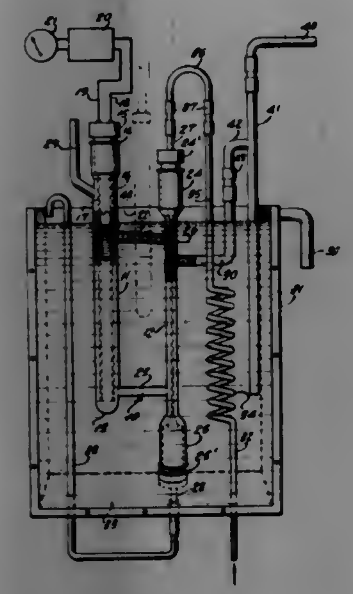
3,196,099
PREPARATION OF 1,1,2,2-TETRABROMOETHANE
Leonard Marshall Shorr, Romema, Haifa, Israel, assignor, by mesne assignments, to Israel Mining Industries-Institute for Research and Development, a company of Israel
Filed Apr. 11, 1962, Ser. No. 186,720
Claims priority, application Israel, Apr. 28, 1961, 15,410
6 Claims. (Cl. 204—163)



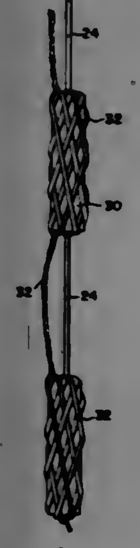
1. A process for the preparation of tetrabromoethane, wherein a solution of bromine in tetrabromoethane containing not more than 200 g. of elementary bromine per liter is contacted in the liquid state with substantially the stoichiometrically required amount of acetylene in the absence of oxygen, and the last stage of the process, beginning when the greater part of the elementary bromine has reacted with acetylene, is carried out under conditions of illumination.

3,196,100
OXYGEN DETECTING AND MEASURING APPARATUS
James D. Digby, Croton-on-Hudson, N.Y., assignor to Cambridge Instrument Company, Inc., New York, N.Y., a corporation of New York
Filed Sept. 7, 1961, Ser. No. 136,552
6 Claims. (Cl. 204—195)

1. Oxygen detecting and measuring apparatus comprising an elongated, vertically disposed vessel having a closed bottom and a pair of vertically spaced openings, a vertically disposed tube adjoining the first said vessel and having vertically spaced openings, conduits joining said upper and lower openings in said vessel and tube, an oxygen selective permeable tube extending through said vertically disposed tube, means closing the ends of said vertically disposed tube about said oxygen permeable tube, an electrolyte filling said vessel and said vertically disposed tube, electrodes extending into said vessel and means on said vertically disposed tube for introducing hydrogen into said electrolyte to maintain it in a hydrogen saturated condition, said hydrogen producing circulation of the electrolyte through said vessel and said vertically disposed tube and causing it to gather oxygen penetrating the permeable tube and distribute it uniformly throughout the electrolyte.



3,196,101
ANODE SUPPORT FOR CATHODIC PROTECTION SYSTEM
Harry W. Hosford, Jr., 2565 Stratford Road, Cleveland 18, Ohio
Filed Sept. 21, 1962, Ser. No. 225,241
8 Claims. (Cl. 204—196)



1. In a metal water tank having a plurality of elongated anodes vertically suspended in said tank and disposed on a common vertical axis, and a source of direct electric current for maintaining a positive charge on said vertically spaced anodes and a negative charge on said tank; stranded flexible plastic rope means encasing said vertically spaced anodes, said plastic rope means being vertically and horizontally extensible and tightly contacting said anodes whereby said rope means serves to inhibit dropping of pieces of such anodes upon disintegration of the latter.

3,196,102

PREPARATION OF METAL DEACTIVATOR FROM PETROLEUM DISTILLATES

Ivor W. Mills, Glenolden, and John J. Melchiore, Wallingford, Pa., assignors to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed June 19, 1963, Ser. No. 288,913

9 Claims. (Cl. 208—[illegible]6)

1. Method of preparing a copper deactivator from hydrocarbon oil which comprises reacting a petroleum distillate oil boiling above 400° F. with alkali metal alkoxide formed from a metal selected from the group consisting of sodium, potassium and sodium-potassium alloys and an alcohol having 3–10 carbon atoms and selected from the group consisting of aliphatic and cycloaliphatic secondary and tertiary alcohols, whereby a compound capable of forming a complex with copper is formed in the oil, adding to the oil an oil-soluble copper salt of an organic acid, distilling the oil to remove a major portion thereof overhead, treating the residue oil from the distillation with aqueous mineral acid to remove copper therefrom, and separating the mineral acid from the resulting oil fraction containing a copper deactivator.

3,196,103

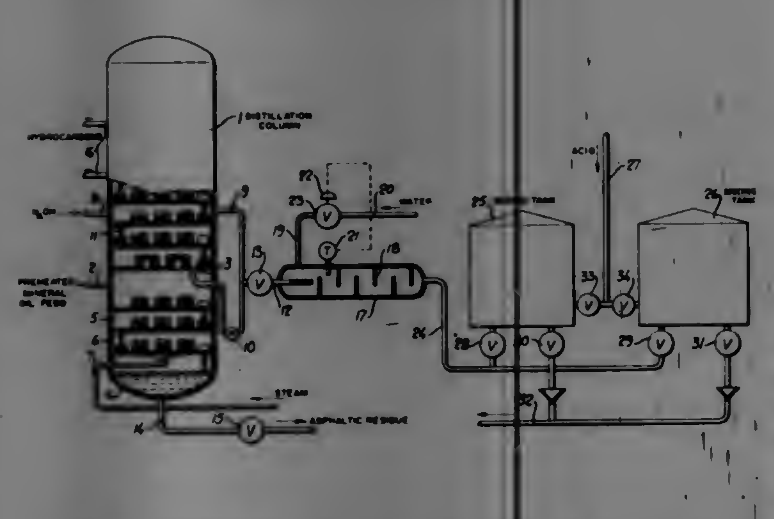
DISTILLATION OF NAPHTHENIC ACID-CONTAINING MINERAL OILS

Gunnar Lennart Fredenmark and Ste[illegible] Gösta Fransson, Nynashamn, Sweden, assignors to AB Nynas-Petroleum, Stockholm, Sweden, a corporation of Sweden

Filed Nov. 30, 1961, Ser. No. 156,061

Claims priority, application Sweden, Dec. 2, 1960, 11,691/60

3 Claims. (Cl. 208—2[illegible]3)



1. In a method for the fractionation of a mineral oil feedstock containing naphthenic acids and asphalt substances which comprises: separating the feedstock into a lighter naphthenic acid fraction and a heavier asphaltic fraction, converting the naphthenic acid fraction into its corresponding alkali metal salts by the addition thereto of an alkali metal hydroxide in an amount in excess of that which is required stoichiometrically to convert said acids, forming a suspension of alkali metal naphthenates, unreacted alkali metal hydroxide and a heavy mineral oil fraction, admixing a cooling medium with said suspension to cool said suspension, forming an emulsion of said suspension, adding mineral acid to said emulsion in an amount sufficient to convert the alkali metal compounds therein into the corresponding alkali metal salts of said mineral acid and to cause the emulsion to break, and recovering separately a heavy mineral oil fraction and an alkali metal salt-containing phase the improvement wherein cooling of the suspension and formation of the emulsion are accomplished simultaneously and solely by the admixing of a sufficient amount of water to the suspension to lower the temperature of the suspension from above about 300° C. to about 65–95° C.

3,196,104

HYDROREFINING OF CRUDE OILS

William K. T. Gleim, Island Lake, and Joseph T. Arrigo, Mount Prospect, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed July 2, 1962, Ser. No. 207,069

16 Claims. (Cl. 208—264)

1. A catalyst comprising the thermal decomposition product of an organometallic complex obtained by the reaction of a halide of a metal selected from the group consisting of vanadium, niobium, tantalum, molybdenum, tungsten, chromium, iron, nickel and cobalt with an alkyl ether having from 1 to about 6 carbon atoms in each of its alkyl groups.

8. A process for hydrorefining a petroleum oil which comprises admixing said oil and an organometallic complex obtained by the reaction of a covalent halide of a metal selected from the group consisting of vanadium, niobium, tantalum, molybdenum, tungsten, chromium, iron, nickel and cobalt with an alkyl ether having from 1 to about 6 carbon atoms in each of its alkyl groups heating the resultant mixture at a temperature less than about 310° C. for a time sufficient to decompose said organometallic complex, reacting the resulting colloidal suspension with hydrogen at a temperature in excess of about 225° C. and at a pressure in excess of about 500 p.s.i.g., and recovering the resulting hydrorefined petroleum oil.

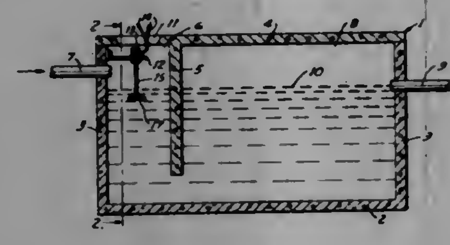
3,196,105

SEWAGE DISPOSAL SYSTEM AND METHOD

Gilbert D. Schneider, Lexington, Ohio

Filed Apr. 30, 1962, Ser. No. 190,989

4 Claims. (Cl. 210—12)



1. In a sewage disposal system employing a tank of the flow-through type that is provided with baffle means in juxtaposition to the inlet, the method of dissipating supernatant scum which comprises activating beneficent bacteria by supplying heat to the contents of the tank, principally the layers which immediately underlie the air-liquid interface, over a circumscribed zone closely adjacent the inlet the lateral extent of which is determined at least in part by the location of the baffle means, the amount of heat so supplied to such circumscribed zone being sufficient to develop in said underlying layers temperatures that are roughly between about 100° and about 150° F. but insufficient to materially affect the temperatures obtaining elsewhere in the tank.

3,196,106

METHOD FOR PURIFYING RADIOACTIVE WASTE LIQUID

Walter L. Haden, Jr., Metuchen, and Frank J. Dzierzanowski, Somerset, N.J., assignors to Minerals & Chemicals Philipp Corporation, Menlo Park, N.J., a corporation of Maryland

No Drawing. Filed Oct. 4, 1961, Ser. No. 142,763

8 Claims. (Cl. 210—24)

1. A method for purifying an aqueous radioactive waste liquid having dissolved therein a low level of radiocesium in the form of a salt of a mineral acid and also having dissolved therein a substantially larger amount of a mineral acid salt of another metal which is nonradioactive, said method comprising contacting said liquid with a solid synthetic crystalline lithium aluminum silicate hydrate of the approximate formula

$$Li_2O.Al_2O_3.2SiO_2.4H_2O$$

whereby radiocesium in said liquid is selectively adsorbed by said lithium aluminum silicate hydrate, and separating the liquid thus contacted from said lithium aluminum silicate hydrate with adsorbed radiocesium.

3,196,107

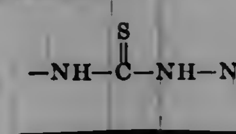
PROCESS FOR REMOVING COPPER IONS FROM SOLUTION

Ernst Alois Tomic, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del.

Filed Mar. 13, 1961, Ser. No. 95,305

20 Claims. (Cl. 210—38)

1. A process for removing copper ions from solution which comprises contacting said solution with a polymeric material having a repeating thiosemicarbazide unit of the structural formula:



$$-NH-\overset{\overset{S}{\|}}{C}-NH-N\langle$$

3,196,108

FIRE SUPPRESSING COMPOSITION FOR AERIAL APPLICATION

Kenneth E. Nelson, Phoenix, Ariz., assignor to Arizona Agrochemical Corporation

No Drawing. Filed Dec. 6, 1962, Ser. No. 242,654

6 Claims. (Cl. 252—2)

1. A fire suppressing composition consisting essentially of

(a) an electrolytic fire suppressing salt having low mammalian and plant toxicity selected from the class consisting of ammonium sulfate, ammonium chloride, mono-ammonium phosphate and di-ammonium phosphate; and

(b) colloidal attapulgite clay;

said composition being substantially dry and having a weight ratio of salt to clay of from 5:15 to 35:4.

3,196,109

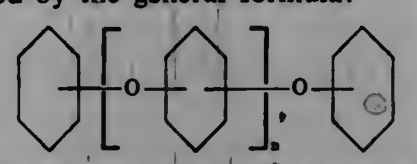
LUBRICATING GREASE CONTAINING BORON NITRIDE

Arnold J. Morway, Clark, and Carroll L. Knapp, Jr., Cranford, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Mar. 1, 1962, Ser. No. 176,787

2 Claims. (Cl. 252—25)

1. A lubricating grease consisting essentially of a major amount of a normally liquid polyphenyl ether lubricating oil represented by the general formula:



wherein *n* is about 3 to 6, and as the sole grease thickening agent, about 4 to 10 wt. percent of finely divided boron nitride having particle sizes ranging from about 10 to 200 millimicrons.

3,196,110

MATERIALS USEFUL AS LUBRICATING OIL ADDITIVES

Rosemary O'Halloran, Union, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Mar. 12, 1962, Ser. No. 179,238

20 Claims. (Cl. 252—32.7)

8. A lubricating oil composition suitable for lubrication of automotive transaxle systems comprising a major amount of mineral lubricating oil and about 0.5 to 10.0 weight percent of an oil-soluble reaction product containing 2.5 to 20 wt. percent lead prepared by reacting 4 to 30 weight percent of an oxide of lead with 96 to 70 weight percent of a mixture of (a) a mercapto acid ester of the formula

$$HS(CH_2)_nCOOR$$

wherein *n* is 1 to 4, and R represents a C_4 to C_{20} alkyl group and (b) an ashless oil-soluble phosphosulfurized hydrocarbon material, at a temperature between 200 and 450° F., and cooling to thereby form said reaction product, wherein the weight ratio of said ester to said hydrocarbon material is 0.3:1 to 3.7:1.

3,196,111

TANTALUM CAPACITOR ELECTROLYTE

Norman F. Jackson, Northampton, England, assignor to The Plessey Company Limited, Ilford, England, a company of Great Britain

No Drawing. Filed Nov. 15, 1962, Ser. No. 238,055

Claims priority, application Great Britain, Nov. 23, 1961, 41,925/61

3 Claims. (Cl. 252—62.2)

1. An electrolyte for a tantalum capacitor consisting essentially of N,N-dimethylformamide, which may contain up to 5% by weight of water, 2% by weight of oxalic acid and between 0.5% and 5% by weight of triethyl phosphate.

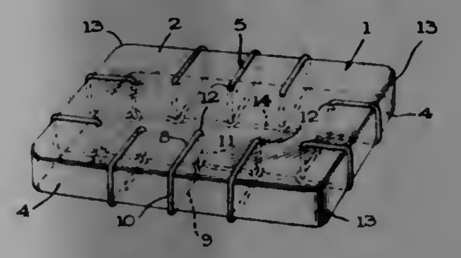
3,196,112

NON-SLIP SOAP CAKE

Wayman R. Presley, R.F.D. 1, Makanda, Ill.

Filed May 27, 1963, Ser. No. 283,277

2 Claims. (Cl. 252—92)



1. A non-slip soap cake comprising a soap cake body portion with exterior top, bottom and edge surfaces, a continuous elastic member, a series of interconnected loops formed from said continuous elastic member and connected through said soap cake body portion, each of said loops having a top, bottom and end portion exposed and mounted snugly on the exterior top, bottom and edge surfaces of said soap cake body portion, said continuous elastic member having interconnecting portions exposed on the surface of said soap cake body portion connecting said loops, said loops disposed in spaced relation whereby free lathering is not impeded, the connections of said loops through said soap cake adjacent the corners of said soap cake body portion spaced inwardly of said edge surfaces a distance to prevent said loops from slipping around the corners in use, and said continuous elastic member connected under tension at all times and being non-abrasive in use.

3,196,113

REMOVAL OF FLUX FROM BRAZED ALUMINUM ASSEMBLIES

Basil M. Ponchel, Cleveland, Ohio, assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Nov. 9, 1962, Ser. No. 236,706

7 Claims. (Cl. 252—101)

1. The process of removing a chloride-fluoride containing flux from joined aluminous metal members comprising, removing flux residues from the brazed assembly

by immersing the brazed assembly in an aqueous acid solution consisting essentially of water, 5–40%, by weight, nitric acid and a lesser amount but at least 0.05%, by weight, of at least one organic compound selected from the group consisting of thiourea, triethanolamine salt of laurylsulfobenzoic acid, nicotine sulfate, and hexamethylenetetramine.

3,196,114

DIFLUOROMETHYLENE RADICALS TRAPPED IN A MATRIX OF SOLIDIFIED GAS

Sebastian V. R. Mastrangelo, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 9, 1961, Ser. No. 88,056

2 Claims. (Cl. 252—1[illegible]2)

1. A composition consisting essentially of difluoromethylene radicals trapped at a temperature below 95° K. in a solid matrix of the group consisting of perfluorocyclobutane and mixtures of perfluorocyclobutane and an inert material having a melting point above 95° K. and a boiling point below 21° C. at 10 mm. of mercury.

3,196,115

TRIFLUOROMETHYL RADICALS TRAPPED IN A MATRIX OF SOLIDIFIED GAS

Sebastian V. R. Mastrangelo, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 9, 1961, Ser. No. 88,057

2 Claims. (Cl. 252—1[illegible]2)

1. A composition consisting essentially of trifluoromethyl radicals trapped at a temperature below 107° K. in a solid matrix of the group consisting of hexafluoroethane and mixtures of hexafluoroethane and an inert material having a melting point above 107° K. and a boiling point below 21° C. at 10 mm. Hg.

3,196,116

MULTIPLY METALLATED POLYMERIZATION CATALYSTS

Oskar E. H. Klopfer, Clawson, and Oliver W. Burke, Jr., Grosse Pointe Park, Mich., assignors, by direct and mesne assignments, to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Feb. 19, 1957, Ser. No. 641,047

3 Claims. (Cl. 252—4[illegible]9)

1. A solid catalyst for the production of high polymers of polymerizable unsaturated hydrocarbons which comprises (a) alkali metal metallated aryl hydrocarbon polymer in which the alkali metal is attached to the polymer by a metal to carbon bond, (b) Friedel-Crafts compound comprising halogen and a metal and (c) particulate alkali metal halide.

3,196,117

INTERMOLECULAR ALKYD-EPOXY COMPLEXES

Robert A. Boller, Richfield, Minn., assignor to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware

No Drawing. Filed June 19, 1958, Ser. No. 743,026

18 Claims. (Cl. 260—22)

1. A modified alkyd resin complex comprising the reaction product of (1) about 2 to about 6 parts alkyd resin modified with between 10% and 40% monobasic fatty acid chains of 6 to 26 carbon atoms, said modified alkyd resin having an acid value of about 70 to 120 and (2) about 1 part epoxidized long chain fatty ester (a) containing about 4% to about 12% non-terminal oxirane oxygen formed as 3-member heterogeneous rings with two adjacent carbon atoms within fatty chain portions of 8 to 26 carbon atoms, said epoxidized fatty ester (2) being reacted through the oxirane with the acid portion of the said modified alkyd resin (1) said alkyd and said epoxidized ester constituting the reactants forming said resin complex.

3,196,118

COATING COMPOSITIONS CONTAINING AN AMINE AND A METALLIC DRIER

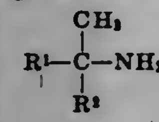
Christian J. A. Peters, Drexel Hill, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Sept. 18, 1962, Ser. No. 224,507

8 Claims. (260—22)

1. An air-drying liquid coating composition consisting essentially of

(a) a compound containing a plurality of 1,3-cyclic acetal radicals connected through an interposed polyvalent radical, said cyclic acetal radicals having an alpha-methylenically unsaturated substituent in the 2-position,
(b) a siccative metallic dried compound, and
(c) from 0.05–1%, by weight, of a tertiary alkyl primary amine having the following structural formula:



$$R^1-\overset{\displaystyle CH_3}{\underset{\displaystyle R^2}{C}}-NH_2$$

in which

R^1 is a C_1–C_5 alkyl radical, and
R^2 is selected from the class consisting of C_1–C_{18} alkyl, C_2–C_{18} alkenyl and benzyl.

3,196,119

MODIFIED ALKYD RESIN COMPOSITIONS AND PROCESS OF PREPARING THE SAME

Robert A. Boller and Richard B. Graver, Minneapolis, Minn., assignors to Archer-Daniels-Midland Company, Minneapolis, Minn., a corporation of Delaware

No Drawing. Continuation of application Ser. No. 743,027, June 19, 1958. This application June 24, 1964, Ser. No. 377,521

21 Claims. (Cl. 260—22)

1. In combination, in an organic solvent, (1) an alkyd resin containing modifying acid chains of 6 to 26 carbon atoms (2) an epoxidized fatty ester and (3) an alkyl amine neutralizing agent, said alkyd resin (1) comprising the reaction product of (a) polyhydroxy alcohol, (b) monocarboxylic acids containing 6 to 26 carbon atoms and (c) polycarboxylic acid materials selected from the group consisting of polycarboxylic acids, polycarboxylic anhydrides and mixtures of the same, said reaction product prepared as a polyester containing a plurality of retained reactive hydroxyl and carboxyl groups and having an acid number of about 80 to 120, said epoxidized fatty ester (2) having carbon chain portions of 6 to 26 carbon atoms containing oxirane groups, each oxirane group forming a three member heterogeneous ring with two adjacent carbon atoms within the said carbon chain portion, said alkyl amine (3) containing 1 to 6 carbons in an alkyl group and being present in an amount to neutralize the residual acidity of the said prepared alkyd resin and to temporarily inhibit the reaction between the said acidity and the oxirane of the said epoxidized fatty ester (2).

3,196,120

HEAT-CURABLE COATING COMPOSITIONS CONTAINING POLYHYDRIC ALCOHOLS

Joseph E. McLaughlin, Philadelphia, and Joseph A. Vasta, Sharon Hill, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Feb. 20, 1961, Ser. No. 90,185

14 Claims. (Cl. 260—23)

1. A heat-curable organic coating composition having as the essential organic film-forming material a compatible combination of (A) an interpolymer of a plurality of copolymerizable alpha monethylenically-unsaturated monomers including a carboxylic monomer and an ester of an alpha, beta monoethylenically-unsaturated monocarboxylic acid having a terminal methylene group and a saturated aliphatic monohydric alcohol and (B) at least one compatible member of the group consisting of epoxy condensates having at least one 1,2-oxirane group per molecule, esters of a monocarboxylic acid and an epoxyhydroxy polyether condensate having at least one 1,2-oxirane group per molecule, epoxidized vegetable oils, melamine-formaldehyde-monohydric alcohol condensates, urea-formaldehyde-monohydric alcohol condensates, and benzoguanamine-formaldehyde-monohydric alcohol condensates, said combination being in solution in a volatile liquid organic solvent therefor, and having in solution in said solvent from 0.3% to 10% by weight of a water soluble polyhydric alcohol based on the total weight of the composition, said polyhydric alcohol being composed of carbon, hydrogen and oxygen atoms and characterized by 2 to 4 hydroxyl susbtituents per molecule of which at least one is a primary hydroxyl substituent, a molecular weight up to about 200, and as being soluble in and compatible with said coating composition.

3,196,121

COATING COMPOSITION COMPRISING AN OXYGEN-CONTAINING DIOLEFIN POLYMER AND A DRYING OIL

John F. McKay, deceased, late of Cranford, N.J., by William M. Elliott, administrator, Staten Island, N.Y., and Donald F. Koenecke, Westfield, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 783,690, Dec. 30, 1958. This application May 29, 1962, Ser. No. 198,649

14 Claims. (Cl. 260—23.7)

4. A composition of matter which comprises:
(A) a polymeric composition selected from the group consisting of
    (1) a liquid polymer of a C_4–C_6 conjugated diolefin which has been reacted with a member of the group consisting of air and oxygen so as to incorporate between about 10 and about 20% oxygen in its structure and
    (2) a liquid polymer of a C_4–C_6 conjugated diolefin which has been reacted with between about 0.01 and about 2.5 wt. percent of an anhydride selected from the group consisting of maleic anhydride, chlormaleic anhydride and citraconic anhydride,
(B) between about 5 and about 25% of a conjugated drying oil and
(C) between about 0.01 and about 5.0% of an acid phosphorus compound selected from the group consisting of an inorganic acid of phosphorus and the metallic salts thereof containing at least one replaceable acidic hydrogen therein.

3,196,122

CEMENTITIOUS COMPOSITIONS CONTAINING ACRYLIC ESTER POLYMERS

Robert M. Evans, Chesterland, Ohio, assignor to The Master Mechanics Company, Cleveland, Ohio, a corporation of Ohio

No Drawing. Filed Feb. 14, 1964, Ser. No. 344,827

17 Claims. (Cl. 260—29.6)

1. A free-flowing predominantly cementitious composition for producing a rigid acid-resistant material of high adhesive strength comprising sand, a hydraulic cement, water and water-dispersed particles of a water-insoluble film-forming acrylate polymer of a monomeric material comprising at least one alkyl ester of an acrylic acid having 3 to 4 carbon atoms, the alkyl radical of said ester having up to 18 carbon atoms, said polymer being present in a substantial amount and having a second-order transition temperature below room temperature, the amount by weight of said polymer being no greater than about one part of polymer for each 3.7 parts of cement.

3,196,123

POLYMER SURFACES ENHANCED FOR PRINTING BY ADDITION OF EPOXIDIZED POLYMER

Charles E. Wheelock, Minneapolis, Minn., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Jan. 5, 1962, Ser. No. 164,617

7 Claims. (Cl. 260—30.4)

1. A composition of matter comprising a solid polymer selected from the group consisting of homopolymers of aliphatic 1-olefins having from 2 to 8, inclusive, carbon atoms per molecule and copolymers of at least two of said 1-olefins and, in an amount sufficient to improve the printability of said solid polymer, an epoxidized polymer selected from the group consisting of (1) an epoxidized homopolymer of a conjugated diene containing from 4 to 8, inclusive, carbon atoms and (2) an epoxidized copolymer of a conjugated diene containing from 4 to 8, inclusive, carbon atoms and a lesser amount of an ethylenically unsaturated compound copolymerizable therewith containing an active $CH_2{=}C<$ group, said epoxidized polymer containing from about 0.6 to 19 weight percent oxirane oxygen.

3,196,124

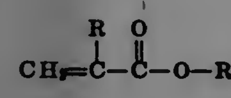
GRAFT COPOLYMERS FROM MONOMERS OF NORBORNENES, ACRYLATES, ACRYLICS, AND AMINE-ALDEHYDE AND INKS THEREOF

Norman G. Gaylord, New Providence, N.J., assignor to Interchemical Corporation, New York, N.Y., a corporation of Ohio

No Drawing. Filed Apr. 16, 1962, Ser. No. 187,971

5 Claims. (Cl. 260—30.6)

1. A graft copolymer comprising the addition polymerization product of (A) a mixture of monomers including 5% to 30% by weight of 2-hydroxymethyl-5-norbornene, 60 to 95% by weight of at least one acrylic type ester having the formula:



$$CH_2{=}\overset{\displaystyle R}{C}-\overset{\displaystyle O}{\overset{\|}{C}}-O-R'$$

where R is a member selected from the group consisting of hydrogen, methyl and ethyl and R′ is an alkyl radical containing from 1 to 8 carbon atoms and up to 35% by weight of methacrylic acid and (B) benzoguanamine formaldehyde resins.

3. A heat curable white ink composition comprising a solution of the graft copolymer claimed in claim 1 in a solvent including tributyl phosphate and a high boiling aliphatic hydrocarbon, and a suitable white pigment dispersed in said solution.

3,196,125

HALOGENATED BUTYL RUBBER COMPOSITIONS

Roger S. Hawley, Cranford, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed June 6, 1961, Ser. No. 115,098

17 Claims. (Cl. 260—3[illegible].6)

1. A composition of improved properties which comprises a halogenated rubbery copolymer of 85 to 99.5 wt. percent of a C_4 to C_8 isoolefin and 0.5 to 15 wt. percent of a C_4 to C_{14} multiolefin, and 1 to 30 parts per 100 parts of rubbery copolymer of an oily copolymer of a major portion of a C_4 to C_{10} conjugated diolefin and a minor portion of a vinyl mono-nuclear aromatic, said oily copolymer having a Staudinger molecular weight of between about 2,000 and 20,000.

3,196,126

SYNTHETIC RUBBER

Wilbur J. Wald, Pittsburgh, Pa., assignor to Neville Chemical Company, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Original application Mar. 4, 1960, Ser. No. 12,701. Divided and this application July 24, 1961, Ser. No. 125,930

16 Claims. (Cl. 260—3[illegible].6)

1. In the manufacture of improved, non-bleeding vulcanizates from an oil masterbatch high molecular weight elastomeric diene polymer, said oil masterbatch comprising (a) a polymer having a Mooney viscosity in excess of about 60 (M.L. 100° C./4′), and (b) at least 35 parts per 100 parts of polymer of a hydrocarbon extender oil composed predominantly of naphthenic and alkylated naphthenic hydrocarbons at least about 90% of which boil above 250° C., the improvement of incorporating in said oil masterbatch, prior to curing it, a synthetic thermoplastic, relatively low molecular weight hydrocarbon resin, the central monomeric units of which are predominantly cyclic hydrocarbons, said resin being prepared by polymerization of an unsaturated fraction boiling within the range of about 100° C. to about 235° C,. containing at least about 20% of polymerizable components and resulting from cracking of hydrocarbon oils and gases, said resin having a ball and ring softening point between about 100° and 115° C. and having a molecular weight of about 300 to about 3000.

3,196,127

RUBBER CONTAINING HYDROXYLAMINE-TREATED CARBON BLACKS

Gerard Kraus, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

No Drawing. Filed Dec. 7, 1959, Ser. No. 857,536

11 Claims. (Cl. 260—4[illegible].5)

10. A carbon black reinforced rubber vulcanizate wherein the reinforcing carbon black has been treated with sufficient hydroxylamine to reduce the hysteresis value of the vulcanizate.

3,196,128

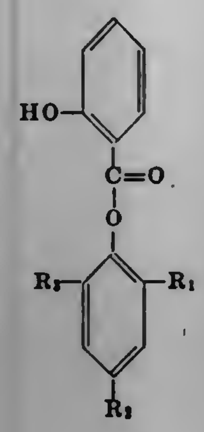
STABILIZED POLYMERS OF ALPHA-MONOOLEFINS CONTAINING NICKEL SALTS OF ALKYL PHENYL SALICYLATES

Joseph H. Tazewell, Akron, and Robert J. Reid, Canal Fulton, Ohio, assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Oct. 7, 1960, Ser. No. 61,056

7 Claims. (Cl. 260—45.75)

1. A stable polypropylene containing from about 0.01 to about 2.0 parts by weight per 100 parts by weight of polypropylene of a nickel compound identical to that produced by reacting at reduced temperature nickelous chloride with the sodium phenate of an alkyl phenyl salicylate of the formula:



wherein R_1, R_2 and R_3 are substituents selected from the group consisting of a hydrogen atom and a C_1 to C_{10} alkyl group, at least one of said substituents being an alkyl group.

3,196,129

VINYL POLYMERS STABILIZED WITH THIOACETAL AND THIOKETAL TIN COMPOUNDS

Ingenuin Hechenbleikner, Kenwood, Robert E. Bresser, Sharonville, and Otto A. Homberg, Woodlawn, Ohio, assignors to Carlisle Chemical Works, Inc., Reading, Ohio, a corporation of Ohio

No Drawing. Filed May 1, 1962, Ser. No. 191,463

18 Claims. (Cl. 260—45.75)

1. A composition of matter comprising (a) a member of the group consisting of (1) a polymer of a monoolefin having 2 to 4 carbon atoms and (2) a halogen containing resin selected from the group consisting of vinyl and vinylidene resins in which the halogen is attached directly to a carbon atom in the polymer chain and (b) a stabilizing effective amount of a member of the group consisting of (1) a hydrocarbon tin salt of a carboxy mercaptal, said salt having 1 to 3 hydrocarbon groups attached directly to the tin, said carboxy mercaptal being connected to the tin atom through a carboxyl oxygen atom, and (2) a mixture of a member of the group consisting of dihydrocarbon tin oxides, dihydrocarbon tin sulfides, trihydrocarbon tin oxides, monohydrocarbon stannoic acids and monohydrocarbon tin alcoholates with a mercaptal containing a free carboxyl group.

3,196,130

PROCESS FOR THE MANUFACTURE OF COPOLYMERS OF ACROLEIN AND ACRYLONITRILE

Wolfgang Göltner, Kriftel, Taunus, and Paul Schlack, Leitershofen, near Augsburg, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed Sept. 7, 1960, Ser. No. 54,355

Claims priority, application Germany, Sept. 9, 1959, F 29,342

6 Claims. (Cl. 260—73)

1. A process for the manufacture of substantially linear copolymers of acrylonitrile and acrolein monomers which are soluble in aqueous sulfurous acid and contain a predominant proportion of acrylonitrile, which comprises the step of copolymerizing in water, as solvent for the monomers, at a temperature within the range of 0° to 50° C. and at a pH-value within the range of 2.2 to 6.5 a mixture of acrylonitrile and acrolein, said mixture consisting of at least 50% by weight of acrylonitrile, the remainder being acrolein, and the ratio by weight of said monomers to water is within the range of 1:3 to 1:14, in the presence of 1 to 8 millimols, calculated upon 1 mol of the monomer mixture, of a redox system as a polymerization initiator,

said redox system containing at least one compound of the general formula

$$R—OOH$$

as oxidizing agent, wherein R represents a member selected from the group consisting of aliphatic, cycloaliphatic and araliphatic radicals, and at least one reducing agent selected from the group consisting of alkali metal salts of sulfurous acid, alkali metal salts of pyrosulfurous acid, sodium formaldehyde sulfoxylate, benzoin and sugar.

3,196,131

PROCESS OF PREPARING UNSATURATED POLYESTER RESINS

James F. Mayer Hinsdale, and William E. Gerwing, Jr., Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Sept. 22, 1960, Ser. No. 57,609

12 Claims. (Cl. 260—75)

1. The process for preparing unsaturated polyesters comprising the steps of (1) reacting under polycondensation conditions a reactive mixture consisting essentially of reactants (A) a benzene dicarboxylic acid of the group consisting of isophthalic acid, terephthalic acid, alkyl isophthalic acid, alkyl terephthalic acid and mixtures thereof where each substituted acid contains 1–3 alkyl groups and each alkyl group contains 1–4 carbon atoms, and (B) a first dihydric alcohol, hereinafter defined, in an amount sufficient to solubilize said benzene dicarboxylic acid, the reaction being continued until the water of esterification theoretically producible by the first step reactants has been produced and removed from the reaction zone, the amount of water removed corresponding to the amount producible at the benzene dicarboxylic acid solubilization point but not exceeding about 90 percent of the theoretically producible amount, and (2) reacting under polycondensation conditions the product mixture present in said reaction zone at the completion of said first step with (i) an unsaturated dicarboxylic acid containing 4–8 carbon atoms of the group consisting of alkenedioic acids and anhydrides thereof and (ii) a second dihydric alcohol, hereinafter defined, until an unsaturated polyester resin product having an acid number of not more than about 30 is obtained, wherein the mole ratio of benzene dicarboxylic acid to unsaturated dicarboxylic acid charged is from about 9:1 to 1:9, and the total amount of said first and said second dihydric alcohols charged is at least sufficient to react theoretically with the carboxyl groups present in said two acids, and wherein said first and said second dihydric alcohols are selected from the group consisting of alkanediols and oxyalkanediols containing 2–9 carbon atoms; said first alcohol and said second alcohol contain a different number of carbon atoms; one of said alcohols contains at least 4 carbon atoms; and said first alcohol is the higher boiling of said first and said second alcohols.

3,196,132

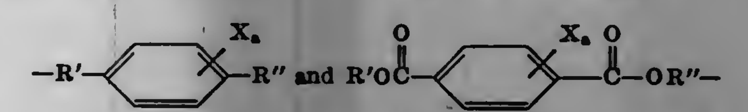
AROMATIC DIOL CHAIN-EXTENDED POLYESTER URETHANES

Irving Rosen, Painesville, Ohio, assignor to Diamond Alkali Company, Cleveland, Ohio, a corporation of Delaware

No Drawing. Filed Apr. 20, 1961, Ser. No. 104,259

8 Claims. (Cl. 260—75)

1. A process for the preparation of a solid, cured polyurethane elastomer comprising heating a mixture of 145–155 parts by weight of a hydroxyl-ended polyester and 0.01–0.05 parts by weight of citric acid monohydrate to 100–200° C. at a pressure of 10–50 mm. of mercury; adding 58–62 parts by weight of p,p′-diphenylmethane diisocyanate; lowering the temperature to 124–131° C., maintaining the temperature and adding 15–40 parts by weight of a chain-extender of the formula: HO—R—OH, wherein R is selected from the group consisting of



—R′ and R″ are alkylene radicals, X is chlorine, and *a* is an integer from 0 to 2; molding at 100–120° C. under about 2000 p.s.i. pressure; and post-curing in an oven at 100–120° C.

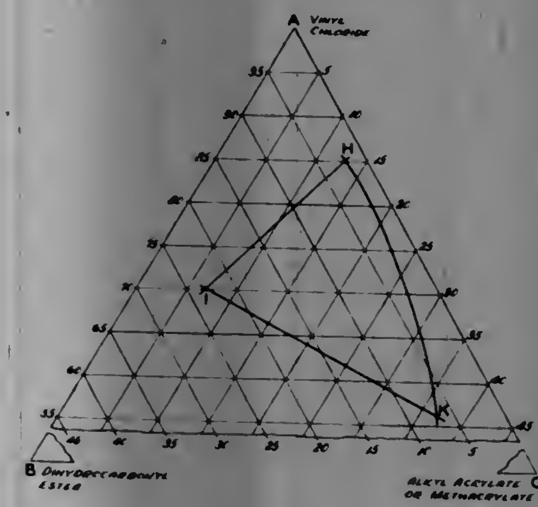
3,196,133

POLYMER COMPOSED OF VINYL CHLORIDE, A DIHYDROCARBONYL ESTER OF A MONOETHYLENICALLY UNSATURATED DICARBOXYLIC ACID, A MONOHYDROGEN, MONOHYDROCARBONYL ESTER OF A MONOETHYLENICALLY UNSATURATED POLYMERIZABLE DICARBOXYLIC ACID, AND AN ESTER OF ACRYLIC OR METHACRYLIC ACIDS

Robert A. Piloni and George P. Rowland, Jr., Pottstown, Pa., assignors to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

Filed Feb. 7, 1962, Ser. No. 172,066

10 Claims. (Cl. 260—78.5)



1. A vinyl chloride resin characterized by ready solubility, good adhesiveness, and flexibility, said resin being a copolymer of

A. Vinyl chloride B. An ester selected from the group consisting of di-hydrocarbonyl esters of monoethylenically unsaturated polymerizable dicarboxylic acids, which acids contain 4–10 carbon atoms, in which esters the esterifying hydrocarbonyl groups each contain 1–10 carbon atoms, and mixtures of such esters. C. An ester selected from the group consisting of alkyl acrylates and methacrylates in which the alkyl groups contain 6–12 carbon atoms and mixtures of said esters.	The percentages of A, B and C, based on the sum of the weights of A, B and C must lie within the area bounded by the figure HIK of Fig. 1. Total weight of A, B and C equals	90–99%
D. An ester selected from the group consisting of monohydrogen, mono-hydrocarbonyl esters of monoethylenically unsaturated polymerizable dicarboxylic acids, which acids contain 4–10 carbon atoms, in which esters the esterifying hydrocarbonyl groups contain 1–10 carbon atoms, and mixtures of such esters		10–1% Based on the weight of A, B, C and D.

said resin having a relative viscosity, in 1% solution in cyclohexanone, of 1.1 to 1.7 at 25° C.

3,196,134
POLYMERIZATION PROCESS FOR POLYVINYL ESTERS USING AN INSOLUBLE METALLIC SOAP AS SOLE EMULSIFIER

Frank J. Donat, Cleveland, and Edwin H. Baker, Cuyahoga Falls, Ohio, assignors to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 19, 1962, Ser. No. 188,884

17 Claims. (Cl. 260—78.5)

1. The method for preparing an emulsion of a polyvinyl acetate resin composed of a family of spherical, uniform size particles having a diameter within the range of 0.1 to 10 microns, comprising polymerizing a mixture of from 60 to 100% by weight of vinyl acetate and from 0 to 40% by weight of at least one other monomer copolymerizable with vinyl acetate selected from the group consisting of alkyl esters of an alpha,beta olefinically unsaturated carboxylic acid wherein the carboxylic acid has from 3 to 6 carbon atoms and the alkyl ester group contains from 1 to 12 carbon atoms, in the presence of from 0.01 part to 3.0 parts by weight per 100 parts of the monomers of a free-radial catalyst and from 0.01 to 5.0 parts by weight per 100 parts of the monomers of an insoluble soap as the sole emulsifier said soap having a structure $(X—COO)_nM$ wherein X represents an alkyl group having from 7 to 21 carbon atoms and M is a member selected from the group consisting of lithium, barium, calcium, magnesium, cadmium, zinc, lead, tin and aluminum and *n* is a whole number equal to the valence of M, with agitation in the substantial absence of oxygen at a temperature below about 100° C.

3,196,135
VULCANIZATION OF HALOGENATED RUBBERY POLYMERS

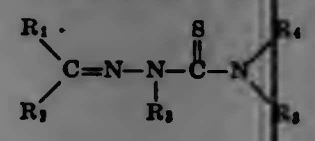
Delmer L. Cottle, Highland Park, and Leon S. Minckler, Jr., Metuchen, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Continuation of application Ser. No. 67,886, Nov. 8, 1960. This application July 8, 1964, Ser. No. 381,225

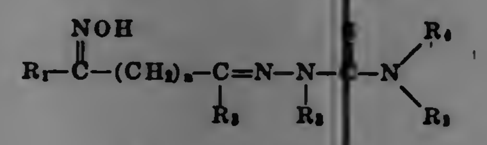
13 Claims. (Cl. 260—79.5)

1. A composition comprising a halogenated rubbery copolymer containing at least 0.5 wt. percent halogen and wherein the amount of halogen and the halogen are correlated and selected from the group consisting of not more than about 1 atom of combined chlorine per double bond in the copolymer and not more than about 3 atoms of combined bromine per double bond in the copolymer and formed by copolymerizing a major portion of a C_4 to C_8 isoolefin with a minor proportion of a C_4 to C_{14} multiolefin and halogenating the copolymer, and containing between about 0.5 and about 20.0 wt. percent based on the halogenated rubbery copolymer, of at least one nitrogen-sulfur-containing compound as a curing agent and selected from the group consisting of:

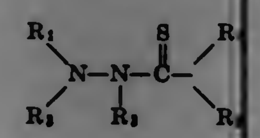
(I)



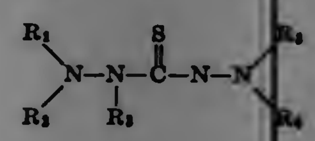
(II)



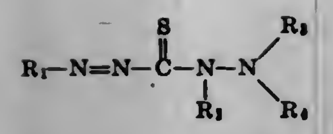
(III)



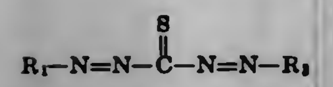
(IV)



(V)



(VI)



$R_1-N{=}N-\overset{S}{\overset{\|}{C}}-N{=}N-R_2$

wherein *n* is an integer from 0 to 10 and R_1, R_2, R_3, R_4, R_5 and R_6 are radicals selected from the group consisting of hydrogen, C_1 to C_{20} alkyl and C_6 to C_{20} aryl.

3,196,136
POLYMERIZATION OF OLEFINIC COMPOUNDS UTILIZING A CATALYST CONTAINING A TETRAKIS-(DIHYDROCARBONAMINO)SILANE

Stephen P. Boutsicaris, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed July 13, 1961, Ser. No. 123,659

6 Claims. (Cl. 260—93.7)

1. Process which comprises polymerizing propylene by contacting the same with a catalyst consisting essentially of

(A) Sodium phosphide

(B) A titanium chloride, and

(C) A tetrakis-(dihydrocarbonamino)silane in which the hydrocarbon groups attached to the nitrogen atoms contain 1–20 carbon atoms,

there being .7–3.0 moles of sodium phosphide (A) per mole of the titanium chloride (B) and the amount of the tetrakis-(dihydrocarbonamino)silane being sufficient to provide 0.1–10 gram-atoms of amino nitrogen per mole of titanium chloride (B).

3,196,137
POLYMERIZATION CATALYSTS AND PROCESS

Alfred R. Cain, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed June 23, 1961, Ser. No. 126,788

9 Claims. (Cl. 260—93.7)

1. A process of polymerizing propylene which comprises contacting the same with a catalyst comprising

(A) A reducing agent selected from the group consisting of sodium metal and sodium hydrocarbons containing 1–40 carbon atoms

(B) A halide of a group IV–A metal, and

(C) A compound selected from the group consisting of tetrakis-(dihydrocarbonamino)silanes and hexakis-(dihydrocarbonamino)siloxanes in which the hydrocarbon groups attached to the nitrogen atoms contain 1–20 carbon atoms

the amount of the reducing agent (A) being .7–3.0 mols per gram-atom of the group IV–A metal in the halide (B), and the amount of the said selected compound (C) being sufficient to provide .01–5.0 gram-atoms of amino nitrogen per mol of the reducing agent (A).

3,196,138
THREE-COMPONENT CATALYST FOR OLEFIN POLYMERIZATION CONTAINING ALKALI METAL SULFIDE, TITANIUM HALIDE AND TETRAKIS (DIHYDROCARBONAMINO) SILANE

Chris E. Best, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Sept. 5, 1961, Ser. No. 135,768

6 Claims. (Cl. 260—93.7)

1. Process which comprises polymerizing an ethylenically unsaturated compound by contacting the same with a catalyst comprising (A) an alkali metal sulfide plus (B) a titanium halide plus (C) a tetrakis(dihydrocarbonamino) silane in which the hydrocarbon groups in the hydrocarbonamino radicals contain 1–20 carbon atoms, the ratio of the number of mols of the constituent (A) to the number of gram-atoms of titanium in constituent (B) being at least .3 and the ratio of the number of mols of amino nitrogen in constituent (C) to the number of mols of constituent (A) being at least .01.

3,196,139
POLYMERIZATION PROCESS AND CATALYSTS

Chris E. Best, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Jan. 5, 1962, Ser. No. 164,608

33 Claims. (Cl. 260—93.7)

1. The process which comprises polymerizing an ethylenically unsaturated compound by contacting the same with a catalyst comprising (A) a compound selected from the group consisting of phosphides, arsenides and stibides of a cation selected from the class consisting of the metals of Groups I–A, II–A, II–B, III–A and IV–A of the Periodic Table, plus (B) a compound of the heavy metals.

3,196,140
THREE-COMPONENT CATALYST FOR OLEFIN POLYMERIZATION CONTAINING ALKALI METAL-ALUMINUM TETRAALKYL TRANSITION METAL HALIDE AND A STIBINE OR ARSINE

Harry W. Coover, Jr., Kingsport, Tenn., and Newton H. Shearer, Jr., Zurich, Switzerland, assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey

The portion of the term of the patent subsequent to Jan. 8, 1980, has been disclaimed and dedicated to the Public

No Drawing. Filed May 31, 1962, Ser. No. 198,718

12 Claims. (Cl. 260—93.7)

1. In the polymerization of α-olefinic hydrocarbon material to form solid crystalline polymer, the improvement which comprises catalyzing the polymerization with a catalytic mixture containing an alkali metal-aluminum tetraalkyl, the alkyl radicals containing from 1 to 12 carbon atoms, a halide of a metal selected from the group consisting of titanium, vanadium, zirconium, chromium and molybdenum, the halogen being selected from the group consisting of chlorine, bromine and iodine, and a compound of a Group VA element having the formula R_3Z wherein Z is a Group VA element selected from the group consisting of arsenic and antimony and each R is a radical selected from the group consisting of hydrogen and hydrocarbon radicals containing ① to 12 carbon atoms and selected from the group consisting of alkyl, aryl and aralkyl.

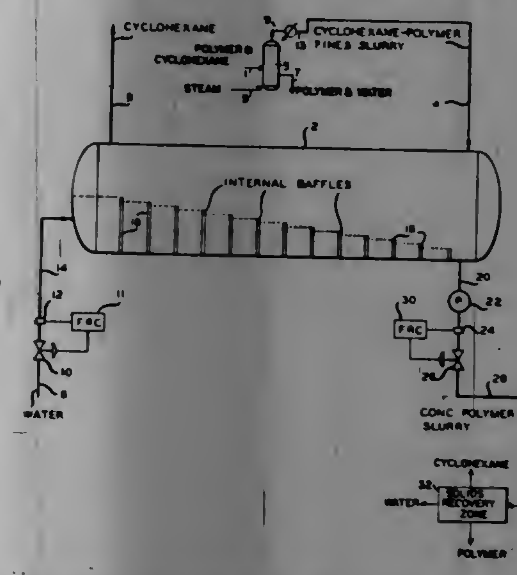
3,196,141
RECOVERY OF SOLIDS FROM A LIQUID-SOLIDS SLURRY

Dale E. Bradford, Pasadena, Tex., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Aug. 6, 1962, Ser. No. 215,150

5 Claims. (Cl. 260—93.7)

4. In a process for the recovery of solid olefin polymers from a slurry thereof in a liquid diluent comprising separating the major portion of the particulate solid polymer from said diluent by evaporation of said diluent and thereafter condensing said diluent, said condensed diluent containing less than 1 weight percent solid polymer fines, introducing the resultant slurry into the upper portion of a settling zone adjacent a first end portion wherein said solids gravitate toward the lower portion of said zone and removing substantially solids-free diluent from the upper portion of a second end portion opposite said first end portion, the improvement comprising introducing water into the lower portion of said second end portion so as to form an interfacial layer containing polymer solids between the resultant water phase and diluent phase, passing said interfacial layer over a plurality of partitions of decreasing height in the lower portion of said zone with the height of said partitions decreasing stepwise from a maximum adjacent the area of introduction of water to a minimum adjacent said first end portion to cause a stepwise reduction in the level of said interfacial layer through a series of substantially horizontal planes to provide movement of the entire interfacial layer with said interfacial layer having a constant height over each partition, the amount of water introduced being controlled so as to produce an interfacial layer depth over each partition in the range of 0.05 to 0.15 inch., and removing said interfacial layer from the lower portion of said first end portion and thereafter recovering said solids therefrom.



3,196,142
POLYMERIZATION OF CONJUGATED DIOLEFINS WITH AN ALKALI METAL PHOSPHIDE CATALYST

Chris E. Best, Akron, Ohio, assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio

No Drawing. Filed Apr. 24, 1961, Ser. No. 104,825

2 Claims. (Cl. 260—94.2)

1. Method of producing a rubbery polymer by polymerizing conjugated diolefins, comprising contacting a diolefin selected from the group consisting of butadiene-1,3, isoprene, piperylene and 2,3-dimethylbutadiene-1,3 with from 0.005 to 50 millimoles per 100 grams of monomer of a catalyst consisting essentially of an alkali metal phosphide, in the absence of a protic solvent.

3,196,143
PRODUCTION OF TRANS-1,4 POLYBUTADIENE WITH A REDUCIBLE TITANIUM COMPOUND-ORGANOALUMINUM-THIOETHER CATALYST

Raymond A. Stewart and Evalds Lasis, Sarnia, Ontario, Canada, assignors to Polymer Corporation Limited, Sarnia, Ontario, Canada, a body corporate and politic

No Drawing. Filed Dec. 5, 1960, Ser. No. 73,481

Claims priority, application Canada, Dec. 26, 1959, 789,266

13 Claims. (Cl. 260—94.3)

1. The process of producing polybutadiene in which at least 80% of the units are in the trans-1,4 configuration which comprises polymerizing butadiene at a temperature of 0° C. to 70° C. in the presence of an iodine-containing catalyst comprising an admixture of (1) a titanium compound having the formula TiX_nR_{4-n} in which X is a

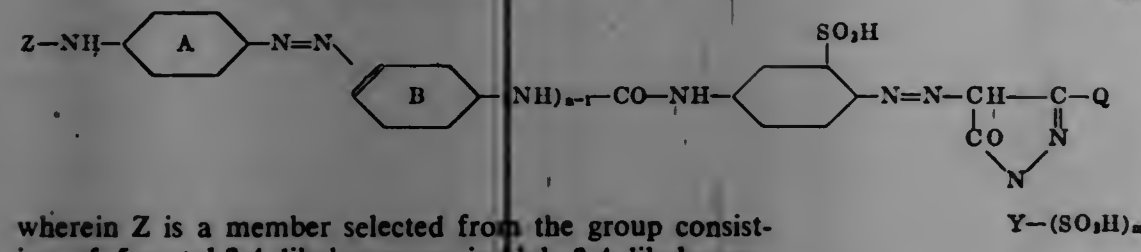
halogen atom, R contains fewer than 12 carbon atoms and is selected from the group consisting of a hydrocarbon radical, an oxyhydrocarbon radical and an organic salt-forming radical, and n is an integer having a value of 1 to 4, (2) an organo-aluminum compound having the formula $AlR_1R_2R_3$ in which R_1 and R_2 are hydrocarbon radicals and R_3 is selected from the group consisting of hydrogen, halogen, hydrocarbon and oxyhydrocarbon radicals in which said hydrocarbon and oxyhydrocarbon radicals contain from 1 to 12 carbon atoms, and (3) a thioether, in which at least one of said compounds (1) and (2) contain iodine, the ratio of organo-aluminum compound to reducible titanium compound being between 1:1 and 10:1 on a molar basis and the amount of said thioether being between about 0.75 and 10.0 moles per mole of said organo-aluminum compound.

3,196,144
PROCESS FOR PURIFICATION OF PEPTIDES
John T. Sheehan, Middlesex, N.J., assignor to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Aug. 20, 1962, Ser. No. 218,143
5 Claims. (Cl. 260—12.5)

4. In the process for preparing peptides by reacting an electronegatively substituted phenyl ester of an amino acid or peptide, said substituted phenyl being selected from the group consisting of nitrophenyl, halophenyl, cyanophenyl and thiophenyl, with a compound selected from the group consisting of a free amino acid and peptide whereby phenol by-product is formed, the improvement which comprises removing the by-product by complexing it with pyridine at an acidic pH whereby the peptide remains in solution and the by-product complex precipitates.

3,196,145
REACTIVE DISAZO DYESTUFFS
Marcel Reding and Werner Bossard, Riehen, near Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland
No Drawing. Filed Mar. 29, 1962, Ser. No. 183,351
Claims priority, application Switzerland, Mar. 30, 1961, 3,852/61
5 Claims. (Cl. 260—153)

1. Reactive dyestuff of the formula



wherein Z is a member selected from the group consisting of 5-acetyl-2,4-dihalogeno-pyrimidyl, 2,4-dihalogenopyrimidyl, 2,4,5-trihalogenopyrimidyl, (sulpho-phenylamino) - monohalogeno - 1,3-5 - triazinyl, methylaminomonohalogeno-1,3,5 - triazinyl, methoxy - monohalogeno-1,3,5 - triazinyl, ethoxy-monohalogeno-1,3,5 - trizinyl, β-halogeno (lower) alkylcarbonyl and $CH_2=CH—CO$, the halogen having an atomic weight of 35 to 80, and wherein said pyrimidyl is bonded to the —NH-group at the six position

- A contains substituents selected from the group consisting of H, lower alkyl, lower alkoxy, $—NHCOCH_3$ and lower alkoxy-carbonylamino,
- B contains substituents selected from the group consisting of H, lower alkyl, lower alkoxy and chlorine,
- Y is a member selected from the group consisting of phenyl, methylphenyl, chloropheny and naphthyl,
- Q is a member selected from the group consisting of $—CH_3$ and —COOH, and
- n and m each represents a positive whole number of up to 2.

3,196,146
PRODUCTION AND RECOVERY OF BENZYL DEXTRAN
Everette E. Witt, Miamisburg, Ohio, assignor to The Commonwealth Engineering Company of Ohio, Dayton, Ohio, a corporation of Ohio
No Drawing. Filed July 26, 1962, Ser. No. 212,723
3 Claims. (Cl. 260—209)

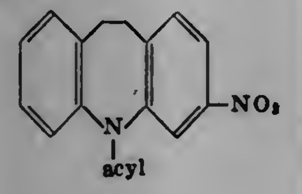
1. In a process for the production of benzyl dextran by the reaction of dextran with a benzyl halide in the presence of a strong base, the improvement which consists in recovering the benzyl dextran in substantially pure particulate form by dissolving the reaction products in a monoether of ethylene glycol and in precipitating substantially pure benzyl dextran from said solution by mixing isopropanol therewith.

3,196,147
4-O-ALKYL-5,5-DIALKYL-L-XYLOSE DERIVATIVES
Joseph Kiss, Basel, Switzerland, assignor to Hoffmann-La Roche Inc., Nutley, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 4, 1962, Ser. No. 228,257
Claims priority, application Switzerland, Oct. 13, 1961, 11,896/61
8 Claims. (Cl. 260—209)

1. 2-acylaminobenzoyl-4-O-lower alkyl-5,5-di-(C_1–C_5 alkyl)-L-xylose.

3,196,148
PROCESS FOR PRODUCTION OF 3-NITRO-5-ACYL-IMINODIBENZYL
Robert Albrecht and Henri Dietrich, Arlesheim, Basel-Land, and Fridolin Hefti, Riehen, Switzerland, assignors to Geigy Chemical Corporation, Greenburgh, N.Y., a corporation of Delaware
No Drawing. Filed Aug. 20, 1964, Ser. No. 390,991
Claims priority, application, Switzerland, Dec. 22, 1960, 14,297/60, 14,298/60
1 Claim. (Cl. 260—239)

A process for the production of 3-nitro-5-acyl-iminodibenzyl of the formula



wherein

acyl is a member selected from the group consisting of acetyl, propionyl, butyryl, isobutyryl, valeroyl, isovaleroyl and benzoyl,

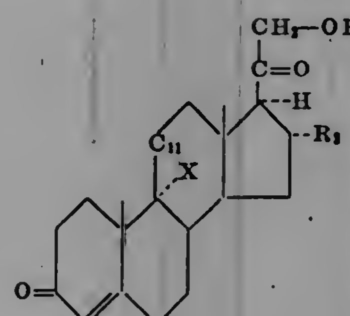
comprising

- (a) dissolving N-acyl-iminodibenzyl wherein acyl has the foregoing meaning, in a sufficient amount of concentrated sulfuric acid;
- (b) cooling the reaction mixture to a temperature in the range of —10° C. to +10° C., and, while maintaining the mixture at said temperature, slowly adding thereto while stirring a substantially equimolar amount of a mixture of 40° Bé. nitric acid and concentrated sulfuric acid in a volume ratio of about 1:4;
- (c) pouring the reaction mixture on an amout of ice being at least equal to that of the sulfuric acid in said mixture; and

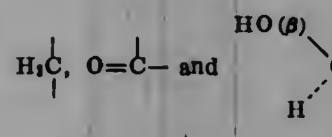
- (d) recovering the compound of the above formula from the resulting solution.

3,196,149
NEW 16-SUBSTITUTED PREGNENES
Martin J. Weiss, Oradell, N.J., Henry M. Kissman, Nanuet, N.Y., and Arlene M. Hoffman, Park Ridge, N.J., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
No Drawing. Filed Mar. 6, 1962, Ser. No. 177,748
24 Claims. (Cl. 260—239.5)

1. A steroid of the formula:



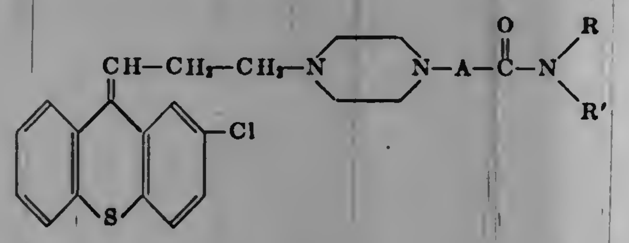
wherein C_{11} is selected from the group consisting of



R_2 is selected from the group consisting of lower alkylamino, dilower alkylamino, phenylamino, and cyclopentamethyleneimino; and R_1 is selected from the group consisting of hydrogen and lower alkanoyl and X is selected from the group consisting of hydrogen and fluorine atoms.

3,196,150
2 CHLORO-9-[13-(4 CARBAMOYL-1-PIPERAZINYL) PROPYLIDENE]THIOXANTHENE DERIVATIVES
Johann Martin Grisar, New London, Conn., assignor to Chas. Pfizer & Co., Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 15, 1963, Ser. No. 251,499
14 Claims. (Cl. 260—240)

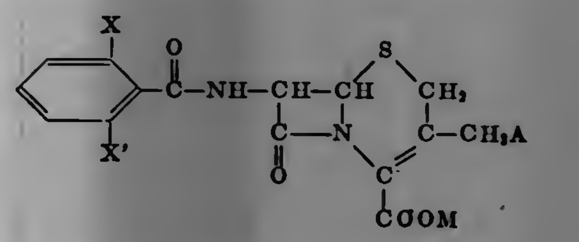
1. A compound selected from the group consisting of the formula:



and the acid addition salts thereof; wherein R is a member selected from the group consisting of hydrogen, lower alkyl, phenyl, tolyl, phenylene, phenylalkyl, the alkyl radical containing from about one to about five carbon atoms, lower alkenyl and lower hydroxyalkyl; R' is a member selected from the group consisting of hydrogen and lower alkyl and R and R' when taken together with the nitrogen atom to which they are attached form a cyclic member selected from the group consisting of pyrrolidino, piperidino, piperazino and morpholino; and wherein A is a lower alkylene having from about one to about three carbon atoms.

3,196,151
DERIVATIVES OF 7-AMINOCEPHALOSPORANIC ACID
John R. E. Hoover, Glenside, and James W. Wilson, Wayne, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania
No Drawing. Filed Nov. 8, 1960, Ser. No. 67,926
8 Claims. (Cl. 260—243)

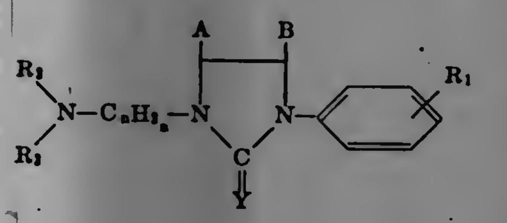
1. Compounds having the structural formula:



wherein X and X' are members selected from the group consisting of halogen, lower alkyl, lower alkoxy, nitro, benzyl, phenoxy and benzyloxy; A is a member selected from the group consisting of lower alkanoyloxy, benzoyloxy, hydroxy, N-pyridinium, and when taken together with M a monovalent carbon-oxygen bond; and M is selected from the group consisting of hydrogen, an anionic charge when A is pyridinium, a monovalent carbon-oxygen bond when taken together with A, and a pharmaceutically acceptable nontoxic cation selected from the group consisting of alkali metal cations and lower alkyl amine cations.

3,196,152
PHENYL AND ALKYLENEAMINO SUBSTITUTED IMIDAZOLIDINONES AND SALTS THEREOF
William B. Wright, Jr., Woodcliff Lake, N.J., and Herbert J. Brabander, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Sept. 28, 1962, Ser. No. 227,078
19 Claims. (Cl. 260—247.2)

1. A compound of the formula:



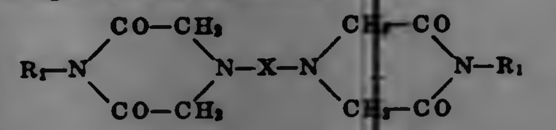
wherein R_1 is a member of the group consisting of hydrogen, halogen, lower alkyl, lower alkoxy, trifluoromethyl, lower alkylthio, lower alkylsulfonyl, lower alkanoyl, hydroxy and benzyloxy groups; R_2 and R_3 are members of the group consisting of hydrogen, lower alkyl, lower alkenyl, propargyl, cycloalkyl less than 7 carbons and phenyl (lower)alkyl and when taken together with the nitrogen form pyrrolidino, lower alkylpyrrolidino, piperidino, lower alkylpiperidino, hexamethyleneimino, morpholino, lower alkylmorpholino, lower alkylpiperazino, hydroxy-lower alkylpiperazino and lower alkanoyloxy-lower alkylpiperazino groups; Y is a member of the group consisting of oxygen and sulfur; n is an integer from 2 to 4 and A and B are member of the group consisting of hydrogen and lower alkyl groups and therapeutically useful salts thereof.

16. The compound 1-(m-chlorophenyl)-3-(2-morpholinoethyl)-2-imidazolidinone.

3,196,153
POLY(3,5-DIKETO-PIPERAZINYL-1) COMPOUNDS

Joachim Dazzi, Riehen, near Basel, Switzerland, assignor to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 18, 1962, Ser. No. 167,191
Claims priority, application Switzerland, Jan. 19, 1961, 764/61, 765/61, 766/61
8 Claims. (Cl. 260—268)

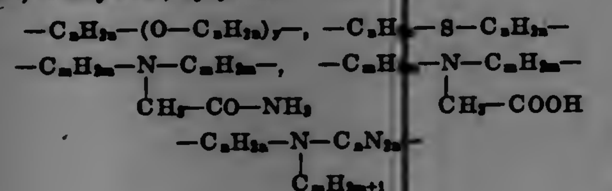
1. A compound of the formula



wherein:

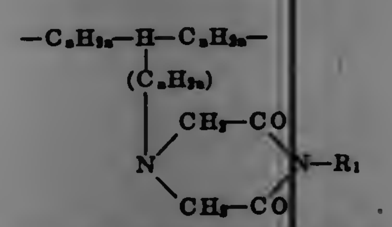
R_1 is a member selected from the group consisting of hydrogen, alkyl with 1 to 8 carbon atoms, alkenyl with 3 to 4 carbon atoms, mercaptoalkyl with 2 to 4 carbon atoms, hydroxyalkyl with 2 to 6 carbon atoms, alkylthioalkyl with 3 to 7 carbon atoms, phenyl, methylphenyl and chlorophenyl,

X is a member selected from the group consisting of alkylene with 1 to 20 carbon atoms, cyclohexylene, phenylene, benzylene, xylylene



$$-C_nH_{2n}-(O-C_nH_{2n})_y-,\quad -C_nH_{2n}-S-C_nH_{2n}-$$
$$-C_mH_{2m}-\underset{\displaystyle CH_2-CO-NH_2}{\underset{|}{N}}-C_mH_{2m}-,\quad -C_mH_{2m}-\underset{\displaystyle CH_2-COOH}{\underset{|}{N}}-C_mH_{2m}-$$
$$-C_nH_{2n}-\underset{\displaystyle C_mH_{2m+1}}{\underset{|}{N}}-C_nN_{2n}-$$

and



wherein *n* is 2 to 3, *m* is 2 to 6 and *y* is 1 to 2.

3,196,154
3-SUBSTITUTED-9-METHYL-3,9-DIAZABICYCLO [3.3.1]NONANES

Edgar A. Steck, La Grange, Ill., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 17, 1962, Ser. No. 195,429
20 Claims. (Cl. 260—268)

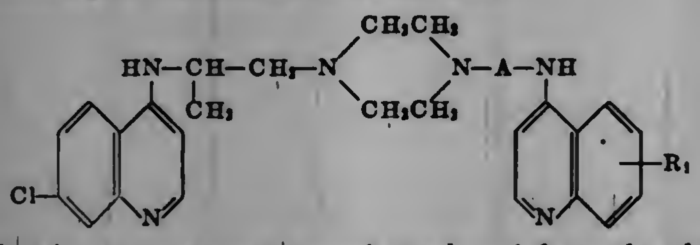
20. 3 - R - 9 - methyl - 3,9-diazabicyclo[3.3.1]nonane, wherein R is a member selected from the group consisting of:

(a) lower alkyl substituted by from one to three substituents selected from the group consisting of hydroxy, lower alkyl-O—, lower alkylmercapto, di(lower alkyl)carbamyl, lower alkyl-O—CO—, and carbo-ω-di(lower alkyl)aminoalkyl-oxy;
(b) lower alkenyl;
(c) lower alkynyl;
(d) carbamyl;
(e) thiocarbamyl and thiocarbamyl substituted by a member of the group consisting of allyl phenyl, naphthyl; pyridyl, furyl; quinolinyl; benzyl; benzhydryl; and phenyl, naphthyl, pyridyl, furyl, quinolinyl, benzyl and benzhydryl in which at least one ring thereof is substituted with from one to three substituents selected from the group consisting of hydroxy, lower alkoxy, lower alkylmercapto, halo, nitro, lower alkyl, amino and trifluoromethyl;
(f) lower alkanesulfonyl;
(g) benzenesulfonyl and benzenesulfonyl substituted with from one to three substituents selected from the group consisting of lower alkyl, lower alkyloxy, nitro, halo and lower alkyl-mercapto;
(h) di(lower alkyl)sulfamyl; and
(i) benzhydryl and benzhydryl in which at least one benzene ring thereof is substituted with from one to three substituents selected from the group consisting of hydroxy, lower alkoxy, lower alkyl-mercapto, amino, di(lower alkyl)amino, halo, lower alkyl, nitro and trifluoromethyl.

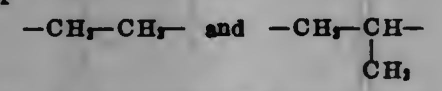
3,196,155
BIS(QUINOLYLAMINOALKYL)PIPERAZINES

Paul Gailliot, Paris, and Jacques Gaudechon, Sceaux, France, assignors to Rhone-Poulenc S.A., Paris, France, a French body corporate
No Drawing. Filed June 8, 1962, Ser. No. 200,953
Claims priority, application France, Jan. 3, 1961, 848,669; May 29, 1961, 863,189; Nov. 16, 1961, 879,154; Dec. 29, 1961, 883,457; Mar. 20, 1962, 891,650
4 Claims. (Cl. 260—268)

1. An aminoquinoline derivative selected from the class consisting of compounds of the formula:



wherein A represents a member selected from the class consisting of



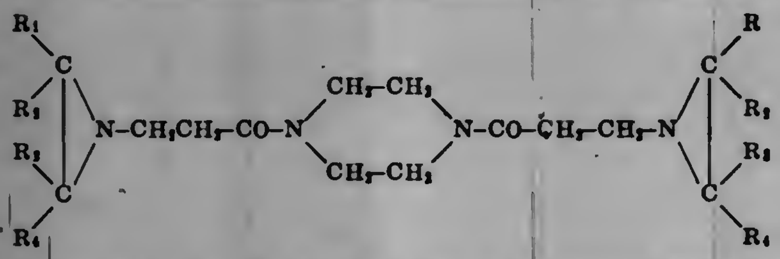
$$-CH_2-CH_2-\ \text{and}\ -CH_2-\underset{\displaystyle CH_3}{\underset{|}{C}H}-$$

and R_1 represents a substituent selected from the class of 6- and 7-chlorine atoms, and non-toxic acid addition salts of any of the said compounds.

3,196,156
1,4-BIS-(3-ETHYLENIMINOPROPIONYL)-PIPERAZINE AND ALKYL DERIVATIVES THEREOF

Shigeho Inaba, Takarazuka, Atsuko Misaki, Ibaragi, and Chiharu Saito, Toyonaka, Japan, assignors to Sumitomo Chemical Co., Ltd., Osaka, Japan
No Drawing. Filed Apr. 3, 1964, Ser. No. 357,296
Claims priority, application Japan, Apr. 11, 1963, 38/19,153
4 Claims. (Cl. 260—268)

1. Alkyleniminopropionyl piperazine of the formula:

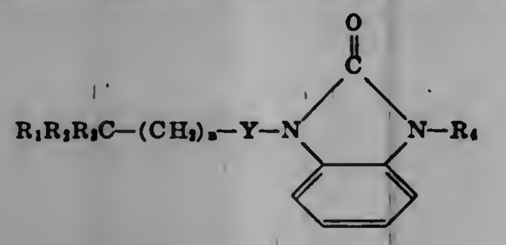


wherein R_1, R_2, R_3 and R_4 each is a member selected from the group consisting of H and lower alkyl.

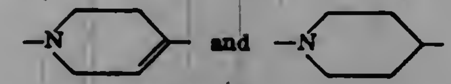
3,196,157
BENZIMIDAZOLINYL PIPERIDINES

Paul Adriaan Jan Janssen, Vosselaar, near Turnhout, Belgium, assignor to Research Laboratorium Dr. C. Janssen N.V., a corporation of Belgium
No Drawing. Filed June 11, 1963, Ser. No. 286,911
18 Claims. (Cl. 260—294)

1. A member selected from the group consisting of



and the therapeutically active nontoxic acid addition salts thereof wherein *n* is an integer from 2 to 5, R_1 is selected from the group consisting of hydrogen, hydroxy, cyano, carbamoyl and lower-alkyl-carbonyl, R_2 is aryl, R_3 is selected from the group consisting of aryl and arylmethylene, R_4 is selected from the group consisting of hydrogen, lower alkyl, lower-alkyl-carbonyl, lower-alkoxy-lower-alkyl, hydroxy-lower-alkyl, lower-alkoxy-carbonyl-lower-alkyl, lower-alkyl-carbonyl - lower - alkyl, cyano-lower-alkyl and halo-lower-alkyl, and Y is selected from the group consisting of



the nitrogen atom of which is attached to the

$$R_1R_2R_3C—(CH_2)_n—$$

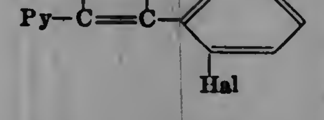
moiety; said lower alkyl and lower alkoxy having from 1 to 5 carbon atoms and said aryl being a member of the group consisting of phenyl, halophenyl, lower alkylphenyl, lower alkoxyphenyl, trifluoromethylphenyl and 2-thienyl.

2. 1-(3-cyano-3,3-diphenylpropyl)-4-(3-hydroxymethyl-2-oxo-1-benzimidazolinyl)-piperidine.

3,196,158
3-(ORTHO-CHLORO-PHENYL)-2-(PYRIDYL)-ACRYLONITRILES

William Laszlo Bencze, New Providence, N.J., assignor to Ciba Corporation, a corporation of Delaware
No Drawing. Filed July 26, 1961, Ser. No. 126,887
2 Claims. (Cl. 260—294.9)

1. A member selected from the group consisting of a compound of the formula

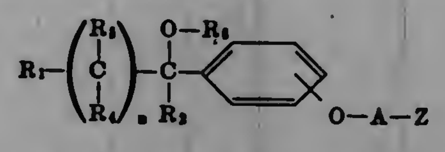


in which Py represents pyridyl, R stands for a member selected from the group consisting of hydrogen and lower alkyl, and Hal is halogeno, the pharmacologically acceptable acid addition salts thereof, the N-oxides thereof, the pharmacologically acceptable acid addition salts thereof, and the lower alkyl quaternary ammonium compounds thereof.

3,196,159
(AMINOALKYLENEOXY)-PHENYL ALCOHOLS

William Laszlo Bencze, Summit, N.J., assignor to Ciba Corporation, a corporation of Delaware
No Drawing. Filed Sept. 29, 1959, Ser. No. 843,071
14 Claims. (Cl. 260—296)

1. A member selected from the group consisting of a compound of the formula



in which one of the radicals R_1 and R_2 is a member selected from the group consisting of biphenylyl, biphenylyl substituted by lower alkyl, biphenylyl substituted by lower alkoxy, biphenylyl substituted by halogeno, biphenylyl substituted by trifluoromethyl, phenyl, phenyl substituted by lower alkyl, phenyl substituted by lower alkoxy, phenyl substituted by halogeno, phenyl substituted by trifluoromethyl and pyridyl, and the other stands for a member of the group consisting of biphenylyl, biphenylyl substituted by lower alkyl, biphenylyl substituted by lower alkoxy and biphenylyl substituted by halogeno, the group A is lower alkylene having from two to seven carbon atoms and separating the group Z from the oxygen atom by at least two carbon atoms, Z is a member selected from the group consisting of N,N-di-lower alkyl-amino and N,N-alkylene-imino, in which alkylene has from four to six carbon atoms, each of the radicals R_4 and R_5 is a member selected from the group consisting of hydrogen and lower alkyl, R_6 is a member selected from the group consisting of hydrogen and the acyl radical of lower alkanoic acid, and *n* is an integer from 0 to 2, and an addition salt thereof with a pharmaceutically acceptable acid.

3,196,160
PROCESS FOR PREPARING ALKYL 5-ALKYL-ISOXAZOLE-3-CARBOXYLATE

Kunio Nakagawa, Hyohgo, and Shinzaburo Sumimoto, Osaka, Japan, assignors to Shionogi & Co., Ltd., Osaka-shi, Japan
No Drawing. Filed June 26, 1962, Ser. No. 205,188
Claims priority, application Japan, Nov. 20, 1959, 34/36,484
15 Claims. (Cl. 260—307)

1. Process for preparing alkyl 5-alkylisoxazole-3-carboxylate which comprises reacting alkyl acylpyruvate having the following formula:

$$R—CO—CH_2—CO—COO—R'$$

wherein R and R′ each represents a lower alkyl radical with hydroxylamine sulfate at a molar ratio of 1:1 to 1.3 in a substantially anhydrous lower alkanolic medium at a temperature between 20° C. and 35° C. and recovering the produced alkyl 5-alkylisoxazole-3-carboxylate from the reaction mixture.

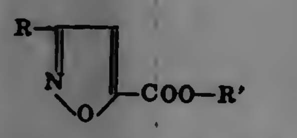
3,196,161
PROCESS FOR PREPARING ALKYL 3-ALKYL-ISOXAZOLE-5-CARBOXYLATE

Kunio Nakagawa, Hyohgo Prefecture, and Shinzaburo Sumimoto, Osaka Prefecture, Japan, assignors to Shionogi & Co., Ltd., Osaka-shi, Japan
No Drawing. Filed June 26, 1962, Ser. No. 205,189
Claims priority, application Japan, Nov. 20, 1959, 34/36,484
3 Claims. (Cl. 260—307)

1. Process for preparing alkyl 3-alkylisoxazole-5-carboxylate which comprises reacting alkyl acylpyruvate having the following formula:

$$R—CO—CH_2—CO—COO—R'$$

wherein R and R′ each represents lower alkyl with hydroxylamine in an aqueous solution of a member selected from the group consisting of sodium hydroxide and potassium hydroxide, heating the resulting product with an acid selected from the group consisting of sulfuric acid and hydrochloric acid in an anhydrous inert organic solvent selected from the group consisting of methanol, ethanol, benzene, toluene and xylene at a temperature from 60 to 90° C. and recovering the produced alkyl 3-alkylisoxazole-5-carboxylate having the following formula:

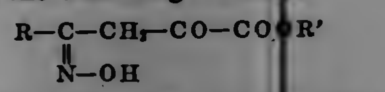


wherein R and R′ each has the same significance as designated above from the reaction mixture.

2. Process for preparing alkyl 3-alkylisoxazole-5-carboxylate which comprises reacting alkyl acylpyruvate having the following formula:

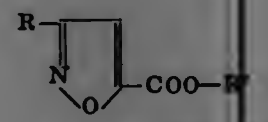
$$R—CO—CH_2—CO—COO—R'$$

wherein R and R′ each represents lower alkyl with hydroxylamine in an aqueous solution of a member selected from the group consisting of sodium hydroxide and potassium hydroxide, recovering the intermediarily produced γ-oxime having the following formula:



$$\mathrm{R-\underset{\underset{\displaystyle N-OH}{\|}}{C}-CH_2-CO-COOR'}$$

wherein R and R′ each has the same significance as designated above from the reaction mixture, heating the said γ-oxime with an acid selected from the group consisting of sulfuric acid and hydrochloric acid in an anhydrous inert organic solvent selected from the group consisting of methanol, ethanol, benzene, toluene and xylene at a temperature from 60 to 90° C. and recovering the produced alkyl 3-alkylisoxazole-5-carboxylate having the following formula:



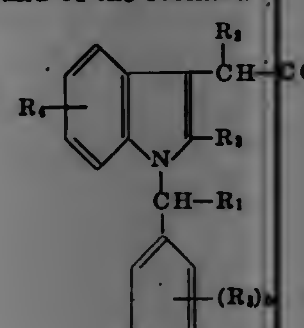
wherein R and R′ each has the same significance as designated above from the reaction mixture.

3,196,162
INDOLYL ALIPHATIC ACIDS

Lewis H. Sarett, Princeton, and Tsung-Ying Shen, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey
No Drawing. Filed Mar. 13, 1961, Ser. No. 94,995
22 Claims. (Cl. 260—319)

10. α - (1 - p-methylthiobenzyl-2,5-dimethyl-3-indolyl) acetic acid.

14. A compound of the formula



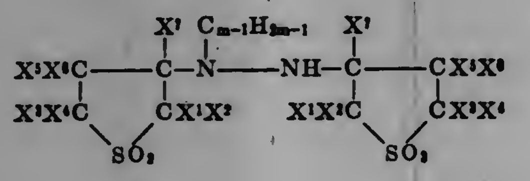
in which

- R_1 is selected from the group consisting of hydrogen, lower alkyl and lower alkenyl,
- R_2 is selected from the group consisting of hydrogen, lower alkyl, cyclo-lower alkyl, lower alkenyl, phenyl, benzyl, phenethyl, halogeno-lower alkyl, hydroxy lower alkyl, halogenated phenyl, lower alkoxyphenyl, carboxyl, carboxy chloride and formyl,
- R_3 is selected from the group consisting of hydrogen, lower alkyl, lower alkylidenyl and cyclopropyl with the elimination of the hydrogen on the carbon to which R_3 is attached,
- R_4 is selected from the group consisting of lower alkyl, lower alkoxy, hydroxy, halogen, monocyclic six-membered carbocyclic aryl, monocylic six-membered carbocyclic aryloxy, halogenated lower alkyl, lower alkenyl, lower alkanoyl, halogenated lower alkanoyl and thio lower alkanoyl, and is on a carbon one carbon removed from the points of fusion of the heterocyclic ring,
- R_5 is selected from the group consisting of hydroxy, lower alkoxy, monocyclic six-membered carbocyclic aryloxy, monocyclic six-membered carbocyclic ar-lower alkoxy, halogenated monocyclic six-membered carbocyclic ar-lower alkoxy, lower alkoxy monocyclic six-membered carbocyclic ar-lower alkoxy, halogen, halogeno lower alkyl, lower alkanoyl, halogeno lower alkanoyl, monocyclic six-membered carbocyclic aryl lower alkanoyl, halogeno lower alkoxy and benzylthiomethyl,
- *b* is a positive whole number less than four and
- M is selected from the group consisting of OH, lower alkoxy, benzyloxy and OZ in which Z is a non-toxic pharmaceutically acceptable cation selected from the group consisting of alkali metals, alkaline earth metals, aluminum, iron, zinc, ammonium, glucosammonium, morpholinium, cholinium, and pyridinium.

3,196,163
HYDRAZOSULPHOLANES AND THEIR PREPARATION

Christopher Stanley Argyle and Ronald Arthur Reed, Loughborough, England, assignors to Whiffen & Sons Limited, Loughborough, England, a British company
No Drawing. Filed May 17, 1962, Ser. No. 195,383
13 Claims. (Cl. 260—332.1)

1. Hydrazosulpholane of the formula



wherein

each of X^1, X^2, X^3, X^4, X^5, X^6 and X^7 is

$$[C_{n-1}H_{2n-1}]_{p-1}[(Y)_{q-1}(OH)_{2-q}]_{2-p}$$

at least five of X^1 to X^7, in both sulpholane moieties, being hydrogen,

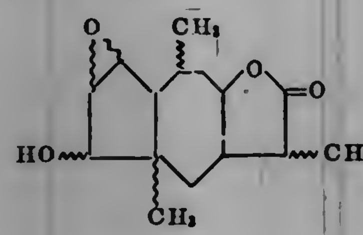
each of *m* and *n* is a positive whole number of at most 5; and

each of *p* and *q* is a positive whole number of at most 2; and Y is a member selected from the group consisting of bromo, chloro, and iodo.

3,196,164
DERIVATIVES OF LACTONES OBTAINED FROM PLANTS OF THE FAMILY COMPOSITAE

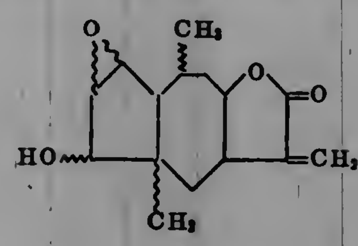
Robert Armistead Lucas, Mendham, and Harold Belding MacPhillamy, Madison, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 18, 1963, Ser. No. 252,318
6 Claims. (Cl. 260—343.3)

1. The dihydro-compound of Su–12334, which has the structure of the following formula



and which differs from the compound identified as Su–12334 by two additional hydrogen atoms, Su–12334 being composed entirely of carbon, hydrogen and oxygen, and having the empirical formula $C_{15}H_{20}O_4$, its sublimed form analyzing for 67.98 percent of carbon and 7.64 percent of hydrogen, melting at 185–186°, and its infrared absorption spectrum, taken in chloroform, showing the following bands expressed in $cm.^{-1}$: strong bands at 1756, 990, 940 and 840; medium bands at 3630, 3490, 1460, 1410, 1385, 1330, 1160 and 1120; weak bands at 1663, 1090, 1070 and 875; and shoulders at 1630, 1470, 1310, 1260, 1050, 995 and 900, and its benzene-recrystallized form melting at 197–198°, having a specific rotation in chloroform of $[\alpha]_D^{25}=+3.4°$, analyzing for 68.71 percent of carbon and 7.85 percent of hydrogen, having a molecular weight of 264 as determined by mass spectroscopy and of 268 (±2 percent) as determined by single crystal X-ray having a monoclinic crystalline system with

the space group $P2_1$, the number of asymmetric units per unit cell $Z=2$, and the unit cell dimensions $a=10.02$ A.; $b=6.73$ A.; $c=10.42$ A.; and $\beta=99°$; and having an $R_f=0.35—0.5$ on Whatman No. 1 paper impregnated with a 1:1-mixture of formamide adjusted to pH 5.6 with benzoic acid, and methanol, and a mobile phase consisting of a 1:1-mixture of xylene and methyl ethyl ketone, and being very soluble in chloroform and methylene chloride, soluble in benzene, ethyl acetate and pyridine, fairly soluble in methanol, sparingly soluble in water, and virtually insoluble in hexane and petroleum ether, and having the structure of the following formula

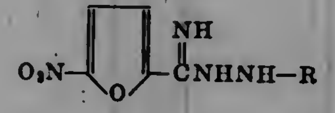


with a theoretical molecular weight of 264.31.

3,196,165
N-ALKANOYLAMIDO-5-NITRO-2-FURAMIDINES

Homer Albert Burch, Norwich, N.Y., assignor to The Norwich Pharmacal Company, a corporation of New York
No Drawing. Filed Jan. 9, 1964, Ser. No. 336,640
6 Claims. (Cl. 260—347.3)

1. A compound of the formula:



wherein R is a lower alkanoyl group.

3,196,166
COMPLEX ALKYL TITANATE DERIVATIVES AND THEIR MODIFICATIONS

Max Kronstein, New York, and William H. Kapfer, Hastings on Hudson, N.Y., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
No Drawing. Filed May 17, 1962, Ser. No. 195,649
18 Claims. (Cl. 260—347.8)

1. A method for the preparation of a complex metallic titanate composition which comprises:

(a) admixing an alkyl titanate, having the general formula of $Ti(OR)_4$ wherein R is an aliphatic hydrocarbon containing from 1 to 4 carbon atoms with a metal octoate, said octoate being one member selected from a group consisting of zinc octoate, lead octoate and cobalt octoate;

(b) subjecting the said titanate and the said metal octoate to a distillation below 280° C. whereby low boiling fractions are removed and

(c) isolating the reaction product as a distillate between a temperature range of 280° and 350° C. at a pressure of 1 to 10 mm. of mercury.

7. The method according to claim 1 including the additional steps of:

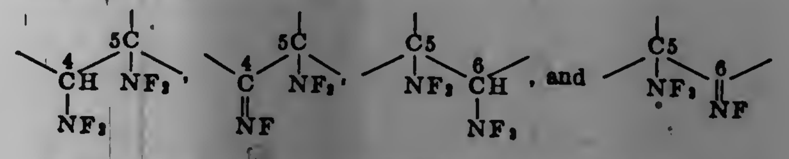
(a) mixing the reaction product thereof with an alcohol selected from the group consisting of benzyl alcohol, phenyl ethyl alcohol, 3-phenyl-1-propanol and tetrahydrofurfuryl alcohol;

(b) isolating a distillate of the said mixture between the temperature range of 300° and 350° C. at a pressure of 2 mm. of mercury.

3,196,167
STEROID CONTAINING DIFLUOROAMINO AND FLUOROIMINO GROUPS

Anestis L. Logothetis, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 5, 1963, Ser. No. 300,109
14 Claims. (Cl. 260—397.2)

1. A steroid selected from the class consisting of estranes, androstanes, pregnanes, cholanes, cholestanes, ergostanes and stigmastanes wherein said steroids contains as part of the polycyclic structure a grouping selected from the class consisting of

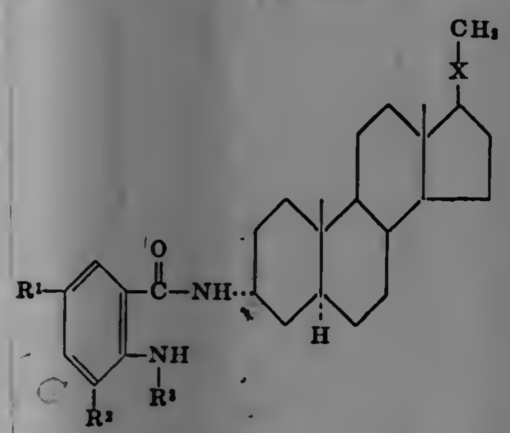


6. 3β-acetoxy-5,6-bis(difluoroamino)cholestane.

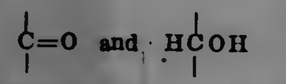
3,196,168
AMINOAROYL AMINOSTEROIDS

Norman H. Grant, Wynnewood, and Harvey E. Alburn, West Chester, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Feb. 18, 1964, Ser. No. 345,606
10 Claims. (Cl. 260—397.3)

1. A compound having the formula:



wherein R^1 and R^2 are selected from the group consisting of hydrogen, lower alkyl, phenyl, halogen, nitro and sulfo and R^3 is selected from the group consisting of hydrogen, lower alkyl, phenyl, lower alkyl phenyl and phenyl lower alkyl and X is selected from the group consisting of



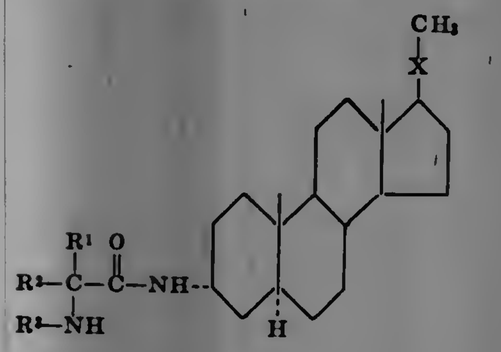
$$\underset{|}{\overset{|}{\mathrm{C}}}\mathrm{=O} \quad \text{and} \quad \mathrm{H}\underset{|}{\overset{|}{\mathrm{C}}}\mathrm{OH}$$

2. 3α-(o-aminobenzamido)-5α-pregnan-20-one.

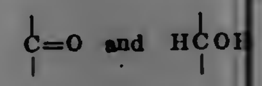
3,196,169
AMINOACYL AMINOSTEROIDS

Harvey E. Alburn, West Chester, and Norman H. Grant, Wynnewood, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Nov. 3, 1964, Ser. No. 408,679
11 Claims. (Cl. 260—397.3)

1. A compound having the formula:



wherein R^1 represents a member of the group consisting of hydrogen and lower alkyl; R^2 represents a member of the group consisting of hydrogen, lower alkyl, phenyl, lower alkyl phenyl and phenyl lower alkyl; R^1 and R^2 taken together are cycoalkyl having from 2 to 8 carbon atoms; R^3 represents a member of the group consisting of hydrogen, lower alkyl, dialkylaminoalkyl, phenyl, lower alkyl phenyl and phenyl lower alkyl; and X represents a member of the group consisting of


$\overset{|}{\underset{|}{C}}=O$ and $H\overset{|}{\underset{|}{C}}OH$

3,196,170
PROCESS FOR THE PREPARATION OF 19-NOR-DESOXYCORTICOSTERONE AND 21-ESTERS THEREOF

Percy George Holton, Mexico City, Mexico, assignor to Syntex Corporation, Panama, Panama, a corporation of Panama
No Drawing. Filed Oct. 7, 1963, Ser. No. 314,547
13 Claims. (Cl. 260—397.47)

1. A method of preparing a 19-nor-desoxycorticosterone 21-acylate which comprises:

(1) reacting a 3,19-diacylate of Δ^5-pregnene-3β, 19-dol-20-one with a lead tetraacylate in the presence of a catalytic amount of boron trifluoride etherate to give a 3,19,21-triacylate of Δ^5-pregnene-3β,19,21-triol-20-one,

(2) selectively deacylating said triacylate at the 3- and 19-position thereof to produce the corresponding 21-acyloxy-Δ^5-pregnene-3β,19-diol-20-one,

(3) subjecting the thus-produced 21-acylate to Oppenauer oxidation to give the corresponding 21-acyloxy-Δ^4-pregnen-19-ol-3,20-dione,

(4) reacting said 21-acyloxy-Δ^4-pregnen-19-ol-3,20-dione under an inert atmosphere at a temperature of from about —20° C. to about 5° C., with chromic acid to produce the corresponding 21-acyloxy-10-carboxy-Δ^4-pregnene-3,20-dione, and

(5) heating said 10-carboxy steroid to decarboxylate it, thereby producing the corresponding 19-nor-desoxycorticosterone 21-acylate.

8. Δ^5-pregnene-3β,19,21-triol-20-one.

3,196,171
OXO PROCESS

Chester G. Gunter, Park Forest, and Robert L. Baldner and Arnold N. Wennerberg, Chicago, Ill., assignors to Standard Oil Company, Chicago, Ill., a corporation of Indiana
No Drawing. Filed Nov. 21, 1960, Ser. No. 70,398
14 Claims. (Cl. 260—414)

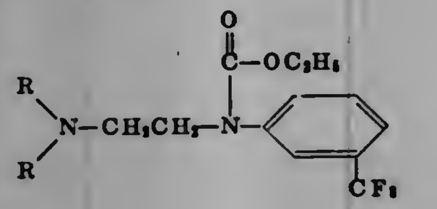
1. A process of converting dissolved cobalt catalyst from the liquid oxo reaction effluent product containing oxygenated products in which aldehyde is present in a substantial amount obtained by the conversion of a mono-olefin with CO and H_2 in the presence of a cobalt catalyst to a form of cobalt which can be recovered for recycle to the oxo reaction which comprises degassing liquid oxo reaction effluent product, contacting said liquid oxo reaction effluent product at a temperature of from 100 to 190° F. and at a pressure of from 10 to 25 pounds per square inch absolute with wet steam and with a gas containing oxygen at above 75° F. whereby the cobalt catalyst is converted to a form soluble in the organics present and removing an aqueous phase substantially free of cobalt.

5. A process of converting dissolved cobalt catalyst from the liquid oxo reaction effluent product containing oxygenated products in which aldehyde is present in a substantial amount obtained by the conversion of a mono-olefin with CO and H_2 in the presence of a cobalt catalyst to a form of cobalt which can be recovered for recycle to the oxo reaction which comprises degassing said liquid oxo reaction effluent product, contacting degassed liquid oxo reaction effluent product at a temperature of from 100 to 190° F. and a pressure of from 10 to 25 pounds per square inch absolute first with wet steam in the absence of oxygen to decompose the dissolved cobalt catalyst, permitting the steamed mixture to settle, thereby forming three liquid phases comprising a top organic phase substantially free of cobalt, a bottom aqueous phase substantially free of cobalt, and a cobalt interfacial rag between said organic phase and said aqueous phase, withdrawing said organic phase, withdrawing said aqueous phase, and contacting said cobalt interfacial rag with oxygen in the presence of a fatty acid to convert cobalt into an oil soluble cobalt soap.

3,196,172
TRIFLUOROMETHYLPHENYLALKYLENE-DIAMINES

William Blythe Wright, Jr., Woodcliff Lake, N.J., and Herbert Joseph Brabander, Pearl River, N.Y., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed May 20, 1963, Ser. No. 281,803
3 Claims. (Cl. 260—471)

1. A compound selected from the group consisting of a compound of the formula:



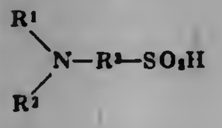
wherein R is lower alkyl and non-toxic therapeutically useful acid addition salts thereof.

2. Ethyl N - (2 - dimethylaminoethyl) - m- trifluoro - methylcarbanilate.

3,196,173
AMINOALKANESULFONIC ACIDS

Wolf-Dieter Willmund, Dusseldorf-Holthausen, and Hans Krings, Dusseldorf, Germany, assignors to Dehydag Deutsche Hydrierwerke G.m.b.H., Dusseldorf, Germany, a German corporation
No Drawing. Filed June 19, 1957, Ser. No. 666,752
Claims priority, application Germany, July 2, 1956, D 23,257
1 Claim. (Cl. 260—501)

A member selected from the group consisting of amino-alkanesulfonic acids having the general formula

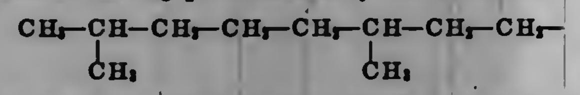


in which R^1 represents a hydrocarbon radical having 8 to 18 carbon atoms selected from the group consisting of aliphatic, aliphatic-cycloaliphatic and aliphatic-aromatic hydrocarbon radicals. R^2 is a member selected from the group consisting of hydroxyl substituted lower aliphatic hydrocarbon radicals having up to 4 carbon atoms and hydroxyl substituted lower aliphatic hydrocarbon radicals containing an ether group having up to 6 carbon atoms and R^3 is a member selected from the group consisting of lower bivalent hydrocarbon radicals and hydoxyl substituted lower bivalent hydrocarbon radicals having from 3 to 4 carbon atoms, and water soluble salts of said acids.

3,196,174
PERHYDRO BIS-(ISOPRENYL) ALKYL ARYL SULFONATES

Charles A. Cohen, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
No Drawing. Filed Mar. 1, 1962, Ser. No. 176,802
5 Claims. (Cl. 260—505)

1. The composition of matter $R—Z—C_6H_4—SO_3H$ which is the sulfonation product of the compound $R—Z—C_6H_5$ and wherein R is a perhydro bis-(isoprenyl) alkyl radical having predominantly the structure


$CH_3-\underset{\overset{|}{CH_3}}{CH}-CH_2-CH_2-CH_2-\underset{\overset{|}{CH_3}}{CH}-CH_2-CH_2-$

and Z is a two to four carbon alkylene group, the said alkylene group containing a single methyl side chain.

3,196,175
PROCESS OF PRODUCING α-CHLOROGLUTARIC ACID

Ryoichi Wakasa, Kazuo Saotome, and Tosiaki Yamazaki, Tokyo, Japan, assignors to Asahi Kasei Kogyo Kabushiki Kaisha, Osaka, Japan, a corporation of Japan
No Drawing. Filed Aug. 14, 1962, Ser. No. 216,715
Claims priority, application Japan, Aug. 15, 1961, 36/28,880
1 Claim. (Cl. 260—537)

In a process for producing α-chloroglutaric acid by dehydrochlorinating δ,δ,δ-trichlorovaleric acid into δ,δ-dichloro-4-pentenoic acid and synthesizing α-chloroglutaric acid from the δ,δ-dichloro-pentenoic acid, the improvement which comprises mixing δ,δ-dichloro-4-pentenoic acid with an acid selected from the group consisting of sulfuric, phosphoric, acetic, and formic acids, passing a chlorine gas through the resulting mixture at a temperature between 5° C. and 10° C., and pouring the reaction mass into water whereby there is obtained α-chloroglutaric acid.

3,196,176
PURIFICATION OF ACETIC ACID

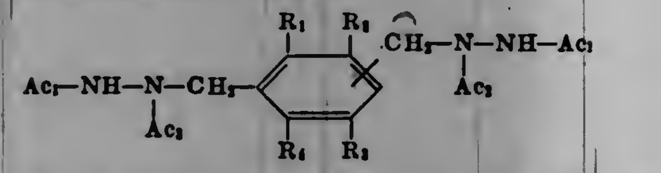
Wilson W. Howell, Pampa, Tex., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 7, 1962, Ser. No. 177,958
8 Claims. (Cl. 260—541)

1. A process for purifying acetic acid containing formic acid as the major impurity comprising bringing said acetic acid in liquid form into intimate contact with liquid phosphoric acid at a temperature above the vaporization temperature of acetic acid, maintaining said acetic acid in said intimate contact with said phosphoric acid for a time sufficient to cause vaporization of acetic acid and withdrawing acetic acid vapors of substantially lower formic acid content than the initial acetic acid feed.

3,196,177
XYLYLENEDIHYDRAZINES AND DERIVATIVES

Alexander R. Surrey, Albany, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 9, 1963, Ser. No. 279,316
9 Claims. (Cl. 260—554)

1. A compound of the formula



where Ac_1 is selected from the group consisting of hydrogen and dihaloacetyl, Ac_2 is selected from the group consisting of hydrogen, carbamyl and dihaloacetyl, and R_1. R_2, R_3 and R_4 are each selected from the group consisting of hydrogen, lower-alkyl, lower-alkoxy and halogen.

3,196,178
PROCESS FOR PURIFYING ACRYLAMIDE OR α-METHACRYLAMIDE

Everett J. Kelley, Moorestown, N.J., and Herbert R. Moody, Huntingdon Valley, Pa., assignors to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware
No Drawing. Filed Mar. 28, 1962, Ser. No. 183,043
5 Claims. (Cl. 260—561)

1. A process for purifying an amide selected from the class consisting of acrylamide and α-methacrylamide comfrom and then contacting said vapors with an inert, organic liquid wherein not more than about 5% of said amide dissolves in said liquid at the contacting temperature, said contacting temperature being below the melting point of said amide, whereby said amide is obtained from said vapors substantially directly as a finely divided solid in said liquid.

3,196,179
PREPARATION OF CYCLOHEXYLAMINE BY HYDROGENATION OF ANILINE USING A RHODIUM CATALYST

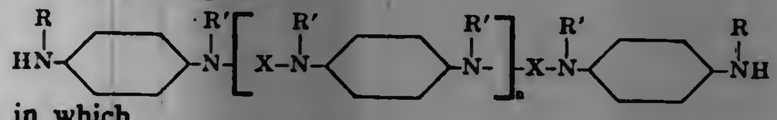
Ralph M. Robinson, Waukegan, Ill., assignor to Abbott Laboratories, North Chicago, Ill., a corporation of Illinois
No Drawing. Filed Mar. 26, 1962, Ser. No. 182,612
5 Claims. (Cl. 260—563)

1. In a process for preparing cyclohexylamine, the step which consists of reacting aniline with approximately six equivalents of hydrogen in the presence of a supported rhodium catalyst within a reaction zone maintained at a hydrogen pressure of above about five pounds per square inch gauge and at a temperature between about 25° C. and 200° C.

3,196,180
SUBSTITUTED PHENYLENEDIAMINE-ALKYL HALIDE CONDENSATION PRODUCTS

Harry E. Albert, Lafayette Hill, Pa., assignor to The Firestone Tire & Rubber Company, Akron, Ohio, a corporation of Ohio
No Drawing. Filed Nov. 23, 1960, Ser. No. 71,148
4 Claims. (Cl. 260—570.5)

1. The compounds



in which

X is a member from the class consisting of alkane groups containing two to twelve carbon atoms, cycloalkane groups containing five to ten carbon atoms, and phenyl-, alkylphenyl-, chlorophenyl- and dichlorophenyl alkane groups containing eight to twelve carbon atoms,

R is a member from the class consisting of phenyl, alkylphenyl radicals in which each alkyl group contains one to six carbon atoms, cycloalkyl radicals each containing five to seven carbon atoms and alkyl radicals each containing one to ten carbon atoms,

R' is a member from the class consisting of alkyl radicals containing one to ten carbon atoms and cycloalkyl radicals containing five to seven carbon atoms, and

n is a number from the group consisting of 0, 1, 2 and 3, and is zero when R is of the class consisting of phenyl and alkylphenyl.

3,196,181
CATALYTIC REDUCTION OF 2-OXIMINOINDANE TO 2-AMINO-INDANE

William Edward Rosen, Summit, and Charles Ferdinand Huebner, Chatham, N.J., assignors to Ciba Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 1, 1963, Ser. No. 262,195
12 Claims. (Cl. 260—578)

1. In the process for the preparation of 2-amino-indane by treating a member selected from the group consist-

ing of 2-oximino-indane and an acid addition salt thereof, with hydrogen in the presence of a non-pyrophoric palladium hydrogenation catalyst, the steps which comprise using a non-pyrophoric palladium-on-carrier hydrogenation catalyst as the non-pyrophoric palladium hydrogenation catalyst, and carrying out the treatment with hydrogen in the presence of sulfuric acid in an organic solvent selected from the group consisting of glacial acetic acid and lower alkyl acetate.

3,196,182
OXIDATION OF HYDROCARBONS
Norman R. Cox, St. Albans, W. Va., assignor to Union Carbide Corporation, a corporation of New York
No Drawing. Filed May 18, 1962, Ser. No. 195,992
8 Claims. (Cl. 260—597)

1. A process for producing oxygenated organic compounds by liquid phase oxidation of saturated aliphatic hydrocarbons having from 3 to 7 carbon atoms which includes the steps of:

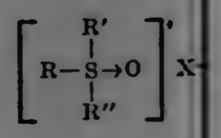
(a) continuously feeding liquid hydrocarbon and oxygen-containing gas to an elongated reaction zone having length to diameter ratio of at least about 60:1 at a rate such that the liquid flows through said reaction zone essentially in plug flow fashion,
(b) conducting said oxidation at an elevated temperature and under superatmospheric pressure so that the oxidation of said hydrocarbon takes place essentially in the liquid phase, and
(c) cooling the effluent from said reaction zone, recycling a portion of said cooled effluent to said reaction zone, and recovering oxygenated organic compounds from the remainder of said effluent.

3,196,183
PREPARATION OF ALKYLATED DECABORANES
David M. Gardner, Dover, N.J., assignor, by mesne assignments, to Thiokol Chemical Corporation, a corporation of Delaware
No Drawing. Filed Oct. 1, 1956, Ser. No. 613,354
2 Claims. (Cl. 260—606.5)

1. A method for the production of an alkylated decaborane which comprises reacting one mole of monoalkyltetraborane of the formula RB_4H_9 wherein R is an alkyl radical containing from 2 to 5 carbon atoms with from 1 to 10 moles of diborane at a temperature within the range from 50° C. to 250° C.

3,196,184
SULFOXONIUM COMPOUNDS
Jim S. Berry, Cincinnati, Ohio, assignor to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Apr. 2, 1962, Ser. No. 184,549
7 Claims. (Cl. 260—607)

1. High molecular weight sulfur-containing cationic surface active compounds corresponding to the following structural formula:


$$\left[R-\underset{\substack{|\\R''}}{\overset{\substack{R'\\|}}{S}}\rightarrow O\right]^{+}X$$

wherein

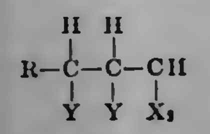
R is selected from the group consisting of alkyl and alkenyl radicals containing from 10 to 20 carbon atoms,
R′ and R″ each are selected from the group consisting of lower alkyl, benzyl, chlorinated benzyl, and alkylbenzyl wherein the alkyl substituent contains from 1 to about 4 carbon atoms,

and wherein

X represents an anionic substituent.

3,196,185
TRIS (HYDROXYARYL) ALKANE COMPOUNDS AND PROCESSES FOR THEIR PREPARATION
Derek Ranson, Norton-on-Tees, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
No Drawing. Filed July 22, 1960, Ser. No. 44,547
Claims priority, application Great Britain, Apr. 14, 1960, 13,444/60
5 Claims. (Cl. 260—619)

1. Tris (hydroxyphenyl) propane compounds of the structure:


$$R-\underset{\substack{|\\Y}}{\overset{\substack{H\\|}}{C}}-\underset{\substack{|\\Y}}{\overset{\substack{H\\|}}{C}}-\underset{\substack{|\\X_2}}{CH}$$

wherein R is selected from the group consisting of hydrogen and methyl, X is selected from the group consisting of 3-lower alkyl, 6-lower tertiary alkyl hydroxyphenyl attached to the carbon atom directly by its ortho position and 3-lower alkyl, 6-lower tertiary alkyl hydroxyphenyl attached to the carbon atom directly by its para position, and Y is selected fro mthe group consisting of hydrogen and X with one Y being hydrogen and one Y being the same as X.

3,196,186
NITRATION OF TOLUENE IN THE PRESENCE OF AN AROMATIC SULFONIC ACID
Allen W. Sogn, Williamsville, N.Y., and Joseph G. Natoli, Parlin, N.J., assignors to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Feb. 18, 1964, Ser. No. 345,592
11 Claims. (Cl. 260—645)

1. In a process for the nitration of toluene, the improvement which comprises carrying out the reaction in the presence of an aromatic sulfonic acid in an amount sufficient to produce a para directive effect.

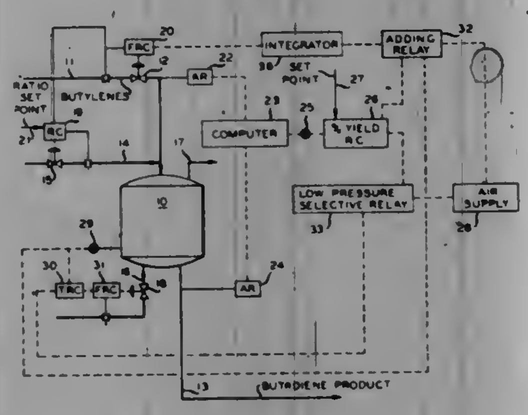
3,196,187
METHOD OF PREPARING ORGANO BERYLLIUM HALIDES
Giorgio Moretti and Alfredo Turchi, Ferrara, Italy, assignors to Montecatini Società Generale per l'Industria Mineraria e Chimica, a corporation of Italy
No Drawing. Filed Feb. 12, 1962, Ser. No. 172,788
Claims priority, application Italy, Feb. 15, 1961, 2,734/61
9 Claims. (Cl. 260—665)

1. A method of preparing pure organic beryllium compounds of the formula BeRX wherein R is alkyl and X is selected from the group consisting of chloride and bromide, this process comprising alkylating a beryllium dihalide wherein the halogen substituents are selected from the group consisting of chloride and bromide with an approximately equimolar quantity of a trialkyl aluminum, the molar ratio of said beryllium dihalide to said aluminum trialkyl being from about 0.9:1 to 1.1:1, to form BeRX and a dialkyl aluminum halide wherein the halide substituent is selected from the group consisting of chloride and bromide, and removing said dialkyl aluminum halide therefrom.

3,196,188
CYCLOPENTADIENE DIMERIZATION PROCESS
Stanton E. Parrish, South Charleston, and Eugene F. Williamson, St. Albans, W. Va., assignors to Union Carbide Corporation, a corporation of New York
Filed Nov. 28, 1961, Ser. No. 155,362
16 Claims. (Cl. 260—666)

1. The process for the dimerization of a concentrated cyclopentadiene monomer having from 5 to 7 carbon atoms which comprises heating said monomer in the liquid phase and in the substantial absence of monomer vapors at a temperature of from 110° C. to 160° C. for from 3 to 30 minutes, whereby at least 50 percent of said monomer is converted to its dimer and the formation of cyclopentadiene polymers higher than the dimer is minimized.

3,196,189
METHOD OF CONTROLLING A DEHYDROGENATION PROCESS
Frank T. Ogle, Ernest D. Tolin, and Edwin K. Clardy, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware
Filed Apr. 2, 1962, Ser. No. 184,077
6 Claims. (Cl. 260—683.3)



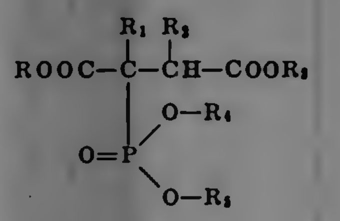
3. In a dehydrogenation process which comprises passing a light hydrocarbon feed stream to a dehydrogenation reaction zone containing a dehydrogenation catalyst, said light hydrocarbon feed selected from the group comprising normal butane, butylenes and amylenes and withdrawing from said dehydrogenation reaction zone an effluent hydrocarbon stream; a method of control which comprises measuring a property of said light hydrocarbon feed stream which is representative of the composition thereof, passing a first signal representative of said measurement to a computing zone. measuring a property of said effluent stream which is representative of the composition thereof. passing a second signal representative of said effluent stream measurement to said computing zone, passing a third signal representative of the effectiveness of said dehydrogenation reaction from said computing zone to a first control zone responsive to said first and second signals, passing a fourth error signal responsive to said third signal from said first control zone to a second control zone, passing a fifth signal representative of a required dehydrogenation reaction zone temperture from said first control zone to a third control zone responsive to said third signal, passing a sixth signal representative of a maximum allowable operating temperature in said dehydrogenation reaction zone to said second and said third control zones, said third control zone capable of transmitting a seventh signal representative of the minimum of said fifth and sixth signals received by said third control zone, passing said seventh signal from said third control zone to a means for manipulating a temperature of said dehydrogenation reaction zone, thereby manipulating said temperature responsive to said seventh signal, passing an eighth signal representative of a measured temperature of said dehydrogenation reaction zone to said second control zone, said second control zone solving the equation

$$\text{Output}=A-C+B$$

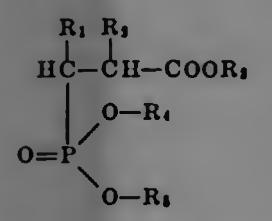
where A is representative of said sixth signal, B is representative of said fourth signal, and C is representative of said eighth signal, passing a ninth signal representative of said output from said second control zone to means for manipulating the rate of flow of said light hydrocarbon feed to said dehydrogenation reaction zone, thereby manipulating said rate of flow of said light hydrocarbon responsive to said ninth signal.

3,196,190
FLAME-RESISTANT POLYESTER RESINOUS COMPOSITIONS CONTAINING HALOGEN AND PHOSPHORUS
Günther Nischk, Ulrich Bahr, and Karlheinz Andres, Leverkusen, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a German corporation
No Drawing. Filed July 13, 1960, Ser. No. 42,473
Claims priority, application Germany, July 17, 1959, F 28,963
19 Claims. (Cl. 260—869)

1. A flame-resistant composition comprising the polymerisable mixture of (1) an ethylenically unsaturated polyhydric alcohol-polycarboxylic acid polyester containing combined halogen, said polyester having incorporated therein by condensation a phosphorus compound selected from the group consisting of compounds of the formulae



and



wherein R is selected from the group consisting of alkyl, unsaturated alkyl, cycloalkyl, aralkyl, hydroxyalkyl, halogenated alkyl, halogenated cycloalkyl and halogenated aralkyl; R_1 and R_2 are selected from the group consisting of hydrogen, alkyl, halogen and cycloalkyl and R_3, R_4 and R_5 are selected from the group consisting of alkyl, unsaturated alkyl, cycloalkyl, aralkyl, halogenated alkyl, halogenated cycloalkyl and halogenated aralkyl and (2) a vinylidene monomer.

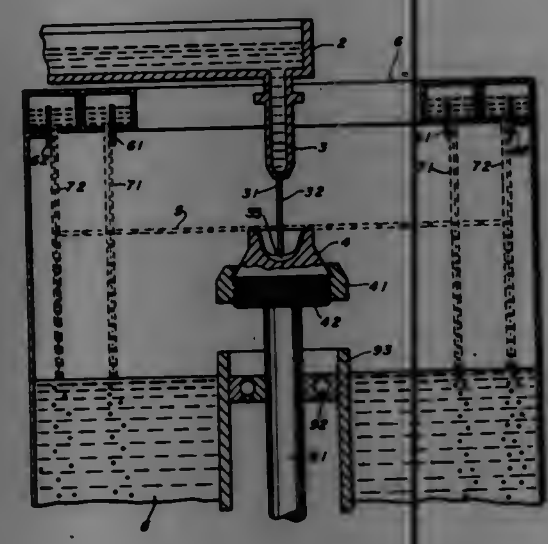
15. A flame-resistant resin prepared by reacting (a) a polyester of maleic anhydride, tetrachlorophthalic anhydride and ethylene glycol, with (b) a 1,3-butylene glycol monomaleinate/tri-beta-chloroethyl phosphate reaction product, and (c) styrene.

3,196,191
HALOGEN-CONTAINING POLYESTER COMPOSITIONS
Daniel H. Haigh, Beaverton, and Carleton Roberts, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed May 25, 1961, Ser. No. 112,514
8 Claims. (Cl. 260—869)

1. A polymerizable composition comprising a polymerizable linear polyester of ingredients comprising (1) an adduct of hexachlorocyclopentadiene and tetrahydrophthalic anhydride, (2) a saturated aliphatic polyol and (3) a reactive ethylenically unsaturated polyfunctional chemical compound containing reactive groups selected from the class consisting of carboxy groups and anhydride groups thereof and hydroxyl groups, which compound retains active ethylenic unsaturation after being chemically combined in the polyester chain and renders the polyester copolymerizable with olefinic cross-linking agents.

3,196,192
PROCESS AND APPARATUS FOR MAKING ALUMINUM PARTICLES

John E. Vruggink, Lower Burrell, and George H. Frantz, New Kensington, Pa., assignors to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 29, 1962, Ser. No. 183,436
5 Claims. (Cl. 264—8)



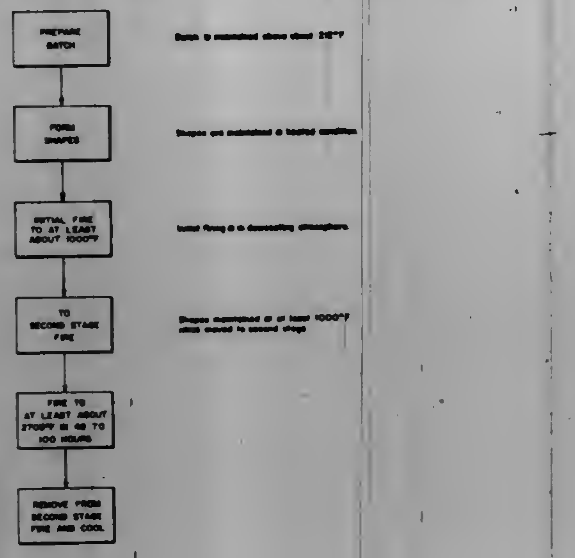
1. In a process for making substantially equi-axed, smooth-surfaced aluminum particulate wherein
- a stream of molten aluminum is directed downwardly onto an upwardly concave surface which is rapidly rotating about a substantially vertical axis,
- the molten aluminum is thrown centrifugally from such surface and thereby dispersed about its axis in the form of molten particles in generally radial flight, and
- the molten particles are water cooled to produce solid particles,

the improvement comprising
- providing at least one substantially cylindrical sheet-like envelope of downwardly-directed cooling water in substantially uninterrupted liquid phase around and spaced from the rotating surface and entering an underlying body of water,
- arresting the flight of the molten particles within the downwardly-directed cooling water while they are still moving in a generally radial direction,
- initially cooling them in such downwardly-directed water, and
- carrying them in such downwardly-directed water into the underlying body of water.

3,196,193
FIRING OF LIME AND DOLOMITE SHAPES

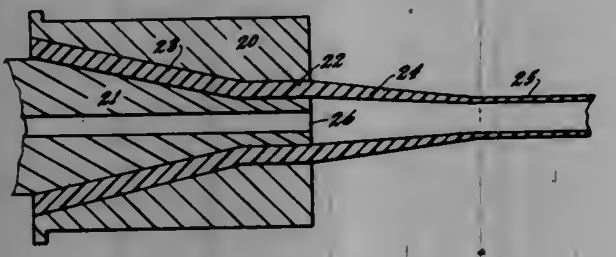
Ben Davies and Oscar Milton Wicken, Pittsburgh, Pa., assignors to Harbison-Walker Refractories Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Aug. 26, 1963, Ser. No. 304,609
The portion of the term of the patent subsequent to Oct. 29, 1980, has been disclaimed
10 Claims. (Cl. 264—58)

1. The process of preparing a burned refractory shape from dead burned dolomite grain which comprises preparing a batch of dead burned dolomite grain which is maintained at a temperature of above about 212° F., and forming this heated batch into shapes, placing the heated shapes on kiln cars while assuring no face to face contact between said shapes, moving the loaded car into an initial kiln treatment stage, in which the shapes are heated to a temperature of at least about 1000° F. in a desiccating atmosphere at a temperature rate slow enough to assure no cracking, removing the car and shapes from the desiccating atmosphere and moving them to a second stage while they are still at at least about 1000° F., firing said shapes in the second stage to a temperature of at least about 2700° F. in from 48 to 100 hours, removing the shapes from this second stage, and cooling them.


PREPARE BATCH
FORM SHAPES
INITIAL FIRE TO AT LEAST ABOUT 1000°F
TO SECOND STAGE FIRE
FIRE TO AT LEAST ABOUT 2700°F IN 48 TO 100 HOURS
REMOVE FROM SECOND STAGE FIRE AND COOL

3,196,194
FEP-FLUOROCARBON TUBING PROCESS

Berten E. Ely, Jr., Cheyney, John W. Burley, Ardmore, and Ira T. Clement, Glen Mills, Pa., assignors to Pennsylvania Fluorocarbon Co., Inc., Clifton Heights, Pa., a corporation of Pennsylvania
Filed June 4, 1964, Ser. No. 372,602
3 Claims. (Cl. 264—95)



1. A process of making heat shrinkable tubing of a copolymer of tetrafluoroethylene and 5 to 35% by weight of hexafluoropropylene which comprises melt extruding said copolymer into tubing under a front barrel temperature of 540 to 550° F. and a rear barrel temperature of 530 to 540° F., at a rate of extrusion related to the size of the extruder as follows:

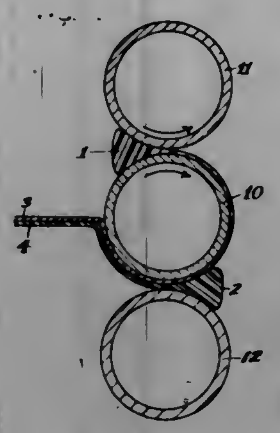
Screw diameter in inches:	Extrusion rate in pounds per hour
1	1.75 to 2
2	4.9 to 5.6
3	14 to 16

heating said tubing to a temperature of between 250 and 400° F., expanding said heated tubing by subjecting it to internal pressure, and cooling said tubing while thus expanded.

3,196,195
METHOD OF PRODUCING TEARABLE LAMINATES

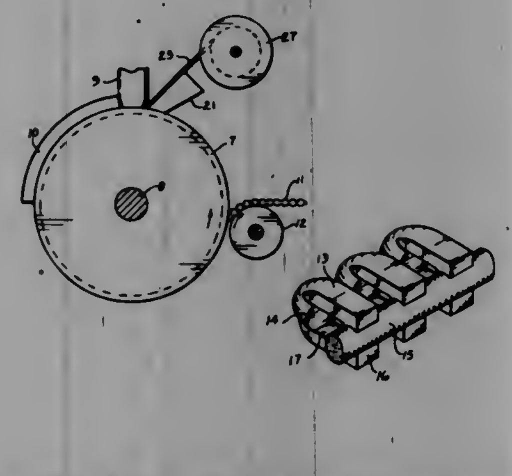
Ludwig Tritsch, Niles, Ill., assignor to The Kendall Company, Boston, Mass., a corporation of Massachusetts
Filed Oct. 12, 1961, Ser. No. 144,764
4 Claims. (Cl. 264—171)

1. The process whereby a low density polyethylene sheet is produced capable of being torn in a substantially straight line which comprises forming a sheet of a unidirectionally molecularly oriented, linear, crystalline polyalkene from a molten bulk of said polyalkene and, while the surface of said sheet poyalkene is thermally softened after formation thereof, forming a layer of low density polyethylene from a molten bulk thereof directly aigainst the thermally softened surface of said polyalkene sheet to fusion laminate said sheets together.



3,196,196
PROCESS AND APPARATUS FOR MOLDING ZIPPER FASTENERS

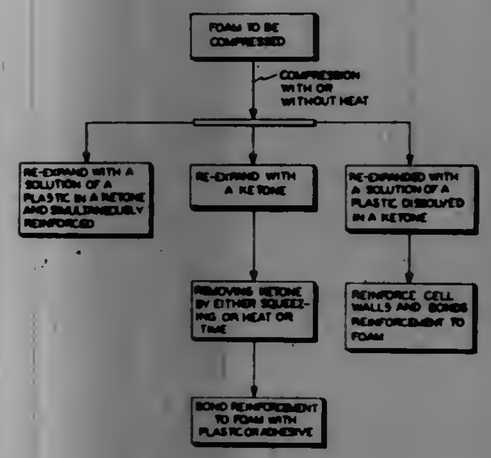
John E. Burbank, Stamford, Conn., assignor to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed Mar. 12, 1962, Ser. No. 178,913
4 Claims. (Cl. 264—251)



3. A process for making a continuous zipper stringer with a series of flexibly connected individual zipper elements, each element having a body portion and a substantially narrower hook-like section projecting beyond said body portion toward an adjacent fastener element, which process consists of
- (a) rotating a wheel having a solid periphery with mold cavities opening through the periphery of the wheel, each mold cavity conforming in shape to one of said zipper elements, said mold cavities being connected by a groove with a stationary nozzle fitting tightly against the wheel periphery on opposite sides of said groove;
- (b) injecting plastic material into the mold cavities through said nozzle as the wheel rotates in line with a stationary core which fits in the bottom portion of said groove;
- (c) simultaneously with such injection, introducing a continuous flexible cord within said groove between said core and said nozzle; and,
- (d) withdrawing such flexibly connected fastener elements from the periphery of said wheel without opening said mold cavities in a lateral direction.

3,196,197
PROCESS FOR SHIPPING RIGID POLYURETHANE FOAM

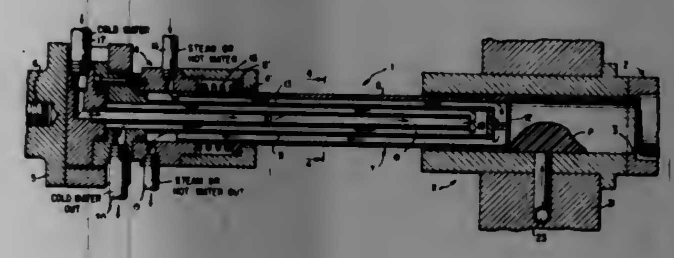
Solomon Goldfein, Falls Church, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 1, 1962, Ser. No. 234,895
10 Claims. (Cl. 264—321)
(Granted under Title 35, U.S. Code (1952), sec. 266)


FOAM TO BE COMPRESSED
COMPRESSION WITH OR WITHOUT HEAT
RE-EXPAND WITH A SOLUTION OF A PLASTIC IN A KETONE AND SIMULTANEOUSLY REINFORCED
RE-EXPAND WITH A KETONE
RE-EXPANDED WITH A SOLUTION OF A PLASTIC DISSOLVED IN A KETONE
REMOVING KETONE BY EITHER SQUEEZING OR HEAT OR TIME
REINFORCE CELL WALLS AND SCRIM REINFORCEMENT TO FOAM
BOND REINFORCEMENT TO FOAM WITH PLASTIC OR ADHESIVE

1. A method for compressing and re-expanding rigid polyurethane foam comprising the steps of:
- (a) Compressing the rigid polyurethane foam to a fraction of its original volume with compressing means;
- (b) Removing said compressed foam from said compressing means;
- (c) Re-expanding by immersing said compressed foam in a ketone;
- (d) Immersing said re-expanded foam in a plastic soluble in said ketone; and
- (e) Evaporating said ketone to produce a rigid re-expended polyurethane foam.

3,196,198
METHOD AND APPARATUS FOR MOLDING PLASTIC ARTICLES

Raymond H. Rex, Toledo, Ohio, assignor to Owens-Illinois Glass Company, a corporation of Ohio
Filed Nov. 13, 1961, Ser. No. 151,919
10 Claims. (Cl. 264—328)



1. The method of forming a plastic article free from fold blemishes comprising introducing a hot plastic charge into a chamber, moving said charge by means of a heated ram in contact therewith into a mold cavity, quickly cooling said heated ram as the charge enters said opening and thereafter continuing to move the plastic charge into the cavity by said ram so as to form the article.

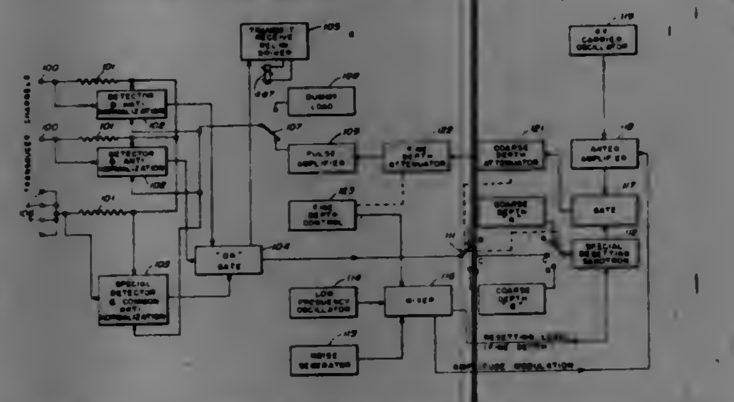
ELECTRICAL

3,196,199
MULTI-CHANNEL TRANSPONDER

Samuel Wolf, Linthicum Heights, and Frederick J. Conrad, Baltimore, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Apr. 22, 1963, Ser. No. 274,875

14 Claims. (Cl. 35—10.4)



1. In a sonar surface scanner transponder system, the combination comprising;

a plurality of signal receiving means simulating transducer channels, each receiving means being adapted to be actuated in sequence by an interrogation signal from a utilization means;

a plurality of detection means and anti-normalization means, one being connected to each of said signal receiving means for detecting, delaying and transmitting an interrogation signal to an echo simulating system;

each of said detection means being electrically connected to one of said plurality of signal receiving means, and each of said anti-normalization means being electrically connected in series with the output of one of said detection means;

switch means connecting each of said plurality of signal receiving means alternatively to a dummy load or simulated echo output circuit in response to an output signal from said anti-normalization means; and

echo simulating means actuated by an output signal from said anti-normalization means for generating an electrical pulse of a predetermined magnitude and time delay indicative of a hypothetical surface condition of a body of water, whereby the generated simulated echo signal is transmitted from said echo simulating means, through one of said signal receiving means to a utilization means.

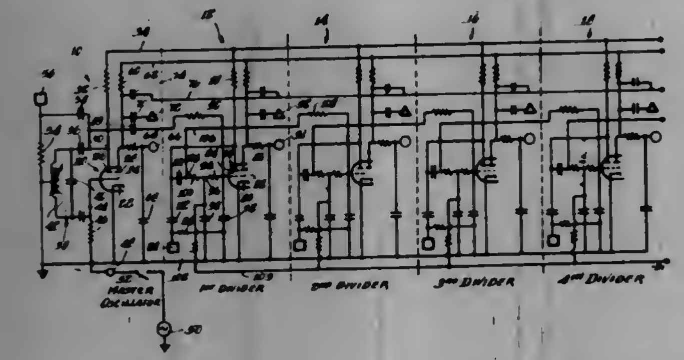
3,196,200
ELECTRONIC MUSICAL INSTRUMENT OSCILLATOR

John R. Brand, Corinth, Miss., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio

Filed May 11, 1960, Ser. No. 28,341

2 Claims. (Cl. 84—1.05)

1. In an electronic musical instrument having an amplifier, electroacoustic transducing means connected to said amplifier for converting amplified electronic oscillations into sound, a plurality of interconnected key switches, stops and filters, and a plurality of stable master oscillators; a plurality of phase-lag electronic divider oscillators, said divider oscillators being connected in divider chains to said master oscillators and to one another, each of said divider oscillators being respectively connected to a preceding oscillator in one of said chains and driven thereby and to one of said key switches, each of said oscillators being constructed and arranged to produce electronic oscillations of a predetermined frequency one-half the frequency of the preceding oscillator, each of said divider oscillators comprising an electronic valve having anode, cathode and control elements, means applying a D.C. potential across said anode and cathode elements, said cathode element being grounded, a resistance-capacitance phase-shift feedback network between said anode element and said control element, said phase-shift feedback network consisting of two resistors in series with one another from said anode element to said control element and a pair of capacitors shunting said resistors to ground, one resistor being connected to ground from between said resistors and the other being connected to ground from said control element, a capacitor connected from said anode element to the resistor remote to said control element, and a common fixed D.C. bias means connected between ground and all of said divider oscillators, said bias means being connected between the two series resistors of each feedback network.

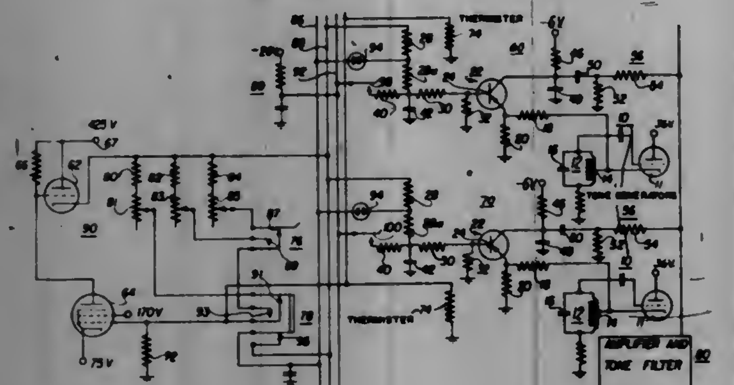


3,196,201
TRANSISTOR KEYER

Lyell J. McDonald, Elkhart, Ind., assignor to C. G. Conn Ltd., Elkhart, Ind., a corporation of Indiana

Filed Apr. 26, 1961, Ser. No. 105,697

11 Claims. (Cl. 84—1.26)



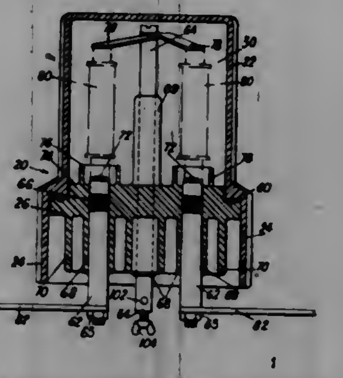
1. In an electronic organ including a tone generator for providing a signal corresponding to a musical tone, a keyer adapted to control the attack and decay of the tone including in combination, a transistor having input, output and control electrodes, means for applying the signal from the tone generator to said input electrode, means connected to said output electrode for deriving the signal therefrom, and a control circuit connected to said control electrode including blocking voltage supply means for applying a first potential to said control electrode to prevent conduction between said input electrode and said output electrode, said control circuit including switch means for controlling the amount of blocking voltage applied to said control electrode, said control circuit having means including a key for applying a second potential to said control electrode to override said first potential and cause said transistor to conduct, said last named means including storage means for applying a portion of said second potential to said control electrode, with said portion gradually diminishing after said key is released.

3,196,202
HOUSING FOR PROTECTIVE GEAR FOR OVERHEAD ELECTRICAL CONDUCTORS

Harold Bremner Sharp, 455 Main Road, Escombe, Natal, Republic of South Africa

Filed Aug. 25, 1961, Ser. No. 133,834

11 Claims. (Cl. 174—44)



10. An overhead line equipment mounting device comprising a platform, a cover, means for securing the cover to the platform, said cover extending over the platform and forming a chamber therebetween for said equipment, a tubular nipple having one end secured to the platform, conductor means extending through the nipple and through the platform, and a tubular skirt having one end secured to the platform, said skirt being coaxial and substantially coextensive with said tubual nipple, and spaced radially from said nipple, said skirt and said nipple forming an annular space extending substantially the entire length of the nipple, whereby the skirt prevents an electrical leakage path of low resistance being established on the undersurface of the platform.

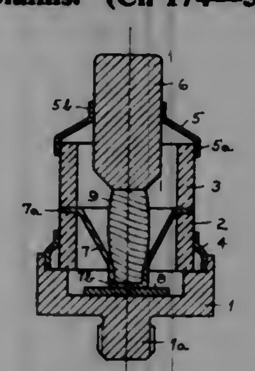
3,196,203
SEMICONDUCTOR DEVICE WITH STRESS RESISTANT SUPPORT FOR SEMICONDUCTOR DISC

Eduard Keller, Wettingen, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie., Baden, Switzerland, a joint-stock company

Filed Mar. 22, 1963, Ser. No. 267,229

Claims priority, application Switzerland, Mar. 23, 1962, 3,476/62

6 Claims. (Cl. 174—52)



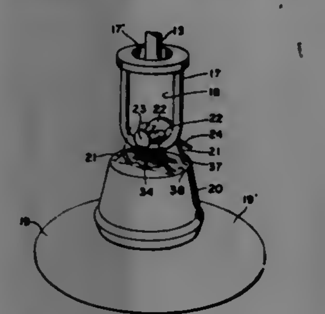
1. In an enclosed semiconductor arrangement the combination comprising a metal casing part, upper and lower ceramic tubes arranged in superposed concentric relation on said metal casing part, an elongated conductive connecting member extending through the interior of said ceramic tubes, an upper metal sleeve surrounding said connecting member, said upper sleeve being soldered peripherally to the upper ceramic tube and connecting member to form a sealed joint closing off the upper end of the upper ceramic tube, a lower sleeve peripherally soldered to said metal casing part and the lower end of said lower ceramic tube, a semiconductor element supported on said metal casing part and a funnel-shaped metal member having an upper peripheral flange secured between the confronting end walls of said superposed ceramic tubes, the lower portion of said funnel-shaped member terminating in a flat surface in abutment with said semiconductor element.

3,196,204
INSULATOR STRING AND BONDING BRUSH

Herbert H. Gates, 235 NE. 160th St., North Miami Beach, Fla.

Filed Mar. 26, 1963, Ser. No. 267,979

3 Claims. (Cl. 174—141)



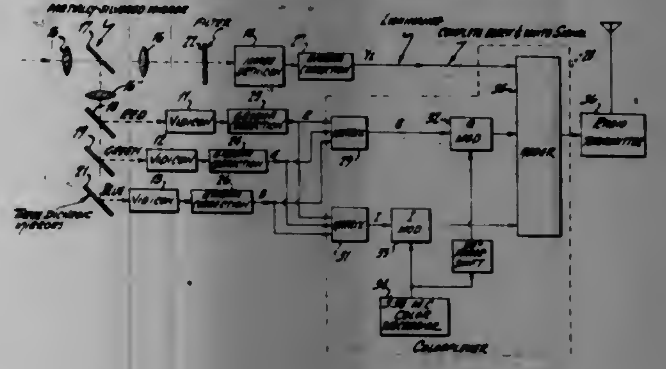
1. In combination: an insulator string containing movable joined conductive portions and a bonding brush between said movable portions for maintaining a substantially constant conductive path between joined conductive portions of adjacent insulating elements of the insulator string, said brush comprising a core, resilient conductive bristles secured to said core and placed into firm conductive engagement with portions of said joined conductive portions of said insulating elements, said resilient conductive bristles being capable of yielding during insertion between said conductive elements and yieldingly engaging said joined conductive portions to thereby maintain said substantially constant conductive path as said joined conductive portions experience relative movement.

3,196,205
COLOR TELEVISION CAMERA SYSTEM

Alda V. Bedford, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware

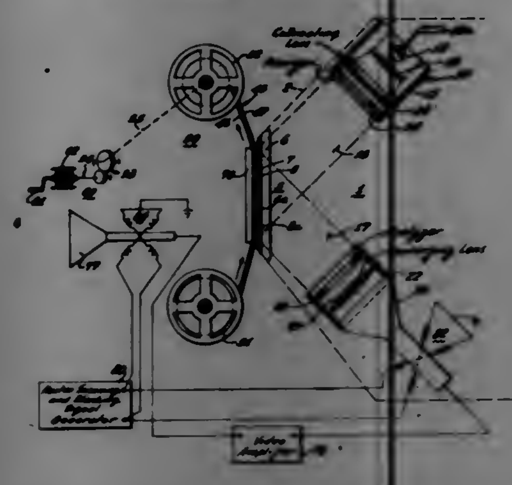
Filed June 27, 1961, Ser. No. 119,871

17 Claims. (Cl. 178—5.4)



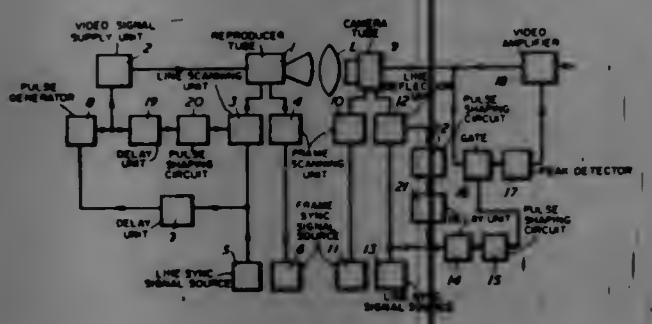
1. In combination, three picture signal pickup tubes of the vidicon type characterized in that they have comparatively low resolution and a normally undesirable lag whereby a reproduced picture tends to smear when there is picture motion, means for deriving from the outputs of said vidicons a color subcarrier which carries color difference signals representative of a scene, a comparatively high resolution picture signal pickup tube, means for obtaining from said high resolution tube a brightness or luminance signal representative of the sum of the luminances of all of the picture color components of said scene, and means for adding said luminance signal to said color subcarrier to produce a combined signal representative of said scene.

3,196,206
MAGNETO-OPTICAL TRANSDUCER USING A MAGNETIC THIN FILM
Henry W. Griffiths, Torrance, Calif., assignor to The Magnavox Company, Torrance, Calif., a corporation of Delaware
Filed Jan. 9, 1962, Ser. No. 165,202
11 Claims. (Cl. 178—6.6)



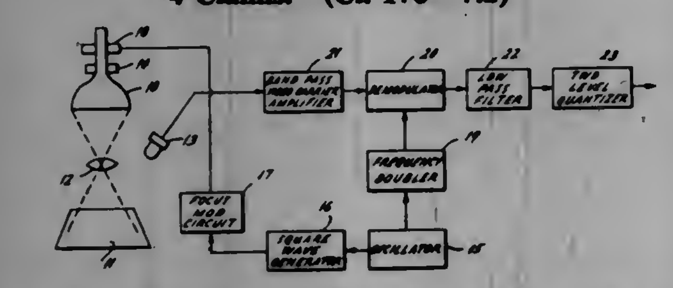
1. A reproducer utilizing a magneto-optical effect for transducing successive groups of magnetic signal states recorded in a magnetizable material into information represented by the signal states, the reproducer including:
a thin magnetic film disposed in magnetic relation with the magnetizable material to simultaneously reproduce successive groups of the magnetic signal states on the thin film,
a source of light disposed to reflect light from an area of the thin film having one of the groups of magnetic signal states recorded on the thin film, so that the reflected light will have components polarized in directions dependent upon the magnetic states of the area, and
means disposed in the path of the reflected light components for translating rotations of the major direction of polarization of the components into the information represented by the pattern of the magnetic signal states.

3,196,207
TELEVISION STANDARDS CONVERSION APPARATUS HAVING TEMPORARILY INCREASED LINE SCANNING SPEEDS
Eric Davies, Danbury, England, assignor to The Marconi Company Limited, a British company
Filed July 17, 1961, Ser. No. 124,468
Claims priority, application Great Britain, Sept. 5, 1960, 30,604/60
4 Claims. (Cl. 178—6.8)



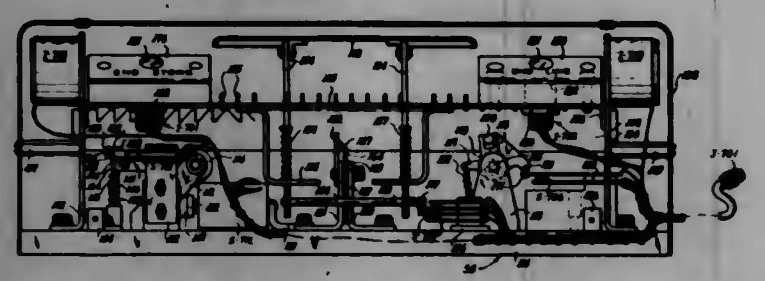
1. In a television standards conversion apparatus including an input signal reproducer tube, means for supplying a composite signal wave including a television signal wave in accordance with input standards and a superimposed reference amplitude pulse during the blanking period of said signal wave to said tube for producing a useful picture with a reference stripe just outside one frame direction edge thereof, a television camera positioned to view said picture and stripe, operated in accordance with output standards, and means coupled to said camera and controlled by signals due to the viewing of said reference stripe, for controlling the amplitude of video signals derived from said camera so as substantially to reduce or eliminate flicker effects present in those signals due to standard differences and primarily due to difference of frame frequency between the two standards, said apparatus comprising means for varying the speed of line deflection of the input signal reproducer tube during the blanking period of the composite signal waveform to increase that speed after termination of the superimposed reference amplitude pulse to a substantially higher value than that of the speed before such termination.

3,196,208
TWO-LEVEL QUANTIZATION SYSTEM
Francis P. Keiper, Jr., Oreland, Pa., assignor to Philco Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Jan. 24, 1962, Ser. No. 168,366
4 Claims. (Cl. 178—7.2)



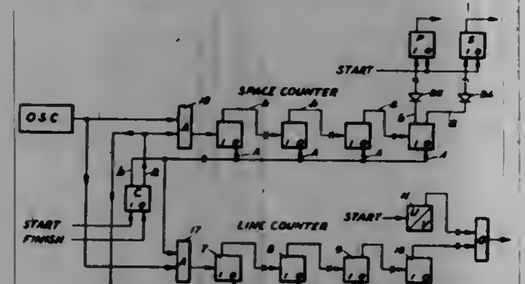
1. In a system for producing a picture or image representative signal quantized to two levels representing black and white, means for causing an electron beam to scan the picture or image in successive lines, means for producing a wave having a frequency substantially higher than the line-scanning frequency and having axial portions and intermittently-occurring excursions from the wave axis, said excursions occurring during a predetermined fraction of the time of each cycle of said wave, means for utilizing said wave to effect focus modulation of said beam, means for producing from the beam scanning and focus modulation a signal represented substantially by the sum of the second spatial derivatives of brightness of the picture or image in two directions, and means responsive to said last-named signal to provide a two-level signal whose levels respectively represent black and white areas of the picture or image.

3,196,209
KEYBOARD COMMUNICATIONS EQUIPMENT
Edward F. Kleinschmidt, Wilmette, and John W. Ehrlich, Glenview, Ill., and Edward E. Podwojski, Santa Barbara, Calif., assignors to SCM Corporation, a corporation of New York
Original application Nov. 16, 1955, Ser. No. 547,265, now Patent No. 3,009,988. Divided and this application July 26, 1961, Ser. No. 127,036
16 Claims. (Cl. 178—17)



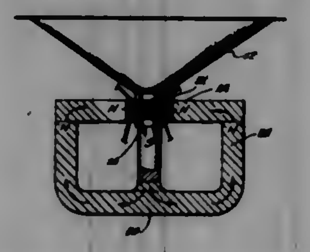
1. In combination with a keyboard code bar transmitter having two position shiftable code bars and a universal bar: a locking means adapted to be shifted into a direct operative locking engagement with all code bars, means responsive to the final portion of shifting movement of said universal bar subsequent to a full operative shift of said code bars enabling shifting of said locking means to direct locking engagement with all of said code bars; and means, adapted to be engaged and operated by said locking means upon shifting of said locking means into locking engagement, to initiate transmission of a code signal combination as represented by said code bars.

3,196,210
MORSE-TO-BINARY CODE TRANSLATOR
Bradley Murray, Georgetown Preparatory School, Garrett Park, Md.
Original application Nov. 12, 1959, Ser. No. 852,547, now Patent No. 3,038,030, dated June 5, 1962. Divided and this application Nov. 30, 1961, Ser. No. 156,053
6 Claims. (Cl. 178—26)



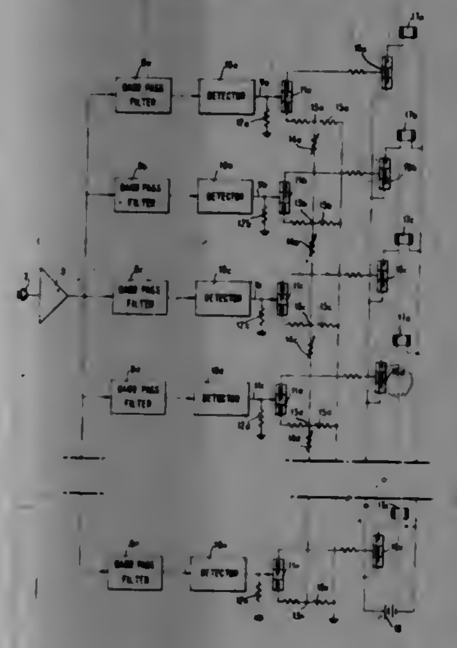
1. In a Morse code-to-binary code converter,
a first pulse generating means for generating start and finish pulses identifying respectively the beginning and end of a Morse signal element,
a second pulse generating means having a predetermined pulse repetition rate of higher frequency than the frequency of said start and finish pulses,
gating means coupled to the output of said first and second generating means for passing pulses from said second generating means during the period between said start and finish pulses,
whereby said gating means passes a given number of pulses indicative of a dot and a different given number of pulses indicative of a dash,
a binary multistage signal element counter means coupled to the output of said gating means,
whereby the condition of each stage is dependent upon the number of pulses applied to said counter means,
detecting means coupled to the output of said first pulse generator and to predetermined stages of said counter means for detecting the condition thereof upon the occurrence of a finish pulse,
whereby the condition of the detected stages is related to the pulse repetition rate of said second pulse generator,
and frequency correction means coupled to said second pulse generator and to the output of said condition detecting means for increasing or decreasing the pulse repetition rate of said second pulse generator if the condition of said stages indicates a deviation from said predetermined pulse repetition rate.

3,196,211
SPEAKER ARRANGEMENT
Carl A. Kessenich, 4816 W. 93rd St., Inglewood, Calif.
Filed Sept. 8, 1960, Ser. No. 54,692
3 Claims. (Cl. 179—1)



1. A speaker arrangement for reproducing a particular frequency band of audio signals, including, a cylindrical magnet, a flux return structure for said magnet having a cylindrical portion surrounding one end of the magnet and forming a flux gap therebetween, a diaphram for generating sound waves, a coil form attached to said diaphragm and extending through said gap, a pair of coils wound on said coil form in opposite directions and positioned in said flux gap, the thickness of said cylindrical portion of said flux return structure being greater than the length of either of the pair of coils, one of said pair of coils being wound over the other of said pair of coils, and means including a class B push-pull amplifier coupled to said coils for applying said frequency band of audio signals in opposite directions through both of said coils in said pair.

3,196,212
LOCAL AMPLITUDE DETECTOR
Lawrence P. Horwitz, Chappaqua, Jose Reines, Crompond, and Glenmore L. Shelton, Jr., Carmel, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 7, 1961, Ser. No. 157,755
10 Claims. (Cl. 179—1)

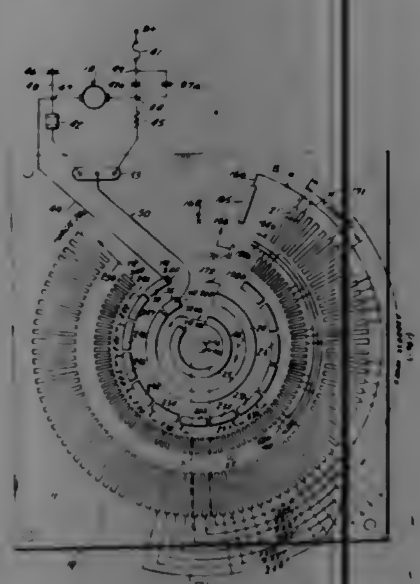


1. An apparatus for providing an indication of local amplitude extremes within a signal comprising, in combination: a plurality of parallel signal paths coupled to a source of input signal, each signal path including means for passing a discrete frequency band of said signal from said source, a square-law detector circuit responsive to the output signal from said frequency passing means for generating a signal approximately indicative of the power therein, a transistor means responsive to said signal from said square-law detector for producing an output signal proportional to the power in said discrete frequency band, and means responsive to said proportional signal from said transistor means for producing an indication signal, said transistor means in each path being connected to the transistor means in adjacent paths by resistors such that transistor means output signals of local amplitude extremes maintain at least adjacent ones of said transistor means in their cut-off state.

3,196,213
MULTIPLE TONE TRANSMITTER
Abraham Brothman, Dumont, and Richard D. Reiser, Newark, N.J., Stephen J. Halpern, Forest Hills, N.Y., and Elsa Brothman, Dumont, N.J., assignors to Transitel International Corporation, Paramus, N.J., a corporation of New Jersey
Filed Dec. 27, 1961, Ser. No. 162,337
13 Claims. (Cl. 179—3)

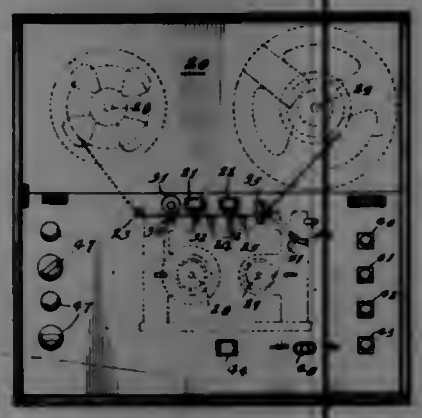
1. For use in parallel connection with a telephone handset normally energized by a cyclically varying waveform transmitter means comprising first means having a plu-

rality of input terminals for receiving a plurality of binary signals, oscillator means for generating a plurality of frequencies, third means operatively associated with said first means for keying the amplitude of the oscillator output signal in response to said binary signals, said oscillator means including a plurality of impedance means, bias means; fourth means for connecting each of said impedance means to said bias means in serial fashion; the impedance of each of said impedance means engageable with said bias means being different from each other for controlling the frequency generated by said oscillator means, fifth means responsive to a transmission request signal for momentarily energizing said transmitter means, holding means responsive to said momentary energization for retaining said data transmitter means in the energized state during the transmission period, said transmission request signal being a voltage square pulse energizing only said data transmitter.



3,196,214
MAGNETIC TAPE RECORDER AND REPRODUCING MACHINE

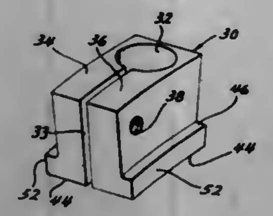
Norman P. Knoth, Chicago, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Filed Nov. 3, 1960, Ser. No. 67,044
15 Claims. (Cl. 179—100.2)



1. A magnetic tape recording and reproducing machine comprising: a mounting member; means comprising magnetic heads centrally mounted on said member and defining a tape path: means for securing a tape cartridge in place on said member to one side of said tape path with tape extending therefrom along said tape path and in operative relation with said head; and means on said member at the side of the tape path opposite to said cartridge securing means for receiving a pair of tape reels with tape positionable along said tape path and in operative relation to said heads, said last named means being arranged so as to allow said tape reels to be present on said machine simultaneously with said cartridge when the tape of said tape reels is not positioned in said tape path.

3,196,215
TRANSDUCER HEAD LOCKING MEANS

James P. Casey, 760 Spring Drive, Northville, Mich., and Merton L. Ripley, 865 Duke Road, Milford, Mich.
Filed Nov. 17, 1960, Ser. No. 70,043
11 Claims. (Cl. 179—100.2)



1. In a magnetic data storage apparatus having a magnetizable record surface on a drum member movable in relation to a stationary housing member and at least one elongated cylindrical transducer head of circular cross section adapted to be adjustably mounted on said housing member with its pole pieces forming a flux deflecting gap in close proximity to said record surface for recording on and playback from said record surface, an improved transducer head setting and locking device comprising:

a peripheral channel having an axis substantially aligned with the direction of motion of said second surface on the outer surface of said housing member, said peripheral channel having a bottom surface substantially parallel to said record surface and two sidewall surfaces;

a slot extending all the way from the bottom surface of said channel to the interior of said housing member defining annular planes substantially orthogonal to said record surface;

a block with a bearing surface adapted to abut against said bottom surface of said channel;

flange portions integral with said block and adapted to lie between the sidewall surfaces of said channel;

means cooperating with said flange portions for clamping said block in said channel;

an aperture in said block for accepting the cylindrical body of the transducer head projecting through the slot in said channel, the axis of said aperture being substantially perpendicular to said record surface;

a slit in said block extending all the way to said aperture and defining two bifurcated portions;

and means for drawing together said bifurcated portions to cause said transducer head body to be securely clamped in position by elastic deformation of said aperture;

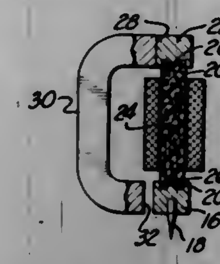
whereby the distance between the pole pieces of the transducer head and the record surface is adjustable by longitudinal sliding of the transducer body in the aperture in the block and the alignment of the transducer head flux deflecting gap is adjustably by rotation of said transducer body in the aperture in said block before clamping therein. and the radial position of the block is adjustable by sliding in the channel before clamping therein.

3,196,216
ELECTRODYNAMIC TRANSDUCERS WITH FLEXIBLE FERROMAGNETIC FLUX PATHS

Arthur C. Davis, 615 Via Lido Soud, Newport Beach, Calif.
Filed Dec. 15, 1959, Ser. No. 859,647
15 Claims. (Cl. 179—100.41)

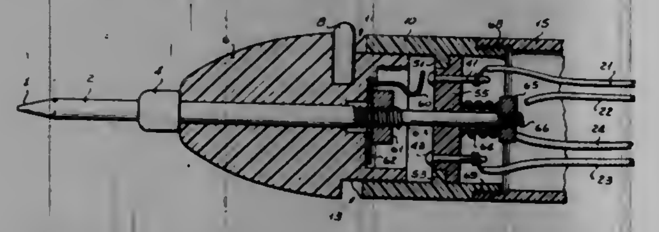
1. A transducer which includes: a ferromagnetically loaded, non-metallic, flexible core having ends; means for rigidly mounting said core secured to one end of said core; means for moving said core secured to the other end of said core; coil means positioned around said core between said ends, and magnetic means for creating a

magnetic field within said core, said magnetic means being fixedly attached to said means for rigidly mounting said core, and being spaced from said means for moving said core to form thereby a variable reluctance path, whereby movement of said means for moving said core will result in a variation in said field.



3,196,217
MULTIPLE-POSITION SWITCH

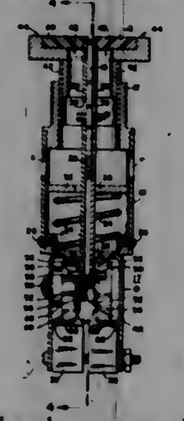
Angelo S. Petrina, Hicksville, N.Y., assignor to Mercury Electronics Corporation, Mineola, N.Y., a corporation of New York
Continuation of application Ser. No. 807,781, Apr. 21, 1959. This application May 10, 1962, Ser. No. 195,659
3 Claims. (Cl. 200—4)



1. A multiple position switch including in combination, a first member, a plurality of contacts at spaced discrete locations along a path on said first member, a second member, a switch armature carried by said second member, means mounting said first and second members for relative movement in a first direction parallel to said path and for relative movement in a second direction generally perpendicular to the plane of said path between a first position at which said switch armature is in a second path parallel to and spaced in said second direction from said first path, said second path being clear of said contacts, and a second position at which said armature is in said path and means responsive to relative movement of said members in said first direction for urging said members to said first position between said locations and for urging said members to said second position at said locations.

3,196,218
DUAL ACTUATOR SWITCH MECHANISM

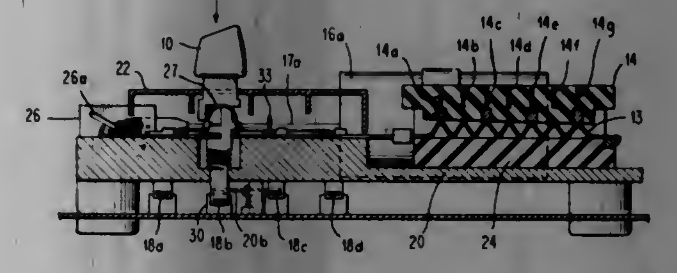
Lemar M. Weeks, Hyde Park, N.Y., assignor, by mesne assignments, to Weston Instruments, Inc., a corporation of Texas
Filed Jan. 2, 1962, Ser. No. 163,505
14 Claims. (Cl. 200—5)



13. An actuator mechanism comprising: a hollow cylindrical housing, a separator plate attached to and positioned in said housing to axially divide the bore of said cylindrical housing into at least two separate portions, said separator plate extending outwardly from one end of said housing, an actuator rod positioned in each of said separate portions of said housing on opposite sides of said separator plate and extending outwardly in a parallel relation from said housing, a push-button divided into at least two separate portions and received on opposite sides of the separator plate for preventing accidental actuation of more than one of said actuating rods at the same time, each divided portion of said push-button being connected to one end of the actuator rods, and a biasing member positioned in contact with said actuating rods for urging said rods to extend out of said housing.

3,196,219
KEYBOARD HAVING A STRETCHABLE SINUOUS CONTACTING MEMBER

Bayard G. Gardineer, Jr., Peekskill, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 29, 1962, Ser. No. 206,319
4 Claims. (Cl. 200—5)



1. In a manually operated electrical switching device for effecting electrical interconnection between circuit conductors the combination of,

(a) a serpentine strip fabricated of an elastic electrically conductive material and preformed with a succession of joined sinuous convolutions having substantially constant amplitude and wavelength,

(b) a pair of plates spaced apart a distance slightly less than the unrestrained amplitude of the convolutions in said strip, the said strip being disposed between the said plates,

(c) a plurality of separate electrical circuit conductors each disposed in one of said plates in juxtaposition with a respective peak of the convolutions in said strip, to establish an electrical interconnection of said conductors,

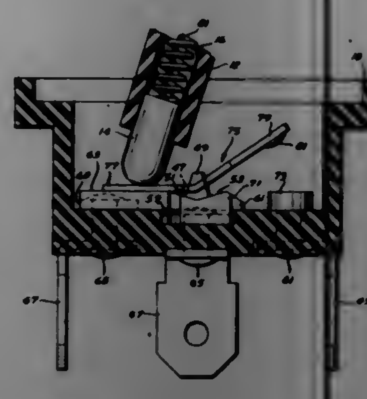
(d) and means for selectively stretching said strip to reduce the amplitude of said convolutions so as to separate said strip from the said conductors to break the electrical interconnection of said conductors by the said strip.

3,196,220
THREE POSITION ELECTRIC SWITCH WITH ALIGNED CONTACT BEARING SURFACES

Harry W. Brown, Mukwonago, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Aug. 22, 1961, Ser. No. 133,107
4 Claims. (Cl. 200—6)

1. In an electric switch, in combination, an insulating base, means for completing and interrupting circuits comprising a common contact secured to said base, first and second contacts secured to said base and spaced from said common contact and each other, said common and said first contacts each having bearing surfaces which are in spaced apart, alined relation with those of the other, and a contactor longitudinally rockable onto said bearing surfaces from a non-circuit completing position in con-

tact with said common contact only to a first circuit completing position in engagement with said common and said first contacts, said contactor being further longitudinally rockable on said bearing surfaces from said first circuit completing position to a second circuit completing position in engagement with all three of said contacts.

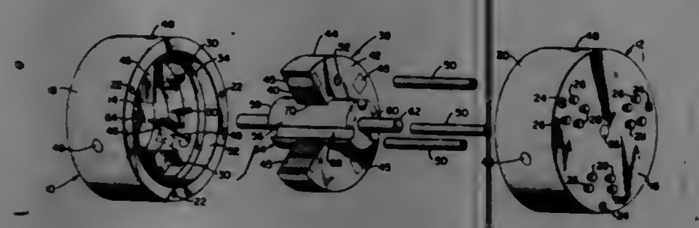


3,196,221
VIBRATION PROOF SWITCH WITH RESILIENT BEAM-DEFLECTING ACTUATOR STRUCTURE

Magnus V. Braunagel, Littleton, Colo., assignor, by mesne assignments, to Space Technology and Research Corporation, Denver, Colo., a corporation of Colorado

Filed Feb. 11, 1963, Ser. No. 269,229

7 Claims. (Cl. 200—[illegible]1)



1. A vibration-proof switch comprising: a hollow casing having front and rear end walls with a surrounding wall between them, the interior of said casing being generally cylindrical in form with its axis substantially normal to the front and rear end walls; at least one pair of electrical conductors extending through an end wall and provided with resilient contact surfaces adapted to be engaged by a contact member to complete a circuit through said conductors; a disk-like rotor mounted in said casing for rotation about the central axis of said casing; a contact member mounted at least at one face of said rotor near its periphery for conducting engagement with said contact surfaces in one selected position of said rotor and for disengagement from said contact surfaces in another selected position of said rotor; and means to move said rotor to said selected positions including a pair of resilient beams located adjacent opposite faces of said rotor and having their outer ends fixed in the surrounding wall of said casing, their inner ends extending radially inwardly toward the axis of rotation; a pin mounted in said rotor parallel to the axis of rotation and having its ends projecting from the faces of said rotor into force transmitting engagement with said beams to transmit forces from said beams to said rotor for rotation thereof to said selected positions; an actuator mounted in said casing for rotation about an axis concentric with the axis of said rotor; the outer surface of said actuator being generally cylindrical and constituting a beam-deflecting surface with a discontinuity therein to provide a radial depression to receive the radially inwardly extending ends of said beams in neutral position; rotation of said actuator from its neutral position causing said beam-deflecting surface to deflect said beams away from their radial attitudes and apply rotational force to said pin to rotate said rotor to a selected position in which said contact member conductingly engages said contact surfaces; return of said actuator to a neutral position permitting the beams to reenter the radial depression and return the rotor to non-contact position; the resistance of said beams to deflection from their neutral position serving to hold the rotor in neutral, non-contact position, and pressural engagement of the inner ends of the deflected beams with the beam-deflecting surface of the actuator serving to hold the rotor in contact position.

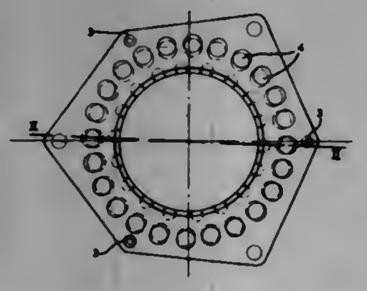
3,196,222
ELECTRICAL CONTACT ASSEMBLY WITH OFFSET CONTACT STRUCTURE

Serge Maëlstaf, Charenton, France, assignor to L'Electro-Commutation (Elcom), Vosges, France, a French company

Filed Feb. 15, 1960, Ser. No. 8,779

Claims priority, application France, Feb. 19, 1959, 781,163

3 Claims. (Cl. 200—11)



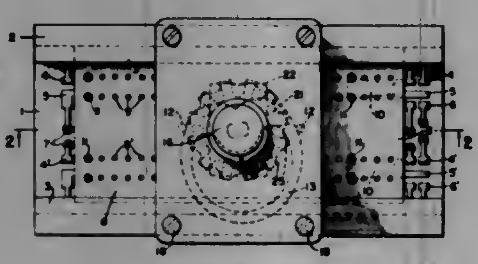
1. An electrical circuit contact assembly comprising a rigid insulating support constituted by two flat plate-like apertured elements, said elements being secured together face to face with the apertures in the respective elements paired but having a partial displacement from precise superposition, and each said aperture containing a contact member, said contact member fitting into and filling said aperture, whereby the one contact member of each pair is prevented from intruding into the space of its pair contact member by said partial displacement, and the assembly is thus kept substantially free of mechanical strain upon said supports.

3,196,223
SELECTOR SWITCH WITH SCANNING MOTION TRANSLATION MEANS

Robert E. Hartsock, 2025 Deep Canyon Road, La Habra, Calif.

Filed Dec. 6, 1960, Ser. No. 74,097

10 Claims. (Cl. 200—16)



10. A selector switch comprising a rigid supporting member having thereon a pair of parallel rows of fixed contacts, a scanning plate, means mounting said plate for movement parallel with said member, a movable spring contact carried by said scanning plate and arranged to travel over and engage said fixed contacts, means moving said scanning plate in such manner as to cause said spring contact to describe a rectangular path, and selective stop means for interrupting the movement of said spring contact after it has traversed any desired part of said path.

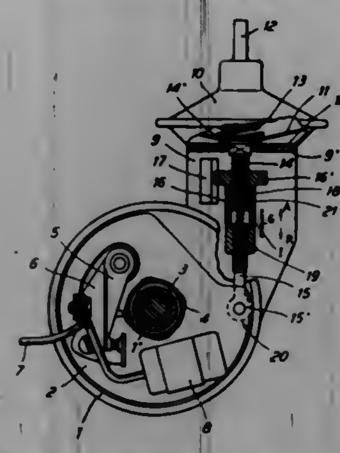
3,196,224
DEVICE FOR REGULATING THE ADVANCE OF AN IGNITION DISTRIBUTOR FOR INTERNAL COMBUSTION ENGINES

Renzo Tagliabue, Milan, Italy, assignor to Fabbrica Italiana Magneti Marelli S.p.A., Milan, Italy, a corporation of Italy

Filed Aug. 1, 1962, Ser. No. 214,094

Claims priority, application Italy, Sept. 28, 1961, 17,396/61

9 Claims. (Cl. 200—22)



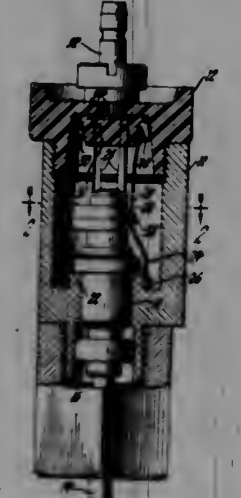
1. In an ignition distributor device, a contact breaker carrying plate which is rotatable in one direction to advance the timing and in the other direction to retard the timing, a depressor membrane, a connecting link having two threaded parts one of which is connected to said membrane and the other of which is connected to said plate, said parts having threads of different pitch, and a sleeve in threaded engagement with each of said parts, whereby rotation of said sleeve is effective to change the length of said link and thus rotate said plate to alter the timing of the distributor device.

3,196,225
ROTARY INTERRUPTER SWITCH

Harley E. Dennee, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

Filed Apr. 13, 1961, Ser. No. 102,765

2 Claims. (Cl. 200—27)



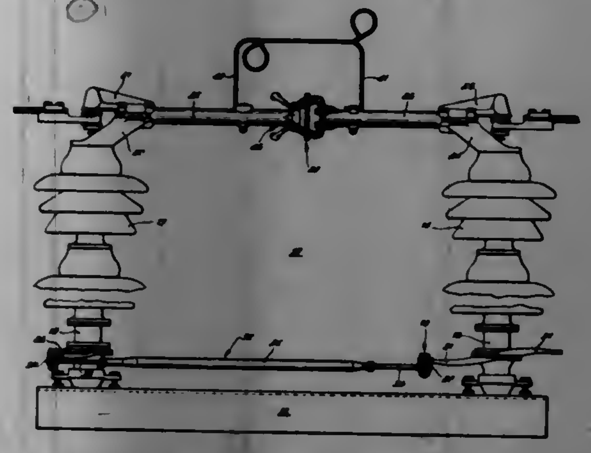
1. A rotary switch comprising a cylindrical conductive housing, a driving shaft located concentrically within said housing, a cam on said shaft, a unitary contact member, said contact member having a plurality of fingers extending longitudinally along and surrounding said shaft, an external terminal extending into and insulated from said housing, a second contact member, one of the contact members being connected with the housing and the other being connected with the terminal, said second contact member being closely spaced from the said fingers whereby upon rotation of said driving shaft the cam successively engages each of said fingers and moves it into electrical contact with said second contact member.

3,196,226
CONTACT STRUCTURE FOR ELECTRIC DISCONNECT SWITCH

Ronald J. Bertling, Oak Creek, Wis., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Jan. 22, 1962, Ser. No. 167,649

7 Claims. (Cl. 200—48)



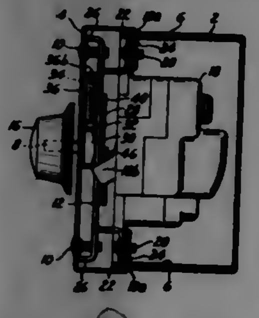
4. A disconnect switch having first and second spaced terminals, a hollow unitary conductive arm affixed at one end to each of said terminals, means for rotating said terminals between first and second angular positions, said arms extending toward each other and being substantially co-axial when said terminals are in a first angular position, one of said arms having a generally planar portion formed on its other end and substantially normal to its axis and facing the other end of said other arm, a plurality of contact fingers affixed to said generally planar portion and extending in a direction generally parallel to the axis thereof, the other end of said other arm having a pair of transverse surfaces formed on the opposite sides thereof and engageable between said contact fingers to provide line contact therebetween when said terminals are in their first angular position, the end of said other arm being out of engagement with said contact fingers when said arms are each in a second angular position, a metallic member disposed between said transverse surfaces on said other arm, said metallic member being substantially co-extensive with said transverse surfaces and having substantially greater thickness than the material forming said other arm, and spring means engaging said contact fingers for urging said contact fingers into high pressure engagement with said transverse surfaces.

3,196,227
INTERLOCKING OPERATING MECHANISM

Uriel F. Carter, Wauwatosa, and Arthur F. Kolb, Mequon, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

Filed May 17, 1962, Ser. No. 195,571

12 Claims. (Cl. 200—50)



1. In an electrical control device:

(a) a first electrical switch having a first operating member extending therefrom;

(b) a second electrical switch having a second operating member extending therefrom;

(c) a drive member engaging said first operating member and said second operating member;

(d) a rotary operating member having first and second actuating positions and an intermediate position;

(e) means connecting said rotary member to said drive member to actuate said first electrical switch when said rotary member is rotated in a first direction from said intermediate position and for actuating said second electrical switch when said rotary member is rotated in a second direction from said intermediate position whereby said first and second electrical switches are alternately and individually actuated;

(f) interlocking means separate from said drive member and driven by said rotary member when a switch is actuated for blocking the movement of the operating member of the other of the switches whereby simultaneous actuation of said first and second switches is prevented.

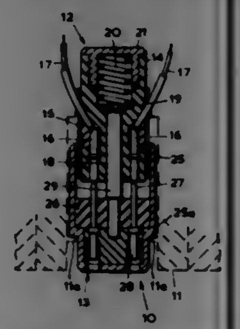
3,196,228
ELECTRICAL SOCKET DEVICES, AND ELECTRICAL TEST COUPLINGS INCLUDING PLUG AND SOCKET DEVICES

Brian Frederick Colenutt, Letchworth, England, assignor to The English Electric Company Limited, London, England, a British company

Filed Feb. 26, 1962, Ser. No. 175,889

Claims priority, application Great Britain, Mar. 4, 1961, 7,988/61

4 Claims. (Cl. 200—51.07)



1. An electric socket device comprising

a fixed portion having a first body of insulating material defining a central bore with a recess in one end thereof

a spring at least partially located in said recess and

a plurality of first sockets embedded in said insulating material adjacent the other end thereof,

a movable portion comprising a second body of insulating material,

a spigot secured to said second body of insulating material extending through the central bore in said first body of insulating material and abutting said spring whereby said movable portion is movable towards said fixed portion in response to pressure applied to said second body of insulating material effective to cause axial movement of said spigot in one direction to compress said spring, and is movable away from said fixed portion in response to the release of said pressure effective to cause the restoring force of said spring to move said spigot axially in the opposite direction,

a like plurality of contact members embedded in said second body of insulating material, each of said contact members comprising

a pin for engaging with and disengaging from a corresponding first socket in said fixed portion in response to the said movement of the movable portion and

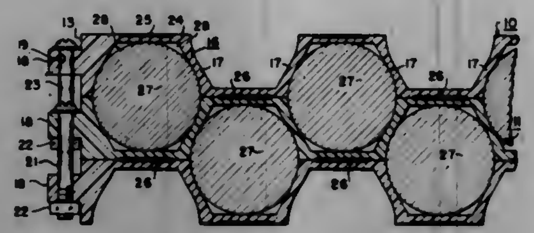
a second socket contiguous with said pin, said second body of insulating material having a like plurality of cavities therein each having a closed bottom end from which extends a corresponding one of said second sockets, and a mouth, the exposed ends of said second sockets remote from said pins lying substantially below the mouths of said cavities and the area of said mouths being only slightly greater than the cross-sectional area of said second sockets disposed therein.

3,196,229
CORE BOX

Theodore D. Glass, 855 Phoenix Ave., Chester, W. Va.

Filed Mar. 28, 1963, Ser. No. 269,842

5 Claims. (Cl. 206—65)



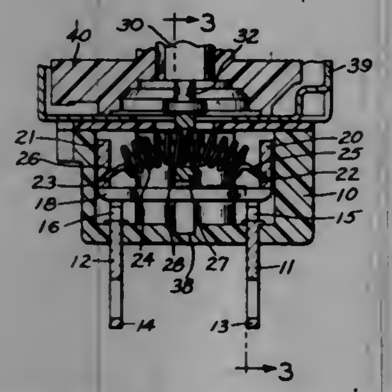
1. A storage box comprising at least three dividers, each divider having end and side walls forming a polygon, a continuous rigid separator within the polygon and connected to said walls, said separator being corrugated with ridges and valleys on the top and undersides thereof each of said ridges and said valleys running for substantially the extent of said separator, said valleys being adapted to hold articles to be stored, each end of each of said valleys being closed for the depth thereof by said walls, said ridges being adapted to separate articles in said valleys, the top surface of each ridge for the length thereof being disposed in the same plane as the top and underside surfaces of said walls which close the ends of said valleys, said dividers being diposed over one another with the walls thereof substantially in alignment, the valleys in the underside of one divider being positioned over the valleys in the top side of another divider and the ridges and the top and bottom surfaces of said dividers meeting in abutting engagement to form a plurality of completely closed chambers, said first, second and third dividers forming said box.

3,196,230
SNAP ACTION PULL-PUSH TYPE ELECTRIC SWITCH

Wayne A. Barden and John D. Van Benthuysen, Elkhart, Ind., assignors to CTS Corporation, Elkhart, Ind., a corporation of Indiana

Filed Sept. 19, 1962, Ser. No. 224,649

7 Claims. (Cl. 200—76)



1. An electric switch comprising a housing, a pair of stationary contacts mounted in the housing, a movable U-shaped contactor having a pair of contact portions abuttingly engageable with the stationary contacts and displaceably mounted in the housing, the distance between the contact portions being greater than the inside dimension between the stationary contacts, a coiled spring having a pair of ends supported by the contactor, the ends being spaced apart a distance less than the free length of the spring causing the spring to assume a bowed shape, an actuator engaging the coiled spring, a reciprocable shaft, means operatively connecting the shaft to the actuator whereby axial movement of the shaft moves the contactor into and out of engagement with the stationary contacts, a pair of partitions disposed within the housing for guiding the U-shaped contactor, and guide means provided on the partitions for guiding the actuator in the housing.

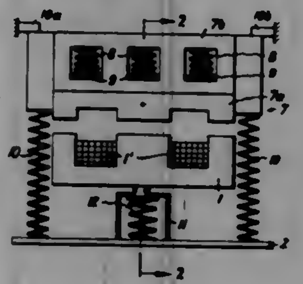
3,196,231
SWITCH WHICH REDUCES REBOUNDING OF ITS CONTACTS

Herbert Meyer, Neumunster, Germany, assignor to Licentia Patent-Verwaltungs-G.m.b.H., Frankfurt am Main, Germany

Filed Feb. 10, 1961, Ser. No. 88,470

Claims priority, application Germany, Feb. 12, 1960, L 35,338

8 Claims. (Cl. 200—87)



1. In an electric switch, the combination which comprises: stationary and movable contact means; actuator means for moving said movable contact means relative to said stationary means, said actuator means including a stationary magnet and a moveable armature cooperating with said magnet, said armature being connected to said movable contact means and forming therewith a movable contact assembly; a support supporting said magnet and said stationary contact means; and means for keeping away from said stationary contact means oscillatory energy which is higher in frequency than the natural frequency of the movable contact assembly and which is produced upon the impact of said movable contact assembly against said magnet, said means including a buffer device interposed between said support and said magnet, and said buffer device being a low-pass filter, said movable contact means including a contact spring, and the relationship between the mass M_m of said magnet, the constant C_d of said buffer device, the mass M_c of said movable contact means, and constant C_c of said contact spring being substantially as follows:

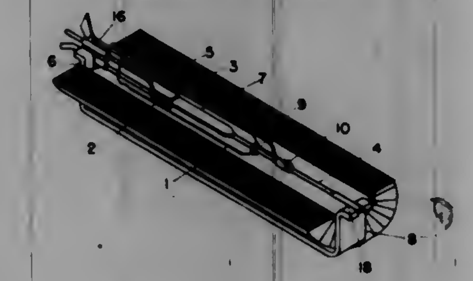
$$\frac{Mm}{C_d} \approx \frac{M_c}{C_c}$$

3,196,232
REED RELAY

Frank C. Lisuzzo and Charles E. Colwell, Jr., Rochester, N.Y., assignors to General Signal Corporation, Rochester, N.Y., a corporation of New York

Filed Dec. 14, 1962, Ser. No. 244,647

15 Claims. (Cl. 200—87)



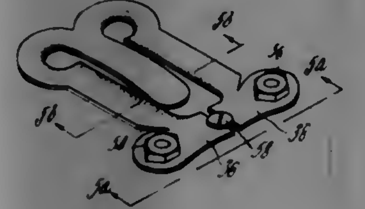
1. An electromagnetic relay comprising a cylindrically-wound actuating coil, a reed switch positioned generally coaxially within the coil, the reed switch comprising a reed of magnetic material having one end held stationary with respect to the coil and the other end free to move with respect to the coil, a non-magnetic back contact electrically coupled to the free end of the reed when the coil is deenergized, and a front contact comprised of magnetic material and electrically coupled to the free end of the reed upon energization of the coil, and a conductor positioned longitudinally through the coil and electrically coupled in series with the reed whereby load current carried by the relay flows generally axially through the coil in one direction along the conductor and in the opposite direction through the reed switch.

3,196,233
W BLADE THERMOSTAT WITH FREE-ENDED MOMENT ARM

Lyndon W. Burch, 3 River St. Place, Boston, Mass., and Malcolm K. Parkhurst, 142 E. 150th St., New York 51, N.Y.

Filed Aug. 28, 1962, Ser. No. 219,920

11 Claims. (Cl. 200—113)



1. A heat-sensitive, over-center switching element formed of a sheet of resilient metal having high and low heat-expansive sides, the element having a middle leg adapted to carry an electrical contact for making and breaking a circuit and first and second outer legs each having one end portion connected to the same end of the middle leg, each by an integral loop, the opposite end portions of said outer legs being free from each other and each having a mounting part means adapted to receive an inward external force to resiliently press the outer legs towards each other generally in the plane of the sheet to curve the surfaces of said loops and outer legs, the element including at least one free-ended moment arm lying substantially in the plane of the element, said moment arm being integral with and extending transversely from a longitudinal edge of said first outer leg at a location spaced from the juncture of said first outer leg with its loop, said moment arm positioned to receive a force in a direction at an angle to the plane of the element to cooperate with an opposite reaction force acting on said first outer leg to produce a torque essentially about the longitudinal axis of said first outer leg whereby the temperature of actuation of said switching element, when employed in a thermostat, can be adjusted while maintaining a low temperature differential.

3,196,234
ELECTRO-THERMAL CONTROL DEVICE

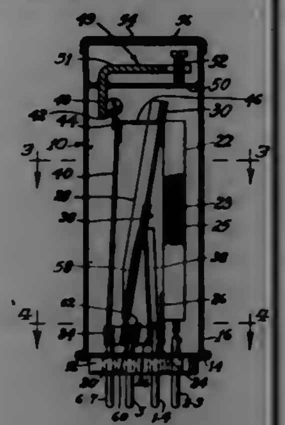
William C. Broekhuysen, Brooklyn, N.Y., assignor to G-V Controls Inc., East Orange, N.J., a corporation of New Jersey

Continuation of application Ser. No. 481,123, Jan. 11, 1955. This application Mar. 13, 1958, Ser. No. 722,364

19 Claims. (Cl. 200—122)

15. In a hermetically sealed time delay control device to be connected in a current-carrying circuit, a thermally responsive actuating member having one end connected to a point of reference in said control device and communicating with said circuit to allow the free end of said member to expand longitudinally relative to said point of reference in response to thermal changes caused by variations in the current in said circuit, an integral control

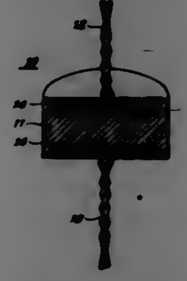
member connected to said point of reference a spaced distance from said actuating member and to the free end of said actuating member, adjustable means to engage said control member for exerting simultaneously sufficient force to move said actuating member into a compression state and to place said control member under predetermined tension and bending to regulate the time delay of said control device, and means in operable relation with said control member including a switch to be opened and closed in response to signals from said actuating member.



3,196,235
TIME DELAY CHEMICAL FUSE
Robert C. Puydak, West Orange, N.J., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware

Filed Oct. 31, 1961, Ser. No. 148,973

7 Claims. (Cl. 200—1[illegible]5)



1. A time delay fuse for interrupting an electric circuit in the event of the flow of excessive current in said circuit, said fuse comprising a pellet normally exhibiting low resistance to the flow of electric current and conductive means for connecting said pellet in series relationship in said circuit so that it is heated by the flow of current in said circuit, said pellet including a compacted mixture of fine mesh particles of bismuth iodide and fine mesh particles of a metal selected from a group consisting of lead, tin, and alloys of lead and tin, said mixture when heated to a predetermined temperature being converted by the reaction between said bismuth iodide and metal particles into a material exhibiting high resistance to the flow of electric current.

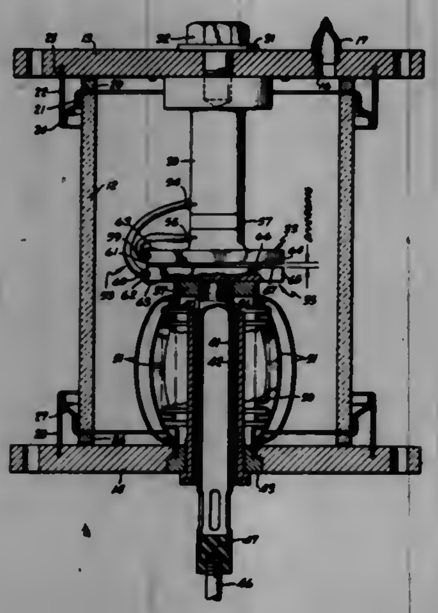
3,196,236
HIGH POWER VACUUM CIRCUIT BREAKER CONTACTS AND ARC-EXTINGUISHING MEANS THEREFOR
Jo Emmett Jennings, Watsonville, Calif., assignor to Jennings Radio Manufacturing Corporation, San Jose, Calif., a corporation of Delaware

Filed July 16, 1962, Ser. No. 209,847

4 Claims. (Cl. 200—144)

1. In a vacuum switch which includes a vacuumized envelope having fixed and mobile contact structures therein operable to selectively form a gap therebetween, arc blow-out means comprising:

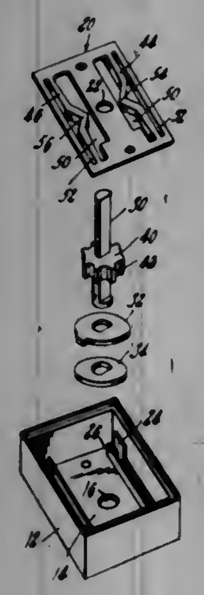
- a fixed contact structure including a contact support portion and a contact plate portion,
- an insulating spacer forming part of said fixed contact structure and interposed between said contact support portion and said contact plate portion,
- a loop of conducting material within the envelope connected at its opposite ends to said contact support portion and said contact plate portion in series circuit therewith to cause current flowing through said fixed contact structure to flow through said loop an intermediate portion of which extends across said gap adjacent one edge of said fixed and movable contacts whereby said loop forms a magnetic field,
- means securing the intermediate portion of said loop across the gap formed between said structures whereby said magnetic field exerts a force on an arc formed between said contacts when said switch is opening in order to urge said arc to move within said gap to minimize pitting of adjacent contact surfaces.



3,196,237
ROTARY SWITCH USING PLASTIC COVER WITH INTEGRAL LEAF SPRINGS AS POSITIONING MEANS
Bernard C. Westgate, Jr., Cambridge, Mass., assignor to Ark-Les Switch Corporation, Watertown, Mass., a corporation of Massachusetts

Filed July 11, 1962, Ser. No. 209,000

8 Claims. (Cl. 200—153)

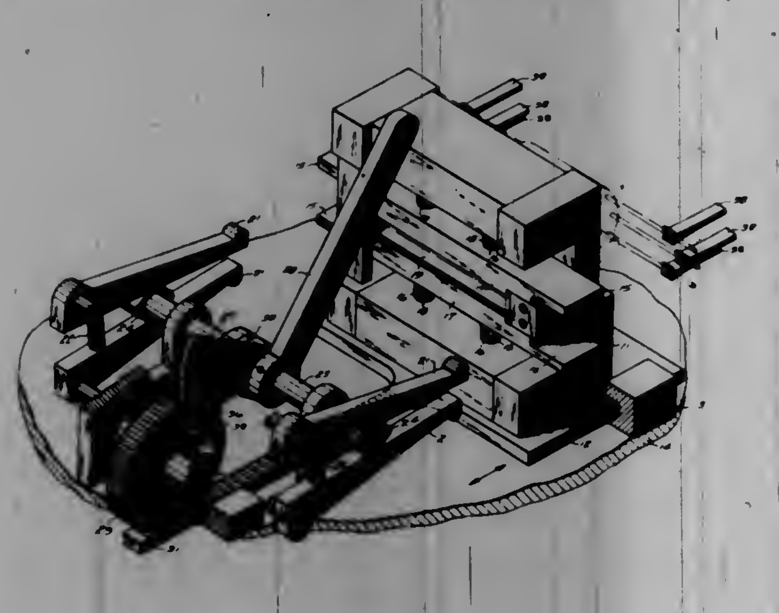


1. An electrical switch comprising a closed housing member and a closed cover member, said members having bearing means therein and at least one of said members being of resilient plastic insulating material, metallic switch elements mounted on at least one of said members, shaft means supported for rotation by said bearing means, switch operating means effective upon rotation of said shaft means into a plurality of predetermined angular positions to actuate said switch elements and positioning means effective to position said shaft means in any selected one of said predetermined angular positions, said positioning means comprising a plurality of locating means on said shaft corresponding to said angular positions and resilient plastic spring means integrally molded with one of said members, said spring means lying generally in a plane axially spaced along said shaft from said one member and its bearing surface and supported solely at its ends from said one member by a torsion spring element integrally molded of plastic insulating material with said cover member to space said spring means from said one member, the unsupported central portion of said spring means having means engaging said shaft in said predetermined positions.

3,196,238
APPARATUS FOR CONNECTING ELECTRICAL UNITS TO A TEST CIRCUIT
Paul W. Freund, Irvington, and Harold C. Trotman, Westfield, N.J., assignors to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 3, 1963, Ser. No. 292,671

5 Claims. (Cl. 200—153)



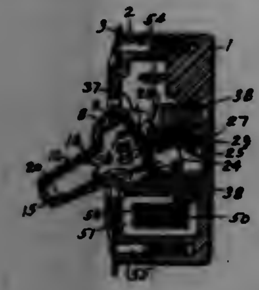
1. An apparatus for connecting a succession of electrical units to a circuit rapidly and with consistent contact pressure, comprising:

- a supporting base,
- a slidable carriage mounted on said supporting base,
- a pair of jaws mounted on said slidable carriage for holding the body of an electrical unit,
- means mounted on said base for supporting a plurality of conductive prongs in predetermined spaced relation to coincide with and contact the respective leads of the electrical unit held by the pair of jaws as the slidable carriage reaches a predetermined position adjacent the conductive prongs,
- single-motion actuating means for initially opening and closing said jaws while maintaining the slidable carriage locked in a fixed position and for subsequently sliding said carriage to said predetermined position adjacent the electrical prongs while maintaining said jaws in a closed position against said electrical unit with uniform pressure, and
- stop means to determine the contact pressure between leads of the electrical unit and the conductive prongs.

3,196,239
SWITCH FOR INDICATING OUT-OF-SIGHT LOADS
Charles F. Maxted, 21525 Meyler St., Torrance, Calif., and Robert E. V. Ramsing, 15283 E. Saneto Drive, Whittier, Calif.

Filed Sept. 16, 1963, Ser. No. 308,963

3 Claims. (Cl. 200—167)



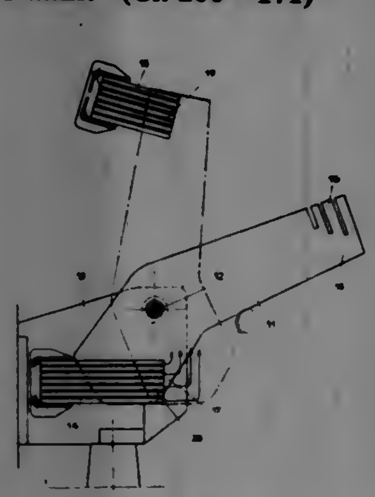
1. In a device for indicating that a current carrying switch has been turned to an "on" position, a casing having therein a fixed contact, an elongated flexible switch arm having at one end a contact normally urged into engagement with said fixed contact to complete an electric circuit, a toggle pivoted in the casing, a pair of spaced resilient bumpers in the casing proximate the base of the toggle for limiting movement of the toggle in either direction, a hollow handle of translucent material forming a portion of said toggle, a cam carried by the toggle to engage said flexible switch arm to hold its contact away from said fixed contact when the toggle is in "off" position and to allow engagement of the two contacts when the toggle is in "on" position, a low voltage bulb of incandescent type within said hollow handle and means for delivering to the bulb a current of lower voltage than its rated capacity but above that required to make it glow, whereby the handle will indicate by its glow that the switch is delivering current to its load.

3,196,240
HIGH CURRENT DISCONNECTING SWITCH
André Latour, Grenoble, France, assignor to Etablissements Merlin & Gerin S.A., Grenoble, France

Filed Dec. 15, 1961, Ser. No. 159,612

Claims priority, application France, Dec. 20, 1960, 4,317

5 Claims. (Cl. 200—171)



1. A high current disconnecting switch comprising in combination:

- (a) a pair of stationary elongated spring blade contacts
- (b) an elongated blade pivoted to bridge said contacts in the closed position of said switch
- (c) said contacts and said blade being disposed to provide a pair of contact surfaces located respectively adjacent the extremities of said blade
- (d) said blade being pivoted between said contact surfaces for the switch opening and closing movement,
- (e) said contacts being disposed respectively in the immediate neighborhood of said surfaces substan-

tially parallel to each other and generally perpendicular to the length of said elongated blade in the closed position of the switch to produce current flows in said contacts in opposite directions, and

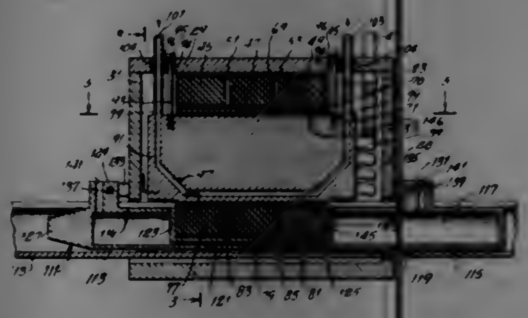
(f) said elongated blade having slots at least in the immediate vicinity of one of said contact surfaces generally parallel to the direction of said elongated spring contacts.

3,196,241
INDUCTION WELDING OF TUBING FROM HOT STRIP

Norbert E. Foxx, Cuyahoga County, and Thomas O. Williams, Lake County, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Filed Nov. 8, 1962, Ser. No. 236,780

21 Claims. (Cl. 219—8.5)



1. In apparatus for induction heating for longitudinal seam welding of tubing of conductive material, the combination with means for forming a tube blank with the tube wall extending about the space within the tube and with the edge portions of the wall to be welded in adjacent but spaced relation along the length of the blank, and means for moving said tube blank lengthwise thereof, of means providing a magnetic flux circuit having a main portion exterior to said tube wall and an inner portion disposed within said space defined by said tube wall, a magnetic flux barrier having at least the edge portion thereof disposed adjacent to the space defined between said spaced edge portions of said tube wall so that said magnetic circuit substantially is determined by said main portion thereof and by said inner portion thereof, said edge portions of said tube blank being disposed in the path of the flux between said main portion of said circuit and said inner portion thereof, and means for varying the magnetic flux in said circuit to effect induction heating of said edge portions of said tube wall.

3,196,242
HIGH-FREQUENCY OVEN DOOR SEAL

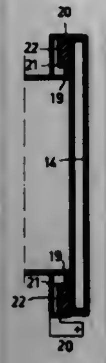
Peke Jan de Vries and Jacobus Bernardus Visser, Drachten, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Oct. 24, 1962, Ser. No. 232,732

Claims priority, application Netherlands, Oct. 25, 1961, 270,618

3 Claims. (Cl. 219—10.55)

1. A high frequency oven door seal comprising a heating chamber, means for supplying high frequency energy to said chamber, a feed aperture in said chamber for introducing food articles to said chamber, a metallic door for closing said opening, a metallic decoupling seal surrounding said feed aperture and having a planar contact surface in the plane of said aperture engageable with said door in the closed position thereof, a successive nonconductive dielectric seal concentrically surrounding and directly adjoining said metallic seal, said successive dielectric seal having a contact surface engageable with said door in the plane of said aperture, said second seal consisting of a dielectric material containing 20–40 percent by weight of powdered graphite distributed therethrough for dispersing and absorbing said energy existing between said door and said seals.

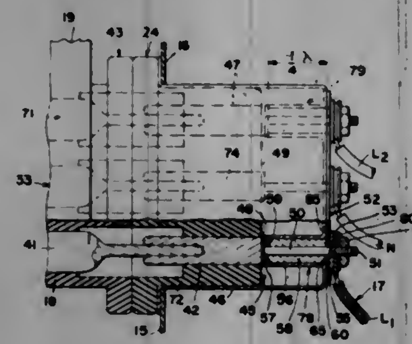


3,196,243
HIGH FREQUENCY HEATING SYSTEM

Louis H. Schall, Dedham, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware

Filed Feb. 26, 1963, Ser. No. 261,028

11 Claims. (Cl. 219—10.55)



1. In combination:

a metallic enclosure defining a cavity adapted to receive a body to be heated;

source means for supplying high frequency electromagnetic wave energy to the interior of said cavity;

at least one electric element having a conductive member exposed to said electromagnetic wave energy mounted within said enclosure;

energy supplying means, external to said enclosure, for supplying electrical energy to said conductive member; and

means, intermediate said energy supplying means and said conductive member, for preventing electromagnetic wave energy from said source means from being radiated externally of said metallic enclosure by said conductive member, including a transmission line having a center conductor comprising an extension of said conductive member, an outer conductor comprising a metallic tube, means for capacitively grounding said tube, said means including said metallic enclosure, a metal washer adjacent thereto, and insulating means between said enclosure and washer and an insulative medium intermediate said center conductor and said outer conductor, the length of said transmission line being substantially equal to an odd number of one-quarter wavelengths of said electromagnetic energy as it passes through said insulative medium.

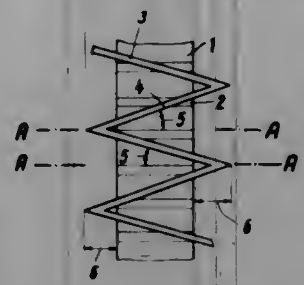
3,196,244
INDUCTOR FOR THE SURFACE HEATING OF GEAR WHEELS

Karl Adolf Wulf, Araijuku-Ita-ku, Tokyo, Japan, assignor to Deutsche Edelstahlwerke Aktiengesellschaft, Krefeld, Germany, and Allgemeine Elektricitats-Gesellschaft, Berlin-Grunewald, Germany

Filed Dec. 20, 1962, Ser. No. 246,031

Claims priority, application Germany, Jan. 11, 1962, D 37,892

9 Claims. (Cl. 219—10.59)



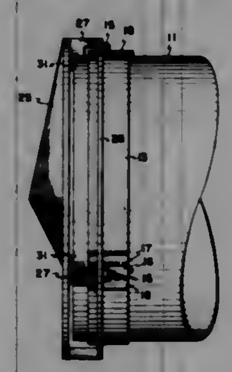
1. An inductor for embracing a gear wheel for accurately surface hardening the contours thereof including defined sections which lie substantially on an imaginary cylinder and disposed obliquely to the axis of the inductor, said sections being in circumferentially spaced relation to one another and permitting rotation of the gear wheel within the inductor with the said section across the width of the wheel and in such vicinity to the teeth thereof as to permit inductive heating thereof and hardening.

3,196,245
APPARATUS FOR WELDING PIPE LINES

Jerome W. Nelson and Glenn E. Faulkner, Columbus, Ohio, and Harry C. Cook, Orange, N.J., assignors, by direct and mesne assignments, to Esso Research and Engineering Company, Elizabeth, N.J., a corporation of Delaware

Filed Oct. 16, 1961, Ser. No. 145,307

3 Claims. (Cl. 219—60)



1. In combination, a guide element for a welding mechanism adapted to be positioned on a metal pipe body to perform a weld or the like along a predetermined line, and a pre-positioning means of relatively light construction adapted also to be secured to said pipe body for accurate alignment of said guide element, a series of adjustable accurate pre-positioning gauge elements secured to said pre-positioning means at intervals along its length, said element and said pre-positioning gauge elements having accurately mating opposed surfaces to insure accurate position of the guide device on said body when the pre-positioning means is properly mounted on said body.

3,196,246
MEANS FOR OBSERVING A WORKPIECE IN ELECTRON BEAM MACHINING APPARATUS

Auguste B. El-Kareh, Skillman, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Nov. 29, 1962, Ser. No. 240,903

8 Claims. (Cl. 219—69)

1. In apparatus of the type wherein an electron beam from an electron gun is directed onto a workpiece to perform a machining operation on said workpiece, the combination therewith of

(a) means for biasing said gun to develop a current intensity for said beam periodically sufficient to perform said machining operation,

(b) means for biasing said gun periodically to reduce the current intensity of said beam so that it is substantially incapable of performing said machining operation but is capable of producing secondary electrons at said workpiece,

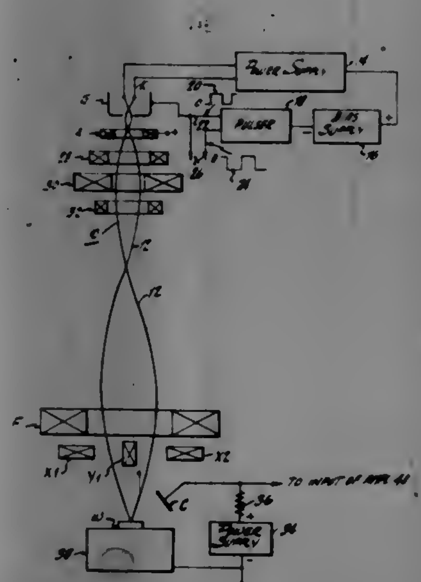
(c) means to scan said workpiece with said beam of reduced intensity current at the site of said machining operation,

(d) means to collect said secondary electrons produced by said beam of reduced intensity current and to derive signals therefrom,

(e) visual display apparatus having an electron beam,

(f) means to deflect said electron beam of said visual display apparatus with said means to scan said workpiece, and

(g) means to apply said signals to said visual display apparatus to observe the progress of said machining operation.

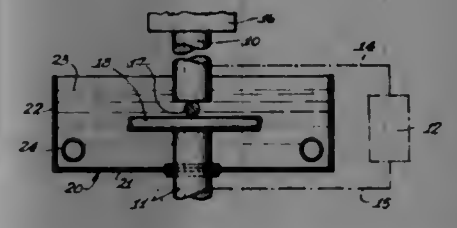


3,196,247
METHOD AND APPARATUS FOR WELDING ALUMINUM

George R. Piercy, Deep River, Ontario, and James A. E. Bell, Toronto, Ontario, Canada, assignors to Atomic Energy of Canada Limited, Ottawa, Ontario, Canada, a company

Filed Dec. 20, 1962, Ser. No. 246,094

3 Claims. (Cl. 219—72)



1. A method for resistance welding aluminum and aluminum alloys comprising

immersing the welding surfaces of aluminum objects having an aluminum oxide film thereon in an etching solution to remove the oxide from the welding surfaces,

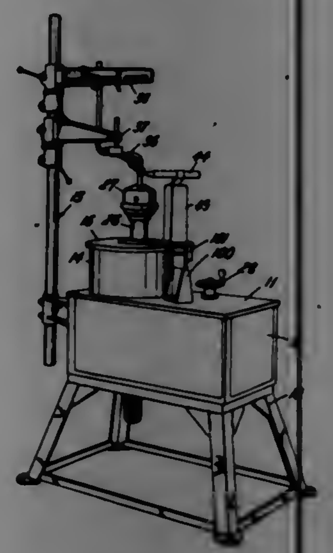
maintaining the surfaces immersed to prevent further oxidation,

pressing the surfaces together, and

passing a welding current across the surfaces.

3,196,248
WELDING APPARATUS

Thomas Henry Cooper, Laurence Keble Hill, and James Joseph Giles, London, England, assignors to BTR Industries Limited, London, England, a British company
Filed Nov. 21, 1961, Ser. No. 153,983
Claims priority, application Great Britain, Nov. 23, 1960, 40,309/60
3 Claims. (Cl. 219—125)

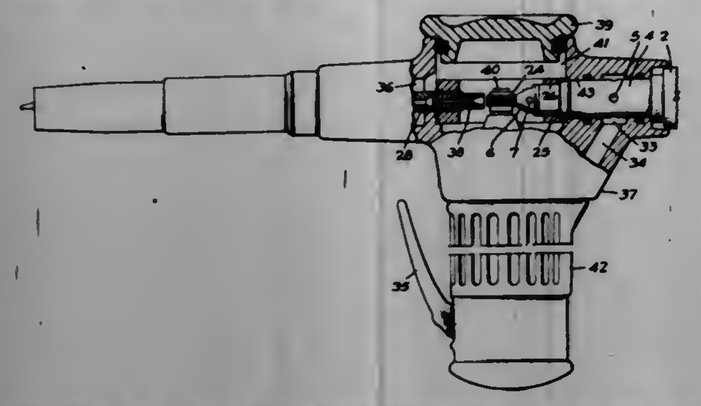


1. A machine for welding around the outside of an elongated workpiece comprising
   (a) a non-rotatable housing with a central bore
   (b) a torch support having a tubular stem mounted for rotating coaxially within the bore of the housing
   (c) means for effecting rotation of the support
   (d) a non-rotatable tubular work holder mounted coaxially within the stem of the torch support
   (e) means on the work holder for holding an elongated workpiece coaxially with the holder
   (f) means on the torch support for mounting a welding torch for rotation on the support about the work holder
   (g) the torch support having conduits and wires for feeding shielding gas, coolant liquid and welding current respectively to a torch
   (h) the housing having conduits and wires for supplying coolant liquid, shielding gas and welding current respectively and
   (i) sliding annular joints between the housing and the torch support connecting the conduits and wires in the housing with the corresponding conduits and wires in the torch support, while permitting rotation of the torch support.

3,196,249
APPARATUS FOR GAS-SHIELDED CONSUMABLE-ELECTRODE ARC WELDING

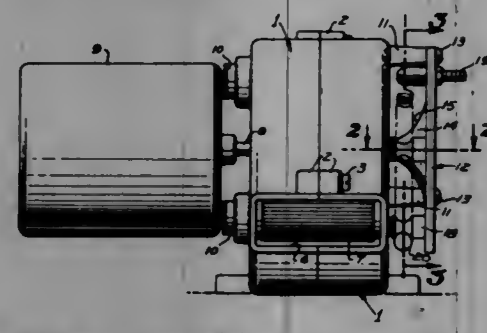
Harry Thostrup, Laxa, Sweden, assignor to Elektriska Svetsningsaktiebolaget, Goteborg, Sweden, a corporation of Sweden
Filed Mar. 9, 1964, Ser. No. 350,318
Claims priority, application Sweden, Mar. 12, 1963, 2,679/63
6 Claims. (Cl. 219—130)

1. Apparatus for gas-shielded consumable-electrode arc welding comprising a welding gun and flexible means for the conveyance to the welding gun of all of the welding media required for its operation, said welding gun comprising a wire feeding mechanism, a compressed-air driven motor for operating said mechanism, and a gun housing enclosing said wire feeding mechanism, and said flexible means comprising a flexible welding current cable, a flexible guide for the welding wire, a flexible conduit for the shielding gas, and a flexible conduit for the compressed air, said flexible means having fitted at one end thereof a substantially cylindrical connector plug electrically connected to the flexible welding current cable and having outlet ports for the welding wire, the shielding gas and the compressed air, said gun being equipped at its rear end with a connector socket adapted to receive said connector plug.



3,196,250
HOT AIR BLOWER

Harry M. Umann, Los Angeles, Calif., assignor, by mesne assignments, to Croname, Incorporated, Chicago, Ill., a corporation of Illinois
Filed Jan. 31, 1964, Ser. No. 341,793
1 Claim. (Cl. 219—371)



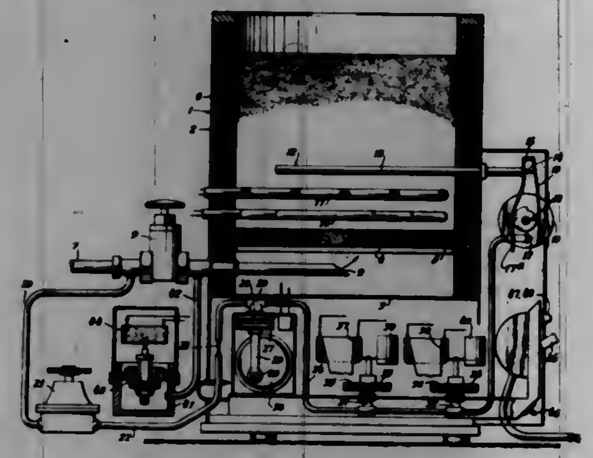
A hot air blower, comprising:
(a) a blower housing having an axially directed circular inlet, the margins of said inlet being curved inwardly, said housing also having a tangentially directed outlet;
(b) a blower rotatably mounted in said housing;
(c) a plate covering said inlet and including a central boss directed toward said inlet, said boss having a concave curved annular surface forming a wall essentially equally distant from the curved margins of said inlet opening;
(d) said plate extending radially beyond the diameter of said inlet and spaced from said housing to form therewith an annular passage, to cause radially inward flow of air to said boss for diversion into said inlet;
(e) and a heating element distributed in said passage, whereby air in flowing radially inward through said passage traverses said heating element to extract heat therefrom.

3,196,251
THERMOSTATICALLY CONTROLLED FLUIDIZED SOLID PARTICLE BATH APPARATUS

Norman Adrian De Bruyne, Duxford, Cambridge, England, assignor to Techne (Cambridge) Limited, Duxford, Cambridge, England
Filed May 23, 1963, Ser. No. 282,613
Claims priority, application Great Britain, July 5, 1962, 25,867/62; July 24, 1962, 28,445/62; Sept. 3, 1962, 33,752/62
8 Claims. (Cl. 219—378)

7. In combination, a fluidized solid particle bath and means for controlling the temperature of said bath,
said solid particle bath being closed at the bottom and having a porous plate spaced from the bottom adapted to prevent movement of the solid particles therethrough,

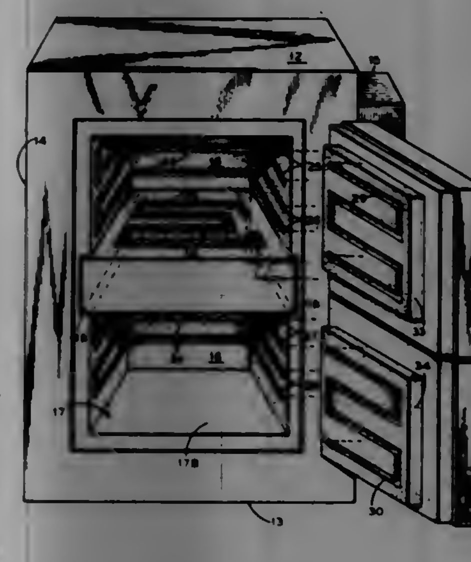
pipe means extending into the region between the bottom and said porous plate for supplying gas pressure thereto,
at least one electrical heating means in said bath above the porous plate,
said means for controlling the temperature of said bath comprising a thermostat of the type adapted to operate by linear expansion and movement of one part thereof with respect to another part having a portion thereof extending into said solid particle bath to sense the temperature of said bath,
a jet means including a jet orifice,
a gas pressure line having one end thereof connected to said jet means,
the other end of said gas pressure line being connected to said pipe means supplying gas pressure to said bath,
constriction means in said gas pressure line between the jet means and the pipe means,
means operatively associated with said jet orifice and controlled by the movement of said one part of said thermostat for regulating the escape of gas from the jet orifice whereby to vary the pressure build-up in said gas pressure line between said constriction means and said jet means in accordance with the temperature sensed by said thermostat,
an electrical circuit comprising a microswitch connected to said electrical heating means for controlling the supply of electrical current thereto,
pressure sensitive means operatively connecting said microswitch to said pressure line, said microswitch, pressure sensitive means, jet means and thermostat being constructed and arranged so that said microswitch normally connects the heater to the source of current except when a predetermined pressure is built-up in said pressure line,
a second microswitch adapted to connect and disconnect the supply of electric current to the electrical circuit for said electrical heating means,
pressure sensitive diaphragm means adapted to connect and disconnect said second microswitch,
means operatively connecting said diaphragm means to said pipe means,
said second microswitch diaphragm means and means operatively connecting the diaphragm means to the pipe means being constructed and arranged to turn said second microswitch off when said pipe means fails to supply air pressure thereto.



3,196,252
PORTABLE KILN

Saul Weingrad, 129 Stony Ridge Drive, Hillsdale, N.J.
Filed Mar. 7, 1963, Ser. No. 263,447
2 Claims. (Cl. 219—394)

2. A versatile portable kiln readily adaptable for simultaneously firing a plurality of ware pieces either at the same temperature or at different temperatures comprising
(a) a refractory lined housing having a top wall, bottom wall, rear wall, and opposed interconnecting side walls for defining a heating chamber having a full open front access opening,
(b) said opposed side walls and rear wall having a horizontally disposed co-planar groove formed in the inner surfaces thereof intermediate the height thereof,
(c) a readily removable divider means for dividing said chamber with two distinct compartments slidably received in said groove,
(d) said divider means including a hollow refractory block,
(e) a high heat resistant aluminum silicate fiber material packed in the hollow of said divider block to thermally insulate one compartment from the other when the divider is in place,



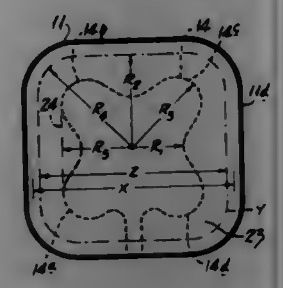
(f) an electric heating element embedded in each surface of said divider block,
(g) a plurality of electric heating elements lining the side and rear wall portions of the respective compartments,
(h) means for independently controlling the operation of the respective heating elements,
(i) and a closure means for sealing the access opening to said chamber,
(j) said closure means including a pair of doors hingedly connected to said housing,
(k) each of said doors defining a closure for each of said compartments,
(l) handle means for independently operating the opening and closing of said doors,
(m) and latching means for latching said doors together for effecting the simultaneous opening and closing of said doors.

3,196,253
ELECTRICALLY HEATED COOKING VESSEL

Ivar Jepson, Oak Park, and Chester H. Wickenberg, Elgin, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 15, 1962, Ser. No. 166,289
3 Claims. (Cl. 219—436)

1. A cooking vessel comprising a plane heating surface of generally square configuration, an electric heating element in the form of a single turn loop secured in intimate heat exchange relationship with said surface, said loop comprising a plurality of outwardly directed curved lobes one extending toward each corner of said heating surface, adjacent ones of said outwardly directed lobes being interconnected by inwardly directed lobes, said loop being symmetrically disposed with respect to the center of said generally square plane heating surface, said heating element being of such configuration that the ratio of R_1 to R_5

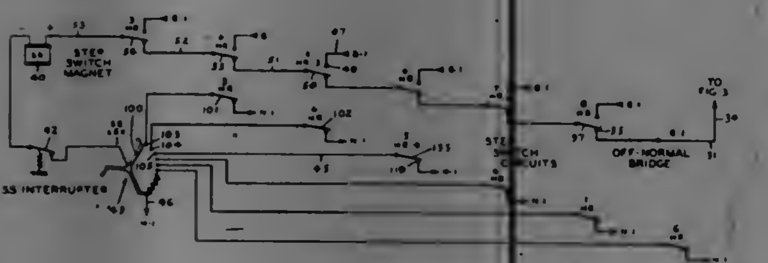
is within the range of .738 to .871 and the ratio of R_3 to R_4 is within the range of 0.60 and 0.80, wherein R_1 designates the distance from the center of said square surface to the points on said inwardly directed lobes nearest the center, R_5 designates the distance from the center of said surface to a line interconnecting the extremities of two adjacent outwardly directed lobes, R_3 designates the distance from the center of said square surface to the points on said outwardly directed lobes most remote from the center, and R_4 designates the distance from the center to one corner of said cooking surface.



3,196,254
HEATER CONTROL SYSTEMS
Alan R. Knoop, Richmond, Va., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

Filed Feb. 21, 1961, Ser. No. 90,663

9 Claims. (Cl. 219—4[illegible]6)

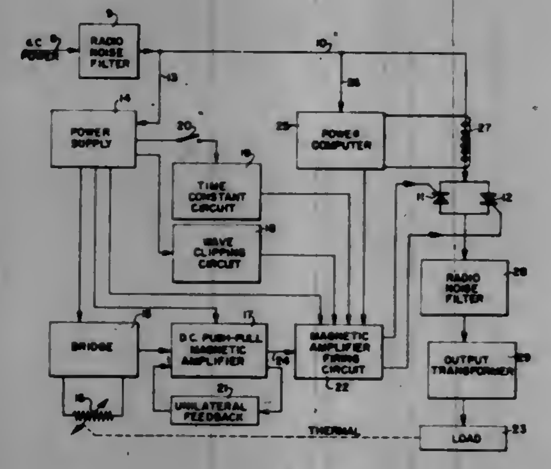


1. In apparatus inclining a plurality of separably operable A.C. energized heaters and a source of A.C. power, a system for controlling feed of A.C. power to and temperature of a predetermined heater which system comprises a like plurality of D.C. actuated selection circuits each associated with a corresponding heater and each containing a D.C. actuated selector relay, a like plurality of D.C. actuated power control circuits each associated with corresponding selection circuit and its corresponding heater and each containing a power control relay operable by energization of the corresponding selector relay, a D.C. actuated plural level step switch including in one level an off-cycle home position and a plurality of positioning contact points each associated with a corresponding selection circuit and its corresponding heater, means—operable on energization of the selector relay corresponding to the said predetermined heater and acting through a D.C. circuit electrically associated with the step switch and controlled by energization of such selector relay—for moving the step switch to a positioning contact point corresponding to such selector relay to effect energization of the corresponding power control relay and feed of A.C. power to the corresponding and predetermined heater, and means responsive to a predetermined maximum temperature in such predetermined heater to open the power control circuit corresponding to such predetermined heater and cut off feed of A.C. power thereto.

3,196,255
ELECTRICAL PROPORTIONAL CONTROL SYSTEM
Edward D. Beauchamp, Lakewood, and Donald S. Saulson and Paul A. Benson, Torrance, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed May 29, 1961, Ser. No. 113,387

18 Claims. (Cl. 219—497)



18. In a control system including means responsive to electrical energy for controlling a physical condition, apparatus for establishing and maintaining a predetermined state of the condition by regulating the supply of electrical energy to the controlling means, the regulating apparatus comprising:

first means for producing an electrical condition signal having a magnitude representing the instantaneous state of the condition;
second means for producing a reference signal;
means coupled to the first and second means for developing an electrical error signal having a polarity representing the direction and a magnitude representing the extent of deviation of the condition signal from the reference signal;
means coupled to the controlling means and including a semiconductor switch having a control element, for supplying periodic electrical energy to the controlling means;
and means coupled to the switch control element and including a magnetic amplifier coupled to the developing means for generating a square-wave, switch-closing control signal having a leading edge occurring at times during the periods of periodic electrical energy determined by the error signal.

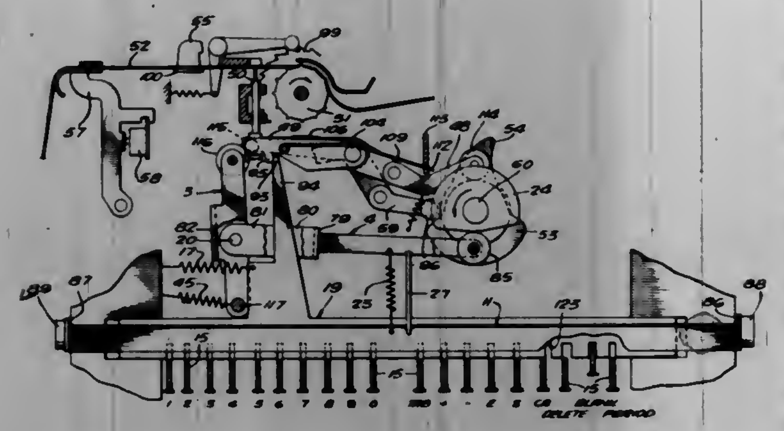
3,196,256
TAPE DECODING MULTIPLE SWITCH
Robert W. Tripp, Eastchester, N.Y., assignor to Inductosyn Corporation, Carson City, Nev., a corporation of Nevada

Filed May 22, 1961, Ser. No. 123,915

4 Claims. (Cl. 235—61.11)

1. A tape decoding multiple switch comprising a row of sensing pins, a corresponding series of parallel slides, one for each pin, a plurality of switch actuating stations spaced along said slides, means supporting said slides for movement from one position to another, certain of said slides having a transverse notch at one position and the other slides having a similar notch at the other position in accordance with a code, each of said switching stations

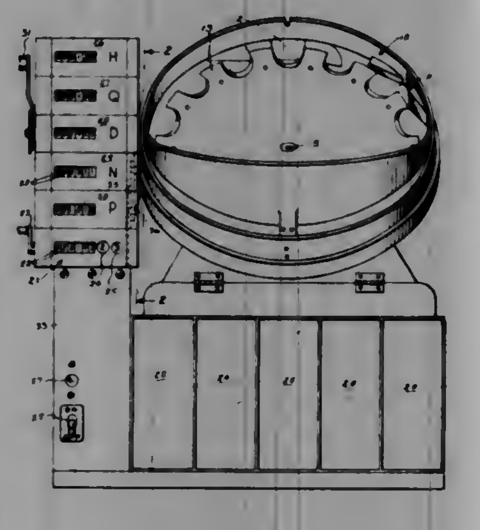
having a switch actuating member extending transversely of said slides in position to enter the notches of all of said slides at that station or not depending on whether the notches are in alignment or not, all of said slides having notches receiving only the particular one of said switching members which is at the selected station, and all of said slides having imperforate portions restraining the switching members at all non-selected stations, means urging said slides to one of said positions, and means controlled by each of said pins for actuating its slide to the other position when the pin enters a hole in the tape.



3,196,257
COIN VALUE TOTALIZER
Arnold R. Buchholz and Lawrence C. Anderson, Watertown, Wis., assignors to Brandt Automatic Cashier Company, Watertown, Wis., a corporation of Wisconsin

Filed July 16, 1962, Ser. No. 210,074

12 Claims. (Cl. 235—92)

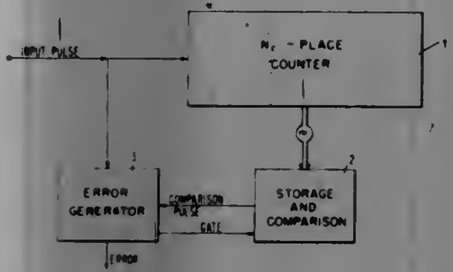


1. A coin value totalizer for a varied denomination coin handling machine, comprising: digit coin value indicators 0 through 9; a cent stepping switch for controlling said digit indicators and operable upon the count of a cent, said cent stepping switch having levels each provided with a wiper and a plurality of contracts engaged sequentially by said wiper as the cent switch steps, the contacts of a first level being connected in sequence to the digit indicators 0 through 4 and the contacts of a second level being connected in sequence to the digit indicators 5 through 9; a five cent value accumulator operable upon the count of a five cent piece, upon the count of a quarter dollar, and when the count registered in said cent stepping switch increases to a multiple of five, said five cent value accumulator connecting the wiper of said first level of said cent stepping switch to a source of electric current when the value accumulated is an even multiple of five and connecting the wiper of said second level of said cent stepping switch to said source when the value accumulated is an odd multiple of five; tens coin value indicators 0 through 9; a ten cent stepping switch for controlling said tens indicators and operable upon the count of a dime, upon the count of a half dollar, and when the value accumulated in said five cent value accumulator increases to an even multiple of five, said ten cent stepping switch having levels each provided with a wiper and a plurality of contacts engaged sequentially by said wiper as the ten cent switch steps, the contacts of a first level being connected in sequence to the tens indicators 0 through 9 and each of the contacts of second, third, fourth and fifth levels being connected to the second succeeding contact of the preceding level; and a twenty cent value accumulator operable upon the count of a quarter dollar and operable twice upon the count of a half dollar, said twenty cent value accumulator initially connecting the wiper of said first level of said ten cent stepping switch to said source and connecting a wiper of a next succeeding level of said ten cent stepping switch to said source for each twenty cent value accumulated therein.

3,196,258
COUNTER STEP CHECKING
Louis E. Belcastro, Wappingers Falls, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 2, 1960, Ser. No. 33,522

3 Claims. (Cl. 235—153)



1. Apparatus for checking the failure of a stepping pulse to correctly change a counter's state to one of a number of predetermined states of a sequence of distinguishable states comprising; storage means for storing the states of the counter before and after application of said stepping pulse; comparison means associated with said storage means for comparing the stored states and generating a blocking signal, if the counter has changed states correctly; means responsive to said stepping pulses, for generating one error pulse for each stepping pulse; and gating means responsive to said error pulse and blocking signal for blocking further transmission of any of said error signals which correspond with a blocking signal.

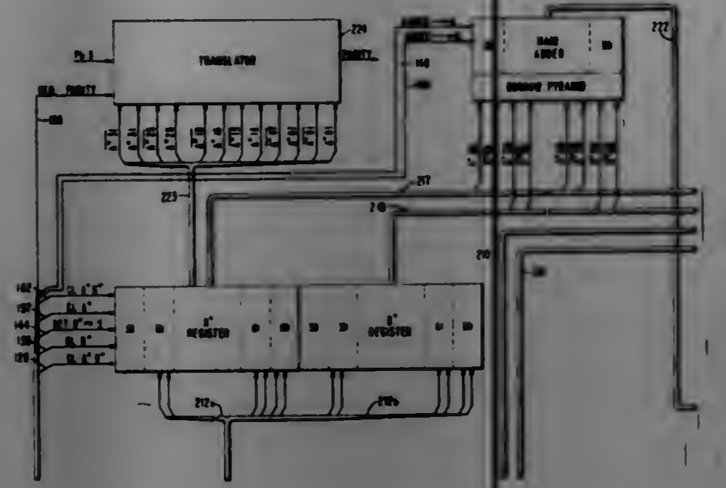
3,196,259
PARITY CHECKING SYSTEM
Gerald J. Erickson, St. Paul, Minn., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed May 9, 1962, Ser. No. 193,471

11 Claims. (Cl. 235—153)

1. In a parity generator for generating the parity of an N-bit binary number, the combination comprising: first half-adder means; result storage means responsive to said half-adder means for storing the results of half-add operations performed thereby; first and second register means for storing said N-bit binary number; means for applying the content of said first register means to said half-adder without shift; and means for applying the con-

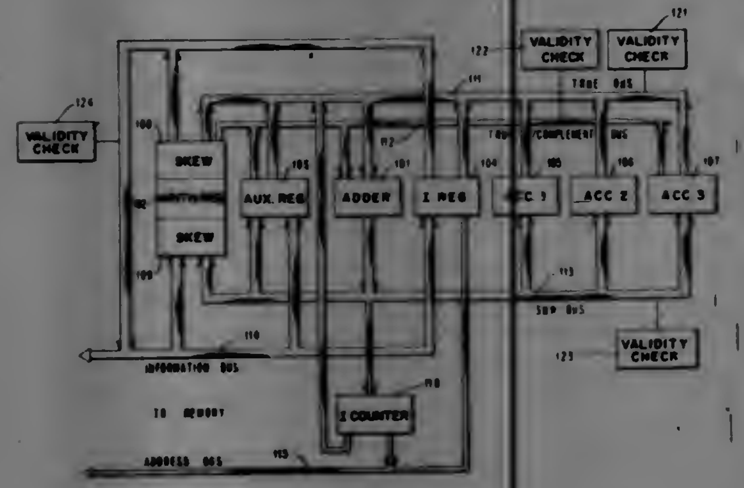
tent of said second register means to said half-adder with a shift of one binary place to the left whereby alternate



stages of said result storage means receive and store the parity bits of succeeding pairs of said N-bit number.

3,196,260
ADDER

John M. Pugmire, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 3, 1961, Ser. No. 107,405
11 Claims. (Cl. 235—173)



9. A 2-out-of-5 coded decimal computer system comprising:
- (A) a first operand bus;
- (B) a second operand bus;
- (C) a sum bus;
- (D) a validity check means associated with said sum bus for signalling error upon default of 2-out-of-5 code rules, and
- (E) an adder connected to said first operand, second operand and sum buses for producing a final sum on said sum bus in 2-out-of-5 code in response to digit signals applied via said operand buses; the added comprising:
  - (a) carry mechanism for producing carry designations in response to carry out situations from previous orders;
  - (b) a summation function term generator for producing logical AND and OR correlations between equal weight addend and augend 2-out-of-5 bits as follows:

    OR—P0, P1, P2, P3, P6
    AND—G0, G1, G2, G3, G6.

    and including terms 0 and [illegible] (not zero) for digits coded by weights 1 and 2;
  - (c) a summation function term combiner connected to said summation function term generator for producing raw sum digit summation function signals for the addend and augend decimal digits applied to said summation function term generator to produce the decimal raw sums as follows:

Summation Function	Decimal Digits	Decimal Raw Sum
G1, G2	0+0	0
G1, P0, P2	0+1	1
G2, P0, P1	0+2	2
P0, P3, 0	0+3	3
G1, P2, P3	0+4	4
G2, P1, P3	0+5	5
P0, P6, 0	0+6	6
G1, P2, P6	0+7	7
G2, P1, P6	0+8	8
P3, P6, 0	0+9	9
G0, G1	1+1	2
G0, P1, P2	1+2	3
G0, P1, P3	1+3	4
G1, P0, P3	1+4	5
P0, P1, P2, P3, 0̄	(1+5), (2+4)	6
G0, P1, P6	1+6	7
G1, P0, P6	1+7	8
P0, P1, P2, P6, 0̄	(1+8), (2+7)	9
P0, P1, P3, P6	(1+9), (3+7), (4+6)	0* (Carry)
G0, G2	2+2	4
G0, P2, P3	2+3	5
G2, P0, P3	2+5	7
G0, P2, P6	2+6	8
G2, P0, P6	2+8	0*
P0, P2, P3, P6	(2+9), (3+8), (5+6)	1*
G0, G3	3+3	6
G3, P0, P1	3+4	7
G3, P0, P2	3+5	8
G0, P3, P6	3+6	9
G3, P0, P6	3+9	2*
G1, G3	4+4	8
G3, P1, P2	4+5	9
G1, P3, P6	4+7	1*
P1, P2, P3, P6, 0̄	(4+8), (5+7)	2*
G3, P1, P6	4+9	3*
G2, G3	5+5	0*
G2, P3, P6	5+8	3*
G3, P2, P6	5+9	4*
G0, G6	6+6	2*
G6, P0, P1	6+7	3*
G6, P0, P2	6+8	4*
G6, P0, P3	6+9	5*
G1, G6	7+7	4*
G6, P1, P2	7+8	5*
G6, P1, P3	7+9	6*
G2, G6	8+8	6*
G6, P2, P3	8+9	7*
G3, G6	9+9	8*

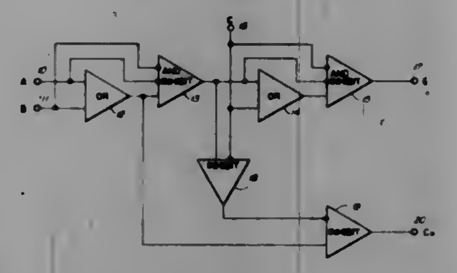
  - (d) an encoder connected to said summation function term combiner to produce coded raw sum digit bit signals R0, R1, R2, R3, R6 corresponding to the applied raw sum digit summation function signals;
  - (e) carry adjust mechanism connected to said carry mechanism (a) to alter the bit structure of the raw sum by the carry value and thus produce final sum digits S0, S1, S2, S3, S6;
  - (f) duplicate carry signal means to produce digit duplicate carry signals in response to summation functions known to result in digit carry situations; and
  - (g) error detection means to compare respective digit duplicate carry signals with the related lookahead carry signals and to produce a carry error designation signal upon mismatch,

whereby fault detection in the adder is a function of the carry error designation signal and of the sum bus validity check.

3,196,261
FULL BINARY ADDER

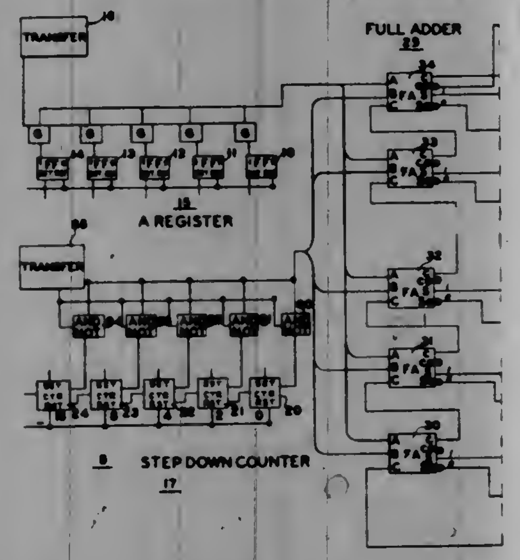
David H. Schaefer, Oxon Hill, Md., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Jan. 9, 1963, Ser. No. 250,451
8 Claims. (Cl. 235—176)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A full binary adder comprising: first and second "exclusive or" gates with each having first and second input terminals and an output terminal and with at least the first "exclusive or" gate including an "or" gate; means for connecting two binary input signals to the two input terminals of the first "exclusive or" gate and to said "or" gate; means for connecting a third binary input signal and the output signal from the output terminal of the first "exclusive or" gate to the two input terminals of the second "exclusive or" gate; first and second "inhibit" gates with each having one inverted and one non-inverted input terminal and with each having an output terminal; means for connecting said third input signal to the inverted input terminal of the first "inhibit" gate; means for connecting the output signal from the first "exclusive or" gate to the non-inverted input terminal of the first "inhibit" gate; means for connecting the output signal from the first "inhibit" gate to the inverted input terminal of the second "inhibit" gate; and means for connecting the output signal from the "or" gate to the non-inverted input terminal of the second "inhibit" gate whereby the output signal at the output terminal of the second "exclusive or" gate is the sum output signal and the output signal at the output terminal of the second "inhibit" gate is the carry output signal.



3,196,262
BINARY COMPARATOR

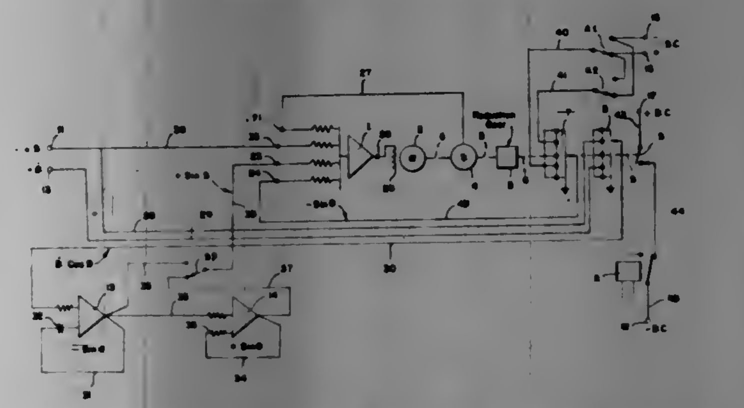
Kenneth R. Thompson, Roanoke, Va., assignor to General Electric Company, a corporation of New York
Filed Dec. 14, 1961, Ser. No. 159,264
5 Claims. (Cl. 235—177)



5. A binary comparator for comparing a first binary number with a second binary number comprising means for adding a third binary number, larger than said first or second binary number, to said first binary number to provide a first binary sum and to said second binary number to provide a second binary sum, means for converting said second binary sum to its one's complement, full adder means for full adding said first binary sum and the one's complement of said second binary sum to provide a third binary sum, means for deriving a carry signal from said full adder means when said first number is larger than said second number, means for deriving a no carry signal from said full adder means when said second number is equal to, or larger than, said first number, means for combining said third binary sum with said carry signal when said first number is larger than said second number to provide an indication of the magnitude of the difference between said first and second binary number, and means for using jointly said third sum with said no carry signal when said second number is equal to or larger than said first number to provide an indication of the difference between said first and second binary numbers.

3,196,263
ELECTRONIC INTEGRATORS

Ronald Arthur Marvin, Horsham, England, assignor to Communications Patents Limited, London, England
Filed Sept. 8, 1961, Ser. No. 136,800
Claims priority, application Great Britain, Sept. 15, 1960, 31,778/60
5 Claims. (Cl. 235—183)



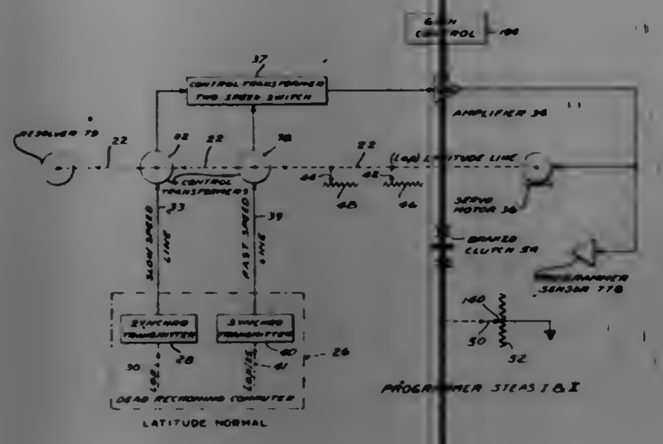
1. An integrator system comprising input terminal means adapted to be supplied with signals representative of the rate of change of an angular position, a servo amplifier having four input terminals and an output terminal, means connecting said input terminal means to a first input terminal, a servo motor having an output shaft, means connecting the output terminal of said servo amplifier to said servo motor to thereby drive said servo motor from said servo amplifier, a position feedback generator and a plurality of potentiometers drivingly connected to said output shaft, said generator having an output connected with a second input terminal of said servo amplifier, means including a first of said potentiometers for providing a derived signal corresponding to the sine of the integral of the rate signal and means including a second of said potentiometers for providing a derived signal corresponding to minus the sine of the integral of the rate signal, means for applying said first mentioned derived signal to a third input terminal of said servo amplifier, means for applying said second mentioned derived signal to a fourth input terminal of said servo amplifier, and rotary switch means connected to said shaft for reversing simultaneously the polarity of both said derived signals at values of the integral of the rate signal equal to plus or minus 90°.

3,196,264
AUTOCORRECTOR FOR DEAD RECKONING NAVIGATION COMPUTER

Stamates I. Frann, Whitestone, and Patrick J. McKeown, Syosset, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Company Division, Wilmington, Del., a corporation of Delaware
Filed Apr. 25, 1961, Ser. No. 105,346
24 Claims. (Cl. 235—187)

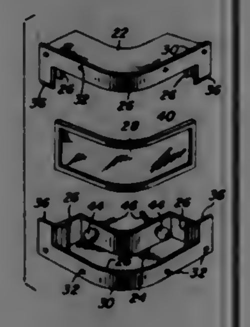
1. An autocorrector for dead reckoning equipment which comprises a first means for indicating present vehicle position, a second means coupling the first means to said dead reckoning equipment, a source of correct vehicle information and a third means for automatically decoupling said first means for said dead reckoning equipment and coupling said first means to said source when

the latter provides a correct vehicle position wherein said first means has a vehicle position shaft which is displaceable in accordance with vehicle position and there is provided error storage means which includes an error storage potentiometer and a clutch between said vehicle position shaft and said error storage potentiometer, said clutch being actuated during the time interval when said third means is active and said source is providing said first means a correct vehicle position.



3,196,265
VEHICLE BUMPER LIGHT

Willie Schneider, Orrin, N. Dak., assignor of one-half to Conrad J. Ziegler, Rugby, N. Dak.
Filed Feb. 5, 1963, Ser. No. 256,424
5 Claims. (Cl. 240—7.1)

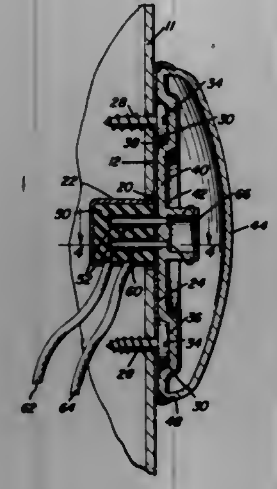


1. In combination, a vehicle bumper comprising a bar, spaced ribs on the bar, said bar having an opening therein between the ribs, and a safety light mounted on the bar in the opening, said ribs protruding beyond the light for guarding same, said light including a casing having an open front and a lens therein, said casing comprising complemental, separable upper and lower half-sections engaged in the bar opening and held together by said bar, and electric lamps in the casing.

3,196,266
TRUCK CLEARANCE LIGHT

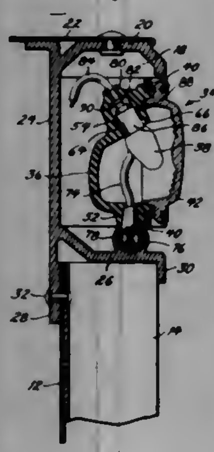
Harry W. Grosser, Jamestown, N.Y., assignor of one-half to Stanley A. Weeks, Jamestown, N.Y.
Filed Nov. 28, 1962, Ser. No. 240,685
12 Claims. (Cl. 240—8.2)

1. A truck clearance light for mounting on a truck body, said light comprising a mounting plate having a flat portion adapted to be secured to a supporting surface, said mounting plate including peripheral retaining flange portions projecting from said flat portion of said plate to define a recess, a sealed lamp and lens assembly snugly receivable within the recess for rigid mounting by said retaining flange portions in contact with the flat portion, said flange portions being elastically deflected from positions converging inwardly toward the center of said flat portion of the plate to embracingly engage the peripheral portions of said assembly and seat the assembly in said recess, said peripheral flange portions defining at least one notch opening outwardly, and said assembly including at least one lug projecting outwardly through said notch.



3,196,267
CLEARANCE LIGHT FOR TRAILERS

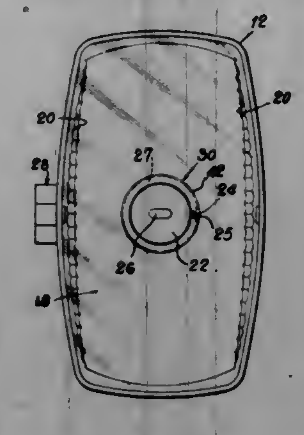
Andrew Abolins, Penndel, Pa., assignor to Strick Trailers, a Division of Fruehauf Trailer Co., Philadelphia, Pa., a corporation of Michigan
Filed Feb. 8, 1963, Ser. No. 257,285
10 Claims. (Cl. 240—8.2)



6. A clearance light for a vehicle comprising a generally cup-shaped flexible insulating housing open at one face, at least one bulb, means mounting said bulb in said housing, said vehicle including a member having a cut-out portion corresponding to the open face of said housing, an external groove peripherally around said housing adjacent said open face and receiving the peripheral edge of said cut-out portion, a lens corresponding to but larger than said open face, and means to selectively position said lens to open and close said open face of said housing, said last-named means including an elongated spring member hinged at one of its ends to said vehicle member and having a portion extending across said lens, means on said lens engaging and removably retaining said portion of said spring on said lens so that said lens remains attached to said spring during pivotal movement thereof, and detent means on said vehicle member releasably engaging the other end of said spring member to hold said lens in its closed position.

3,196,268
FLASHLIGHT

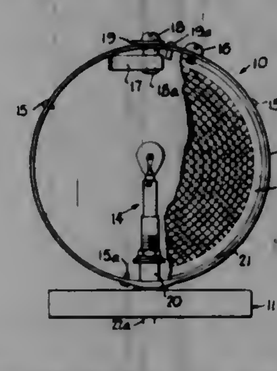
William Mack, Elmhurst, N.Y., assignor to Gulton Industries, Inc., Metuchen, N.J., a corporation of New Jersey
Filed Nov. 6, 1961, Ser. No. 150,495
13 Claims. (Cl. 240—10.69)



1. A flashlight comprising a housing, an outwardly facing concave reflector carried by the housing, and a light emitting lamp centrally carried within the reflector, said reflector having an edge lying in a plane and defining a light emitting opening which is longer than it is wide, said reflector having an elongated reflecting surface parabolic in all directions about the lamp and extending at its ends to the edge of the reflector at the short dimensions of the light emitting opening for providing a spot of light and a flood of light thereabound, said reflector having outwardly inclined concave surfaces extending from the sides of the elongated parabolic reflecting surface to the edge of the reflector at the long dimensions of the light emitting opening.

3,196,269
LAMP FIXTURE

Julian A. McDermott, 1639 Stephen St., New York, N.Y.
Filed Dec. 4, 1962, Ser. No. 242,142
5 Claims. (Cl. 240—151)

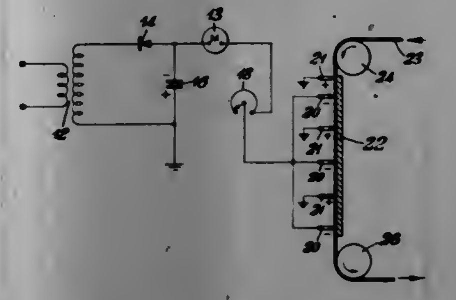


1. The combination with a cylindrically shaped lighting fixture including a frame having a pair of spaced-apart lenses removably retained therein; of a device for selecstively tipping a segment of a lens edge out of the frame to a position where the tipped lens can be manually withdrawn from the frame, said lens tipping device comprising a body member, said body member rotatably mounted in the frame, one end of said body member extending through and into the frame to a position between the lenses, means on said end tipping the lens upon contact, and said lens tipping means operable from outside the frame.

3,196,270
TREATING OF PLASTIC SURFACES

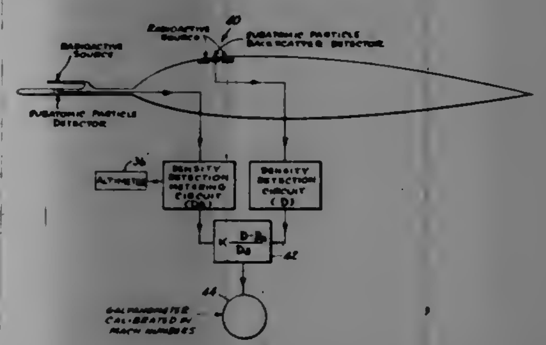
Louis A. Rosenthal, Highland Park, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed July 31, 1962, Ser. No. 213,745
12 Claims. (Cl. 250—49.5)

1. A method for the treatment of polymer surfaces which comprises exposing one side of a polymer surface to corona aura of a series of opposite polarity direct current corona on said side sustained by direct current potential of sufficient magnitude to produce a continuous aura adjacent the polymer surface.



3,196,271
AIR DENSITY SENSITIVE GAUGES FOR SPACE CRAFT

Donald E. Wright, Seattle, Wash., assignor to Boeing Airplane Company, Seattle, Wash., a corporation of Delaware
Filed May 2, 1960, Ser. No. 26,339
7 Claims. (Cl. 250—83.3)



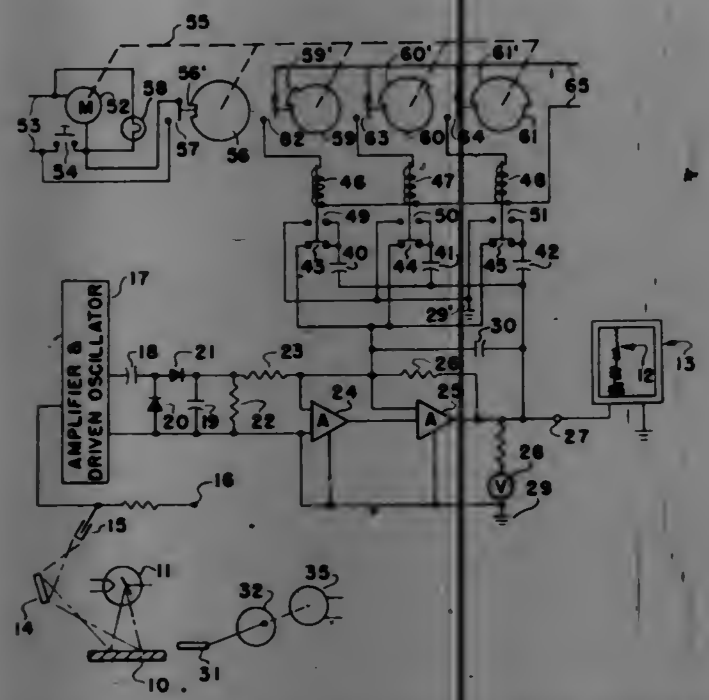
5. Means for measuring free-stream air density from a moving vehicle comprising, in combination with a vehicle, a source of radiant energy, means on the vehicle mounting said energy source substantially in the free stream and directed into the free stream at a relative location substantially free of air disturbance by the vehicle, a radiation detector, means on the vehicle mounting said radiation detector substantially in the free stream and directed into the free stream at a relative location substantially free of air disturbance by the vehicle, the location of said detector being proximate to said source with said source and the detector both facing into the free stream in at least approximately the same direction so that radiation from the source back-scattered by the free-stream air is incident on the detector, and means responsively connected to said detector for measuring the proportion of radiation incident on said detector, and therefrom the air density.

3,196,272
TIME CONSTANT CONTROL SYSTEM FOR X-RAY ANALYZERS AND GAGES

Robert J. Culbertson, Brookfield, Wis., assignor to General Electric Company, a corporation of New York
Filed Sept. 5, 1962, Ser. No. 221,466
10 Claims. (Cl. 250—83.3)

1. In an instrument utilizing radiation to measure a characteristic of a test sample, a primary radiation source, means for detecting radiation quanta emanating at a statistically fluctuating rate from the sample whose emanations are effected by the primary radiation from the source, said detecting means including means for converting said quanta to electric input signals, amplifier means in circuit with a cooperating integrating circuit, said amplifier means receiving said input signals and raising the same to a higher level output signal, said integrating circuit including components having certain resistive and capacitive

values which have a time constant that results in said output signal exhibiting comparatively wide fluctuations during a first integrating interval, means for pre-charging one of said capacitive components from the amplifier output to a level substantially that of the amplifier output signal

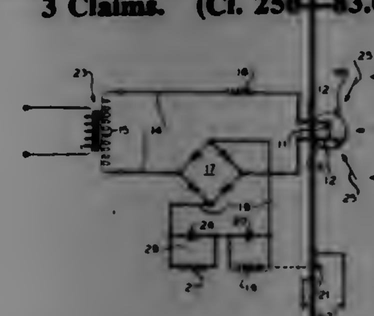


during a first integrating interval, a timer means and switch means responsive thereto for connecting said pre-charged capacitive component in parallel with a resistive component at the end of a predetermined interval, whereby the time constant is increased and fluctuations in the electric output signal are reduced.

3,196,273
ULTRAVIOLET DETECTOR WITH R.C. MEANS TO PREVENT OVERHEATING OF THE ELECTRODES

André T. Abromaitis, Morristown, N.J., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware

Filed Mar. 14, 1963, Ser. No. 265,177
3 Claims. (Cl. 250—83.6)

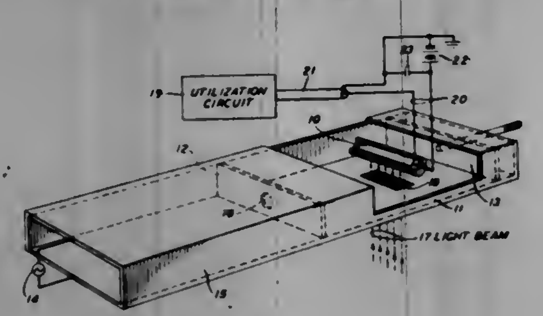


1. An ultaviolet detector system comprising an ultraviolet detector tube having symmetrical electrodes in an adjacent relationship providing a working region wherein an emission of electrons responsive to incident photons is capable of triggering an avalanche discharge when a firing potential is applied across the electrodes, an electrical circuit serially including an A.C. source of potential of a peak value exceeding said fire potential, a current-limiting resistor, said ultraviolet detector tube, a rectifier and a load device, said current-limiting resistor having a value insufficient to prevent overheating of said electrodes when said tube is fired consecutively responsive to a saturating level of incident photon radiation over a given period of time, and a parallel R.C. network connected in said circuit in series with said rectifier, said R.C. network having a time constant of substantially less than said period causing the condenser thereof to become substantially charged to a threshold level in less than said given period when the incident photon radiation is at said saturating level whereby to introduce effectively a counter E.M.F. in said electrical circuit effective together with the current-limiting action of said current-limiting resistor to prevent overheating of said electrodes during consecutive firing of said ultraviolet detector tube over a sustained period of time.

3,196,274
LIGHT BEAM DEMODULATOR

Joseph A. Giordmaine, Millington, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 12, 1961, Ser. No. 158,790
2 Claims. (Cl. 250—199)

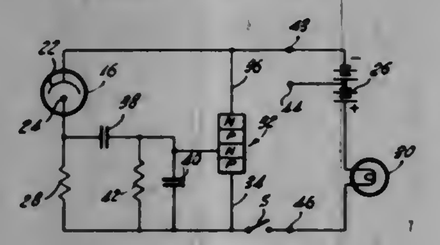


1. A light demodulator comprising a photoemissive surface responsive to radiant energy over a range of frequencies within the optical range; an optical frequency carrier having a carrier frequency F_c within said range and modulated by an intermediate frequency carried ΔF which bears modulation intelligence of a prescribed frequency; a local oscillator for providing wave energy at a frequency different than said intermediate frequency carrier by an amount Δf, where Δf is larger than said prescribed frequency and less than 1000 megacycles per second; said photoemissive surface being simultaneously exposed to a beam of said modulated optical frequency carrier and to local oscillator wave energy; and means for extracting wave energy from said demodulator at said difference frequency Δf.

3,196,275
LIGHT SENSITIVE SLAVE UNIT

Carl E. Atkins, West Orange, and Mathew A. Slaats, Livingston, N.J., assignors to Tung-Sol Electric Inc., a corporation of Delaware

Filed Mar. 6, 1961, Ser. No. 93,574
5 Claims. (Cl. 250—217)



1. A remotely controlled flash unit comprising a four layer semiconductor switching device having a gate, emitter and collector, said device being of the type which is switched on by biasing its gate with respect to its emitter with voltage of one polarity and is switched off by biasing its gate with respect to its emitter with voltage of the opposite polarity, a low voltage battery and a flashbulb socket connected in series with the emitter and collector of the four layer semiconductor switching device so that all current drawing circuits through said source will be open when said flashbulb socket is empty, a photosensitive means and a resistor connected in series between the emitter and the collector of the four layer semiconductor switching device, and circuit means coupling the junction of the photosensitive means and the resistor to the gate

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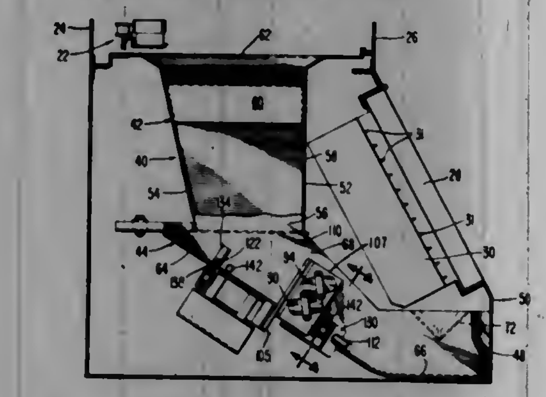
of the four layer semiconductor switching device to bias the four layer semiconductor switching device nonconducting and to transmit changes in current flow through the photosensitive means to the gate of the four layer semiconductor switching device and thereby triggering the four layer semiconductor switching device conducting when a flashbulb is properly inserted in said flashbulb socket, said circuit means including a differentiating circuit means which prevents steady state current flow through the photosensitive means from triggering the four layer semiconductor switching means conductive and capacitive circuit means which prevents current transients due to insertion of flashbulbs in the flashbulb socket from triggering the four layer semiconductor switching device conductive.

3,196,276
ARTICLE DELIVERY CHUTE WITH PHOTOSENSITIVE MEANS TO PREVENT STUFFING

Gerard A. Naab, Morton, Pa., assignor to Brewer Pharmacal Engineering Corporation, Upper Darby, Pa., a corporation of Pennsylvania

Filed Apr. 19, 1962, Ser. No. 188,679
4 Claims. (Cl. 250—223)

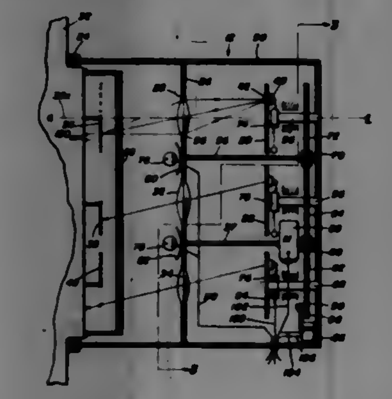


1. An article handling chute for use in an electrically operable article storing and issuing apparatus, comprising:
- (A) walls forming an unobstructed article delivery chute whereby articles can enter one end and under normal conditions of operation pass therethrough undeterred, said chute having
  - (a) an article receiving opening for receiving articles from said issuing apparatus, and
  - (b) an article delivery opening spaced from said receiving opening and to which articles from said issuing apparatus are guided by said chute;
- (B) a first article sensing means in said chute between said receiving and delivery openings and comprising,
  - (a) a source of radiant energy
  - (b) means for directing said radiant energy in a beam traversing the interior of said chute in plural paths for sensing an article as it passes through said chute, said plural paths of said beam being separated by less than the smallest major dimension of the article passing therethrough whereby the article cannot pass through said chute without intercepting the beam
  - (c) means to receive said radiant energy,
  - (d) a first switch, and
  - (e) first circuit means in circuit with the means to receive said radiant energy operative to move said first switch to one condition in response to receipt of said radiant energy by said receiving means, and operative to move said switch to another condition in response to fluctuation in said radiant energy whereby control of associated apparatus can be effected;
- (C) a second article sensing means on said chute between said receiving opening and said first article sensing means to detect foreign matter in said chute between said first article sensing means and said receiving opening which could prevent an article from passing through said first article sensing means after being issued by the issuing apparatus, said second article sensing means comprising,
  - (a) means forming at least one beam of radiant energy directed across said chute from one side to another,
  - (b) means to receive each said beam of radiant energy,
  - (c) a second switch, and
  - (d) second circuit means in circuit with each of the means to receive each said beam of radiant energy operative to move said second switch to one condition in response to receipt of said radiant energy by said receiving means and operative to move said second switch to another condition in response to a predetermined interruption of said beam whereby operation of the issuing apparatus may be prevented.

3,196,277
PHOTOSENSITIVE OPTICAL SCANNING DEVICE FOR METER INDICATORS

Jacob Rabinow, Bethesda, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Oct. 29, 1963, Ser. No. 319,769
4 Claims. (Cl. 250—236)



1. An optical examination device for a meter having a light face and a plurality of angularly rotatable dark indicators traversing predetermined areas, said indicators optically contrasting with said face, said examination device including a substantially light-tight casing having an opening adapted to be positioned in confronting relationship to the areas of said indicators, an optical system for each indicator, each optical system including a source of light in said casing, means optically associated with said light source to form a scanning spot of light on one of said indicator areas and focused substantially in the indicator area and defocused at said face, means for moving said spot of light in an orbit concentric with said movable indicator, and photosensitive means servicing more than one indicator and responding to the total light in said light tight casing and positioned to sense the light reflected from said entire face as said spot moves and to extract positional information regarding said indicator by sensing the decrease in total light in said casing as said spot sweeps across said indicator.

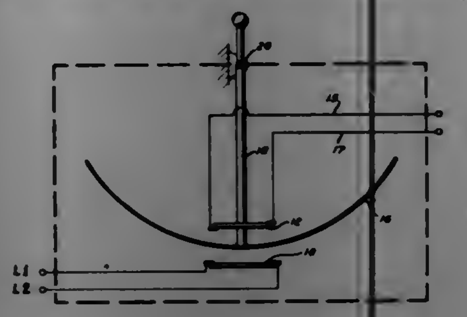
3,196,278
AREA TYPE PHOTO-ELECTRIC CONTROL DEVICE

Dale A. Baker, Waukesha, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware

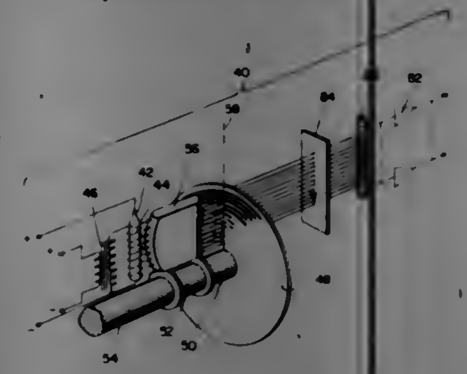
Filed Sept. 12, 1961, Ser. No. 137,653
12 Claims. (Cl. 250—237)

1. A selectively adjustable control device for providing an electrical signal having a magnitude which is proportional to adjustment of the control device comprising: area-type photo-electric means responsive to variable

light to provide a proportionally variable electrical output signal;
an area-type primary luminescent source spaced closely parallel to said photo-electric means so that unit areas of said photo-electric means are exposed to light emitted from corresponding unit areas of said luminescent source;
and means for continuously adjusting the amount of light impinging on said photo-electric means directly from said luminescent source proportionally to adjust the magnitude of said output signal.

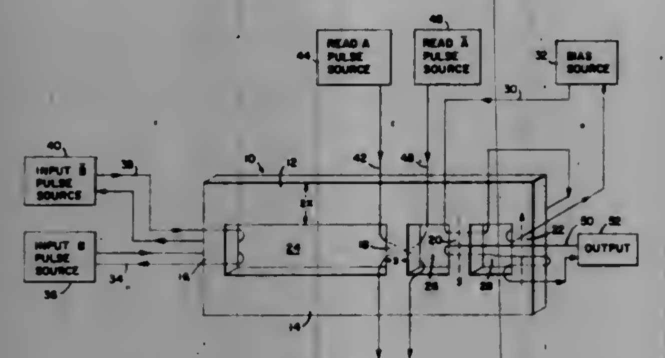


3,196,279
PHOTOSENSITIVE DIGITAL SHAFT ENCODER
Roger G. Papelian, Milford, Mass., assignor to Computer Control Company, Inc., Framingham, Mass., a corporation of Delaware
Filed June 12, 1962, Ser. No. 201,959
11 Claims. (Cl. 250—237)



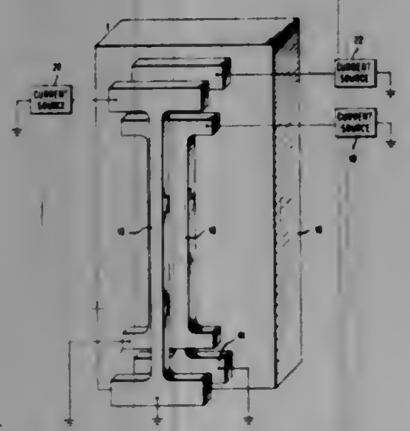
1. Optical encoding apparatus comprising
a radiation source,
means responsive to radiation from said source,
a coded disk rotably mounted for selectively directing said radiation so as to actuate discrete portions of said radiation-responsive means in accordance with the angular position of said disk,
said disk having a plurality of concentric annular tracks thereon, .
each track being divided into a respective plurality of alternating radiation-directive and radiation-absorbent segments according to a predetermined digital code,
the track of least radius having its plurality of said segments corresponding to the least significant digits of said code,
each track of successively larger radius having its respective plurality of said segments thereof corresponding to respective successive groups of more significant digits of said code,
the track of greatest radius having its plurality of segments corresponding to the most significant digits of said code, and
means positioned between said disk and said radiation-responsive means, for limiting radiation transmitted from selected radiation-directing segments to respective ones of said discrete portions and coacting with each of said selected segments for providing to each of said respective portions a radiation level of a magnitude for segments of any one track substantially the same as for segments of any other track and for providing a transition slope for segments of any one track substantially the same as for segments of any other track.

3,196,280
MULTI-APERTURE LOGIC ELEMENT
John T. Franks, Jr., Akron, Ohio, assignor to Goodyear Aerospace Corporation, Akron, Ohio, a corporation of Delaware
Filed Nov. 30, 1961, Ser. No. 155,900
7 Claims. (Cl. 307—88)



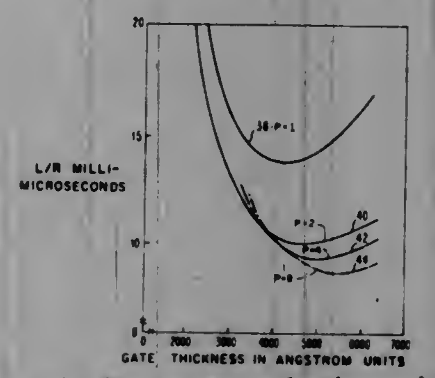
2. A magnetic circuit comprising a magnetic core having a pair of spaced body portions separated by first, second, third and fourth leg portions, the cross-sectional area of each leg portion being one-half the cross-sectional area of a body portion, and the distance between the second and third leg portions being substantially equal to the distance between the third and fourth leg portions and the distance between the first and second leg portions being greater than the distance between the second and fourth leg portions, bias means for saturating the third and fourth leg portions in predetermined directions, means linked with the second leg portion for selectively reversing the direction of the flux in the third and fourth leg portions, and means for sensing a flux change in either the third or fourth leg portion.

3,196,281
SUPERCONDUCTIVE CIRCUITS
Eugene S. Schlig, Crompond, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 16, 1960, Ser. No. 29,545
7 Claims. (Cl. 307—88.5)



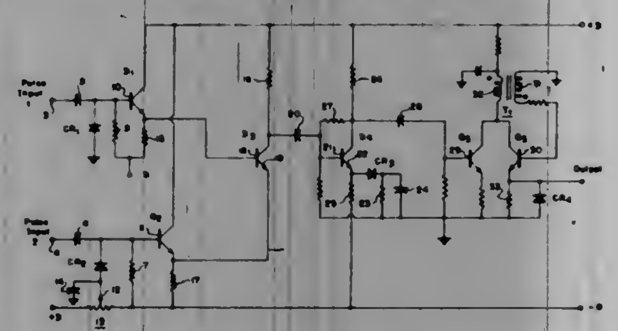
1. A superconductive switching device comprising; a planar gate strip of superconductor material; a pair of planar guard strips of superconductor material; said guard strips being positioned longitudinally parallel to and on opposite sides of said gate strip; each of said guard strips being effective in the absence of current flow therethrough to increase the critical current of superconductivity of said gate strip; and being further effective when current flows therethrough to vary the critical current of superconductivity of said gate strip about said increased value, the variation being determined by the magnitude and direction of current flow through each of said guard strips and current supply means coupled to said gate strip and to each of said pair of guard strips.

3,196,282
THIN-CRYOTRON WITH CRITICAL GATE THICKNESS
William B. Ittner III, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 17, 1960, Ser. No. 29,662
7 Claims. (Cl. 307—88.5)



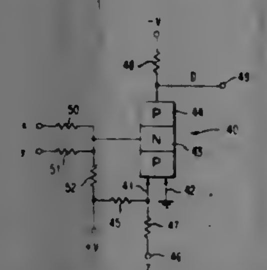
1. A thin film superconductive switching device comprising: a planar superconductive gate conductor and a planar superconductive control conductor arranged in magnetic field applying relationship therewith; said gate conductor consisting of a superconductive material exhibiting a predetermined value of resistivity; and means maintaining said device at a predetermined temperature at which said gate and control conductors are each superconducting; said gate conductor being of a thickness to reduce to substantially zero the slope of the inductance-to-resistance time constant versus gate conductor thickness curve of said device, whereby said device exhibits the minimum switching time as determined by said predetermined value of resistivity at said predetermined temperature.

3,196,283
PULSE AMPLITUDE COMPARATOR
Theodore Flattau, Williston Park, N.Y., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed May 26, 1960, Ser. No. 32,030
2 Claims. (Cl. 307—88.5)



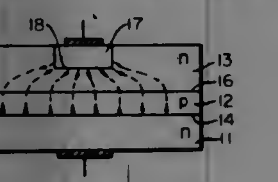
1. A pulse amplitude comparator for comparing a pair of input pulse signals which comprises a pair of transistor amplifiers having respective input and output circuits, means for supplying input pulse signals to said transistor input circuits, respectively, including the direct-current components thereof, a third transistor having a collector output circuit, direct-current connections from the output circuits of said pair of transistor amplifiers to the base and emitter of said third transistor, respectively, for applying amplified input pulse signals in like polarity thereto including the respective direct-current components thereof and producing a response in said collector output circuit when the amplitudes of amplified input pulses simultaneously applied to said base and emitter differ in a predetermined direction, and a monostable oscillator connected to be triggered by responses in said collector output circuit for yielding output signals of substantially constant amplitude for corresponding simultaneous occurrences of pulses in said input circuits which differ by a predetermined amount in one direction.

3,196,284
LOGICAL SIGNAL PROCESSING APPARATUS
Lloyd P. Hunter, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 21, 1961, Ser. No. 104,608
10 Claims. (Cl. 307—88.5)



5. A sum to one logical connective transistor circuit comprising in combination: a transistor having a base of one conductivity type, a collector of an opposite conductivity type and first and second minority carrier injecting emitter contacts positioned on said base region within the diffusion distance of the average minority carrier during the carrier lifetime of the semi-conductor material of said collector across said base region, means connecting said collector to a source of power having a first polarity through a load impedance, means connecting said base to a source of power having a polarity opposite to said first polarity through a biasing impedance, means connecting at least one input variable to said base region each said variable being connected through an isolating impedance, means connecting said first minority carrier injecting contact to a reference potential, means connecting said second minority carrier injecting contact to said opposite polarity source of power through a biasing impedance, and means introducing at least one input variable to said second minority carrier injecting contact each said variable being connected through a separate isolating impedance.

3,196,285
PHOTORESPONSIVE SEMICONDUCTOR DEVICE
Kurt Hubner, Palo Alto, Calif., assignor to Clevite Corporation, a corporation of Ohio
Filed May 18, 1961, Ser. No. 111,009
5 Claims. (Cl. 307—88.5)



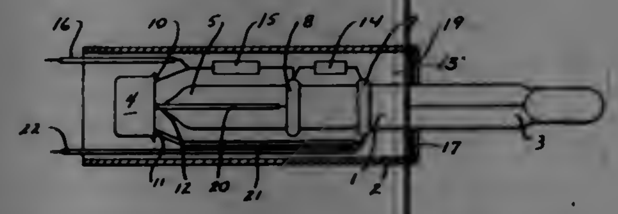
1. A photoresponsive semiconductor switching device comprising a first layer of one conductivity type and a second layer of opposite conductivity type, said layers having contiguous surfaces forming a first rectifying junction having a first area, said first layer comprising means for photoelectrically generating carriers within one diffusion length of the space charge region of the first rectifying junction, a third region of opposite conductivity type forming a second rectifying junction at the other surface of said first layer, said second rectifying junction having an area which is substantially smaller than the area of the first junction, and a fourth region of said one conductivity type forming a third rectifying junction on the other surface of the second layer, ohmic

contact formed with said third and fourth regions, and means for applying a voltage between said third and fourth regions whereby current flow due to carriers generated in the space charge region of the first junction is concentrated at said second rectifying junction.

3,196,286
TEMPERATURE SENSITIVE CONTROL EQUIPMENT INCLUDING THERMOMETER WITH SPACED CONTACT TERMINALS AND HAVING A HOUSING

Oscar C. Darack, Philadelphia, Pa., assignor to Precision Thermometer and Instrument Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed June 22, 1961, Ser. No. 118,908
8 Claims. (Cl. 307—88.5)

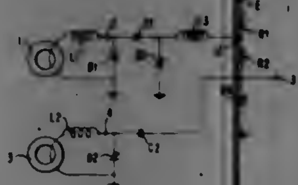


3. In temperature sensitive control equipment:
an elongated, hollow metal housing;
a semi-conductor device having a bias terminal and a pair of load-current terminals, the device being disposed adjacent one end of the housing and the device being for use in controlling current to a load;
a thermostat comprising a glass thermometer having a column of mercury and a pair of spaced contacts to be electrically connected and disconnected by the rise and fall of the column, the thermometer being at least partially disposed in said housing and the column end of the thermometer being disposed closely adjacent said semi-conductor device, the contacts being for use in controlling the bias on said semi-conductor device;
electrical connections connected between said terminals and said contacts including resistor means connected with said contacts and with said bias terminal for controlling the bias on said bias terminal in accordance with the rise and fall of said mercury column; and
means supporting said device, said connections and said thermostat in said housing, the supporting means being characterized by being a conductor of thermal energy and a non-conductor of electrical energy.

3,196,287
SIGNAL-SELECTIVE BISTABLE SEMI-CONDUCTOR LATCH

Arden J. Wolterman, Apalachin, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 15, 1961, Ser. No. 159,555
9 Claims. (Cl. 307—88.5)

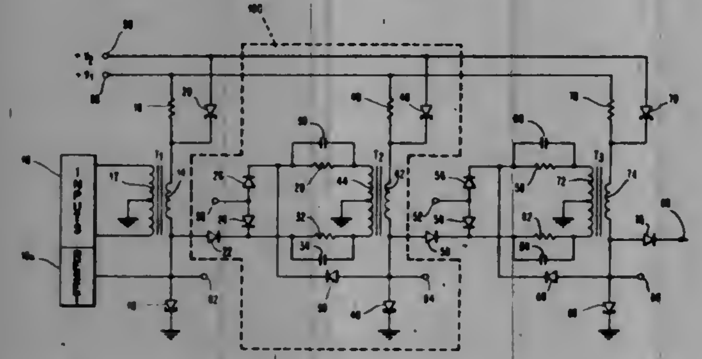


1. A signal-selective latch circuit comprising:
a voltage source,
first and second bistable semiconductive devices connected in parallel to said voltage source,
means for biasing the first bistable semiconductive device for bistable operation in either a first or a second stable operating condition and for biasing the second bistable semiconductive device for monostable operation in a single stable operating condition,
setting means coupled to said second bistable semiconductive device and operable in response to application of an input signal to temporarily switch said second bistable semiconductive device from its stable operating condition to an unstable operating condition thereby to create an imbalance in the parallel circuit including said bistable semiconductive devices and to cause the first bistable semiconductive device to be switched from its first cable operating condition to its second stable operating condition,
resetting means coupled to the first bistable semiconductive device and operable in response to application of a resetting signal to switch said first bistable semiconductive device to its first stable operating condition, said resetting means being ineffective while the second bistable semiconductive device is in its unstable operating condition, and
output means for indicating the state of the first bistable semiconductive device.

3,196,288
SHIFTING REGISTER EMPLOYING TUNNEL DIODE STAGES

Woo F. Chow, Horsham Township, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Dec. 24, 1962, Ser. No. 246,802
10 Claims. (Cl. 307—88.5)



1. In combination, bistable semi-conductor means,
bias means for biasing said bistable means to one stable state,
input means for supplying periodic signals,
coupling means connected to said bistable means,
non-linear impedance means connected between said input means and said coupling means such that signals supplied by said input means may be supplied to said bistable semi-conductor means via said coupling means in accordance with the impedance of said non-linear impedance means,
decoupling means connected to said non-linear impedance means and operative to vary the impedance thereof whereby said coupling means may be selectively decoupled from said input means, and
output means connected to said bistable semiconductor means.

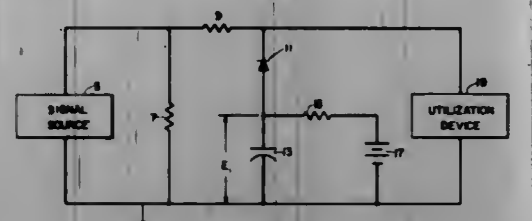
3,196,289
CLIPPING SYSTEM

John T. Heizer, Haddonfield, N.J., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Filed Mar. 6, 1963, Ser. No. 263,686
2 Claims. (Cl. 307—88.5)

1. A clipping system comprising:
(a) a zener diode having a first and second terminal;
(b) said first terminal being the output of said clipping system;
(c) a capacitor connected between the second terminal of said diode and ground potential;

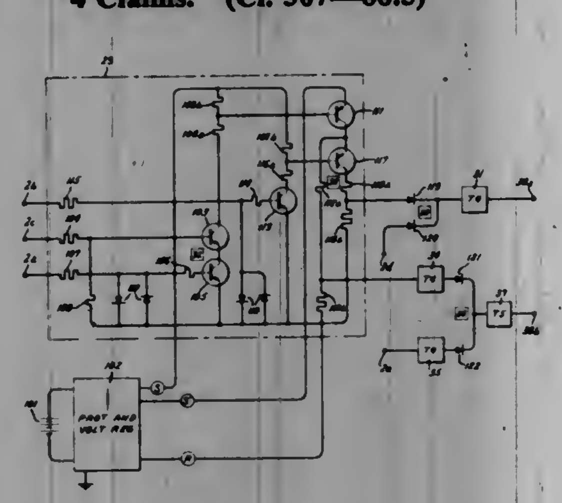
(d) a first resistor having one end connected to the second terminal of said diode;
(e) a voltage supply, poled in the forward direction of said diode, connected between the other end of said first resistor and ground potential;
(f) a second resistor having one end connected to the first terminal of said diode and the second end thereof being the input terminal;
(g) a third resistor connected between said input of said system and ground;
(h) a signal source connected to the input of said system; and
(i) a utilization circuit connected to said output of said system.



3,196,290
TRANSISTOR LOGIC CIRCUIT

Ernest J. Hopkins, Clearwater, Fla., assignor to General Electric Company, a corporation of New York

Filed Mar. 8, 1963, Ser. No. 263,970
4 Claims. (Cl. 307—88.5)

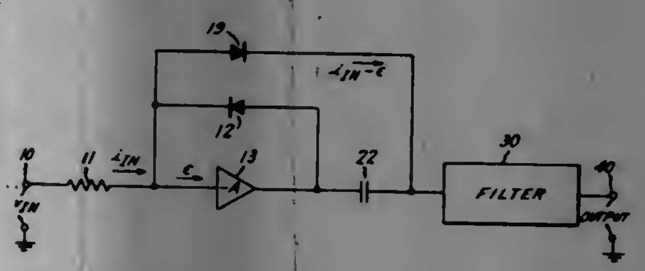


1. In a transistor logic circuit:
(a) a source of D.-C. supply voltage comprising a reference terminal and a second terminal adapted to be energized by supply voltage of predetermined polarity relative to the reference terminal;
(b) first and second transistors each having a collector, emitter and base electrode and each having emitter-base and collector-base junctions.
(c) the emitter-collector circuit of the first transistor being connected between said terminals, in series with means for developing with respect to said reference terminal a first output voltage of said predetermined polarity upon activation of said first transistor;
(d) means connected in circuit with the emitter-base junction of the first transistor for maintaining the first transistor in a normally inactive state;
(e) the emitter-collector circuit of the second transistor being connected between said terminals, in series with the emitter-collector circuit of the first transistor and with means for developing with respect to said reference terminal a second output voltage of said predetermined polarity only in response to the concurrent activation of said first and second transistors;
(f) first and second impedance means;
(g) third and fourth transistors each having a collector, emitter and base electrode and each having emitter-base and collector-base junctions, said first impedance means and the emitter-collector circuits of the third and fourth transistors being serially interconnected between said terminals with the emitter of the fourth transistor connected directly to said reference terminal;
(h) means connecting said first impedance means to said first transistor for effecting forward current flow in the emitter-base junction of the first transistor, thereby activating the first transistor, only in response to the concurrent activation of said third and fourth transistors;
(i) a fifth transistor having a collector, emitter and base electrode and having emitter-base and collector-base junctions, said second impedance means and the emitter-collector circuit of the fifth transistor being serially interconnected between said terminals with the emitter circuit of the fifth transistor connected directly to the reference terminal;
(j) said second impedance means and said second transistor being interconnected in a manner to cause forward bias of the second transistor in response to activation of said fifth transistor;
(k) first, second and third input terminals;
(l) first circuit means, including the first input terminal and the emittter-base junction of said third transistor, for causing forward bias of the third transistor in response to the application of a predetermined supervising signal to the first input terminal;
(m) second circuit means, including the second input terminal and the emitter-base junction of said fourth transistor, for effecting forward current flow in the emitter-base junction of the fourth transistor, thereby activating the fourth transistor, in response to said second input terminal being energized by a voltage of said predetermined polarity relative to said reference terminal; and
(n) third circuit means, including the third input terminal and the emitter base junction of said fifth transistor, for effecting forward current flow in the emitter-base junction of the fifth transistor, thereby activating the fifth transistor, in response to said third input terminal being energized by a voltage of said predetermined polarity relative to said reference terminal.

3,196,291
PRECISION A.C. TO D.C. CONVERTER

Morton P. Woodward, Jr., Vestal, N.Y., assignor to General Electric Company, a corporation of New York

Filed Mar. 18, 1963, Ser. No. 265,676
8 Claims. (Cl. 307—88.5)

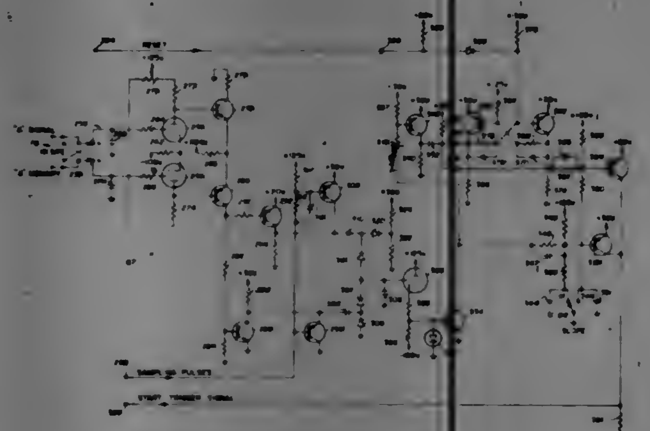


1. A measuring circuit for converting input A.C. signals to D.C. signals comprising:
(a) an input resistor for deriving an input current proportional to the input A.C. signal to be converted to D.C.;
(b) a rectifier connected in series with said input resistor for half wave rectification of said input signal;
(c) an operational amplifier connected in parallel with said rectifier; and

(d) a coupling capacitor connected in series with said amplifier and between said rectifier and said amplifier in such a manner that the current through said rectifier substantially equals the input current signal over a half cycle and reverse currents are blocked.

3,196,292
NOISE SUPPRESSOR CIRCUIT

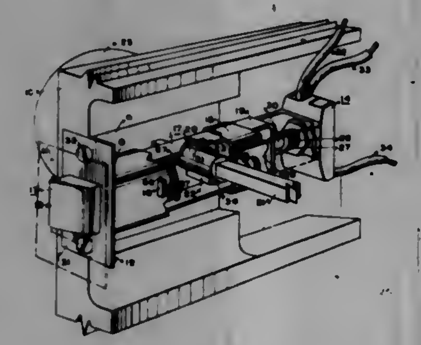
Samuel R. McCutcheon, Aloha, Oreg., assignor to Tektronix, Inc., Beaverton, Oreg., a corporation of Oregon
Original application June 15, 1962, Ser. No. 202,814. Divided and this application Feb. 26, 1964, Ser. No. 352,712
8 Claims. (Cl. 307—88.5)



1. A noise suppressor circuit, comprising:
a first NPN type gating transistor connected as a common emitter amplifier;
a second PNP type gating transistor connected as a common emitter amplifier with the bases of said gating transistors connected to a common signal input terminal;
a first PNP type amplifier transistor connected as an emitter follower amplifier, with the emitter of said first amplifier transistor connected to the collector of said first gating transistor;
a second PNP type amplifier transistor connected as a common emitter amplifier, with the collector of said second amplifier transistor connected to the collector of said second gating transistor and the bases of said amplifier transistors connected to a common pulse input terminal;
a first common load resistor connected to the collector of said first gating transistor and to the emitter of said first amplifier transistor.
a second common load resistor connected to the collector of said second gating transistor and to the collector of said second amplifier transistor;
a first coupling capacitor having one plate connected to the emitter of said first amplifier transistor;
a second coupling capacitor having one plate connected to the collector of said second amplifier transistor;
a first coupling diode connected at its anode to the other plate of said first coupling capacitor;
a second coupling diode connected at its cathode to the other plate of said second coupling capacitor;
a first limiting diode connected at its cathode to said other plate of said first coupling capacitor and at its anode to a lower limit D.C. reference voltage;
a second limiting diode connected at its anode to said other plate of said second coupling capacitor and at its cathode to an upper limit D.C. reference voltage; and
a memory capacitor having one plate connected in common with the cathode of said first coupling diode and the anode of said second coupling diode and having its other plate connected to ground, so that when a plurality of standard voltage pulses are applied to said pulse input terminal an input signal applied to said signal input terminal is reproduced as a stairstep output signal across said storage capacitor which is substantially free from noise.

3,196,293
COMBINATION DOOR LATCH LIGHT SWITCH SYSTEM

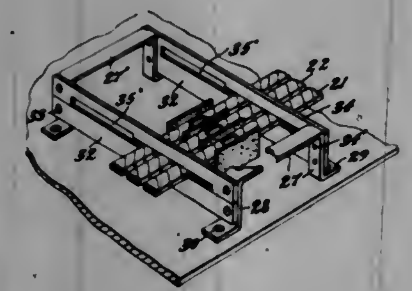
Eugene Lester Howard, 849 Murry St., Ely, Nev.
Filed May 16, 1962, Ser. No. 195,139
5 Claims. (Cl. 307—114)



1. A combination door-latch and bi-stable electrical switching circuit system including, in combination, a door, spring-loaded latch means mounted in said door, latch catch means, said latch means including a translatable latch member which, when outwardly disposed in its normal position, is engaged with and retained by said latch catch means, manually actuatable means for translating, in a direction against the spring-loading of said latch means, said latch member inwardly with respect to said door and out of engagement with said latch catch means and therebeyond, and bi-stable switch means fixedly disposed with respect to said latch means and engageable by said latch member for effecting switch means actuation to one of its two stable conditions, and electrical circuit means coupled to said switch means and including a circuit element to be energized by said switch means upon the translation of said latch member to an extreme, operative, inward position with respect to said door.

3,196,294
BUSWAY

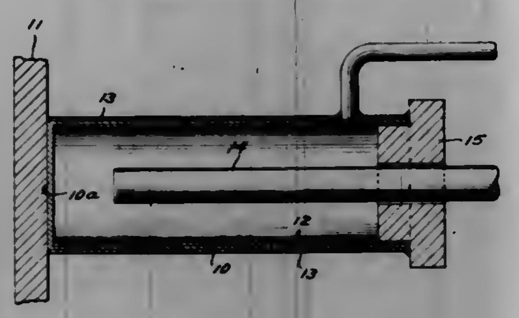
Elmer T. Carlson, Center Valley, Pa., assignor, by mesne assignments, to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Feb. 2, 1961, Ser. No. 86,630
5 Claims. (Cl. 307—147)



1. In a busway, a plurality of busbars, a housing surrounding said busbars, pairs of substantially U-shaped brackets secured to an inner wall of said housing in alined, spaced apart relation transversely of the length of said housing, insulating strip members secured at opposite ends on both pairs of the alined legs of said pairs of brackets and supporting on their edges said busbars in spaced apart relation between said brackets.

3,196,295
THERMIONIC TEMPERATURE SENSOR

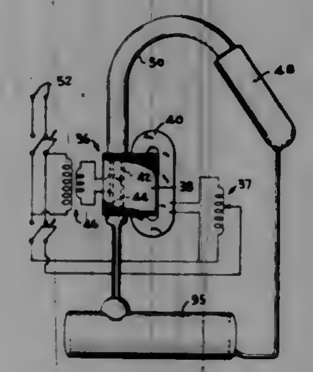
Walter R. Oppen, Plandome, and Michael Silverberg, Little Neck, N.Y., and Myles Spatny, Loveland, Ohio, assignors to Sperry Rand Corporation, Long Island City, N.Y., a corporation of Delaware
Filed Jan. 18, 1962, Ser. No. 167,055
1 Claim. (Cl. 310—4)



A thermionic sensor comprising an outer envelope formed as a cylinder and having high electron emission characteristics, a substantial portion of the inner surface of said envelope being coated with insulator material, the uncoated portion of said outer envelope constituting a cathode electrode, the outer surface of said substantial portion in said outer envelope being coated with a material preventing oxidation, an anode electrode mounted in the interior of the sensor and insulated from said envelope and an ionizable gas disposed in the interelectrode space within the sensor.

3,196,296
ELECTRIC GENERATOR

Thomas Townsend Brown, Bethesda, Md., assignor to Electrokinetics, Inc., a corporation of Pennsylvania
Filed June 20, 1961, Ser. No. 118,446
15 Claims. (Cl. 310—11)



1. Method of generating alternating electric current comprising creating an alternating magnetic flux by the combination and relation of a flowing conducting medium and an applied transverse alternating current through said medium, arranging a stationary coil in the field of said alternating flux, and utilizing said flux to induce alternating current in said coil.

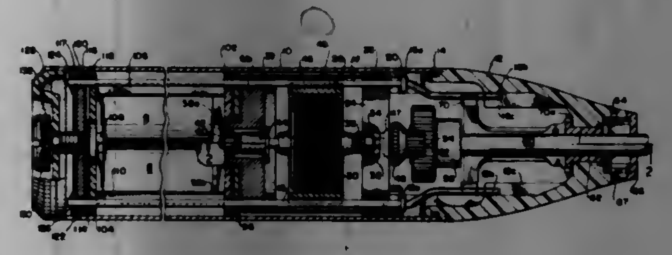
3,196,297
DYNAMOELECTRIC MACHINE

Hugo C. Kaeding, Fort Wayne, Ind., assignor to General Electric Company, a corporation of New York
Filed Sept. 28, 1960, Ser. No. 58,954
3 Claims. (Cl. 310—43)

1. A dynamoelectric machine for service where enclosed electrical components are desired, comprising a rotor, a stator, an excitation winding mounted on said stator, said winding being formed of a number of turns of metallic wire having an adherent coating of resinous insulating material, said winding being random wound so there are cross overs between the various turns of said winding with the turns being in contiguous engaging relation, and an imperforate covering of resinous material formed over the exposed outer surface of said winding in a generally non-penetrating relation thereof, said covering being effective to resist melting at internal hot spot winding temperatures high enough to melt said wire coating, whereby in the event of a failure in said winding said wire coating is melted on more than one contiguous turn to accelerate a complete failure of said motor before said covering on said winding is affected.

3,196,298
HAND PORTABLE POWER UNIT

Allen H. Kent, New York, N.Y., assignor to Landers, Frary & Clark, New Britain, Conn., a corporation of Connecticut
Filed Aug. 6, 1962, Ser. No. 215,161
2 Claims. (Cl. 310—50)



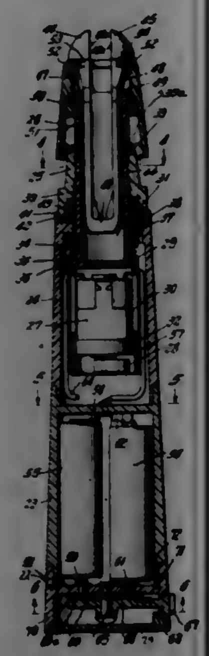
1. A hand portable power tool comprising a motor unit, a nose piece housing and a power gear transmission unit, a battery supporting unit having current output terminals, a pair of rods connecting all of said units into a unitary aligned structure, means including a contact finger in said nose piece housing for connecting said output terminals in series with the motor of said motor unit through said rods, a casing enclosing said unitary aligned structure closed at one end by said nose piece housing, and a detachable closure for the other end of said casing seated thereon.

3,196,299
PORTABLE ELECTRIC UNIT FOR TOOTHBRUSH OR THE LIKE

Herbert Kott, River Edge, N.J., assignor, by mesne assignments, to Scovill Manufacturing Company, Waterbury, Conn., a corporation of Connecticut
Filed July 5, 1963, Ser. No. 293,022
13 Claims. (Cl. 310—81)

1. A power actuator for a toothbrush comprising a hollow tubular handle, electric motor vibrating means in said handle and adapted upon energization to produce vibrations, a motor support to which said motor means

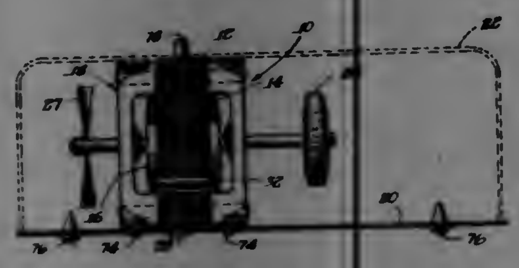
is secured, means resiliently mounting the motor support on said handle for vibratory movement with respect thereto, means for adjusting the amplitude of vibratory



movement and toothbrush handle grasping means carried by said motor support whereby said toothbrush is vibrated by said vibrating means.

3,196,300
MOTOR HOUSING

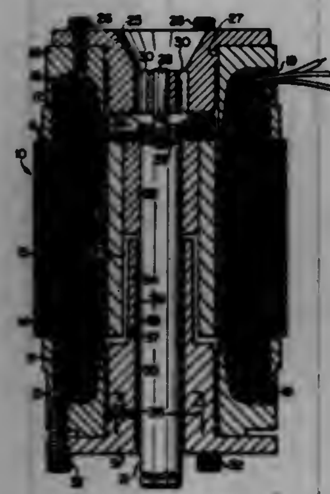
Richard H. Carlson, Chicago, Ill., assignor to G-M Laboratories Inc., Chicago, Ill., a corporation of Illinois
Filed Mar. 5, 1962, Ser. No. 177,336
4 Claims. (Cl. 310—89)



1. An electric motor construction for mounting within a housing susceptible to breaking or fire damage comprising a stator assembly including a laminated ferromagnetic stator and at least one coil of wire wound on a bobbin of insulating material on said laminated ferromagnetic stator, said coil being non-wrapped and thereby free for heat transfer from said wire to the air surrounding said coil, a rotor assembly, and frame means of fire resistant and breakage resistant metal fixed relative to said stator assembly and rotatably supporting said rotor assembly in operative relation to said stator assembly, said frame means engaging said ferro-magnetic stator with at least a portion of said stator extending from said frame means for radiation of heat from said stator, said frame means being in intimate contact with said stator to facilitate conduction of heat therefrom, said frame means including a highly perforated enclosure around said coil having a plurality of perforations through a major portion of the surface thereof and in proximity to said coil and thereby facilitating air flow to and from said coil, said frame means preventing contact by a user with said wire in the event of absence of or damage to said housing.

3,196,301
HYDRODYNAMIC BEARINGS FOR A MOTOR

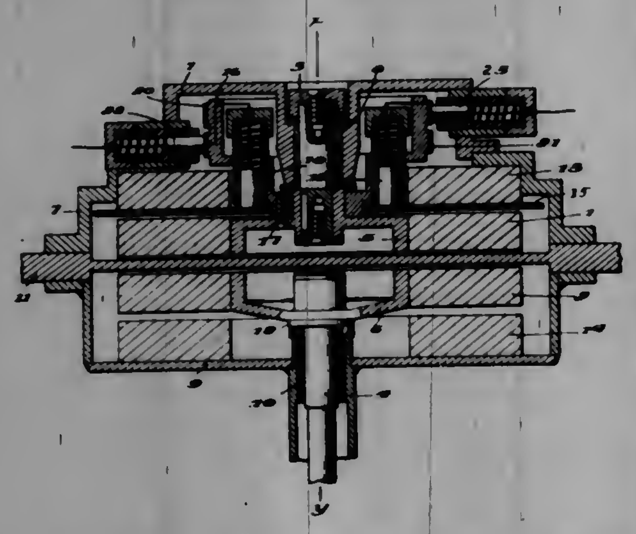
James R. Turk, Euclid, Ohio, assignor to Vincent K. Smith, Gates Mills, Ohio
Filed Mar. 20, 1962, Ser. No. 181,072
6 Claims. (Cl. 310—90)



1. A dynamoelectric machine comprising: a stator assembly with a cylindrical rotor bore therein and having first and second ends; a cylindrical rotor within the rotor bore of said stator assembly mounted on a shaft, said stator having a cylindrical annular recess in one end surrounding said shaft; a flanged end member having a shaft bore therethrough secured to said first end of said stator assembly receiving said shaft; said end member having elongated first and second cylindrical portions, said first cylindrical portion being of less diameter and length than said recess and lying therewithin, said second cylindrical portion being of less diameter than said rotor bore and lying therewithin, said cylindrical portions having orifices radially therethrough connecting their surfaces to said shaft bore; impeller means connected to said rotor adjacent said second end of said stator assembly operative to draw fluid into said machine and force said fluid between said rotor surface and said rotor bore and between said shaft and said shaft bore; and a thrust bearing mounted in said second end of said stator assembly against which said rotor and shaft are forced by said fluid.

3,196,302
SEALED ELECTRIC MOTOR

Robert Dechet, Boulogne-sur-Seine, France, assignor to Cie Electro-Mecanique, Paris, France, a body corporate of France
Filed Mar. 12, 1962, Ser. No. 178,879
Claims priority, application France, Mar. 31, 1961, 857,499, Patent 1,293,163
1 Claim. (Cl. 310—104)

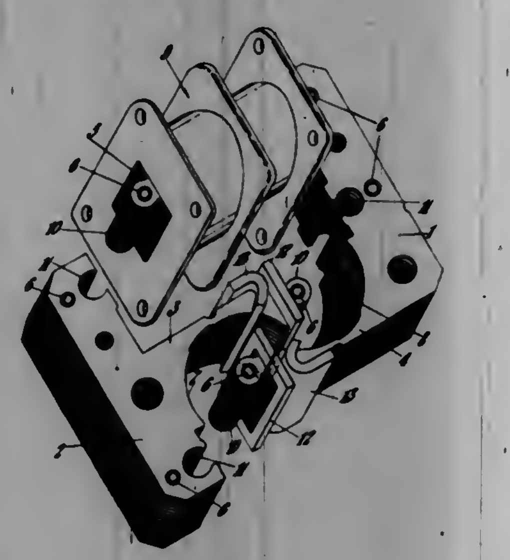


In a sealed direct current electric motor, the combination comprising first and second casings mounted on opposite sides respectively of a relatively thin planar

partition member, first and second annular inductor members of magnetic material each establishing a ring of circumferentially spaced magnetic poles alternating in polarity and located respectively within said first and second casing and adjacent opposite sides of said partition member, means mounting said first and second inductor members for rotation about a common axis normal to the plane of said partition member, an annular yoke member of magnetic material supported in a stationary manner in said first casing concentric with and adjacent that side of said first inductor member opposite to the side which faces said partition member, a disc type stator member having a flat winding thereon and which is secured to said yoke member and located between said yoke member and said first inductor member and concentrically therewith, brush means within the first casing which engage the winding on said stator member, said brush means being mounted for rotation with said first inductor member and a second annular yoke member of magnetic material supported in a stationary manner in said second casing concentric with and adjacent that side of said second inductor member–opposite to that side which faces said partition member.

3,196,303
SINGLE PHASE INDUCTION MOTOR

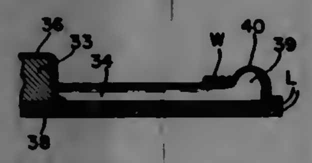
Eric Rowland and Edward William Wilkins, both of Swindon, England, assignors to The Garrard Engineering and Manufacturing Company Limited, Swindon, England
Filed Mar. 20, 1962, Ser. No. 181,097
Claims priority, application Great Britain, Apr. 6, 1961, 12,341/61
6 Claims. (Cl. 310—172)



1. A single phase induction motor having one or more permanently short-circuited starting windings wherein the stator is formed of two separate magnetic metal members, one member being generally U-shaped with a bight having a pair of side legs extending therefrom, and the other member being generally T-shaped with a head having a central leg extending therefrom; the free ends of said legs and the inner edges of said bight and said head being formed with complementary interlocking formations, one edge of said central leg and the inner edge of one side leg, when said members are assembled, conjointly defining a substantially cylindrical stator tunnel completely closed laterally by magnetic metal, said members being assembled by relative movement parallel to the axis of said tunnel to interlock said formations, at least one of said legs having a starting winding laterally embracing the same adjacent the free end thereof and inwardly of the interlocking formation on such free end whereby, when said two members are assembled, said starting winding is maintained against displacement by that portion of the other member having an interlocking formation cooperable with the interlocking formation on the free end of said one leg.

3,196,304
PROTECTIVE MEANS FOR INSULATION

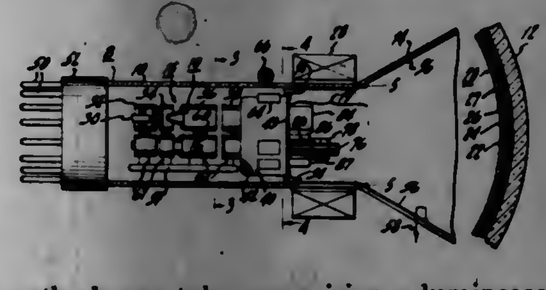
Paul F. Koehly and Earl C. Walters, Jr., Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Jan. 23, 1961, Ser. No. 84,189, now Patent No. 3,097,320, dated July 9, 1963. Divided and this application Nov. 6, 1962, Ser. No. 235,780
1 Claim. (Cl. 310—194)



In a toothed lamination assembly including a stack of metal laminations each with radial teeth aligned axially of each other to form slots fitted with conductive windings which engage an insulation coating of epoxy resin material along the slots and around opposite end laminations each primarily embossed to project axially away from the slot-forming laminations only in alignment with the radial teeth, the improvement which comprises a secondarily embossed end abutment integral with the opposite end laminations for each of the teeth where primarily embossed to project axially away from the slot-forming laminations, each said secondarily embossed end abutment extending only axially for a predetermined distance as a stop for retention of windings in the slots as fitted therein against slipping off of the teeth radially outwardly thereof, each said secondarily embossed end abutment having the insulation coating of epoxy resin material encapsulated peripherally thereon including axially and radially thereof everywhere except in a direction toward the lamination teeth forming the slots and having an axially rounded off configuration spaced radially inwardly of outer peripheral endings of teeth as well as definitely less in width than individual tooth width so that each said secondarily embossed end abutment stops winding slip-off specifically in a location axially adjacent to the end laminations at a radially inward junction where primarily embossed for a width also less than individual tooth width so that the insulation coating of epoxy resin material is contoured integrally and uniformly to complement the opposite end laminations both where primarily embossed only radially of the teeth and where secondarily embossed at each said integral end abutment always for a width less than that of radially outer endings of the teeth.

3,196,305
MAGNETICALLY SCANNED CATHODE RAY TUBE WITH RASTER ALTERING MEANS

William Henry Barkow, Pennsauken, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 7, 1961, Ser. No. 157,645
6 Claims. (Cl. 313—69)

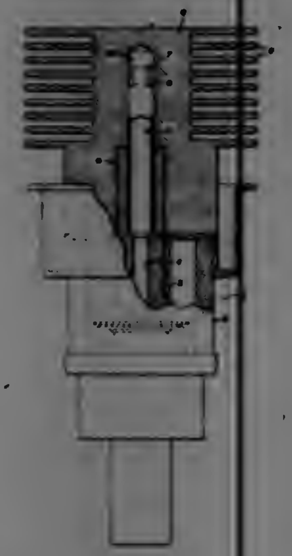


6. A cathode ray tube comprising a luminescent screen including a plurality of layers of different phosphors, a plurality of electron guns for projecting different velocity electron beams towards said screen, a common deflection

zone disposed between said screen and said guns for having magnetic deflection fields established therein for deflecting said beams in mutually perpendicular directions two of said guns having magnetic tubular shields surrounding portions of their beam paths in said zone, one of said guns having a pair of elongated field enhancers of magnetic material on opposite sides of the beam path thereof in said zone, each of said field enhancers having a substantial dimension in the direction transverse to said beam path of said one of said guns.

3,196,306
EXHAUST TUBULATION SEAL HAVING A REDUCED WIDTH

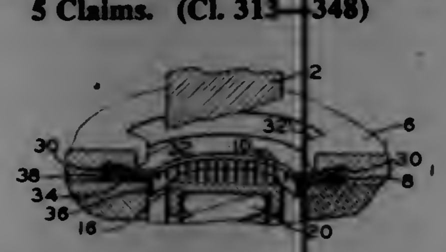
Robert P. Watson, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed May 23, 1960, Ser. No. 30,905
6 Claims. (Cl. 313—317)



1. An electric discharge device comprising an open anode, an exhaust passage extending normal to the active surface thereof, an exhaust tubulation having a first portion sealed in the exterior portion of said exhaust passage and a second portion of a reduced diameter relative to said first portion projecting beyond said passage having the wall thereof pinched off forming a gas-tight seal for said tubulation, the major width of said pinched-off portion being no greater than the outside diameter of said first portion.

3,196,307
ELECTRON DISCHARGE DEVICE WITH GRID WIRE TENSIONING MEANS AND METHOD

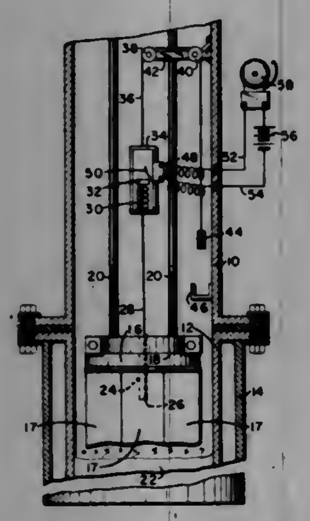
Windel H. Lewis, Owensboro, Ky., assignor to General Electric Company, a corporation of New York
Filed May 1, 1961, Ser. No. 106,630
5 Claims. (Cl. 313—348)



1. A grid electrode assembly for electron discharge devices, comprising a support, a plurality of grid wires disposed in parallel array on said support, an annular terminal member having a pair of projections adapted to engage said support over a predetermined small portion thereof, the remaining portion of said support being disposed in spaced relation to said terminal member, said projections and said support being of dissimilar materials having unequal coefficients of thermal expansion, the coefficient of expansion of said terminal member being high relative to the coefficient of expansion of said support and adapted to fuse together at elevated temperatures of fabrication of the devices, whereby, upon cooling of said assembly from said elevated temperature, linear contraction of said support occurs along a line joining said predetermined small portions of said support and linear elongation occurs in a direction perpendicular thereto.

3,196,308
ELECTRODE CONSUMPTION INDICATOR

Al Koncewicz, Henderson, Nev., assignor to Titanium Metals Corporation of America, New York, N.Y., a corporation of Delaware
Filed Feb. 18, 1963, Ser. No. 260,096
7 Claims. (Cl. 314—9)



1. Apparatus for indicating the extent of consumption of an electrode in a consumable electrode arc furnace which comprises;

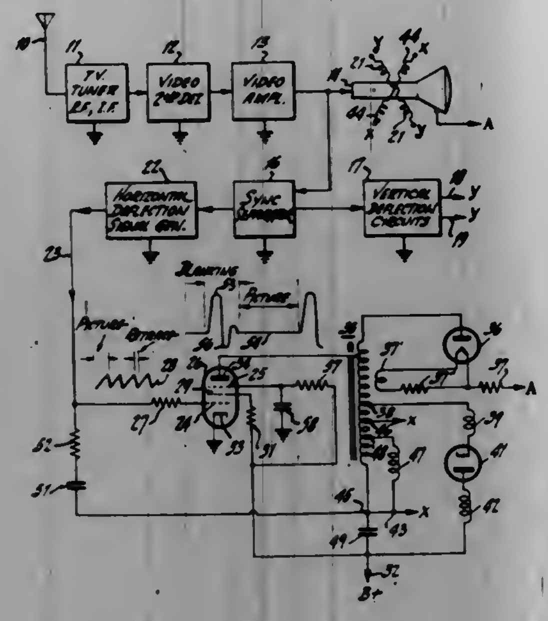
(a) a wire having its lower end attached to said electrode at a point at which consumption indication is desired, said wire and its attachment to said electrode being of material having a melting point at least as high as the material of said electrode,
(b) means for applying tension to said wire,
(c) a switch responsive to relief of tension applied to said wire when the attachment of the lower end of said wire to said electrode is destroyed by consumption of said electrode to the wire attachment point, and,
(d) indicating means electrically connected to and controlled by said switch.

3,196,309
DEFLECTION CIRCUIT WITH BARKHAUSEN OSCILLATION PREVENTIVE MEANS

Chi-Sheng Liu, Indianapolis, Ind., assignor to Radio Corporation of America, a corporation of Delaware
Filed Oct. 30, 1962, Ser. No. 234,163
5 Claims. (Cl. 315—27)

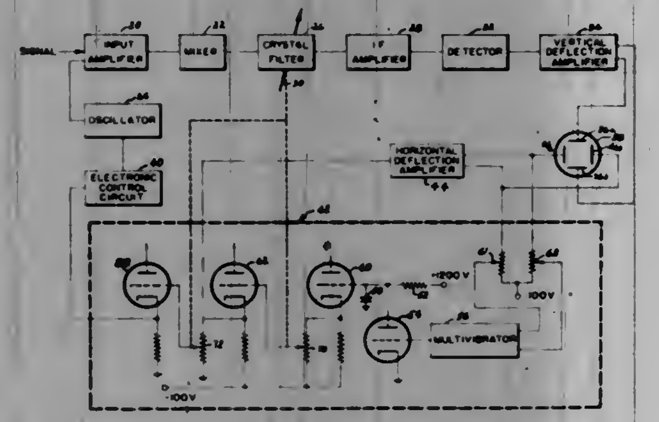
1. In an electromagnetic reaction scanning system for deflecting an electron beam during alternate relatively slow trace and relatively fast retrace periods the combination comprising:

an electron discharge device having a cathode, an anode and at least control and suppressor electrodes;
an inductive device;
an electromagnetic beam deflection yoke connected to said inductive device;
means connecting said anode to said inductive device;
means for rendering said electron discharge device conducting during the latter portion of each electron beam trace period and non-conducting during each electron beam retrace period;
a damper circuit connected to said inductive device and adapted to receive and store energy derived from said yoke and said inductive device during each electron beam retrace period and to return said stored energy to said yoke during the initial portion of each electron beam trace period;
and means for maintaining said suppressor electrode at a potential higher than the potential of said cathode.



3,196,310
DEFLECTION CIRCUITS FOR CATHODE RAY TUBES

Richard R. Hoffmann, Flushing, N.Y., assignor to Probescope Company, Port Washington, N.Y.
Original application Mar. 2, 1959, Ser. No. 796,607, now Patent No. 3,017,573, dated Jan. 16, 1962. Divided and this application Dec. 12, 1961, Ser. No. 168,864
4 Claims. (Cl. 315—29)



1. In combination with a cathode ray tube having electron beam deflection means:

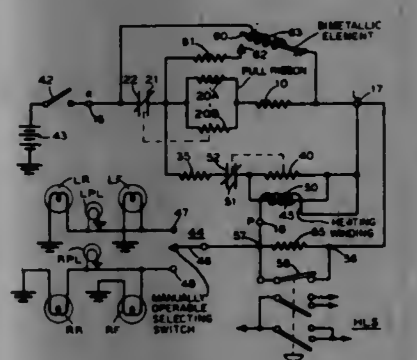
(a) a source of D.C. potential;
(b) a two-electrode capacitor having one electrode connected to a portion of said source of D.C. potential of one polarity;
(c) a resistor connected between the other said electrode of said capacitor and a portion of said source of D.C. potential of a second polarity;
(d) a vacuum tube having its plate-cathode circuit connected in parallel with said capacitor;
(e) on-off control means connected to said vacuum tube to control its plate-to-cathode conduction so as to control the discharge of the said capacitor;
(f) a paraphrase amplifier arranged to provide a pair of related output voltages to output means connected to the electron beam deflection means; and
(g) variable means for applying a selected portion of one of said output voltages to said on-off control means to place said control means in an "on" position when one of said related output voltages is of a first potential level and a variable means for applying a selected portion of the other of said related output voltages to said on-off control means to place said control means in an "off" position when said output is at a second potential level.

2. A controlled R.C. charging network, including a source of D.C. potential, a resistor connected to said source and a capacitor connected across said resistor and said source for charging said capacitor from said source through said resistor, and means to control the charging curve of said capacitor, said means comprising:

a vacuum tube having a control grid and a plate-cathode circuit in parallel with said capacitor;
a bistable means arranged to provide a blocking voltage to said grid whenever the charge on said capacitor reaches a first potential during a discharge cycle and to remove the blocking voltage so as to render said vacuum tube conductive thereby discharging said capacitor whenever the charge on said capacitor reaches a second potential during a charge cycle; and
means to independently adjust the response of said bistable means to desired values of first and second potential.

3,196,311
DUAL INTENSITY LIGHT SYSTEM HAVING DOUBLE VANE FLASHER OPERABLE AT A CONSTANT FLASHING RATE

Arthur F. Bleiweiss, Great Neck, George Colombo, East Rockaway, and John B. Dickson, Kew Gardens, N.Y., assignors to Signal-Stat Corporation, Brooklyn, N.Y., a corporation of New York
Filed June 13, 1962, Ser. No. 202,127
7 Claims. (Cl. 315—77)



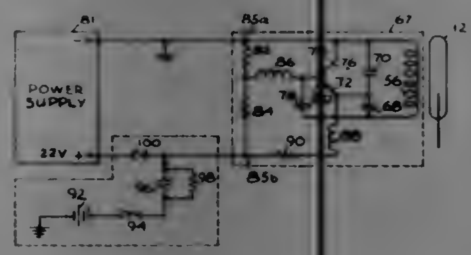
1. For use in a vehicle having a signal lamp, a selector switch, a source of operating potential, and a flasher all connected to each other in an electrical circuit for flashing said signal lamp on and off when said selector switch is closed by the operator, and also having a manually operable lamp switch for energizing lamps for night operation and deenergizing the latter lamps for day operation: a dropping resistor connected in series with the signal lamp for reducing the brilliancy thereof during night operation and a bleeder resistor electrically connected to the flasher for increasing the load under which it operates, a first switch shunting said dropping resistor when said first switch is closed and a second switch electrically connected with said bleeder resistor for disconnecting the latter from the circuit when said second switch is open and connecting said bleeder resistor into the circuit only when said second switch is closed, said first switch being operatively

connected to said lamp switch to be opened when said lamp switch is set for night operation and to be closed when said lamp switch is set for day operation, so that during day operation said dropping resistor is shunted by said first switch, and means responding automatically to opening of said first switch for automatically opening said second switch to disconnect said bleeder resistor from the flasher when said first switch is opened to place said dropping resistor effectively in the circuit of said signal lamp, whereby the bleeder placed on the flasher by said load resistor through said second switch is removed therefrom by the opening of said second switch when said dropping resistor is made effective in the circuit by the opening of said first switch, the resistance provided by said dropping resistor as compared to the resistance provided by said bleeder resistor being effective to maintain the load on said flasher substantially constant.

3,196,312
ELECTRODELESS VAPOR DISCHARGE LAMP WITH AUXILIARY VOLTAGE TRIGGERING MEANS

Warren A. Marrison, Palos Verdes Estates, Calif., assignor, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio

Filed June 1, 1962, Ser. No. 199,384
6 Claims. (Cl. 315—171)

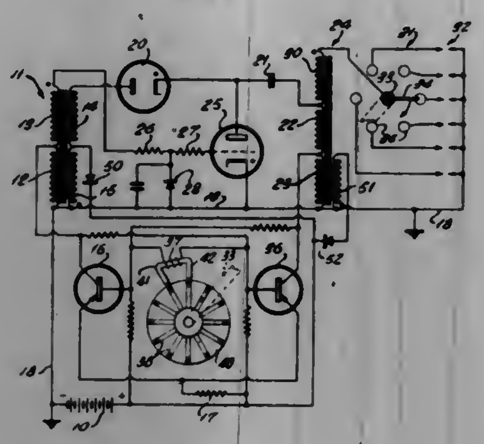


1. A vapor discharge light source, comprising:
a vapor discharge lamp including an envelope;
a vaporizable substance within said envelope, the vapors of which are adapted to emit light of a characteristic wavelength when subjected to an electromagnetic field;
said vapor discharge lamp being associated with a first predetermined level of electromagnetic field for initiating ionization of and light emission from said vapors;
said vapor discharge lamp being associated with a second predetermined level of electromagnetic field, that is lower than said first predetermined level, for sustaining ionization of and light emission from said vapors;
an oscillator circuit including an output means coupled to said vapor discharge lamp for producing electromagnetic energizing fields for said lamp;
a main power supply for supplying a continuous operating voltage to said oscillator circuit to generate an electromagnetic field of said second predetermined level; and
an auxiliary voltage means connected between said oscillator circuit and said main power supply for supplying said oscillator circuit with a voltage pulse of sufficient magnitude to momentarily generate an electromagnetic field of said first predetermined level to initiate ionization of and light emission from said vapors;
said second level of electromagnetic field produced by said continuous operating voltage serving to sustain said lamp after termination of said voltage pulse.

3,196,313
IGNITION CIRCUIT WITH SUSTAINED SPARK

Halsey P. Quinn, Morris Plains, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware

Filed Oct. 18, 1961, Ser. No. 145,816
9 Claims. (Cl. 315—209)

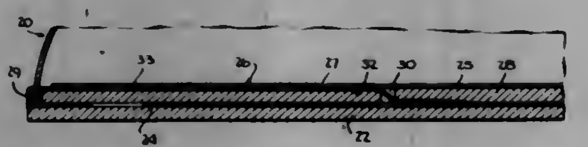


1. An ignition circuit for internal combustion engines having a spark plug in each combustion chamber comprising: a source of direct current; a first electronic switching means connected to said source of potential and adapted to conduct current when biased by an applied pulse; a charging transformer having a primary winding connected in series with the source of potential and said switching means; a charging circuit including in series connection, a secondary winding of the charging transformer, a rectifier, and a storage capacitor for storing an electrical charge; an output transformer having a primary winding in series with said charging circuit and a secondary winding connected through a distributor to said spark plugs; a controlled discharge device connected across said storage capacitor and the primary winding of the output transformer for discharging the capacitor through the primary winding at a predetermined time; a second electronic switch connected in series with said source of potential and a portion of the primary winding of the output transformer and adapted to conduct current when biased by an applied pulse; and pulsing means controlled by said distributor for sequentially transferring conductance between said first and second switching means.

3,196,314
CONDUCTIVE SHOE AND METHOD OF REPAIRING IT, AND REPAIR KIT THEREFOR

Jack Meltzer, 544 N. Laurel Ave., Hollywood 48, Calif.

Filed Aug. 8, 1962, Ser. No. 215,656
11 Claims. (Cl. 317—2)

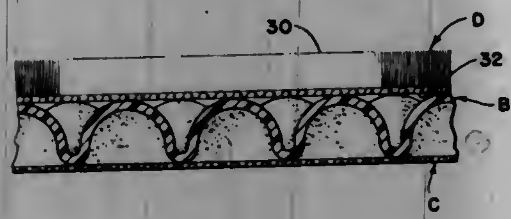


1. In a conductive shoe: a socklining having a transverse slit; a midsole having a transverse slit; conductive strip material extending through said slits and comprising a foot-engaging part above the socklining, an intermediate part between the socklining and midsole, and a lower part beneath the midsole; a conductive outer sole underlying and in electrical contact with said lower part; and said intermediate part lying flat between the socklining and midsole and being free of attachment to the socklining so that the foot-engaging part can be functionally replaced by an externally applicable conductive repair element overlying said foot-engaging part and having a tail adapted to extend through the socklining slit into superposed relation to said intermediate part.

3,196,315
CARPET UNDERLAY

Thomas F. Peterson, Shaker Heights, Ohio

Filed Aug. 29, 1962, Ser. No. 220,241
6 Claims. (Cl. 317—2)

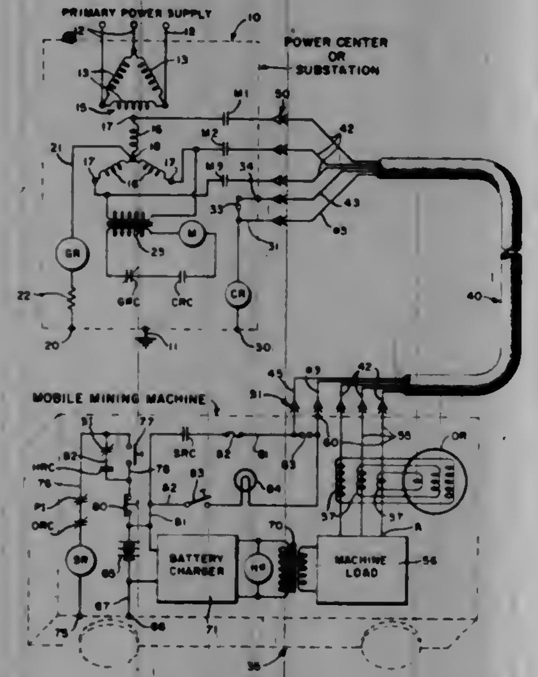


1. In the combination of a carpet formed from an electrical insulating material and having an upper wearing surface and a lower support surface, said surfaces being electrically insulated one from the other, and a carpet underlay forming a cushion beneath said carpet, the improvement comprising: said carpet underlay being formed from a mixture of sponge, rubber-like material and a sufficient amount of electrically conductive material to make the resistivity of said mixture substantially within the range of 10^3–10^7 ohms/cm.^{3} whereby said carpet forms a capacitance coupling between said upper wearing surface and said underlay without an electrical connection from said wearing surface to said underlay.

3,196,316
PROTECTIVE ELECTRICAL SYSTEM FOR REMOTELY POWERED MOBILE MACHINES

Russell C. W. Crom, Mount Prospect, Ill., assignor to International Minerals & Chemical Corporation, a corporation of New York

Filed June 4, 1962, Ser. No. 199,945
10 Claims. (Cl. 317—18)

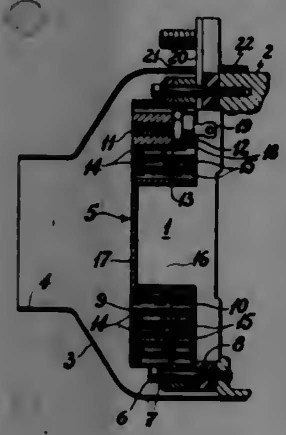


1. A protective electrical system providing continuous monitoring of the integrity of the ground connection to a mobile machine supplied with power through a power cable from a stationary power substation provided with a power source,
a mobile machine having an electrically operable load,
a trailing power cable having power conductors and a ground wire all extending between said substation and said machine with said conductors connected to said electrically operable load, said ground wire being grounded to said machine and connected to ground at said substation,
relay means at said substation connected to operate contacts disposed to couple said conductors to said power source dependent on the condition of operation of said relay means,
a ground monitoring wire in said cable extending between said substation and said machine and forming with said ground wire a two wire control circuit for said relay means,
a direct current power supply on said machine having connections grounding one side thereof to said machine and connecting the other side thereof to said ground monitoring wire,
and selectively operable circuit closing means on said machine interposed in one of said connections to selectively connect said direct current power supply to said control circuit whereby said power supply energizes said relay means to effect closure of said contacts and thereby apply power to said electrically operable load.

3,196,317
HEATSINKS AND RECTIFIER ASSEMBLY FOR A DYNAMOELECTRIC MACHINE

Frederick Milton Potter, Little Silver, and Donald Henry Hopkins, Oakhurst, N.J., assignors to The Bendix Corporation, Eatontown, N.J., a corporation of Delaware

Filed Feb. 19, 1963, Ser. No. 259,629
2 Claims. (Cl. 317—100)



1. A heatsink and rectifier assembly for a dynamoelectric machine comprising a metallic aluminum base plate, a plurality of rectifiers mounted in intimate contact on said base plate, a plurality of openings extending through said base plate and being of a diameter less than the thickness of said base plate, an aluminum top plate having counterbore sections fitted over said rectifiers, a plurality of openings in alignment with the openings in said base plate, and means securing said plates together in intimate contact.

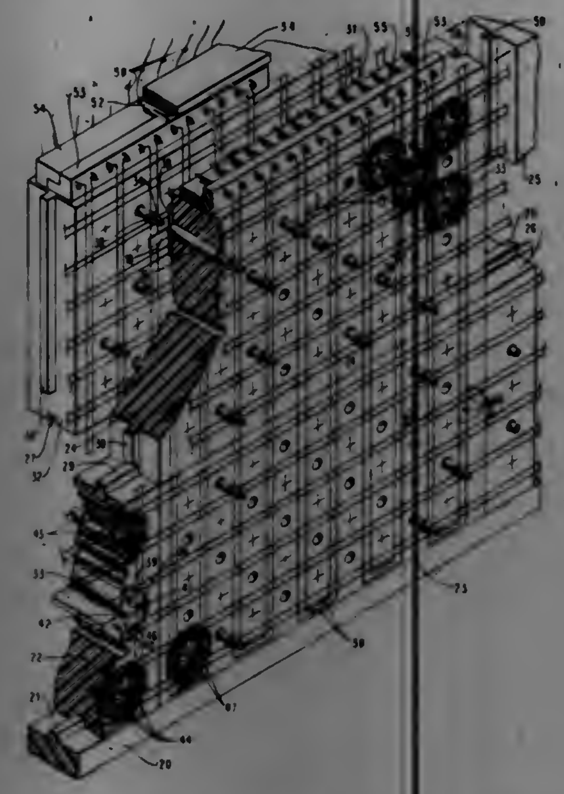
3,196,318
HIGH DENSITY ELECTRONIC PACKAGE

William J. Richardson, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 6, 1960, Ser. No. 34,001
10 Claims. (Cl. 317—101)

1. An electronic module comprising a hollow insulation hub structure with a plurality of radiating rectangular spokes, one or more electronic components mounted

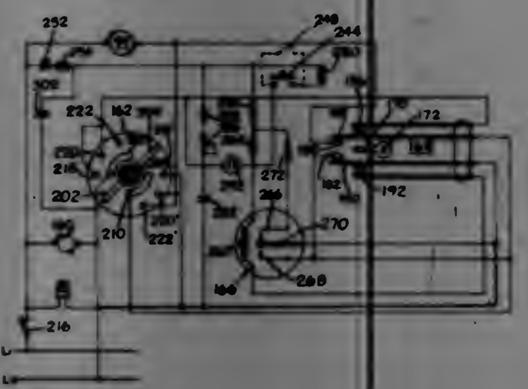
inside said hollow hub with the leads thereof extending from said module, and one or more electronic components



mounted in each of the spaces between said spokes with the leads thereof extending from said module.

3,196,319
RELAY ACTUATOR CIRCUIT

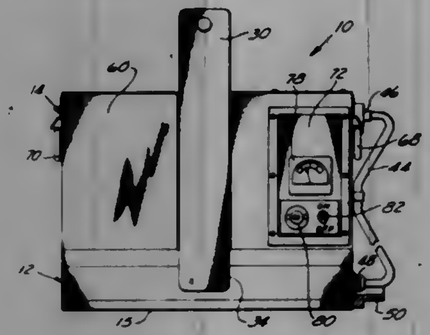
Corwin H. Brumley, Penfield, N.Y., assignor to Bausch & Lomb Incorporated, a corporation of New York
Original application Feb. 18, 1957, Ser. No. 640,905. Divided and this application July 5, 1960, Ser. No. 40,591
3 Claims. (Cl. 317—151)



1. An electrical circuit for actuating a relay of the kind having a winding, a movable contact, first and second fixed contacts, and means normally urging the movable contact into engagement with the first fixed contact, the movable contact being moved out of engagement from the first fixed contact and into engagement with the second fixed contact when the relay is actuated, said circuit comprising, two series connected resistors serially connected to the winding of said relay, a source of direct current voltage connected across said resistors and winding establishing a direct current through the winding in an amount sufficient to actuate the relay, a current shunting resistor connected to the junction of said two series connected resistors and through the normally engaging contacts of said relay to shunt a portion of the current around said winding and limit the current flow through said winding to a value insufficient to actuate the relay, means generating a momentary voltage pulse connected across said winding in the same polarity as said source of direct current voltage for applying a voltage pulse of sufficient magnitude and duration to initiate actuation of the relay and to move the movable contact out of engagement with the first fixed contact and thereby producing a resultant current flow through the winding to fully actuate said relay.

3,196,320
MAGNETIC LIFT DEVICE

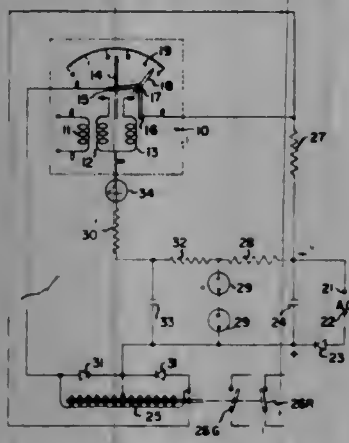
Jack F. Manting, Big Rapids, Mich., assignor to Hanchett Magna-Lock Corporation, Big Rapids, Mich., a corporation of Michigan
Filed Mar. 16, 1961, Ser. No. 96,142
8 Claims. (Cl. 317—123)



1. A magnetic lift device comprising: an electromagnet having a lower surface capable of effectively contacting a magnetizable article to be lifted; an electrical exciter coil adjacent said magnet for energizing and de-energizing said magnet; lifting bracket means mounted directly and securely to said magnet; a separable housing resting on and supported by said magnet and forming a removable fit with said magnet and said lifting bracket means for operation with said magnet as a physically combined device and as a separated, remotely operated device; an electrical control circuit for said magnet in said housing; and an electrical contacting means between said housing and said magnet and forming a part of said circuit.

3,196,321
CONTINUOUS READING METER RELAY HAVING ANTI-BOUNCE CONTACT FEATURE

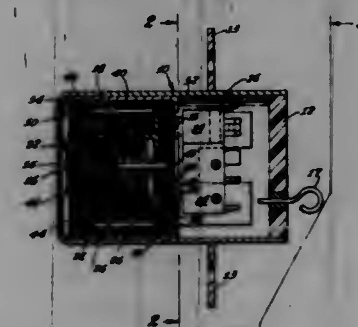
George J. Crowdes, Chesterland, Ohio, assignor, by mesne assignments, to API Instruments Company, Chesterland, Ohio, a corporation of Ohio
Filed July 18, 1961, Ser. No. 124,975
7 Claims. (Cl. 317—152)



6. In circuits for continuous reading meter relays having rotatable meter relay contact means and for mating therewith two relatively stationary while mutually adjustable contacts, rotatable locking coil means and connections therefrom through the rotatable contact means, exterior isolated controlled circuits, first means for sensing current flow through either relatively stationary contact when engaged by the rotatable relay contact means, means for opening any possible circuit through the other relatively stationary contact responsive to said current flow sensing means, means for initiating and completing a time delay period responsive to said current flow sensing means and for thereafter permitting completion of a circuit through said other relatively stationary contact whenever it is engaged by the rotatable contact means, and second means responsive to current flow through at least one of the relatively stationary contacts for affecting the exterior isolated controlled circuits.

3,196,322
ELECTROMAGNETIC ACTUATOR AND METHOD OF MAKING SAME

Jay A. Harper, Gardena, Calif., assignor to Acme Machine Works, Inc., Hawthorne, Calif., a corporation of California
Filed Aug. 5, 1963, Ser. No. 299,798
9 Claims. (Cl. 317—186)



1. An electromagnetic actuator for operation by 320–480 cycle A.C. current without rectification, having:

a bobbin;

a coil embracing the bobbin;

a core structure comprising laminated end washers at the two ends respectively of the bobbin and a laminated spirally wound jacket surrounding the coil and the bobbin;

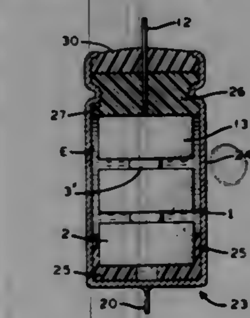
an armature inside the bobbin of spirally wound laminated construction,

said core structure and armature being made of grain-oriented alloy having an induction saturation point substantially above 20,000 gauss, the laminations of the alloy being of a thickness on the order of 0.003 inch to 0.005 inch; and

a casing enclosing the core structure and confining the core structure under pressure against the bobbin.

3,196,323
ELECTRIC CAPACITOR WITH POROUS ELECTRODE AND METHOD FOR MAKING SAME

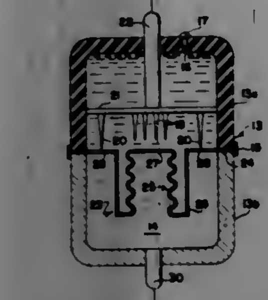
Donald G. Rogers, Pownal, Vt., and Dominic J. Zeppieri, Adams, Mass., assignors to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Filed Feb. 29, 1960, Ser. No. 11,914
9 Claims. (Cl. 317—230)



1. A method of producing a metal pellet-type porous anode comprising the steps of pressing metal particles to form a plurality of individual and separate porous valve-metal discs, partially sintering the discs, stacking the discs in contiguous manner, providing valve-metal connecting means between each disc, welding the discs together through said connecting means, welding an anode lead-wire to an end of the stacked discs, and completing the sintering of the discs.

3,196,324
PRESSURE SENSITIVE RESISTOR DEVICE RESPONSIVE TO PRESSURE CHANGES CAUSED BY AN IONIZING CURRENT

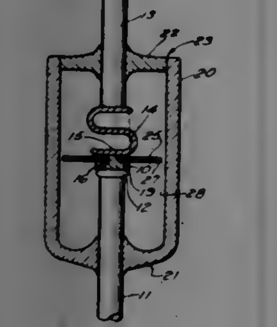
Otmar M. Stuetzer, Hopkins, Minn., assignor, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland
Filed Feb. 16, 1962, Ser. No. 173,780
10 Claims. (Cl. 317—230)



1. An electrical regulating device comprising a container, nonconductive liquid in said container, primary and secondary ionizing electrode means in said liquid electrically connected together, collector electrode means in said liquid spaced apart from said primary and secondary ionizing electrode means, said collector electrode means including a movable portion spaced from said primary ionizing electrode means, said portion being movable in response to pressure resulting from current flow between said secondary ionizing electrode means and said collector electrode means to vary the spacing between said primary ionizing electrode means and said movable portion, and electrical connections to said ionizing electrode means and to said collector electrode means for connection to an electrical circuit to be regulated.

3,196,325
ELECTRODE CONNECTION TO MESA TYPE SEMICONDUCTOR DEVICE

Allen I. Swartz, Malden, Mass., assignor to Microwave Associates, Inc., Burlington, Mass., a corporation of Massachusetts
Filed Feb. 16, 1960, Ser. No. 9,016
9 Claims. (Cl. 317—234)

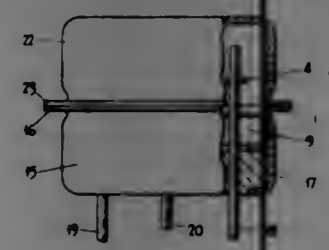


1. Semiconductor diode of the mesa type, comprising a semiconductor body having a base portion which has a substantially flat surface, and projecting a first distance from an intermediate portion of said surface a mesa portion, a semiconductor junction disposed substantially parallel to said surface, a first elongated electrical conductor affixed to said base portion at the side thereof opposite to said flat surface and extending away from said base portion in a direction substantially perpendicular to said flat surface, a hollow electrically nonconductive housing member attached via a first end closure portion to said first conductor and extending therefrom to surround said semiconductor body, a second end closure portion completing said housing and supporting therethrough a second elongated electrical conductor disposed collinear to said first

elongated conductor and having one end extending toward said mesa portion, an elongated flexible electrode affixed at one end to said one end of said second elongated conductor and having a contact portion including the other end of said flexible electrode extending substantially parallel to said flat surface disposed to contact the top of said mesa portion with an intermediate portion of said contact portion, and flat apertured electrical insulator means having a thickness less than said first distance overlying substantially all of said flat surface surrounding said mesa portion and interposed between said flat surface and said contact portion of said flexible conductor, with said mesa portion extending beyond said insulator means toward said contact portion, to prevent said contact portion from touching said flat surface when said contact portion is in contact with said mesa portion, whereby when said diode is assembled by a process which includes the step of bringing said first and second elongated conductors toward each other to bring said contact portion of said flexible electrode into contact with said mesa portion said insulator means prevents electrical contact between said flexible electrode and said flat surface and does not interfere with an electrical contact between said flexible electrode and said mesa portion.

3,196,326
TRANSISTOR WITH MOUNTING PROVIDING EFFICIENT HEAT DISSIPATION THROUGH AN ENVELOPE AND METHOD OF MAKING THE SAME

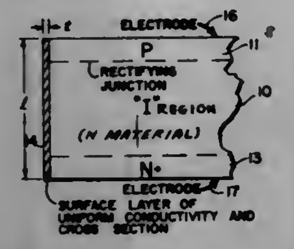
Peter Martin Duck, Stockport, England, assignor to The General Electric Company Limited, London, England
Filed July 14, 1961, Ser. No. 124,066
12 Claims. (Cl. 317—234)



1. A transistor comprising:
(a) a semiconductor body;
(b) emitter, collector and base electrodes in contact with said semiconductor body;
(c) a relatively massive metallic member having an annular periphery and on which the semiconductor body is mounted so that at least part of said massive member forms said base electrode;
(d) a hollow envelope of mainly cylindrical form at least the major part of which is of metal and within which said body, electrodes and massive member are housed;
(e) said massive member being disposed within a substantially tubular metal part of the envelope and supported with its periphery lying in a plane perpendicular to the tube axis and abutting the inner surface of the tubular envelope with the peripheral edge lying wholly within the space bounded by the envelope tube; and
(f) said tubular envelope part including a radially inwardly deformed portion whose internal surface presses against the periphery of said massive member so that the massive member provides a good thermal connection between the semiconductor body and said envelope.

3,196,327
P-I-N SEMICONDUCTOR WITH IMPROVED BREAKDOWN VOLTAGE

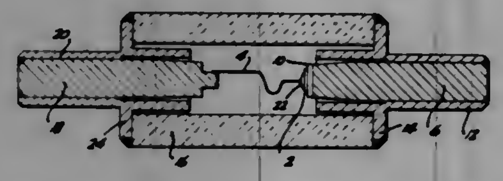
Donald C. Dickson, Jr., 4932 E. Calle del Norte, Phoenix, Ariz.
Filed Sept. 19, 1961, Ser. No. 139,110
4 Claims. (Cl. 317—234)



1. An improved semiconductor device having P, N, and N+ layers; a uniform, voltage field-forcing cylinder in contact with and encircling said device in electrical shut with a PN junction formed by said P and N layers; said cylinder comprising material having a lower resistivity than said N layer and said cylinder having means for increasing the leakage current and for increasing the breakdown voltage of the PN junction.

3,196,328
LOW NOISE MICROWAVE MIXER DIODE

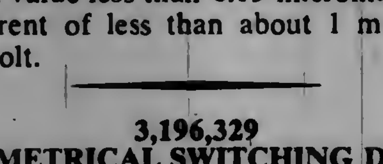
Sverre T. Eng, Tustin, Calif., assignor to Hughes Aircraft Company, Culver City, Calif., a corporation of Delaware
Filed Feb. 28, 1962, Ser. No. 176,313
2 Claims. (Cl. 317—234)



1. A microwave frequency semiconductor device comprising an electrically-insulating envelope, a pair of lead members coaxially disposed in the opposite ends of said envelope, a body of N-type silicon having a resistivity of between 0.01 and 0.020 ohm-centimeter mounted to one of said lead members and in non-rectifying relationship therewith, a whisker of gold-gallium alloy comprising substantially 1% by weight of gallium secured to the other of said lead members and fused to the surface of said N-type silicon body forming a joint comprising a silicon-gold eutectic region and an underlying P-type region, said joint comprising means for producing a capacitive PN-junction between said P-type region and said N-type silicon body of a value less than 0.15 micromicrofarade with a reverse current of less than about 1 micro-ampere at about −1.0 volt.

3,196,329
SYMMETRICAL SWITCHING DIODE

Donald F. Cook, Plano, and David F. Cosper, Dallas, Tex., assignors to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware
Filed Mar. 8, 1963, Ser. No. 263,943
3 Claims. (Cl. 317—234)

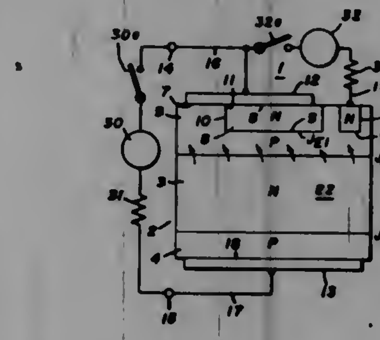


1. A symmetrical three-layer avalanche diode comprising a thin wafer of monocrystalline silicon having a P-type central region between two diffused N-type outer regions, the N-type regions being uniformly spaced from one another through the P-type region by about 0.6 to 1.0

mil so that the apparent gain of the transistor-like device inherent in the geometry of the three layer structure will be relatively low, the N-type regions being substantially equivalent to one another in physical dimensions and impurity concentrations, the P-type region having an impurity concentration which is uniform in a direction perpendicular to the plane of the wafer, said impurity concentration of the P-type region being less than that of said N-type regions, the impurity concentration of the P-type region relative to the impurity concentrations of the N-type regions and the thickness of the P-type region preventing punch-through from occurring at a bias voltage lower than avalanche breakdown, and a pair of metallic contacts adherent to the N-type regions for providing ohmic connections thereto.

3,196,330
SEMICONDUCTOR DEVICES AND METHODS OF MAKING SAME

Joseph Moyson, Union Springs, N.Y., assignor to General Electric Company, a corporation of New York
Filed June 10, 1960, Ser. No. 35,336
11 Claims. (Cl. 317—235)

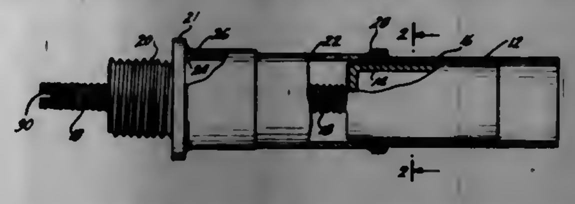


7. A semiconductor device comprising a body of semiconductor material including a region of one conductivity type having therein a zone of the opposite conductivity type to form therewith a first P-N junction, an electrode in low resistance ohmic contact with said zone, means for providing a low impedance conductive path from said one electrode to said region, a third region of said opposite conductivity type forming with said one P-N junction a second P-N junction, said third region forming a junction transistor with said second P-N junction acting as the collector P-N junction thereof, a fourth region forming with said third region an injecting junction, said fourth, third and said one region forming a transistor with said second junction acting as the collector P-N junction thereof, another electrode secured to said body in conductive relation with said fourth region of one conductivity type, another zone in said body of opposite conductivity type, a third electrode connected to said other zone of opposite conductivity type, said other zone with said second and third regions forming a transistor with the second P-N junction being the collector P-N junction thereof.

3,196,331
PISTON TRIMMER CAPACITOR

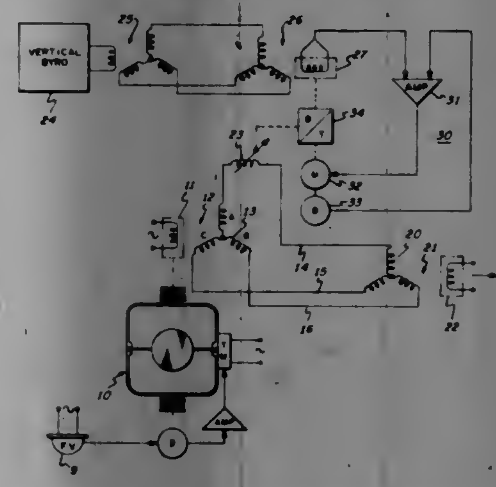
Martin J. Blickstein and Martin A. Mittler, Flushing, N.Y., assignors, by mesne assignments, to Voltronics Corporation, Hanover, N.J., a corporation of New Jersey
Filed Oct. 22, 1962, Ser. No. 232,186
8 Claims. (Cl. 317—249)

3. A piston trimmer capacitor comprising a stationary metal cylinder, an insulator tube having a bushing at one end portion and secured to said stationary metal cylinder at the other end portion, a metal piston having a thin integral coating of glass fused thereon coaxially positioned within said cylinder, said thin integral coating of glass precision fitting the inner wall of the cylinder, and a lead screw for axially moving the piston relative to the stationary cylinder, said lead screw passing through said bushing.



3,196,332
GYROSCOPIC DATA TRANSMISSION SYSTEM AND COMPENSATING MEANS THEREFOR

Joseph M. Branom, William W. Burmeister, and James R. Dohogne, Phoenix, Ariz., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed May 28, 1962, Ser. No. 198,300
10 Claims. (Cl. 318—30)



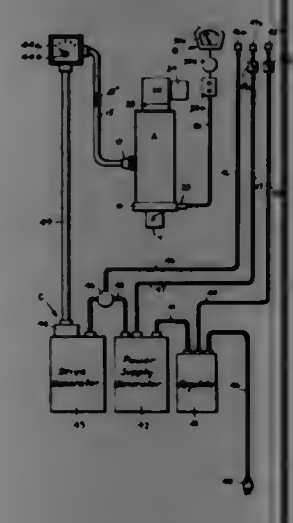
1. In a gyroscopic data transmission system
(1) a gyroscope,
(2) data transmission means including a transmitter connected to said gyroscope, a receiver and a connecting circuit connected in multi-circuit fashion between said transmitter and receiver, said transmitter providing an output signal representative of the relative position of said gyroscope which signal is normally in error dependent upon the gimbal configuration and the attitude of the gyroscope,
(3) means for providing an attitude signal representative of the attitude of said gyroscope,
(4) and variable impedance means connected between said transmitter and said receiver in said connecting circuit of said data transmission means and responsive to said attitude signal for providing a compensating signal which effectively compensates for said error due to the gimbal configuration and attitude of the gyroscope.

3,196,333
VIBRATING APPARATUS WITH SUPPLY FREQUENCY CONTROL

Claus Kleesattel, Forest Hills, Lewis Balamuth, New York, and Arthur Kuris, Riverdale, N.Y., assignors to Cavitron Ultrasonics, Inc., Long Island City, N.Y., a corporation of New York
Application Aug. 15, 1961, Ser. No. 131,667, which is a division of application Ser. No. 850,406, Nov. 2, 1959, now Patent No. 3,056,698, dated Oct. 2, 1962. Divided and this application Mar. 15, 1963, Ser. No. 265,432
14 Claims. (Cl. 318—118)

9. A vibrator apparatus which includes, a vibrator unit having a magnetostrictive driving transducer and a vibration transmitting connecting body having one end thereof

rigidly fixed to the adjacent end of the driving transducer and whose opposite end is to be vibrated to perform useful work, means for energizing said driving transducer to thereby longitudinally vibrate said connecting body, said vibration transmitting connecting body having a longitudinal length substantially corresponding to one-half wavelength of sound or integral multiples thereof traveling longitudinally through the material thereof at the frequency of vibration of said driving transducer when energized and whereby said connecting body presents at least one anti-node area of vibration along the length thereof, said energizing means including a biased alternating current winding in surrounding relation to said driving transducer, a generator connected to said winding and operative to translate line current into biased alternating current of high frequency, a tuning circuit in electrical association with said generator for adjusting the frequency of the biased alternating current input to said energizing winding, a device for detecting and monitoring variations in the amplitude of vibration of the connecting body when said driving transducer is energized, said device including vibration sensitive means, means for supporting said vibration sensitive means in vibration responsive relation adjacent an anti-node area of vibration of said connecting body and in vibration insulated relation to other vibratory parts of said apparatus, conductors electrically connected to said vibration sensitive means through which variations in electrical potential generated by said vibration sensitive means are transmitted when said vibrator unit is energized. means for translating said amplified electrical potential in terms of variations in amplitude of the connecting body of said energized vibratory unit, and means for variably adjusting said tuning circuit in accordance with variations in amplitude of the connecting body of said vibrator unit as indicated by said monitoring device to thereby adjust and maintain the frequency of the biased alternating current input to said driving transducer winding in substantially frequency match with the resonance frequency of said vibrator unit during the work performing operation.

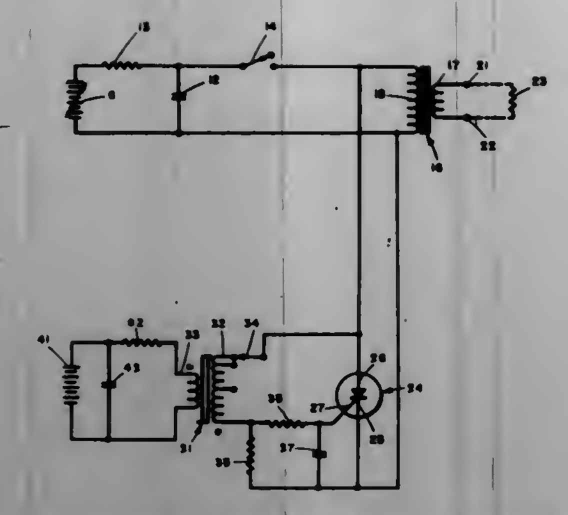


3,196,334
WATT-SECOND LIMITER CONTROL

Andrew E. Flanders, Pomona, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware

Filed Mar. 26, 1962, Ser. No. 182,468
8 Claims. (Cl. 320—1)

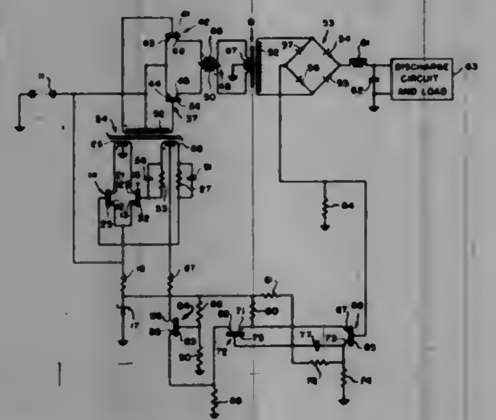
1. In a capacitor energy storage device, means for controlling the amount of energy discharged to a load, comprising a saturable reactor having a winding connected to said load, a controlled rectifier having a cathode and an anode connected to said load, and a control terminal connected to said saturable reactor winding.



3,196,335
D.C.–D.C. CONVERTER

Don A. Williams, Jr., San Diego, Calif., assignor to General Dynamics Corporation, San Diego, Calif., a corporation of Delaware

Filed June 6, 1960, Ser. No. 34,288
2 Claims. (Cl. 321—2)



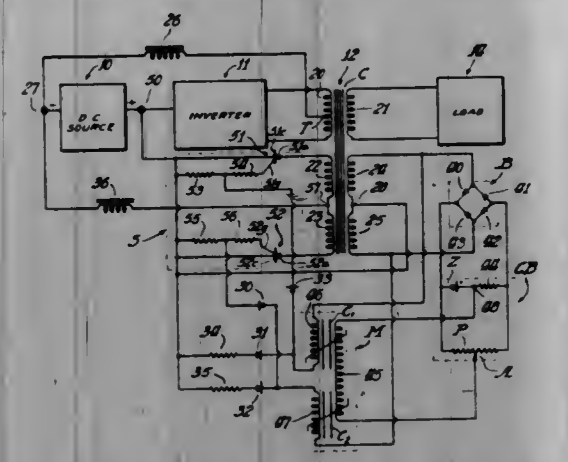
1. A constant current D.C.–D.C. converter comprising a direct voltage source, a pulsing circuit connected to said direct voltage source for providing variable width, alternate polarity pulses, said pulsing circuit including a transformer having first and second control windings and an output winding, electronic switch means having output electrodes connected to said first control winding and control electrodes, pulse polarity switching means including a parallel resistor capacitor circuit connected to each end of said second control winding and to said control electrodes, a power amplifier connected to said output winding, a rectifier connected to said power amplifier, a load, an inductance connected between said rectifier and said load, a load current sensing resistor connected to said rectifier, and pulse width control means including a voltage responsive trigger circuit connected to said second control winding and responsive to the voltage drop across said load current sensing resistor for controlling said pulsing circuit.

3,196,336
BIDIRECTIONAL POWER SUPPLY SYSTEM

Edward M. Schmidt, Evanston, Ill., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois

Filed June 9, 1961, Ser. No. 115,959
7 Claims. (Cl. 321—18)

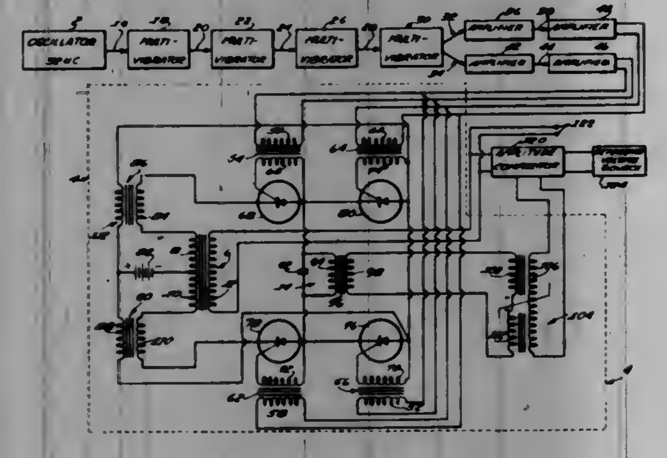
5. For use with an energy delivery circuit including an input circuit for receiving D.C. energy from a suitable source, an inverter coupled to the input circuit for changing D.C. energy into A.C. energy, and a load circuit for receiving and dissipating A.C. energy, the improvement which comprises energy transfer means coupled between the inverter and the load circuit for transferring A.C. energy thereto, and an energy return circuit including controlled rectifier means coupled between the energy transfer means and the input circuit, operable in response to a decrease in the amount of A.C. energy transferred to the load to provide a related increase in the amount of D.C. energy returned to the input circuit, whereby the waste of energy as load requirements diminish is avoided.



3,196,337
ELECTRICAL INVERTER SYSTEM

Louis J. Elliott and Thomas C. Ward, Encinitas, Calif., assignors to Kinetics Corporation, Encinitas, Calif., a corporation of California

Filed Oct. 19, 1959, Ser. No. 847,124
4 Claims. (Cl. 321—45)

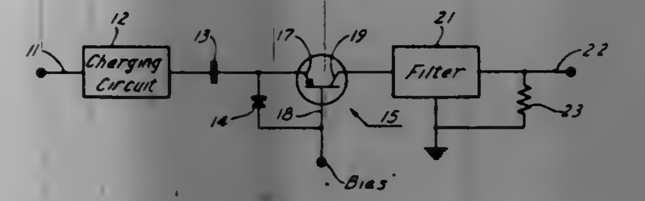


1. An inverter system comprising: a source of D.C. current; a transformer having an output winding, a first input winding, and a second input winding; a variable impedance circuit; a first disabling transformer having a primary and a secondary winding; a second disabling transformer having a primary and a secondary winding; a first switching element comprising a first controlled rectifier; said D.C. source, said first input winding, said secondary winding of said first disabling transformer, said first switching element, said variable impedance circuit, and said primary winding of said second disabling transformer defining a first switched circuit; a second switching element comprising a second controlled rectifier; said D.C. source, said second input winding, said secondary winding of said secondary disabling transformer, said second switching element, said variable impedance circuit, and said primary winding of said first disabling transformer defining a second switched circuit; means for generating control signals; and means for causing said control signals to alternately actuate said first and said second switching elements whereby the actuated one of said switching elements actuates its associated switched circuit thereby disabling the unactuated switching element and producing an output signal.

3,196,338
AMPLIFYING AND SWITCHING CIRCUIT

George S. Bahrs, 449 Hall St., Palo Alto, Calif.

Filed Aug. 22, 1960, Ser. No. 51,122
2 Claims. (Cl. 321—47)

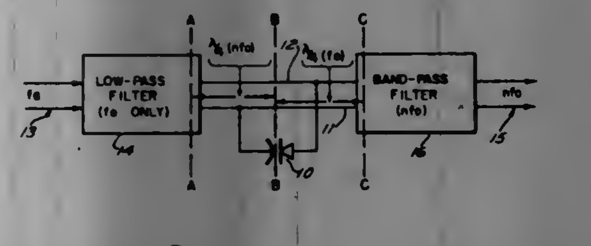


1. A circuit of the character described for directing currents of opposite polarity to an associated element and for applying one of said currents to an associated load compriing a transistor having emitter, collector and base electrodes, means for serially connecting the emitter and collector electrodes between the element and the load, uni-directional current conducting means connected between emitter and base electrodes, and means for applying a bias voltage to the base of said transistor which voltage is greater than the highest voltage at the load.

3,196,339
MICROWAVE HARMONIC GENERATOR AND FILTER ELEMENT THEREFOR

Richard M. Walker, Roxbury, and Arthur A. Blaisdell, Natick, Mass., assignors to Microwave Associates, Inc., Burlington, Mass., a corporation of Massachusetts

Filed June 23, 1960, Ser. No. 38,231
19 Claims. (Cl. 321—69)



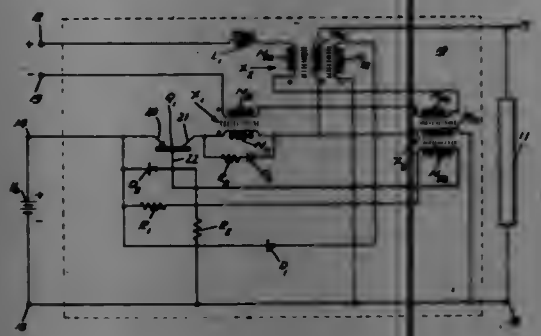
1. Microwave frequency harmonic generator for generating a harmonic frequency of a given fundamental frequency, comprising a transmission line section, a non-linear element connected in circuit with said section at a first point intermediate its ends, a first frequency filter coupled in circuit with said section at a second point between said first point and a first end of said section, a second frequency filter coupled in circuit with said section at a third point between said first point and the second end of said section, said first filter being adapted to pass a band including said fundamental frequency and to reflect substantially completely energy at other frequencies including said harmonic frequency, said second filter being adapted to pass a band including said harmonic frequency and to reflect substantially completely energy at other frequencies including said fundamental frequency, the electrical distance between said first and second points being effectively a quarter wavelength in said section relative to said harmonic frequency, and the electrical distance between said first and third points being effectively a quarter wavelength in said section relative to said fundamental frequency.

3,196,340
CURRENT LIMITING INVERTERS FOR OPERATING ELECTRIC DISCHARGE DEVICES AND OTHER LOADS

Luther L. Genuit, Danville, Ill., assignor to General Electric Company, a corporation of New York

Filed May 1, 1963, Ser. No. 277,348

15 Claims. (Cl. 331—111)



1. In a current limiting inverter for supplying an alternating potential to an electric discharge device from a D.C. potential source, an input means including input terminals for connection to the D.C. potential source, an output means including output terminals for connection to the electric discharge device, a semiconductor switching means operable between a low impedance and a high impedance condition, and connected in circuit with one of said input terminals, first, second and third saturating reactors, each of said saturating reactors having a saturable core, a main winding wound thereon with a predetermined number of turns and a bias means associated therewith for applying a bias magnetomotive force in opposing relationship to the magnetizing magnetomotive force of the main winding, said first saturating reactor being connected in series circuit relation with said semiconductor switching means, first and second parallel circuit branches, said circuit branches being connected in circuit with said first saturating reactor and the other of said input terminals, said first circuit branch including said second saturating reactor and said output terminals, said second circuit branch including said third saturating reactor, said predetermined number of turns of the main windings of said second and third saturating reactors being sufficient to provide a magnetomotive force at desired current levels that cancels said bias magnetomotive force, said second and third reactors thereby presenting a high impedance during their unsaturated condition to limit the current supplied from the source during the positive half cycle, said first saturating reactor being driven out of saturation near the end of the positive half cycle when the third saturating reactor approaches saturation to cause said first saturating reactor to thereby support voltage and reduce the voltage across said third saturating reactor, and means responsive to the voltage across said third saturating reactor to drive said semiconductor switching means to a high impedance condition in order to allow said saturating reactors to recover, the current to the output means during the negative half cycle being provided by at least one of said saturating reactors during its recovery period.

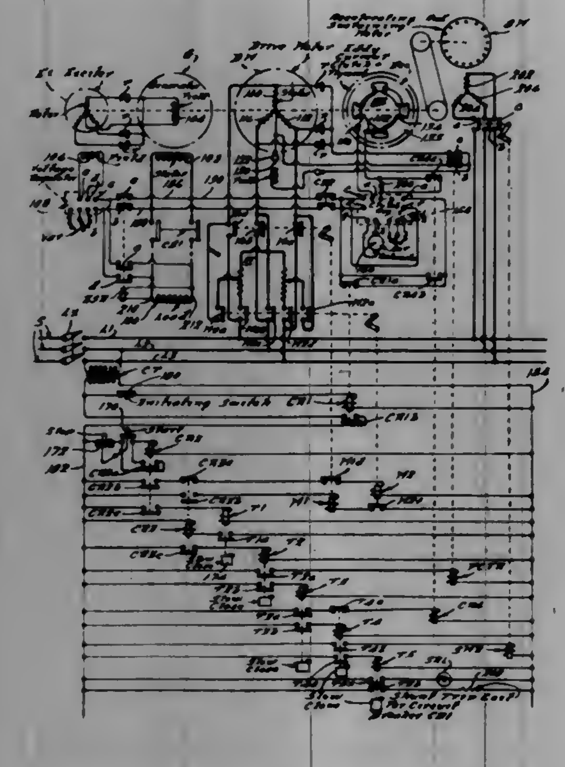
3,196,341
SYSTEM FOR GENERATING ELECTRIC POWER WITHOUT INTERRUPTION

Carl E. Geib, Jr., Mansfield, Ohio, assignor to The Ideal Electric and Manufacturing Company, Mansfield, Ohio, a corporation of Ohio

Filed Oct. 17, 1962, Ser. No. 231,207

28 Claims. (Cl. 322—4)

1. A power system adapted to supply alternating current power to a load upon interruption of a normal supply of energy, comprising an electrical generator having a normal rate of operation and generating power at a preselected frequency when operating at said normal rate, a flywheel system capable of storing a quantity of energy sufficient to maintain said normal rate of operation of said electrical generator for a desired interval of time after interruption of said normal supply of energy and normally driven at an effective rate greater than said normal rate of operation of said electrical generator, controllable variable torque transmission means variably coupling said electrical generator to said flywheel system-effective throughout said interval for gradually delivering flywheel system to said generator at such rate as to maintain substantially said normal rate of operation thereof and to maintain said power substantially at said preselected frequency, and control means for variably controlling said controllable variable torque transmission means throughout said interval.

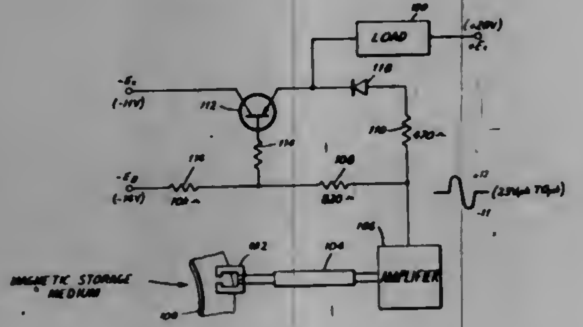


3,196,342
CURRENT REGULATING CIRCUIT

Philipp Kornreich, Pennsauken, N.J., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Mar. 24, 1961, Ser. No. 98,060

6 Claims. (Cl. 323—4)



1. A current regulating circuit comprising an emitter follower transistor circuit, a plurality of potential sources connected to the electrodes of said transistor, an input source, said input source providing a signal having positive and negative going portions, an output load, said transistor providing current flow to said output load in response to said positive going portion of said input signal, and a blocking diode coupled between said input source and said output load to prevent current flow from said load to said input source during a negative going

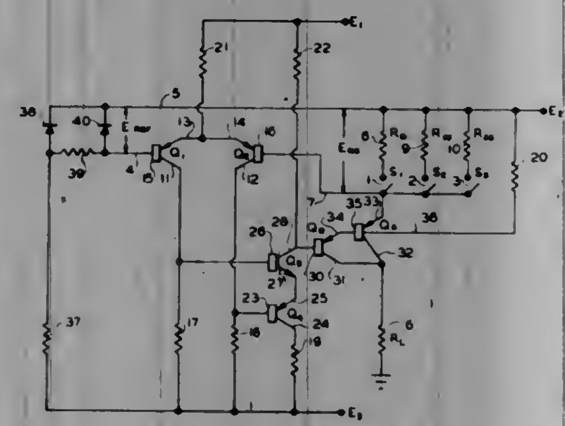
portion of the signal provided thereby, said potential sources being so related that said transistor provides current flow to said output load during said negative going portion of said input signal while said blocking diode prevents current flow from said load to said input source, said transistor providing different current for the different portions of said input signal.

3,196,343
CURRENT REGULATOR

Daniel J. Griffin, La Puente, Calif., assignor to The Marquardt Corporation, Van Nuys, Calif., a corporation of California

Filed Aug. 8, 1960, Ser. No. 48,030

9 Claims. (Cl. 323—22)



1. A selectively adjustable current regulator comprising;
- an unregulated supply of direct current,
- a source of fixed reference voltage source,
- a plurality of resistances connected to said unregulated supply, the resistance in each of said circuits corresponding to coefficients of the radix of a number system,
- a selective switching means connected in series with each of said resistances for selectively paralleling said resistances to obtain a selected signal voltage from said unregulated supply,
- a comparison means connected to said fixed reference voltage and to said selected signal voltage and responsive to said signal and said reference for providing a difference voltage representing the difference therebetween,
- a load impedance, and
- circuit means connected between said unregulated supply and said load impedance responsive to the selected signal voltage and the difference voltage for maintaining a constant current through said load impedance, said constant current corresponding to the sum of the selected coefficients of the radix of the number system.

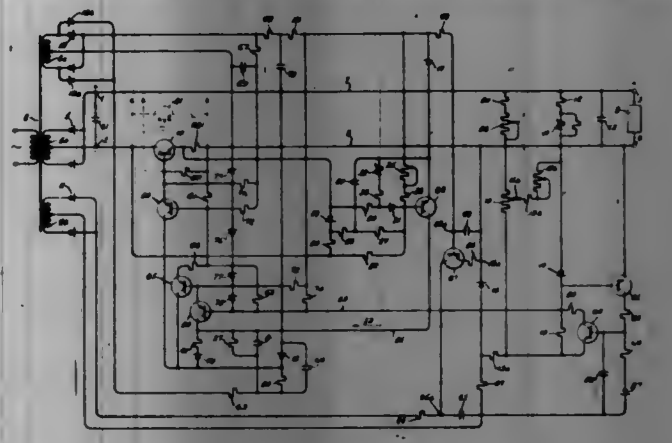
3,196,344
VOLTAGE REGULATOR INCLUDING A NONLINEAR MIXING NETWORK TO LIMIT THE POWER DISSIPATION OF A CONTINUOUSLY CONDUCTING SERIES REGULATING TRANSISTOR

Charles S. Walker, Moylan, Pa., assignor to General Electric Company, a corporation of New York

Filed Apr. 27, 1961, Ser. No. 105,935

4 Claims. (Cl. 323—22)

1. A regulated power supply having an input for receiving an unregulated voltage and an output for delivering regulated voltage, electrical connections from said input to said output, a regulating transistor having base, collector and emitter electrodes, a controlled conducting path comprising two of said electrodes includes in series in said connections and a control circuit including the third of said electrodes, output voltage regulating means responsive to variations of the output voltage from a predetermined value for supplying a control current to said control circuit to maintain said output voltage substantially constant, and means for limiting power dissipation in said transistor to a critical value having a generally linear characteristic in the relatively low value region of transistor current and a generally constant watt characteristic in the adjacent relatively higher value region thereof, said power dissipation limiting means comprising means for deriving electrical quantities representative of current in said conducting path and the voltage across said transistor, takeover means for modifying said control current and a non-linear mixing network having a response characteristic that is generally linear in the low value region of transistor current and generally constant watts in the adjacent relatively higher value region, said network being connected to said deriving means and responsive to dissipation in excess of said critical value to render said takeover means active to modulate said control current in the turnoff sense to reduce said dissipation only to said critical value while permitting continuous conduction in said conducting path.



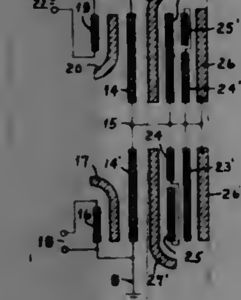
3,196,345
VOLTAGE TRANSFORMER WITH A PLURALITY OF SECONDARY WINDINGS

Josip Dobsa, Wettingen, Aargau, Switzerland, assignor to Aktiengesellschaft Brown, Boveri & Cie, Baden, Switzerland, a joint-stock company

Filed Oct. 20, 1961, Ser. No. 146,569

Claims priority, application Switzerland, Oct. 21, 1960, 11,818/60

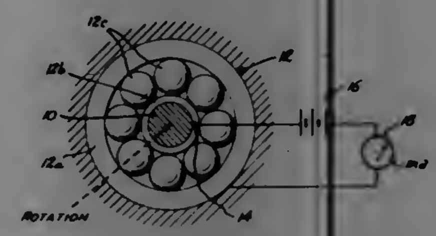
2 Claims. (Cl. 323—48)



1. In a voltage transformer, the combination comprising a primary winding including a pair of winding sections connected in series between a high voltage line and ground, a distributed core comprising a pair of core parts on which said primary winding sections are respectively located, means electrically connecting said core parts to the mid-potential point lying between said primary winding sections, a secondary winding section on each said core part respectively and inductively coupled to the corresponding primary winding section, and pairs of output terminals connected respectively to said secondary winding sections, one end of one of said secondary winding

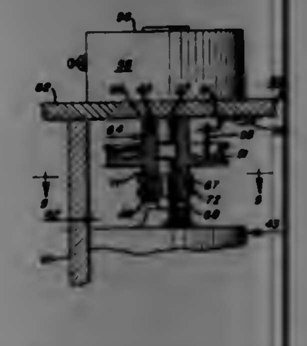
sections being connected to said high voltage line and one end of the other secondary winding section being connected to ground.

3,196,346
SHAFT SPEED INDICATOR EMPLOYING ROTATING BEARING MEMBERS
Kiyoshi Inoue, 182 Yoga Tamagawa Setagaya-ku, Tokyo, Japan
Filed Jan. 17, 1961, Ser. No. 83,314
2 Claims. (Cl. 324—70)



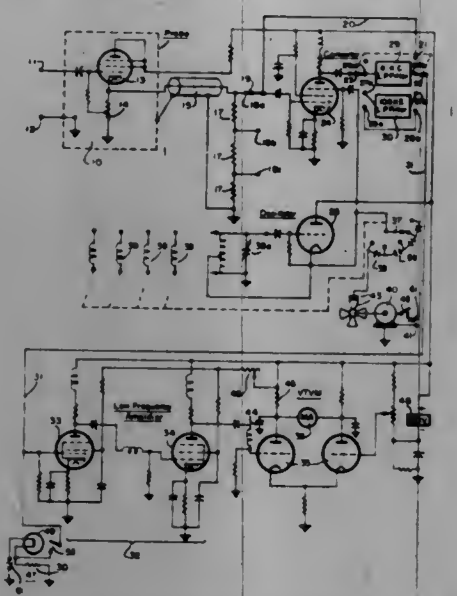
1. Means to measure shaft speed over a predetermined range, including a plurality of bearings having round bearing elements therein, said bearings respectively incorporating different materials therein so that their electrical resistances vary most rapidly as a function of shaft speed in respectively different portions of said range, and electric-circuit means operable to measure the electric-resistance variations of one such bearing in one portion of the range and the electric resistance variations of another such bearing in a different portion of the range.

3,196,347
AUTOMATIC REBALANCING NETWORK INCLUDING A MOVABLY MOUNTED POTENTIOMETER AND SLIP CLUTCH CONNECTION THERETO
Ernesto Aliaga Moyano, New York, N.Y., assignor to Thermo Electric Co., Inc., Saddle Brook, N.J., a corporation of New Jersey
Filed May 9, 1961, Ser. No. 108,856
6 Claims. (Cl. 324—99)



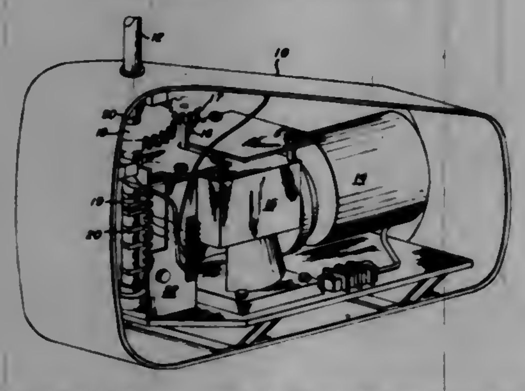
6. In a measuring instrument having a frame, a balancing motor having a shaft, means securing the balancing motor to the frame, a potentiometer with a case and a rotatable shaft extending therefrom, means positively axially and radially coupling the potentiometer shaft to the motor shaft but permitting relative rotation therebetween when the potentiometer is stalled, said means comprising a hub secured to the potentiometer shaft and provided with a cylindrical bore into which said motor shaft extends, said hub being provided with an aperture through a wall thereof to said bore, a shoe portion extending through said aperture, including means forming an annular groove in the motor shaft into which the shoe portion extends to limit relative axial movement between said hub and shaft, resilient means biasing said shoe portion against the motor shaft, and means preventing rotation of the potentiometer case but permitting lateral movement thereof upon drive actuation of the motor shaft.

3,196,348
WIDE BAND A.C. MEASURING INSTRUMENT EMPLOYING A WOBBLED HETERODYNING CIRCUIT TO CONVERT HIGH INPUT FREQUENCIES TO MEASURABLE LOWER FREQUENCIES
Louis W. Parker, 375 Fairfield Ave., Stamford, Conn.
Filed Aug. 2, 1960, Ser. No. 46,915
5 Claims. (Cl. 324—120)



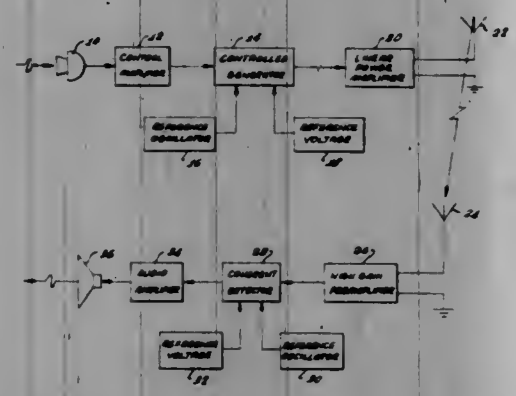
1. A measuring instrument comprising an A.C. voltmeter, a band-pass A.C. amplifier having an output operatively coupled to said voltmeter, said amplifier exhibiting a substantially flat frequency response characteristic over an operating region having a predetermined first and relatively low cut-off frequency and a predetermined second and relatively high cut-off frequency, input means for applying an alternating current voltage to be measured to said instrument, frequency converter means having an input coupled to said input means, heterodyning oscillator means operably associated with said converter means, said oscillator means including adjustable frequency control means to convert an input voltage having a frequency above said operating region to a beat frequency output voltage having a frequency within said operating region, means coupling said output voltage from the output of said converter means to the input of said amplifier, and means for periodically varying the beat frequency output of said converter means within a deviation range substantially greater than twice the range between zero and said first cut-off frequency, the response time constant of said voltmeter being large compared with the period of said frequency variation.

3,196,349
RADAR ANTENNA TRANSMITTING AND RECEIVING SYSTEM
Robert A. Fryklund, Dedham, Mass., assignor to Raytheon Company, Lexington, Mass., a corporation of Delaware
Filed Oct. 19, 1960, Ser. No. 63,655
7 Claims. (Cl. 325—15)



1. In a radar system, an enclosure-type container, antenna means mounted within said enclosure-type container, chassis means secured to said antenna means, a magnetron oscillator mounted on said chassis directly coupled to said antenna means and receiving circuit means within said enclosure-type container including a local oscillator and mixer circuitry mounted on said chasssis within said enclosure-type container and directly coupled to said antenna means.

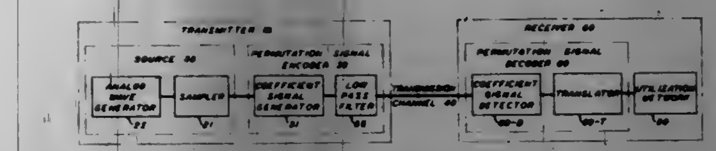
3,196,350
NARROW BANDWIDTH HIGH Q COMMUNICATION SYSTEM
Donald F. Dimon, 5246 Crestwind Drive, Rolling Hills, Calif.
Filed Jan. 15, 1962, Ser. No. 166,295
12 Claims. (Cl. 325—26)



1. A high Q communication system, comprising:
a transmitter including:
  a Q multiplier bridge oscillator for producing an oscillation;
  means for modulating said transmitter oscillation according to an input signal;
  means for maintaining the amplitude and phase of said transmitter oscillation at predetermined values;
  output means coupled and said transmitter bridge oscillator for providing a modulated oscillation signal from said transmitter;
and
a receiver including:
  input means for receiving said modulated oscillation signal;
  a Q multiplier bridge oscillator for producing an oscillation and coupled to said input means;
  means for maintaining the amplitude and phase of said receiver oscillation at predetermined values;
  means connected to said receiver bridge oscillator for demodulating said modulated oscillation signal and producing a demodulated signal;
  means responsive to said demodulated signal for modulating said receiver oscillation in accordance with variation of said demodulated signal to produce a duplicate of said modulated oscillation signal; and
  output means coupled to said demodulator for providing a demodulated output signal from said receiver.

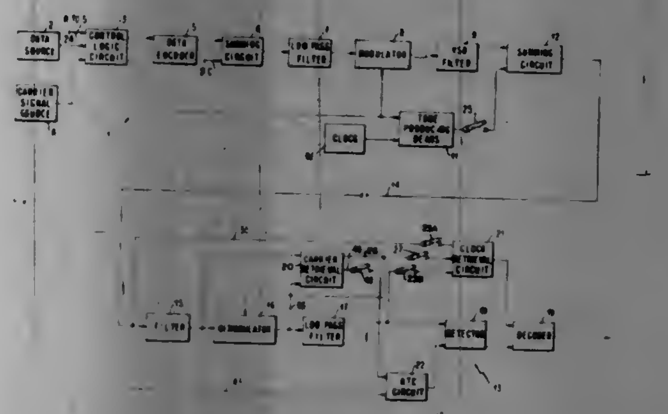
3,196,351
PERMUTATION CODE SIGNALING
David Slepian, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 26, 1962, Ser. No. 205,831
8 Claims. (Cl. 325—41)

3. Apparatus for processing received code signals having provisional amplitude levels that may depart from nominal because of disturbances, which comprises
  means for extracting provisional coefficient signals from the received signals,
  means for identifying said coefficient signals in order of their provisional amplitude levels,



  and means responsive to selected pluralities of the identified coefficient signals, for assigning selected amplitude levels thereto,
thereby to remove any disturbances therefrom.

3,196,352
MULTILEVEL VESTIGIAL SIDEBAND SUPPRESSED CARRIER DATA TRANSMISSION SYSTEM
Emil Hopner, Yorktown Heights, Dale L. Critchlow, Lincolndale, and Robert H. Dennard, Croton-on-Hudson, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 18, 1962, Ser. No. 245,455
6 Claims. (Cl. 325—49)

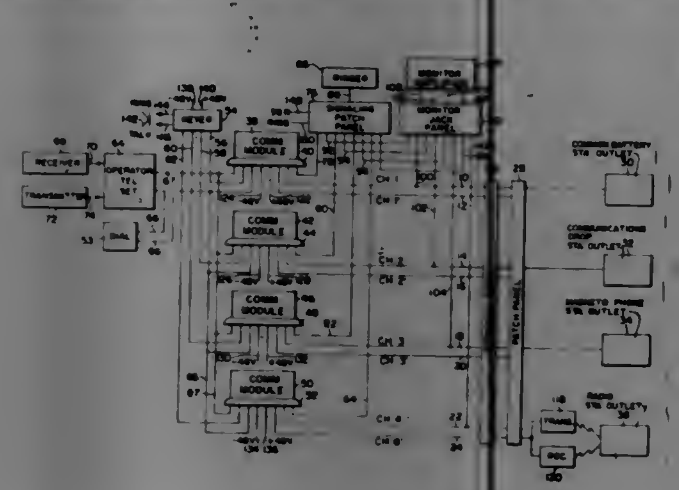


1. A partially suppressed carrier data transmission system comprising in combination: a transmitter for transmitting coded information signals and a receiver electrically connected to said transmitter by a suitable transmission medium,
  said transmitter including a source of data signals,
  a source of clock signal,
  a source of carrier signal,
  means for modulating said carrier signal with said data signal for producing transmitted signals,
  means coupled to said source of data signals and said source of carrier signal for adding to said transmitted signals, a periodic signal consisting of said carrier signal having a fixed data signal level added thereto,
  means coupled to said source of carrier signal and said source of clock signal for multiplying the carrier signal and the clock signal therefrom and for adding to said transmitted signals, a continuous signal consisting of a component of the product of said clock signal and said carrier signal having a frequency greater than the spectrum of said transmitted signals,
  said receiver including a carrier retrieval circuit responsive to said transmitted signals for detecting said carrier signal, a demodulator connected to said carrier retrieval circuit and responsive to said transmitted signals for demodulating said transmitted signals, a detector coupled to the output of said demodulator, and a decoder coupled to the output of said detector for producing output data signals,

phase correcting means coupled to said carrier retrieval circuit and said demodulator and responsive to said periodic signal added to said transmitted signal for providing a phase correcting pulse to said carrier retrieval circuit for establishing the proper initial phase for the output signal from said carrier retrieval circuit,
a clock retrieval circuit coupled to said decoder and responsive to said continuous signal added to said transmitted signal for providing a clock signal to said decoder for producing decoded output data signals,
and an automatic threshold control circuit coupled to said detector and selectively responsive to said periodic and continuous signals for providing a signal to said detector for varying the threshold levels thereof in accordance with variations of said periodic and continuous signals due to transmission.

3,196,353
COMMAND COMMUNICATIONS VOICE CONSOLE

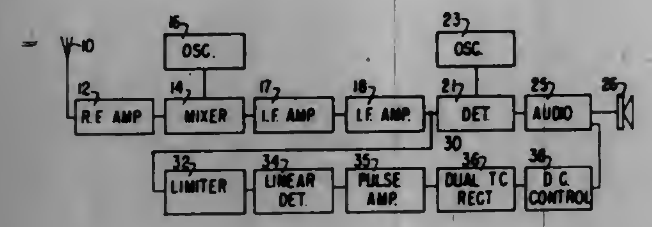
Vernon L. White and George E. McAtee, Oxnard, Calif., assignors to the United States of America as represented by the Secretary of the Navy
Filed Oct. 19, 1962, Ser. No. 231,874
4 Claims. (Cl. 325—53)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A command communications console adapted to establish communications between a plurality of station outlets having various types of fittings comprising:
a central command station including at least one communication component common to and adapted to be connected to all of said types of station outlets;
a plurality of channels for conducting signal information between said central station and said plurality of station outlets;
terminal means for connecting any one of the various station outlets to a respective channel;
at least one other communication component specific to each type of station outlet;
each specific component adapted to be connected to only one respective type of station outlet;
each of said specific components being packaged into a separate communication module; and
a plurality of module receiving means each of which receives only one module and connects said common component to a respective channel via said one module;
each of said module receiving means being capable of receiving any one of said modules;
whereby communications can be effected between any arrangement of various types of station outlets connected to the channels by selectively arranging the separate communication modules in their respective module receiving means corresponding to the station outlets.

3,196,354
SIGNAL TO NOISE RATIO CONTROLLED SQUELCH CIRCUIT

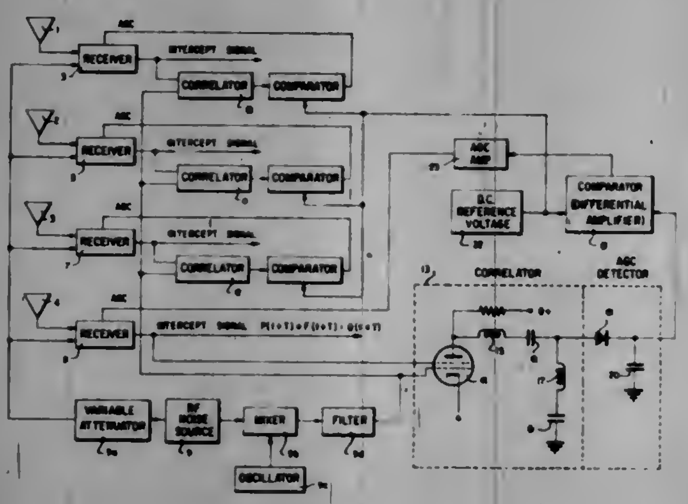
Lloyd R. Engelbrecht, Westchester, Ill., assignor to Motorola, Inc., Chicago, Ill., a corporation of Illinois
Filed June 20, 1962, Ser. No. 203,878
8 Claims. (Cl. 325—319)



1. In a communications receiver for translating a modulated received signal, a signal-to-noise operating squelch circuit including in combination, signal limiting means, means coupling a portion of the translated signal of said receiver to said limiting means, with said limiting means clipping all amplitude information from said signal except modulation envelope minima which do not exceed the limiting level of said limiting means, detector means coupled to said limiting means to provide pulses in response to modulation envelope minima which do not exceed said limiting level, and means coupled to said detector means to provide a control voltage having a level indicative of the number of pulses provided by said dectector means, whereby an increased number of modulation envelope minima in the presence of noise results in a change in said control voltage level for muting said receiver.

3,196,355
MULTIPLE CHANNEL GAIN CONTROL

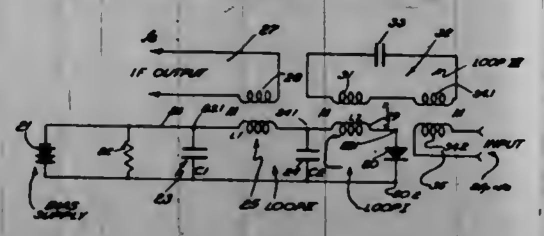
Allan E. Berry and Harry A. May, Baltimore, and William M. Rice, Timonium, Md., assignors to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland
Filed Dec. 20, 1961, Ser. No. 160,765
5 Claims. (Cl. 325—407)



1. Automatic gain control circuitry for a multiple receiver system used to amplify separate input signals comprising a calibrate generator, said calibrate generator producing random noise throughout the frequency band of the input signals, means to insert the output of said calibrate generator into each of said receivers, correlation means for separating said calibrate signal from the output of each of said receivers, means for generating automatic gain control signals in accordance with the amplitude of the calibrate signals at the output of each of said receivers, and means for controlling the gains of each of said receivers in accordance with said automatic gain control signals.

3,196,356
ELECTRIC WAVE FREQUENCY CONVERTERS

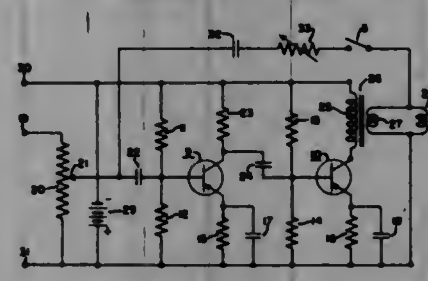
Marion E. Hines, 116 Meadowbrook Road, Weston, Mass.
Filed Apr. 14, 1961, Ser. No. 103,166
5 Claims. (Cl. 325—445)



1. Frequency converting system for electric waves comprising a nonlinear resistance device having a current-versus-voltage characteristic which includes a negative resistance portion between two positive resistance portions, a network having at least three loops resonant respectively to first, second and third resonance frequencies, f_1, f_2 and f_3, respectively, where $f_1>f_2$, and $f_3=(2f_1\pm f_2)$, a first of said loops including said device, and means to bias said device for static operation substantially in the midregion of said negative resistance portion of said current-versus-voltage characteristic.

3,196,357
BATTERY CONDITION TESTER FOR DEVICES HAVING AN AUDIO AMPLIFIER AND ELECTROACOUSTIC TRANSDUCER

Yates M. Hoag, Utica, N.Y., assignor to General Electric Company, a corporation of New York
Filed Dec. 31, 1962, Ser. No. 248,748
3 Claims. (Cl. 325—492)

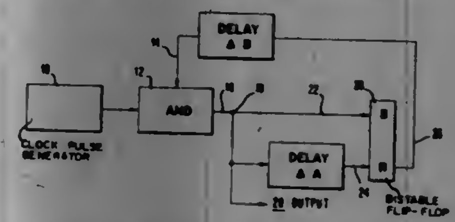


1. A battery condition tester for use with an electronic device including a battery-powered audio amplifier normally operative for amplifying input signals applied thereto, and an audible signal device responsive to the audio output of said amplifier to produce an audible signal output, said battery condition tester comprising a normally inoperative regenerative feedback circuit for said amplifier whereby the amplifier will amplify said input signals applied thereto, and means to render said feedback circuit operable, when it is desired to test the condition of the battery, to produce regeneration in said audio amplifier thereby to produce an audible signal from said signal device only when the potential of said battery is above a predetermined value higher than the minimum potential of said battery for normal operation of the amplifier.

3,196,358
VARIABLE PATTERN PULSE GENERATOR

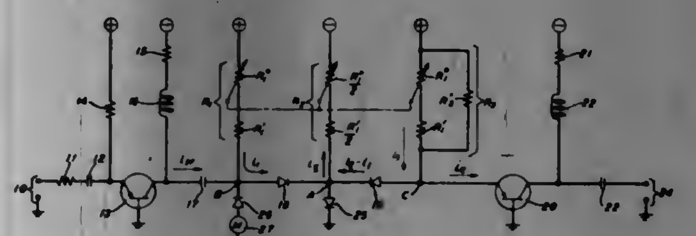
John D. Bagley, Ann Arbor, Mich., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Nov. 10, 1961, Ser. No. 151,540
6 Claims. (Cl. 328—55)

1. A circuit for providing a desired number of N pulses within a cycle period of $(N+M)$ possible pulses from a pulse generator adapted to provide a series of pulses displaced by a time increment (t_0) having a pulse period duration of $k(t_0)$, where $(0<k<1)$; means comprising an AND circuit having a primary input, a conditioning input and an output and a conditioning circuit connected in feedback loop arrangement from the output of said AND circuit to the conditioning input of said AND circuit for gating the pulses from said generator to provide a predetermined number of N pulses in each cycle of $(N+M)$ possible pulses from said generator to the output of said AND circuit; said conditioning circuit comprising; a bistable switching circuit having a set input, a reset input, and a reset output; a ΔA delay device having an input and output, its output being connected to the reset input of said switching device for delaying an input thereto a first predetermined multiple of $k(t_0)$ pulse periods; a ΔB delay device having an input and output, its output being connected to the reset output of said switching device for delaying an output from said switching device a second predetermined multiple of $k(t_0)$ pulse periods, said first and second predetermined multiple of $k(t_0)$ pulse periods being determined by and dependent upon the value of k; means connecting the output of said AND circuit to the set input of said switching device and the input of the ΔA delay device and means connecting the output of the ΔB delay device to the conditioning input of said AND circuit.



3,196,359
WIDE BAND CURRENT LIMITER

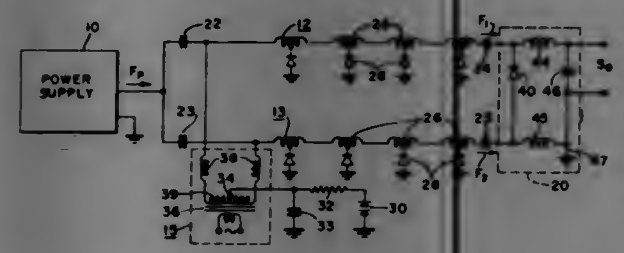
Adolph J. Giger, Murray Hill, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Dec. 11, 1962, Ser. No. 243,901
2 Claims. (Cl. 328—168)



1. Current limiting apparatus which comprises low impedance amplifier means supplied with frequency modulated signal currents, low impedance buffer amplifier means, a first signal path including a pair of serially connected oppositely poled diodes extending between said amplifier means and said buffer means, means for individually biasing said diodes to conduction for signals in said first path within a preselected range of signal current magnitudes and for biasing said buffer amplifier means to conduction at a low impedance for a wide range of applied signal current magnitudes, each of said biasing means comprising a resistive network which includes an adjustable resistor connected to a source of potential, the resistance of each of said adjustable resistors being related to the resistance of the adjustable resistors in the others of said networks such that a proportional change in the resistances of all of said adjustable resistors produces a substantially equal change in the bias of each of said diodes and a proportional change in the bias of said buffer amplifier sufficient to maintain the conduction of said buffer amplifier substantially a constant, a second signal path including a diode extending between said amplifier means and a point of reference potential, a third signal path including a diode extending between the junction of said serially connecting diodes in said first signal path and a point of reference potential, said diodes in said

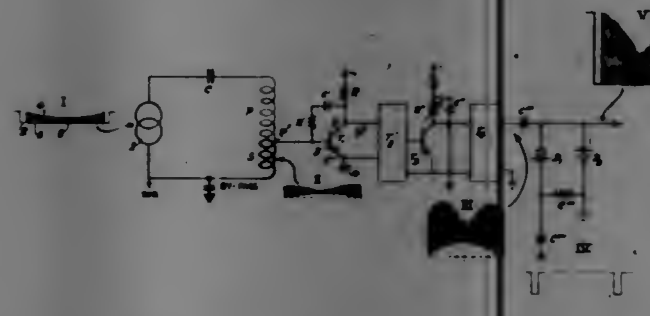
second and said third paths being biased to nonconduction for signal currents within said preselected range of signal currents and individually to conduction for signal currents outside of said preselected range of currents, and means for simultaneously varying the resistances of said adjustable resistors proportionally, thereby to alter symmetrically the conduction characteristics of said oppositely pole diodes and to maintain the conduction level of said buffer amplifier means substantially a constant.

3,196,360
LOW NOISE AMPLIFIER
James H. Boyden, Altadena, Calif., assignor, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Dec. 14, 1960, Ser. No. 75,750
11 Claims. (Cl. 330—10)



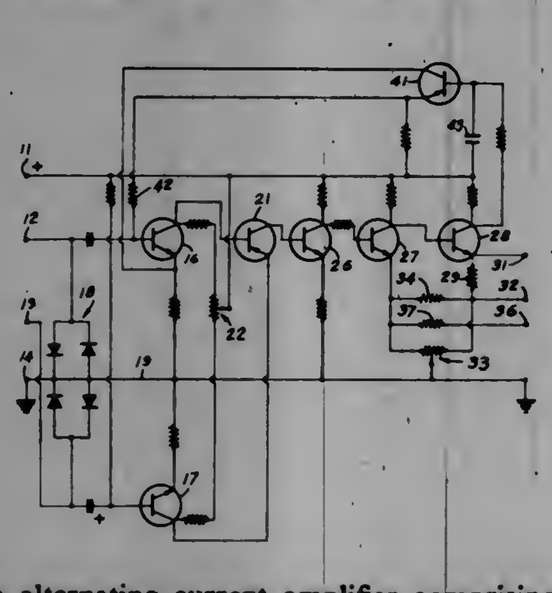
8. A low noise parametric amplifier system comprising: a pair of similar lumped constant delay lines, each comprising a plurality of voltage sensitive impedance elements having one terminal coupled to a similar element of the other delay line to form a series voltage sensitive coupling therebetween; means for impressing a high frequency power signal on one end of each of said pair with said pair receiving in phase power signals; and means for impressing a low frequency audio signal information on each of said pair so that signal information is coupled across said voltage sensitive couplings to modify the transmission characteristics of each of said pair to said power signal and thereby develop a relative phase shift of said power signal as a function of the distance from said one end.

3,196,361
WIDE-BAND VIDEO SIGNAL AMPLIFIER SYSTEM
Irving Horowitz, Eatontown, N.J., assignor to Blonder-Tongue Electronics, Newark, N.J., a corporation of New Jersey
Filed July 24, 1961, Ser. No. 126,129
9 Claims. (Cl. 330—11)



1. A wide-band amplifier for amplifying low, intermediate and high-frequency signal components having, in combination, amplifying means provided with an input circuit of predetermined input resistance and an output circuit, transformer means connected in the input circuit for rejecting the low-frequency signal components and accepting only the intermediate and high-frequency signal components in order to produce in the said output circuit amplified accepted intermediate and high-frequency signal components, and clamping means connected to the said output circuit for artificially generating therein low-frequency signal components corresponding to the rejected low-frequency signal components, the number of turns of the transformer means being adjusted to produce a transformer shunt inductance of value such that, together with the amplifier input resistance comprises a differentiation circuit to differentiate the signal components substantially at a differentiation frequency lower than the said low-frequency components of the said band.

3,196,362
TEMPERATURE COMPENSATED SOLID STATE DIFFERENTIAL AMPLIFIER
Joseph R. Smith, Jr., Milpitas, Calif., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Jan. 4, 1962, Ser. No. 164,428
2 Claims. (Cl. 330—14)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. An alternating current amplifier comprising a pair of input transistors having the bases thereof separately coupled to a pair of input terminals and the emitters thereof coupled to a common terminal for input signals, a potentiometer connected between collectors of said input transistors and to power supply means for adjustable cancellation of unwanted input signals, a conversion transistor, means coupling the collectors of said input transistors between the base and emitter of said conversion transistor whereby the output of said latter transistor is proportional only to variations in voltage between said input terminals, at least amplifying transistor having the base thereof coupled to the collector of said conversion transistor and producing an amplified output across a resistor connected to the emitter thereof, and a negative feedback circuit including a transistor having a base coupled to the collector of said amplifier transistor and the collector and emitter connected across the base and emitter of one of said input transistors with a bypass capacitor in the base circuit of said feedback transistor, whereby only direct current amplifier output signals are fed back to provide temperature stabilization of the circuit.

3,196,363
DEFLECTION TYPE DIRECT CURRENT AMPLIFIER
Harold D. Johnson, Parsippany, N.J., assignor to Tung-Sol Electric Inc., a corporation of Delaware
Filed Feb. 5, 1963, Ser. No. 256,411
4 Claims. (Cl. 330—46)

1. A direct current amplifier comprising:

(a) a pair of input terminals for connection to a signal source;

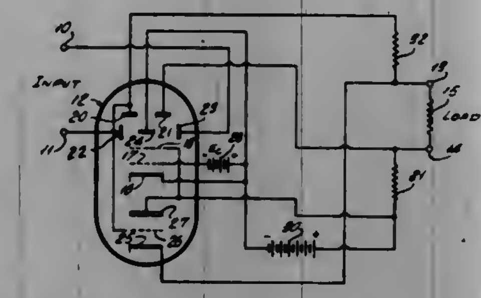
(b) a deflection discharge device which includes an evacuated envelope, a cathode with means for emitting a stream of electrons, a first and second anode mounted adjacent to each other, and two deflection

electrodes adapted to shift said electron stream from one anode to another, said deflection electrodes respectively positioned adjacent to said anodes;

(c) connecting means sealed through the envelope for connecting the input terminals to the deflection electrodes;

(d) a direct current power supply with connecting means sealed through the envelope for connecting the negative terminal of the power supply to the cathode;

(e) a load circuit including a pair of output terminals connected to a load;



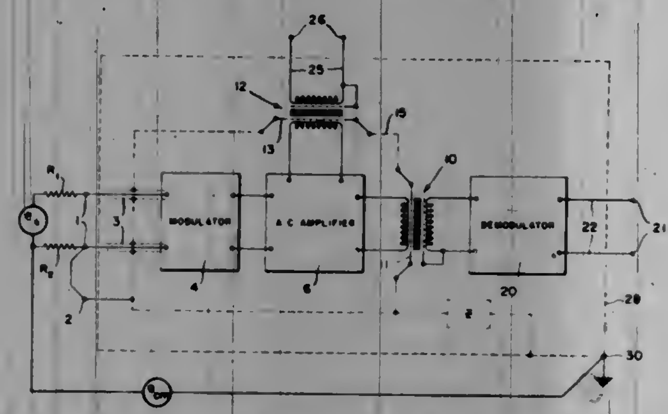
(f) a first resistor connected between one of the load terminals and the first anode;

(g) a second resistor connected between the other load terminal and the positive terminal of said power supply;

(h) connecting means between the second anode and the junction of the load and the second resistor;

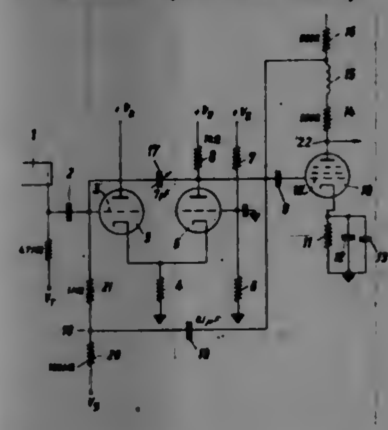
(i) and a triode electron discharge device positioned within said envelope and including a third anode connected to the positive terminal of the power supply, a second cathode connected to the junction of the load and the first resistor, and a control electrode connected to the junction of the first resistor and the first anode.

3,196,364
SHIELDED DIFFERENTIAL AMPLIFIER
Harry L. Latham, Jr., Philadelphia, Pa., assignor to Honeywell Inc., a corporation of Delaware
Filed May 16, 1961, Ser. No. 110,448
1 Claim. (Cl. 330—68)



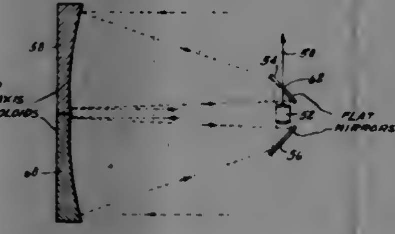
A differential amplifier comprising modulating means for converting a unidirectional input signal to a corresponding alternating current signal, an alternating current amplifying means, means connecting said alternating current signal as an input signal to said amplifying means, a coupling transformer having a primary winding, an electrostatic shield enclosing said primary winding and a secondary winding, means connecting said primary winding to an output signal from said amplifying means, a power transformer for supplying an energizing signal to said amplifying means, said power transformer having a secondary winding, an electrostatic shield enclosing said secondary winding and a primary winding, a first electrostatic shield, said first shield enclosing said modulating means and said amplifying means, means connecting said shields of said coupling transformer and said power transformer to said first shield to enclose the shielded windings of said transformers within said first shield, a second electrostatic shield, said second shield enclosing said first shield and the remaining windings of said transformers, a pair of input signal terminals, means connecting said input terminals to said modulating means to apply an input signal thereto, said means connecting said input terminals passing through said first shield and said second shield without a direct connection to said shields, and means for connecting any one of said input terminals to said first shield.

3,196,365
BROAD BAND VIDEO AMPLIFIER
Konrad Dinter and Adolf Reindl, both of Konstanz, Germany, assignors to Telefunken Aktiengesellschaft, Berlin, Germany
Filed Apr. 26, 1961, Ser. No. 105,746
Claims priority, application Germany, Apr. 29, 1960, T 18,298
3 Claims. (Cl. 330—100)



1. A broad band amplifier, comprising, in combination: a pair of amplifier elements, the anode of the first element being directly connectable with the operating voltage; a common cathode resistor connected to the cathodes of said elements; a feedback condenser connected between the anode of the second element and the control grid of the first element for the feedback of high frequency components of the signal at the anode of said second element in a positive sense; a further amplifier element connected to at least one of said amplifier elements, an anode resistor connected to the anode of the further amplifier element and to the control grid of the first amplifier element for feedback of low frequency components of a signal at the anode of the further element in a negative sense; and inductor means connected to said anode resistor and to the control grid of the first amplifier element to limit the feedback to low frequencies.

3,196,366
DOUBLE END PUMPED OPTICAL MASER STRUCTURE USING IMMERSION OPTICS
George R. Simpson, South Woodstock, Conn., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Sept. 18, 1962, Ser. No. 224,409
6 Claims. (Cl. 331—94.5)



1. A laser structure comprising a cell composed of a solid laser rod, sapphire hemispheres mounted one at each end of the laser rod with its plano surface abutting and

in optical contact with the adjacent end of the laser rod, and mirrors spaced from the respective ends of the cell and adapted to reflect light beams from a source of intense light to both ends of the laser rod.

ERRATUM

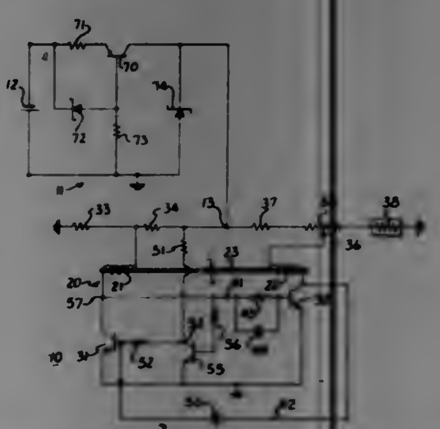
For Class 331—111 see:
Patent No. 3,196,340

3,196,367

ALTERNATING WAVE MAGNETIC OSCILLATOR

Frank P. Rennie, Stamford, Conn., assignor to General Time Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 20, 1962, Ser. No. 239,026
8 Claims. (Cl. 331—113)



1. In a magnetic oscillator the combination comprising, a saturable transformer including a core having a generally rectangular hysteresis characteristic with first and second windings thereon, a source of voltage, first and second transistors each having an input circuit and an output circuit, the output circuits being connected between the transformer windings and the source for controlling flow of current through the windings from said source thereby to drive the transformer core to the conditions of positive and negative saturation respectively, a first feedback circuit connected between the output circuit of the first transistor and the input circuit of the second and a second feedback circuit connected between the output circuit of the second transistor and the input circuit of the first so that the transistors are caused to conduct alternately as the core attains opposite conditions of saturation, said second feedback circuit including a capacitor for passing a voltage pulse upon achieving of core saturation by the second transistor thereby initiating conduction in the first transistor and for inhibiting continued current flow, and auxiliary means coupled to the input circuit of the first transistor for biasing the first transistor for continued conduction following the pulse until a condition of core saturation in the opposite direction is achieved by the first transistor and for rendering the first transistor non-conductive when core saturation in the opposite direction is achieved.

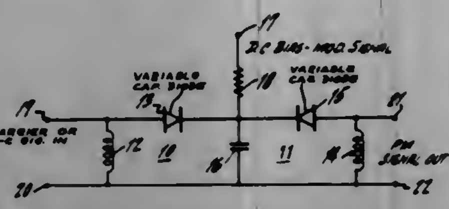
3,196,368

WIDE ANGLE PHASE SHIFTER OR MODULATOR

Louis E. Potter, Merchantville, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed Dec. 26, 1961, Ser. No. 161,846
5 Claims. (Cl. 332—30)

1. A phase shifter comprising, in combination, a first inductor, a first variable capacitance junction diode having a first and a second electrode, a capacitor, means to connect the first electrode of said diode to one end of said inductor and the second electrode of said diode to one side of said capacitor, means to connect the other side of said capacitor to the other end of said inductor, a second inductor, a second variable capacitance junction diode having first and second electrodes similar to the respective first and second electrodes of said first diode, means to connect the first electrode of said second diode to one end of said second inductor and to connect the second electrode of said second diode to said one side of said capacitor, means to connect the other end of said second inductor to said other side of said capacitor, means to apply an alternating current input across said first inductor, means to apply a reverse bias varying according to a control signal to the junction point of the second electrodes of said diodes and said capacitor, and means to derive an output signal from across said second inductor shifted in phase according to said control signal.

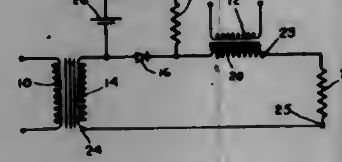


3,196,369

DIODE MODULATOR WITH DISTORTION-REDUCING CIRCUIT

Robert R. Darden, Jr., Massapequa, and Alex G. Dobbs, Huntington Station, N.Y., assignors to American Bosch Arma Corporation, a corporation of New York

Filed Aug. 5, 1960, Ser. No. 47,690
13 Claims. (Cl. 332—43)



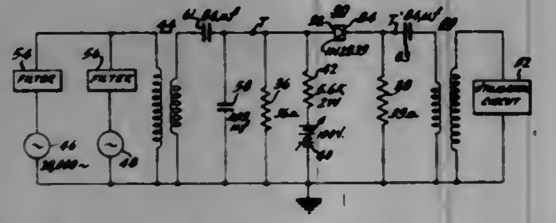
1. In a device of the character described, a first source of first alternating voltage signals, a second source of second alternating voltage signals, a load, electrical connections for connecting said first and second sources in series with said load, a first non-linear impedance interposed in said electrical connections and supplied with said first and second signals, a source of unidirectional voltage having a substantially constant value over many cycles of said first signals, a second non-linear impedance, means for connecting said last named source and said second non-linear impedance in series D.C. circuit with each other, and means for connecting said series circuit across said first non-linear impedance and in common series circuit with said first and second sources.

3,196,370

SEMICONDUCTOR MODULATORS

Benjamin M. Rabinovici, Rego Park, and Ragnar F. V. Stalemark, Armonk, N.Y., assignors to Radio Corporation of America, a corporation of Delaware

Filed May 5, 1961, Ser. No. 108,034
6 Claims. (Cl. 332—44)



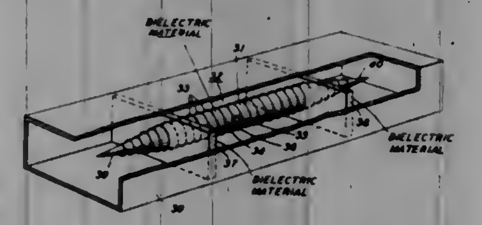
1. An electrical circuit comprising in combination a voltage-controlled negative resistance diode having an N-shaped current-voltage characteristic including first and second positive conductance regions separated by a negative conductance region, means for stably biasing said diode at a point of substantially zero dynamic conductance in said current-voltage characteristic, means for applying electrical waves of first and second frequencies to said diode and output circuit means coupled to said diode to derive intermodulation products produced by the interaction of said first and second frequency waves in the non-linear resistance of said diode.

3,196,371

DELAY DISTORTION COMPENSATOR

Georges R. P. Marie, Red Bank, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed May 1, 1961, Ser. No. 106,634
11 Claims. (Cl. 333—28)



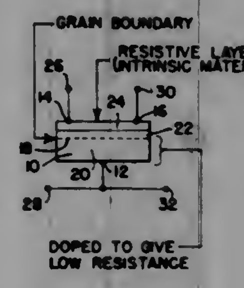
1. In combination, a length of transmission path having a monotonically varying phase versus frequency characteristic over a band of operating frequencies, means connected to said path for equalizing the first order delay distortion produced by said path, said means comprising a network having a stop-band higher than said band of operating frequencies and a phase versus frequency characteristic which compensates that of the transmission path resulting in a combined phase versus frequency characteristic of said path and said network having an inflection point at a given frequency within said band of frequencies thereby producing a substantially linear phase versus frequency characteristic over a range of frequencies centered about said given frequency.

3,196,372

R.C. FILTER WITH CAPACITANCE PRODUCED BY GRAIN BOUNDARY SEMICONDUCTOR

Wallace W. Lindemann, Minneapolis, and Rolf K. Mueller, St. Paul, Minn., assignors, by mesne assignments, to Litton Systems, Inc., Beverly Hills, Calif., a corporation of Maryland

Filed Jan. 6, 1961, Ser. No. 81,162
9 Claims. (Cl. 333—70)


GRAIN BOUNDARY
RESISTIVE LAYER (INTRINSIC MATERIAL)
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32
DOPED TO GIVE LOW RESISTANCE

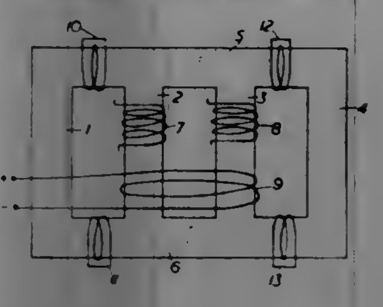
1. An RC network comprising a block of semiconductive material, a first contact at one location on said block and a pair of spaced contacts at different locations on said block, said block including a region of doped material provided with contacting crystals having different spatial orientations, said contacting crystals defining a grain boundary between said first contact and said pair of contacts, said region being between said first contact and said pair of contacts.

3,196,373

SATURABLE REACTORS

John Ernest Jones, Macclesfield, Cheshire, and Maurice Alec Spurway, Manchester, Lancashire, England, assignors to Ferranti, Limited, Hollinwood, Lancashire, England, a company of Great Britain and Northern Ireland

Filed Nov. 29, 1962, Ser. No. 240,794
Claims priority, application Great Britain, Dec. 5, 1961, 43,401/61
4 Claims. (Cl. 336—73)



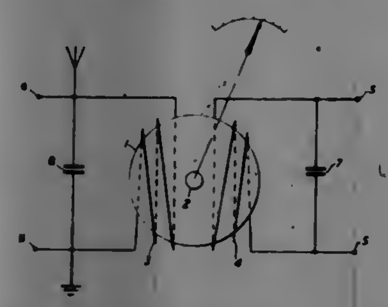
1. A polyphase saturable reactor including a core having a plurality of inner legs and outer legs, a first and second yoke joining opposite ends of said legs, an alternating current winding mounted on each of said inner legs, a direct current winding wound about said inner legs for establishing a direct current flux in each leg of said core, each of said yokes having a first portion of constant cross-section intermediate said inner legs providing a path for both alternating current flux and direct current flux and additional portions adjacent opposite ends of said first portion providing paths for direct current flux only, and a short circuited winding wound around each of said additional portions and fixed with respect thereto to exclude alternating current flux therefrom.

3,196,374

PERMEABILITY TUNERS

Anthony W. Simpson, Wootton, England, assignor to The Plessey Company Limited, Ilford, England, a British company

Filed Apr. 13, 1962, Ser. No. 188,012
Claims priority, application Great Britain, Apr. 14, 1961, 13,472/61
12 Claims. (Cl. 336—130)



1. A variable inductor comprising a core of a magnetic material having at least one direction of easy magnetisation in which the core is magnetised, a winding wound so as to embrace at least a portion of the core and means for varying the angle between the longitudinal axis of the winding axis, about which the winding is wound, and the selected direction of easy magnetisation in the core whereby the permeability of the core may be varied.

3,196,375

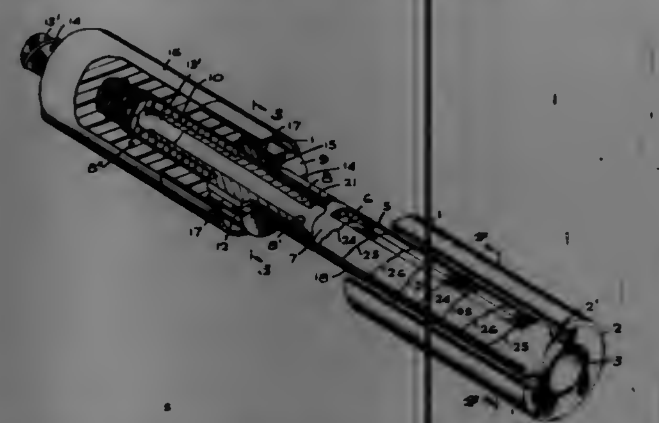
INTRACARDIAC TRANSDUCER

Robert M. Jones, Hato Rey, Puerto Rico, assignor to Statham Laboratories, Inc., Hato Rey, Puerto Rico, a corporation of California

Filed Feb. 10, 1964, Ser. No. 343,851
3 Claims. (Cl. 338—4)

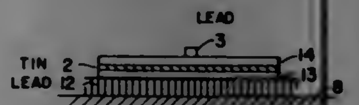
1. A pressure transducer comprising an elongated tubular member having an expansible tubular section and relatively rigid tubular portions at each end of the expan-

sible section, a collar extending radially adjacent to one of said relatively rigid portions, four angularly spaced slots in said collar positioned axially of said collar, four Wheatstone bridge electrical connectors passing through said four slots, two of said connections terminating at one of said relatively rigid portions and two of said connectors terminating at the other of said relatively rigid portions, two pair of wires helically wound around said expansible tubular sections, one of the wires of each pair wound under tension and the other loosely wound around said expansible tubular section, the said pairs being connected to said connectors in a Wheatstone bridge arrangement, adjacent wires of said bridge being composed of one wire wound under tension and one wire loosely wound, a tubular case connected at one end to one of said relatively rigid portions and at the other end of said case to the other of said relatively rigid portions, said case spaced from the expansible section.



3,196,376
SUPERCONDUCTIVE ELEMENTS

Mark Naiman, Philadelphia, Pa., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Original application Feb. 10, 1961, Ser. No. 88,536. Divided and this application Dec. 6, 1961, Ser. No. 167,204
13 Claims. (Cl. 338—32)

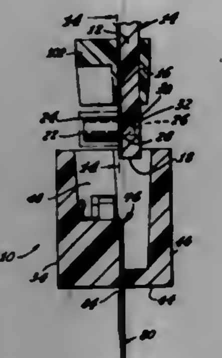


1. A superconductive element comprising in combination a layer of a first superconductive metal and at least another layer of a second superconductive metal, said second superconductive metal having a different superconductive critical temperature than said first superconductive metal and a layer therebetween of a metal ohmic conductor, said metal ohmic conductor having low conductivity at superconducting temperatures close to 0° K. and serving as an insulating layer at said temperatures and having sufficient conductivity at ordinary electroplating temperatures to permit electroplating.

3,196,377
ELECTRICAL CONNECTOR

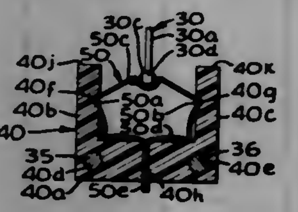
Michael Minich, Santa Susana, Calif., assignor to Matrix Science Corporation, Burbank, Calif., a corporation of Delaware
Filed Aug. 4, 1961, Ser. No. 129,309
6 Claims. (Cl. 339—[illegible]7)

1. Means for electrically interconnecting at least a portion of a first circuit with at least a portion of a second circuit on a circuit board having a plurality of substantially cylindrical electrical connector posts disposed thereon adjacent one edge of said board and projecting from said board at substantially right angles to the plane thereof, said means comprising a housing member having a chamber therein which forms an opening in one side of said housing for having said edge inserted therethrough and into said chamber, and a plurality of connector members mounted on said housing member, each of said connector members having at least a portion thereof disposed in said chamber with the remaining portion thereof being disposed substantially parallel to the plane of said board and extending through said housing to be connected to said first circuit, the portions of each of said connector members disposed in said chamber including a part disposed at substantially right angles to said remaining portion and a plurality of resilient fingers arranged at substantially right angles to said part to form a socket into which said posts may be electrically and mechanically positioned.



3,196,378
ELECTRICAL CONNECTOR

John R. Beckwith, Los Altos, Calif., assignor of thirty-three and one-third percent to Sidney Wiesner and thirty-three and one-third percent to Henry Marchman, both of Sunnyvale, Calif.
Filed May 10, 1963, Ser. No. 279,500
5 Claims. (Cl. 339—46)



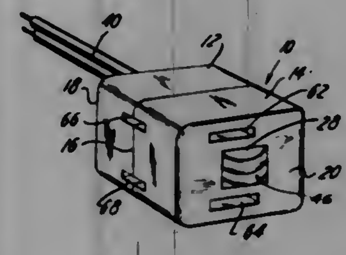
1. An electrical connector comprising a first insulating body, a leaf spring conductor contact mounted on said first insulating body for yielding from an unmated stable position to a mated stable position, said leaf spring conductor contact being formed with a groove therein, a second insulating body received by said first insulating body, and a conductor contact on said second insulating body for engaging said leaf spring conductor contact within the groove thereof to activate said leaf spring conductor contact for causing said leaf spring conductor contact to yield from said unmated stable position to said mated stable position and to contract the groove thereof to embrace said conductor contact on said second insulating body.

3,196,379
ELECTRICAL CONNECTOR

Martin Sams, 930 NE. 90th St., Miami Beach, Fla., and Herman Feldman, deceased, late of Miami Beach, Fla., by Jean Feldman, administratrix, Miami Beach, Fla.
Filed July 11, 1962, Ser. No. 209,273
3 Claims. (Cl. 339—100)

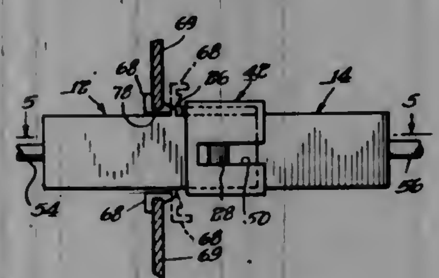
1. An electrical connector comprising a body having opposite end walls, a first channel in said body extending through said body and open at the opposite end walls of

said body, a second channel extending into said body and open only at one of said end walls of said body, prong contacts in said body extending axially into the inner end of said second channel, said channels, of cross-sectional dimensions adapted to snugly receive a duplex conductor cord, being arranged in parallelism, spaced in close proximity and being open to each other along their mutual lengths, and oppositely spaced elongated ridges in said body projecting into the open space between said channels, said connector being thereby adapted to receive a duplex conductor cord inserted through said first channel and thence with a 180 degree loop bend through said second channel for electrical circuit engagement with said prong contacts, the said ridges guiding the duplex conductor cord in its movement through said channels, tap contacts, each electrically integral with a prong contact, said tap contacts extending in the same direction as said prong contacts and towards said one of said end walls, and plug receiving passages for said tap contacts formed in said body at said one of said end walls thereof.



3,196,380
ELECTRICAL CONNECTOR

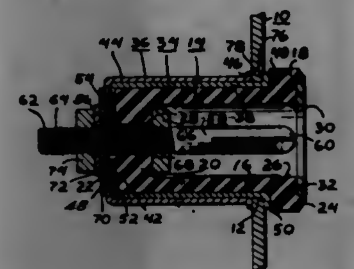
John H. Krehbiel, Brookfield, Ill., assignor to Molex Products Company, Brookfield, Ill., a corporation of Illinois
Filed July 14, 1961, Ser. No. 124,139
3 Claims. (Cl. 339—126)



1. An electrical connector adapted to be mounted through an opening in a panel, comprising a receptacle element of plastic material adapted to encase the terminals of a first group of electrical conductors, said receptacle element having a receiving socket at one end thereof, a plug element of plastic material adapted to encase the terminals of a second group of electrical conductors, said plug element having an end portion complementary to and insertable in said receiving socket, means for locking said end portion in said receiving socket, and resiliently deformable integral ears on one of said elements extending outwardly from said one element substantially at right angles thereto and away from one another in substantial alignment prior to insertion in an opening in a panel and being resiliently deformable toward parallelism with said one element and parallel to one another extending in the same direction upon insertion in said opening, each ear being pivotable through substantially 90°, each of said ears having notch means respectively to engage the edges of the opening in the associated panel.

3,196,381
INSTRUMENT PANEL-MOUNTED ELECTRICAL JACK OR RECEPTACLE

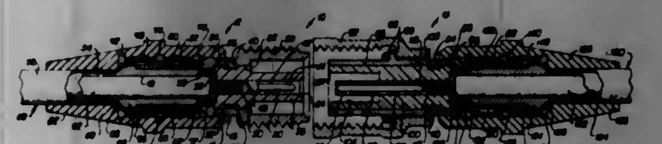
Howard L. Steinhardt, Fairfield, and George L. Krize, Monroe, Conn., assignors, by mesne assignments, to Howard L. Steinhardt, Fairfield, Conn.
Filed Jan. 21, 1963, Ser. No. 252,657
5 Claims. (Cl. 339—129)



1. In a panel-mounted electrical connector: a housing made of electrical insulation material and having an outwardly extending transverse flange at one end thereof; a pair of rigid sleeves configured and dimensioned to telescopically nest; each of said sleeves having an outwardly extending flange, which flanges are disposed at adjacent ends and spaced when the sleeves are nested so as to be disposable on opposite sides of a panel on which the connector is to be mounted by extending through an opening therein; said housing configured and dimensioned to nest within the inner of said sleeves and be supported thereby; an electrical contact member including a threaded portion extending through the assembly of said sleeves and housing; clamping nut means on said threaded portion on opposite sides of the assembly to thereby rigidly mount said contact member on the assembly and the entire assembly together and on the panel; and means for electrically isolating said contact member from said sleeves.

3,196,382
CRIMP TYPE COAXIAL CABLE CONNECTOR

William Morello, Jr., Wakefield, Mass., assignor, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Aug. 7, 1962, Ser. No. 215,354
12 Claims. (Cl. 339—177)

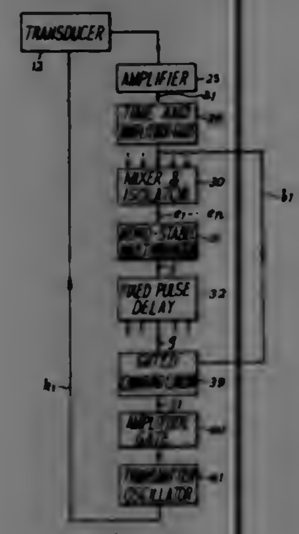


1. An electrical connector member for attachment to an end of a coaxial cable having a center conductor, a dielectric layer surrounding the center conductor and a flexible tubular outer conductor surrounding the dielectric layer, said connector member comprising a tubular shell of conducting material having front and rear ends, a center contact member supported within said shell and insulated from the shell, said center contact member having a forward contacting portion accessible from the front of the shell and having a rearward terminal portion adapted to be attached to a bared end of the center coaxial cable conductor, a sleeve adapted to be engaged over the dielectric layer of the cable and axially slidably inserted into the shell from the rear, means engageable between said sleeve and the center contact member to fix the center contact member against rearward movement in the shell, said sleeve having a rearward end portion projecting rearwardly out of the shell, and a crimp ring engageable in surrounding relationship about a rearward end portion of the shell and about said rearward end portion of the sleeve with a portion of the outer conductor of the cable disposed between the ring and said rearward end portions of the shell and sleeve, said ring being

crimped radially inwardly to compress the outer conductor of the cable against said rearward end portions of the shell and sleeve and to hold the sleeve against rearward movement with respect to the shell.

3,196,383
PULSE-RESPONSIVE APPARATUS

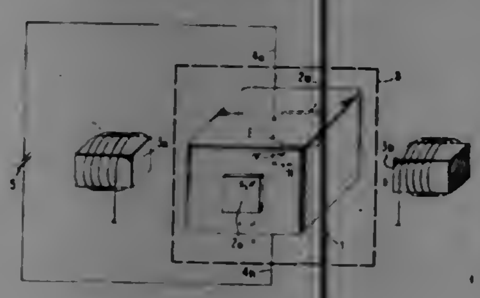
William Halliday, London, England, assignor to S. Smith & Sons (England) Limited, London, England, a British company
Filed Nov. 9, 1962, Ser. No. 236,509
11 Claims. (Cl. 340—3)



11. A responder adapted to transmit a pulse of energy in a given direction in response to the reception of a pulse of energy from the given direction, comprising an array of receiving elements with associated receiving channels respectively coupled to corresponding transmitting channels, each transmitting channel including a timing device adapted to be triggered for operation from a datum condition by a signal received in the associated receiving channel, and to be reversed by a further signal delayed by a fixed time relative to the instant of reception of the said signal in the first channel to receive it, and means responsive to the return of the timing device in each transmitting channel to its datum condition to initiate the transmission of a pulse of energy from the transmitting channel.

3,196,384
ULTRASONIC AMPLIFIER

William P. Dumke, Chappaqua, and Rudolph R. Haering, Peekskill, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Feb. 27, 1962, Ser. No. 176,011
7 Claims. (Cl. 340—15)



1. An ultrasonic amplifier comprising, in combination:

a crystalline body to which are applied substantially perpendicular electric and magnetic fields whereby the velocity of carriers within the crystalline body is perpendicular to the aforesaid electric and magnetic fields, said electric and magnetic field having such values that

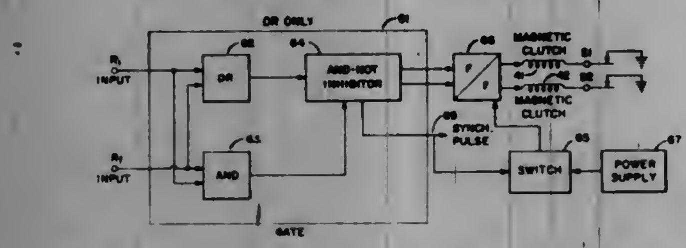
$$\frac{Ec}{H}=v>s$$

where v equals the velocity of carriers in the crystalline body and s equals the sound velocity in said crystalline body and c equals the velocity of light;

and means for introducing a sound wave into said crystalline body in the direction of the velocity of said carriers in said body, whereby ultrasonic amplification of said sound wave is achieved.

3,196,385
TRANSFERRING SEISMIC TRACES AT SYNCHRONIZED FIRING TIMES

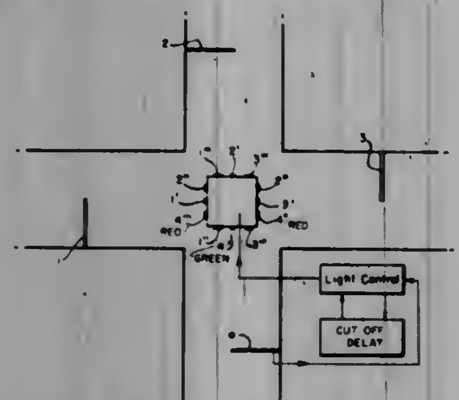
Bill Smith, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
Filed July 11, 1960, Ser. No. 42,143
14 Claims. (Cl. 340—15.5)



12. A system for recording a plurality of individual signals in mutual correlation which comprises; recording means having a recording medium associated therewith; means for generating an index pulse upon said recording means attaining a preselected position; means for generating a plurality of signals to be recorded, each of said signals having a reference pulse associated therewith; motive means connected to said recording means and to said signal generating means for actuating said means simultaneously; a differential disposed between said recording means and said motive means for changing the relative position of said recording means and said signal generating means; synchronizing means responsive to the time interval between an index pulse and reference pulse disposed between said differential and said motive means for operating said differential to change said time interval by changing temporarily the speed of said recording means.

3,196,386
AUTOMATIC TRAFFIC REGULATING SYSTEM FOR STREET INTERSECTIONS

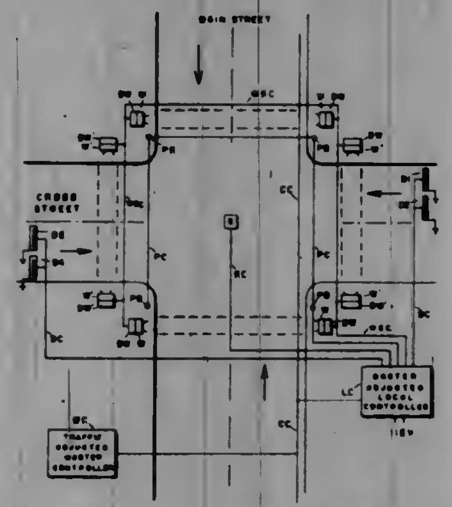
Bruno Rossi and Camillo Calderoni, both of Via Indipendenza 58, Bologna, Italy
Filed Feb. 20, 1961, Ser. No. 90,501
1 Claim. (Cl. 340—31)



An automatic traffic regulating system to control through traffic at main traffic intersections and to provide traffic light illuminating indicating the location and direction of cross traffic at the intersection; said system consisting of vehicle actuated treadle switching means including a single element treadle occupying only one-half the width of the road located along each of the streets of the intersection for lighting a traffic signal; a traffic signal in the form of a box furnished with three lights on each side of the box, each side facing a street of the intersection; said box being placed overhead at the intersection to be visible approaching the intersection from all directions; said three lights on each side of the box consisting of a center light and two outer lights, said center light indicating free passage and being smaller in diameter than said outer lights, while said outer lights warn the approach of cross traffic; light switching means connecting to and lying between each of said treadles and said box signal which are energized by the movement of the vehicle over the treadle as the vehicle approaches the intersection, and time delay means connected to said light switching means, said delay means maintaining the traffic signal in lit condition for a predetermined time after actuation, the larger lights which are lit on the side of the box representing the side of the street from which the vehicle approaches and the larger outer light being simultaneously lit on the opposite side of the box as a warning light to provide warning on each of the sides of the box facing the cross traffic, and to a later vehicle in cross traffic that an earlier vehicle was passing through the intersection.

3,196,387
TRAFFIC ACTUATED, MASTER ADJUSTED CONTROLLER

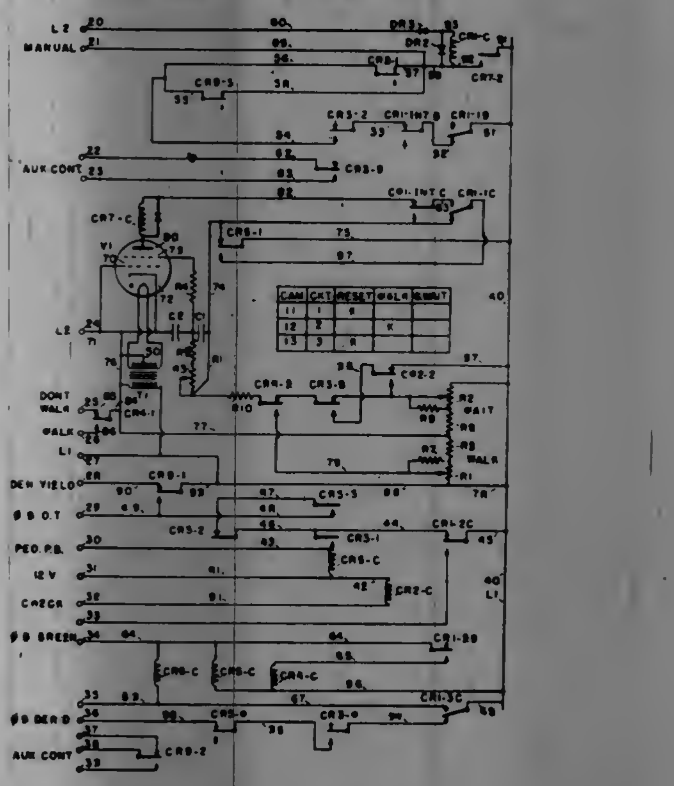
Frank W. Hill, Moline, Ill., assignor, by mesne assignments, to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Feb. 7, 1961, Ser. No. 87,709
20 Claims. (Cl. 340—36)



1. In a two phase semi-actuated traffic control system, the control means comprising: a non-traffic actuable unit adapted to control and time a plurality of right of way and clearance intervals to a main street, an interchangeable traffic actuable unit adapted to control and time a plurality of right of way and clearance intervals to a cross street, a master controller adapted to establish a potential traffic signal cycle, a coordinating unit electrically connected to said master controller and to each of said actuable and non-actuable units and adapted to coordinate the start and the maximum duration of timing of each of said units with said potential traffic signal cycle established by said master controller, a traffic detector in said cross street and a detector memory relay in said actuable unit having contacts closed after actuation of said detector, normally open coordinating contacts in said coordinating unit closed momentarily near the beginning of each potential traffic signal cycle, and a control circuit in said non-actuable unit connected to be completed through said coordinating contacts and said detector memory relay contacts and adapted to start said non-actuable unit timing the end of its right of way interval and the beginning of its clearance interval to said main street at a particular time in said potential traffic signal cycle.

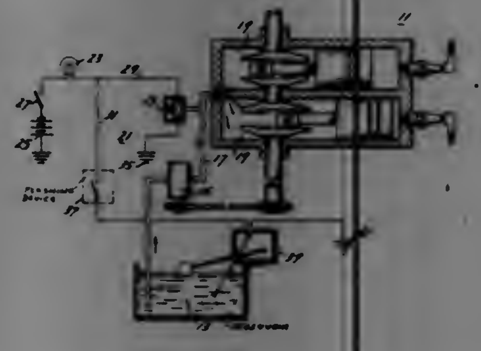
3,196,388
AUXILIARY TRAFFIC CONTROLLERS

Frank W. Hill, Moline, Ill., assignor, by mesne assignments, to E. W. Bliss Company, Canton, Ohio, a corporation of Delaware
Filed Apr. 10, 1959, Ser. No. 805,494
1 Claim. (Cl. 340—44)



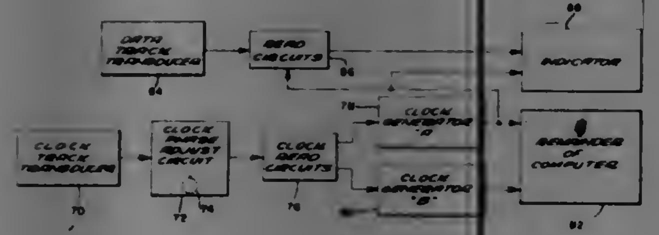
An electronic pedestrian interval timer comprising a three bank step switch operable through a reset interval, a walk interval, and a clearance interval, a pedestrian actuable detector, a detector relay connected to be energized by said detector and operable to close a memory circuit and to energize said step switch out of said reset interval, a first interrupter contact on said step switch operable to deenergize said step switch, said step switch thereby stepped into a first portion of said walk interval, a timing circuit comprised of a triode gas filled tube having a plate circuit, a cathode circuit, and a grid circuit, an RC timing circuit connected in said grid circuit and adapted to be charged during said reset interval and recharged between said walk interval and said clearance interval and having a first timing circuit connected thereto during said walk interval and a second timing circuit connected thereto during said clearance interval, a load relay connected to be energized during a compatible traffic movement, said load relay when energized adapted to energize a pedestrian walk signal and to connect said first timing circuit to said RC timing circuit, a plate circuit relay connected in said plate circuit and energized therefrom when said RC timing circuit can no longer prevent said gas filled triode from firing, contacts on said plate circuit relay connected to energize said step switch relay out of said walk interval, said interrupter contacts on said step switch operable to deenergize said step switch, said step switch thereby stepped into said clearance interval, contacts on said step switch operable during said clearance interval to deenergize said load relay, said load relay when deenergized energizing a pedestrian clearance signal and connecting said second timing circuit to said RC timing circuit, said plate circuit relay energized therefrom when said RC timing circuit can no longer prevent said gas filled triode from firing, said contacts on said plate circuit relay effective to energize said step switch relay out of said clearance interval, said interrupter contacts on said step switch again deenergizing said step switch, said step switch thereby stepped into said reset interval, said circuit thereupon readied for another pedestrian actuation.

3,196,389
VEHICLE ENGINE OIL LEVEL AND PRESSURE RESPONSIVE INDICATOR
Richard C. Heldner, Libertyville, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Sept. 26, 1962, Ser. No. 226,350
6 Claims. (Cl. 340—50)



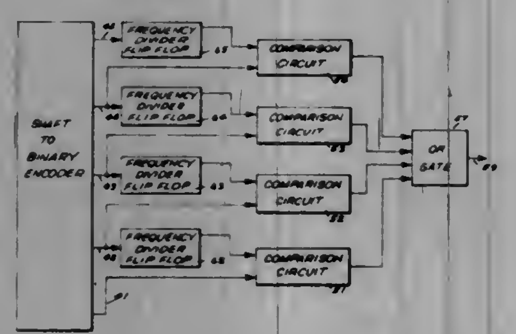
1. Means associated with an engine for selectively indicating the existence of two engine conditions, said means including a single electrically actuatable indicator connected to a source of electrical energy, a pair of normally open electrical switches electrically coupled in parallel with each other and in series to said indicator so as to cause actuation thereof incident to closure of either of said switches, first means associated with said engine and operably connected to one of said pair of switches for closure thereof in response to the development of a first of two engine conditions, whereby to cause actuation of said indicator, second means associated with said engine and operably connected to the other of said pair of switches for closure thereof incident to the development of a second of said two engine conditions, and means connected with said other of said pair of switches for periodically interrupting current flow to said indicator to effect intermittent operation thereof so as to actuate said indicator in a manner which can be discriminated from the actuation of said indicator in response to closure of said one of said pair of switches.

3,196,390
COMPUTER TESTING SYSTEM
Jack C. Smeltzer, Woodland Hills, and Elliott E. Rech, Canoga Park, Calif., assignors, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware
Filed Feb. 13, 1961, Ser. No. 88,993
6 Claims. (Cl. 340—146.1)



6. In a data handling machine of the type wherein each word is represented by a predetermined number of binary signals and a parity signal is added as required, and wherein said words and signals are read from a storage system in which they may be stored by a reading circuit and are then combined with clock pulse signals for regenerating the word and parity bit signals, means for detecting deterioration in said reading circuit comprising a bistable state flip-flop circuit, means for applying each said regenerated word and parity signal to said flip-flop circuit to drive it from one to the other of its states of stability in response to each "one" representative signal contained therein, a phase-shift circuit, means for applying said clock pulse signals to said phase-shift circuit prior to being combined with the signals read from said storage system, means for actuating said phase-shift circuit for advancing the phase of said clock pulses relative to a reference position a predetermined amount and for retarding the phase of said clock pulses relative to a reference position a predetermined amount, a cyclic counter having a capacity equal to the number of binary signals in a word plus a parity signal, means for applying clock pulses to said counter for causing it to be driven, means to derive an output from said counter when it attains its last count state, gate means to which both said counter output and the output of said flip-flop when in one of its bistable states is applied to provide an output in the simultaneous presence of both inputs, and an indicator to which the output of said gate means and said counter is applied to be actuated when it receives only one of its two outputs providing an indication that the reading circuit is deteriorating.

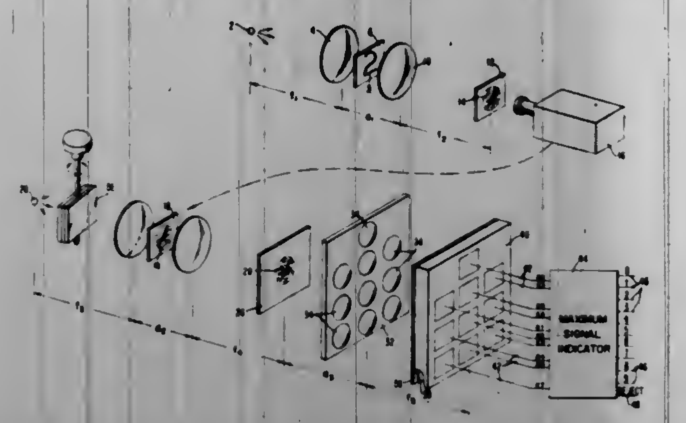
3,196,391
DYNAMICALLY CHECKING BINARY ENCODERS
Paul S. Dubroff, Englewood, and Jin W. Chin, Morristown, N.J., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware
Filed July 12, 1961, Ser. No. 123,545
3 Claims. (Cl. 340—146.1)


SHAFT TO BINARY ENCODER
FREQUENCY DIVIDER FLIP FLOP
FREQUENCY DIVIDER FLIP FLOP
FREQUENCY DIVIDER FLIP FLOP
FREQUENCY DIVIDER FLIP FLOP
COMPARISON CIRCUIT
COMPARISON CIRCUIT
COMPARISON CIRCUIT
COMPARISON CIRCUIT
OR GATE

1. Apparatus for dynamically checking a binary encoder including means for driving said encoder to produce its output incrementally, means for dividing the frequency of the output signal of said binary encoder representing binary digits of one order of significance by two, and means for generating an output indication whenever the signal with the divided frequency does not coincide with the output signal of said encoder representing binary digits of the next higher order of significance.

3,196,392
SPECIMEN IDENTIFICATION UTILIZING AUTOCORRELATION FUNCTIONS
Lawrence P. Horwitz, Chappaqua, and Glenmore L. Shelton, Jr., Mahopac, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 25, 1960, Ser. No. 45,034
53 Claims. (Cl. 340—146.3)

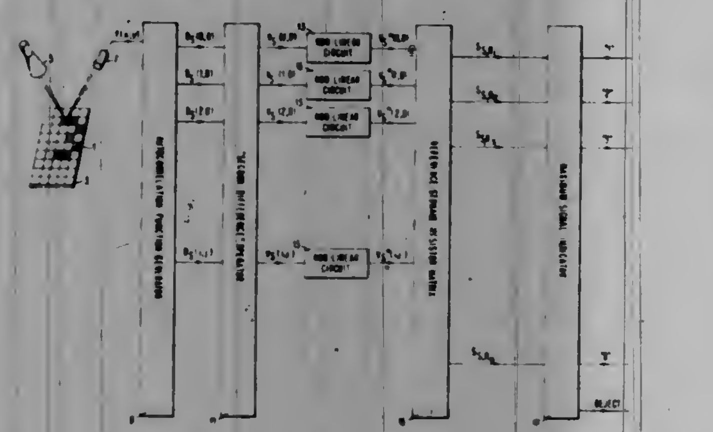
12. A specimen identification apparatus comprising, in combination: electronic means for generating an autocorrelation function of specimen data located throughout the specimen, and electronic means for comparing said autocorrelation function with autocorrelation functions of reference patterns for identifying the specimen.



3,196,393
INPUT DEVICE FOR DATA PROCESSING SYSTEM
Ralf Siegemund, Arlington, Va., assignor to Commonwealth Engineering Company of Ohio, Dayton, Ohio
Filed Feb. 9, 1961, Ser. No. 88,081
3 Claims. (Cl. 340—146.3)

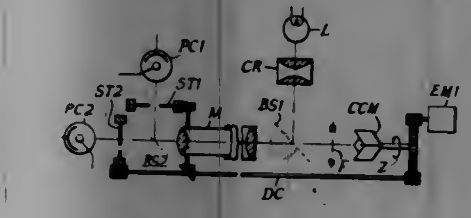
1. Input device for digital computers comprising: a carrier for encoded information having at least one track of equally spaced colored character areas selected from a group of ten colors, each color representing a decimal digit; three photoelectric detectors individually responsive to three primary colors of said areas on said carrier; circuit means for deriving two signals from respective two of said detectors; and circuit means for deriving a third and a fourth signal at respectively different output levels from the third detector.

3,196,394
SPECIMEN IDENTIFICATION TECHNIQUES EMPLOYING NON-LINEAR FUNCTIONS OF AUTOCORRELATION FUNCTIONS
Lawrence P. Horwitz, Chappaqua, and Glenmore L. Shelton, Jr., Carmel, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Mar. 3, 1961, Ser. No. 93,070
18 Claims. (Cl. 340—146.3)



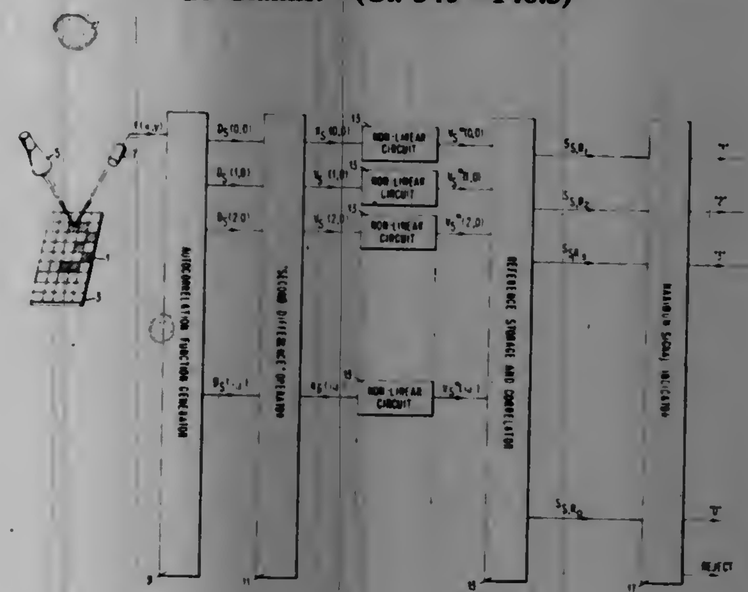
1. A specimen identification apparatus comprising, in combination: means for generating a non-linear function of an autocorrelation function of specimen data located throughout the specimen, and means for comparing said function with non-linear functions of autocorrelation functions of reference patterns, for identifying the specimen.

3,196,395
CHARACTER RECOGNITION SYSTEMS EMPLOYING AUTOCORRELATION
Maxwell Bernard Clowes and John Ronald Parks, both of Teddington, England, assignors, by mesne assignments, to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 15, 1961, Ser. No. 110,252
Claims priority, application Great Britain, May 20, 1960, 17,992/60; Dec. 21, 1960, 43,923/60
21 Claims. (Cl. 340—146.3)



20. An electro-optical system for the recognition of printed or written characters in which a zone including the character to be recognised is repeatedly scanned by a light spot moving over a raster pattern of parallel spaced lines while the character is moved over a predetermined path relative to said raster pattern, in which photo-electric means responsive to the variations of light transmitted by said zone during said scanning operations provide an electric signal representing the entire shape of said character, in which said signal is applied as one input to a multiplying circuit having at least one further input supplied with a time delayed version of said signal to derive an output signal and means responsive to said output signal and to references, for effecting recognition.

3,196,396
SPECIMEN IDENTIFICATION TECHNIQUES EMPLOYING BINARY NON-LINEAR FUNCTIONS OF AUTOCORRELATION FUNCTIONS
Jose Reines, Crompond, Lawrence P. Horwitz, Chappaqua, and Glenmore L. Shelton, Jr., Carmel, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 7, 1961, Ser. No. 115,501
25 Claims. (Cl. 340—146.3)

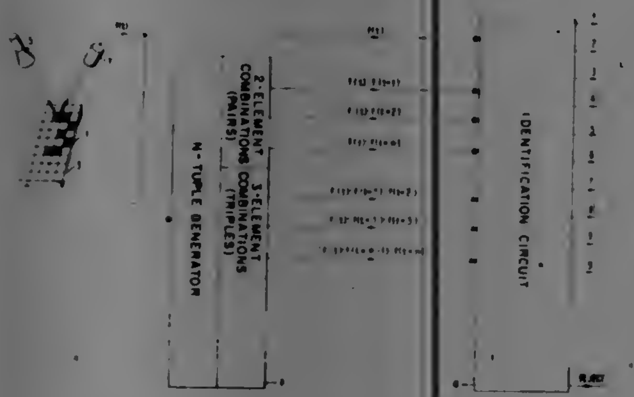


4. A specimen identification apparatus comprising, in combination: electronic means for generating a binary function of an autocorrelation function of specimen data located throughout the specimen; and electronic means

for comparing this function with binary functions of autocorrelation functions of reference patterns for identifying the specimen.

3,196,397
SPECIMEN IDENTIFICATION TECHNIQUES EMPLOYING Nth-ORDER AUTOCORRELATION FUNCTIONS

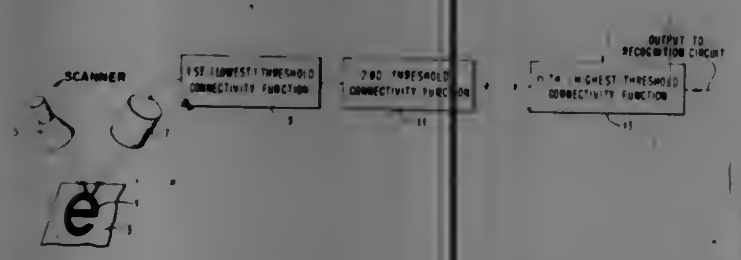
Herman H. Goldstine and Lawrence P. Horwitz, Chappaqua, and Glenmore L. Shelton, Jr., Carmel, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 19, 1961, Ser. No. 118,124
30 Claims. (Cl. 340—146.3)


2-ELEMENT COMBINATIONS (PAIRS)
3-ELEMENT COMBINATIONS (TRIPLES)
N-TUPLE GENERATOR
IDENTIFICATION CIRCUIT

1. A specimen identification apparatus, comprising in combination: means for generating a function of *n*th-order autocorrelation function of specimen data located throughout the specimen, where *n* is greater than one; and means for comparing the function with functions of reference patterns, to identfy the specimen.

3,196,398
PATTERN RECOGNITION PREPROCESSING TECHNIQUES

Herbert B. Baskin, Mohegan Lake, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 21, 1962, Ser. No. 196,061
9 Claims. (Cl. 340—146.3)


SCANNER
1ST (LOWEST) THRESHOLD CONNECTIVITY FUNCTION
2ND THRESHOLD CONNECTIVITY FUNCTION
nTH (HIGHEST) THRESHOLD CONNECTIVITY FUNCTION
OUTPUT TO RECOGNITION CIRCUIT

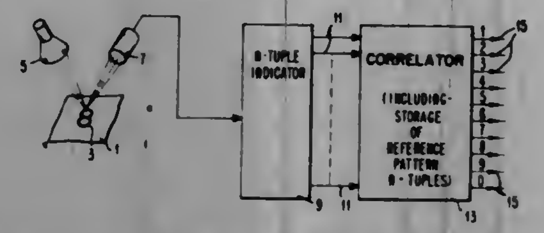
2. An apparatus for operating on the data elements of a multi-valued representation of an input pattern of at least two dimensions for providing a representation of an output pattern which differs from the input pattern by the elimination of some non-zero data elements which are not required for pattern continuity comprising, in combination:

a connectivity function circuit responsive to that portion of the input data which has values which do not exceed a predetermined threshold for providing an indication of those data elements in this portion which are necessary for the retention of pattern continuity;

and means responsive to the indications provided by the connectivity function circuit and that input data which is not included in said portion, for providing the representation of the output pattern.

3,196,399
SPECIMEN IDENTIFICATION TECHNIQUES EMPLOYING SELECTED FUNCTIONS OF AUTOCORRELATION FUNCTIONS

Louis A. Kamentsky, Briarcliff Manor, and Chao-Ning Liu, Yorktown Heights, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 1, 1962, Ser. No. 227,322
28 Claims. (Cl. 340—146.3)



1. An apparatus for identifying a specimen located in a document area comprising, in combination:

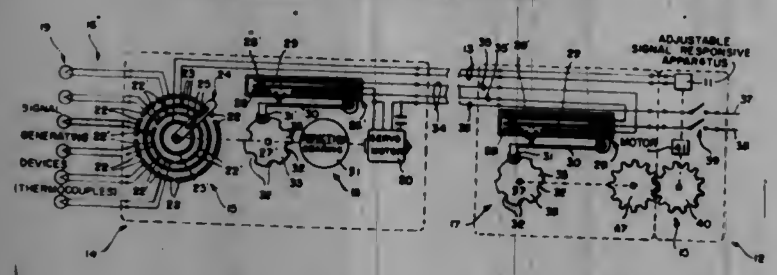
means for generating a multi-valued data representation of the document area, where each element of data corresponds to a predetermined location in the document and where the value of each element is determined by the relative intensity of the document at this location;

means for generating a function of a generalized *n*th order autocorrelation function of the multi-valued representation, where *n* is a positive integer, where each element of the generated function is a function of the existence in $n+1$ point combinations of data elements with predetermined data values, located throughout the document area, and where the generated function is dependent upon at least two values of data elements;

and means for analyzing the generated function to provide an indication of the identity of the specimen.

3,196,400
REMOTE CONTROL OF SELECTOR SWITCHES

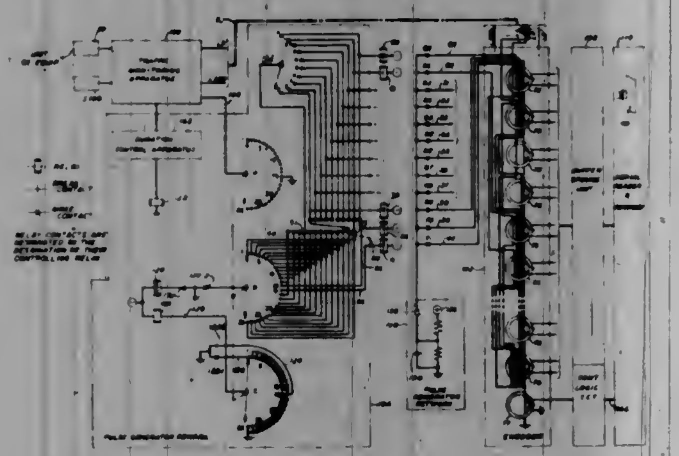
Robert H. Bennett, 8614 Walnut Drive, Munster, Ind.
Filed Jan. 15, 1962, Ser. No. 166,309
12 Claims. (Cl. 340—151)


SIGNAL GENERATING DEVICES (THERMOCOUPLES)
ADJUSTABLE SIGNAL RESPONSIVE APPARATUS
MOTOR

1. Control apparatus for successively connecting a plurality of remotely located circuits with a progressively adjustable instrumentality having associated movable adjusting means and located at a monitoring station, comprising a progressively operable rotary switch disposed at a switching station remote from said monitoring station, said switch having a plurality of circuit terminals for connection each with a corresponding one of said circuits and a turnable blade for electrical connection with said instrumentality, a pair of contactors respectively disposed at said switching and monitoring stations and each embodying a normally closed and a normally open switch and an associated switch actuating cam, a motor drivingly connected with the rotary switch and with the cam of the switching station contactor to drive the same in unison, to thereby shift the blade of the rotary switch into contact, successively, with its circuit terminals and to open and close the normally closed and open switches of the switching station contactor, while the blade of the rotary switch is in motion, means to turn the cam of the monitoring station contactor in unison with the adjusting movement of said instrumentality, to thereby open and close the normally closed and open switches of the monitoring station contactor, while the instrumentality is being adjusted, and means for connecting the normally closed switch of each contactor with the normally open switch of the other contactor and for connecting the motor with a source of motor energizing power, in series with said contactors.

3,196,401
DATA IDENTITY GENERATOR

William J. Lamneck, Jamaica, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 25, 1960, Ser. No. 17,648
14 Claims. (Cl. 340—172.5)

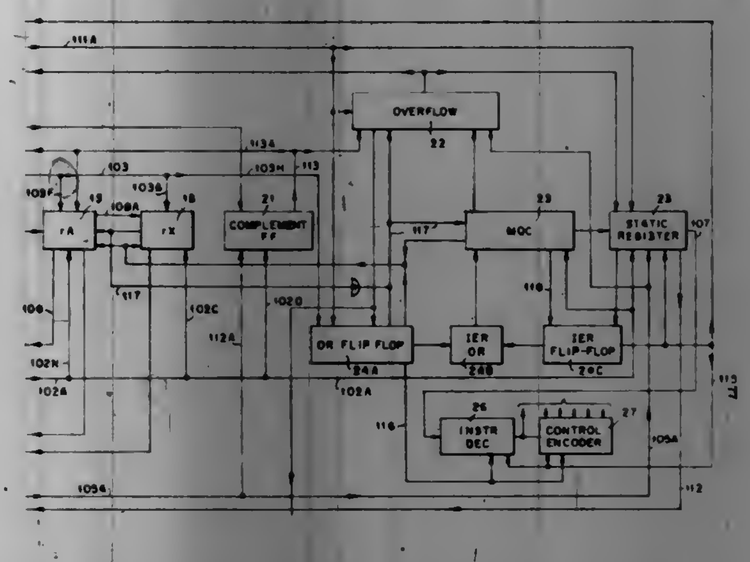


1. An apparatus for identifying data recorded on a storage medium comprising a reversibly operative generator means for providing bits of identity information with respect to said data, first means for operating said generator means to provide said bits of identity information in a first predetermined sequence, recorder means responsive to said generator means for recording said identity information provided therefrom, means operative upon a completed operation of said first means for accumulating and providing said data to said recorder means for recording said data on said storage medium, and second means operative upon a completed operation of said accumulating and operating means for operating said generator means to provide said bits of identity information in a second predetermined sequence, said first and said second predetermined sequences being reversed.

3,196,402
MAGNETIC COMPUTER

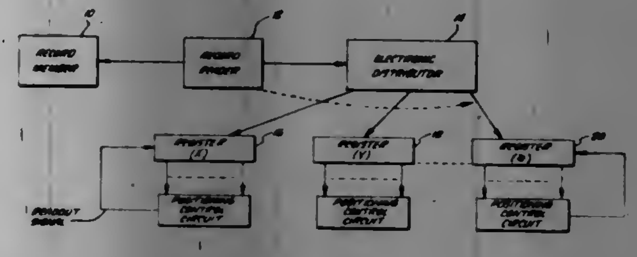
Arthur J. Gehring, Jr., Haddonfield, N.J., and Lloyd W. Stowe, Broomall, Pa., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 28, 1957, Ser. No. 649,160
34 Claims. (Cl. 340—172.5)

1. An electronic computer comprising: a multiple address memory in which both data and instruction signals may be stored, the instruction signals having a control portion for predetermining operations to be performed on data signals and an address portion for selecting predetermined data and instruction addresses from the memory, an address register coupled to said memory for storing the address portion of the instruction signals, control circuits coupled to said memory and said address register including a static register for storing the control portion of instruction signals derived from the memory, memory addressing means coupled to said memory and said address register for receiving an address from said address register and in response thereto selecting the contents of the memory location specified by said received address for transmission to a portion of said electronic computer, said control circuits further including switching means coupled to said address register operative in response to said static register being set to a predetermined condition to cause the address stored in said address register to be transferred to said memory addressing means to thereby search for an address in the memory as selected by the address register, and means coupled to the static register for setting said static register to said predetermined condition in response to the completion of the operation being momentarily performed by the computer.



3,196,403
ELECTRONIC SWITCH

Lawrence E. Ivins, Hawthorne, Calif., assignor, by mesne assignments, to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Filed Oct. 17, 1960, Ser. No. 62,986
11 Claims. (Cl. 340—172.5)



1. In a control system including a record member having rows of information marks arranged in preselected groups in a fixed order including a register identifying mark for each group recorded thereon, each register identifying mark being the same and recorded at the same location for each group of marks, means for sensing the record member and providing an electrical indication corresponding to each recorded mark upon the production of relative movement between said record member and said sensing means, means for continuously producing relative movement between said record member and said sensing means, a plurality of registers, one register for each group of information recorded on said member, and an electronic distributor connected to be responsive to the electrical indications corresponding to the information marks of each row and to directly distribute all of the information marks of a group as received from the sensing means only to the register corresponding to the register identifying mark for the group and to be switchably responsive to each register identifying mark for distributing the groups to the correct register in accordance with the fixed order of information groups.

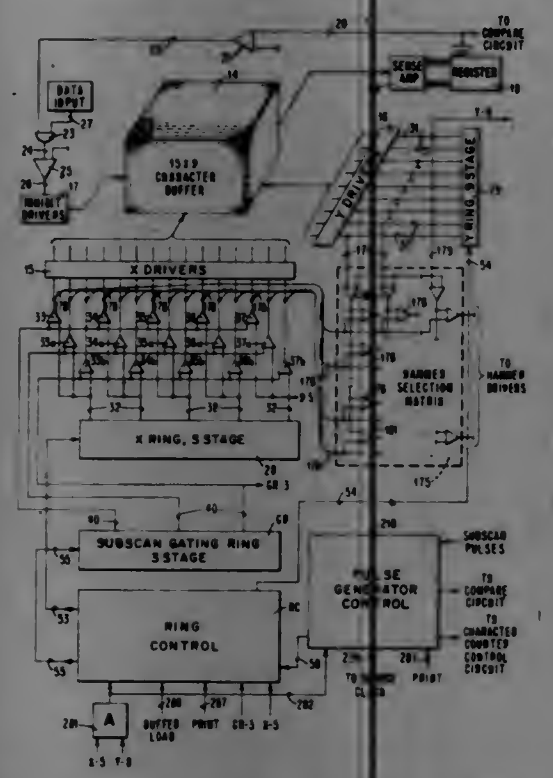
3,196,404

PRINTER BUFFER LOAD AND READ CONTROL MEANS

Robert Joseph Furlong and James Douglas Calvert, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed June 26, 1961, Ser. No. 119,588

6 Claims. (Cl. 340—172.5)



1. Buffer addressing means to control buffer loading and reading operations in different predetermined manners, with one of said operations being in a given-order sequence, and the other operation involving sequentially skipping N number of buffer positions in relation to said given-order sequence, said buffer addressing means comprising, a plurality of closed rings effectively connected in cascaded order to a clock source, at least one of said rings having a number of stages equal to said skipping number N, said rings being connected in one order for controlling loading of said buffer, and gate means for changing the cascaded order of said rings for reading said buffer.

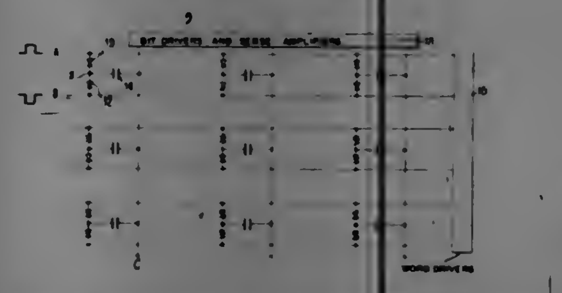
3,196,405

VARIABLE CAPACITANCE INFORMATION STORAGE SYSTEM

John B. Gunn, Yorktown Heights, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 18, 1961, Ser. No. 160,173

3 Claims. (Cl. 340—173)



1. A binary information storage matrix comprising a plurality of pairs of word drive lines and a plurality of bit drive lines, a plurality of storage elements connected between each bit drive line and each of said pairs of word drive lines, each said element comprising two variable capacitance semiconductor diodes connected in front to back relationship between the word drive lines and a capacitor connected between the junction between said two diodes and the bit drive line and means for coincidently applying two word and a bit pulse to said elements to write into said matrix and means for coincidently pulsing the word lines only to read out of said matrix the pulses applied to said word drive lines being insufficient to cause said semiconductor diodes to conduct.

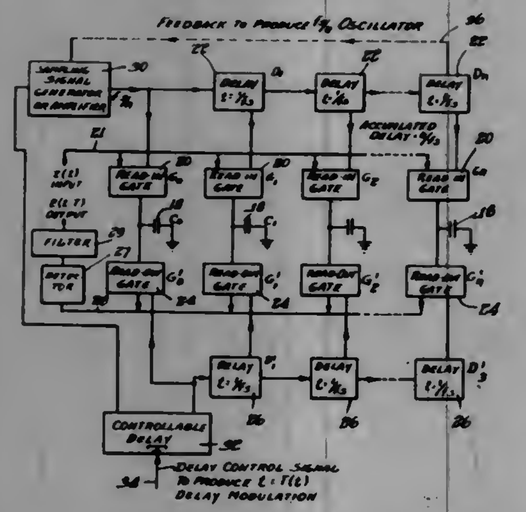
3,196,406

ELECTRONIC DELAY LINE

Alvan Donald Arsem, Buffalo, N.Y., assignor to The Wurlitzer Company, Chicago, Ill., a corporation of Ohio

Filed Sept. 26, 1962, Ser. No. 226,368

10 Claims. (Cl. 340—173)


FEEDBACK TO PRODUCE 1/T0 OSCILLATOR
SAMPLING SIGNAL GENERATOR OR AMPLIFIER
DELAY
ACCUMULATED DELAY
READ-IN GATE
READ-OUT GATE
FILTER
CONTROLLABLE DELAY
DELAY CONTROL SIGNAL TO PRODUCE t=T(t) DELAY MODULATION

1. An electronic delay line comprising input means for receiving an electric signal to be delayed, a plurality of read-in gates respectively connected to said input means, a plurality of voltage storage devices respectively connected to said read-in gates, a plurality of read-out gates respectively connected to said voltage storage devices, output means connected to said read-out gates, timing generator means, a series of read-in time-delay pulse-producing means connected to said timing generator means, means respectively connecting said time-delay pulse-producing means to said read-in gates momentarily to open said read-in gates in predetermined time sequence, each read-in gate being opened thereby irrespective of the condition of any other read-in gate, and a series of read-out time-delay pulse-producing means connected to said timing generator means for producing a sequence of pulses delayed in time relative to the first mentioned pulses but otherwise in the same sequence, said series of read-out time-delay pulse-producing means respectively being connected to said read-out gates for momentarily opening each of said read-out gates in the same time sequence, but delayed in time, irrespective of the condition of any other read-out gate.

3,196,407

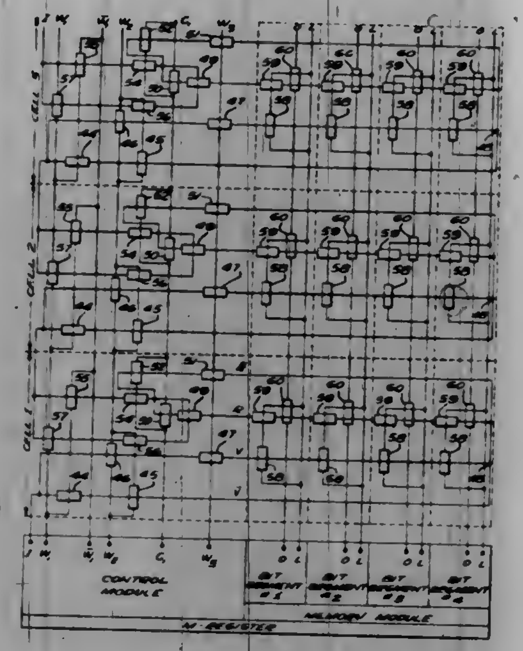
SUPERCONDUCTIVE ASSOCIATIVE MEMORY SYSTEM

Paul M. Davies, Manhattan Beach, Calif., assignor, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio

Filed May 15, 1961, Ser. No. 110,098

4 Claims. (Cl. 340—173.1)

1. A superconductive memory system comprising a plurality of superconductive memory cells, a plurality of circulating current persistor circuits in each memory cell for storing bits of information comprising a complete record, transmitting means interconnecting corresponding individual persistor circuits of each memory cell whereby bit information is simultaneously transmitted to each memory cell, said transmitting means adapted to transmit key bits of information on selected bit positions only, said key bits of information uniquely identifying only a single complete stored record, a superconductive comparing means located in each bit position of every memory cell for comparing said stored bit of information with said key bit of information, each memory cell comprising a superconductive selecting means responsive to a true comparison in all key bit positions as indicated by a series superconductive line in all key bit positions, and superconductive means in each memory cell responsive to a true comparison as indicated by said selecting means for indicating the stored bits of information.



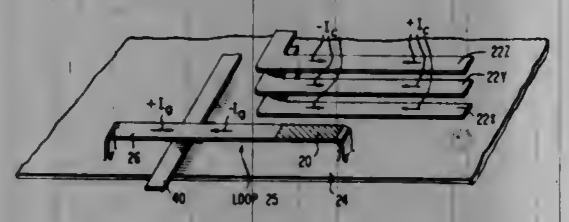
3,196,408

SUPERCONDUCTIVE STORAGE CIRCUITS

Andrew E. Brennemann and Norman H. Meyers, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed May 24, 1961, Ser. No. 112,373

3 Claims. (Cl. 340—173.1)



1. A superconductive storage device maintained at a superconducting temperature comprising first, second, third and fourth planar superconductive conductors laid down one above the other and extending in parallel spaced relationship to each other over at least a portion of their length,

each of said conductors having a width appreciably greater than its thickness,

said first and second conductors being connected together to form a closed loop of superconductive material having an axis parallel to the width dimension of said conductors,

means for selectively energizing said third and fourth conductors to establish a persistent current in said loop and to interrogate the persistent current state of said loop,

and a superconducive gate conductor positioned through said loop formed by said first and second conductors and responsive to the flux threading a portion of said loop,

said gate conductor being superconducting when such persistent current is stored in said loop,

said third and fourth conductors being effective when energized to interrogate said loop to increase the current in said loop and thereby the flux in the portion of said loop through which said gate is positioned so as to cause said gate to be driven from a superconducting to a normal state,

said loop remaining entirely superconductive when said third and fourth conductors are energized, resulting in a non-destructive interrogation of said loop.

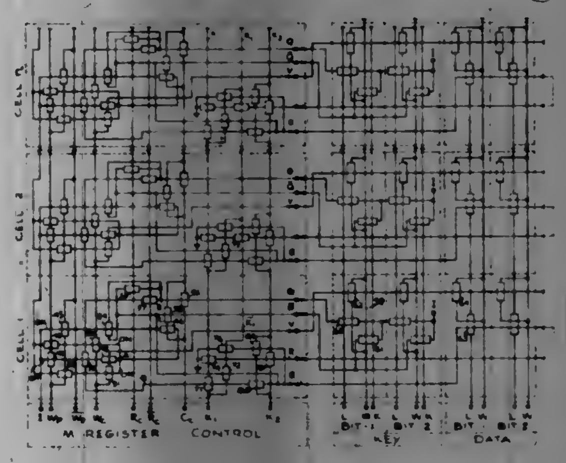
3,196,409

SEQUENTIAL RETRIEVAL CONTROL FOR A SELF-SEARCHING MEMORY

Paul M. Davies, Manhattan Beach, Calif., assignor, by mesne assignments, to Thompson Ramo Wooldridge Inc., Redondo Beach, Calif., a corporation of Delaware

Filed Nov. 9, 1961, Ser. No. 151,326

6 Claims. (Cl. 340—173.1)



1. A superconductive control circuit for an information storage system comprising a plurality of information storage devices arranged by groups, means for storing information in selected groups of said devices, means for generating a comparison signal in those groups of storage devices containing information corresponding to a particular identification key, means for applying said signal to corresponding information storage devices in a particular sequence including a plurality of superconductive devices arranged to direct a comparison signal to the corresponding information storage devices only if the stored information of the preceding storage devices in said sequence has been read out, means for diverting said comparison signal from the corresponding storage devices following the readout of information therefrom, and a pair of superconductive devices interconnected to provide a readout termination signal following the completion of the readout sequence.

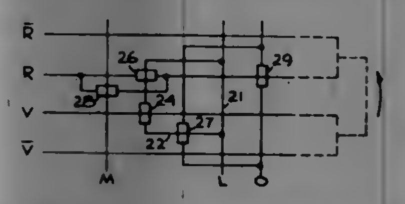
3,196,410

SELF-SEARCHING MEMORY UTILIZING IMPROVED MEMORY ELEMENTS

Paul M. Davies, Manhattan Beach, Calif., assignor, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio

Filed Jan. 2, 1962, Ser. No. 163,603

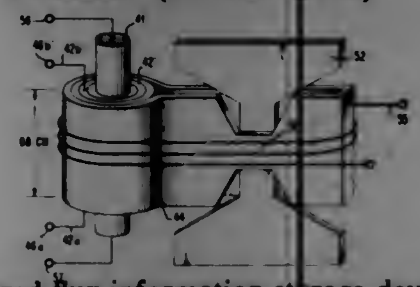
3 Claims. (Cl. 340—173.1)



3. A memory cell comprising a plurality of superconductive devices arranged to effect the storage of binary coded information in the form of the presence or absence

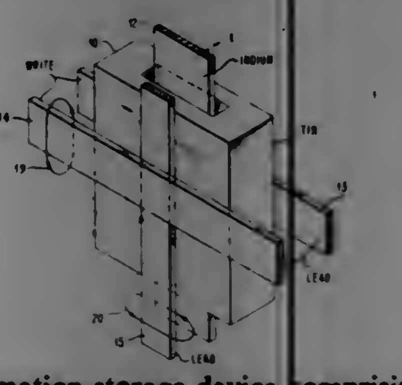
of a circulating current and to provide a comparison between the stored information state and identification key signals applied thereto comprising a gated persistor loop, each of the devices having a gating element and a control element, means for storing a circulating current in said loop, a first device having a control element in series with said loop for preventing the selection of a particular circuit in the event of a mismatch between applied identification key signals and a stored information state, a second device responsive to selectively applied comparison control signals and connected in parallel with said first device for bypassing current from said first device only in the event that comparison control signals are masked from said circuit, and means for reading out the state of stored information in said persistor loop comprising a third device having a control element in series with said loop for providing a particular output indication in the event of a stored circulating current in said loop.

3,196,411
QUANTIZED FLUX CRYOGENIC DEVICE
Lawrence P. Horwitz, Chappaqua, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 30, 1962, Ser. No. 213,279
4 Claims. (Cl. 340—173.1)



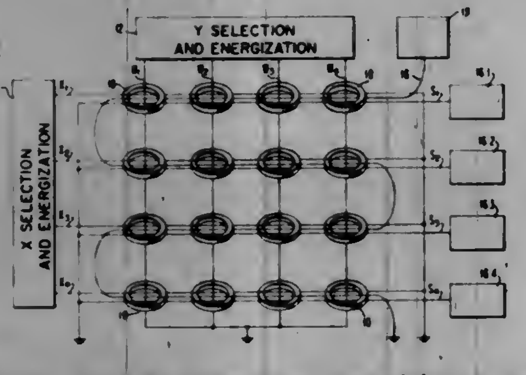
1. A quantized flux information storage device wherein said information is stored as quanta of said flux comprising,
- a thin walled cylinder made of a material having superconductive and resistive states,
- means for storing flux quanta in said cylinder,
- means for selectively releasing flux from said cylinder, one quantum at a time,
- means for sensing the release of each quantum of flux to identify said stored information.

3,196,412
QUANTIZED FLUX CRYOGENIC DEVICE
Richard A. Connell, Mount Kisco, Lawrence P. Horwitz and Daniel J. Quinn, Chappaqua, and Donald P. Seraphim, Bedford Hills, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Oct. 5, 1962, Ser. No. 228,584
15 Claims. (Cl. 340—173.1)



1. An information storage device comprising,
- a cylinder made of material having a superconductive state and a resistive state,
- means for storing a selected number of quanta of flux in said cylinder, a core positioned inside said cylinder, said core having a superconductive state and a resistive state,
- means for electrically insulating said core from said cylinder for obtaining a critical current of said core which is dependent upon the number of flux quanta stored in said cylinder,
- means for passing current through said core to determine the amount of current required to make said core resistive,
- a current source for generating an increasing current output, and
- first and second current paths connected to said current source for obtaining nondestructive read of said number of flux quanta, said first current path including said core, said second current path having a higher inductance than said first current path,
- whereby the current in said first current path increases rapidly and the current in said second current path increases slowly until the current in said first path reaches the critical current of said core and thereafter the current in said first path remains substantially constant and the current in said second current path increases rapidly.

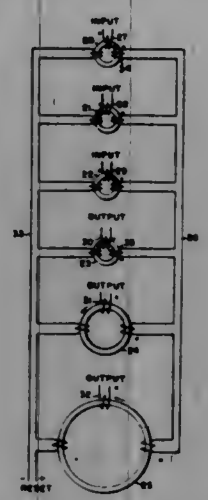
3,196,413
NON-DESTRUCTIVE MAGNETIC MEMORY
Michael Teig, Yonkers, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 19, 1960, Ser. No. 76,807
15 Claims. (Cl. 340—174)



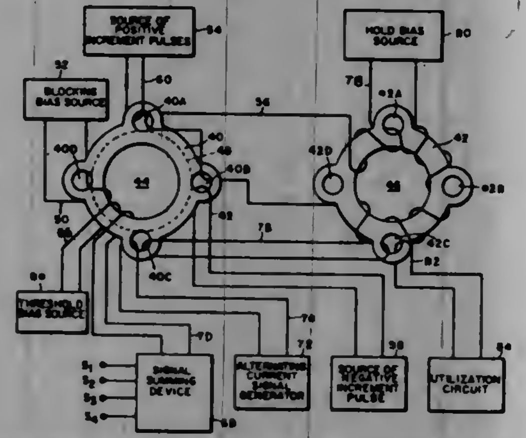
4. A binary storage apparatus comprising a magnetic core made of material exhibiting a family of static rectangular hysteresis loops and a given turnover field strength, said family of loops defining an outer major loop and a plurality of inner minor loops each exhibiting respective static switching thresholds, input means coupling said core for establishing said core in either a datum or an opposite stable state on said major loop to represent said binary information, and means for non-destructively reading out the state of said core comprising, means including said input means for applying an interrogation field to said core tending to saturate said core in the opposite state having a magnitude in excess of the static threshold of the major loop but a field strength insufficient to overcome the turnover field strength of said core, and means for applying a bias field to said core tending to saturate said core in the datum state having a magnitude in excess of the static threshold of a predetermined one of said minor loops but less than the static threshold of said major loop.

3,196,414
MAGNETIC CORE LOGIC CIRCUITS EMPLOYING COUPLED SINGLE PATH CORE STRUCTURES
Edward P. Stabler, North Syracuse, N.Y., assignor to General Electric Company, a corporation of New York
Filed Mar. 2, 1960, Ser. No. 12,335
2 Claims. (Cl. 340—174)

1. A signal translating device comprising a first and second plurality of single closed path magnetic structures serially interconnected by a short circuited loop, means for orienting the flux in each of said first plurality of structures in one direction and for orienting the flux in each of said second plurality of structures in an opposite direction, information means coupled to said first plurality of structures applying an input signal thereto for selectively switching the flux in said first plurality of structures and thereby generating a current in said short circuited loop having a magnitude that is a function of said input signal, said second plurality of structures having a construction of discretely different magnitude coercive force requirements for reversing the flux therein in response to flux changes within said first plurality of structures, whereby application of said input signal providing a flux change in at least one of said first plurality of structures produces a flux change in a corresponding number of said second plurality of structures, and output means coupled to said second plurality of structures for providing a response indicative of said input signal.

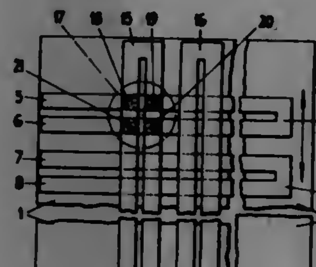


3,196,415
MAGNETIC-CORE LOGIC AND STORAGE DEVICE
Alfred E. Brain, Menlo Park, Calif., assignor to Stanford Research Institute, Palo Alto, Calif., a corporation of California
Filed Jan. 30, 1961, Ser. No. 85,887
5 Claims. (Cl. 340—174)


SOURCE OF POSITIVE INCREMENT PULSES
HOLD BIAS SOURCE
BLOCKING BIAS SOURCE
THRESHOLD BIAS SOURCE
SIGNAL SUMMING DEVICE
ALTERNATING CURRENT SIGNAL GENERATOR
SOURCE OF NEGATIVE INCREMENT PULSE
UTILIZATION CIRCUIT

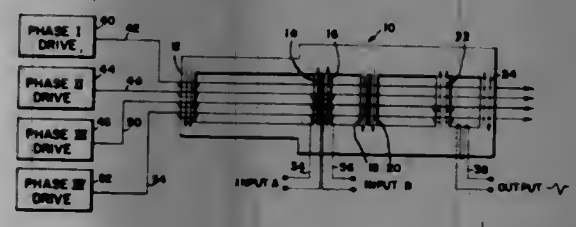
1. A magnetic core logic circuit comprising a normally blocked magnetic core gate means, a magnetic core analog storage means, means for applying signals to be stored in said magnetic core analog storage means to said normally blocked magnetic core gate means, means for applying an unblocking signal to said normally blocked magnetic core gate means, means coupling said normally blocked magnetic core gate means to said magnetic core analog storage means for storing said signals to be stored in said magnetic core analog storage means when said normally blocked magnetic core gate means is unblocked, means for applying alternating-current signals to said normally blocked magnetic core gate means, and means coupling said normally blocked magnetic core gate means and said magnetic core analog storage means for deriving an output signal indicative of the state of storage from said magnetic core analog storage means responsive to said alternate-current signals when said magnetic core gate means is unblocked.

3,196,416
DATA STORES
Michael Williams, Watford, England, assignor to The General Electric Company Limited, London, England
Filed June 20, 1961, Ser. No. 118,397
Claims priority, application Great Britain, June 28, 1960, 22,612/60
6 Claims. (Cl. 340—174)



1. A data store matrix panel in which, in operation, stored data is represented by the directions of magnetization of a plurality of storage elements incorporated in the film of a magnetic thin film device, said matrix panel incorporating two sets of drive conductors, each conductor of each set crossing the conductors of the other set in such a manner that, at each crossing point, the axis of one of the conductors associated with the crossing point is at least approximately parallel to the easy axis of the film while the axis of the other conductor associated with the crossing point is at least approximately perpendicular to the easy axis of the film, each part of the film adjacent the crossing point effectively forming a storage element, and each drive conductor of at least one set including two generally parallel adjacent portions which are disposed on the same side of the film and which are connected together in series in such a manner that, in operation, a current pulse passed through the drive conductor passes in one sense through one of the portions and in the opposite sense through the other of the portions.

3,196,417
MAGNETIC CIRCUITS
John T. Franks, Jr., Akron, Ohio, assignor to Goodyear Aerospace Corporation, a corporation of Delaware
Filed Dec. 21, 1961, Ser. No. 161,042
9 Claims. (Cl. 340—174)



9. In a magnetic circuit,
- a multi-aperture core of magnetic material having two stable magnetic states, said core including a pair of parallel side rails, seven separate parallel legs secured to each side rail, the cross-sectional area of the second, third, fourth, and fifth legs respectively being substantially about one-half the cross-sectional area of the first leg, the cross-sectional area of the first,

sixth and seventh leg being substantially equal, the cross-sectional area of each side rail between the first and second leg being substantially equal to the cross-sectional area of the first leg, said area of each side rail between the second leg and seventh leg being substantially about two times the cross-sectional area of the first leg, the lateral distance between the first and second leg being substantially about four times the lateral distance between the second and fourth leg, the second and third legs and the fourth and fifth legs respectively being separated by a relatively narrow slit, and the lateral distance between the fifth and sixth leg being greater than the lateral distance between the third and fourth leg,

input means coupled to the second and third legs to provide the circuit with information by switching the flux pattern therein,

a first drive means coupled to the first leg for aiding the switching of the flux pattern in said first leg,

a second drive means coupled to the second leg for switching the flux pattern in said second leg,

a third drive means coupled to the first, second, third and sixth leg for switching the flux pattern in the sixth leg around the seventh leg,

a fourth drive means for switching the flux patterns of the respective legs back to their initial positions,

bias means coupled with the first and fourth and fifth legs for selectively preventing the switching of the flux patterns therein thereby preventing reverse flow of the information, and

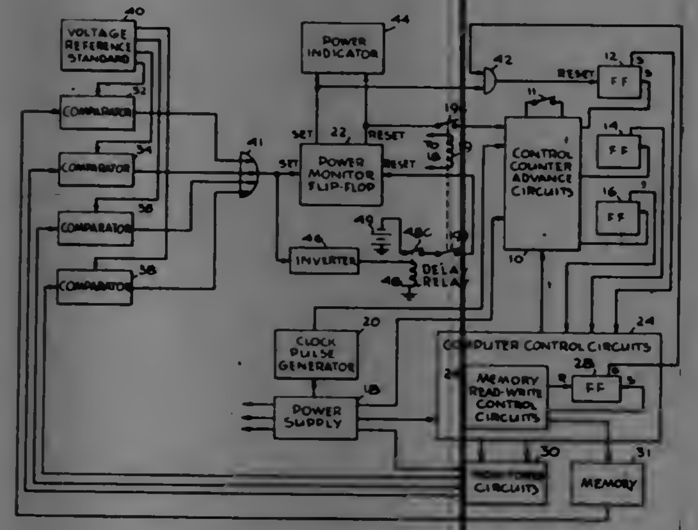
means coupled to the seventh leg to sense switching of the flux pattern in the sixth leg around the seventh leg.

3,196,418
MONITORING SYSTEM

Edward J. Schneberger and Milton G. Bienhoff, Canoga Park, Calif., assignors, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed Feb. 13, 1963, Ser. No. 258,280

5 Claims. (Cl. 340—174)



5. In a computer of the type having a memory with apparatus for writing into and reading from said memory, and having a power supply for providing operating voltages to said computer, the improvement comprising:

a voltage reference standard, means for comparing said operating voltages with said voltage standard and for providing an output signal indicative of a deviation therefrom greater than a predetermined deviation;

a flip-flop capable of assuming either a set or reset state; means responsive to said output signal for causing said flip-flop to assume said set state;

an AND gate having first and second inputs and an output;

means for providing a signal indicative of a memory write operation;

means for applying the set output of said flip-flop to said first AND gate input and the signal representative of said write operation to said second AND gate input;

means responsive to the output from said AND gate for preventing further operation of said computer; and

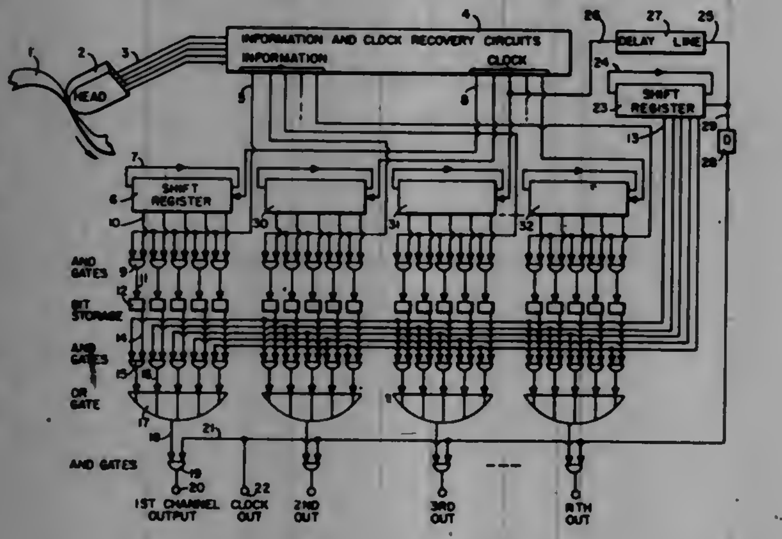
means responsive to a deviation of said operating voltages from said voltage standard of less than said predetermined deviation for resetting said flip-flop after the predetermined time interval.

3,196,419
PARALLEL DATA SKEW CORRECTION SYSTEM

Andrew Gabor, Port Washington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York

Filed Feb. 24, 1961, Ser. No. 91,441

6 Claims. (Cl. 340—174.1)



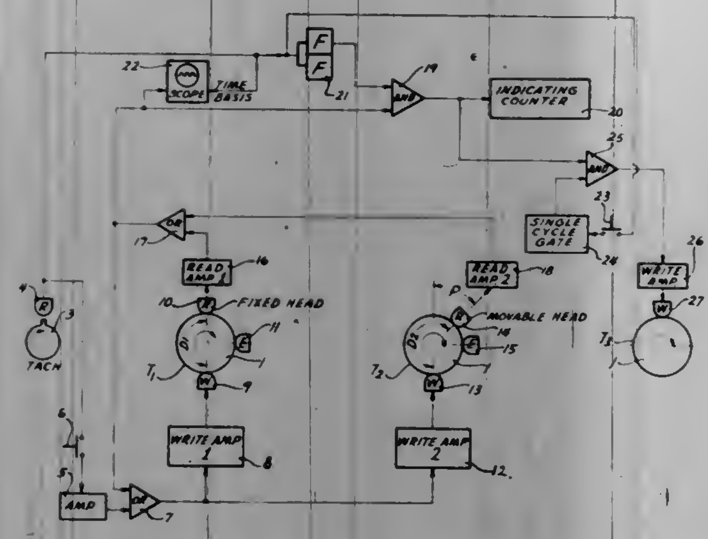
3. In a system for reproducing multi-channel parallel bit information signals form self-clocking signals received in skewed array, the combination of, means for deriving separate clock and information signals from skewed parallel bit self-clocking signals, a plurality of bit storage devices in number equal to the number of bits in one of said parallel signals times a predetermined integer, an "and" gate for each of said storage devices coupled to said information signal deriving means, at least one shift register for each of said bits comprising a single parallel signal coupled to said "and" gates, circuits coupling said clock signal deriving means with said shift register to circulate a signal to actuate said "and" gates for directing information signal bits from said information signal deriving means to said storage devices, delay means for delaying one of said clock signals, additional "and" gates connected to said storage devices, an additional shift register coupled to said delay means for providing a stepping signal, couplings between said additional shift register and said additional "and" gates to direct delayed stepping signals to the last said gates for feeding stored bits out of said storage means, "or" gates at least equal in number to the number of bits per parallel signal connected to said additional "and" gates, further "and" gates at least equal in number to the number of bits per parallel signal connected one each to said "or" gates, additional delay means coupled to the first said delay means for further delaying said clock signals, and coupling between said additional delay means and said further "and" gates for stepping out deskewed parallel bit signals.

3,196,420
CLOCK WRITER FOR MAGNETIC DATA STORAGE DEVICES

Alex C. Francois, Farmington, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan

Filed Jan. 29, 1962, Ser. No. 169,404

5 Claims. (Cl. 340—174.1)



4. Apparatus for generating and recording synchronization pulses on a track of a rotatable record medium, said apparatus comprising:

means generating one pulse per revolution of said record medium;

means utilizing one such pulse for building up a continuously regenerative closed loop of equally spaced pulses;

means manually adjusting the period of the pulses in said loop;

means counting and displaying the number of pulses available within one revolution of said record medium;

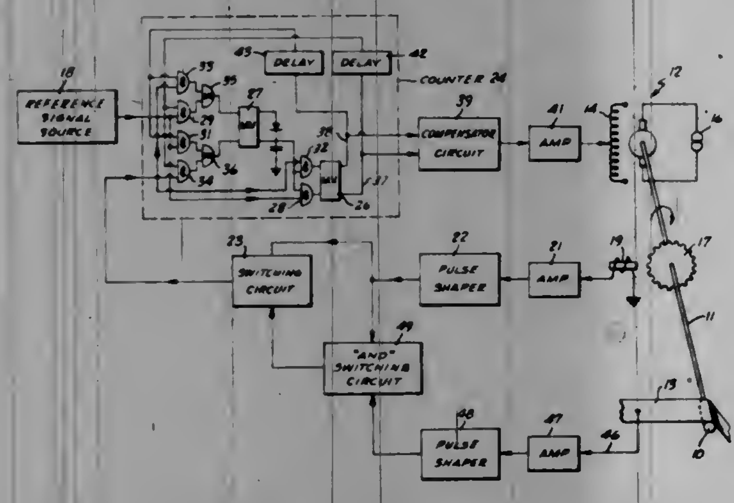
and controllable means triggered during one revolution of said record medium for transferring a continous train of pulses from said closed loop to a track on said record medium.

3,196,421
TAPE APPARATUS SPEED CONTROL

Alan G. Grace, Menlo Park, and George Meyer, San Francisco, Calif., assignors to Ampex Corporation, Redwood City, Calif., a corporation of California

Filed May 28, 1962, Ser. No. 198,290

6 Claims. (Cl. 340—174.1)



1. A servomechanism system for controlling the position of a moving medium capable of having information stored thereon comprising:

a capstan for advancing the medium;

means for rotating said capstan at a controlled rate;

means for monitoring the rate at which said capstan is rotated and for producing a plurality of output pulses corresponding thereto;

position control means for producing successive output pulses at a repetition rate corresponding to the rate at which the medium should be advanced;

pulse responsive means connected to the output of said monitoring means and said position control means for producing alternate first and second output signals respectively in response to alternately supplied signals from said monitoring means and said position control means, said pulse responsive means being also responsive to two successive pulses from said monitoring means for sustaining said first output signal until two successive pulses are supplied thereto by the position control means and responsive to two successive pulses from said position control means for sustaining said second output signal until two successive pulses are supplied thereto by the monitoring means;

means responsive to the output voltage of said pulse responsive means for adjusting the rate of rotation of said capstan so that the pulse phase from said monitoring means corresponds to the phase of the output pulse from said position control means;

means responsive to the presence of stored information on the moving medium for producing output pulses corresponding thereto; and

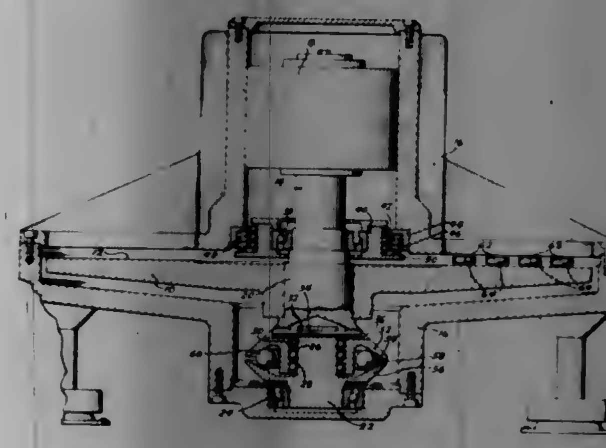
switch means connected to the output of said monitoring means and said information sensing means and responsive to the simultaneous production of output pulses therefrom for automatically supplying only the output pulses from said information sensing means to said pulse responsive means.

3,196,422
MAGNETIC DATA STORAGE DISC SYSTEM

George D. Cheney, Orchard Lake, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich.

Filed Oct. 18, 1962, Ser. No. 231,356

9 Claims. (Cl. 340—174.1)



1. A magnetic data storage apparatus comprising:

a stationary housing with a vertical axis;

radially fixed vertical shaft means rotatable relatively to said housing;

means driving said vertical shaft means;

a disc member disposed in said housing, said disc member having a magnetizable record surface on the upper face thereof;

means mounting said disc member in said housing for rotation by said shaft means and permitting limited longitudinal motion of said disc member relatively to said housing;

transducer means carried by said housing for scanning said magnetizable record surface;

and automatic means actuated by centrifugal force operatively connected to said disc member for elevatsixth and seventh leg being substantially equal, the cross-sectional area of each side rail between the first and second leg being substantially equal to the cross-sectional area of the first leg, said area of each side rail between the second leg and seventh leg being substantially about two times the cross-sectional area of the first leg, the lateral distance between the first and second leg being substantially about four times the lateral distance between the second and fourth leg, the second and third legs and the fourth and fifth legs respectively being separated by a relatively narrow slit, and the lateral distance between the fifth and sixth leg being greater than the lateral distance between the third and fourth leg,

input means coupled to the second and third legs to provide the circuit with information by switching the flux pattern therein,

a first drive means coupled to the first leg for aiding the switching of the flux pattern in said first leg,

a second drive means coupled to the second leg for switching the flux pattern in said second leg,

a third drive means coupled to the first, second, third and sixth leg for switching the flux pattern in the sixth leg around the seventh leg,

a fourth drive means for switching the flux patterns of the respective legs back to their initial positions,

bias means coupled with the first and fourth and fifth legs for selectively preventing the switching of the flux patterns therein thereby preventing reverse flow of the information, and

means coupled to the seventh leg to sense switching of the flux pattern in the sixth leg around the seventh leg.

3,196,418
MONITORING SYSTEM

Edward J. Schneberger and Milton G. Bienhoff, Canoga Park, Calif., assignors, by mesne assignments, to The Bunker-Ramo Corporation, Stamford, Conn., a corporation of Delaware

Filed Feb. 13, 1963, Ser. No. 258,280
5 Claims. (Cl. 340— 74)

an AND gate having first and second inputs and an output;

means for providing a signal indicative of a memory write operation;

means for applying the set output of said flip-flop to said first AND gate input and the signal representative of said write operation to said second AND gate input;

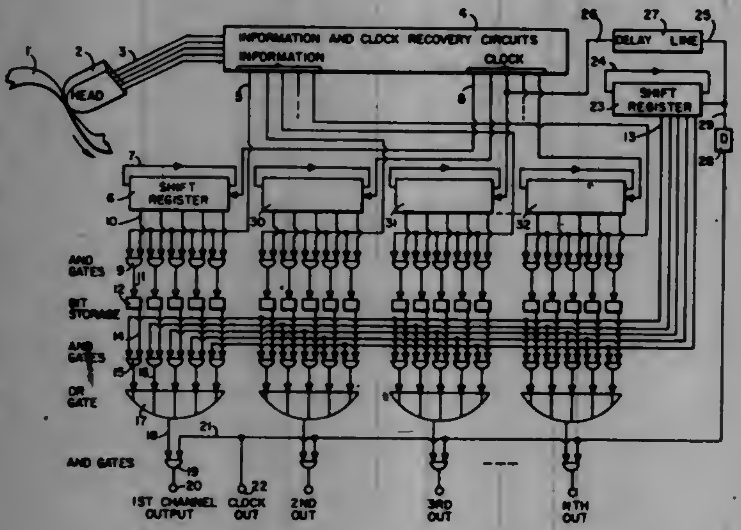
means responsive to the output from said AND gate for preventing further operation of said computer; and

means responsive to a deviation of said operating voltages from said voltage standard of less than said predetermined deviation for resetting said flip-flop after the predetermined time interval.

3,196,419
PARALLEL DATA SKEW CORRECTION SYSTEM

Andrew Gabor, Port Washington, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York

Filed Feb. 24, 1961, Ser. No. 91,441
6 Claims. (Cl. 340—174.1)

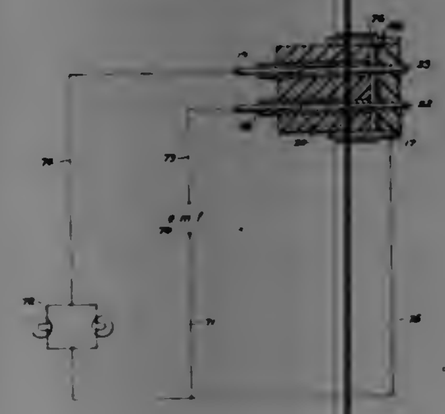


3. In a system for reproducing multi-channel parallel

ing said disc member from a first position where the magnetizable surface on the upper face thereof is substantially spaced from said transducer means to a second position where the magnetizable record surface is in close proximity to said transducer means.

3,196,423
ALARM CIRCUIT WITH FALSE WARNING PREVENTION

John E. Lindberg, Alamo, Calif.
(1211 Upper Happy Valley Road, Lafayette, Calif.)
Filed Apr. 30, 1964, Ser. No. 363,836
9 Claims. (Cl. 340—213)

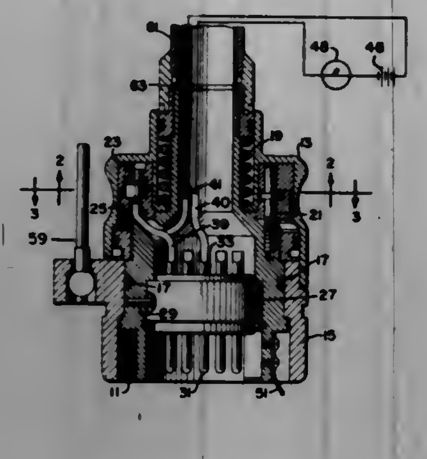


3. In an alarm circuit having
a normally open electrical switch having a pair of conductors connected to a first connector,
means for closing said switch under true-alarm conditions,
a source of direct-current electrical power having one side grounded and a second side,
an electrically actuated warning device, grounded on one side and having a second side,
a pair of insulated wires connected to a second connector, said first and second connectors being joined to each other by a plug-socket-connection to each other, one said wire being connected to said second side of said source and the other said wire being connected to the second side of said warning device,
the combination therewith of:
an electrically grounded conductive electrode interposed in said plug-socket-connection between said two connectors and spaced from the conductors thereof and providing a web in between and spaced from said connectors, so that should electrolyte be present in said plug-socket-connection, said plate passes to ground such current as flows through said electrolyte rather than causing a short circuit between the pair of wires.

3,196,424
CABLE CONNECTOR WITH MONITORED LOCKING FEATURE

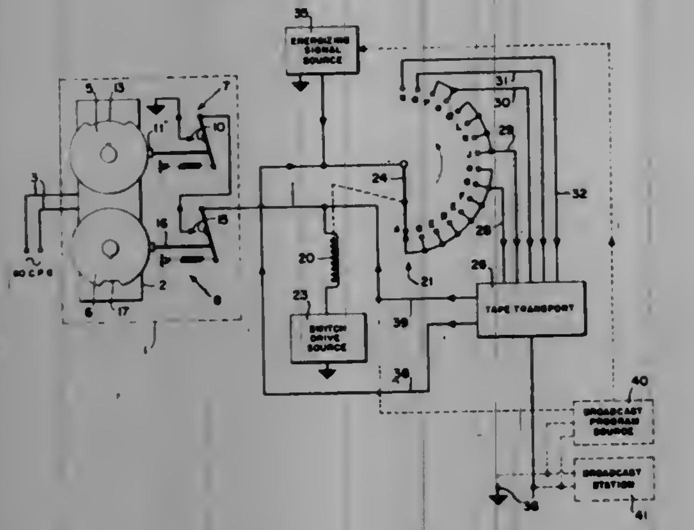
Thomas K. C. Hardesty, Ednor, and Eugene Willis, Hyattsville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Sept. 30, 1963, Ser. No. 312,801
9 Claims. (Cl. 340—280)
(Granted under Title 35, U.S. Code (1952), sec. 266)

9. In an electrical cable coupling for connecting a plurality of electrical conductors, a monitored locking system comprising a first connector having a locking means for locking said first connector with a second connector whereby a plurality of electrical circuits may be completed, an indicator light remotely located from said coupling, a source of voltage, switch means positioned within said first connector operable by said locking means, and circuit means serially interconnecting said source of voltage, said light, and said switch means, said switch means being normally open and said switch means being closed when said first connector is engaged with and locked to said second connector thereby completing said series circuit and lighting said indicator light.



3,196,425
ELECTRICAL APPARATUS

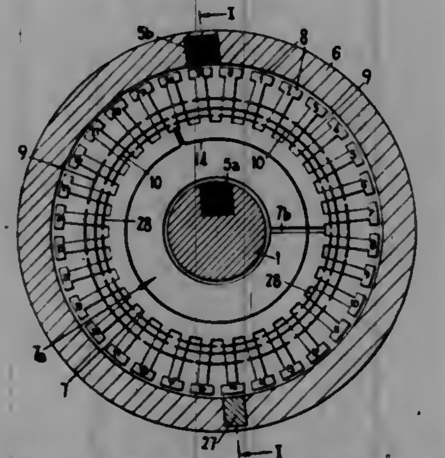
Paul H. Eason, Laurel, Md., assignor to Honeywell Inc., a corporation of Delaware
Filed June 8, 1961, Ser. No. 115,715
5 Claims. (Cl. 340—309.1)



1. A schedule interval control device comprising a signal generator for producing a group of sequential driving signals near the end of said schedule interval, a signal distributing means having an input line and a plurality of output lines for sequentially connecting said input line to each of said plurality of output lines, said signal distributing means being sequentially driven by said signals from said signal generator, a source of an energizing signal representative of an error in said schedule interval, means connecting said energizing signal to said input line of said distributing means for sequential distribution along said output lines, means connected to said output lines and responsive to said energizing signal to selectively produce a plurality of output signals, each of said output signals having a predetermined time duration and corresponding to the application of said energizing signal along one of said output lines, and means responsive to a termination of said output signals for resetting said signal distributing means to an initial state.

3,196,426
ELECTRICAL CODING ARRANGEMENTS OF THE KIND FOR PROVIDING AN OUTPUT THAT IS REPRESENTATIVE, ACCORDING TO A DIGITAL CODE, OF THE MAGNITUDE OF AN INPUT VARIABLE

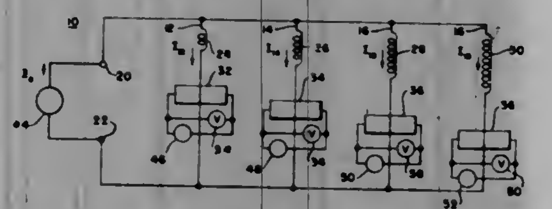
Robert Hylton Kirkness, Bushey, and Cecil John Wayman, Stanmore, England, assignors to The General Electric Company Limited, London, England
Filed Jan. 26, 1960, Ser. No. 4,768
Claims priority, application Great Britain, Jan. 30, 1959, 3,517/59
8 Claims. (Cl. 340—347)



1. An electrical coding arrangement comprising: a primary winding for excitation by an electric signal having an amplitude that varies with time; a multiplicity of ferromagnetic poles; first and second secondary windings that are each wound to embrace the poles in pairs and to embrace the poles of consecutive pairs in opposite senses, the pairings of the poles for said first and second secondary windings being different; a ferromagnetic coupling member that is mounted for movement from one to another of the poles to enhance the inductive coupling between the primary winding and the secondary windings at those poles in turn; and means responsive to signals induced in said first and second secondary windings respectively to supply an output signal which has an amplitude that is dependent upon whichever of the two induced signals has the larger amplitude.

3,196,427
SUPERCONDUCTIVE ANALOG TO DIGITAL CONVERTER

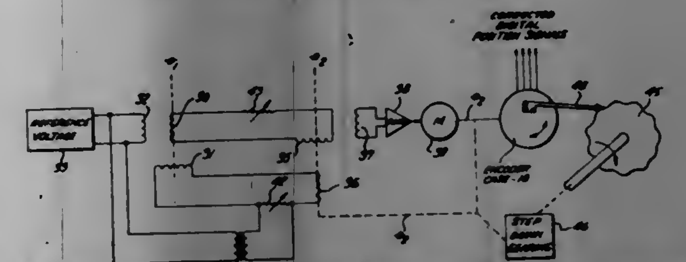
Horace T. Mann, Palos Verdes Estates, and David G. Fladlien, Los Angeles, Calif., assignors, by mesne assignments, to Thompson Ramo Wooldridge Inc., Cleveland, Ohio, a corporation of Ohio
Filed Nov. 14, 1960, Ser. No. 68,889
11 Claims. (Cl. 340—347)



1. A superconductive circuit arrangement comprising: a plurality of superconductive paths connected in a parallel electrical circuit across a pair of input terminals, a plurality of superconductive gate elements each magnetically and non-conductively coupled to a respective one of said superconductive paths, each of said gate elements being normally superconductive in the absence of analog input current applied to said input terminals, each of said superconductive paths including a weighted inductance for limiting the current flowing therein to a value that is related to the critical magnetic field of the respective gate element in such a way that different ones of said gate elements are caused to go resistive at different discrete levels of analog input current applied to said terminals.

3,196,428
ANALOG-TO-DIGITAL CONVERTER

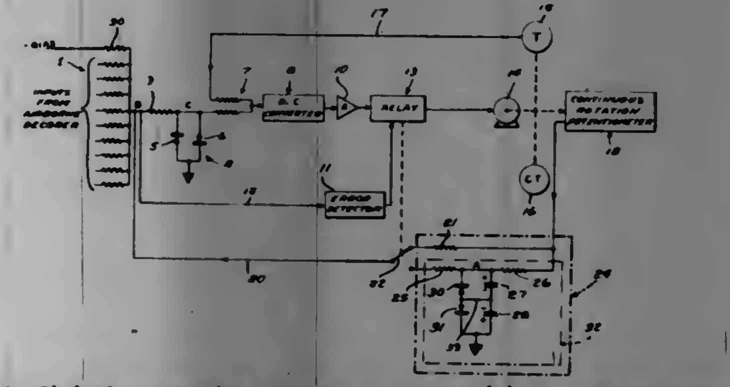
Carl P. Spaulding, San Marino, and Richard J. Bazard, West Covina, Calif., assignors to Datex Corporation, Monrovia, Calif., a corporation of California
Filed Nov. 14, 1960, Ser. No. 69,202
10 Claims. (Cl. 340—347)



1. An arrangement for digitally encoding the positions of a movable member comprising an encoder having an element with a plurality of binary coded segments thereon to define a plurality of discrete encoding positions and means for sensing the coded segments and providing a plurality of binary coded electrical signals representative of the positions of a member to be digitized upon the production of relative movement between said encoding elements, means for producing relative movement between said element and said sensing means, electrical gearing coupled to a movable member to be digitized and movable therewith to provide an electrical output signal representative of the position of the movable member, said electrical output signals including predetermined error signals inherent in the operation of the gearing, means coupled to said encoder for providing an electrical indication of the relative positions of said encoding elements, comparison means responsive to said gearing and the electrical indication of the relative positions of said encoding elements for deriving an error signal indicative of the difference in position therebetween and connected to said means for producing relative movement between said encoding elements for driving said encoder in unison with said movable member, and means coupled to said encoder for compensating for the predetermined inherent errors of said gearing to provide the correct digital indication of the position of the movable member therefrom.

3,196,429
DIGITAL TO ANALOG CONTINUOUS ROTATION SERVO

Robert D. Gross, New York, and George Garbarini, Flushing, N.Y., assignors to Sperry Rand Corporation, Ford Instrument Company Division, Wilmington, Del., a corporation of Delaware
Filed Feb. 21, 1961, Ser. No. 90,679
1 Claim. (Cl. 340—347)

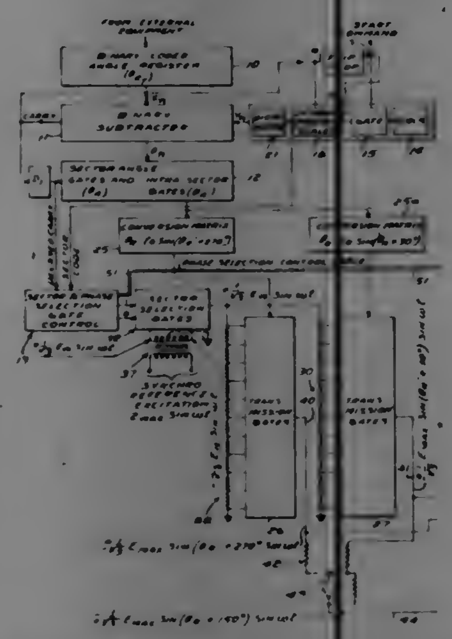


A digital to analog converter comprising a servo network, said servo network including an adding network, a polarity determining relay and servo motor connected in series, an error detector, the input side of said servo network being connected to one side of the detector the other side of which is connected to said relay, a continuous rotation potentiometer connected to the output of said servo motor, a switch mechanically connected to said relay for actuation thereby, a feed back line connected between said switch and the input of said servo network, an integrating network having one side thereof connected to the output side of said potentiometer, said switch being operative to selectively connect said feed back line directly to the output side of said potentiometer or to the other side of said integrating network in accordance with the state of said polarity determining relay as controlled by said error detector, whereby the output of said potentiometer is fed directly back to the input of said servo network or back through said integrating network.

3,196,430
ELECTRONIC DIGITAL TO SYNCHRO CONVERTER

Stanley Oken, Plainview, Seymour Rook, Bayside, and Irwin Munt, Bronx, N.Y., and Richard Rabin, Fairfield, Conn., assignors to Sperry Rand Corporation, Ford Instrument Company Division, Wilmington, Del., a corporation of Delaware

Filed Mar. 21, 1961, Ser. No. 97,224
2 Claims. (Cl. 340—347)

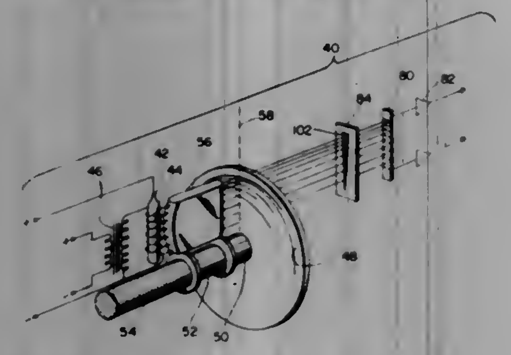


1. An electronic digital to synchro converter comprising a digital register, a subtractor for generating a binary output representing intra-sector angles, said subtracter being connected to receive digital angle data from said register, means for introducing in said register a second set of clock controlled digital angle data for comparison with the data received from the register whereby said subtracter is enabled to generate difference signals representing intra-sector angles, said introducing means being adapted to yield an output representing sector angle, sector angle and intra-sector angle gates disposed to receive the separated sector angle and intra-sector angle data, a pair of conversion matrices connected to said gates to receive the intra-sector angle output, a pair of voltage dividers, transmission gates controlled by said matrices and connected to the output of said voltage dividers, sector selection gates connected to the input of said voltage dividers and energized by a synchro reference voltage, a sector and phase selection gate control connected to receive sector angle binary code signals from said introducing means for determining the polarity of the output of said sector selection gates and the phase of the voltages in the output of said converter, a summing network connected to the output of said transmission gates, and a plurality of synchro voltage output gates connected to said transmission gates and said summing network, the phase relation of the voltages in said output gates being controlled by said sector and phase selection gate control.

3,196,431
ENCODING APPARATUS

Roger G. Papelian, Milford, Mass., assignor to Computer Control Company, Inc., Framingham, Mass., a corporation of Delaware

Filed Nov. 21, 1962, Ser. No. 239,185
7 Claims. (Cl. 340—347)

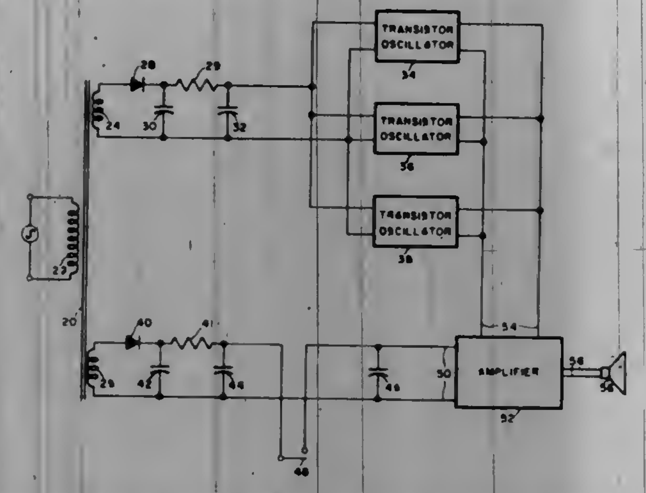


1. Optical encoding apparatus comprising:
a radiation source;
means responsive to radiation from said source;
a code delement rotatably mounted for selectively directing said radiation so as to actuate discrete portions of said radiation-responsive means in accordance with the angular position of said element;
said element having a plurality of concentric annular tracks thereon;
each track being divided into a respective plurality of alternating first signal-controlling and other signal-controlling segments according to a function expressed as a predetermined digital code;
at least one track of radius greater than the track of least radius being divided into segments corresponding to the most significant digits of said code;
at least a track of lesser radius than said one track of greater radius being divided into segments corresponding to lesser significant digits of said code;
each of said tracks having a radial dimension predetermined inversely according to the mean radius; and
means positioned between said element and said radiation-responsive means, for limiting radiation transmitted through selected segments of each track to respective ones of said discrete portions and coacting with each of said selected segments for providing to each of said respective portions a radiation quantity above a predetermined magnitude and for providing a transition slope above a predetermined minimum.

3,196,432
TRANSISTORIZED DOOR ANNUNCIATOR UTILIZING CAPACITOR DISCHARGE

Winston E. Kock, Ann Arbor, Mich.
(980 Hale St., Beverly, Mass.)
Filed Sept. 1, 1960, Ser. No. 53,395
1 Claim. (Cl. 340—384)

An electronic annunciator for buildings of the type wherein a notice is given to the interior of the building of persons exterior of the building, comprising switch means for causing annunciation when closed, said switch means being located exteriorly of the building, a transformer having a primary and secondary, rectifier means connected to the secondary of said transformer, transistor amplifier means being connected to said secondary through said switch means so that said amplifier means is connected to said secondary only during closure of said switch means thereby minimizing power used, a sound generating means for generating a musical sound having its output connected directly to said transistor amplifier means, loud speaker means being connected to the output of said amplifier means, so that when said primary of said transformer is energized a predetermined musical sound will be produced through said loud speaker means immediately upon closure of said switch means, capacitor means connected directly across said amplifier means so as to be charged when said switch means is closed and

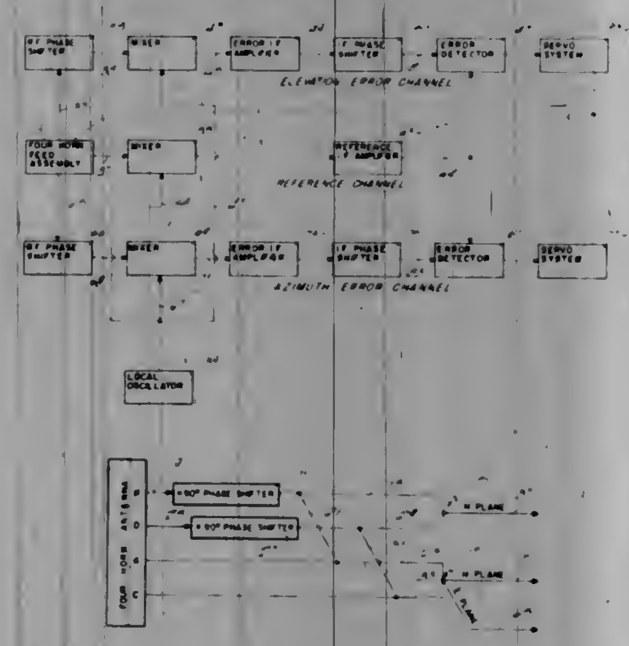


having sufficient capacity to energize said amplifier means for a predetermined time after said switch means is opened, said secondary being additionally connected to said sound generating means whereby said secondary has first and second functions, said first secondary function being to energize said sound generating means, said second secondary function being to energize said amplifier means through said switch means.

3,196,433
PASSIVE RADAR TRACKING APPARATUS

David K. Barton, Haddonfield, and William J. Rose, Moorestown, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Dec. 4, 1962, Ser. No. 243,197
1 Claim. (Cl. 343—7.4)



Radar tracking apparatus comprising:
(a) an antenna assembly including four horns disposed in a rectangular configuration;
(b) a first magic T network having an energy input waveguide section and a H plane energy output junction;
(c) a second magic T network having an energy input waveguide section, an E plane energy output junction and a H plane energy output junction;
(d) a pair of phase shifting devices that advance the phase of an input signal 90 degrees;
(e) a pair of slot coupling devices that retard the phase of a signal 90 degrees;
(f) means coupling a first horn of the antenna assembly to one end of the energy input waveguide section of the first magic T network through one of the phase shifting devices;
(g) means coupling a second horn of the antenna assembly which is in horizontal alignment with the first horn to the other end of the energy input waveguide section of the said first magic T network through the other phase shifting device;
(h) means coupling a third horn of the antenna assembly which is in vertical alignment with the first horn to one end of the energy input waveguide section of the second magic T network;
(i) means coupling a fourth horn of the antenna assembly which is in vertical alignment with the second horn to the other end of the energy input waveguide section of the said second magic T network;
(j) means coupling the output circuit of the said one phase shifting device to the said one end of the energy input waveguide section of the said second magic T network through one of the slot coupling devices;
(k) means coupling the output circuit of the said other phase shifting device to the said other end of the energy input waveguide section of the said second magic T network through the other slot coupling device;
(l) means for adjusting the phase of an output elevation error signal at the H plane junction of the said first magic T network such that it is in phase or 180 degrees out of phase with an output reference signal at the H plane junction of the said second magic T network;
(m) means for adjusting the phase of an output azimuth error signal at the E plane junction of the said second magic T network such that it is in phase or 180 degrees out of phase with the output reference signal at the H plane junction of the second magic T network;
(n) means including a local oscillator for converting the frequency of the elevation and azimuth error signals and the reference signal to a predetermined intermediate frequency;
(o) means for comparing the magnitude of the elevation and azimuth error signals with the magnitude of the reference signal;
(p) and a servo system responsive to the output circuit of the comparing means for controlling the orientation of the antenna assembly.

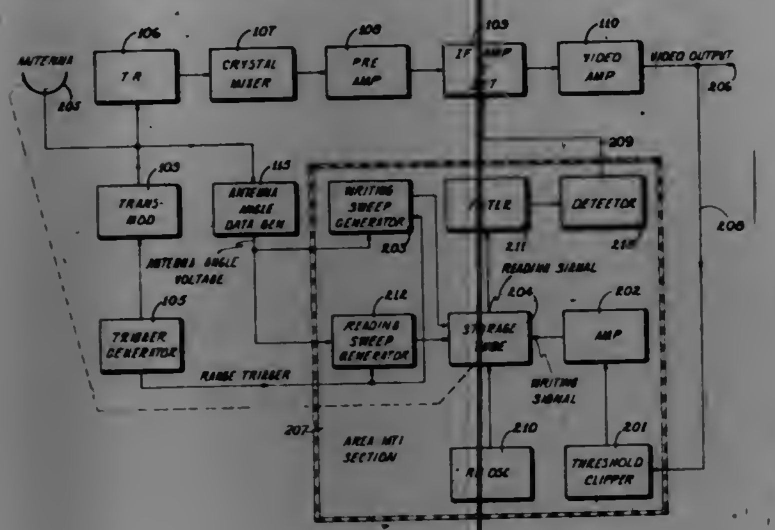
3,196,434
RADAR SYSTEM WITH IMPROVED AREA TYPE MOVING TARGET INDICATOR

Burton Cutler, Los Angeles, Calif., assignor, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland

Filed June 14, 1960, Ser. No. 36,011
10 Claims. (Cl. 343—7.7)

5. A radar system including at least one scanning antenna for scanning a beam of electromagnetic energy through a volume of space and being adapted to present echo signals corresponding to objects within the scanned volume of space and to provide at least some discrimination against echo signals corresponding to stationary objects, comprising the combination of: pulsed radar transmitting means; radar receiving means for detecting portions of the energy of said transmitting means echoed by moving and stationary objects, said receiving means including pulse responsive means within the signal channel of said receiving means for controlling the gain applicable to discrete ones of said echo signals in response to contemporaneous pulsed gain control signals; storage means con-

nected to the output of said receiving means to store said target echo signals, said storage mean being of a type which stores signal intensities as a function of the individual time integral for each of said target echo signals; and means for generating said pulsed gain control signals corresponding to and proportional to the stored intensities of the signals representative of said echo signals, thereby to effect substantially greater pulsed gain-reducing feedback in time relation with said echo signals corresponding to stationary objects than for those corresponding to moving objects.



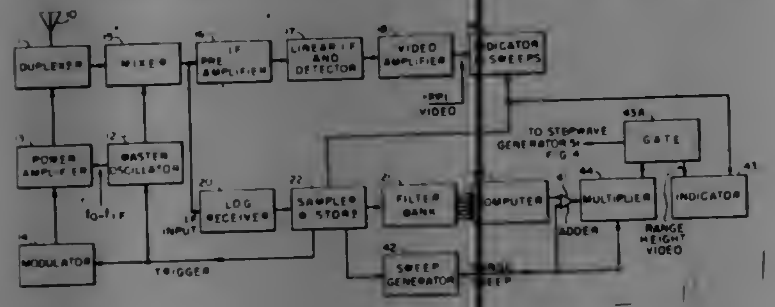
3,196,435
FM SEARCH RADAR EMPLOYING EXPANDING AND COLLAPSING LOBE STRUCTURE

Torrence H. Chambers, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Navy

Filed Jan. 30, 1962, Ser. No. 169,981

11 Claims. (Cl. 343—11)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A method of determining the elevation angle of an object comprising, alternately expanding and collapsing the lobe structure of a beam of energy directed toward the object whereby reflections contain modulation characteristic of the position of the object, receiving the reflected energy, and determining the received energy amplitude modulation frequency to categorize the elevation angle of the object.

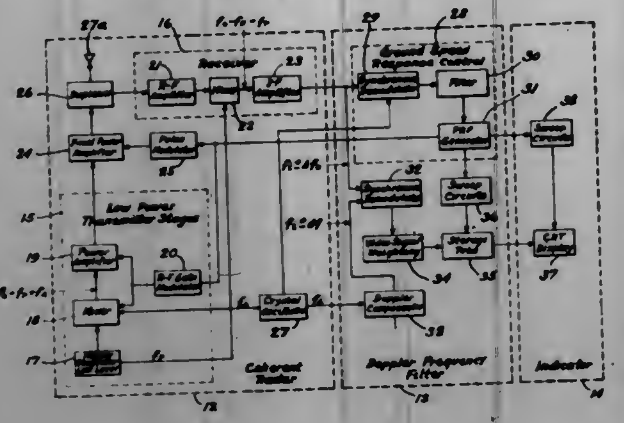
3,196,436
PULSED DOPPLER RADAR METHODS AND APPARATUS

Carl A. Wiley, Phoenix, Ariz., assignor to Goodyear Aerospace Corporation, a corporation of Delaware

Filed Aug. 13, 1954, Ser. No. 449,559

14 Claims. (Cl. 343—17)

9. Apparatus for scanning terrain from a moving object, such as an airplane, and including means for sending out isotropically a series of time-separated pulses from the object, means for receiving between pulses the reflections of a pulse from the terrain, means for separating the reflections from a pulse into groups differing from each other by frequency changes due to the Doppler effect, means for time-separating the reflections in each group, and means for visually reproducing the time-separated reflections in each group.



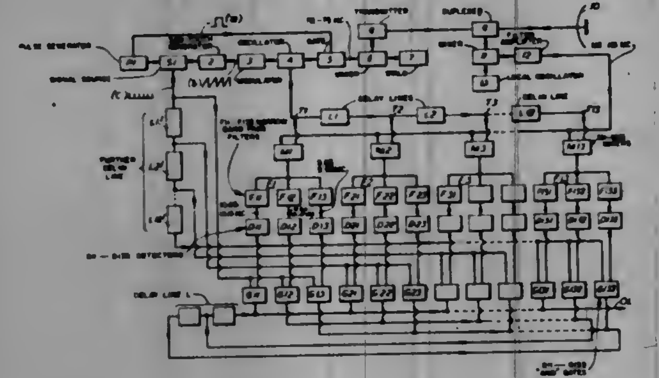
3,196,437
FM PULSE RADAR SYSTEM

Wilfrid Sinden Mortley, Great Baddow, and Stanley Frederick Clarke, Chelmsford, England, assignors to The Marconi Company Limited, a British company

Filed Feb. 25, 1963, Ser. No. 260,660

Claims priority, application Great Britain, June 5, 1962, 21,791/62

4 Claims. (Cl. 343—17.2)



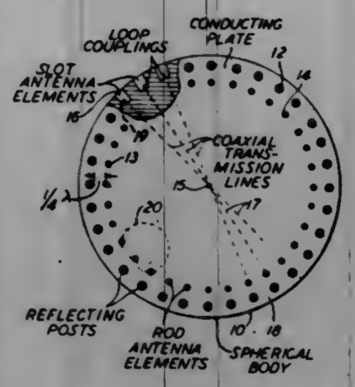
1. A pulsed radar system comprising a source of waves cyclically frequency modulated at a predetermined recurrence frequency; means for transmitting pulses of waves frequency modulated in correspondence with the waves from said source; means for receiving reflected echo pulses; means for deriving from received echo pulses signals frequency modulated in correspondence therewith; a delay line of length equal to the period of cyclic recurrence of frequency modulation of the waves from said source and having a plurality of terminals each separated from the next by a portion of line having a delay equal to a fraction of said period; a plurality of mixers each connected to mix two inputs, one input comprising the waves from said source and one comprising said derived signals, one of the two inputs to each mixer being fed directly thereto and the other being fed thereto via a different terminal on said delay line whereby the said other inputs to the different mixers are delayed by amounts differing from one another by the delays of said portions of the delay line; a plurality of similar groups of narrow band filters, each group of filters being fed with the output of a different mixer and the filters of each group having different but adjacent pass bands; and means for utilising the outputs of said filters for providing target range information.

3,196,438
ANTENNA SYSTEM

Rudolf Kompfner, Middletown, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 26, 1961, Ser. No. 162,026

10 Claims. (Cl. 343—100)



1. In an antenna system, a first group of antennas that are distributed equal distances from a center point, a second group of antennas that are distributed equal distances from said center point, each of the antennas of said second group being located diametrically opposite a different antenna of said first group, and means of equal electrical lengths for interconnecting diametrically opposite antennas of said first group and said second group to form antenna pairs, both antennas of each of said pairs being oriented for operation in the same direction.

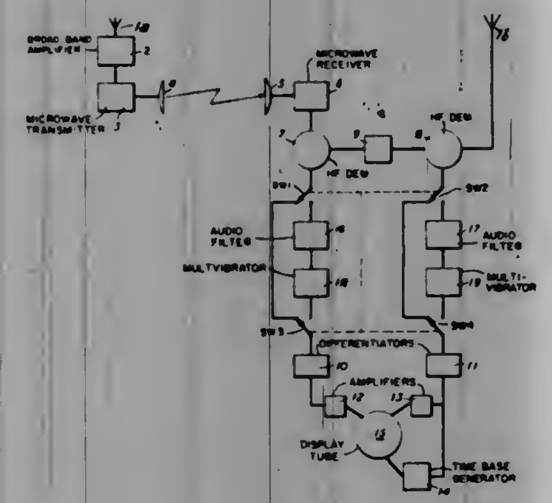
3,196,439
RADIO DIRECTION FINDERS

Dennis William George Byatt, Great Baddow, Essex, England, assignor to The Marconi Company Limited, London, England, a British company

Filed May 9, 1962, Ser. No. 193,442

Claims priority, application Great Britain, May 15, 1961, 17,570/61

11 Claims. (Cl. 343—113)



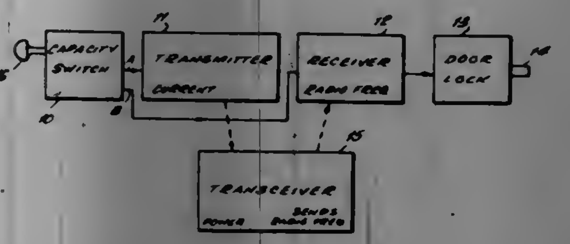
9. A radio direction finder including means for separately demodulating and differentiating signals received at geographically spaced points from a transmitting modulated signal source; means for measuring the time interval between corresponding differentiated resultants first produced by a given transmitted signal to ascertain the direction of said source; and filter means for excluding, from the demodulated signals to be differentiated, signals having a repetition period not greater than the maximum time interval, at said measuring means, between corresponding signals from the different spaced receiving points.

3,196,440
RADIO CONTROL SYSTEM FOR OPERATING A DISTANT ELECTROMECHANICAL TRANSDUCER DOOR LOCK UTILIZING A CAPACITY-SENSITIVE CIRCUIT AT THE DISTANT LOCATION AND AN OPERATOR-CARRIED TRANSCEIVER

Richard Weinstein, Westbury, N.Y., assignor, by mesne assignments, to Commercial Factors, Ltd., Montreal, Quebec, Canada

Filed Nov. 7, 1962, Ser. No. 235,971

7 Claims. (Cl. 343—225)



1. A radio control system for operating a distant electromechanical transducer door lock comprising; a transmitter circuit for generating alternating current power at a first frequency; said transmitter circuit having a power supply and an oscillator which includes a first inductor for creating an alternating magnetic field at a distance; a capacity-sensitive circuit including a relay coupled to a conductor for actuation of the relay by a change of capacity applied to the conductor means connected to said capacity-sensitive circuit to initiate operation thereof; contacts on the relay connected in series with said power supply for actuating the oscillator; at least one portable transceiver circuit for receiving power from said magnetic field at essentially the same time as said operation of the capacity sensitive circuit is initiated and for transmitting a radio signal having a second frequency, modulated by said first frequency; said transceiver including a second inductor and a rectifier connected in series for producing pulsating current power; an oscillator circuit connected to said second inductor for generating modulated alternating current power at said second frequency, and an antenna tuned to said second frequency for broadcasting said radio power; a radio receiver for receiving the modulated radio waves from any one of said transceivers at the second frequency and for rectifying the received currents to produce a series of current pulses at said first frequency; said receiver including an antenna tuned to said second frequency, a rectifying means connected to said antenna, a resonant circuit connected to said rectifying means and tuned to said first frequency, and circuit means coupled to said resonant circuit for applying said series of current pulses to said electromechanical transducer for mechanical actuation thereby.

3,196,441
SCANNING ANTENNA HAVING A CYLINDRICAL SPLASH PLATE FOR PROVIDING LINEAR BEAM MOTION

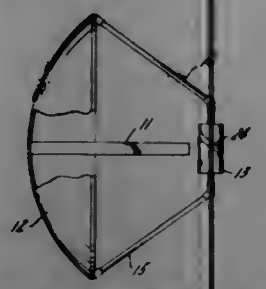
Alan R. Mace, Millersville, Md., and Jacob Tellier, Milwaukee, Wis., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed May 10, 1963, Ser. No. 279,642

4 Claims. (Cl. 343—754)

1. A scanning antenna device comprising,
- a stationarily mounted reflector,
- a waveguide radiator having an aperture for emitting radiant energy, said radiator being concentrically mounted relative to said reflector with said aperture extending beyond said reflector,
- a cylindrical splash plate rotatably mounted to said reflector adjacent said aperture of said radiator for reflecting energy from said radiator to said reflector,

means for rotating said cylindrical splash plate about its longitudinal axis, and



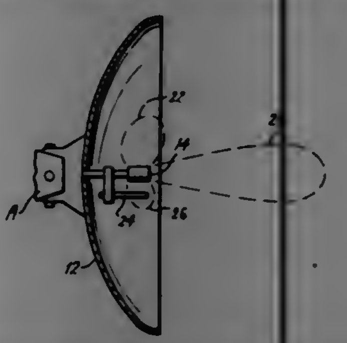
means on said cylindrical splash plate for effecting a scan pattern to said reflected energy.

3,196,442
ANTENNA WITH SIDE LOBE ABSORBER MOUNTED ADJACENT THERETO

Richard G. Leffelman, Overland, and John Torrisi, Florissant, Mo., assignors to McDonnell Aircraft Corporation, St. Louis, Mo., a corporation of Maryland

Filed Dec. 14, 1959, Ser. No. 859,255

4 Claims. (Cl. 343—765)



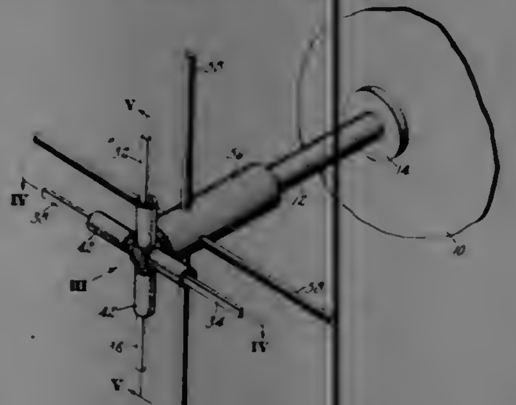
1. In an antenna having a reflector shield and a radiator mounted forwardly thereof in the direction of principal radiation and capable of radiating a forward radiation lobe and a side lobe, the improvement comprising a member constructed substantially entirely of ferrite material mounted laterally adjacent to the radiator on one side thereof and spaced forwardly of said shield in position to absorb side lobe radiations from the radiator substantially only in the direction of said ferrite member.

3,196,443
CIRCULARLY POLARIZED DIPOLE ANTENNA

John E. Martin, Magnolia, Mass., assignor to United Shoe Machinery Corporation, Flemington, N.J., a corporation of New Jersey

Filed Aug. 28, 1962, Ser. No. 220,001

2 Claims. (Cl. 343—797)



1. In an antenna, a rigid coaxial transmission line, four stubs extending radially at 90° intervals from a common central feed point at an end of said line, two of said stubs being connected to each conductor of said line, four radially disposed conductive arms of equal length longer than the stubs, each arm being carried by a stub and extending parallel thereto from its base and separated therefrom by a thin layer of insulation, thereby forming two pairs of orthogonally related dipoles with a transmission line section at the base of each arm electrically in series between the arm and a conductor of the coaxial line and means for electrically connecting the stubs and arms of one dipole at a point spaced from the base thereof whereby at a given operating frequency the input impedence of one dipole across the inner ends of the stubs thereof has a reactive component equal to and of opposite sign to the corresponding input impedance of the other dipole.

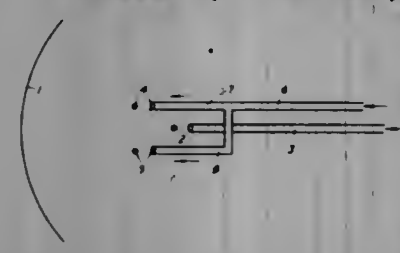
3,196,444
INTERROGATING ANTENNA WITH CONTROL RADIATION

Douglas Harold Shinn, Great Baddow, Essex, England, assignor to The Marconi Company Limited, a British company

Filed Nov. 17, 1961, Ser. No. 153,141

Claims priority, application Great Britain, Mar. 9, 1961, 8,659/61

5 Claims. (Cl. 343—835)



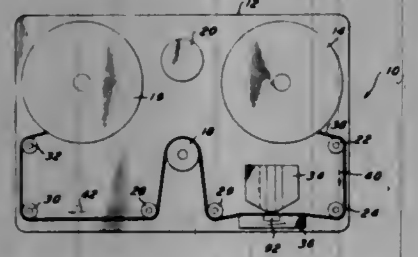
1. An aerial system for use in a secondary radar system, said aerial system comprising a focussing aerial element; an interrogating directional aerial at the focus of and directed toward said element to radiate an interrogating field component; two control directional aerials for radiating a control field component, the control directional aerials being directed toward said element and symmetrically offset from the axis thereof to be defocussed with respect to the element by the same amount; and means for feeding the two control directional aerials in phase opposition and for modulating the control field component differently from the interrogating field component.

3,196,445
ULTRA-MINIATURE LIGHT SOURCE AND RECORDER USED THEREWITH

Andrew E. Trolio, Broomall, Pa., assignor to Adtrol Electronics, Inc., Philadelphia, Pa., a corporation of Pennsylvania

Filed May 15, 1962, Ser. No. 196,555

18 Claims. (Cl. 346—1)



1. The method of providing a permanent record at high speeds comprising providing a light sensitive medium, moving said light sensitive medium past a recording head at a high rate of speed, causing electric discharges which produce small point-like light emanations of short time duration in direct proximity to said light sensitive medium, thereby exposing portions of said light sensitive medium to attain characters of desired configuration comprised of said exposed portions.

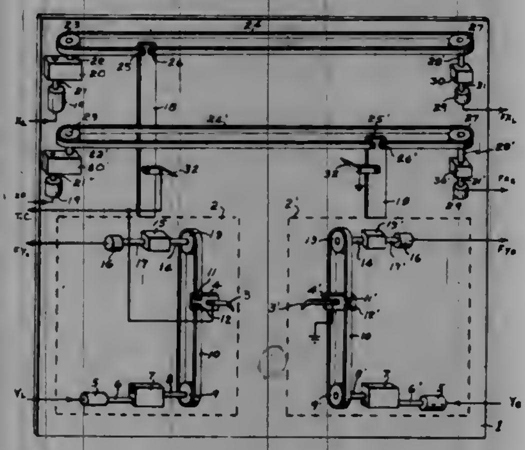
3. A recorder employing an ultra-miniature light source comprising in combination a recording head and means to move a light sensitive medium past the recording head at a high rate of speed, said recording head including a plurality of trigger electrodes and at least one reference electrode, said electrodes being positioned on the same side of said media and being adapted to create light, said trigger and reference electrodes being separated by an interposed dielectric layer having a relatively high dielectric strength with the exception of certain exposed surfaces of the reference and trigger electrodes which are separated by a dielectric medium having a dielectric strength lower than said dielectric layer, said reference electrode being maintained at a potential for a time sufficient to create a plurality of small discharges creating light emanations of short time duration between said trigger electrodes and said reference electrode adjacent said exposed surfaces, said light emanations directly exposing portions of said light sensitive medium to create characters of desired configuration comprised of said exposed portions at a high rate of speed.

3,196,446
PLOTTING BOARD INTERCHANGE CIRCUIT

William E. Ingerson, Watchung, and Henry G. Och, Madison, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army

Continuation of application Ser. No. 278,354, Mar. 25, 1952. This application June 19, 1964, Ser. No. 391,350

8 Claims. (Cl. 346—8)



1. In combination with a plotting board capable of simultaneously plotting two-dimensional information of the positions of two points in space including two pen mechanisms, each operated independently in accordance with signals representative of said two-dimensional information of one of said two points, a pen interchange control circuit having two input and two output channels for interchanging the connections between respective input and output channels, each of said output channels being connected to one of said pen mechanisms respectively, a normally inoperative trigger circuit, means for operating said trigger circuit in response to interference between said pen mechanism, circuit means between said trigger circuit and said control circuit operative in response to operation of said trigger circuit for interchanging the connections between respective input and output channels, and means for applying a signal representative of the position of one of said points to each of said input channels, said circuit means inc'uding delay means for delaying the interchange of the signals in each channel representative of one dimension with respect to the signals representative of the other dimension.

3,196,447
PRODUCTION RECORDING SYSTEM

William E. Van Horne and Glenroy W. Barnett, Columbus, Ohio, assignors to Keinath Instrument Company, Columbus, Ohio, a corporation of Ohio

Filed Nov. 13, 1961, Ser. No. 152,958

26 Claims. (Cl. 346—17)

1. A recording system comprising:

(a) a sheet held therein containing indicia thereon defining a plurality of charts;

(b) at least one marking means adjacent to, and in movable relationship with, said sheet;

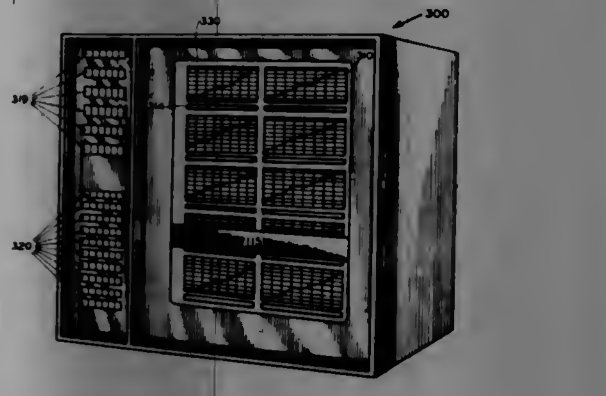
(c) means synchronized with the relative movement between said marking means and said sheet for measuring successively the values of a plurality of variable quantities;

(d) means for actuating said marking means to provide graphic records on said sheet of said values as measured at predetermined intervals;

(e) each said value comprising a measure proportionate to the total number of input pulses fed to said recording system by a particular input device from a preselected starting time to the time of recording said value;

(f) each said record being made as a graph on one said chart;

(g) each said chart having associated therewith and adjacent thereto on said sheet a marked area for receiving a graphic record indicative of at least one condition associated with said input pulses from said particular input device;



(h) each said marked area containing a plurality of categorized spaces for indicating various respective categories of information concerning said at least one associated condition;

(i) means, responsive to at least one said condition, for actuating said marking means to provide at least one mark in said marked area; and

(j) means, responsive to the relative position of said marking means and said sheet, for connecting said marking means in circuit with said measuring means, to the exclusion of said condition-responsive means, when said marking means is in a position over one said chart, and for connecting said marking means in circuit with said condition-responsive means, to the exclusion of said measuring means, when said marking means is in a position over one said marked area.

3,196,448
MACHINE FOR MAKING A CODED RECORD FROM A COMPOSITE BUSINESS FORM

Guilbert M. Hunt, Willowick, Ohio, assignor to Bonnar-Vawter Incorporated, Keene, N.H., a corporation of Delaware

Filed Aug. 7, 1962, Ser. No. 215,361

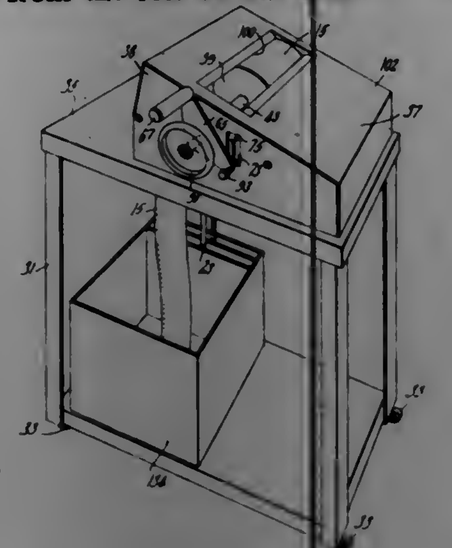
5 Claims. (Cl. 346—24)

1. A machine for entering a coded record alongside transverse lines of information on an elongated business form and for separating the coded record from the rest of the form to produce an elongated code strip comprising

a working table providing a viewing surface,

means for advancing a said elongated form across said working table for viewing successive sections of said form,

code forming means on said table for entering a coded record on the elongated form in transverse alignment with lines of information on the form and means, driven and cooperating with said form advancing means, for separating a strip carrying the coded record from the rest of the form



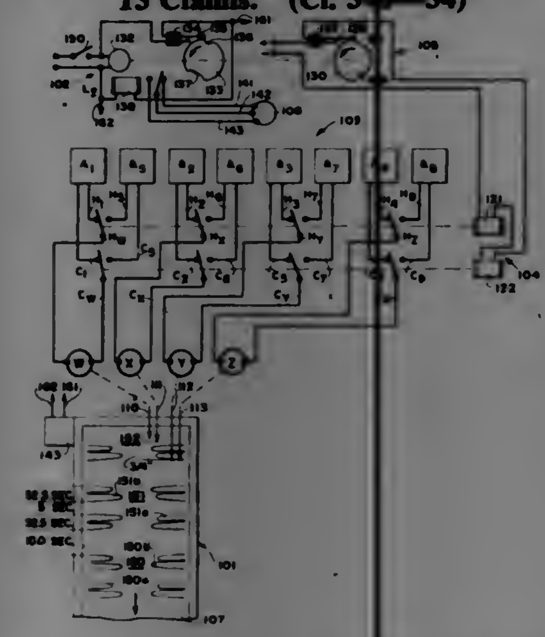
said means for separating said strip also constituting means for providing strip feeding formations in the coded record strip simultaneously with separation of said strip as the elongated form is advanced.

3,196,449
APPARATUS FOR PROVIDING A SERIES OF SIMULTANEOUSLY RECORDED GROUPS OF TEST RESULT RECORDS

Milton H. Pelavin, Greenburgh, N.Y. (25 Lark Ave., White Plains, N.Y.), and William J. Smythe, 430 Park Ave., Rye, N.Y.

Filed July 30, 1963, Ser. No. 298,762

13 Claims. (Cl. 346—34)



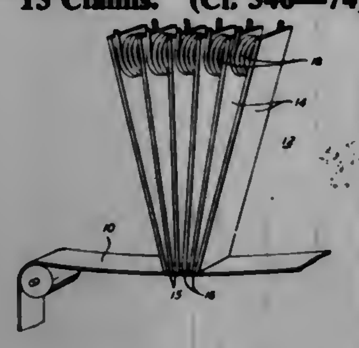
1. Apparatus comprising, a plurality of groups of testing means, recording means including a plurality of simultaneously operable recording devices operatively connectible to said testing means groups for recording test results therefrom on a moving, record receiving member, the number of testing means in each of said groups being equal to the number of recording devices, switching means operable to alternately connect the said testing means groups to the said recording devices in one-to-one testing means-recording device correspondence to provide a series of simultaneously recorded groups of test result records from said testing means groups on said record receiving member, spacing means operable to intermittently deactivate said recording devices to space the said groups of test result records on the moving, record receiving member to separate the same thereon, and controlling means operable to intermittently actuate said switching and spacing means.

3,196,450
MULTIBIT MAGNETIC TRANSDUCER

Daryl M. Chapin, Basking Ridge, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Jan. 30, 1961, Ser. No. 85,821

13 Claims. (Cl. 346—74)



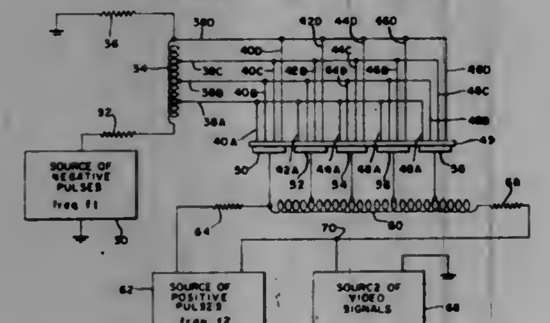
13. In a record transducer for simultaneously recording a plurality of bits of information in a single channel of a magnetic medium, a plurality of leg members of magnetic material, means for positioning said leg members to define a plurality of signal translating gaps, magnetic recording circuit means positioned between adjacent ones of said plurality of leg members for defining a magnetic recording path through each pair of said adjacent leg members, each of said leg members being a part of at least two magnetic recording paths, means for positioning said plurality of signal translating gaps adjacent said single channel of said magnetic medium, and means for individually energizing said magnetic recording circuit means.

3,196,451
ELECTROSTATIC WRITING SYSTEM UTILIZING TAPPED DELAY LINES

Earle D. Jones, Menlo Park, and Albert Macovski, Palo Alto, Calif., assignors to Standard Research Institute, Palo Alto, Calif., a corporation of California

Filed May 16, 1962, Ser. No. 195,250

4 Claims. (Cl. 346—74)


SOURCE OF NEGATIVE PULSES freq f1
SOURCE OF POSITIVE PULSES freq f2
SOURCE OF VIDEO SIGNALS

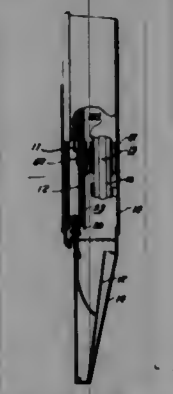
1. An electrostatic writing transducer comprising a first delay line having a plurality of taps along the length thereof, a plurality of bus bars a different one of which is connected to each of said taps, a plurality of groups of writing styli, a different one of the writing styli in each group being connected to a different one of said bus bars, said groups of styli extending from said bus bars to a common plane, a conductive bar for each group of writing styli, each said conductive bar being positioned opposite a group of writing styli at said common plane, a second delay line having a plurality of taps therealong, the number of said second delay-line taps corresponding to the number of conductive bars, means for connecting each conductive bar to a different one of said taps, and means for applying signals to said first and second delay lines to enable electrostatic discharges to occur between said styli and said conductive bars in a preordered sequence including a first source of pulses having one polarity, means for applying pulses from said first source to one end of said first delay line, a second source of pulses having a polarity opposite to said one polarity, means for applying pulses from said second source to one end of said second delay line, a source of intelligence signals, and means for applying said intelligence signals to both ends of said second delay line to cause an electrostatic discharge between a stylus and conductive bar only in the presence of a first and second pulse and an intelligence signal.

3,196,452
CHART CHANGING MECHANISMS

Orvel E. Mullins and Oliver W. Cole, Dallas, Tex., assignors to Mullins Manufacturing Company, a corporation of Texas

Filed Jan. 14, 1963, Ser. No. 251,285

5 Claims. (Cl. 346—137)



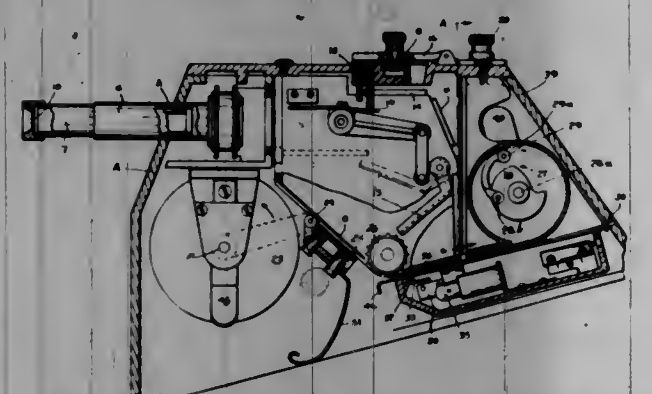
1. In a chart changer for recording meters in which a stock of superposed recording charts are revolved about an axis with a chart plate for the recording of data on the outermost chart, a chart plate, means for driving the chart plate around said axis on a time-controlled basis, means for releasing from the chart plate the outermost chart at a predetermined time including means on the rearward side of the chart changer disposed angularly with respect to said axis, and means on the forward side of the chart changer immediately beneath the chart plate for shifting the angular position of the angularly-disposed means with respect to said axis for varying the time at which the outermost chart is released from the chart plate.

3,196,453
EYE MOVEMENT CAMERA

Stanford E. Taylor, 33 Sunset Lane, Levittown, N.Y.

Filed May 28, 1959, Ser. No. 816,584

2 Claims. (Cl. 351—7)



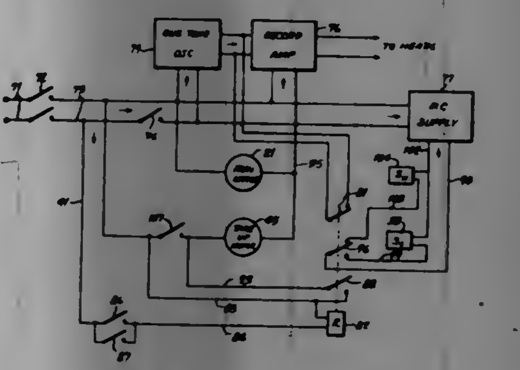
1. A camera for photographically recording the movements of the eyes of a subject during the reading process comprising: a camera casing assembly having adjustable means for engaging the subject's head to maintain the camera and head in relatively stable relationship relative to each other; a bracket mounted on said casing for supporting reading material in the line of vision of the subject; light source means for directing two separate light beams so as to impinge on the two eyes of the subject; film feeding and guiding mechanisms mounted inside said casing and including a film exposure area and a motor and sprocket for feeding photographic film past the exposure area at a predetermined speed; an optical system including a pair of lens tubes adjustably mounted in said casing and arranged so as to receive the light beams reflected from the subject's eyes and project them into the casing onto the photographic film in the exposure area; a reflex viewing screen mounted in the wall of said casing; light directing means mounted inside said casing and shiftable between a film exposing position outside of the path of the light beam and a focusing position outside in the path of the light beam so as to direct the light beam away from the exposure area to the reflex area; switch means for causing the operation of the film feeding motor and for causing the dimming of the light to a lower projection intensity from a higher focusing intensity; and a cover for said reflex screen shiftable between open and closed positions and connected to the light directing means and the switch means so as to shift the light directing means to film exposing position so as to cause the operation of the film feeding motor and dimming of the light source to a power projection intensity when the cover is shifted to close position and to cause the stopping of the film feeding motor and brightening of the light source when the cover is shifted to the open position.

3,196,454
METHOD AND APPARATUS FOR PRODUCTION OF SOUND MOTION FILMS AND SOUND RECORDINGS

C. Robert Fine, Tomkins Cove, N.Y.

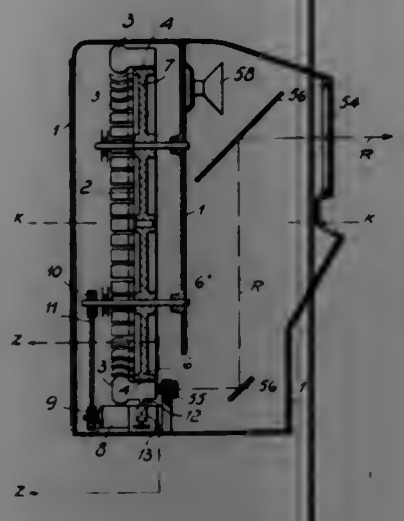
Original application Apr. 3, 1956, Ser. No. 575,911, now Patent No. 3,029,316, dated Apr. 10, 1962. Divided and this application Feb. 28, 1962, Ser. No. 179,270

10 Claims. (Cl. 352—5)



1. The process of synchronizing the sound and picture portions of a sound motion picture film sequence in which a first recording of the sound portions of said film sequence is made before photographing said film sequence, comprising the steps of producing a working recording from said first recording and having cuing signals superposed thereon, said cuing signals comprising pulses of a predetermined audio frequency tone and having an amplitude at least 12 db above the level of said sound portions, reproducing said working recording, maintaining a slating light under continuous partial energization sufficient to cause only a slight glow, abruptly increasing said energization to full value simultaneously with selected pulses of said tone reproduced from said working recording to produce light flashes, enacting the performance corresponding to said sound portions simultaneously with the reproduction of said working recording, simultaneously photographing said enacting together with said light, producing a side-by-side re-recording of said first recording and said working recording, and registering the photographed frames of said light flashes with the recorded audio pulses of said re-recording, whereby said photographed film is placed in register with said first recording.

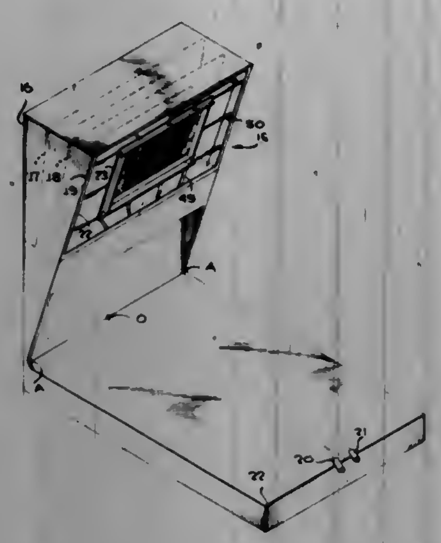
3,196,455
MOTION PICTURE APPARATUS WITH AN EXCHANGEABLE REEL
Vincenza Bavaro, Viale Regina Margherita 2, Milan, Italy
Filed July 15, 1960, Ser. No. 43,241
4 Claims. (Cl. 352—8)



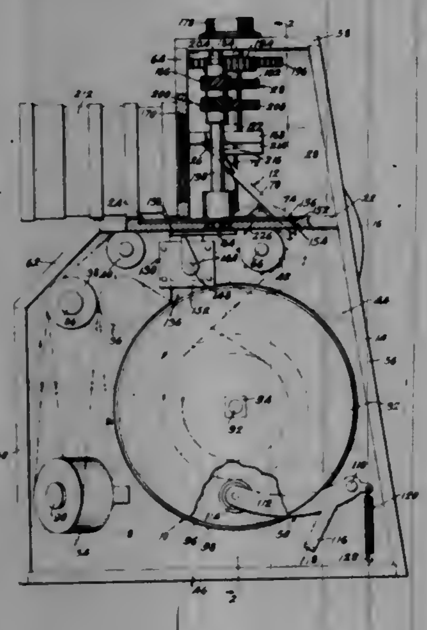
1. The combination with a single projector means for motion picture films including a housing, at least two chain wheels rotatably mounted in said housing, a chain carried by said chain wheels, a plurality of magazines releasably secured to said chain and placeable into any position on said chain, a source of light and optical condenser means coordinated to said source of light disposed in said housing, means for moving said chain, a lever pivotally mounted in said housing, a motor having a first shaft mounted on said lever, electro-magnetic means for lifting said motor with said first shaft a locking member projecting upwardly in said housing and terminating at a level higher than the uppermost point of said first shaft, each of said magazines comprising two boxes releasably connected to form a single unit, two film reels and film advancing means received by one of said boxes, a shutter mechanism positioned in coordination to said film advancing means and received by the other of said boxes, a second shaft mounted in said other of said boxes and carrying a first gear, gear means in engagement with said first gear for operation of said film advancing means and of said shutter means, each of said magazines having a recess in its outer face disposed at the same predetermined point in all said magazines and complementary to the upper portion of said locking member and adapted to receive said upper portion of said locking member upon travel of said magazines opposite said locking member and simultaneous operation of said electro-magnetic means, said second shaft projecting through the wall of said other of said other boxes and having a recess at its outer end face, said first shaft having an upper end complementary to said recess of said second shaft and received in said recess of said second shaft to form a releasable driving connection between said motor and said film advancing means and said shutter mechanism.

3,196,456
COLLECTIVE SELECTOR FOR STEREOSCOPIC PROJECTIONS WITHOUT EYEGLASSES
Monique Noaillon and Henriette Louise Marie Lamare, both of 53 Ave. Jupiter, Forest-Brussels, Belgium
Filed Jan. 22, 1963, Ser. No. 253,111
Claims priority, application Belgium, Jan. 22, 1962, 488,834, Patent 61[illegible],899
11 Claims. (Cl. 352—61)

1. In a stereoscopic picture projecting apparatus with a projection screen and projection devices operative to project two series of stereoscopic pictures upon the screen in stereoscopic relation and through plane filter screens adjacent to the projection screen, said filter screens comprising a rigid frame, a plurality of closely spaced elongated rigid convergent opaque strips interwoven between intersecting diagonally arranged tensioned thin wires secured in the frame and clamping each strip to form a tensioned plane texture which is rigid against transverse and lateral displacement with regard to the frame when the filter screens are oscillated laterally in their own planes as a unit to allow the projection and vision of the complete stereoscopic pictures without any optical disturbances.



3,196,457
REFLECTANCE-TYPE MOTION PICTURE CAMERA
Willard E. Buck, P.O. Box 357, Boulder, Colo.
Filed Jan. 23, 1961, Ser. No. 84,000
15 Claims. (Cl. 352—109)

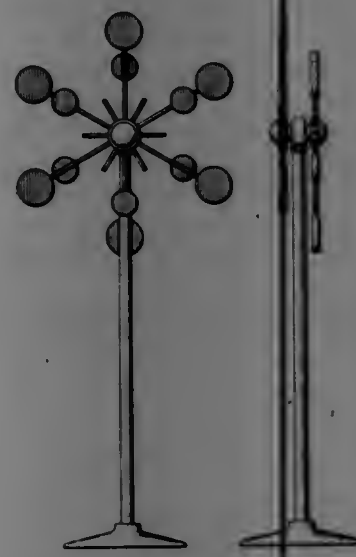


8. In a motion picture camera including, a housing having a light-tight film compartment and a lens compartment separated from one another by a wall containing a framing aperture, a drive mechanism, a film storage reel and a film take-up reel mounted for independent relative rotational movement within the film compartment, film transport means operatively connected to the drive mechanism and mounted for rotation within the film compartment adapted to draw film from the storage reel and deliver same to the take-up reel past the framing aperture, film tensioning means operatively interconnecting the drive mechanism and the take-up spool adapted to maintain the film spooled on the latter under constant tension, and a lens system mounted within the lens compartment in position to receive an image from an exterior light source and focus same on the film through the framing aperture, the improved combination which comprises an apertured rotatable shutter mechanism operatively connected to the drive mechanism and adapted upon actuation to intermittently uncover the framing aperture at predetermined intervals, and reflectance means operatively connected to the drive mechanism and adapted to move the image across the framing aperture during the interval the shutter mechanism is open in synchronization with the movement of the film, said reflectance means comprising a mirror having at least one plane polished face mounted for limited angular movement in the path of the image entering the lens compartment about an axis located to reflect the latter through the framing aperture onto the film as it moves, and a synchronous coupling providing a positive mechanical connection between the mirror and drive mechanism adapted to move a plane polished face of the mirror through the limited angle required for the image reflected therefrom to follow the film movement across the framing aperture each time the shutter mechanism uncovers the latter during the maximum time interval said shutter is open.

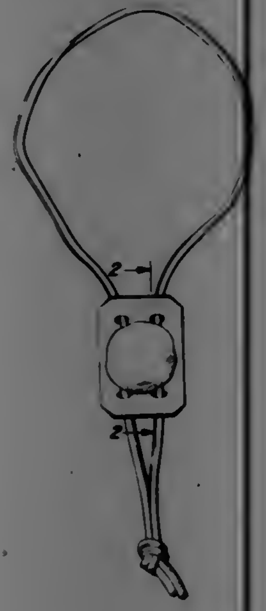
DESIGNS

JULY 20, 1965

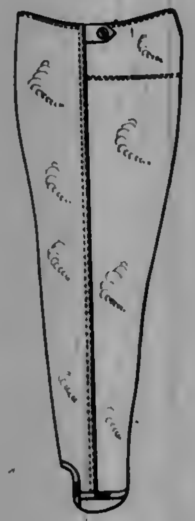
201,657
ROTATING DISPLAY DEVICE
Paul M. Lewis, 10145 W. Colfax, Lakewood, Colo.
Filed July 6, 1964, Ser. No. 80,720
Term of patent 14 years
(Cl. D1—2)



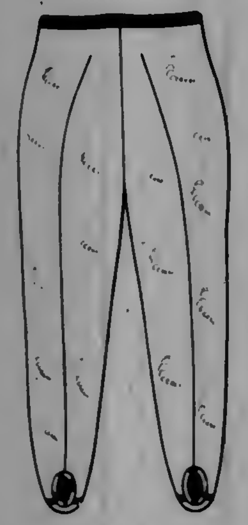
201,658
SLIDE NECKTIE
John Henri Waidelich, 404 Mayfair Blvd.,
Columbus, Ohio
Filed Apr. 24, 1964, Ser. No. 79,689
Term of patent 14 years
(Cl. D3—16)



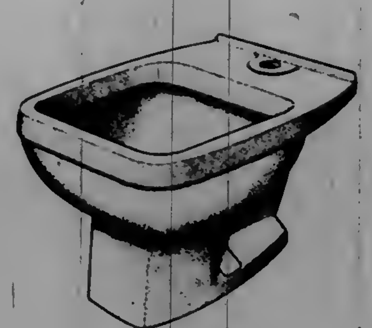
201,659
PANTS
Francois Bamberger, Paris, France, assignor to
Hauser S.A.R.L., Paris, France
Filed July 30, 1962, Ser. No. 71,079
Term of patent 7 years
(Cl. D3—17)



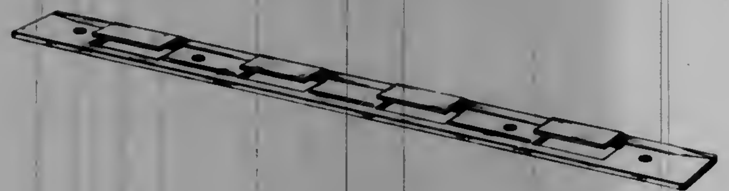
201,660
PANTS
Francois Bamberger, Paris, France, assignor to
Hauser S.A.R.L., Paris, France
Filed July 30, 1962, Ser. No. 71,080
Term of patent 7 years
(Cl. D3—17)



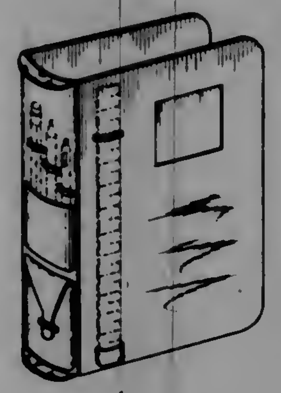
201,661
SERVICE SINK
Jack N. Kaiser, Louisville, Ky., assignor to American Radiator & Standard Sanitary Corporation, New York, N.Y., a corporation of Delaware
Filed Nov. 25, 1964, Ser. No. 82,794
Term of patent 14 years
(Cl. D4—2)



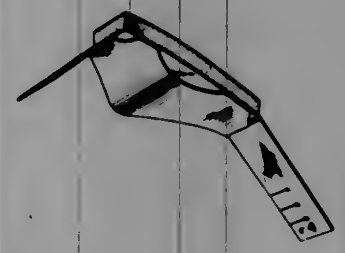
201,662
LOOSE LEAF BINDER PLATE
Fred A. Ravreby, 74 Booth St., Dedham, Mass.
Filed Aug. 5, 1963, Ser. No. 76,159
Term of patent 14 years
(Cl. D6—2)



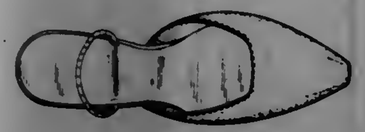
201,663
LOOSE-LEAF BINDER
Ralph P. Bifaro, 124 Oak St., Yonkers, N.Y.
Filed Jan. 27, 1964, Ser. No. 78,358
Term of patent 3½ years
(Cl. D6—2)



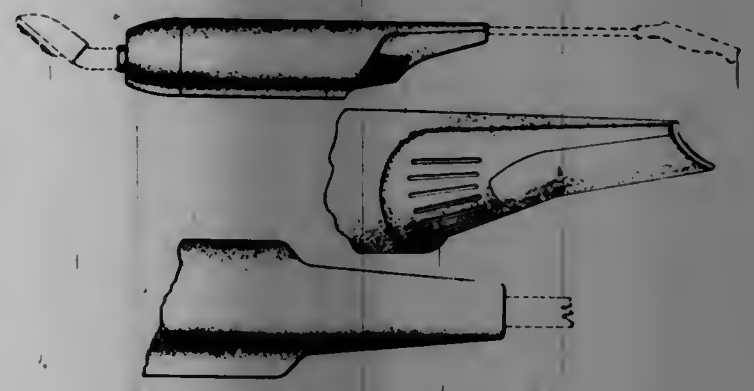
201,664
ORTHOPAEDIC ARCH SUPPORT
John Gordon Macdonald, 76a Dalston Lane, London, England
Filed Aug. 19, 1963, Ser. No. 76,279
Claims priority, application Great Britain May 14, 1963
Term of patent 3½ years
(Cl. D7—5)



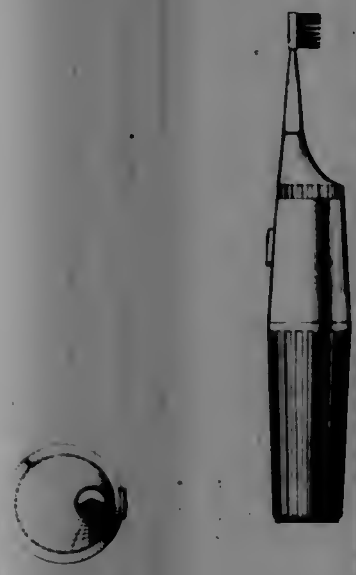
201,665
SHOE
Beth Levine, 59 W. 12th St., New York, N.Y.
Filed Feb. 14, 1962, Ser. No. 68,818
Term of patent 3½ years
(Cl. D7—7)



201,666
UPRIGHT VACUUM CLEANER OR SIMILAR ARTICLE
Bertrand N. Trombley, Birmingham, Mich., assignor to Kingston Products Corporation, Kokomo, Ind., a corporation of Indiana
Filed Nov. 19, 1962, Ser. No. 72,545
Term of patent 3½ years
(Cl. D9—2)



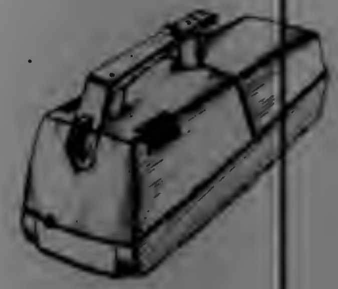
201,667
ELECTRIC TOOTHBRUSH
Nathan K. Morris and Elias Saka, both of 4th and Railroad Aves., Neptune City, N.J.
Filed June 4, 1963, Ser. No. 75,206
Term of patent 14 years
(Cl. D9—2)



201,668
VACUUM CLEANER

Francìscus Hubertus Cornelis van der Put, Geldrop, Netherlands, assignor to Verenigde Stofzuigerfabrieken N.V., Leeuwarden, Netherlands, a corporation of the Netherlands

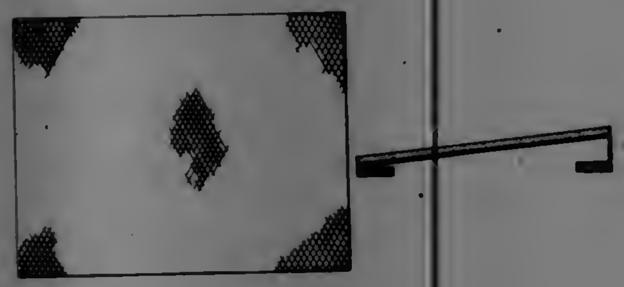
Filed July 29, 1964, Ser. No. 81,050
Term of patent 14 years
(Cl. D9—2)



201,669
TYPEWRITER PAD

Hugh A. Steger, St. Louis County, Mo. (9859 Coventry Lane, St. Louis, Mo.)

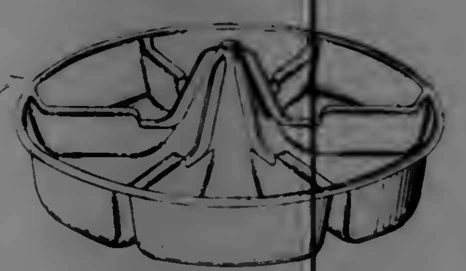
Filed Aug. 28, 1963, Ser. No. 76,378
Term of patent 3½ years
(Cl. D9—6)



201,670
PLASTIC FEEDING TUB FOR ANIMALS

Robert D. Moore, 1810 Melhill Way, Los Angeles, Calif.

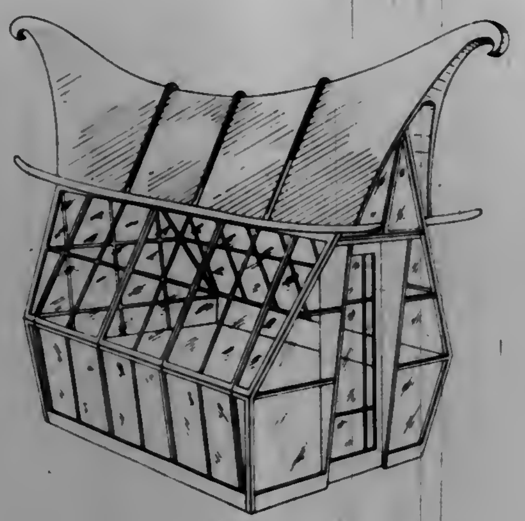
Filed Sept. 9, 1964, Ser. No. 81,662
Term of patent 14 years
(Cl. D12—2)



201,671
GREENHOUSE

Edward A. Wiegand, 18615 Detroit Ave., Lakewood, Ohio

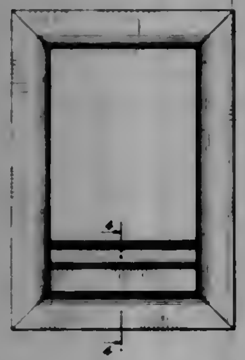
Filed Oct. 16, 1963, Ser. No. 77,000
Term of patent 14 years
(Cl. D13—1)



201,672
STORM DOOR FRAME

Rexford J. Damiani, Port Washington, N.Y., assignor to Karey Products Corporation, Plainview, N.Y., a corporation of New York

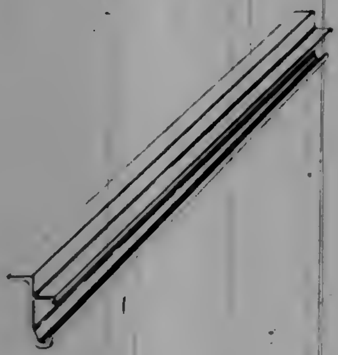
Filed June 18, 1964, Ser. No. 80,460
Term of patent 14 years
(Cl. D13—1)



201,673
DOOR TRACK

Harry S. Stevens, 30420 La Vista Verde, San Pedro, Calif.

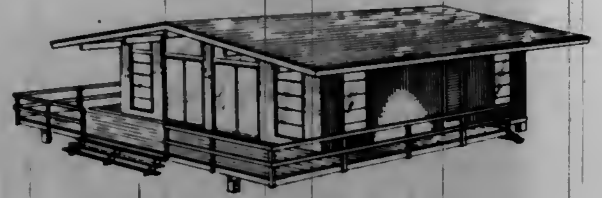
Filed July 20, 1964, Ser. No. 80,927
Term of patent 14 years
(Cl. D13—1)



201,674
BUNGALOW

Wallace Bruce Slaughter, Fort Worth, Tex., assignor to Holiday House Manufacturers Corporation, Fort Worth, Tex., a corporation of Texas

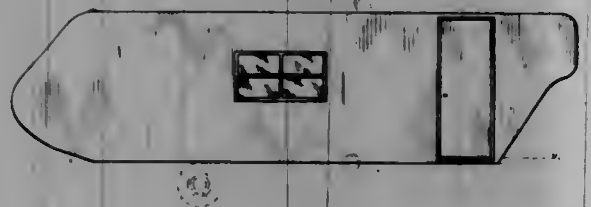
Filed Nov. 5, 1964, Ser. No. 82,481
Term of patent 14 years
(Cl. D13—1)



201,675
TRAILER

Cecil R. Smith, Rte. 1, Liberal, Mo.

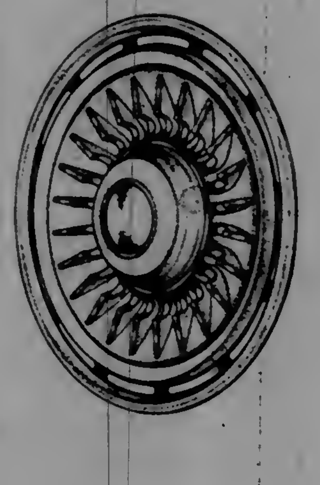
Filed July 20, 1964, Ser. No. 80,928
Term of patent 7 years
(Cl. D14—3)



201,676
WHEEL COVER

David R. Holls, Birmingham, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

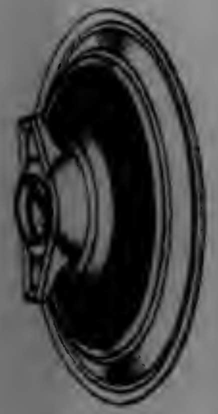
Filed Aug. 31, 1964, Ser. No. 81,509
Term of patent 7 years
(Cl. D14—30)



201,677
WHEEL COVER

Anthony A. Balthasar, Utica, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware

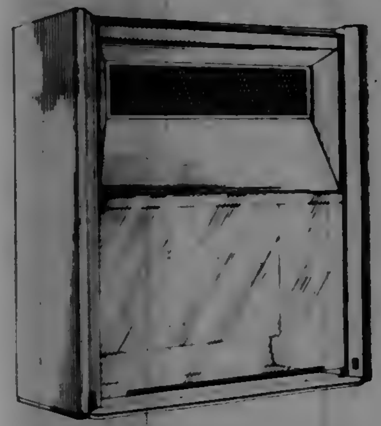
Filed Aug. 31, 1964, Ser. No. 81,520
Term of patent 7 years
(Cl. D14—30)



201,678
LABORATORY FUME HOOD

Ronald E. Hill, Independence, Mo., assignor to Hill Engineering & Manufacturing, Inc., Independence, Mo., a corporation of Missouri

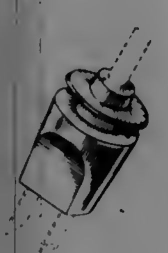
Filed Mar. 18, 1964, Ser. No. 79,068
Term of patent 7 years
(Cl. D16—2)



201,679
ELECTRIC PLUG BODY OR SIMILAR ARTICLE

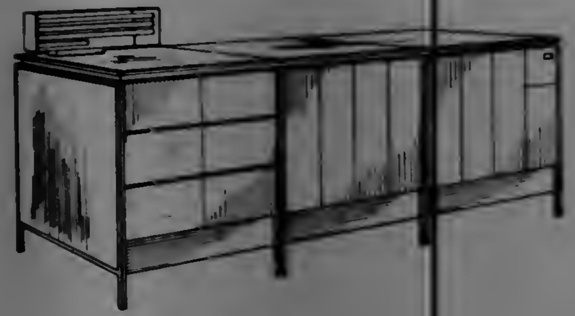
Ralph A. W. Johanson, White Plains, and Jacques L. Le Baigue, Westbury, N.Y., assignors to Electrolux Corporation, Old Greenwich, Conn., a corporation of Delaware

Filed Sept. 9, 1964, Ser. No. 81,654
Term of patent 14 years
(Cl. D26—1)



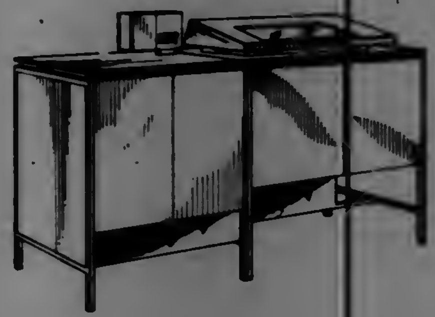
201,680
COMPUTER OR SIMILAR ARTICLE

William H. Harkins, Lexington, and John F. Graham, Wakefield, Mass., assignors to Honeywell Inc., a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 78,001
Term of patent 14 years
(Cl. D26—5)



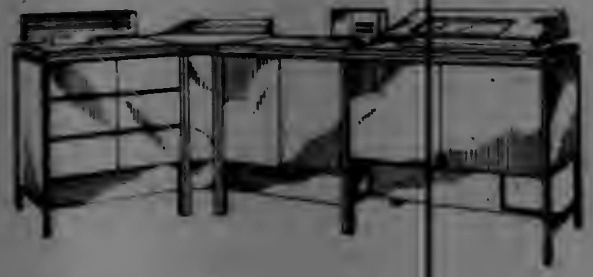
201,681
HIGH-SPEED PRINTER OR SIMILAR ARTICLE

William H. Harkins, Lexington, and John F. Graham, Wakefield, Mass., assignors to Honeywell Inc., a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 78,011
Term of patent 14 years
(Cl. D26—5)



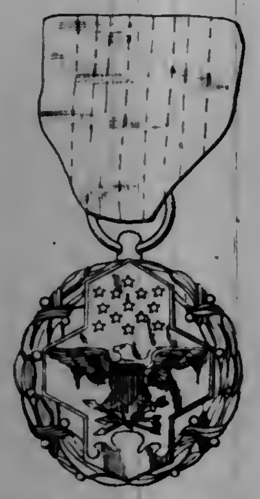
201,682
DATA PROCESSING CONSOLE OR SIMILAR ARTICLE

William H. Harkins, Lexington, Mass., assignor to Honeywell Inc., a corporation of Delaware
Filed Jan. 2, 1964, Ser. No. 78,012
Term of patent 14 years
(Cl. D26—5)



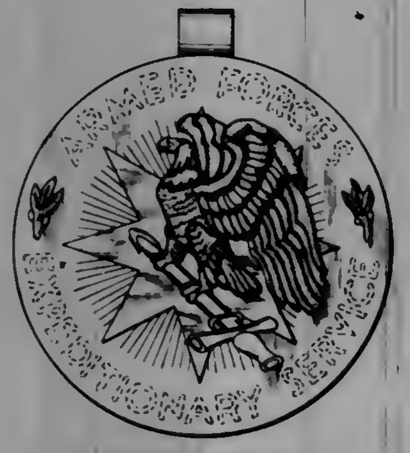
201,683
JOINT SERVICE COMMENDATION MEDAL

Stafford F. Potter, Arlington, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed July 20, 1964, Ser. No. 80,938
Term of patent 14 years
(Cl. D29—19)
(Granted under Title 35, U.S. Code (1952), sec. 266)



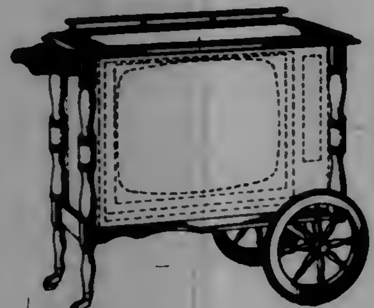
201,684
ARMED FORCES EXPEDITIONARY SERVICE MEDAL

Jay C. Morris, Alexandria, Va., assignor to the United States of America as represented by the Secretary of the Army
Filed Aug. 28, 1964, Ser. No. 81,504
Term of patent 14 years
(Cl. D29—19)
(Granted under Title 35, U.S. Code (1952), sec. 266)



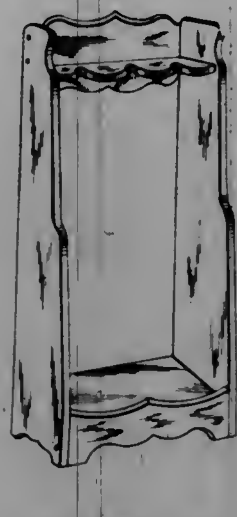
201,685
CART FOR A TELEVISION RECEIVER

James W. Kelso, Pacific Palisades, Calif., assignor to Packard-Bell Electronics Corporation, Los Angeles, Calif., a corporation of California
Filed Apr. 2, 1963, Ser. No. 74,256
Term of patent 14 years
(Cl. D33—14)



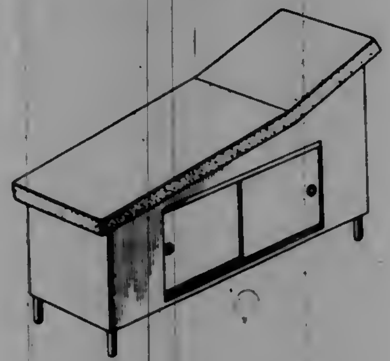
201,686
STAND FOR FIREPLACE TOOLS

Harold S. Hobson, Jr., Seymour, Ind., assignor to Seymour Manufacturing Co., Seymour, Ind., a corporation of Delaware
Filed Aug. 17, 1964, Ser. No. 81,320
Term of patent 14 years
(Cl. D33—17)



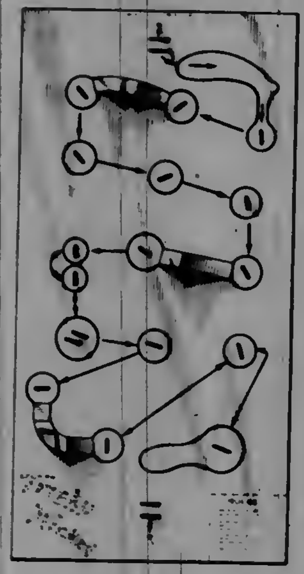
201,687
COMBINED SHAMPOO COUCH AND CABINET UNIT

James E. Barnett, R.F.D. 3, Box 130, Fort Valley, Ga.
Filed Mar. 26, 1964, Ser. No. 79,206
Term of patent 14 years
(Cl. D33—19)



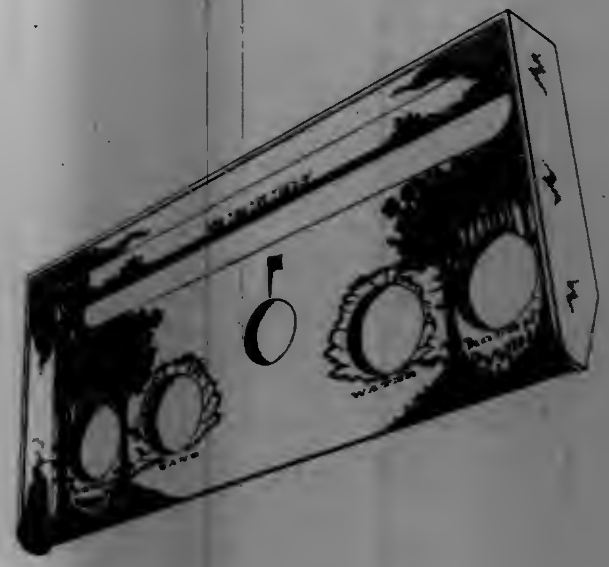
201,688
GAMEBOARD

Peter A. Gelman, Stephen R. Gelman, Jane A. Gelman, and Kenneth P. Hines, all of 2921 Wilshire Blvd., Santa Monica, Calif.
Filed Sept. 24, 1963, Ser. No. 76,704
Term of patent 3½ years
(Cl. D34—5)



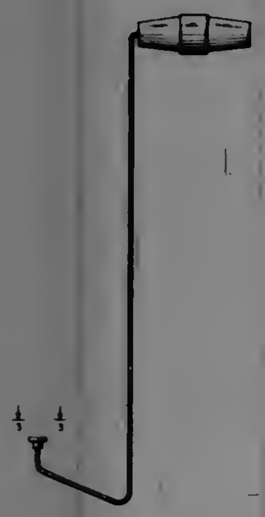
201,689
GAME PUTTING TARGET

Remo E. Lindner, 3311 N. 13th St., Sheboygan, Wis.
Filed Dec. 5, 1963, Ser. No. 77,680
Term of patent 3½ years
(Cl. D34—5)



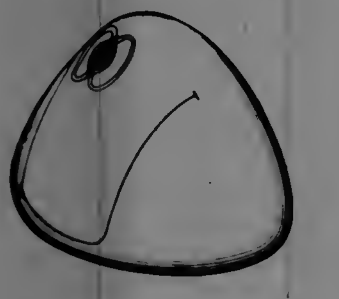
201,690
WHIRLING TOY FOR BALANCING AN OBJECT

Grant L. Southworth, 261 South 100 West, Kaysville, Utah
Filed May 20, 1964, Ser. No. 80,076
Term of patent 3½ years
(Cl. D34—15)



201,691
SOUND PRODUCING TOY

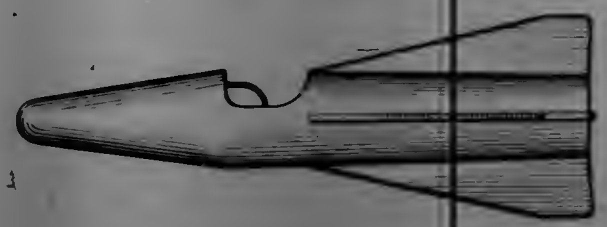
Norman M. Epstein, 835 S. Holt St., Los Angeles, Calif.
Filed Dec. 7, 1964, Ser. No. 82,937
Term of patent 14 years
(Cl. D34—15)



201,692

MARBLE SHOOTER OR THE LIKE

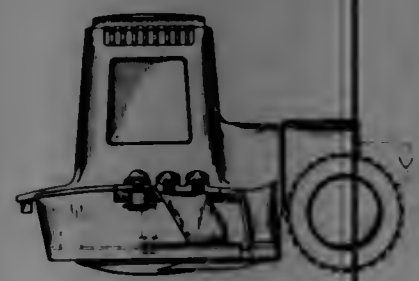
Edmund R. Braun, 530 Hillside Drive, Bensenville, Ill.
Filed Jan. 11, 1965, Ser. No. 83,390
Term of patent 14 years
(Cl. D34—15)



201,693

COMBINATION LAWN TRIMMER AND EDGER

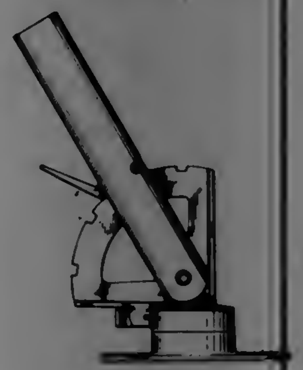
Thomas C. Abrahamsen, Cherry Hill, N.J., and Harper Landell, Fort Washington, Pa., assignors to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Nov. 20, 1964, Ser. No. 82,715
Term of patent 14 years
(Cl. D40—1)



201,694

OUTRIGGER OR SIMILAR ARTICLE

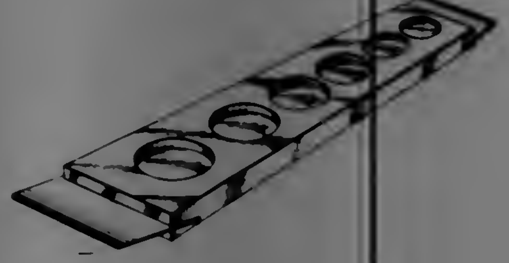
Roger A. Spindler, Westfield, N.J., assignor to August Spindler & Sons, Inc., Cranford, N.J., a corporation of New Jersey
Filed Nov. 12, 1964, Ser. No. 82,573
Term of patent 14 years
(Cl. D41—1)



201,695

BEVERAGE SERVING TRAY OR THE LIKE

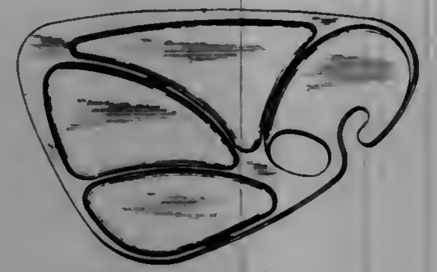
Walter I. Bieger, Minneapolis, Minn., assignor to Arthur Salm Inc., Chicago, Ill., a corporation of Illinois
Filed May 21, 1963, Ser. No. 74,991
Term of patent 14 years
(Cl. D44—10)



201,696

INDIVIDUAL HAND PARTY TRAY

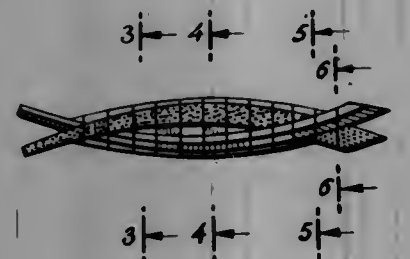
Riccardo Zorn, Via Conservatorio 15, Milan, Italy
Filed Aug. 14, 1964, Ser. No. 81,294
Claims priority, application Italy Mar. 11, 1964
Term of patent 14 years
(Cl. D44—10)



201,697

CHAIN FOR A BRACELET OR THE LIKE

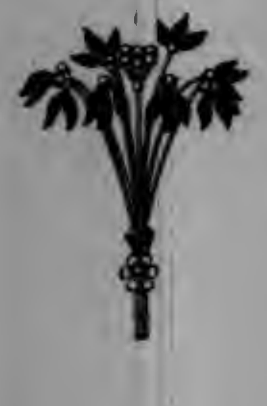
Emil Rodriguez, New York, N.Y., assignor to Jacoby-Bender, Inc., Woodside, N.Y., a corporation of New York
Filed July 14, 1964, Ser. No. 80,853
Term of patent 7 years
(Cl. D45—4)



201,698

PIN CLIP

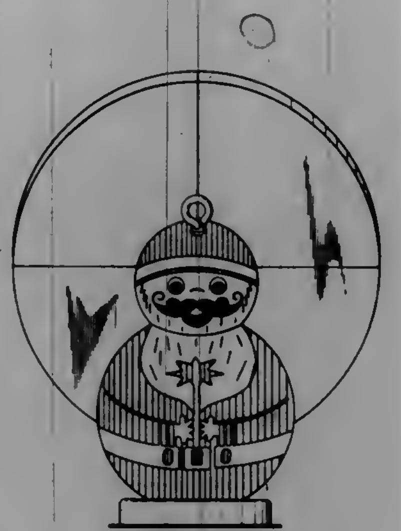
Sidney Golden, Levittown, N.Y., assignor to Avo Uvezian, New York, N.Y.
Filed Mar. 15, 1963, Ser. No. 73,988
Term of patent 3½ years
(Cl. D45—19)



201,699

COMBINED LAMP AND COLOR WHEEL

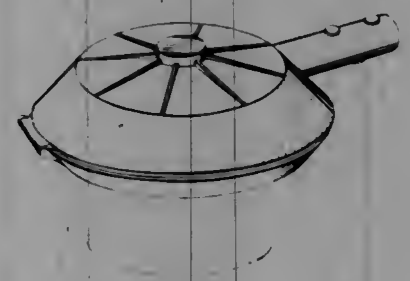
Bernard Fineman, 1802 N. 77th St., and Isadore Fineman, 1234 Hale St., both of Philadelphia, Pa.
Original application Aug. 5, 1963, Ser. No. 76,094, now Design Patent No. 199,325, dated Oct. 6, 1964. Divided and this application July 13, 1964, Ser. No. 80,820
Term of patent 14 years
(Cl. D48—20)



201,700

LUMINAIRE

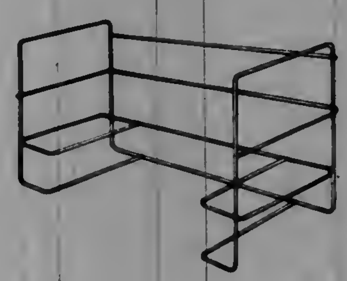
Bernard R. Stockwell, Sunbury, Ohio, assignor to Holophane Company, Inc., New York, N.Y., a corporation of Delaware
Filed Feb. 3, 1964, Ser. No. 78,469
Term of patent 14 years
(Cl. D48—31)



201,701

ELECTRIC FLAT IRON GUARD, FOR ATTACHMENT TO AN IRONING BOARD

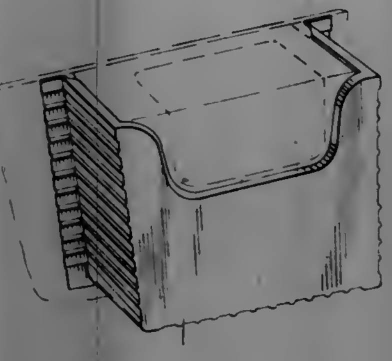
Margaret Stuart, 6148 Smith Road, Brook Park, Ohio
Filed Sept. 18, 1963, Ser. No. 76,630
Term of patent 7 years
(Cl. D49—6)



201,702

TISSUE PACKAGE HOLDER

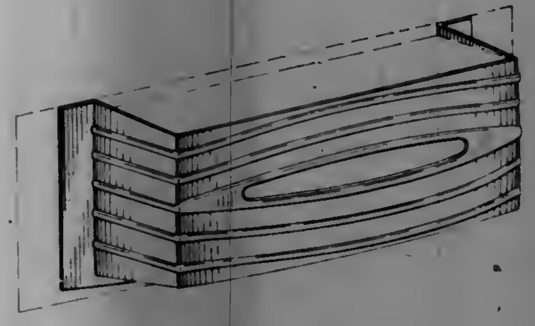
Forbes Howard, 360 Mary St., Grosse Pointe Farms, Mich.
Filed Apr. 20, 1964, Ser. No. 79,571
Term of patent 3½ years
(Cl. D52—2)



201,703

TISSUE PACKAGE HOLDER

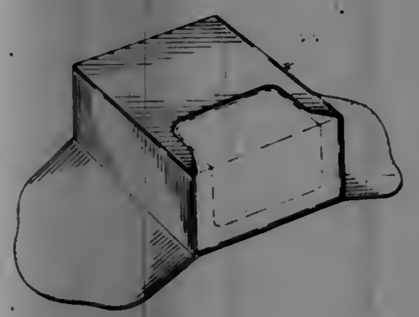
Forbes Howard, 360 Mary St., Grosse Pointe Farms, Mich.
Filed Apr. 20, 1964, Ser. No. 79,572
Term of patent 3½ years
(Cl. D52—2)



201,704

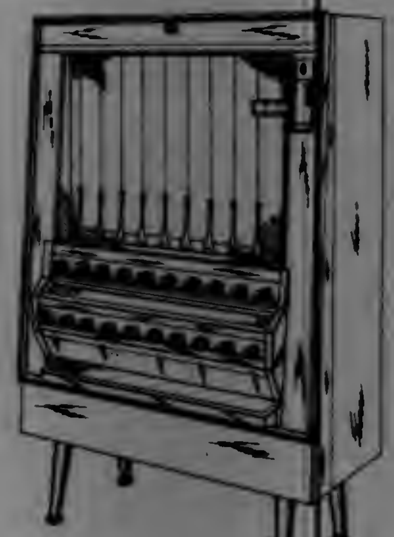
TISSUE PACKAGE HOLDER

Forbes Howard, 360 Mary St., Grosse Pointe Farms, Mich.
Filed Apr. 20, 1964, Ser. No. 79,573
Term of patent 3½ years
(Cl. D52—2)



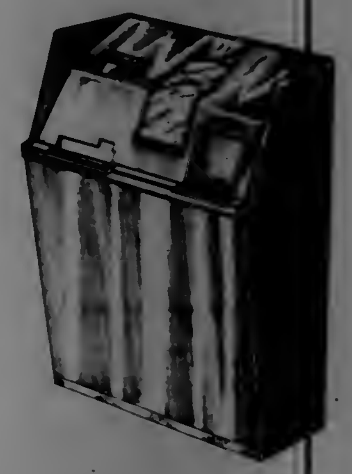
201,705
CIGARETTE VENDING MACHINE

Walter E. Moore, Bel-Nor, Mo., assignor to Universal Match Corporation, St. Louis, Mo., a corporation of Delaware
Filed May 4, 1964, Ser. No. 79,797
Term of patent 14 years
(Cl. D52—3)



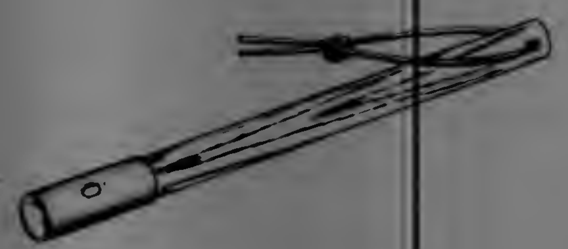
201,706
COFFEE DISPENSING MACHINE OR SIMILAR ARTICLE

Peter B. Allard, Mansfield, Ohio, assignor to The Cornelius Company, a corporation of Minnesota
Filed July 24, 1964, Ser. No. 80,999
Term of patent 14 years
(Cl. D52—3)



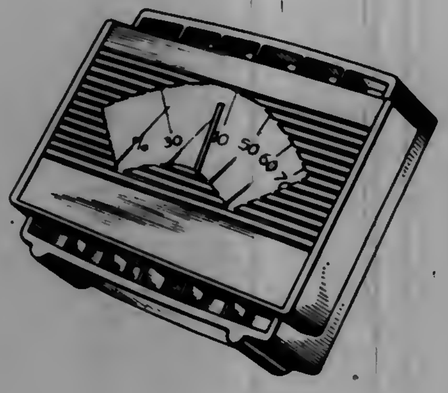
201,707
TIRE INFLATION TESTER

Robert D. Moyer, R.F.D. 1, Box 3[illegible], Star City, Ind.
Filed June 6, 1961, Ser. No. 65,477
Term of patent 14 years
(Cl. D52—6)



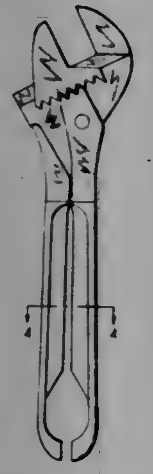
201,708
HYGROMETER

Hansrudolf Stoop, Baar, Zug, Switzerland, assignor to Defensor Aktiengesellschaft, Zurich, Switzerland, a corporation of Switzerland
Filed Dec. 2, 1963, Ser. No. 77,630
Claims priority, application Switzerland June 7, 1963
Term of patent 14 years
(Cl. D52—7)



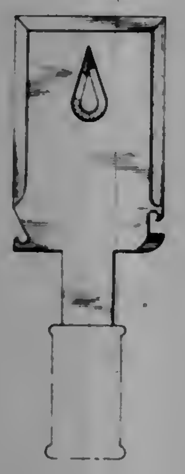
201,709
PLIER WRENCH

Ted Neff, 20975 Shamrock Ave., San Bernardino, Calif.
Filed Mar. 28, 1963, Ser. No. 74,182
Term of patent 14 years
(Cl. D54—13)



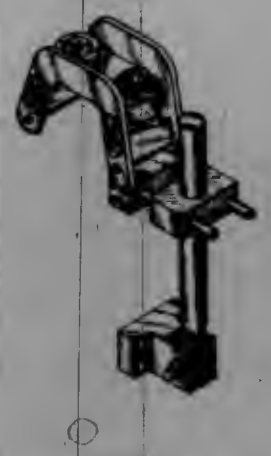
201,710
COMBINATION HAND TOOL FOR BOY SCOUTS, HUNTERS, WOODSMEN AND THE LIKE

Francis H. Monek, 950 E. Westminster, Lake Forest, Ill.
Filed July 26, 1963, Ser. No. 75,979
Term of patent 14 years
(Cl. D54—13)



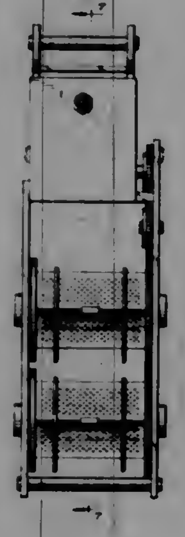
201,711
BOTTLE MARKER

Charles H. Chadbourn, 1922 W. 49th St., Minneapolis, Minn.
Filed June 24, 1964, Ser. No. 80,560
Term of patent 7 years
(Cl. D55—1)



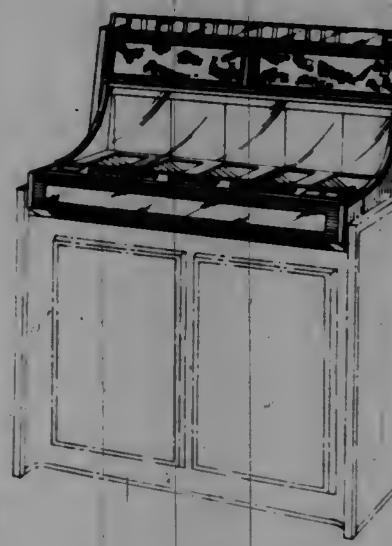
201,712
PORTABLE PLATING BARREL UNIT

Cyrus I. Knecht, Oceanport, N.J., assignor to Daniels Plating Barrel & Supply Company, Newark, N.J., a corporation of New Jersey
Filed Oct. 19, 1964, Ser. No. 82,226
Term of patent 14 years
(Cl. D55—1)



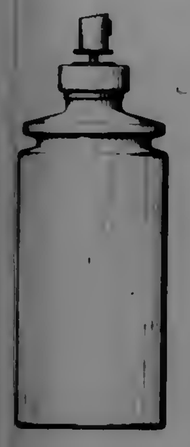
201,713
PHONOGRAPH CABINET

William C. Prutting, 57 Long Lots Road, Westport, Conn.
Filed July 22, 1964, Ser. No. 80,964
Term of patent 14 years
(Cl. D56—4)



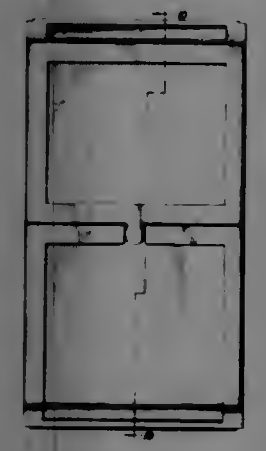
201,714
AEROSOL BOTTLE

Robert R. Board, Marion, Ind., assignor to Foster-Forbes Glass Company, Marion, Ind., a corporation of Indiana
Filed July 24, 1964, Ser. No. 81,005
Term of patent 3½ years
(Cl. D58—8)



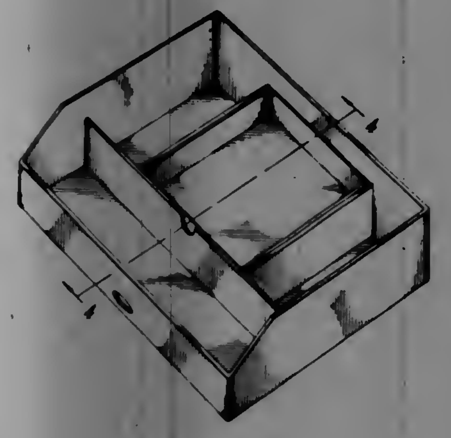
201,715
PENCIL BOX

Frederick L. Newlin, Jr., Newburgh, and Dennis L. Doughty, Evansville, Ind., assignors to Venus Pen & Pencil Corporation, New York, N.Y., a corporation of New York
Filed Aug. 17, 1964, Ser. No. 81,297
Term of patent 14 years
(Cl. D58—12)



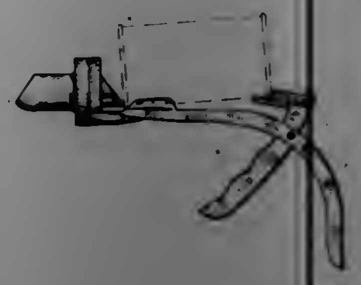
201,716
ARTIST'S TRAY

Maurice G. Franklin, 3617 Clover Lane, Muncie, Ind.
Filed June 3, 1964, Ser. No. 80,270
Term of patent 14 years
(Cl. D58—13)



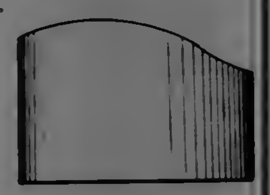
201,717
COMBINED OPENER AND DISPENSER FOR CANS

Robert L. Perrin, 104 N. Main, McPherson, Kans.
Filed Apr. 3, 1964, Ser. No. 79,337
Term of patent 7 years
(Cl. D58—26)



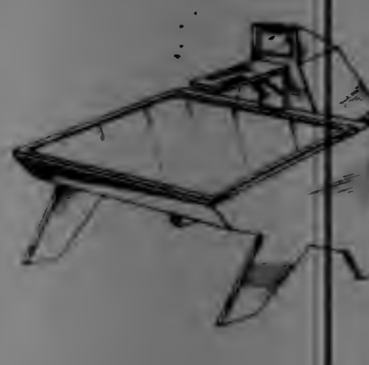
201,718
DISPENSER TOP FOR A PRESSURE CAN

Robert H. Abplanalp, 10 Hewitt Ave., Bronxville, N.Y. Continuation of design applications Ser. No. 73,868, Mar. 7, 1963, and Ser. No. 76,640, Sept. 19, 1963. This application Jan. 21, 1965, Ser. No. 83,759
Term of patent 14 years
(Cl. D58—26)



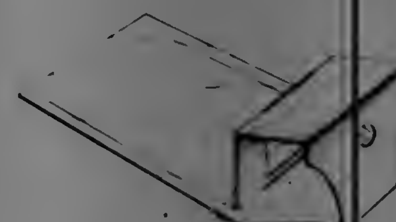
201,719
PROJECTION APPARATUS OR THE LIKE

Horace J. Haupt and Benjamin Levin, Los Angeles, Calif., assignors to Trans-World Office Corporation, Los Angeles, Calif., a corporation of California
Filed Mar. 24, 1964, Ser. No. 79,146
Term of patent 3½ years
(Cl. D61—1)



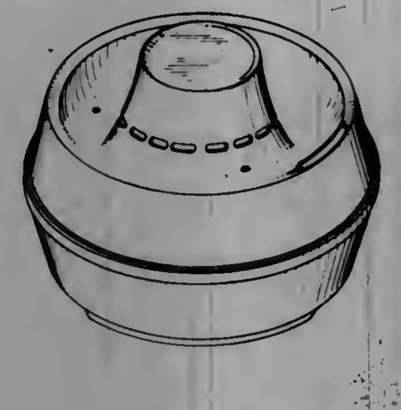
201,720
COLLAPSIBLE FILM TRANSPARENCY VIEWER

Louis E. Wilder, Glen Ellyn, Ill., assignor to Interlock Productions Incorporated, Chicago, Ill.
Filed May 27, 1964, Ser. No. 80,182
Term of patent 7 years
(Cl. D61—1)



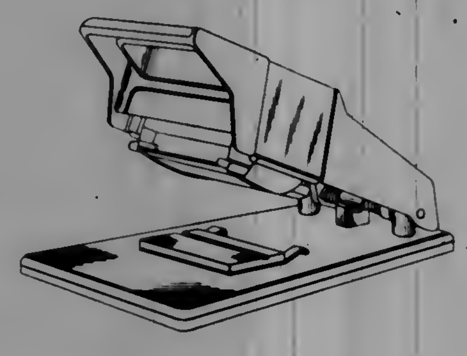
201,721
HUMIDIFIER OR THE LIKE

Lawrence Katzman, Edward Briggin, Edward M. Stolarz, and Anthony N. D'Elia, New York, N.Y.; said Briggin, said Stolarz, and said D'Elia assignors to Kaz Manufacturing Co., Inc., New York, N.Y., a corporation of New York
Filed June 3, 1964, Ser. No. 80,255
Term of patent 14 years
(Cl. D62—4)



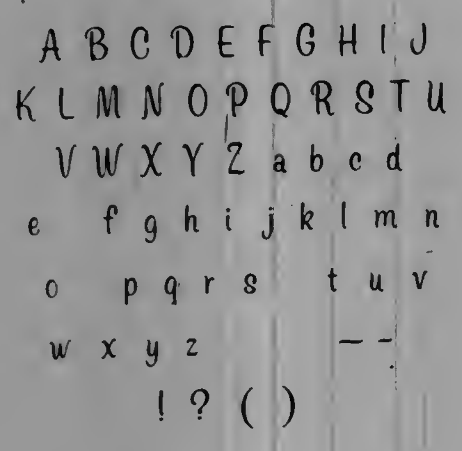
201,722
ADDRESS PRINTING MACHINE OR THE LIKE

John J. Van Acker, Chesterland, and Darwin S. Crouser, Mentor, Ohio, assignors to Addressograph Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware
Filed Sept. 17, 1964, Ser. No. 81,772
Term of patent 14 years
(Cl. D64—11)



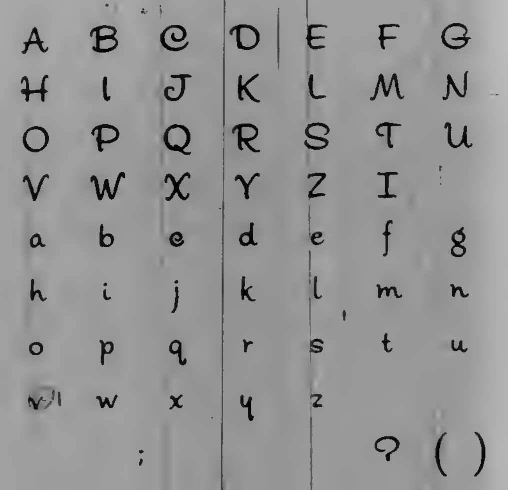
201,723
TYPE FONT

William Sandwick, Cleveland, Ohio, assignor to American Greetings Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Oct. 13, 1964, Ser. No. 82,160
Term of patent 14 years
(Cl. D64—12)



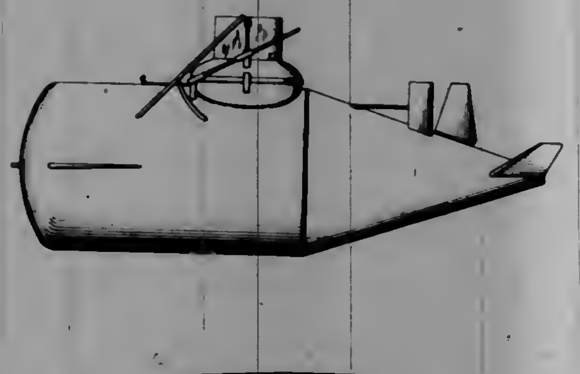
201,724
TYPE FONT

William Sandwick, Cleveland, Ohio, assignor to American Greetings Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 28, 1964, Ser. No. 83,171
Term of patent 14 years
(Cl. D64—12)



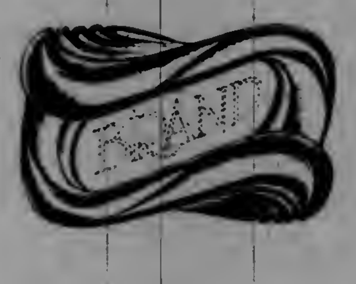
201,725
SUBMARINE

Franklin E. Rigsby and Woodrow Rigsby, both of 9524 Fritz Road, Fort Wayne, Ind.
Filed July 16, 1964, Ser. No. 80,900
Term of patent 14 years
(Cl. D71—1)



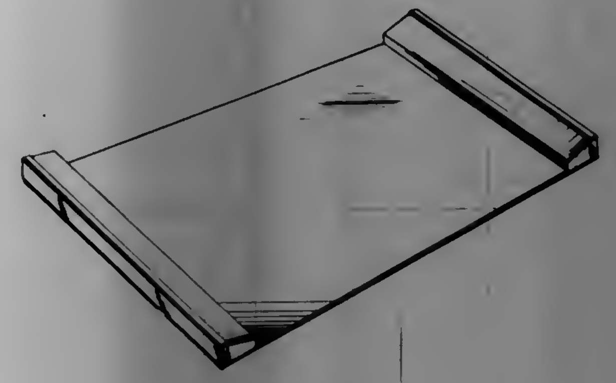
201,726
BAR OF SOAP

Harold Charles Dowit, 11835 Sheldon St., Sun Valley, Calif.
Filed Nov. 3, 1964, Ser. No. 82,456
Term of patent 14 years
(Cl. D73—1)



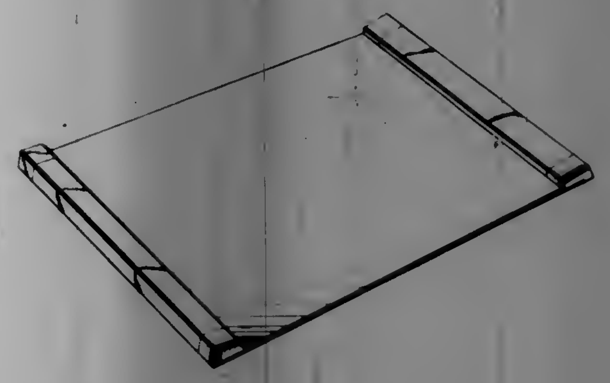
201,727
DESK PAD OR SIMILAR ARTICLE

William E. L. Bunn, Fort Madison, Iowa, and James V. Vevirit, Kenmore, N.Y., assignors to W. A. Sheaffer Pen Company, Fort Madison, Iowa, a corporation of Delaware
Filed Nov. 13, 1963, Ser. No. 77,407
Term of patent 14 years
(Cl. D74—1)



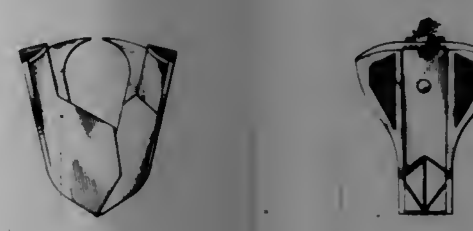
201,728
DESK PAD OR SIMILAR ARTICLE

William E. L. Bunn, Fort Madison, Iowa, and James V. Vevirit, Kenmore, N.Y., assignors to W. A. Sheaffer Pen Company, Fort Madison, Iowa, a corporation of Delaware
Filed Nov. 13, 1963, Ser. No. 77,408
Term of patent 14 years
(Cl. D74—1)



201,729
STAPLE REMOVER TOOL

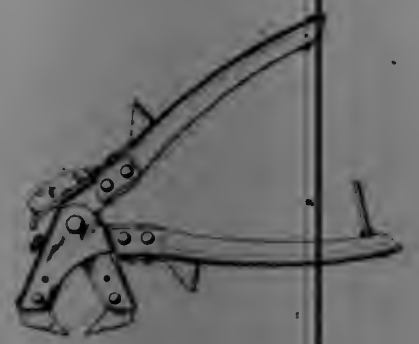
Richard L. Thurman, Beloit, Wis., assignor to The Parker Pen Company, Janesville, Wis., a corporation of Wisconsin
Filed July 13, 1964, Ser. No. 80,814
Term of patent 14 years
(Cl. D74—1)



201,730

COMBINED STAPLE REMOVER AND CARTON OPENING TOOL

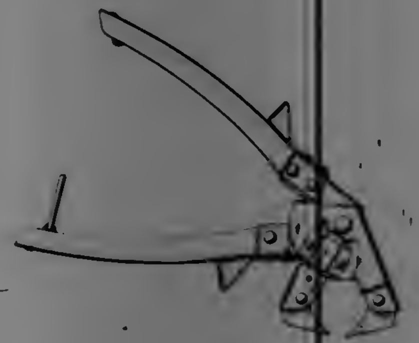
Nathaniel M. Olney, 350 Cabrini Blvd., New York, N.Y.
Filed July 31, 1964, Ser. No. 81,095
Term of patent 14 years
(Cl. D74—1)



201,731

COMBINED STAPLE REMOVER AND CARTON OPENING TOOL

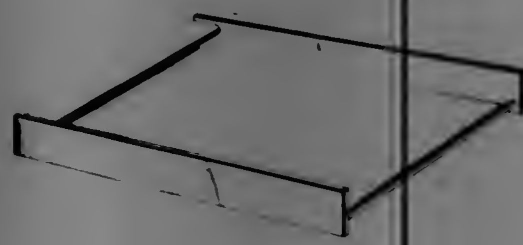
Nathaniel M. Olney, New York, N.Y., assignor to Swingline Inc., Long Island City, N.Y., a corporation of New York
Filed July 31, 1964, Ser. No. 81,102
Term of patent 14 years
(Cl. D74—1)



201,732

DESK TRAY OR SIMILAR ARTICLE

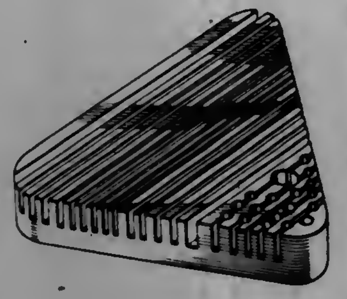
William E. L. Bunn, Fort Madison, Iowa, and James V. Vevirit, Kenmore, N.Y., assignors to W. A. Sheaffer Pen Company, Fort Madison, Iowa, a corporation of Delaware
Filed Nov. 13, 1963, Ser. No. 77,406
Term of patent 14 years
(Cl. D74—9)



201,733

DRAFTSMAN'S INSTRUMENT RACK

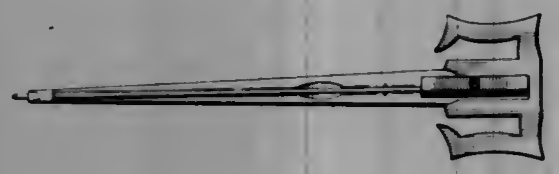
Vasilius C. Vovakes, 1855 W. 6th St., Mesa, Ariz.
Filed June 3, 1964, Ser. No. 80,268
Term of patent 7 years
(Cl. D74—13)



201,734

COMBINED LETTER OPENER, WRITING INSTRUMENT AND PENCIL SHARPENER

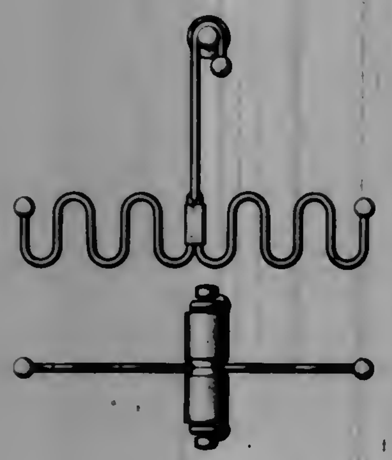
Frank W. Derenski, 11009 Morrison St., Los Angeles, Calif.
Filed Jan. 18, 1965, Ser. No. 83,472
Term of patent 14 years
(Cl. D74—17)



201,735

ROLLING SUPPORT FOR GARMENT HANGERS

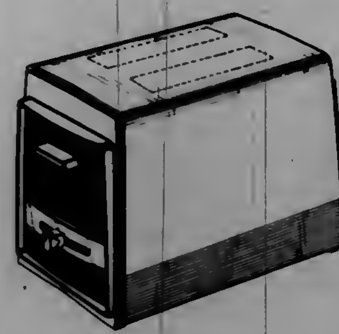
Harold A. Reich, 305 W. 86th St., New York 24, N.Y.
Filed July 29, 1964, Ser. No. 81,062
Term of patent 3½ years
(Cl. D80—8)



201,736

TOASTER

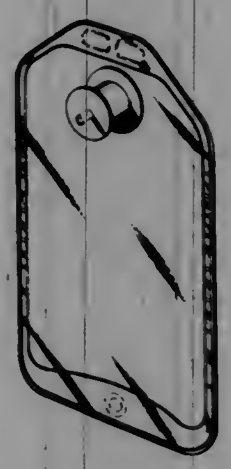
Jerold R. Peterson, Roselle, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed July 9, 1963, Ser. No. 75,723
Term of patent 14 years
(Cl. D81—10)



201,737

COLLAPSIBLE ENEMA BAG OR SIMILAR ARTICLE

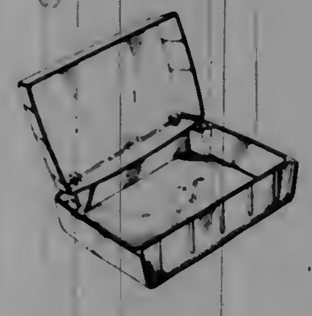
John C. Ilg, Fitzwilliam, N.H., assignor to Elliot Laboratories, Inc., Fitzwilliam, N.H., a corporation of New Hampshire
Filed Feb. 28, 1964, Ser. No. 78,823
Term of patent 14 years
(Cl. D83—1)



201,738

ASH TRAY

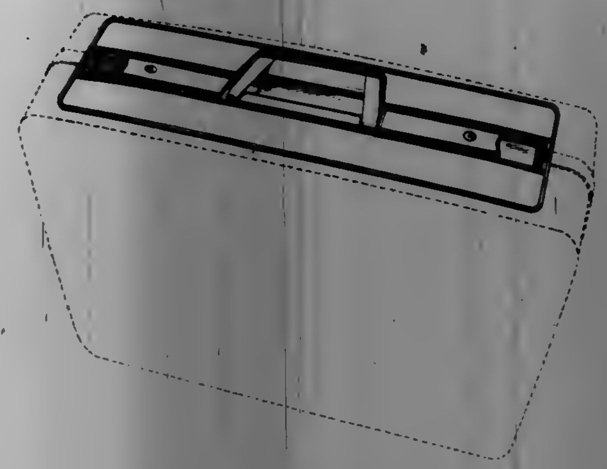
Richard S. Karbo, Whittier, Calif., assignor to Sutone Corporation, Paramount, Calif., a corporation of California
Filed May 13, 1963, Ser. No. 74,862
Term of patent 3½ years
(Cl. D85—2)



201,739

LUGGAGE CASE

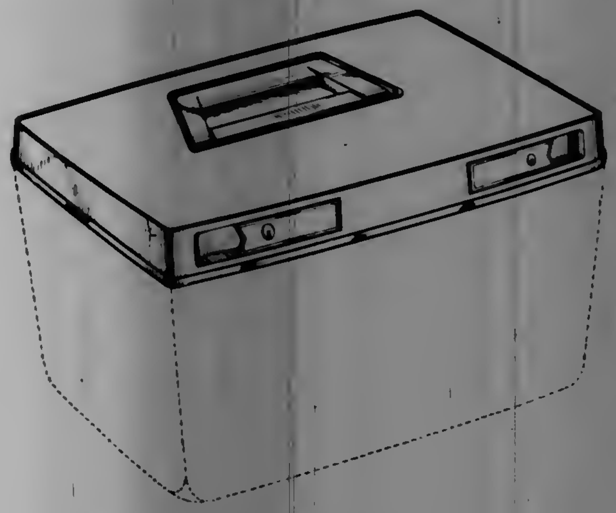
Paul O. Rawson, Jr., Trumbull, Conn., assignor, by mesne assignments, to J. C. Penney Company, Inc., a corporation of Delaware
Filed Nov. 24, 1964, Ser. No. 82,766
Term of patent 14 years
(Cl. D87—2)



201,740

LUGGAGE CASE

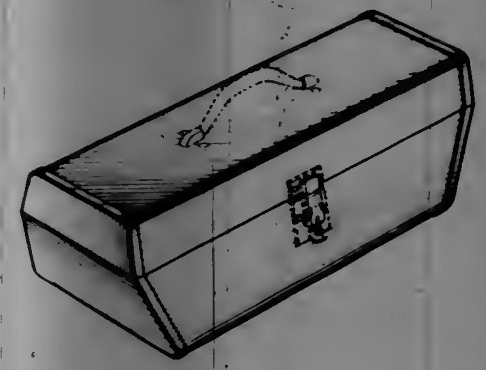
Paul O. Rawson, Jr., Trumbull, Conn., assignor, by mesne assignments, to J. C. Penney Company, Inc., a corporation of Delaware
Filed Nov. 24, 1964, Ser. No. 82,767
Term of patent 14 years
(Cl. D87—2)



201,741

TOOL BOX OR SIMILAR ARTICLE

Gerald M. Grusin, Chicago, Ill., assignor to Mohawk Metal Products Corporation, Cicero, Ill., a corporation of Illinois
Filed Sept. 1, 1964, Ser. No. 81,549
Term of patent 14 years
(Cl. D87—5)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 20TH DAY OF JULY, 1965

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Macchione, John M. Method of and apparatus for producing tubes of polygonal cross section. Re. 25,820, 7–20–65, Cl. 93—80.

Minnesota Mining and Mfg. Co.: *See*—
- Tate, Clarence R. Re. 25,822.

Polaroid Corp.: *See*—
- **Shurcliff, William A. Re. 25,821.**

Shurcliff, William A., to Polaroid Corp. Radiation detection devices. Re. 25,821, 7–20–65, Cl. 250—71.

Tate, Clarence R., to Minnesota Mining and Mfg. Co. Magnetic writing materials set. Re. 25,822, 7–20–65, Cl. 35—66.

LIST OF PLANT PATENTEES

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- Samtmann, Charles. 2,545.

Samtmann, Charles, to The Conard-Pyle Co. Rose plant. 2,545, 7–20–65, Cl. 20.

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Abplanalp, Robert H. Dispenser top for a pressure can. 201,718, 7–20–65, Cl. D58—26.

Abrahamsen, Thomas C., and H. Landell, to The Black and Decker Mfg. Co. Combination lawn trimmer and edger. 201,693, 7–20–65, Cl. D40—1.

Addressograph Multigraph Corp.: *See*—
- Van Acker, John J., and Crouser. 201,722.

Allard, Peter B., to The Cornelius Co. Coffee dispensing machine, or similar article. 201,706, 7–20–65, Cl. D52—3.

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- Sandwick, William. 201,724.

American Radiator & Standard Sanitary Corp.: *See*—
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Bamberger, Francois, to Hauser S.A.R.L. Pants. 201,660, 7–20–65, Cl. D3—17.

Barnett, James E. Combined shampoo couch and cabinet unit. 201,687, 7–20–65, Cl. D33—19.

Bieger, Walter I., to Arthur Salm, Inc. Beverage serving tray or the like. 201,695, 7–20–65, Cl. D44—10.

Bifaro, Ralph P. Loose-leaf binder. 201,663, 7–20–65, Cl. D6—2.

Black and Decker Mfg. Co. The: *See*—
- **Abrahamsen, Thomas C., and Landell. 201,693.**

Board, Robert R., to Foster-Forbes Glass Co. Aerosol bottle. 201,714, 7–20–65, Cl. D58—8.

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- Katzman, Lawrence, Briggin, Stolarz, and D'Elia. D201,721.

Bunn, William E. L., and J. V. Vevirit, to W. A. Sheaffer Pen Co. Desk pad or similar article. 201,727, 7–20–65, Cl. D74—1.

Bunn, William E. L., and J. V. Vevirit, to W. A. Sheaffer Pen Co. Desk pad or similar article. 201,728, 7–20–65, Cl. D74—1.

Bunn, William E. L., and J. V. Vevirit, to W. A. Sheaffer Pen Co. Desk tray or similar article. 201,732, 7–20–65, Cl. D74—9.

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Defensor Aktiengesellschaft: *See*—
- Stoop, Hansrudolf. 201,708.

D'Elia, Anthony N.: *See*—
- Katzman, Lawrence, Briggin, Stolarz, and D'Elia. 201,721.

Derenski, Frank W. Combined letter opener, writing instrument and pencil sharpener. 201,734, 7–20–65, Cl. D74—17.

Doughty, Dennis L.: *See*—
- Newlin Frederick L., Jr., and Doughty. 201,715.

Dowit, Harold C. Bar of soap. 201,726, 7–20–65, Cl. D73—1.

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Epstein, Norman M. Sound producing toy. 201,691, 7–20–65, Cl. D34—15.

Fineman, Bernard and I. Combined lamp and color wheel. 201,699, 7–20–65, Cl. D48—20.

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Gelman, Stephen R.: *See*—
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- Balthasar, Anthony A. 201,677.
- Holls, David R. 201,676.

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- Harkins, William H. 201,681.

Grusin, Gerald M., to Mohawk Metal Products Corp. Tool box or similar article. 201,741, 7–20–65, Cl. D87—5.

Harkins, William H., to Honeywell Inc. Data processing console or similar article. 201,682, 7–20–65, Cl. D26—5.

Harkins, William H., and J. F. Graham, to Honeywell Inc. Computer or similar article. 201,680, 7–20–65, Cl. D26—5.

Harkins, William H., and J. F. Graham, to Honeywell Inc. High-speed pirnter or similar article. 201,681, 7–20–65, Cl. D26—5.

Haupt, Horace J., and B. Levin, to Trans-World Office Corp. Projection apparatus or the like. 201,719, 7–20–65, Cl. D61—1.

Hauser S.A.R.L.: *See*—
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- Bamberger, Francois. 201,660.

Hill Engineering & Mfg., Inc.: *See*—
- Hill, Ronald E. 201,678.

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Holls, David R., to General Motors Corp. Wheel cover. 201,676, 7–20–65, Cl. D14—30.

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- Harkins, William H., and Graham. 201,680.
- Harkins, William H., and Graham. 201,681.

Howard, Forbes. Tissue package holder. 201,702, 7–20–65, Cl. D52—2.

Howard, Forbes. Tissue package holder. 201,703, 7–20–65, Cl. D52—2.

Howard, Forbes. Tissue package holder. 201,704, 7–20–65, Cl. 52—2.

Ilg, John C., to Elliot Laboratories, Inc. Collapsible enema bag or similar article. 201,737, 7–20–65, Cl. D83—1.

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Karbo, Richard S., to Sutone Corp. Ash tray. 201,738, 7–20–65, Cl. D85—2.
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Lewis, Paul M. Rotating display device. 201,657, 7–20–65, Cl. D1—2.
Lindner, Remo E. Game putting target. 201,689, 7–20–65, Cl. D34—5.
Macdonald, John G. Orthopaedic arch support. 201,664, 7–20–65, Cl. D7—5.
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Grusin, Gerald M. 201,741.
Monek, Francis H. Combination hand tool for boy scouts, hunters, woodsmen and the like. 201,710, 7–20–65, Cl. D54—13.
Moore, Robert D. Plastic feeding tub for animals. 201,670, 7–20–65, Cl. D12—2.
Moore, Walter E., to Universal Match Corp. Cigarette vending machine. 201,705, 7–20–65, Cl. D52—3.
Morris, Jay C., to United States of America, Army. Armed forces expeditionary service medal. 201,684, 7–20–65, Cl. D29—19.
Morris, Nathan K., and E. Saka. Electric toothbrush. 201,667, 7–20–65, Cl. D9—2.
Moyer, Robert D. Tire inflation tester. 201,707, 7–20–65, Cl. D52—6.
Neff, Ted. Plier wrench. 201,709, 7–20–65, Cl. D54—13.
Newlin, Frederick L., Jr., and D. L. Doughty, to Venus Pen & Pencil Corp. Pencil box. 201,715, 7–20–65, Cl. D58—12.
Olney, Nathaniel M. Combined staple remover and carton opening tool. 201,730, 7–20–65, Cl. D74—1.
Olney, Nathaniel M., to Swingline Inc. Combined staple remover and carton opening tool. 201,731, 7–20–65, Cl. D74—1.
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Potter, Stafford F., to United States of America, Navy. Joint service commendation medal. 201,683, 7–20–65, Cl. D29—19.
Prutting, William C. Phonograph cabinet. 201,713, 7–20–65, Cl. D56—4.
Ravreby, Fred A. Loose leaf binder plate. 201,662, 7–20–65, Cl. D6—2.
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Rawson, Paul O., Jr., to J. C. Penney Co., Inc. Luggage case. 201,740, 7–20–65, Cl. D87—2.
Reich, Harold A. Rolling support for garment hangers. 201,735, 7–20–65, Cl. D80—8.
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Sandwick, William, to American Greetings Corp. Type font. 201,724, 7–20–65, Cl. D64—12.
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Bunn, William E. L., and Vevirit. 201,728.
Bunn, William E. L., and Vevirit. 201,732.
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Spindler, Roger A., to August Spindler & Sons, Inc. Outrigger or similar article. 201,694, 7–20–65, Cl. D41—1.
Steger, Hugh A. Typewriter pad. 201,669, 7–20–65, Cl. D9—6.
Stevens, Harry S. Door track. 201,673, 7–20–65, Cl. D13—1.
Stockwell, Bernard R., to Holophane Co., Inc. Luminaire. 201,700, 7–20–65, Cl. D48—31.
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Wiegand, Edward A. Greenhouse structure. 201,671, 7–20–65, Cl. D13—1.
Wilder, Louis E., to Interlock Productions Inc. Collapsible film transparency viewer. 201,720, 7–20–65, Cl. D61—1.
Zorn, Riccardo. Individual hand party tray. 201,696, 7–20–65, Cl. D44—10.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 20TH DAY OF JULY, 1965

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

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Albrecht, Robert, H. Dietrich, and F. Hefti, to Geigy Chemical Corp. Process for production of 3-nitro-5-acyl-iminodibenzyl. 3.196,148, 7–20–65, Cl. 260—239.
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Allen, Joseph G. Vibratory piano tuning apparatus. 3,195,392, 7–20–65, Cl. 84—457.
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  - Reding, Marcel, and Bossard. 3,196,145.
- Boudewijn, Jan G. C., to Van Doorne's Automobielfabriek N.V. Automatic transmission. 3,195,368, 7-20-65, Cl. 74—472.
- Boussu, Gabriel X. R., and G. L. Travers, to Michelin & Cie. Outer tire cover with radial carcass and rigid crown. 3,195,604, 7-20-65, Cl. 152—361.
- Boutsicaris, Stephen P., to The Firestone Tire & Rubber Co. Polymerization of olefinic compounds utilizing a catalyst containing a tetrakis-(dihydrocarbonamino) silane. 3,196,136, 7-20-65, Cl. 260—93.7.
- Bouwers, Albert, to Optische Industrie de Oude Delft, N. V. Anamorphosing optical system. 3,195,404, 7-20-65, Cl. 88—57.
- Bowen, John C., and R. C. Wolf, to Pressure Products Industries, Inc. Pumps for fluids. 3,195,806, 7-20-65, Cl. 230—69.
- Boyden, James H., to Thompson Ramo Wooldridge Inc. Low noise amplifier. 3,196,360, 7-20-65, Cl. 330—10.
- Boyer, Ernest W., and E. E. McKelvey, to Continental Oil Co., Inc. Device for injecting small known volumes of liquid into a high vacuum system. 3,195,355, 7-20-65, Cl. 73—422.
- Boyer, Russell I. Hospital bed footboard and clamp therefor. 3,195,151, 7-20-65, Cl. 5—80.
- Bozek, John S., to Continental Can Co., Inc. Easy opening pull tab can end with wide tear strip. 3,195,768, 7-20-65, Cl. 220—54.
- Brabander, Herbert J.: *See*—
  - Wright, William B., Jr., and Brabander. 3,196,152.
  - Wright, William B., Jr., and Brabander. 3,196,172.
- Bradford, Dale E., to Phillips Petroleum Co. Recovery of solids from a liquid-solids slurry. 3,196,141, 7-20-65, Cl. 260—93.7.
- Brain, Alfred E., to Stamford Research Institute. Magnetic-core logic and storage device. 3,196,415, 7-20-65, Cl. 340—174.
- Bram, Georges E., to Centre de Recherches de Pont-A-Mousson. Device for the continuous winding of wire. 3,195,338, 7-20-65, Cl. 72—138.
- Brand, John R., to The Wurlitzer Co. Electronic musical instrument oscillator. 3,196,200, 7-20-65, Cl. 84—1.05.
- Brandt Automatic Cashier Co.: *See*—
  - Buchholz, Arnold R., and Anderson. 3,196,257.
- Branom, Joseph M., W. W. Burmeister, and J. R. Dobogne, to Sperry Rand Corp. Gyroscopic data transmission system and compensating means therefor. 3,196,332, 7-20-65, Cl. 318—30.

Braunagel, Magnus V., to Space Technology and Research Corp. Symmetrical hose coupling. 3,195,931, 7-20-65, Cl. 285—70.

Braunagel, Magnus V., to Space Technology and Research Corp. Vibration proof switch with resilient beam-deflecting actuator structure. 3,196,221, 7-20-65, Cl. 200—11.

Brause & Co., Firma: *See—*
  Weihe, Rolf. 3,195,257.

Brazelton, Everett M., to Fluor Products Co., Inc. Cooling tower wall. 3,195,701, 7-20-65, Cl. 189—86.

Breeze Corporations, Inc.: *See—*
  McKown, Howard P., Jr. 3,19[illegible],204.

Breke, Arthur M., to Perfect Circle Corp. Piston ring assembly. 3,195,905, 7-20-65, Cl. 277—140.

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  Anderson, James A., and Erpenbeck. 3,195,618.

Brennan, Ambrose K., Jr.: *See—*
  Loomans, Bernard A., and Brennan. 3,195,868.

Brennan, John B., to General Motors Corp. Multiple operation mode road vehicle control system. 3,195,672, 7-20-65, Cl. 180—82.1.

Brennemann, Andrew E., and N. H. Meyers, to International Business Machines Corp. Superconductive storage circuits. 3,196,408, 7-20-65, Cl. 340—173.1.

Bresser, Robert E.: *See—*
  Hechenbleikner, Ingenuin, Bresser, and Homberg. 3,196,129.

Brewer Pharmacal Engineering Corp.: *See—*
  Naab, Gerard A. 3,196,276.

Brewin, Arthur, and D. C. Masters, to N. Corah (St. Margaret) Ltd. Pneumatic collecting system. 3,195,959, 7-20-65, Cl. 302—27.

Briggs, Charles T., Jr.: *See—*
  Berry, Glen, Briggs, Treppa, and Barlow. 3,195,617.

Brite, Alan D. Process for cleaning ovens. 3,196,046, 7-20-65, Cl. 134—22.

British Crane & Excavator Corp. Ltd.: *See—*
  Hallsworth, Arnold. 3,195,913.

British Petroleum Co. Ltd., The: *See—*
  Richards, William G., and Burton. 3,195,624.

British Titan Products Co. Ltd.: *See—*
  Hansford, Kenneth R., Roberts, Evans, and Hughes. 3,195,981.

Britt Tech Corp.: *See—*
  Norstrud, Iven R., and Threlkeld. 3,195,556.

Brockett, Halford E., to Continental Can Co., Inc. Aluminum containing seal liners for beer containers and like substances. 3,195,754, 7-20-65, Cl. [illegible]5—39.

Brocklander, Leroy H. Offset design instrument. 3,195,233, 7-20-65, Cl. 33—1.

Broekhuysen, William C., to G-V Controls Inc. Electro-thermal control device. 3,196,234, 7-[illegible]0-65, Cl. 200—122.

Broersma, Robert J., to B & B Engineering Co. Method for filling a container. 3,195,283, 7-[illegible]0-65, Cl. 53—21.

Brogdex Co.: *See—*
  Russell, Kenneth F. 3,195,551.

Brook, David H. Self-locking safety bolt. 3,195,599, 7-20-65, Cl. 151—7.

Brooks, Donald H., to International Protected Metals, Inc. Process for coating an article in an aerated bed of particles. 3,196,033, 7-20-65, Cl. 117—21.

Brooner, Frank I.: *See—*
  Lehman, Charles L., and Brooner. 3,195,508.

Brosseit, Fritz V., to Western Electric Co., Inc. Forming and trimming die. 3,195,581, 7-[illegible]0-65, Cl. 140—71.

Brothman, Abraham, R. D. Reiser, S. J. Halpern, and E. Brothman, to Transitel International Corp. Multiple tone transmitter. 8,196,213, 7-20-65, Cl. 179—3.

Brothman, Elsa: *See—*
  Brothman, Abraham, Reiser, Halpern, and Brothman. 3,196,213.

Brower, David F., and G. B. Hayward, to General Dynamics Corp. Coil construction. 3,195,8[illegible]5, 7-20-65, Cl. 72—56.

Brower, Gilbert J.: *See—*
  Mosher, Edward G., and Brower. 3,195,272.

Brown, Boveri & Cie, Aktiengesellschaft: *See—*
  Dobsa, Josip. 3,196,345.
  Keller, Eduard. 3,196,203.

Brown, Cicero C. Multiple cone liner hanger. 3,195,646, 7-20-65, Cl. 166—208.

Brown, Harry W., to Cutler-Hammer, Inc. Three position electric switch with aligned contact bearing surfaces. 3,196,220, 7-20-65, Cl. 200—6.

Brown, Thomas T., to Electrokinetics, Inc. Electric generator. 3,196,296, 7-20-65, Cl. 31[illegible]—[illegible]1.

Brumley, Corwin H., to Bausch & Lomb Inc. Relay actuator circuit. 3,196,319, 7-20-65, Cl. 31[illegible]—151.

Brush Beryllium Co., The: *See—*
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Buchner, Norbert: *See—*
  Schoder, Eduard J., and Buchner. 3,196,068.

Buck, Willard E. Reflectance-type motion picture camera. 3,196,457, 7-20-65, Cl. 352—109.

Buckeye Tools Corp.: *See—*
  Alexander, Robert H. 3,195,702.

Budd, Travis G.: *See—*
  Johannesen, Donald D., Budd, and Prather. 3,195,690.

Bulgrin, Walter W., and G. C. J. Parent, to The Firestone Tire & Rubber Co. Equipment for producing tapered disk wheels. 3,195,491, 7-20-65, Cl. 72—82.

Bulgrin, Walter W., to The Firestone Tire & Rubber Co. Single walled double compartment container. 3,195,760, 7-20-65, Cl. 220—5.

Bunker-Ramo Corp., The: *See—*
  Schneberger, Edward J., and Bienhoff. 3,196,418.
  Smeltzer, Jack C., and Rech. 3,196,390.

Burbank, John E., to Scovill Mfg. Co. Process and apparatus for molding zipper fasteners. 3,196,196, 7-20-65, Cl. 264—251.

Burch, Homer A., to The Norwich Pharmacal Co. N-alkanoylamide-5-nitro-2-furamidines. 3,196,165, 7-20-65, Cl. 260—347.3.

Burch, Lyndon W., and M. K. Parkhurst. W blade thermostat with free-ended moment arm. 3,196,233, 7-20-65, Cl. 200—113.

Burke, Oliver W., Jr.: *See—*
  Klopfer, Oskar E. H., and Burke. 3,196,116.

Burkert, George M., and A. N. Baumann, to International Minerals & Chemical Corp. Process of preparing hydrogen fluoride from fluosilicic acid. 3,195,979, 7-20-65, Cl. 23—153.

Burley, John W.: *See—*
  Ely, Berten E., Jr., Burley, and Clement. 3,196,194.

Burmeister, William W.: *See—*
  Branom, Joseph M., Burmeister, and Dohogne. 3,196,332.

Burnett, Richard T., to The Bendix Corp. Boot construction. 3,195,360, 7-20-65, Cl. 74—18.2.

Burnett, Richard T., to The Bendix Corp. Actuator for disk brake. 3,195,691, 7-20-65, Cl. 188—106.

Burns, James A.: *See—*
  Harbison, Dixon T., and Burns. 3,195,643.

Burns & Roe Inc.: *See—*
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Burrel Corp.: *See—*
  Fechheimer, Paul R. 3,195,585.

Burroughs Corp.: *See—*
  Fettig, Arthur J., Jenks, Lasdine, Maidment, and Runde. 3,195,810.
  Seymour, David W. 3,196,032.

Burton, Robin S.: *See—*
  Richards, William G., and Burton. 3,195,624.

Busch, Friederich W.: *See—*
  Hein, Ewald, and Busch. 3,195.739.

Buttery, Kenneth T., to KVP Sutherland Paper Co. Dispensing carton suitable for plastic bags and the like. 3,195,772, 7-20-65, Cl. 221—33.

Buttery, Kenneth T., to KVP Sutherland Paper Co. Lined cartons. 3,195,796, 7-20-65, Cl. 229—14.

Byatt, Dennis W. G., to The Marconi Co. Ltd. Radio direction finders. 3,196,439, 7-20-65, Cl. 343—113.

C.I.T. Corp.: *See—*
  Kracklauer, Aloysius C., and Passalaqua. 3,195,729.

CTS Corp.: *See—*
  Barden, Wayne A., and Van Benthuysen. 3,196,230.

Cain, Alfred R., to The Firestone Tire & Rubber Co. Polymerization catalysts and process. 3,196,137, 7-20-65, Cl. 260—93.7.

Cain, Clifford G., to Alaska Juneau Gold Mining Co. Tandem spring suspensions. 3,195,916, 7-20-65, Cl. 280—104.5.

Calderoni, Camillo: *See—*
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Caldwell Mfg. Co., The: *See—*
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  Young, D'Andrews, Jr. 3,195,194.

Calgon Corp.: *See—*
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California Research Corp.: *See—*
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Calow, Th., & Co., The: *See—*
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Calvert, James D.: *See—*
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Cambridge Instrument Co., Inc.: *See—*
  Digby, James D. 8,196,100.

Cambridge Systems, Inc.: *See—*
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  Thiele, Tom N. 3,195,345.

Camerini, Giorgio, to Natro-Cellulosa, S.p.A. Plastic bag. 8,195,424, 7-20-65, Cl. 93—35.

Cameron Iron Works, Inc.: *See—*
  Le Rouax, Robert K. 3,195,638.

Campbell, Layard E., and I. B. Asp, to The Reliable Automatic Sprinkler Co., Inc. Sprinkler head and method of adjusting same. 3,195,647, 7-20-65, Cl. 169—1.

Candelise, Alfred, to General Motors Corp. Means for introducing a pressurized fluid into an internal combustion engine combustion chamber through the spark plug opening. 3,195.518, 7-20-65, Cl. 123—26.

Cappuccio, Vittorio, to Montecatini Societa Generale per l'Industria Mineraria e Chimica. Trimethylol propane diallyl ether treatment of polyolefin-polymeric nitrogenous compound mixtures and fibers and product thereof. 3,195,975, 7-20-65, Cl. 8—115.5.

Caracristi, Virginius Z.: *See—*
  Schuss, Jack A., and Caracristi. 3,195,610.

Carisi, Vincent J. Corner fastening. 3,195,196, 7-20-65, Cl. 20—92.

Carlisle Chemical Works, Inc.: *See—*
  Hechenbleikner, Ingenuin, Bresser, and Homberg. 3,196,129.

Carls, William. Manifold construction. 8,195,572, 7-20-65, Cl. 137—608.

Carls, William. Lever operated valve assembly with lost motion connection. 3,195,574, 7-20-65, Cl. 137—625.69.

Carlseen, Howard E. Apparatus for processing strips of roll film. 3,195,437, 7-20-65, Cl. 95—94.

Carlson, Elmer T., to Cutler-Hammer, Inc. Busway. 3,196,294, 7-20-65, Cl. 307—147.

Carlson, Gustave R., deceased; M. N. Carlson, executrix of said G. R. Carlson. Apparatus for chlorination of toilet disposal. 8,195,149, 7-20-65, Cl. 4—10.

Carlson, John W., to Speed-O-Print Business Machines Corp. Duplicating machines. 3,195,884, 7-20-65, Cl. 271—10.

Carlson, Margit N.: *See—*
  Carlson, Gustave R., deceased; M. N., executrix of said G. 3,195,149.

Carlson, Richard H., to G-M Laboratories, Inc. Motor construction. 3,196,300, 7-20-65, Cl. 310—89.

Carlsson, Erik H.: *See—*
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Carney, Richard R., and F. D. Bond, Jr., to Union Carbide Corp. Vacuum-insulated valve for cryogenic fluids. 3,195,564, 7-20-65, Cl. 137—375.

Carpenter, Victor W., J. M. Jackson, and R. W. Squibb, to Armco Steel Corp. Process of decarburizing and annealing of open coil silicon-iron sheet stock without intervening surface treatment. 3,196,054, 7-20-65, Cl. 148—111.

Carr Lowrey-Glass Co. of Baltimore County: *See—*
  Rowe, Edward L. 3,195,995.

Carter, Leewood C., and E. K. Mullen, to Book Covers, Inc. Book cover boards and board structures and apparatus and method for making the same. 3,195,924, 7-20-65, Cl. 281—29.

Carter, Paul H., to Maryland Cup Corp. Die for forming container lids. 3,195,423, 7-20-65, Cl. 93—1.3.

Carter, Uriel F., and A. F. Kolb, to Cutler-Hammer, Inc. Interlocking operating mechanism. 3,196,227, 7-20-65, Cl. 200—50.

Carton, Jean, J. Feytis, and P. Fouquet, to Compagnie Francaise Thomson-Houston. Apparatus for the treatment of plastic materials. 8,195,178, 7-20-65, Cl. 18—2.

Casablancas High Draft Co. Ltd.: *See—*
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Case, John S., to Anchor Post Products, Inc. Split anchor shoe for four cornered structure. 3,195,697, 7-20-65, Cl. 189—30.5.

Case, John S., to Anchor Post Products, Inc. Post and rail fence. 3,195,864, 7-20-65, Cl. 256—65.

Case, John S., to Anchor Post Products, Inc. Adjustable terminal attachment for fence rails. 3,195,937, 7-20-65, Cl. 287—54.

Casey, James P., and M. L. Ripley. Transducer head locking means. 3,196,215, 7-20-65, Cl. 179—100.2.

Cassano, James R., and W. E. Fritz, to General Motors Corp. Vehicle road speed control mechanism. 3,195,678, 7-20-65, Cl. 180—82.1.

Cavitron Ultrasonics, Inc.: *See—*
  Kleesattel, Claus, Balamuth, and Kuris. 3,196,333.

Ceco Corp., The: *See—*
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Celanese Corp. of America: *See—*
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Cellu-Kote, Inc.: *See—*
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Centre de Recherches de Pont-A-Mousson: *See—*
  Bram, Georges E. 3,195,338.

Centre National de la Recherche Scientifique: *See—*
  Lacam, Andre, and Vodar. 3,195,493.

Cerebos Ltd.: *See—*
  Saunders, James. 3,196,024.

Certain-Teed Products Corp.: *See—*
  Robinson, Norman M. 3,195,710.

Chadderton, John J.: *See—*
  Bienvenue, Roland L., Chadderton, and Voyce. 3,195,582.

Chambers, Torrence H., to United States of America, Navy. FM search radar employing expanding and collapsing lobe structure. 3,196,435, 7-20-65, Cl. 343—11.

Champlain Co., Inc.: *See—*
  Schowerer, George J., and Simon. 3,195,827.

Chance, Joe I., to W. R. Grace & Co. Composition consisting essentially of crystalline urea coated with sugar. 3,195,999, 7-20-65, Cl. 71—28.

Chapin, Almon J., to The Johnson Furnace Co. Round-to-rectangular heat exchanger. 3,195,623, 7-20-65, Cl. 165—129.

Chapin, Daryl M., to Bell Telephone Laboratories, Inc. Multibit magnetic transducer. 3,196,450, 7-20-65, Cl. 346—74.

Chapman, Martha W.: *See—*
  Ward, Robert E., Jr. 3,195,264.

Charlwood, Reginald E., and D. W. Fath, to Cutler-Hammer, Inc. Timing and sequencing control system for sheet fed rotary printing press. 3,195,456, 7-20-65, Cl. 101—184.

Chatigny, Mark A.: *See—*
  Hauth, Fred C., and Chatigny. 3,195,505.

Chatzinoff, Albert B., and W. Oroshnik, to Ortho Pharmaceutical Corp. Process for combating retinitis pigmentosa. 3,196,078, 7-20-65, Cl. 167—81.

Chemical Development Corp.: *See—*
  White, Harrison J., and Creighton. 3,196,027.

Chemical Lime Co.: *See—*
  Gyllenberg, John L. 3,195,714.

Cheney, George D., to Ex-Cell-O Corp. Magnetic data storage disc system. 3,196,422, 7-20-65, Cl. 340—174.1.

Chenoweth, Maynard B., and L. C. Hendershot, to The Dow Chemical Co. Method of tranquilizing with 1,2-dihydroxy propane. 3,196,073, 7-20-65, Cl. 167—53.

Cherry-Burrell Corp.: *See—*
  Fechheimer, Paul R. 3,195,585.

Chicago Bridge & Iron Co.: *See—*
  Maher, James B., and Mair. 3,195,316.
  Mummert, John F. 3,195,875.

Chin, Jin W.: *See—*
  Dubroff, Paul S., and Chin. 3,196,391.

Cholvin, Robert L., and A. Silver, to The Garrett Corp. Turbocharger differential pressure contol. 3,195,805, 7-20-65, Cl. 230—9.

Chow, Woo F., to Sperry Rand Corp. Shifting register employing tunnel diode stages. 3,196,288, 7-20-65, Cl. 307—88.5.

Christensson, Od W. Apparatus for cutting glue spots attaching a liner to an outer carton. 3,195,291, 7-20-65, Cl. 53—393.

Christie, Chester D., to Eaton Mfg. Co. Vehicle axle mechanism. 3,195,371, 7-20-65, Cl. 74—695.

Chrysler Corp.: *See—*
  Sturtevant, Mark J., and Patton. 3,195,948.

Chuboff, David P., to Borg-Warner Corp. Receptacle-supporting assembly. 3,195,970, 7-20-65, Cl. 312—311.

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  Bencze, William L. 3,196,159.
  Lucas, Robert A., and MacPhillamy. 3,196,164.
  Rosen, William E., and Huebner. 3,196,181.

Cie Electro-Mecanique: *See—*
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Cislo, Casimer J., to General Motors Corp. Self-energizing hydraulic leveling device for vehicle suspension. 3,195,877, 7-20-65, Cl. 267—60.

Claesson, Sven H.: *See—*
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Clancey, James T., and R. J. Meyers, to Consolidation Coal Co. Continuous vacuum filter and combustion system utilizing the same. 3,195,484, 7-20-65, Cl. 110—106.

Clapp, Roger E., to Air Technology Corp. Optical system for displaying signals in color. 3,195,397, 7-20-65, Cl. 88—1.

Clardy, Edwin K.: *See—*
  Ogle, Frank T., Tolin, and Clardy. 3,196,189.

Clark, Alfred J., to Motorola, Inc. Pushbutton structure. 3,195,359, 7-20-65, Cl. 74—10.33.

Clark, George L., and F. L. Prendergast, to Thompson Ramo Wooldridge Inc. Optical attenuator. 3,195,405, 7-20-65, Cl. 88—61.

Clark, Harold E., to Xerox Corp. Half-tone xerography with thermoplastic deformation of the image. 3,196,012, 7-20-65, Cl. 96—1.

Clark, Hubert M., and G. H. Drutchas, to Thompson Ramo Wooldridge Inc. Automotive transmission. 3,195,372, 7-20-65, Cl. 74—730.

Clark, James A., to Bausch & Lomb Inc. Slide projector transfer mechanism with stop means. 3,195,252, 7-20-65, Cl. 40—36.

Clarke, Frank H., Jr., to Schering Corp. Anti-depressant 10-(3-dimethylaminopropyl)-3-azaphenothiazine. 3,196,076, 7-20-65, Cl. 167—65.

Clarke & Smith Mfg. Co. Ltd.: *See—*
  Smith, Alec. 3,195,826.

Clarke, Stanley F.: *See—*
  Mortley, Wilfrid S., and Clarke. 3,196,437.

Clement, Ira T.: *See—*
  Ely, Berten E., Jr., Burley, and Clement. 3,196,194.

Clendenin, Wilbur H.: *See—*
  Corwith, James, Clendenin, and Koth. 3,195,595.

Cleveland Technical Center, Inc.: *See—*
  Simmons, Lawrence C. 3,195,944.

Clevite Corp.: *See—*
  Hubner, Kurt. 3,196,285.

Clowes, Maxwell B., and J. R. Parks, to International Business Machines Corp. Character recognition systems employing autocorrelation. 3,196,395, 7-20-65, Cl. 340—146.3.

Coakley, James L., and H. A. Hug, to American Brake Shoe Co. Friction drive apparatus. 3,195,365, 7-20-65, Cl. 74—388.

Coates, J Edwin, to Alta Engineering Co. Storage and mixing cartridge. 3,195,778, 7-20-65, Cl. 222—80.

Coats, John N. Stock consistency blending apparatus. 3,195,866, 7-20-65, Cl. 259—7.

Coats, John N. Digester cap assembly (swing cap). 3,195,761, 7-20-65, Cl. 220—36.

Cobb, Horace H. Washing machine. 3,195,327, 7-20-65, Cl. 68—12.

Cochrane, Richard H., to Phillips Petroleum Co. Package making device. 3,195.289, 7-20-65, Cl. 53—182.

Codrea, Nicholas D., to H. B. Rothbard. Partition structure. 3,195.698, 7-20-65, Cl. 189—34.

Coe Mfg. Co., The: *See—*
  Price, Howard E. 3,195,593.

Coen Co. Inc.: *See—*
  Voorheis, Temple S., and Vosper. 3,195,608.

Coffin, Harland H., to Producto Machine Co. Method of making an electrically insulated joint. 3,195,374, 7-20-65, Cl. 76—107.

Cogsdill, Stuart A., to Cogsdill Tool Products, Inc. Cutting tool. 3,195,378, 7-20-65, Cl. 77—73.5.

Cogsdill Tool Products, Inc.: *See—*
  Cogsdill, Stuart A. 3,195,378.

Cohen, Charles A., to Esso Research and Engineering Co. Perhydro bis-(isoprenyl) alkyl aryl sulfonates. 3,196,174, 7-20-65, Cl. 260—505.

Cole, Burrell C., 50% to C. H. Williams. Drafting assembly for fiber attenuating apparatus. 3,195,188, 7-20-65, Cl. 19—255.

Cole, Oliver W.: *See—*
  Mullins, Orvel E., and Cole. 3,196.452.

Coleman, Donald C., and L. G. Schroeder, to Allied Chemical Corp. Apparatus for cleaning gas off-takes of a coke oven battery. 3 196,088, 7-20-65, Cl. 202—241.

Colenutt, Brian F., to The English Electric Co. Ltd. Electrical socket devices, and electrical test couplings including plug and socket devices. 3,196,228, 7-20-65, Cl. 200—51.07.

Collet, Henri, deceased, by R. A. Collet, executor. Rotary pump units and the like. 3,195,467, 7-20-65, Cl. 103—87.

Collet, Raymonde A.: *See—*
  Collet, Henri. 3,195,467.

Collier, Samuel L., to Mission Mfg. Co. Percussion drill. 3,195,657, 7-20-65, Cl. 173—137.

- Collins, Bernard W.: *See*—
  - Hosegood, Samuel B., Collins, Harper, and Horsley. 3,196,083.
- Collins, Johnnie C., to Servis Equipment Co. Dual blade implement. 3,195,249, 7-20-65, Cl. 37—143.
- Colombo, George: *See*—
  - Bleiweiss, Arthur F., Colombo, and Dickson. 3,196,311.
- Colquitt, Sara L.: *See*—
  - Cotton, James F., and Colquitt. 3,196,036.
- Colten, Robert B., G. E. Wanttaja, and A. F. Scarpelli, to General Motors Corp. Reproducing apparatus. 3,195,410, 7-20-65, Cl. 90—13.
- Columbia Ribbon and Carbon Mfg. Co., Inc.: *See*—
  - Newman, Douglas A. 3,195,455.
- Colwell, Charles E., Jr.: *See*—
  - Lisuzzo, Frank C., and Colwell. 3,196,2[illegible]2.
- Combustion Engineering, Inc.: *See*—
  - Jonakin, James. 3,195,306.
  - Schuss, Jack A., and Caracristi. 3,195,[illegible]10.
- Commercial Factors, Ltd.: *See*—
  - Weinstein, Richard. 3,196,440.
- Commissariat a l'Energie Atomique: *See*—
  - Lemesle, Georges, Martin, Monteil, Roche, and Rouge. 3,196,082.
- Commonwealth Engineering Co. of Ohio, The: *See*—
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  - McCallum, James G. 3,195,395.
  - Siegemund, Ralf. 3,196,393.
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  - Toulmin, Harry A., Jr. 3,196,047.
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  - Witt, Everette E. 3,196,146.
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- Compagnie Francaise Thomson-Houston: *See*—
  - Carton, Jean, Feytis, and Fouquet. 3,195,178.
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  - Travers, Georges L. 3,195,601.
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  - Peterson, William W., and Gregg. 3,195,683.
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  - Papelian, Roger G. 3,196,279.
  - Papelian, Roger G. 3,196,431.
- Comstock, George E. 3rd, to Potter Instrument Co., Inc. Very fast acting electromagnetic friction clutch-brake drive. 3,195,703, 7-20-65, Cl. 192—84.
- Concut, Inc.: *See*—
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- Conder, Alfred C. Special sleeve and coupling B-nuts. 3,195,936, 7-20-65, Cl. 285—334.5.
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  - Petry, Robert K. 3,196,030.
- Conn, C. G. Ltd.: *See*—
  - McDonald, Lyell J. 3,196,201.
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- Connell, Richard A., L. P. Horwitz, D. J. Quinn, and D. P. Seraphim, to International Business Machines Corp. Quantized flux cryogenic device. 3,196,412, 7-20-65, Cl. 340—173.1.
- Connelly, Eugene B., to United States Steel Corp. Feed control system for a machine tool. 3,19[illegible],383, 7-20-65, Cl. 82—21.
- Conrad, Frederick J.: *See*—
  - Wolf, Samuel, and Conrad. 3,196,19[illegible].
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  - Brockett, Halford E. 3,195,754.
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  - Henchert, John. 3,195,767.
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  - Boyer, Ernest W., and McKelvey. 3,195,355.
  - Klopfer, Oskar E. H., and Burke. 3,196,116.
  - Schroeder, Carl E. 3,195,310.
  - Smith, Bill. 3,196,385.
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  - Rabinow, Jacob. 3,196,277.
- Cook, Donald F., and D. F. Cosper, to Texas Instruments Inc. Symmetrical switching diode. 3,196,329, 7-20-65, Cl. 317—234.
- Cook, Harry C.: *See*—
  - Nelson, Jerome W., Faulkner, and Cook. 3,196,245.
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  - Dempster, John S., Cooley, and Garrett. 3,195,749.
- Cooper, Thomas H., L. K. Hill, and J. J. Giles, to BTR Industries Ltd. Welding apparatus. 3,196,248, 7-20-65, Cl. 219—125.
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  - Laube, Alfred J. 3,195,179.
- Coover, Harry W., Jr., and N. H. Shearer, Jr., to Eastman Kodak Co. Three-component catalyst for olefin polymerization containing alkali metal-aluminum tetraalkyl transition metal halide and a stibine or arsine. 3,196,140, 7-20-65, Cl. 260—93.7.
- Corah, N. (St. Margaret), Ltd.: *See*—
  - Brewin, Arthur, and Masters. 3,19[illegible],959.
- Cordary, Bruce J., and R. W. Weber, to The Servco Co. Apparatus for cutting and milling in well bores. 3,195,636, 7-20-65, Cl. 166—55.8.
- Corder, Stephen E. Testing gauge. 3,195,352, 7-20-65, Cl. 73—328.
- Core, Elias A. Picture frame. 3,195,256, 7-20-65, Cl. 40—156.
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- Cornelius, Richard T., to The Cornelius Co. Readily disassembled valve. 3,195,566, 7-20-65, Cl. 137—454.2.
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  - Tingley, Donald J. 3,195,996.
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  - Sobel, Alvin A. 3,195,718.
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  - Goffe, William L., and Corrsin. 3,196,010.
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- Corwith, James, W. H. Clendenin, and O. Koth, Jr., to International Harvester Co. Harvester feed element drive arrangement. 3,195,595, 7-20-65, Cl. 146—120.
- Coscione, Joseph D., and W. B. Schueren, to Ford Motor Co. Ventilator for a vehicle. 3,195,440, 7-20-65, Cl. 98—2.
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- Cotton, James F., and S. L. Colquitt, to West Point-Pepperell, Inc. Process for controlling undesirable aldehyde and amine odors in treated textile material. 3,196,036, 7-20-65, Cl. 117—62.
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- Court, Kenneth, to Sperry Rand Corp. Differential for hydraulic motor drive system. 3,195,669, 7-20-65, Cl. 180—66.
- Cowley, Harold R., to Stothert & Pitt, Ltd. Vibratory roller having improved driving means. 3,195,429, 7-20-65, Cl. 94—50.
- Cox, James V. Container. 3,195,752, 7-20-65, Cl. 215—1.
- Cox, Norman R., to Union Carbide Corp. Oxidation of hydrocarbons. 3,196,182, 7-20-65, Cl. 260—597.
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- Creamer, Merle T., and A. J. Guest. Stoppering element. 3,195,757, 7-20-65, Cl. 215—73.
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  - White, Harrison J., and Creighton. 3,196,027.
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- Cripe, Maxwell L., to The Bendix Corp. Brake mechanism. 3,195,309, 7-20-65, Cl. 60—54.5.
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  - Hopner, Emil, Critchlow, and Dennard. 3,196,352.
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- Croname, Inc.: *See*—
  - Umann, Harry M. 3,196,250.
- Crowdes, George J., to API Instruments Co. Continuous reading meter relay having anti-bounce contact feature. 3,196,321, 7-20-65, Cl. 317—152.
- Crowe, William G., to Mid-West Abrasive Co. Honing element. 3,195,280, 7-20-65, Cl. 51—204.
- Crowell, Philip L., to S. C. Johnson & Sons, Inc. Actuator cap. 3,195,783, 7-20-65, Cl. 222—182.
- Crown Cork & Seal Co., Inc.: *See*—
  - Luviano, John J. 3,195,756.
  - Scharf, Jerry F. 3,195,755.
- Cubberley, Mitchell H. Loose ski arresting device. 3,195,911, 7-20-65, Cl. 280—11.13.
- Culbertson, Robert J., to General Electric Co. Time constant control system for X-ray analyzers and gages. 3,196,272, 7-20-65, Cl. 250—83.3.
- Culver, Leonard J., to Foster Wheeler Corp. Method of butt welding metal tubes. 3,195,229, 7-20-65, Cl. 29—482.
- Cummings, Arthur M. Valve structure as for applying braking fluid to trailer brakes in advance of prime mover brakes. 3,195,567, 7-20-65, Cl. 137—493.4.
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- Curtis, Arthur A., and D. D. Sherman, to United Aircraft Corp. Tube drawing apparatus. 3,195,331, 7-20-65, Cl. 72—7.
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  - Carlson, Elmer T. 3,196,294.
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- Daily, William B., and W. J. Hawley, to Refractory & Insulation Corp. Cleaning arrangement for electrostatic precipitator. 3,195,293, 7-20-65, Cl. 55—117.
- Daimler-Benz Aktiengesellschaft: *See*—
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- Dana Corp.: *See*—
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- D'Andrea, A. Ralph: *See*—
  - Fried, Louis, and D'Andrea. 3,195,763.
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- Daniels, Dennis, to Houdaille Industries, Inc. Punching machine having tool ejector. 3,195,386, 7-20-65, Cl. 83—162.
- Daniloff, Michael, to Raytheon Co. Damping stabilizer devices. 3,195,811, 7-20-65, Cl. 235—61.
- Darack, Oscar C., to Precision Thermometer and Instrument Co. Temperature sensitive control equipment including thermometer with spaced contact terminals controlling switch means enclosed in housing. 3,196,286, 7-20-65, Cl. 307—88.5.
- Darden, Robert R., Jr., and A. G. Dobbs, to American Bosch Arma Corp. Diode modulator with distortion-reducing circuit. 3,196,369, 7-20-65, Cl. 332—43.
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  - De Castro, Antonio P. 3,195,694.
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- Daumy, Georges F. A., to Robinetterie Industrielle Pour le Batiment, le Sanitaire et les Applications Nucleares R.I.B.S.A.N. Cocks for fluids. 3,195,573, 7-20-65, Cl. 137—625.4.
- Davidson, David, and J. L. Bair, to North Atlantic Industries, Inc. Sealed housing for electrical apparatus. 3,195,358, 7-20-65, Cl. 74—10.1.
- Davies, Ben, and O. M. Wicken, to Harbison-Walker Refractories Co. Firing of lime and dolomite shapes. 3,196,193, 7-20-65, Cl. 264—58.
- Davies, Eric, to The Marconi Co. Ltd. Television standards conversion apparatus having temporarily increased line scanning speeds. 3,196,207, 7-20-65, Cl. 178—6.8.
- Davies, Paul M., to Thompson Ramo Wooldridge Inc. Superconductive associative memory system. 3,196,407, 7-20-65, Cl. 340—173.1.
- Davies, Paul M., to Thompson Ramo Wooldridge Inc. Sequential retrieval control for a self-searching memory. 3,196,409, 7-20-65, Cl. 340—173.1.
- Davies, Paul M., to Thompson Ramo Wooldridge Inc. Self-searching memory utilizing improved memory elements. 3,196,410, 7-20-65, Cl. 340—173.1.
- Davis, Arthur C. Electrodynamic transducers with flexible ferromagnetic flux paths. 3,196,216, 7-20-65, Cl. 179—100.41.
- Davis, Edward M., Jr., to International Business Machines Corp. Method of automatically etching an Esaki diode. 3,196,094, 7-20-65, Cl. 204—143.
- Davis, Kenneth J.: *See*—
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- Dazzi, Joachim, to Geigy Chemical Corp. Poly(3,5-diketopiperazinyl-1) compounds. 3,196,153, 7-20-65, Cl. 260—268.
- De Bruyne, Norman A., to Techne (Cambridge) Ltd. Thermostatically controlled fluidized solid particle bath apparatus. 3,196,251, 7-20-65, Cl. 219—378.
- De Canniere, Jean L., A. E. Smolderen, and L. P. Jacquemin, to Gevaert Photo-Producten N.V. Cassette for photographic film or photographic paper. 3,195,720, 7-20-65, Cl. 206—52.
- De Castro, Antonio P., to J. D'Augusta. Wind-resistant building. 3,195,694, 7-20-65, Cl. 189—1.
- Decca Ltd.: *See*—
  - Gwilliam, David T. 3,195,791.
- Dechet, Robert, to Cie Electro-Mecanique. Sealed electric motor. 3,196,302, 7-20-65, Cl. 310—104.
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  - Muller, Johann. 3,195,413.
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  - Muller, Johann. 3,195,413.
- Decker, Alan S., and C. Boling, to Dunham-Bush, Inc. Refrigeration system including defrosting means. 3,195,321, 7-20-65, Cl. 62—278.
- Decrop, Louis L. Siphon cover for the daylight developing of dental radiographic film with incorporated developer and fixing material. 3,195,436, 7-20-65, Cl. 95—90.
- Deere & Co.: *See*—
  - Bogdan, Alexander, Jones, and Wilkins. 3,195,711.
  - Sime, Sylvan H. 3,195,742.
- De Feo, Richard A., to Bayuk Cigars Inc. Shipping and display container. 3,195,797, 7-20-65, Cl. 229—27.
- Degen, Wilhelm. Wall construction. 3,195,311, 7-20-65, Cl. 61—35.
- Degen, Wilhelm. Foundation method. 3,195,314, 7-20-65, Cl. 61—50.
- Dehne, Clarence A., to Jervis B. Webb Co. Conveyor systems with single and double load carrier tracks. 3,195,473, 7-20-65, Cl. 104—91.
- Dehne, Clarence A., to Jervis B. Webb Co. Releasing dog carriers and trolleys for conveyor systems. 3,195,474, 7-20-65, Cl. 104—172.
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- Della Vite, Romuald R., to Societe Anonyme dite: Societe Francaise d'Etiquetage Virey & Garnier. High-speed labelling machine. 3,196,070, 7-20-65, Cl. 156—571.
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  - Dempster, John S., Cooley, and Garrett. 3,195,749.
  - Dempster, George R. and J. S. 3,195,942.
  - Wender, Neil F. 3,195,744.
- Dempster, George R. and J. S., to Dempster Bros., Inc. Containers. 3,195,942, 7-20-65, Cl. 294—69.
- Dempster, George R., W. A. Herpich, N. F. Wender, and Trust Co. of Georgia, executor of said G. R. Dempster, deceased. Front end loaders. 3,195,748, 7-20-65, Cl. 214—302.
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  - Dempster, George R. and J. S. 3,195,942.
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- Demy, Nicholas G. Visual and radiographic contrast media and method of use. 3,196,080, 7-20-65, Cl. 167—95.
- Denenberg, Maurice. Article carrier. 3,195,771, 7-20-65, Cl. 220—116.
- Denenberg, Maurice. Cans and method of making the same. 3,195,799, 7-20-65, Cl. 229—51.
- Denesen Co., Inc., The: *See*—
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- Dereng, Roman, to Motorola, Inc. Latch mechanism. 3,195,329, 7-20-65, Cl. 70—57.
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  - Harris, Lawrence A., and De Tommasi. 3,196,043.
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- Dietz, Alfred. Wire rope. 3,195,299, 7-20-65, Cl. 57—149.
- Dietz, Milton S., to Polaroid Corp. Photographic film assembly mount. 3,195,434, 7-20-65 Cl. 95—66.
- Digby, James D., to Cambridge Instrument Co., Inc. Oxygen detecting and measuring apparatus. 3,196,100, 7-20-65, Cl. 204—195.
- Dimon, Donald F. Narrow bandwidth high Q communication system 3,196,350 7-20-65, Cl. 325—26.
- Dinter, Konrad, and A. Reindl, to Telefunken Aktiengesellschaft. Broad band video amplifier. 3,196,365, 7-20-65, Cl. 330—100.
- Dippel, William A., to E. I. du Pont de Nemours and Co. Process for purifying acrylonitrile. 3,196,085, 7-20-65, Cl. 202—42.
- Diott, Joseph M., to Dream Lite Co. Optical projector producing superimposed images from revolving concentric film tracks. 3,195,400, 7-20-65, Cl. 88—24.
- Dobbs, Alex G.: *See*—
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- Doherty, Henry. Step-up file cabinets. 3,195,966, 7-20-65, Cl. 312—111.
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- Donat, Frank J., and E. H. Baker, to The B. F. Goodrich Co. Polymerization process for polyvinyl esters using an insoluble metallic soap as sole emulsifier. 3,196,134, 7-20-65, Cl. 260—78.5.
- Douslin, Donald R., to United States of America, Interior. Inclined-piston dead-weight pressure gauge. 3,195,354, 7-20-65, Cl. 73—419.
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- Druehl, Louis P. Amount control and date and place stamping machine for U.S. print-punched money orders. 3,195,454, 7-20-65, Cl. 101—93.
- Druseikis, Frederick, R. W. Haley, and P. R. Lagonegro, to General Motors Corp. Heat exchanger. 3,195,625, 7-20-65, Cl. 165—179.
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  - Clark, Hubert M., and Drutchas. 3,195,372.
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- Duck, Peter M., to The General Electric Co., Ltd. Transistor with mounting providing efficient heat dissipation through an envelope and method of making the same. 3,196,326, 7-20-65, Cl. 317—234.
- Duda, John, U. Ingard, and F. M. Oran, to Industrial Acoustics Co., Inc. Sound attenuator and method of producing same. 3,195,679, 7-20-65, Cl. 18[illegible]—56.
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- Dunseth, Maria G., and M. L. Salutsky, to W. R. Grace & Co. Method of recovering potassium values from brines. 3,195.978, 7-20-65, Cl. 23—25.
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- Eckley, Dorothy L. Combined dispensing carton and measuring cup. 3,195,782, 7-20-65, Cl. 222—[illegible]58.
- Egert, Francis A., to The Wool "O" Co. Presser foot and guide mechanism for sewing machines. 3,195,486, 7-20-65, Cl. 112—139.
- Egleston, Harry B., to Ex-Cell-O Corp. Liquid filling apparatus. 3,195,781, 7-20-65, Cl. 222—14[illegible].
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  - Kleinschmidt, Edward F., Ehrlich, and Podwojski. 3,196 209.
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- Ehrsam, J. B., & Sons Mfg. Co., The: *See*—
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- Eisler, Joseph D., and D. Silverman, to Pan American Petroleum Corp. Cancellation of secondary seismic reflections 3,195,676, 7-20-65, Cl. 181—.5.
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  - Thostrup, Harry. 3,196,249.
- El-Kareh, Auguste B., to Radio Corp. of America. Means for observing a workpiece in electron beam machining apparatus 3,196,246, 7-20-65, Cl. 219—6[illegible].
- Elkin, Ernest, to Water Consultants Corp. Chemical feeder. 3,195,985, 7-20-65, Cl. 23—272.8.
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- Elliott, Louis J., and T. C. Ward, to Kinetics Corp. Electrical inverter system. 3,196,337, 7-20-65, Cl. 321—45.
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- Eloranta, Vaito K.: *See*—
  - Augustin, Rolf M., Jr., and Eloranta. 3,195,431.
- Elson, Michael H.: *See*—
  - Sellwood, David G. J., and Elson. 3,195,324.
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- Ely, Berten E., Jr., J. W. Burley, and I. T. Clement, to Pennsylvania Fluorocarbon Co., Inc. Fep-fluorocarbon tubing process. 3,196,194, 7-20-65, Cl. 264—95.
- Emley, Frank: *See*—
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- Enchelmaier, William F.: *See*—
  - Enchelmaier, Harvard W. K. and W. F. 3,195,159.
- Eng, Sverre T., to Hughes Aircraft Co. Low noise microwave mixer diode. 3,196,328, 7-20-65, Cl. 317—234.
- Engelbrecht, Lloyd R., to Motorola, Inc. Signal to noise ratio controlled squelch circuit. 3,196,354, 7-20-65, Cl. 325—319.
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  - Paulik, Ferenc J., and Erdey. 3,195,343.
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- Erickson, Gerald J., to Sperry Rand Corp. Parity checking system. 3,196,259, 7-20-65, Cl. 235—153.
- Erickson, Louis A., to Smith-Berger Mfg. Corp. Telescoping logging tower. 3,195,419, 7-20-65, Cl. 92—25.
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- Erlandsen, Oscar, to Thurston Erlandsen Corp. Hydrofoil boat. 3,195,495, 7-20-65, Cl. 114—66.5.
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  - Erlandsen, Oscar. 3,195,495.
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  - Nelson, Jerome W., Faulkner, and Cook. 3,196,245.
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  - O'Halloran, Rosemary. 3,196,110.
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- Estephanian, Estephan D., to Estebar, Inc. Method of making an ornamental fabric. 3,195,489, 7-20-65, Cl. 112—266.
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  - Sams, Martin, and Feldman. 3,196,379.
- Feldman, James A., to Phillips Petroleum Co. Fluid meter. 3,195,351, 7-20-65, Cl. 73—194.
- Fend, Heinrich, and H. Hentz, to Machine Tool Works Oerlikon Administration Co. Device for piling-up a weft-thread for looms. 3,195,580, 7-20-65, Cl. 139—224.
- Fernald, William A. Remote control device. 3,195,433, 7-20-65, Cl. 95—53.
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- Ferree, Roy E., to Eastern Splash-Mats Inc. Chill mat. 3,195,853, 7-20-65, Cl. 249—206.
- Fettig, Arthur J., D. M. Jenks, C. Lasdine, E. P. Maidment, and B. A. Runde, to Burroughs Corp. Accounting apparatus. 3,195,810, 7-20-65, Cl. 235—60.
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- Field, Sheldon B., to John J. McMullen Associates, Inc. Tank stabilizing system for a ship and the like. 3,195,497, 7-20-65, Cl. 114—125.
- Filler, William S. Explosive forming of metals employing a conical shock tube. 3,195,334, 7-20-65, Cl. 72—56.
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- Fisher, Harland S., and C. A. Dumas, to United States Envelope Co. Protective cover for bottle nipples or the like. 3,195,753, 7-20-65, Cl. 215—11.
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- Francois, Alex C., to Ex-Cell-O Corp. Clock writer for magnetic data storage devices. 3,196,420, 7-20-65, Cl. 340—174.1.
- Frank, Heinrich H., to The Ridge Tool Co. Pipe reamer. 3,195,377, 7-20-65, Cl. 77—73.
- Franklin, Stanley P., to General Motors Corp. Poppet valve actuation. 3,195,528, 7-20-65, Cl. 123—90.
- Franks, John T., Jr., to Goodyear Aerospace Corp. Multi-aperture logic element. 3,196,280, 7-20-65, Cl. 307—88.
- Franks, John T., Jr., to Goodyear Aerospace Corp. Magnetic circuits. 3,196,417, 7-20-65, Cl. 340—174.
- Frann, Stamates I., and P. J. McKeown, to Sperry Rand Corp., Ford Instrument Co. Division. Autocorrector for dead reckoning navigation computer. 3,196,264, 7-20-65, Cl. 235—187.
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- Freed, George H., 50% to K. K. Klimback. Multiple missile cartridge. 3,195,461, 7-20-65, Cl. 102—42.
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- Friesen, Arthur. Transporter for endless track vehicles. 3,195,664, 7-20-65, Cl. 180—1.
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- Fryklund, Robert A., to Raytheon Co. Radar antenna transmitting and receiving system. 3,196,349, 7-20-65, Cl. 325—15.
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- Galeazzi, Roberto. Hydraulic air bells. 3,195,538, 7-20-65, Cl. 128—142.
- Gallegos, Silas T. Multiple figure display device. 3,195,812, 7-20-65, Cl. 235—86.
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- Garland, Ronald McG., and E. S. Ashford, to Veeder-Root Inc. Apparatus for dispensing preselected mixtures of liquids. 3,195,780, 7-20-65, Cl. 222—134.
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Gerwing, William E., Jr.: *See—*
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Ghandhi, Burzoe K., to Outboard Marine Corp. Pump. 3,195,471, 7-20-65, Cl. 103—244.
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Giesler, Jerry B., to Waldorf Paper Products Co. Unitizing trays. 3,195,719, 7-20-65, Cl. 206—47.
Giger, Adolph J., to Bell Telephone Laboratories, Inc. Wide band current limiter. 3,196,359, 7-20-65, Cl. 328—168.
Gilbert, Vernon J., to Link-Belt Co. Roll neck seal. 3,195,904, 7-20-65, Cl. 277—95.
Gilbert, Walter W., to E. I. du Pont de Nemours and Co. Sharp transition exchange inversion composition and a method of making it. 3,196,055, 7-20-65, Cl. 148—121.
Giles, James J.: *See—*
Cooper, Thomas H., Hill, and Giles. 3,196,248.
Glonet, Edmond R., to General Motors Corp. Counterbalancing hinge mechanism. 3,195,172, 7-20-65, Cl. 16—128.1.
Giordmaine, Joseph A., to Bell Telephone Laboratories, Inc. Light beam demodulator. 3,196,274, 7-20-65, Cl. 250—199.
Gladstone, Matthew T., to Norton Co. Epoxy resin coated abrasive. 3,195,993, 7-20-65, Cl. 51—298.
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Glass, Marvin I., Barlow, and Stan. 3,195,390.
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Glass, Marvin I.: *See—*
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Glass, Marvin I., G. A. Barlow, and H. Stan, to Marvin Glass & Associates. Toy. 3,195,390, 7-20-65, Cl. 84—102.
Glass, Theodore D. Core box. 3,196,229, 7-20-65, Cl. 206—65.
Gleim, William K. T., and J. T. Arrigo, to Universal Oil Products Co. Hydrorefining of crude oils. 3,196,104, 7-20-65, Cl. 208—264.
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Godfrey, John N., to Atlantic Research Corp. Thixotropic propellant compositions. 3,196,059, 7-20-65, Cl. 149—19.
Goepfrich, Rudolph A., to The Bendix Corp. Shoe retracting mechanism. 3,195,688, 7-20-65, Cl. 188—78.
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Goffin, Jules, and S. Soroca. Apparatus for injection molding. 3,195,185, 7-20-65, Cl. 18—30.
Goins, Robert R., to Phillips Petroleum Co. Transport of fine solids. 3,195,958, 7-20-65, Cl. 302—17.
Goitein, Ernest E.: *See—*
Gruber, Martin V., and Goitein. 3,195,870.
Goldfein, Solomon, to United States of America, Army. Process for shipping rigid polyurethane foam. 3,196,197, 7-20-65, Cl. 264—321.
Goldstine, Herman H., L. P. Horwitz, and G. L. Shelton, Jr., to International Business Machines Corp. Specimen identification techniques employing Nth-order autocorrelation functions. 3,196,397, 7-20-65, Cl. 340—146.3.
Goltner, Wolfgang, and P. Shiack, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüining. Process for the manufacture of copolymers of acrolein and acrylonitrile. 3,196,130. 7-20-65, Cl. 260—73.
Golueke, Clarence G., and W. J. Oswald, to The Regents of the University of California. Process for culturing and recovering algae and carageenin. 3,195,271, 7-20-65, Cl. 47—1.4.
Goodloe, Alfred M., to General Cable Corp. Heat exchangers. 3,195,627, 7-20-65, Cl. 165—181.
Goodman, Willard B., to Albert G. Bodine, Jr., doing business as Bodine Soundrive Co. Sonic pile driver. 3,195,659, 7-20-65, Cl. 175—55.
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Gottlieb, Robert. Play pen and bottom elevating means therefor. 3,195.152, 7-20-65, Cl. 5—99.
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Grace, Alan G., and G. Meyer, to Ampex Corp. Tape apparatus speed control. 3,196,421, 7-20-65, Cl. 340—174.1.
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Biffi, Giulia, Grein, and Spalla. 3,196,084.
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Greulich, Gerald G., to The Ceco Corp. Prestressed concrete slab construction. 3,195,277, 7-20-65, Cl. 50—128.
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Griffiths, Henry W., to The Magnavox Co. Magneto-optical transducer using a magnetic thin film. 3,196,206, 7-20-65, Cl. 178—6.6.
Grimes, Will H. Brush rake comprising a plurality of ground engaging runners with a traverse blade secured to the front surface thereof. 3,195,247, 7-20-65, Cl. 37—2.
Grisar, Johann M., to Chas. Pfizer & Co., Inc. 2-chloro-9-[3-(4 carbamoyl-1-piperazinyl) propylidene] thioxanthene derivatives. 3,196,150, 7-20-65, Cl. 260—240.
Groff, Ellsworth E. Outdoor cooking appliances. 3,195,531, 7-20-65, Cl. 126—30.
Groh, William J., to The Bendix Corp. Process of threading an opening. 3,195,155, 7-20-65, Cl. 10—1.
Gross, Robert D., and G. Garbarini, to Sperry Rand Corp., Ford Instrument Co. Division. Digital to analog continuous rotation servo. 3,196,429, 7-20-65, Cl. 340—347.
Grosser, Harry W., ½ to S. A. Weeks. Truck clearance light. 3,196,266, 7-20-65, Cl. 240—8.2.
Gruber, Martin V., and E. E. Goitein, to Fluor Products Co., Inc. Helicopter type fans for cooling towers. 3,195,870, 7-20-65, Cl. 261—25.
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Gulton Industries, Inc.: *See—*
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Gunderloy, Frank C., Jr., to Esso Research and Engineering Co. Purification of hydrazine bis-borane. 3,195,976, 7-20-65, Cl. 23—14.
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Gunn, John B., to International Business Machines Corp. Variable capacitance information storage system. 3,196,405, 7-20-65, Cl. 340—173.
Gunter, Chester G., R. L. Baldner, and A. N. Wennergerg, to Standard Oil Co. Oxo process. 3,196,171, 7-20-65, Cl. 260—414.
Gunther, Kenneth W., and R. W. Gundlach, to Xerox Corp. Electrostatic frosting. 3,196,011, 7-20-65, Cl. 96—1.
Gustin-Bacon Mfg. Co.: *See—*
Marshall, Raymond T. 3,195,348.
Gutridge, Jack E., and J. W. Borger, to Pullman Inc. Container transfer device. 3,195,743, 7-20-65, Cl. 214—75.
Gwilliam, David T., to Decca Ltd. Magnetic tape recording and reproducing apparatus. 3,195,791, 7-20-65, Cl. 226—95.
Gwin, James M. Mounting frame for slides and the like. 3,195,258, 7-20-65, Cl. 40—158.
Gyllenberg, John L., to Chemical Lime Co. Feeding mechanism for dry flowables. 3,195,714, 7-20-65, Cl. 198—220.
Gysling, Walter, to Control Data Corp. Vacuum tape scraper. 3,195,164, 7-20-65, Cl. 15—308.
Haberman Donovan S. Portable table for circular saw. 3,105,591, 7-20-65, Cl. 143—6.
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Stern Lionel, and Hadaway. 3.195,991.
Haden, Walter L., Jr., and F. J. Dzierzanowski, to Minerals & Chemicals Philipp Corp. Method for purifying radioactive waste liquid. 3,196,106, 7-20-65, Cl. 210—24.
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Hage, Sigurd D., to The Boeing Co. Method and apparatus for determining the available power output of an engine. 3,195,349, 7-20-65, Cl. 73—116.
Hager, Robert R., and C. R. Kenrick, to The Bendix Corp. Reversible valve and servomotor. 3,195,417, 7-20-65, Cl. 91—374.
Haigh, Daniel H., and C. W. Roberts, to The Dow Chemical Co. Halogen-containing polyester compositions. 3,196,191, 7-20-65, Cl. 260—869.
Halacsy, Andrew A., to Federal Pacific Electric Co. Method for winding toroidal power transformers. 3,195,820, 7-20-65, Cl. 242—4.
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Smith, Robert J. 3,195,370.
Hall, Llewellyn J., to Wayne Mfg. Co. Wood chipper with adjustable bed knife. 3.195,592, 7-20-65, Cl. 144—172.
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Halliday, William, to S. Smith & Sons (England) Ltd. Pulse-responsive apparatus. 3 196,383, 7-20-65, Cl. 340—3.
Hallsworth, Arnold, to British Crane & Excavator Corp. Ltd. Rotatable seat and steering column arrangement for vehicles. 3,195,913, 7-20-65, Cl. 280—87.
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Hanna, Ralph, to Midland-Ross Corp. Control system. 3,195,554, 7-20-65, Cl. 137—88.
Hannon, F. R., & Sons, Inc.: *See—*
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Hannon Thomas W., to F. R. Hannon & Sons, Inc. Electrically heated screen construction and method. 3,195,725, Cl. 209—238.
Hansen, Henry. Draft appliance. 3,195,668, 7-20-65, Cl. 180—14.5.
Hansford, Kenneth R., A. L. Roberts, A. W. Evans, and W. Hughes, to British Titan Products Co. Ltd. Decomposition of iron sulphate. 3,195,981, 7-20-65, Cl. 23—177.
Harbison, Dixon T., and J. A. Burns, to Harbison-Fischer Mfg. Co. Pump anchors with slips and packer. 3,195,643, 7-20-65, Cl. 166—138.
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Harder, Richard E., to The Dow Chemical Co. Interfacial surface generator. 3,195,865, 7-20-65, Cl. 259—4.
Hardesty, Thomas K. C., and E. Willis, to United States of America, Navy. Cable connector with monitored locking feature. 3,196,424, 7-20-65, Cl. 340—280.
Hardison, Leslie C., to Universal Oil Products Co. Apparatus for contacting mixed phase fluids with a solid catalyst. 3,195,987, 7-20-65, Cl. 23—288.
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Harper, Jay A., to Acme Machine Works, Inc. Electromagnetic actuator and method of making same. 3,196,322, 7-20-65, Cl. 317—186.
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Hart, James H. Calorie counter. 3,195,813, 7-20-65, Cl. 235—90.
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Harvey, Eric A.: *See—*
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Hatcher, Cecil W., to Concut. Inc. Pavement leveling machine with means for reducing effects of bumps. 3,195,957, 7-20-65, Cl. 299—39.
Hatfield, Kent E., to Pittsburgh Plate Glass Co. Process of concentrating solutions of sodium and potassium chloride as falling films on heated surfaces. 3,195,614, 7-20-65, Cl. 159—49.
Haufler, George J. and R. W. Greene, Jr., to International Telephone and Telegraph Corp. Lateral valve control for air conditioning equipment. 3,195,622, 7-20-65, Cl. 165—101.
Hauth, Fred C., and M. A. Chatigny, to The Regents of The University of California. Rabbit and guinea pig holding cage. 3,195,505, 7-20-65, Cl. 119—17.

Hawkins, Harold M., to Phillips Petroleum Co. Method for continuously discharging the contents of a pressurized vessel. 3,195,613, 7-20-65, Cl. 159—47.
Hawley, Roger S., to Esso Research and Engineering Co. Halogenated butyl rubber compositions. 3,196,125, 7-20-65, Cl. 260—33.6.
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Hayward, Gamon B.: *See—*
  Brower, David F., and Hayward. 3,[illegible]95,333.
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  Balaguer, Rodolfo R. 3,195,830.
  Balaguer, Rodolfo R. 3,196,025.
  Balaguer, Rodolfo R. 3,196,051.
Hedrick, Warren R., to Hart & Cooley Mfg. Co. Air diffusers. 3,195,441, 7-20-65, Cl. 98—40.
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  Conti, John A. 3,195,845.
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Heidner, Richard C., to Outboard Marine Corp. Outboard motor having sound absorbing construction within engine housing. 3,195,530, 7-20-65, Cl. 123—1[illegible]8.
Heidner, Richard C., to Outboard Marine Corp. Vehicle engine oil level and pressure responsive indicator. 3,196,389, 7-20-65, Cl. 340—60.
Hein, Ewald, and F. W. Busch, to Siemmag Siegener Maschinenbau G.m.b.H. Means for piling billets. 3,195,739, 7-20-65, Cl. 214—6.
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  Meyer, Kurt, Rausch, Heitmann, and J[illegible]nkem. 3,196,000.
Heizer, John T., to United States of America, Army. Clipping system. 3,196,289, 7-20-65, Cl. [illegible]07—88.5.
Helm, Charles D., and C. B. Bayles, to W. R. Grace & Co. Automatic catalyst dispenser. 3,195,[illegible]76, 7-20-65, Cl. 222—63.
Henchert, John, to Continental Can Co., Inc. Tear strip connected to pull tab by means of an integral rivet. 3,195,765, 7-20-65, Cl. 220—54.
Henchert, John, to Continental Can Co., Inc. Plastic pull tab to metal tear strip connection with plug gripping feature. 3,195,766, 7-20-65, Cl. 220—54.
Henchert, John, to Continental Can Co., Inc. Plastic pull tab to metal tear strip connection with mechanical interlock. 3,195,767, 7-20-65, Cl. 220—54.
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  Chenoweth, Maynard B., and Hendershot. 3,196,073.
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Herbst, Willy, and E. Wagner, to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning. Process and solution for the after-treatment of phosphate coatings. 3,196,039, 7-20-65, Cl. 117—75.
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Herr, Robert, O. Ortlinghaus, J. Lemp, and A. Ortlinghaus, to Ortlinghaus, Gebr. Fluid pressure released brake. 3,195,692, 7-20-65, Cl. 188—170.
Hesling, Donald M., to Sealed Power Corp. Piston oil control ring. 3,195,903, 7-20-65, Cl. 277—78.
Hesser, Fr., Maschinenfabrik-Aktiengesellschaft, Fa.: *See—*
  Schoder, Eduard J., and Buchner. 3,196,068.
Heubach, Leslie D. Hay harvester, loader and unloader. 3,195,746, 7-20-65, Cl. 214—83.28.
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  Bishop, Irving N., and Hideg. 3,19[illegible],519.
Hildebrant, William J., and V. A. Malatesta, to Connecticut Technical Corp. Automatic cycling system for pin setting machines. 3,195,892, 7-20-65, Cl. 273—43.
Hill, Frank W., to E. W. Bliss Co. Traffic actuated, master adjusted controller. 3,196,387, 7-20-65, Cl. 340—36.
Hill, Frank W., to E. W. Bliss Co. Auxiliary traffic controllers. 3,196,388, 7-20-65, Cl. 340—44.
Hill, Laurence K.: *See—*
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Hill, William A. Fracturing process. 3,195,634, 7-20-65, Cl. 166—42.
Hiller Aircraft Co., Inc.: *See—*
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Hillery, Herbert V., and F. O. Bohls, to United States of America, Navy. Triplane reflector with controlled frequency-dependent target strength. 3,[illegible]95,677, 7-20-65, Cl. 181—.5.
Hindin, Maurice J.: *See—*
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  Bache, David E., and Hirons. 3,195,952.
Hirsch, Jacob. Peg board. 3,195,926, 7-20-65, Cl. 282—29.
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  Schoch, Walter, Deutscher, Hirsch, and Weiss. 3,196,038.
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Hoag, Yates M., to General Electric Co. Battery condition tester for devices having an audio amplifier and electro-acoustic transducer. 3,196,357, 7-20-65, Cl. 325—492.
Hodge, John M., to United States Steel Corp. Production of heat-treated sheets. 3,196,053, 7-20-65, Cl. 148—12.4.
Hoffman, Arlene M.: *See—*
  Weiss, Martin J., Kissman, and Hoffman. 3,196,149.
Hoffman, Ewald R. Measuring and dispensing device. 3,195,789, 7-20-65, Cl. 222—455.
Hoffmann, Bruno, to North American Philips Co., Inc. Means for connecting the parts of a multi-part housing. 3,195,203, 7-20-65, Cl. 24—261.
Hoffmann, Richard R., to Probescope Co. Deflection circuits for cathode ray tubes. 3,196,310, 7-20-65, Cl. 315—29.
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  Kiss, Joseph. 3,196,147.
Hofmann, Franz. Formwork for the inside surface of a wall structure confining a vertical opening. 3,195,851, 7-20-65, Cl. 249—10.
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- Kiss, Joseph, to Hoffmann-La Roche Inc. 4-O-alkyl-5,5-dialkyl-L-xylose derivatives. 3,196,147, 7-20-65, Cl. 260—209.
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- Klein, George A.: *See—*
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- Klein, Robert I. Door guide. 3,195,171, 7-20-65, Cl. 16—90.
- Kleinschmidt, Edward F., J. W. Ehrlich, and E. E. Podwojski, to SCM Corp. Keyboard communications equipment. 3,196,209, 7-20-65, Cl. 178—17.
- Klimback, Kenneth K.: *See—*
  - Freed, George H. 3,195,461.
- Klopfer, Oskar E. H., and O. W. Burke, Jr., to Continental Oil Co. Multiply metallated polymerization catalysts. 3,196,116, 7-20-65, Cl. 252—429.
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- Knapp, Carroll L., Jr.: *See—*
  - Morway, Arnold J., and Knapp. 3,196,109.
- Knapp, George P., to Mount Hope Machinery Co. Sheet-material expander. 3,195,214, 7-20-65, Cl. 26—63.
- Knisely, Victor D., and C. H. Rennels. Replaceable truck flap. 3,195,920, 7-20-65, Cl. 280—154.5.
- Knoop, Alan R., to Allied Chemical Corp. Heater control systems. 3,196,254, 7-20-65, Cl. 219—486.
- Knoth, Norman P., to Warwick Electronics Inc. Magnetic tape recorder and reproducing machine. 3,196,214, 7-20-65, Cl. 179—100.2.
- Knudson, Louis I.: *See—*
  - McNulty, John V., Knudson, and Mooney. 3,196,041.
- Knusli, Enrico, J. Rumpf, and G. A. Klein, to J. R. Geigy, A.-G. Triazine composition and method of influencing the growth of plants thereby. 3,195,998, 7-20-65, Cl. 71—2.5.
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  - Carter, Uriel F., and Kolb. 3,196,227.
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- Kollmorgen Corp.: *See—*
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- Kompfner, Rudolf, to Bell Telephone Laboratories, Inc. Antenna system. 3,196,438, 7-20-65, Cl. 343—100.
- Koncewicz, Al, to Titanium Metals Corp. of America. Electrode consumption indicator. 3,196,308, 7-20-65, Cl. 314—9.
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- Kott, Herbert, to Scovill Mfg. Co. Portable electric unit for toothbrush or the like. 3,196,299, 7-20-65, Cl. 310—81.
- Kou, Jean, to "Bennes Marrel." Dumping mechanism for vehicles. 3,195,956, 7-20-65, Cl. 298—22.
- Kracklauer, Aloysius C., and F. H. Passalaqua, to C. I. T. Corp. Unitary rotatable pressure leaf filter. 3,195,729, 7-20-65, Cl. 210—330.
- Kramer, Leo, A. L. Medesha, and J. M. Ladd, to Ingersoll-Rand Co. Wire stripper. 3,195,379, 7-20-65, Cl. 81—9.51.
- Kraus, Gerard, to Phillips Petroleum Co. Rubber containing hydroxylamine-treated carbon blacks. 3,196,127, 7-20-65, Cl. 260—41.5.
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- Kristal, Edward, to E. I. du Pont de Nemours and Co. Production of embossed plastic sheet material. 3,196,062, 7-20-65 Cl. 156—79.
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  - Steinhardt, Howard L., and Krize. 3,196,381.
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- Krohn, Fritz F. W., to General Dynamics Corp. Double wall cellular beam structure. 3,195,841, 7-20-65, Cl. 244—123.
- Kronstein, Max, and W. H. Kapfer, to United States of America, Navy. Complex alkyl titanate derivatives and their modifications. 3,196,166, 7-20-65, Cl. 260—347.8.
- Kropinski, John J. Word game apparatus comprising die and score card. 3,195,895, 7-20-65, Cl. 273—135.
- Kuckhoff, Carl J., and H. J. Biedinger, to The Syracuse Stamping Co., Inc. Ribbon spool. 3,195,828, 7-20-65, Cl. 242—74.1.
- Kuhnel, Paul T., to Kimberly-Clark Corp. Abrasive work back-up to recondition doctor blade. 3,195,500, 7-20-65, Cl. 118—70.
- Kunda, Vasyl, to Sherritt Gordon Mines Ltd. Molybdenum recovery process. 3,196,004, 7-20-65, Cl. 75—84.
- Kuris, Arthur: *See—*
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- Labrique, Georges A. C. M. Simulated golf hole. 3,195,897, 7-20-65, Cl. 273—177.
- Lacam, Andre, and B. Vodar, to Centre National de la Recherche Scientifique. Submarine machines. 3,195,493, 7-20-65, Cl. 114—16.
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  - Kramer, Leo, Medesha, and Ladd. 3,195,379.
- Lagarde, Roe H., and C. Murphy, Jr., to E. W. Bliss Co. Anchoring means for flat bands. 3,195,939, 7-20-65, Cl. 287—82.
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  - Kent, Allen H. 3,196,298.
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- Lane, Donald H., and F. Emley, to Westinghouse Electric Corp. Copper base alloys containing cobalt, beryllium, and zirconium. 3,196,006, 7-20-65, Cl. 75—153.
- Lang, Ludwig. Pipe bending machine. 3,195,339, 7-20-65, Cl. 72—389.
- Lange, Crystal M.: *See—*
  - Lange, Elmer W. 3,195,401.
- Lange, Elmer W., 50% to C. M. Lange. Film projector with telescopic cabinet. 3,195,401, 7-20-65, Cl. 88—24.
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  - Larsen, Burnham L., and B. J. 3,195,448.
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- Latham, Harry L., Jr., to Honeywell Inc. Shielded differential amplifier. 3,196,364, 7-20-65, Cl. 330—68.
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- Leary, Joseph C. Stock fountain. 3,195,511, 7-20-65, Cl. 119—75.
- Lederberg, Philip M., V. Silson, and I. Joss. Mascara dispensing device with resilient wiper means. 3,195,545, 7-20-65, Cl. 132—79.
- Leffelman, Richard G., and J. Torrisi, to McDonnell Aircraft Corp. Antenna with side lobe absorber mounted adjacent thereto. 3,196,442, 7-20-65, Cl. 343—765.
- Lehman, Charles L., and F. I. Brooner. Game and stock feeder. 3,195,508, 7-20-65, Cl. 119—51.11.
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- Leonhart, Xaver. Coin controller for games and the like. 3,195,706, 7-20-65, Cl. 194—55.

- Le Rouax, Robert K., to Cameron Iron Works, Inc. Submarine wellhead apparatus. 3,195,6[illegible]8, 7-20-65, Cl. 166—66.5.
- Lestakis, Christy N. Sewer pipe opener. 3,195,548, 7-20-65, Cl. 134—167.
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- Lewis, Nigel W., and G. H. Williams, to Vickers-Armstrongs (Engineers) Ltd. Air-cushion borne vehicle. 3,195,666, 7-20-65, Cl. 180—7.
- Lewis, Mindel H., to General Electric Co. Electron discharge device with grid wire tensioning means and method. 3,196,307, 7-20-65, Cl. 313—348.
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- Lind, Erwin, to Kalle Aktiengesellschaft. Heat-copying process. 3,196,029, 7-20-65, Cl. 117—1.7.
- Lindberg, John E. Alarm circuit with false warning prevention. 3,196,423, 7-20-65, Cl. 340—213.
- Lindemann, Hans, to The Th. Calow & Co. Clamping and straightening devices. 3,195,336, 7-20-65, Cl. 72—72.
- Lindemann, Wallace W., and R. K. Mueller, to Litton Systems, Inc. R.C. filter with capacitance produced by grain boundary semiconductor. 3,196,372, 7-20-65, Cl. 333—70.
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- Linquist, Robert L., to Security Valve Co. of California. Pilot or relay valve. 3,195,416, 7-20-65, Cl. 91—165.
- Linsker, Eugene, to Rockwell Mfg. Co. Torque responsive control for motor driven tool. 3,195,704, 7-20-65, Cl. 192—150.
- Lisuzzo, Frank C., and C. E. Colwell, Jr., to General Signal Corp. Reed relay. 3,196,232, 7-20-65, Cl. 200—87.
- Liszewski, Edward W., and R. H. Hornu[illegible], to Graphic Controls Corp. Spot gluing of continuous forms. 3,196,065, 7-20-65, Cl. 156—291.
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  - Loomis, Glenn L. 3,195,645.
- Lossman, Robert L. Removable trailer chassis for boats and the like. 3,195,919, 7-20-65, Cl. 280—[illegible]24.
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  - Lau, Friedrich, and Louzil. 3,195,824.
- Louzil, Friedrich, to North American Philips Co., Inc. Self threading type tape recorder/reproducer. 3,195,792, 7-20-65, Cl. 226—92.
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- Luehrs, Hans J., to The Cottrell Co. Printing plate lockup means. 3,195,457, 7-20-65, Cl. 101—[illegible]78.
- Luketa, Frank J. Trawl net suspension. 3,195,260, 7-20-65, Cl. 43—9.
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- Lundell, Vernon J. Concrete form structure. 3,195,852, 7-20-65, Cl. 249—34.
- Lustenader, Edward L., to General Electric Co. Water demineralizing apparatus. 3,196,087, 7-20-65 Cl. 202—236.
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- Lyles, Cecil R. Well unloading apparatus. 3,195,523, 7-20-65, Cl. 103—52.
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- MacDonnell, Frank, and H. Fredericks, to The Flintkote Co. Handling and shipment of tubular products. 3,195,723, 7-20-65, Cl. 206—65.
- Mace, Alan R., and J. Tellier, to United States of America, Navy. Scanning antenna having a cylindrical splash plate for providing linear beam motion. 3,196,441, 7-20-65, Cl. 343—754.
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  - Belliveau, Raymond E., and MacIntyre. 3,195,225.
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  - Jones, Earle D., and Macovski. 3,196,451.
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  - Maddox, Robert B. 3,195,849.
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- Mann, Horace T., and D. G. Fladlien, to Thompson Ramo Wooldridge Inc. Superconductive analog to digital converter. 3,196,427, 7-20-65, Cl. 340—347.
- Mantell, Leon M. Laundering and cleaning apparatus. 3 195,328, 7-20-65, Cl. 68—43.
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- Marie, Georges R. P., to Bell Telephone Laboratories, Inc. Delay distortion compensator. 3,196,371, 7-20-65, Cl. 333—28.
- Markham, Bill, to Lakeside Industries, Inc. Chance controlled game apparatus with apertured game board and disk with indicia visible through said apertures. 3,195,896, 7-20-65, Cl. 273—135.
- Marquez, Ralph, and W. J. Bua, to Productive Ideas Unlimited, Inc. Package convertible to a toy. 3,195,265, 7-20-65, Cl. 46—11.
- Marrison, Warren A., to Thompson Ramo Wooldridge, Inc. Electrodeless vapor discharge lamp with auxiliary voltage triggering means. 3,196,312, 7-20-65, Cl. 315—171.
- Marshall, Raymond T., to Gustin-Bacon Mfg. Co. Mat flexibility gauging device. 3,195,348, 7-20-65, Cl. 73—100.
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- Martin, Louis D., and K. H. Roehrs. Process for fabricating self-lubricating precision support centers. 3,195,221, 7-20-65, Cl. 29—149.5.
- Martin, Roger: *See*—
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- Marvin, Ronald A., to Communications Patents Ltd. Electronic integrators. 3,196,263, 7-20-65, Cl. 235—183.
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- Mastrangelo, Sebastian V. R., to E. I. du Pont de Nemours and Co. Difluoromethylene radicals trapped in a matrix of solidified gas. 3,196,114, 7-20-65, Cl. 252—182.
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  - Minich, Michael. 3,196,377.
- Matthews, Eric J., to Babcock & Wilcox Ltd. Fluid heater cleaners. 3,195,165, 7-20-65, Cl. 15—317.
- Mattimoe, George E., and E. G. Stehn, to T. R. Mantes Co., Inc. Apparatus for filling plastic bags. 3,195,587, 7-20-65, Cl. 141—83.
- Maxted, Charles F., and R. E. V. Ramsing. Switch for indicating out-of-sight loads. 3,196,239, 7-20-65, Cl. 200—167.
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  - Berry, Allan E., May, and Rice. 3,196,355.
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- Mayer, Oscar, & Co., Inc.: *See*—
  - Sloan, Edward C., Eberman, and Jensen. 3,195,288.
- Mayfield, Robert W., to The Firestone Tire & Rubber Co. Tire rim. 3,195,605, 7-20-65, Cl. 152—396.
- McAdam, John C., to International Electronic Research Corp. Transistor convection cooler. 3,195,628, 7-20-65, Cl. 165—185.
- McAtee, George E.: *See*—
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- McCallum, James G., to The Commonwealth Engineering Co. of Ohio. Fiber metallizing apparatus and method for making shielded electrical conductors. 3,195,395, 7-20-65, Cl. 87—1.
- McCardell, Willard B., to Michigan Tool Co. Gear tooth checking system. 3,195,239, 7-20-65, Cl. 33—179.5.
- McCarthy, Horace F.: *See*—
  - Hovnanian, Hrair P., McCarthy, and Rose. 3,195,536.
- McClure, Melvin G. Guard for poultry fountains. 3,195,509, 7-20-65, Cl. 119—61.
- McCombs, Howard L., Jr., to The Bendix Corp. Fuel control for combustion engine. 3,195,308, 7-20-65, Cl. 60—39.28.
- McCoy, James R., to Harvest Queen Mill & Elevator Co. Valve system for sequential flow from multizone producing wells. 3,195,644, 7-20-65, Cl. 166—147.
- McCulloch Corp.: *See*—
  - Beck, Niels J. 3,195,525.
- McCutcheon, Samuel R., to Tektronix, Inc. Noise suppressor circuit. 3,196,292, 7-20-65, Cl. 307—88.5.
- McDaniel, Louis, to Inland Steel Co. Method of rolling strips of metal. 3,195,333, 7-20-65, Cl. 72—46.
- McDermott, Julian A. Lamp fixture. 3,196,269, 7-20-65, Cl. 240—151.
- McDonald, Lyell J., to C. G. Conn, Ltd. Transistor keyer. 3,196,201, 7-20-65 Cl. 84—1.26.
- McDonnell Aircraft Corp.: *See*—
  - Leffelman, Richard G., and Torrisi. 3,196,442.
- McElhinney, Eric M.: *See*—
  - Norris, Leonard, and McElhinney. 3,195,654.
- McGraw-Edison Co.: *See*—
  - Abromaitis, Andre T. 3,196,273.
  - Bertling, Ronald J. 3,196,226.
  - Puydak, Robert C. 3,196,235.
- McIntyre, Maurice J., to The Humboldt Co. Portable logging tower. 3,195 695, 7-20-65, Cl. 189—11.
- McKay, John F., deceased, by W. M. Elliott, administrator, and D. F. Koenecke, to Esso Research and Engineering Co. Coating composition comprising an oxygen-containing diolefin polymer and a drying oil. 3,196,121, 7-20-65, Cl. 260—23.7.
- McKelvey, Ernest E: *See*—
  - Boyer, Ernest W., and McKelvey. 3,195,355.
- McKeown, Patrick J.: *See*—
  - Frann, Stamates I., and McKeown. 3,196,264.
- McKown George M. Drilling bit. 3,195,660, 7-20-65, Cl. 175—65.
- McKown, Howard P., Jr., to Breeze Corps., Inc. Worm driven hose clamp. 3,195,204, 7-20-65, Cl 24—274.
- McLaughlin, Joseph E., and J. A. Vasta, to E. I. du Pont de Nemours and Co. Heat-curable coating compositions containing polyhydric alcohols. 3,196,120, 7-20-65, Cl. 260—23.
- McLean David W., to Morgan Construction Co. Means for collecting, compacting, banding and weighing a plurality of coils of rod. 3,195,444, 7-20-65, Cl. 100—7.
- McMullen, John J., Associates, Inc.: *See*—
  - Field, Sheldon B. 3,195,497.
- McNay, Albert, and E. S. Badura, to General Motors Corp. Door hinge, check and hold-open assembly. 3,195,173, 7-20-65, Cl. 16—138.
- McNulty, John V., L. I. Knudson, and E. L Mooney, to General Laboratory Associates, Inc. Method of making a semiconductor gap for an initiator. 3,196,041, 7-20-65, Cl. 117—201.
- McQuitty, Raymond L.: *See*—
  - Richardson, William F., McQuitty, and Isaacs. 3,195,955.
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  - Mittry, Fouad K., Jr. 3,195,251.
- Medesha, Alfred L.: *See*—
  - Kramer, Leo, Medesha, and Ladd. 3,195,379.
- Mednick, Leo. Slip cover. 3,195 950, 7-20-65, Cl. 297—227.
- Meggs, Daniel H., Jr.; 25% to M. J. Hindin, and 25% to W. H. Shapero. Automatic self-adjusting wrench. 3,195,381, 7-20-65, Cl. 81—128.
- Meisler, Sidney S. Bale press. 3,195,445, 7-20-65, Cl. 100—26.
- Melchiore, John J.: *See*—
  - Mills, Ivor W., and Melchiore. 3,196,102.
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  - Young, Lawrence W., and Meloche. 3,195,557.
- Melrose, Alan, to Burns & Roe Inc. Apparatus for separating individual billets from bundles. 3,195,737, 7-20-65, Cl. 214—1.
- Meltzer, Jack. Conductive shoe and method of repairing it, and repair kit therefor. 3,196,314, 7-20-65, Cl. 317—2.
- Menard, Alfred J., and T. H. Williams, to Timesaver Products Co. Process for the production of non-foamed, urethane-type polymers. 3,196,026, 7-20-65, Cl. 106—287.
- Mercer, Richard H. Low-voltage sprinkler control system. 3,195,816, 7-20-65, Cl. 239—63.
- Mercier, Jean. Pressure vessels. 3,195,576, 7-20-65, Cl. 138—30.
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- Mercier, Jean. Sealing means for slidable member in a pressure unit. 3,195,901, 7-20-65, Cl. 277—58.
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  - Sarett, Lewis H., and Shen. 3,196,162.
- Mercury Electronics Corp.: *See*—
  - Petrina, Angelo S. 3,196,217.
- Merkel, Henry M., Jr. Hygienic spray device for toilets. 3,195,148, 7-20-65, Cl. 4—7.
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  - Latour, Andre. 3,196,240.
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  - Tuma, Alex. 3,195,428.
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  - Adams, John J. 3,195,427.
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  - Meyer, Kurt, Rausch, Heitmann, and Jahnke. 3,196,000.
- Metzler, Phares H. Quick-release bottom fishing sinker. 3,195,262, 7-20-65, Cl. 43—43.12.
- Meunier, Robert, to United States of America, Army. Trigger guard safety for dual trigger firearms. 3,195,259, 7-20-65, Cl. 42—70.
- Meyer, George: *See*—
  - Grace, Alan G., and Meyer. 3,196,421.
- Meyer, Herbert, to Licentia Patent-Verwaltungs-G.m.b.H. Switch which reduces rebounding of its contacts. 3,196,231, 7-20-65, Cl. 200—87.
- Meyer, Kurt, H. Rausch, G. Heitmann, and W. Jahnke, to Metallgesellschaft Aktiengesellschaft. Process for the direct reduction of iron ores in rotating cylindrical furnaces. 3,196,000, 7-20-65, Cl. 75—5.
- Meyer, Ralph, to Skyline Mfg. Co. Fixture for displaying yard goods. 3,195,480, 7-20-65, Cl. 108—13.
- Meyers, Ellwood H., and R. L. Kepler, to Morrison Co. Core lift for industrial trucks. 3,195,751, 7-20-65, Cl. 214—620.
- Meyers, Norman H.: *See*—
  - Brennemann, Andrew E., and Meyers. 3,196,408.
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  - Clancey, James T., and Meyers. 3,195,484.
- Michelin & Cie: *See*—
  - Boussu, Gabriel X. R., and Travers. 3,195,604.
- Michigan Tool Co.: *See*—
  - McCardell, Willard B. 3,195,239.
- Microwave Associates, Inc.: *See*—
  - Swartz, Allen I. 3,196,325.
  - Walker, Richard M., and Blaisdell. 3,196,339.
- Middleton, Charles F., Jr., to Raytheon Co. Captive screw devices. 3,195,600, 7-20-65, Cl. 151—69.
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  - Nesbitt, John D., and Kohn. 3,195,609.
- Mid-West Abrasive Co.: *See*—
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  - Magsig, Manly A. 3,195,282.
- Mientus, James A., to The Bendix Corp. Flow control apparatus. 3,195,317, 7-20-65, Cl. 62—52.
- Mihajlov, Vsevolod S., and W. L. Goffe, to Xerox Corp. Electrophotographic process for formation of frost-like deformation images in mechanically deformable photo conductive layers. 3,196,008, 7-20-65, Cl. 96—1.
- Mihara, Kazuhiko, T. Yamashiki, and K. Kondo, to Asahi Kasei Kogyo Kabushiki Kaisha. Process for purifying sugar solutions. 3,196,045, 7-20-65, Cl. 127—46.
- Miksch, Russell S., and R. E. Corridan, to American Radiator & Standard Sanitary Corp. Controlled temperature gradient vapor-generator. 3,195,514, 7-20-65, Cl. 122—4.
- Millar, Thomas K.: *See*—
  - Hughes, Martin C., and Millar. 3,195,302.
- Miller, Charles M., and M. E. Staley, to The Adams & Westlake Co. Pedestal. 3,195,848, 7-20-65, Cl. 248—411.
- Miller, Donald K. Suspension knock-down shelter. 3,195,507, 7-20-65, Cl. 119—23.
- Miller, Gerald A. Burst diaphragm and method of making same. 3,195,769, 7-20-65, Cl. 220—89.
- Miller, William H., A. J. Rideout, and T. K. Worthington, to International Business Machines Corp. Method of influencing minority carrier lifetime in the semiconductor body of a PN junction device. 3,195,218, 7-20-65, Cl. 29—25.3.
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- Minckler, Leon S., Jr.: *See*—
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- Miner, Robert G., to The Trans Co. Absorption refrigerating system. 3 195,318, 7-20-65, Cl. 62—148.
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  - Haden, Walter L., Jr., and Dzierzanowski. 3,196,106.
- Minich, Michael, to Matrix Science Corp. Electrical connector. 3,196,377, 7-20-65, Cl. 339—17.
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Mittry, Fouad K., Jr., to Mechanical Excavators, Inc. Moisture control method and system for wheel excavators. 3,195,251, 7-20-65, Cl. 37—190.
Mix, Albert E. Suspended seating structure. 3,195,949, 7-20-65, Cl. 297—140.
Mochel, Walter E., to E. I. du Pont de Nemours and Co. Photopolymerizable compositions and their polymerization. 3,196,098, 7-20-65, Cl. 204—158.
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Moore, Robert W., to Attleboro Refining Co., Inc. Process for separating nickel and cobalt from iron. 3,196,005, 7-20-65, Cl. 75—108.
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Morath, Gunther, W. Waldura, and K. Schneider, to Verwaltungsgesellschaft Moeller und Neumann Offene Handelsgesellschaft. Stacking arrangement for sheet metal strips, especially for surface sensitive sheet metal strips. 3,195,888, 7-20-65, Cl. 271—78.
Morell, John E. Box-setting device. 3,195,881, 7-20-65, Cl. 269—216.
Morello, William, Jr., to International Telephone and Telegraph Corp. Crimp type coaxial cable connector. 3,196,382, 7-20-65, Cl. 339—177.
Moreno, Antonio A. Foldable easy chair. 3,195,954, 7-20-65, Cl. 297—441.
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Morey, Woodruff A., to Whiting Corp. Vacuum gripping pad. 3,195,941, 7-20-65, Cl. 294—64.
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Morgan, James A., and F. M. Oran, to Industrial Acoustics Co., Inc. Aerodynamic coupling for jet noise suppressors. 3,195,678, 7-20-65, Cl. 181—33.
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Morriss, James C., Jr., and A. D. Owen, to Smith-Blair, Inc. Band attaching means for pipe clamp having malleable jaws. 3,195,205, 7-20-65, Cl. 24—279.
Mortley, Wilfrid S., and S. F. Clarke, to The Marconi Co. Ltd. F.M. pulse radar system. 3,196,437, 7-20-65, Cl. 343—17.2.
Morton, Lester C., to National Distillers and Chemical Corp. Tubular member to flexible wall joint. 3,195,932, 7-20-65, Cl. 285—200.
Morway, Arnold J., and C. L. Knapp, Jr., to Esso Research and Engineering Co. Lubricating grease containing boron nitride. 3,196,109, 7-20-65, Cl. 252—25.
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Moyano, Ernesto A., to Thermo Electric Co., Inc. Automatic rebalancing network including a movably mounted potentiometer and slip clutch connection thereto. 3,196,347, 7-20-65, Cl. 324—99.
Moyers, William F., to Parker-Hannifin Corp. Composite sealing ring with compression stop. 3,195,906, 7-20-65, Cl. 277—180.
Moyson, Joseph, to General Electric Co. Semiconductor devices and methods of making same. 3,196,330, 7-20-65, Cl. 317—235.
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Muller, Jacques, to Rellumit Inter, S.a.r.L. Filtering assembly. 3,195,730, 7-20-65, Cl. 210—488.
Muller, Johann, to H. and F. W. Deckel. Console milling machine. 3,195,413, 7-20-65, Cl. 90—17.
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Neidigh, Robert J., to Products Research and Development Corp. Portable machine tool. 3,195,388, 7-20-65, Cl. 83—498.
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Neisewander, Ray H. Suspended wall partition. 3,195,192, 7-20-65, Cl. 20—19.
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Nelson, Jerome W., G. E. Faulkner, and H. C. Cook, to Esso Research and Engineering Co. Apparatus for welding pipe lines. 3,196,245, 7-20-65, Cl. 219—60.
Nelson, Kenneth E., to Arizona Agrochemical Corp. Fire suppressing composition for aerial application. 3,196,108, 7-20-65, Cl. 252—2.
Nelson, Knut E., and C. Thierfeldt, to Dahlstrom Mfg. Corp. Pressure air line with valved take-off stations. 3,195,562, 7-20-65, Cl. 137—322.
Nesbitt, John D., and H. M. Kohn, to Midland-Ross Corp. Self stabilizing radiant tube burner. 3,195,609, 7-20-65, Cl. 158—7.
Neuenschwander, Charles D. Material conveying and scattering implement. 3,195,899, 7-20-65, Cl. 275—3.
Neuhauser, Irene. Assisting healing of skin-denuded areas on the human body with dried fibrous egg-shell membrane products and compositions therefor. 3,196,075, 7-20-65, Cl. 167—58.
Neumann, Arthur E., and M. I. Glass, to Marvin Glass & Associates. Doll with changeable expression. 3,195,268, 7-20-65, Cl. 46—135.
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Nicholson, Margie M., to Esso Research and Engineering Co. Continuous automatic process-control method and system. 3,195,982, 7-20-65, Cl. 23—230.
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Nischk, Gunther, U. Bahr, and K. Andres, to Farbenfabriken Bayer Aktiengesellschaft. Flame-resistant polyester resinous compositions containing halogen and phosphorus. 3,196,190, 7-20-65, Cl. 260—869.
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Nobes, William D., to The Caldwell Mfg. Co. Sash balance connecting means. 3,195,174, 7-20-65, Cl. 16—202.
Noguera, Joseph, to Casablancas High Draft Co. Ltd. Bobbin holders for textile machines. 3,195,833, 7-20-65, Cl. 242—130.2.
Nolan, James B., to The F. H. Lawson Co. Hanging canister set. 3,195,967, 7-20-65, Cl. 312—246.
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Norstrud, Iven R., and J. H. Threlkeld, to Britt Tech Corp. Pressure relief valve for controlling pump. 3,195,556, 7-20-65, Cl. 137—115.
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  Weckesser, Charles L. 3,195,721.
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Nystrand, Ernst D., to Paper Converting Machine Co., Inc. Rotary zigzag folding apparatus. 3,195,882, 7-20-65, Cl. 270—73.
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Oas, Richard E., C. P. Dahill, and H. B. Johnson, to International Paper Co. Refrigerated comestible package. 3,196,021, 7-20-65, Cl. 99—192.
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  Ingerson, William E., and Och. 3,196,446.
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Ochs, Stefan A., to Radio Corp. of America. Method of making targets for pickup tubes. 3,195,199, 7-20-65, Cl. 22—190.
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  Ochsner, Adolf. 3,195,750.
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Oken, Stanley, S. Rook, I. Munt, and R. Rabin, to Sperry Rand Corp., Ford Instrument Co. Division. Electronic digital to synchro converter. 3,196,430, 7-20-65, Cl. 340—347.
Olbrich, Cyril A., to Nautalloy Products, Inc. Support bracket. 3,195,843, 7-20-65, Cl. 248—74.
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  Pryor, Michael J., Keir, and Sperry. 3,196,057.
  Sheehan, John T. 3,196,144.
  Turner, Charles F. 3,195,407.
  Valyi, Emery I. 3,195,226.
Olsavsky, Robert B., to Parker-Hannifin Corp. Multiple spool valve assembly. 3,195,571, 7-20-65, Cl. 137—596.12.
Olson, Donel R., M. R. Barusch, W. L. Richardson, and G. J. Kautsky, to California Research Corp. Gasoline composition containing lead compounds. 3,195,992, 7-20-65, Cl. 44—69.
Olson, Richard M.: *See*—
  Kott, Arthur, and Olson. 3,196,044.
Onanian, Richard A. Construction toy comprising blocks and coupling means. 3,195,266, 7-20-65, Cl. 46—26.
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  Duda, John, Ingard, and Oran. 3,195,679.
  Morgan, James A., and Oran. 3,195,678.

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  Chatzinoff, Albert B., and Oroshnik. 3,196,078.
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  Chatzinoff, Albert B., and Oroshnik. 3,196,078.
Ortlinghaus, Adolf: *See*—
  Herr, Robert, Ortlinghaus, Lemp, and Ortlinghaus. 3,195,692.
Ortlinghaus, Gebr.: *See*—
  Herr, Robert, Ortlinghaus, Lemp, and Ortlinghaus. 3,195,692.
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  Herr, Robert, Ortlinghaus, Lemp, and Ortlinghaus. 3,195,692.
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  Heidner, Richard C. 3,195,524.
  Heidner, Richard C. 3,195,530.
  Heidner, Richard C. 3,196,389.
  Larsen, Robert T. 3,195,521.
  Stevens, Myron T. 3,195,549.
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  Morriss, James C., Jr., and Owen. 3,195,205.
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  Barkhau, Marvin L. 3,195,501.
  Rex, Raymond H. 3,196,198.
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Paine, Ralph C., to Warren Bros. Co. Mixer for abrasive aggregates. 3,195,869, 7-20-65, Cl. 259—144.
Palmer, Earl N. Rocking device. 3,195,951, 7-20-65, Cl. 297—260.
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  Fast, Clarence R. 3,195,635.
  Leach, Robert O. 3,195,629.
Pandolfo, Sam C., III. Tab for holding film on a reel. 3,196,034, 7-20-65, Cl. 117—44.
Pangborn Corp., The: *See*—
  Physioc, Willis J., III. 3,195,709.
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  Bulgrin, Walter W., and Parent. 3,195,491.
Parker, Louis W. Method of making indicating instruments and magnetic structures therefor. 3,195,224, 7-20-65, Cl. 29—155.5.
Parker, Louis W. Wide band A.C. measuring instruments employing a wobbled heterodyning circuit to convert high input frequencies to measurable lower frequencies. 3,196,348, 7-20-65, Cl. 324—120.
Parker, Warren H., ⅛ to C. Bork, and ⅛ to N.-O. Knutson. Depth and radius gauge. 3,195,240, 7-20-65, Cl. 33—180.
Parker, Warren H. Brake lining. 3,195,693, 7-20-65, Cl. 188—251.
Parker-Hannifin Corp.: *See*—
  Moyers, William F. 3,195,906.
  Olsavsky, Robert B. 3,195,571.
  Stacey, Hugh J. 3,195,559.
  Zukas, Albert V. 3,195,418.
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  Burch, Lyndon W., and Parkhurst. 3,196,233.
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Partlow Corp., The: *See*—
  Pflieger, Charles W. 3,196,854.
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  Kracklauer, Aloysius C., and Passalaqua. 3,195,729.
Pasternack, Horst A. G., to Wasag-Chemie A.G. Coupling for pipes and the like. 3,195,928, 7-20-65, Cl. 285—18.
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Paull, Ernest H. Variable speed pulley. 3,195,364, 7-20-65, Cl 74—230.17.
Paulik, Ferenc and J., and L. Erdey. Apparatus for the thermogravimetric determination of the distillation characteristics of liquids. 3,195,343, 7-20-65, Cl. 73—17.
Paulik, Jeno: *See*—
  Paulik, Ferenc, J. and Erdy. 3,195,343.
Paulson, Wallace S., and D. G. Herbener. Method of making an ornamental hyperboloid structure. 3,196,061, 7-20-65, Cl. 156—63.

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Pearl, David S., to Uniweld Products, Inc. Fluid pressure regulator with fixedly and positively held spring having means to reduce hum. 3,195,568, 7–20–65, Cl. 137—505.42.
Peck, James V., and C. E. Witherell, to The International Nickel Co., Inc. Nickel bearing cryogenic welding material and process. 3,195,230, 7–20–65, Cl. 2[illegible]—496.
Pelavin, Milton H., and W. J. Smythe. Apparatus for providing a series of simultaneously recorded groups of test result records. 3,196,449, 7–20–65, Cl. 346—[illegible].
Pennsylvania Fluorocarbon Co., Inc.: *See*—
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Percy, Tom. Musical instrument with audio signal to force translator. 3,195,389, 7–20–65, Cl. 84—[illegible]5.
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Peters, Christian J. A., to E. I. du Pont de Nemours and Co. Coating compositions containing an amine and a metallic drier. 3,196,118, 7–20–65, Cl. 260—22[illegible].
Peters, Joseph. Drum operating mechanism. 3,195,391, 7–20–65, Cl. 84—422.
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Peterson, Soren E. Machine for cutting potatoes into potato seed. 3,195,597, 7–20–65, Cl. 146—1[illegible].
Peterson, Soren E. Apparatus for producing seed potato cuttings. 3,195,596, 7–20–65, Cl. 146—1[illegible]2.
Peterson, Thomas F. Carpet underlay. 3,196,315, 7–20–65, Cl. 317—2.
Peterson, William H., to Pullman Inc. Deck structure for cushioned railway car. 3,195,475, 7–20–65, Cl. 105—368.
Peterson, William W., and O. N. Gregg, to Compositions Inc. Method and device of oil collection and disposal. 3,195,683, 7–20–65, Cl. 184—106.
Petre, Philip C., to Aerojet-General Corp. Pull rocket shroud. 3,195,462, 7–20–65, Cl. 102—49.
Petrina, Angelo S., to Mercury Electronics Corp. Multiple-position switch. 3,196,217, 7–20–65, Cl. 200—4.
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Pflieger, Charles W., to The Partlow Corp. Valve for nitrogen cooling system. 3,196,854, 7–20–65, Cl. 251—61.
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Fisher, Henry B. 3,195,630.
Goins, Robert R. 3,195,958.
Hawkins, Harold M. 3,195,613.
Kraus, Gerard. 3,196,127.
Ogle, Frank T., Tolin, and Clardy. 3,196,189.
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Wilcox, Isaac L. 3,195,795.
Phillips, Warren R. Extrusion dies. 3,195,183, 7–20–65, Cl. 18—12.
Phipard, Harvey F., Jr., to Research Engineering and Mfg. Inc. Method of producing thread swaging devices. 3,195,156, 7–20–65, Cl. 10—10.
Physioc, Willis J., III, to The Pangborn Corp. Conveyor and article transfer device. 3,195,709, 7–20–65, Cl. 198—27.
Pickels, Edward G., and R. C. Stallman, to Beckman Instruments, Inc. Continuous flow centrifuge having a rotary face seal. 3,195,809, 7–20–65, Cl. 233—21.
Pien, Hsia S., to Baldwin-Lima-Hamilton Corp. Diaphragm type fluid pressure transducer. 3,195,353, 7–20–65, Cl. 73—398.
Piercy, George R., and J. A. E. Bell, to Atomic Energy of Canada Ltd. Method and apparatus for welding aluminum. 3,196,247, 7–20–65, Cl. 219—72.
Piloni, Robert A., and G. P. Rowland, Jr., to The Firestone Tire & Rubber Co. Polymer composed of vinylchloride, a diester and a monoethylenically unsaturated dicarboxylic acid and an ester of acrylic or methacrylic acids. 3,196,133, 7–20–65, Cl. 260—78.5.
Pilz, Werner, O. Schweckendiek, O. Armbruster, and H. Garbe, to Farbenfabriken Bayer Aktiengesellschaft. Process for cultivating foot and mouth disease virus on adult pig skin epithelium. 3,196,077, 7–20–65, Cl. 16[illegible]—78.
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Zimmermann, Erich, and Pitrot. 3,196,028.
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Pofit, Joseph F., to E. W. Bliss Co. Top entry ball valve. 3,195,560, 7–20–65, Cl. 137—315.
Polakoff, Louis. Machine for treating fabrics. 3,195,216, 7–20–65, Cl. 28—18.
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Dietz, Milton S. 3,195,434.
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Ryan, William H. 3,196,015.
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Joiner, Robert C., and Upfold. 3,195,662.
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Poole, Charles W., to Ford Motor Co. Vehicle suspension construction having resilient spring seat. 3,195,918, 7–20–65, Cl. 280—124.
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Praeger, Emil H., to Praeger-Kavanagh-Waterbury. Roof system for stadia and the like. 3,195,275, 7–20–65, Cl. 50—51.
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Race, Austin T., Jr., to Race & Race, Inc. Pipe system with movable lateral lines. 3,195,563, 7–20–65, Cl. 137—343.
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Ranson, Derek, to Imperial Chemical Industries Ltd. Tris (hydroxyaryl) alkane compounds and processes for their preparation. 3,196,185, 7–20–65, Cl. 260—619.
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Robinson, Ralph M., to Abbott Laboratories. Preparation of cyclohexylamine by hydrogenation of aniline using a rhodium catalyst. 3,196,179, 7-20-65, Cl. 260—563.
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Rosky, Frederick, and C. P. Wenzel, to Ford Motor Co. Automotive suspension system having a dual stage spring means. 3,195,878, 7-20-65, Cl. 267—67.
Rosky, Frederick, to Ford Motor Co. Vehicle suspension. 3,195,914, 7-20-65, Cl. 280—96.2.
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Rutledge, William A., to General Electric Co. Method of assembling dynamoelectric machines. 3,195,222, 7-20-65, Cl. 29—155.5.
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Sams, Martin, and H. Feldman, deceased (by J. Feldman, administratrix). Electrical connector. 3,196,379, 7-20-65, Cl. 339—100.
Sandie, Robert D. R., to Die Casters Proprietary Ltd. Rotary water spraying devices. 3,195,817, 7-20-65, Cl. 239—252.
Sands, Arthur E., to United States of America, Atomic Energy Commission. Column dissolver. 3,195,984, 7-20-65, Cl. 23—267.
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Scharf, Jerry F., to Crown Cork & Seal Co., Inc. Tear off crown. 3,195,755, 7-20-65, Cl. 215—46.
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Schmid, John H., to Zurn Industries, Inc. Combination water closet, fitting, and seal therefor. 3,195,150, 7-20-65, Cl. 4—252.
Schmidt, Daniel. Brake actuating mechanism for motor vehicle. 3,195,674, 7-20-65 Cl. 180—83.
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Schneberger, Edward J., and M. G. Bienhoff, to The Bunker-Ramo Corp. Monitoring system. 3,196,418, 7-20-65, Cl. 340—174.
Schneider, Gilbert D. Sewage disposal system and method. 3,196,105, 7-20-65, Cl. 210—12.
Schneider, Heinz, and L. Walther to Zimmermann & Jansen Gesellschaft mit beschrankter Haftung. Burner constructions for hot blast stoves. 3,195,872, 7-20-65, Cl. 263—19.
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Schoch Walter H. G. Deutscher, S. Hirsch, and H. Weiss, to Zellstoff-Fabrik Waldhof. Process and apparatus for the production of coated paper and the like. 3,196,038, 7-20-65, Cl. 117—68.
Schoder, Eduard J., and N. Buchner, to Hesser, Fr. Maschinenfabrik-Aktiengesellschaft, Fa. Apparatus for welding thermoplastic sheet material. 3,196,068, 7-20-65, Cl. 156—537.
Schoenrock, Otto R. Bearing seal construction. 3,195,900, 7-20-65, Cl. 277—9.
Scholtus, Nicholas A. Flower pot washer. 3,195,158, 7-20-65, Cl. 15—56.
Schowerer George J., and B. Simon, to Champlain, Co., Inc. Splicer for moving web. 3,195,827, 7-20-65, Cl. 242—58.2.
Schroeder, Carl E., to Continental Oil Co. Storage installation and sealing method therefor. 3,195,310, 7-20-65, Cl. 61—.5.
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Schwartz, Sandor. Phonograph record rack stand. 3,195,732, 7-20-65, Cl. 211—40.
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  Burbank, John E. 3,196,196.
  Daddona, Domenic J., Jr. 3,195,200.
  Kott, Herbert. 3,196,299.
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Seelig, Anton, to Film-Klischee G.m.b.H. Photocomposing process for the production of process copies without use of a layout. 3,196,016, 7-20-65, Cl. 96—43.
Sellwood, David G. J., and M. H. Elson. Flexible couplings. 3 195,324, 7-20-65, Cl. 64—14.
Senoff, Herbert P. Closure plug. 3,195,762, 7-20-65, Cl. 220—39.
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Shafer, Homer J. Ball valve construction. 3,195,857, 7-20-65, Cl. 251—309.
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Sharp, Harold B. Housing for protective gear for overhead electrical conductors. 3,196,202, 7-20-65, Cl. 174—44.
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  Nakagawa, Kunio, and Sumimoto. 3,196,180.
Shorb, Ray E. T-slot strainer accessory. 3,195,415, 7-20-65, Cl. 90—58.
Shorr, Leonard M., to Israel Mining Industries-Institute For Research and Development. Preparation of 1,1,2,2-tetrabromoethane. 3,196,099, 7-20-65, Cl. 204—163.
Shriner, Robert D., and H. C. Voss. Means for retrieving and storing water ski ropes. 3,195,831, 7-20-65, Cl. 242—86.5.
Shropshire, Joseph A., and B. L. Tarmy, to Esso Research and Engineering Co. Cathode catalyst for fuel cells. 3,196,048, 7-20-65, Cl. 136—86.
Siegemund, Ralf, to The Commonwealth Engineering Co. of Ohio. Input device for data processing system. 3,196,393, 7-20-65, Cl. 340—146.3.
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Simmons, Milton E., to General Motors Corp. Flexible cable drive. 3,195,823, 7-20-65, Cl. 242—54.
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  Meyer, Ralph. 3,195,480.
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  Atkins, Carl E., and Slaats. 3,196,275.
Slepian, David, to Bell Telephone Laboratories. Permutation code signaling. 3,196,351, 7-20-65, Cl. 325—41.
Sloan, Edward C., A. H. Eberman, and H. A. Jensen, to Oscar Mayer & Co., Inc. Packaging apparatus. 3,195,288, 7-20-65, Cl. 53—140.
Small, Charles B., to The Ridge Tool Co. Noise reducing transmission. 3,195,367, 7-20-65, Cl. 74—443.
Smeltzer, Jack C., and E. E. Rech, to The Bunker-Ramo Corp. Computer testing system. 3,196,390, 7-20-65, Cl. 340—146.1.
Smith, Alec, to Clarke & Smith Mfg. Co. Ltd. Magnetic tape cassettes. 3,195,826, 7-20-65, Cl. 242—55.13.
Smith, Bill, to Continental Oil Co. Transferring seismic fraces at synchronized firing times. 3,196,385, 7-20-65, Cl. 340—15.5.
Smith, Edwin E., to Fluid Dynamics Corp. Rotary pump. 3,195,470, 7-20-65, Cl. 103—131.
Smith, Francis M., to Gulf Research and Development Co. Method for perforating a well. 3,195,631, 7-20-65, Cl. 166—35.
Smith, Joseph R., Jr., to United States of America, National Aeronautics and Space Administration. Temperature compensated solid state differential amplifier. 3,196,362, 7-20-65, Cl. 330—14.
Smith, Lowell F., to General Motors Corp. Nut and screw device. 3,195,366, 7-20-65, Cl. 74—224.8.
Smith, Robert J., to C. M. Hall Lamp Co. Remote control unit. 3,195,370, 7-20-65, Cl. 74—501.
Smith, Robert K., and E. Abrams, to E. F. Houghton & Co. Slime control agents. 3,196,071, 7-20-65, Cl. 162—161.
Smith-Berger Mfg. Corp.: *See—*
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Smith-Blair, Inc.: *See—*
  Morriss, James C., Jr. 3,195,206.
  Morriss, James C., Jr., and Owen. 3,195,205.
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  Jackson, John G., and Smith. 3,195,661.
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  Turk, James R. 3,196,301.
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  De Canniere, Jean L., Smolderen, and Jacquemin. 3,195,720.

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Societe Anonyme D.B.A.: *See—*
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Societe d'Optique et de Mecanique de Haute Precision: *See—*
  Baluteau, Jean-Michel. 3,195,432.
Societe d'Utilisation Scientifique et Industrielle du Froid Usifroid: *See—*
  Rieutord, Louis M. A. 3,195,547.
Societe Francaise d'Etiquetage Virey & Garnier, Societe Anonyme dite: *See—*
  Della Vite, Romuald R. 3,196,070.
Sogn, Allen W., and J. G. Natoli, to Allied Chemical Corp. Nitration of toluene in the presence of an aromatic sulfonic acid. 3,196,186, 7-20-65, Cl. 260—64[illegible].
Somerset Wire Co. Ltd.: *See—*
  Hann, Kenneth G. 3,196,052.
Sommer, Alfred H., to Radio Corp. of America. Method of fabricating electron tubes having photocathodes. 3,195,972, 7-20-65, Cl. 316—6.
Sommermeyer, Heinrich. Magnetic fluid filter. 3,195,728, 7-20-65, Cl. 210—223.
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  Neale, Charles E. 3,195,974.
Southwell, Wyndham F., and N. Wehrmann, to L & L Mfg., Inc. Apparatus for folding fabrics. 3,195,883, 7-20-65, Cl. 270—79.
Soviero, Vincent J., Jr., to The Bendix Corp. Method of winding. 3,195,223, 7-20-65, Cl. 29—155.53.
Sovitzky, Richard, to General Electric Co. Plastic valve device with torque absorbing coupling and bracket means. 3,195,561, 7-20-65, Cl. 137—315.
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  Braunagel, Magnus V. 3,196,221.
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Spence, Peter M. Separable fastener. 3,195,202, 7-20-65, Cl. 24—230.
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  Branom, Joseph M., Burmeister, and Dohogne. 3,196,332.
  Chow, Woo F. 3,196,288.
  Court, Kenneth. 3,195,669.
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  Kornreich, Philipp. 3,196,342.
  Naiman, Mark. 3,196,376.
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  Gross, Robert D., and Garbarini. 3,196,429.
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  Carpenter, Victor W., Jackson, and Squibb. 3,196,054.
Squires, Elizabeth L. Absorbable support. 3,195,847, 7-20-65, Cl. 248—346.1.
Stabler, Edward P., to General Electric Co. Magnetic core logic circuits employing coupled single path core structures. 3,196,414, 7-20-65, Cl. 340—174.
Stacey, Hugh J., to Parker-Hannifin Corp. Spool valve assembly. 3,195,559, 7-20-65, Cl. 137—27[illegible].
Stalemark, Ragnar F. V.: *See—*
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Stan, Henry: *See—*
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Stehn, Everett G.: *See—*
  Mattimoe, George E., and Stehn. 3,195,587.
Steiner, Alois. Stair-climbing vehicle. 3,195,910, 7-20-65, Cl. 280—5.22.
Steiner, Charles. Combination enclosure and stand for books and like articles. 3,195,850, 7-20-65, Cl. 248—454.
Steinhardt, Howard L.: *See—*
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Steinhardt, Howard L., and G. L. Krize, to H. L. Steinhardt. Instrument panel-mounted electrical jack or receptacle. 3,196,381, 7-20-65, Cl. 339—129.
Steinhardt, Ralph G., Jr., to Hollins College Corp. Process and apparatus for maintaining constant low temperatures. 3,195,620, 7-20-65, Cl. 165—2.
Steinkamp, Robert A., to Ripley Co., Inc. Meter device. 3,195,814, 7-20-65, Cl. 235—113.
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  Steck, Edgar A. 3,196,154.
  Surrey, Alexander R. 3,196,177.
Stern, David R., and R. D. Stewart, to American Potash & Chemical Corp. Process for producing power. 3,195,304, 7-20-65, Cl. 60—36.
Stern, Lionel, and B. M. Hadaway, to Repco Ltd. Production of composite metal strip suitable for the manufacture of bearings. 3,195,991, 7-20-65, Cl. 29—197.
Stevens, Edgar L. Carton stamping means. 3,195,452, 7-20-65, Cl. 101—42.
Stevens, Myron T., to Outboard Marine Corp. Folding soft top. 3,195,549, 7-20-65, Cl. 135—6.
Stewart, Raymond A., and E. Lasis, to Polymer Corp. Ltd. Production of trans-1,4 polybutadiene with a reducible titanium compound-organoaluminumthioether catalyst. 3,196,143, 7-20-65, Cl. 260—94.3.
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  Stern, David R., and Stewart. 3,195,304.
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Stob, Martin: *See—*
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Stookey, Kenneth W. Blast furnace process. 3,196,002, 7-20-65, Cl. 75—41.
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Stout, Minor W. Combustion and heating apparatus. 3,195,606, 7-20-65, Cl. 158—1.
Stowe, Lloyd W.: *See—*
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Stoycos, George S., to The Commonwealth Engineering Co. of Ohio. Method of making honeycomb structures. 3,196,089, 7-20-65, Cl. 204—9.
Stratton, Desmond G., to Ford Motor Co. Vehicle body structure with air exhaust means. 3,195,439, 7-20-65, Cl. 98—2.
Strick Trailers, a Division of Fruehauf Trailer Co.: *See—*
  Abolins, Andrew. 3,196,267.
Stuetzer, Otmar M., to Litton Systems, Inc. Selective driving means. 3,195,363, 7-20-65, Cl. 74—210.
Stuetzer, Otmar M., to Litton Systems, Inc. Pressure sensitive resistor device responsive to pressure changes caused by an ionizing current. 3,196,324, 7-20-65, Cl. 317—230.
Sturtevant, Mark J., and D. D. Patton, to Chrysler Corp. Headlining retainer for a vehicle. 3,195,948, 7-20-65, Cl. 296—137.
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Sumitomo Chemical Co., Ltd.: *See—*
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  Nakagawa, Kunio, and Sumimoto. 3,196,180.
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Sundblad, Folke W. Educational device for teaching earth-sun facts and for demonstrating and duplicating planetary and man-made movements. 3,195,243, 7-20-65, Cl. 35—46.
Sun Oil Co.: *See—*
  Mills, Ivor W., and Melchiore. 3,196,102.
Superior Concrete Accessories, Inc.: *See—*
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Surrey, Alexander R., to Sterling Drug Inc. Xylylenedihydrazines and derivatives. 3,196,177, 7-20-65, Cl. 260—554.
Suzuki, Takenori: *See—*
  Yanagihara, Kotaro, Suzuki, and Sakumoto. 3,196,035.
Svec, Emil F.; V. M. Svec, executrix, to Flexigrip, Inc. Apparatus for making double walled tube. 3,195,184, 7-20-65, Cl. 18—14.
Svec, Vera M.: *See—*
  Svec, Emil F. 3,195,184.
Swanson, Roger P., to Alumakit Co., Inc. Boat. 3,195,154, 7-20-65, Cl. 9—6.
Swartz, Allen I., to Microwave Associates, Inc. Electrode connection to mesa type semiconductor device. 3,196,325, 7-20-65, Cl. 317—234.
Swartz, William G. and W. P. Combustion apparatus. 3,195,607, 7-20-65, Cl. 158—4.
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  Swartz, William G. and W. P. 3,195,607.

Swatek, Edwin P., Jr., to Dravo Corp. Offshore drilling platform. 3,195,313, 7-20-65, Cl. 61—46.5.
Swearingen, Judson S., to Electronic Specialty Co. Method and apparatus for vapor and liquid contact. 3,195,323, 7-20-65, Cl. 62—485.
Sweden Freezer Mfg. Co.: *See—*
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  Bienvenue, Roland L., Chadderton, and Voyce. 3,195,582.
  Perkins, Norris I. 3,195,971.
  Shaffer, John W. 3,195,326.
Symons, Lloyd G., J. S. Glass, and L. C. Greenhalgh, deceased (by M. C. Greenhalgh, executrix), to St. Regis-Consolidated Packaging Ltd. Block bottom bag. 3,195,801, 7-20-65, Cl. 229—62.5.
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  Schaub, Robert F. 3,195,555.
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  Holton, Percy G. 3,196,170.
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  Kuckhoff, Carl J., and Biedinger. 3,195,828.
Taber, Russell E. Corrugated, multi-convoluted self-recoiling sheet. 3,195,616, 7-20-65, Cl. 160—121.
Taggart, Robert E., to American Can Co. Leakproof carton and method of making same. 3,195,425, 7-20-65, Cl. 93—36.01.
Tagliabue, Renzo, to Fabbrica Italiana Magneti Marelli S.p.A. Device for regulating the advance of an ignition distributor for internal combustion engines. 3,196,224, 7-20-65, Cl. 200—22.
Takahashi, Koichi: *See—*
  Goto, Eizo, Iwata, and Takahashi. 3,195,325.
Tamaker Corp.: *See—*
  Taylor, Sterl F. 3,195,447.
Tamura, Toshio. Method for preparing cracker balls. 3,195,394, 7-20-65, Cl. 86—1.
Tarmy, Barry L.: *See—*
  Shropshire, Joseph A., and Tarmy. 3,196,048.
Taylor, Ethel M.: *See—*
  Taylor, Sterl F. 3,195,447.
Taylor, Hugh B.: *See—*
  Reed, Thomas S., and Taylor. 3,195,658.
Taylor, Stanford E. Eye movement camera. 3,196,453, 7-20-65, Cl. 351—7.
Taylor, Sterl F., deceased (E. M. Taylor, executrix), to Tamaker Corp. Portable apparatus for baling trash. 3,195,447, 7-20-65, Cl. 100—74.
Taylor, Thomas T., C. E. Kelly, and J. H. Rappold, to Newport News Shipbuilding and Dry Dock Co. Protective transfer cover apparatus. 3,195,943, 7-20-65, Cl. 294—131.
Tazewell, Joseph H., and R. J. Reid, to The Firestone Tire & Rubber Co. Stabilized polymers of alpha-monoolefins containing nickel salts of alkyl phenyl salicylates. 3,196,128, 7-20-65, Cl. 260—45.75.
Tea, Clark A., to Ford Motor Co. Spring mounting. 3,195,876, 7-20-65, Cl. 267—52.
Techne (Cambridge) Ltd.: *See—*
  De Bruyne, Norman A. 3,196,251.
Technicon Co., Inc., The: *See—*
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Techtmann Industries, Inc.: *See—*
  Techtmann, Wilbur H. A. 3,196,067.
Techtmann, Wilbur H. A., to Techtmann Industries, Inc. Heat sealing machines. 3,196,067, 7-20-65, Cl. 156—530.
Tee-Pak, Inc.: *See—*
  Washburn, Harry G. 3,195,176.
Teig, Michael, to International Business Machines Corp. Non-destructive magnetic memory. 3,196,413, 7-20-65, Cl. 340—174.
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  McCutcheon, Samuel R. 3,196,292.
Telefunken Aktiengesellschaft: *See—*
  Dinter, Konrad, and Reindl. 3,196,365.
Telfer, Edward G. Air powered angle and bar guillotine. 3,195,387, 7-20-65, Cl. 83—395.
Tell Mfg. Co., Inc.: *See—*
  Tell, Philip. 3,196,064.
Tell, Philip, to Tell Mfg. Co., Inc. Method and apparatus for the manufacture of beads. 3,196,064, 7-20-65, Cl. 156—272.
Tellier, Jacob: *See—*
  Mace, Alan R., and Tellier. 3,196,441.
Texas Instruments Inc.: *See—*
  Cook, Donald F., and Cooper. 3,196,329.
Theodore, John G., and C. A. Bielawski, to The Brush Beryllium Co. Air fired beryllia ware. 3,196,023, 7-20-65, Cl. 106—57.
Thermo Electric Co., Inc.: *See—*
  Moyano, Ernesto A. 3,196,347.
Thiele, Tom N., to Cambridge Systems, Inc. Thermoelectric dewpoint determining system. 3,195,345, 7-20-65, Cl. 73—17.
Thiemann, Francis V., to Potter Instrument Co., Inc. Magnetically actuated print hammer. 3,195,453, 7-20-65, Cl. 101—93.
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Thiokol Chemical Corp.: *See—*
  Gardner, David M. 3,196,183.
Thirion, Rene A. L., to Societe Anonyme D.B.A. Caliper for disc brakes. 3,195,687, 7-20-65, Cl. 188—73.
Thomas, James O., and F. T. Read, to Read Steel Products, Inc. Bridge breaker for hopper valve. 3,195,775, 7-20-65, Cl. 222—52.
Thompson, Charles E., to Esso Research and Engineering Co. Method of preparing a catalyst impregnated carbon electrode. 3,196,050, 7-20-65, Cl. 136—122.
Thompson, Earl L., to Pullman Inc. Bridge construction for piggyback flat cars. 3,196,478, 7-20-65, Cl. 105—458.
Thompson, Kenneth R., to General Electric Co. Binary comparator. 3,196,262, 7-20-65, Cl. 235—177.
Thompson Ramo Wooldridge Inc.: *See—*
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  Clark, George L., and Prendergast. 3,195,405.
  Clark, Hubert M., and Drutchas. 3,195,372.
  Davies, Paul M. 3,196,407.
  Davies, Paul M. 3,196,409.
  Davies, Paul M. 3,196,410.
  Mann, Horace T., and Fladlien. 3,196,427.
  Marrison, Warren A. 3,196,312.
Thompson, Robert T., to General Magnetic Corp. Scales. 3,195,663, 7-20-65, Cl. 177—201.
Thompson, William W. Packaging machine. 3,195,290, 7-20-65 Cl. 53—182.
Thomson, Meredith C. Heat exchanger plate and seal. 3,195,625, 7-20-65, Cl. 165—166.
Thornburg, Devoe C., and J. C. Kelly, Sr.; said Kelly assor. to said Thornburg. Small craft boarding platform. 3,195,680, 7-20-65, Cl. 182—92.
Thorne-Symmons, Eric, to Ability Products Ltd. Cleaning device. 3,195,157, 7-20-65, Cl. 15—40.
Thostrup, Harry, to Elektriska Svetsningsaktiebolaget. Apparatus for gas-shielded consumable-electrode arc welding. 3,196,249 7-20-65, Cl. 219—130.
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  Norstrud, Iven R., and Threlkeld. 3,195,556.
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Timesaver Products Co.: *See—*
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Tingley, Donald J., to Corning Glass Works. Glass pressing plunger and method of its use. 3,195,996, 7-20-65, Cl. 65—106.
Tippmann, Joseph R., ½ to John Edward Baker. Heat transfer method to preclude ice formation on paving. 3,195,619, 7-20-65, Cl. 165—1.
Tisch, Richard E., to Minnesota Rubber Co. Rotary seal with serpentine configurations. 3,195,902, 7-20-65, Cl. 277—95.
Titanium Metals Corp. of America: *See—*
  Koncewicz, Al. 3,196,308.
Titow, Witold: *See—*
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Todd, Everett W., to Massey-Ferguson Inc. Adjustable quick hitch. 3,195,651, 7-20-65, Cl. 172—272.
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Tolin, Ernest D.: *See—*
  Ogle, Frank T., Tolin, and Clardy. 3,196,189.
Tollar, Raymond P., to The Bendix Corp. Aircraft landing gear. 3,195,840, 7-20-65, Cl. 244—102.
Tome, Victor J.: *See—*
  Borger, Jack W., and Tome. 3,195,961.
Tomerlin, William C., Jr.: *See—*
  Elston, William A., and Tomerlin. 3,195,362.
Tomic, Ernst A., to E. I. du Pont de Nemours and Co. Process for removing copper ions from solution. 3,196,107, 7-20-65, Cl. 210—38.
Tomkins-Johnson Co.: *See—*
  Corwin, Howard D. 3,195,422.
Tonkowich, William, and T. Pawelko, to Associated Testing Laboratories, Inc. Vehicle washing unit. 3,195,546, 7-20-65, Cl. 134—45.
Toomey, John B., Jr., to Value Engineering Co. Rotating missile launching shoe. 3,195,406, 7-20-65, Cl. 89—1.7.
Torrisi, John: *See—*
  Leffelman, Richard G., and Torrisi. 3,196,442.
Toss, Franco, to Hamac-Hansella Aktiengesellschaft. Method of forming transverse heat seals on tubular thermoplastic material, and apparatus therefor. 3,195,285, 7-20-65, Cl. 53—39.
Toth, David, 51% to Norman J. Leo, and 49% to Benjamin D. Platt. Electrically powered stripping device. 3,195,232, 7-20-65, Cl. 30—169.
Toth, Peter: *See—*
  Beck, Zoltan, and Toth. 3,196,795.
Toulmin, Harry A., Jr., to Basic Research Corp. Method and apparatus of recording and displaying data. 3,195,253, 7-20-65, Cl. 40—124.1.
Toulmin, Harry A., Jr., to The Commonwealth Engineering Co. of Ohio. Direct conversion of atomic energy into electricity. 3,196,047, 7-20-65, Cl. 136—4.
Toulmin, Harry A., Jr., to The Commonwealth Engineering Co. of Ohio. Method for the polymerization of olefins by ultrasonic vibrations. 3,196,096, 7-20-65, Cl. 204—154.
Townley, Eustace R., E. A. Harvey, and H. T. Tillotson, to Ilford Ltd. Air squeegee. 3,195,163, 7-20-65, Cl. 15—306.
Trailmobile Inc.: *See—*
  Baldock, Kenneth W. H. 3,195,917.
Tranberg, Severin T. Meal warmer. 3,195,532, 7-20-65, Cl. 126—378.
Trane Co., The: *See—*
  Miner, Robert G. 3,195,318.
Trans World Services, Inc.: *See—*
  Ford, Thomas E. 3,195,803.
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  Brothman, Abraham, Reiser, Halpern, and Brothman. 3,196,213.
Travers, Georges L.: *See—*
  Boussu, Gabriel X. R., and Travers. 3,195,604.
Travers, Georges L., to Compagnie Generale des Etablissements Michelin, Raison Sociale Michelin Cie. Safety tire covers for vehicle wheels. 3,195,601, 7-20-65, Cl. 152—313.

Treppa, Clarence F.: *See*—
  Berry, Glenn, Briggs, Treppa, and Barlow. 3,195,617.
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ISSUED JULY 20, 1965

NOTE.—First number, class; second number, subclass; third number, patent number

2-243	3,195,147	29- 25.3	3,195,218	60- 36	3,195,304	81- 3.8	3,195,380	101- 42	3,195,452	123- 32	3,195,520
4- 7	3,195,148	90	3,195,220	39.05	3,195,305	9.51	3,195,379	93	3,195,453	41.47	3,195,521
10	3,195,149	149.5	3,195,221	39.18	3,195,306	128	3,195,381		3,195,454	41.65	3,195,522
252	3,195,150	155.5	3,195,222	39.28	3,195,307	373	3,195,382	149.5	3,195,455	73	3,195,524
5- 80	3,195,151		3,195,224		3,195,308	82- 21	3,195,383	184	3,195,456		3,195,525
99	3,195,152	155.53	3,195,223	54.5	3,195,309	83- 71	3,195,384	378	3,195,457		3,195,526
331	3,195,153	155.62	3,195,225	61- .5	3,195,310	76	3,195,385	415.1	3,195,458	90	3,195,527
8- 25	3,195,973	197	3,195,991	35	3,195,311	162	3,195,386	102- 7.2	3,195,459		3,195,528
37	3,195,974	423	3,195,226	39	3,195,312	395	3,195,387	16	3,195,460	99	3,195,529
115.5	3,195,975		3,195,227	46.5	3,195,313	498	3,195,388	42	3,195,461	198	3,195,530
9- 6	3,195,154	430	3,195,228	50	3,195,314	84- 1.05	3,196,200	49	3,195,462	126- 30	3,195,531
10- 1	3,195,155	482	3,195,229	62- 3	3,195,315	1.26	3,196,201	86.5	3,195,463	378	3,195,532
10	3,195,156	496	3,195,230	52	3,195,316	5	3,195,389	103- 6	3,195,464	127- 23	3,196,044
15- 40	3,195,157	30- 2	3,195,231		3,195,317	102	3,195,390	41	3,195,465	46	3,196,045
56	3,195,158	169	3,195,232	148	3,195,318	422	3,195,391	52	3,195,523	128- 2.06	3,195,534
77	3,195,159	33- 1	3,195,233	196	3,195,319	457	3,195,392	87	3,195,466		3,195,535
209	3,195,160	74	3,195,234	276	3,195,320	85- 8.1	3,195,393		3,195,467	2.1	3,195,533
250.06	3,195,161	109	3,195,235	278	3,195,321	86- 1	3,195,394		3,195,468	6	3,195,536
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306	3,195,163	172	3,195,237	485	3,195,323	88- 1	3,195,396	131	3,195,470	142	3,195,538
308	3,195,164	174	3,195,238	64- 14	3,195,324		3,195,397	244	3,195,471	256	3,195,539
317	3,195,165	179.5	3,195,239	65- 58	3,195,994	22.5	3,195,398	104- 60	3,195,472	422	3,195,540
321	3,195,166	180	3,195,240	70	3,195,995	24	3,195,399	91	3,195,473	476	3,195,541
322	3,195,167	34- 10	3,195,241	106	3,195,996		3,195,400	172	3,195,474	546	3,195,542
510	3,195,168	35- 9	3,195,242	67- 31	3,195,325		3,195,401	105-368	3,195,475	131-207	3,195,543
517	3,195,169	10.4	3,196,199		3,195,326		3,195,402	392.5	3,195,476	132- 74.5	3,195,544
526	3,195,170	46	3,195,243	68- 12	3,195,327	26	3,195,403	422	3,195,477	79	3,195,545
16- 90	3,195,171	66	Re.25,822	43	3,195,328	57	3,195,404	458	3,195,478	134- 22	3,196,046
128.1	3,195,172	36- 2.5	3,195,244	70- 57	3,195,329	61	3,195,405	106- 38.8	3,196,022	45	3,195,546
138	3,195,173	7.3	3,195,245	421	3,195,330	89- 1.7	3,195,406	57	3,196,023	163	3,195,547
202	3,195,174	67	3,195,246	71- 2.1	3,195,997	7	3,195,407	122	3,196,024	167	3,195,548
17- 11.1	3,195,175	37- 2	3,195,247	2.5	3,195,998	195	3,195,408	284	3,196,025	135- 6	3,195,549
45	3,195,176	124	3,195,248	28	3,195,999	90- 1.6	3,195,409	287	3,196,026	45	3,195,550
18- 1	3,195,177	143	3,195,249	72- 7	3,195,331	13	3,195,410		3,196,027	136- 4	3,196,047
2	3,195,178	145	3,195,250	42	3,195,332	13.5	3,195,411	303	3,196,028	86	3,196,048
	3,195,179	190	3,195,251	46	3,195,333	15	3,195,412	107- 15	3,195,479	90	3,196,049
5	3,195,180	40- 36	3,195,252	56	3,195,334	17	3,195,413	108- 13	3,195,480	122	3,196,050
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8	3,195,182	124	3,195,254	72	3,195,336	58	3,195,415	138	3,195,482	137- 5	3,195,551
12	3,195,183	124.1	3,195,255	82	3,195,491	91-165	3,195,416	110-104	3,195,483	15	3,195,552
14	3,195,184	156	3,195,256	115	3,195,337	374	3,195,417	106	3,195,484	66	3,195,553
30	3,195,185	158	3,195,257	138	3,195,338	416	3,195,418	111- 86	3,195,485	88	3,195,554
43	3,195,186		3,195,258	338	3,195,340	92- 25	3,195,419	112-139	3,195,486	114	3,195,555
19-150	3,195,187	42- 70	3,195,259	389	3,195,339	74	3,195,420	215	3,195,487	115	3,195,556
255	3,195,188	43- 9	3,195,260	465	3,195,341	122	3,195,421	219	3,195,488	202	3,195,557
20- 1	3,195,189		3,195,261	73- 9	3,195,342	164	3,195,422	266	3,195,489	268	3,195,558
2	3,195,190	41.2	3,195,263	17	3,195,343	93- 1.3	3,195,423	113- 1	3,195,490	270	3,195,559
4	3,195,191	43.12	3,195,262		3,195,344	35	3,195,424	54	3,195,492	315	3,195,560
19	3,195,192	148	3,195,264		3,195,345	36.01	3,195,425	114- 16	3,195,493		3,195,561
52	3,195,193	44- 69	3,195,992	53	3,195,346	39.1	3,195,426	39	3,195,494	322	3,195,562
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92	3,195,196	43	3,195,267	116	3,195,349		3,195,428	125	3,195,497	414	3,195,565
22- 58	3,195,197	135	3,195,268	162	3,195,350	94- 50	3,195,429	230	3,195,498	454.2	3,195,566
85	3,195,198		3,195,269	194	3,195,351	95- 1.7	3,195,430	117- 1.7	3,196,029	493.4	3,195,567
190	3,195,199	232	3,195,270	328	3,195,352	11	3,195,431	10	3,196,030	505.42	3,195,568
23- 14	3,195,976	47- 1.4	3,195,271	398	3,195,353	42	3,195,432	15	3,196,031	553	3,195,569
14.5	3,195,977	37	3,195,272	419	3,195,354	53	3,195,433	16	3,196,032	596	3,195,570
25	3,195,978	58	3,195,273	422	3,195,355	66	3,195,434	21	3,196,033	596.12	3,195,571
153	3,195,979	50- 49	3,195,274	437	3,195,356	89	3,195,435	44	3,196,034	608	3,195,572
165	3,195,980	51	3,195,275	503	3,195,357	90	3,195,436	47	3,196,035	625.4	3,195,573
177	3,195,981	55	3,195,276	74- 10.1	3,195,358	94	3,195,437	62	3,196,036	625.69	3,195,574
230	3,195,982	128	3,195,277	10.33	3,195,359		3,195,438	62.2	3,196,037		3,195,575
	3,195,983	472	3,195,278	18.2	3,195,360	96- 1	3,196,008	68	3,196,038	138- 30	3,195,576
267	3,195,984	51-164	3,195,279		3,195,361		3,196,009	75	3,196,039		3,195,577
272.8	3,195,985	204	3,195,280	142	3,195,362		8,196,010	76	3,196,040		3,195,578
281	3,195,986	233	3,195,281	210	3,195,363		3,196,011	94	3,196,042	43	3,195,579
288	3,195,987	298	3,195,993	230.17	3,195,364		3,196,012	201	3,196,041	139-224	3,195,580
	3,195,988	346	3,195,282	388	3,195,365		3,196,013	212	3,196,043	140- 71	3,195,581
	3,195,989	53- 21	3,195,283	424.8	3,195,366	29	3,196,014	118- 7	3,195,499	71.5	3,195,582
301	3,195,990	30	3,195,284	443	3,195,367		3,196,015	70	3,195,500	102	3,195,583
24-208	3,195,200	39	3,195,285	472	3,195,368	43	3,196,016	323	3,195,501	147	3,195,584
	3,195,201		3,195,286	501	3,195,369	106	3,196,017	500	3,195,502	141- 1	3,195,585
230	3,195,202	137	3,195,287		3,195,370	98- 2	3,195,439	641	3,195,503		3,195,586
261	3,195,203	140	3,195,288	695	3,195,371		3,195,440	119- 14.07	3,195,504	83	3,195,587
274	3,195,204	182	3,195,289	730	3,195,372	40	3,195,441	17	3,195,505	104	3,195,588
279	3,195,205		3,195,290	822	3,195,373	99- 2	3,196,018	19	3,195,506	131	3,195,589
	3,195,206	393	3,195,291	75- 5	3,196,000		3,196,019	23	3,195,507	293	3,195,590
25-118	3,195,207	55- 32	3,195,292	21	3,196,001	100	3,196,020	51.11	3,195,508	143- 6	3,195,591
131	3,195,208	117	3,195,293	41	3,196,002	192	3,196,021	61	3,195,509	144-172	3,195,592
131.5	3,195,209	159	3,195,294	62	3,196,003	393	3,195,442		3,195,510	209	3,195,593
26- 18.6	3,195,210	166	3,195,295	84	3,196,004	100- 4	3,195,443	75	3,195,511	146- 78	3,195,594
	3,195,211	298	3,195,296	108	3,196,005	7	3,195,444	78	3,195,512	120	3,195,595
	3,195,212	56- 25.4	3,195,297	153	3,196,006	26	3,195,445	99	3,195,513	162	3,195,596
	3,195,213	57- 1	3,195,298	200	3,196,007	37	3,195,446	122- 4	3,195,514	164	3,195,597
63	3,195,214	149	3,195,299	76-107	3,195,374	74	3,195,447	34	3,195,515	177	3,195,598
27- 21	3,195,215	58- 22.7	3,195,300	77- 7	3,195,375	245	3,195,448	235	3,195,516	148- 12	3,196,052
28- 18	3,195,216	59- 80	3,195,301	58	3,195,376	257	3,195,449	406	3,195,517	12.4	3,196,053
29- 25.18	3,195,219	60- 35.54	3,195,303	73	3,195,377	101- 9	3,195,450	123- 26	3,195,518	111	3,196,054
25.3	3,195,217	35.6	3,195,302	73.5	3,195,378	38	3,195,451	32	3,195,519	121	3,196,055

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PLANT PATENTS

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U.S. DEPARTMENT OF COMMERCE
OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE
July 20, 1965 Volume 816 Number 3

TRADEMARKS

NOTICES

Trademark Suits

Notices under 15 U.S.C. 1116; Trademark Act of July 5, 1946

Reg. No. 270,970 (ETHICON), Johnson & Johnson, Ligatures; **Reg. No. 522,718**, same, Sutures; **Reg. No. 599,432**, same, Ethicon Suture Laboratories, Incorporated, Sutures and ligatures, cotton gauze, horse hair, linen, etc.; **Reg. No. 606,530**, same, Ethicon, Inc., Soaps such as surgical soap; **Reg. No. 662,658**, same, Surgical instruments; **Reg. No. 672,258**, same, Needles and needle holders for use in surgery; **Reg. No. 680,172**, same, Surgical soap; **Reg. No. 706,542**, same, Pharmaceutical powders and waxes, filed Apr. 6, 1962, D.C., E.D. Pa. (Philadelphia), Doc. 31264, *Ethicon, Inc.* v. *The Lannett Co., Incorporated.* Stipulation of dismissal Feb. 25, 1965.

Annual Index of Patents

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Price: Buckram bound, $6.75.

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1965

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)] ---------- 16,012
Date of oldest new application ---------- Oct. 12, 1964
Date of oldest amended application ---------- Sept. 29, 1964

J. H. MERCHANT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	10-12-64	10-5-64
(II) H. E. KASCHUB, Classes 1, 3, 6, 7, 9, 10, 18, 22, 27, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	11-2-64	9-29-64
Renewals (All Classes)	4-28-65	5-24-65
Sec. 12 (c) Publications (All Classes)	5-14-65	--------

Applications filed during the month of May 1965—2,363

Registrations Issued ---------- 380—No. 792,750 to No. 793,129
Renewals Issued ---------- 70

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MARKS PUBLISHED FOR OPPOSITION

SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 177,522. The General Store of Beverly Hills, Inc., Beverly Hills, Calif. Filed Sept. 23, 19[illegible]3.

THE
GENERAL STORE

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Handbags.

Class 28—Jewelry and Precious-Metal Ware

For Jewelry.

Class 39—Clothing

For Slacks, Sweaters, Blouses, Suits, Coats, Dresses, Gowns, Scarfs, Hats, Gloves, and Rainwear; Lounging Pajamas, Robes, Negligees, Brassieres, Panties, Slips, and Nightgowns.

First use Jan. 2, 1960.

Class 1—Raw or Partly Prepared Materials

For Sheets, Rods, Bars, Sleeves and Tubing, All for Further Use in the Industrial Arts, Made of Various Materials—Namely, Rubber, Synthetic Rubber, and Plastics.

Class 21—Electrical Apparatus, Machines, and Supplies

For Materials and Components for Electric and Electronic Circuits—Namely, Insulators, Insulation Material, Insulation Tape, Connectors, Bushings, Sockets, and Trimmers.

Class 23—Cutlery, Machinery. and Tools. and Parts Thereof

For Machine Parts—Namely, Non-Metallic Pistons, Pump Valves, Bearings, Cylinder Heads and Wear Rings Made of Various Plastics Which May Be Compounded With Various Reinforcing Materials.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

For Machinery Packings Made of Various Materials—Namely, Leather, Metal, Fibrous Materials, Granular Materials, Rubber Compounds, Synthetic Rubber Compounds, Plastics and Various Combinations Thereof; Expansion Joints—Namely, Flexible Fabric and Elastomeric Expansion Joints for Use in Pipe Lines, Ducts and Other Close Fluid Carrying Lines; Sealing Devices—Namely, Oil and Grease Seals, Mechanical Seals and Accessory Parts Thereof; Gaskets and Gasket Materials.

SN 189,433. Carolina Company, Inc., d.b.a. The Carolina Soap & Candle Makers, Southern Pines, N.C. Filed Mar. 24, 1964.

JACK AND JANE HICKS

The names "Jack Hicks" and "Jane Hicks" are the names of living individuals, whose consents are of record.

Class 4—Abrasives and Polishing Materials

For Furniture Wax.
First use on or about Jan. 15, 1964.

Class 5—Adhesives

For Sealing Wax Used To Seal Letters and Documents.
First use on or about Jan. 15, 1964.

Class 15—Oils and Greases

For Candles.
First use Jan. 15, 1955.

Class 51—Cosmetics and Toilet Preparations

For Sachet, Cologne, Bubble Bath, Talcum, After Shave Lotion, Handcream, Toilet Water, and Perfumed Room Spray.
First use Jan. 15, 1955, on toilet water.

Class 52—Detergents and Soaps

For Shampoo for the Hair, Toilet Soap, Laundry Soap, and Personal Deodorant.
First use Jan. 15, 1955, on toilet soap.

SN 192,472. Chromex Societe Anonyme, Lardy, Seine-et-Oise, France. Filed May 1, 1964.

CHROMEX

Owner of French Reg. No. 2,149, dated Sept. 14, 1963 (Corbeil); Natl. Inst. No. 217,103.

SN 194,755. Standard Duplicating Machines Corporation, Everett, Mass. Filed June 2, 1964.

solvagraph

Class 6—Chemicals and Chemical Compositions

For Developer in the Form of a Fluid for Promoting Chemical Interactions for Reproduction of Data.
First use Feb. 10, 1964.

Class 37—Paper and Stationery

For Materials for Copy-Making by a Fluid Duplicating Process—Namely, Matrix Sheets Which Are Coated for Chemical Interaction and on Which Data May Be Printed, Typed, Handwritten or Drawn and Paper on Which the Data Is Reproduced.
First use Jan. 24, 1964, on paper.

SN 194,808. Kas Manufacturing Co., Inc., New York, N.Y. Filed June 3, 1964.

COOL MOISTURE

Class 34—Heating, Lighting, and Ventilating Apparatus

For Electric Room Humidifiers.

Class 44—Dental, Medical, and Surgical Appliances

For Electric Vaporizers for Medicinal Use.

First use Apr. 15, 1964.

SN 195,410. Hill Milling Company, Terreton, Idaho. Filed June 11, 1964.

SHAMROCK

Class 18—Medicines and Pharmaceutical Preparations

For Feed Supplements Largely of a Mineral or Vitamin Nature.

Class 46—Foods and Ingredients of Foods

For Feed and Feed Pellets for Fish—Namely, Trout; Alfalfa Meal and Pellets for Use as Animal Feeds; and Feeds and Pelleted Feeds for Animals—Namely, Livestock.

First use Nov. 1, 1950.

SN 195,675. Inter-Mark Corp., New York, N.Y. Filed June 15, 1964.

CIPHER

Class 21—Electrical Apparatus, Machines, and Supplies

For Transceivers.

Class 36—Musical Instruments and Supplies

For Tape Recorders.

First use Nov. 21, 1961.

SN 196,853. Fries & Fries, Inc., Cincinnati, Ohio. Filed July 1, 1964.

DIAMOND CLEAR

Applicant disclaims any right to the exclusive use of the word "Clear" apart from the mark as shown.

Class 45—Soft Drinks and Carbonated Waters

For Liquid Flavors To Be Used in Making of Soft Drinks for Professional and Manufacturing Use Only.

Class 46—Foods and Ingredients of Foods

For Liquid Flavors To Be Used in Food and in the Making of Food Beverages.

First use May 8, 1962.

SN 200,668. The Sonotone Corporation, Elmsford, N.Y. Filed Aug. 26, 1964.

CERA-PHONIC LISTENING

Class 21—Electrical Apparatus, Machines, and Supplies

For Phonograph Cartridge Assemblies, Microphones, and Parts Therefor.

Class 44—Dental, Medical, and Surgical Appliances

For Hearing Aid Receivers, Hearing Aids, and Parts Therefor.

First use July 9, 1964.

SN 202,202. The General Industries Company, Elyria, Ohio. Filed Sept. 21, 1964.

Owner of Reg. No. 409,924.

Class 21—Electrical Apparatus, Machines, and Supplies

For Fractional and Sub-Fractional Horsepower Motors, Motors for Phonographs, Automatic Record Changers and D.C. Electric Motors; Molded Parts for Telephones, Electric Floor Scrubbers, Electric Dishwashing Machines, and Vacuum Cleaners.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

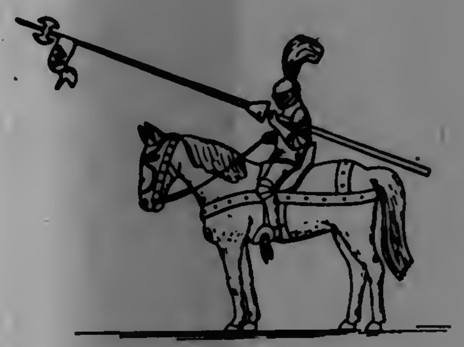
For Injection and Compression Plastic Molded Parts for Centrifugal Pumps, Lawn Spreaders, and Textile Machinery.

Class 24—Laundry Appliances and Machines

For Injection and Compression Plastic Molded Parts for Washing Machines and Clothes Dryers.

First use Aug. 26, 1964.

SN 202,276. John W. Kinsel, d.b.a. The Winston Company, Houston, Tex. Filed Sept. 21, 1964.



Class 12—Construction Materials

For Prefabricated Enclosures (Buildings, Housings, Boxes) for Storage and Protection of Equipment.
First use about Dec. 17, 1963.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

For Pipe and Pump Screens and Strainers, Pipe Flanges and Blinds, and Funnels.
First use Jan. 4, 1964, on strainers.

SN 202,377. Leon's Fashions, Inc., Waco, Tex. Filed Sept. 22, 1964.

Lenmaro

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

For Handbags.

Class 39—Clothing

For Women's Shoes, Coats, Gloves, Belts, and Hosiery.

First use Jan. 2, 1962.

SN 203,483. Cye-Martin Inc., New York, N.Y. Filed Oct. 7, 1964.

CyeMartin

Class 28—Jewelry and Precious-Metal Ware

For Men's Jewelry, Cufflinks, Tie Bars, and Tie Tacs.

Class 39—Clothing

For Men's Suits, Coats, Shirts, Neckties, Neckwear, Gloves, Sweaters, Slacks, Formal Wear, Knit Shirts, Sport Shirts, Sport Jackets, Leather Jackets, Underwear, Pajamas, Robes, Rainwear and Hats; and Women's Knit Suits, Skirts, Blouses, Slacks, Dresses, Gloves, Sweaters, Robes, Coats, and Rainwear.

First use Jan. 15, 1950.

SN 204,246. Elite Stationery Co., Inc., New York, N.Y. Filed Oct. 19, 1964.

NU-STYLE

Class 11—Inks and Inking Materials

For Carbon Paper.

Class 37—Paper and Stationery

For Pens.

First use Sept. 24, 1963.

SN 205,236. Atlantic Gummed Paper Corporation, Brooklyn, N.Y. Filed Nov. 2, 1964.

FLEETWOOD

Owner of Reg. No. 594,025.

Class 5—Adhesives

For Gummed Tapes and Corrugated Box Tapes.

Class 37—Paper and Stationery

For Gummed Printing Papers.

First use Nov. 30, 1951.

SN 206,637. Mega, Incorporated, Milford, Conn. Filed Nov. 20, 1964.

MEGA

Class 15—Oils and Greases

For Hydraulic Oil.
First use Nov. 4, 1964.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

For Gundrilling Machines and T-Bases Therefor, and Coolant Supply Systems for Said Machines.
First use Aug. 21, 1964.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 184,863. American Lace Leather Co., Inc., Richmond, Va. Filed Jan. 7, 1964.

EAGLE

For Lace Leather.
First use Aug. 1, 1903.

SN 193,276. Hostachem Corporation, Mountainside, N.J. Filed May 12, 1964.

HOSTAFILM

For Plastic Sheeting, Synthetic Resin and Plastic Film, Synthetic Fibers.
First use April 1964.

SN 194,680. Teijin Limited, Osaka, Japan. Filed June 1, 1964.

TEIJIN

Owner of Japanese Reg. No. 416,125, dated Sept. 17, 1952.
For Staple Fibers.

SN 201,206. Johnson & Johnson, d.b.a. Chicopee Manufacturing Company, New Brunswick, N.J. Filed Sept. 3, 1964.

VAPOSAN

For Porous, Vapor Transmitting, Flexible Sheets—Namely, Breathable Material in Sheet Form, for Use in Applications Where Leather Is a Suitable Material.
First use Aug. 11, 1964.

SN 201,417. Gustin-Bacon Manufacturing Company, Kansas City, Mo. Filed Sept. 8, 1964.

GUSTIN gb BACON

Owner of Reg. Nos. 607,811 and 620,198.
For Glass Fibers for Reinforcement of Plastic Articles and Moldings Including Rovings and Mats Thereof and Padding for Automobile Seats, Beds and Other Furniture.
First use Jan. 7, 1963.

SN 206,142. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Nov. 13, 1964.

KAPTON

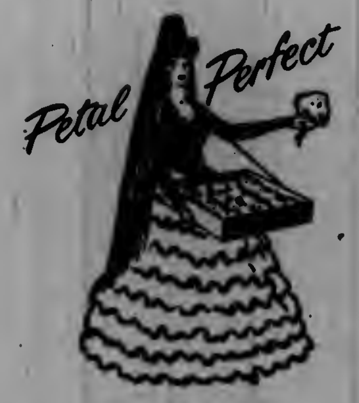
For Polyimide Film for General Use in the Industrial Arts.
First use Oct. 1, 1964.

SN 208,058. Farbenfabriken Bayer Aktiengesellschaft, Leverkusen-Bayerwerk, Germany. Filed Dec. 14, 1964.

BAYMIDUR

Owner of German Reg. No. 674,156, dated Apr. 7, 1955.
For Polyurethane Plastics for Use in the Industrial Arts.

SN 210,181. Wm. Zappettini Company, San Francisco, Calif. Filed Jan. 18, 1965.



Owner of Reg. No. 540,221.
For Cut Flowers.
First use August 1947.

SN 215,934. Arthur L. Armentrout, Long Beach, Calif. Filed Apr. 7, 1965.

CERT-N-CEAL

Owner of Reg. No. 590,453.
For Compositions Used in Recovering Lost Circulation in Drilling Wells Composed Principally of Bridging Aggregates of Expanded Marine Shale.
First use Jan. 22, 1953.

SN 216,156. Emba Mink Breeders Association, Racine, Wis. Filed Apr. 9, 1965. COLLECTIVE MARK.

OBSIDIAN

For Mink Fur Pelts.
First use Mar. 15, 1965.

SN 216,183. National Distillers and Chemical Corporation, New York, N.Y. Filed Apr. 9, 1965.

ULTRA-PROP

For Laminated Polyolefin Films.
First use Mar. 18, 1965.

Class 2—Receptacles

SN 198,757. Monsanto Company, St. Louis, Mo. Filed July 29, 1964.

COLOR-TEX

For Plastic Cartons, Bottles, Dishes and Trays for Merchandising a Variety of Products and Plastic Dishes.
First use Jan. 31, 1964.

SN 202,117. William Wallace Corporation, d.b.a. Norwesco Division of William Wallace Co., Belmont, Calif. Filed Sept. 17, 1964.

NORWESCO

For Fabricated Metal Products—Namely, Pails, Tubs, Garbage Cans, Mail Boxes, and Sprinkling Cans.
First use Feb. 13, 1930.

Class 3—Baggage, Animal Equipments, Portfolios, and Pocketbooks

SN 207,168. Trina, Inc., Fall River, Mass. Filed Nov. 30, 1964.

TRINA

Owner of Reg. No. 610,842.
For Purse Kits, Clutch Bags, Evening Purses, Fitted and Unfitted Travel Bags, Jewel Cases, Men's Travel Cases, Mirror Kits, Shoe Totes, Umbrella Totes, Airflight Bags, Train Cases, Beach Bags, and Fold-Up Suitcases.
First use on or about Jan. 3, 1950.

Class 4—Abrasives and Polishing Materials

SN 208,330. Anton Products Corporation, New York, N.Y. Filed Dec. 17, 1964.

POT-MATE

For Cleaning and Scouring Pads.
First use November 1963.

SN 208,746. S. C. Johnson & Son, Inc., Racine, Wis. Filed Dec. 23, 1964.

Bravo

Owner of Reg. No. 669,410.
For Floor Polish.
First use on or about May 15, 1961.

SN 209,358. Walter G. Legge Company, Inc., New York, N.Y. Filed Jan. 5, 1965.

LEG-GLO

For Floor Polish.
First use Dec. 7, 1964.

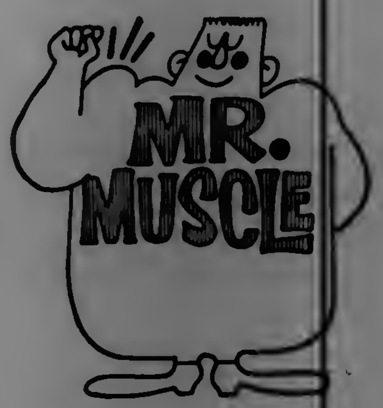
SN 209,472. Abrasive Machinery and Equipment Co., d.b.a. Ameco, Bensenville, Ill. Filed Jan. 7, 1965.

MAGIC DWARF

For Multi-Purpose Abrasive Blocks.
First use Sept. 25, 1964.

Class 5 — Adhesives

SN 167,279. Gilbert W. Lindemann, d.b.a. Lindy Company, St. Paul, Minn. Filed Apr. 22, 1963.



The drawing is lined for the color red.
For Liquid White Paste.
First use Oct. 24, 1961.

SN 197,745. Monsanto Company, St. Louis, Mo. Filed July 13, 1964.

GER-PAK

Owner of Reg. No. 548,316.
For Adhesive Tapes.
First use Feb. 10, 1963.

SN 204,280. Permatex Company, Inc., Brooklyn, N.Y. Filed Oct. 19, 1964.

. . . MADE FOR THE PROFESSIONAL!

Owner of Reg. No. 696,193.

For Gasket Cements; Fast Drying and Hard Setting, and Non-Hardening and Pliable Adhesive in Paste and Liquid Form for Keeping Gaskets in Place; Pliable Adhesive in Liquid Form for Use in the Automotive Field in Conjunction With Gasketing Materials or for Replacing Gasketing Materials on Parting Surfaces as Interfacial Sealants.

First use June 29, 1960, on gasket cements.

SN 208,172. The Crowell Corporation, Yorklyn, Del. Filed Dec. 15, 1964.

CROWLOK

Owner of Reg. No. 662,308.

For Gummed Tape and Particularly for Gummed Tape Used by Manufacturers of Cartons Such as Corrugated Paper Boxes.

First use Dec. 2, 1964.

Class 6 — Chemicals and Chemical Compositions

SN 179,558. W. A. Scholten's Chemische Fabrieken, N.V., Foxhol, Netherlands. Filed Oct. 22, 1963.

EPIC N

For Cold Swelling Starch.
First use Apr. 5, 1963; in commerce Apr. 5, 1963.

SN 200,303. Vineland Laboratories Inc., Vineland, N.J. Filed Aug. 20, 1964.

Owner of Reg. Nos. 579,571, and 581,856.
For Insecticides and Rodenticides.
First use Sept. 1, 1963.

SN 200,341. Foster Grant Co., Inc., Leominster, Mass. Filed Aug. 21, 1964.

FOSTA-SOL

Owner of Reg. Nos. 586,280, 720,156, and others.

For Alkenyl and Alkyl Benzene Compounds for Use in the Manufacture of Synthetic Resins and the Like.

First use Dec. 31, 1963.

SN 200,638. General Aniline & Film Corporation, New York, N.Y. Filed Aug. 26, 1964.

GAFSPERSE

For Synthetic Polymers, Particularly, Polyvinylpyrrolidone.
First use May 26, 1964.

SN 200,639. General Aniline & Film Corporation, New York, N.Y. Filed Aug. 26, 1964.

GAFTERGE

For Synthetic Polymers, Particularly, Polyvinylpyrrolidone.
First use May 26, 1964.

SN 200,640. General Aniline & Film Corporation, New York, N.Y. Filed Aug. 26, 1964.

GAFKLY

For Synthetic Polymers, Particularly, Polyvinylpyrrolidone.
First use May 26, 1964.

SN 204,281. Permatex Company, Inc., Brooklyn, N.Y. Filed Oct. 19, 1964.

. . . MADE FOR THE PROFESSIONAL!

Owner of Reg. No. 696,193.

For Chemical Compound in Powder Form for Automotive Cooling Systems for Dissolving Rust and Scales, Chemical Compound for Stopping Radiator Leaks and Preventing Rust and Corrosion of Metal Parts, Chemical Compound of Non-Corrosive Fluid for Use on Certain Types of Shock Absorbers, Radiator Leak Sealers, and Hydraulic Brake Fluid.

First use Jan. 21, 1960, on chemical compound for stopping radiator leaks and preventing rust and corrosion.

SN 206,128. Buckman Laboratories, Inc., Memphis, Tenn. Filed Nov. 13, 1964.

BUSPERSE

Owner of Reg. No. 781,592.

For Chemical Composition Used as a Corrosion Inhibitor, Defoamer, Dispersant in Petroleum Secondary Recovery Waters, and Industrial Cooling Water Systems, and for a Chemical Composition Used as a Pulping and Repulping Aid in the Pulp and Paper Industry, and as a Dispersant in the Paint, Plastics, Textile, and Leather Industries.

First use May 17, 1963.

SN 207,293. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed Dec. 2, 1964.

PENTITE

For Organic Chemicals Containing Phosphorus Useful as a Stabilizer for Resins and as a Chemical Intermediate.

First use May 1956.

SN 207,294. Hooker Chemical Corporation, Niagara Falls, N.Y. Filed Dec. 2, 1964.

DIPENTITE

For Organic Chemicals Containing Phosphorus Useful as a Stabilizer for Resins and as a Chemical Intermediate.

First use February 1956.

SN 207,350. The Upjohn Company, Kalamazoo, Mich. Filed Dec. 2, 1964.

KALPRENE

For Multiple Component Formulation Containing Isocyanates, Polyols, and Other Ingredients for Use in the Manufacture of Polyurethane Elastomer Products.

First use Nov. 19, 1964.

SN 208,414. United States Borax & Chemical Corporation, Los Angeles, Calif. Filed Dec. 17, 1964.

HIBOR

Owner of Reg. No. 679,470.
For Herbicide.
First use Sept. 8, 1964.

SN 210,090. Ciba Limited, Basel, Switzerland. Filed Jan. 18, 1965.

TECTILON

Owner of Swiss Reg. No. 194,746, dated Oct. 29, 1962.
For Dyestuffs.

SN 210,557. Givaudan-Delawanna, Inc., New York, N.Y. Filed Jan. 25, 1965.

LAVONE

For Aromatic Chemical for Use in the Preparation of Perfume, Soaps, and Cosmetics.

First use Dec. 17, 1964.

SN 210,651. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 26, 1965.

CASHMERE

Owner of Reg. Nos. 22,547, 58,702, and 60,830.
For Fabric Softener.
First use Jan. 5, 1965.

Class 8 — Smokers' Articles, Not Including Tobacco Products

SN 178,258. Cristalleries et Verreries Reunies de Choisy-le-Roi, Choisy-le-Roi (Seine), France. Filed Oct. 3, 1963.

TOURMALINE

Owner of French Reg. No. 487,396, dated Apr. 7, 1960 (Seine); Natl. Inst. No. 142,546.

For Ashtrays Made of Colored Crystal.

SN 197,784. I. Smallman & Sons Co., Brooklyn, N.Y. Filed July 13, 1964.

CRAFTSMAN

Owner of Reg. No. 414,681.
For Cigarette Lighter.
First use in or about October 1961.

SN 198,088. I. Smallman & Sons Co., Brooklyn, N.Y. Filed July 17, 1964.

MISSILE-LITE

For Cigarette Lighter.
First use Dec. 19, 1963.

SN 198,090. I. Smallman & Sons Co., Brooklyn, N.Y. Filed July 17, 1964.

TRILITE

For Cigarette Lighter.
First use Jan. 17, 1962.

SN 201,149. Rowenta Metallwarenfabrik G.m.b.H., Offenbach am Main, Germany. Filed Sept. 2, 1964.

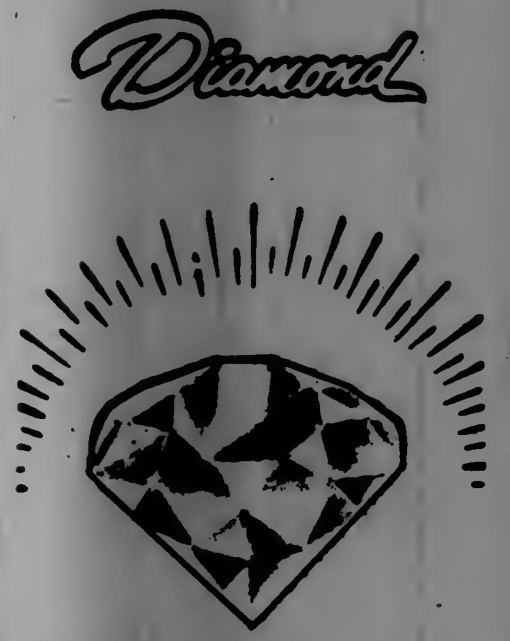
ROWENTA GAS-PETIT

Owner of German Reg. No. 783,996, dated Nov. 27, 1963, and U. S. Reg. No. 630,247.

For Gas-Fueled Cigarette Lighters.

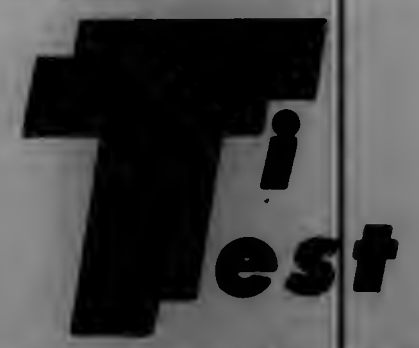
Class 9 — Explosives, Firearms, Equipments, and Projectiles

SN 201,548. Po Sing Firecracker Factory, Hong Kong, China. Filed Sept. 9, 1964.



For Firecrackers and Fireworks.
First use Apr. 20, 1963; in commerce Apr. 20, 1963.

SN 205,040. Central States Paper & Bag Company, St. Louis, Mo. Filed Oct. 29, 1964.



For Couplers, That Is To Say, Sections of Spiral-Wound Paper Tubing Having Endwise Connectable Mechanical Fittings, Whereby a Plurality of Such Sections Can Be Interconnected To Form an Elongated Element of Any Desired Length for Installing Blasting Charges in Blasting Holes.
First use Oct. 7, 1964.

SN 209,111. Remington Arms Company, Inc., Bridgeport, Conn. Filed Dec. 30, 1964.

FIRE BALL

For Ammunition—Namely, Centerfire Cartridges.
First use Mar. 11, 1963.

Class 12—Construction Materials

SN 173,191. W. S. Shamban & Co., Culver City, Calif. Filed July 17, 1963.

UNIVERSAL

For Unsintered Polytetrafluoroethylene Tape.
First use March 1960.

SN 173,586. Miracle Adhesives Corporation, Bellmore, N.Y. Filed July 23, 1963.

KOLORPRENE

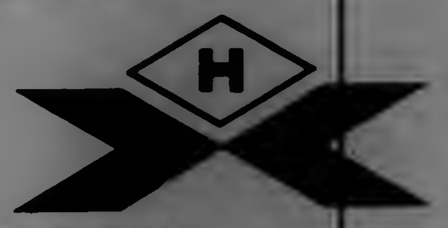
For Viscous Synthetic Rubber Base Coating Composition for Insulating and Waterproofing Roofs.
First use Apr. 19, 1963.

SN 190,924. Hercules Chemical Company, Inc., New York, N.Y. Filed Apr. 13, 1964.

HERCULES

Owner of Reg. Nos. 668,137 and 686,15[illegible].
For Pipe Thread Sealant and Lubricant in Tape, Paste or Liquid Form.
First use 1924.

SN 197,241. American Metal Climax, Inc., d.b.a. Hunter Engineering Co., New York, N.Y. Filed July 7, 1964.



Owner of Reg. No. 753,963.
For Aluminum Products for Building Purposes—Namely, Mobile Home Panels; Siding; Roofing; Divider Systems Consisting of Privacy Partitioning, Fencing, and Balcony Railings; Interior Paneling; Rain Carrying Equipment Consisting of Gutters and Downspouts; Store Facing Frames; and Skylight Frames.
First use Feb. 4, 1964.

SN 199,099. Panel-Craft, Inc., Plymouth, Ind. Filed Aug. 3, 1964.

PANEL SONIC

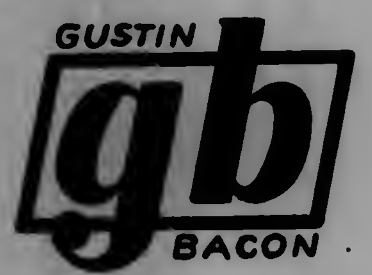
The word "Panel" is disclaimed apart from the mark as shown.
For Suspended Ceilings and Wall Systems Comprising Acoustical Panels, Grids and Fasteners Sold Together.
First use January 1964.

SN 199,966. Carolyn R. Babson, Batavia, Ill. Filed Aug. 17, 1964.

TYBURN

For Dog Kennels.
First use during the month of August 1958.

SN 201,421. Gustin-Bacon Manufacturing Company, Kansas City, Mo. Filed Sept. 8, 1964.



Owner of Reg. Nos. 607,811 and 620,198.
For Foamed Thermal and Acoustical Insulation in Hollow, Cylindrical and Flat Slab Form, Glass Fiber Erosion Control Mats and Blankets, Thermal and Acoustical Automobile Insulation Mats, Bats, and Blankets Composed of Organic Fiber and Binder, and Thermal and Acoustical Insulation Formed of Glass Fiber or a Mixture of Glass and Orangic Fibers in the Form of Mats, Bats, and Blankets for Use in Automobiles, Trucks, Railroad Cars, Ships, Processing Equipment, Appliances, and Vending Machines.
First use Jan. 7, 1963, on bats and blankets composed of organic fiber and binder.

SN 211,035. Crawford Fitting Company, Cleveland, Ohio. Filed Feb. 1, 1965.

STRIP TEEZE

For Plastic Material in Strip Form Which May Be Interposed Between Threaded Parts as a Sealant and Anti-Gallant.
First use Dec. 18, 1964.

SN 211,036. Crawford Fitting Company, Cleveland, Ohio. Filed Feb. 1, 1965.

TEEZE

For Plastic Material in Sheet Form Which May Be Cut to Desired Shapes and Sizes for Use as Seals and Anti-Gallants in Fluid Line Couplings.
First use Dec. 18, 1964.

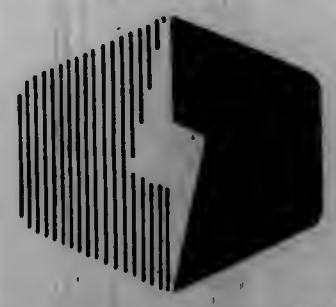
Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 195,006. The Morse Instrument Co., Hudson, Ohio. Filed June 5, 1964.

"RED-JAKET"

For Push-Pull Control Cables Having a Movable Core in an Outer Casing.
First use Nov. 2, 1962.

SN 197,774. Red Jacket Manufacturing Company, Davenport, Iowa. Filed July 13, 1964.



The lining in the drawing represents the color red, but no claim is made as to color.
For Valves Including: Check Valves, Pressure Control Valves, Pressure Regulating Valves, Multiple Port Valves, Float Valves, Foot Valves, Air Volume Control Valves, Relief Valves, Air Chargers, and Air Release Valves, Pipe Fittings, Well Adaptors, Valve Systems, Suction Strainers, Pipe Holders, and Safety Valves.
First use on or about June 1, 1963.

SN 198,465. Dresser Industries, Inc., Dallas, Tex. Filed July 24, 1964.

DUALOK

Owner of Reg. Nos. 760,303 and 760,364.
For Pipe Couplings.
First use May 18, 1962.

SN 198,955. Integral Process Systems, Inc., Skokie, Ill. Filed July 31, 1964.

CRYOTRANSFER

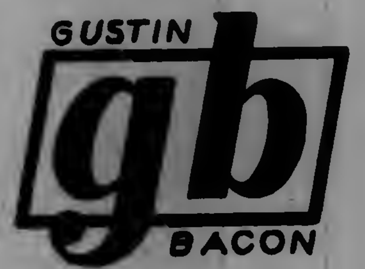
For Articulated Assemblies Including Maneuverable Piping for Transfer of Fluids and Units Employing Liquid and Gaseous Materials for Freezing Foods and Other Articles.
First use on or about Jan. 15, 1964.

SN 199,100. Pemco Wheel Co., Kalamazoo, Mich. Filed Aug. 3, 1964.

ROD-RAKS

For Wall Mounted Storage Devices, Such as Shelving.
First use May 1964.

SN 201,420. Gustin-Bacon Manufacturing Company, Kansas City, Mo. Filed Sept. 8, 1964.



Owner of Reg. Nos. 607,811 and 620,198.
For Pipe Couplings, Fittings, Hose Fittings, Pipe Clamps, Cotter Pins, and Valves.
First use Jan. 7, 1963, on pipe couplings.

SN 203,780. Magic Hostess Corporation, Kansas City, Mo. Filed Oct. 12, 1964.

MAGIC HOSTESS

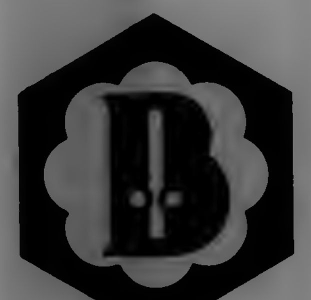
Owner of Reg. Nos. 587,315, 624,034, and others.
For Lawn Sprinklers and Culinary Utensils—Namely, Pots and Pans, Lids for Cooking Utensils, Skillet Inserts Used in Connection With Frying Pans, Grease Shields for Use in Frying, Food Ladles, Tongs for Ice Cubes, Broilers, and Ovens.
First use June 1956.

SN 206,887. Screw & Bolt Corporation of America, Pittsburgh, Pa. Filed Nov. 24, 1964.

POSI-GRIP

For Nut and Bolt Combination for Use in Fastening Together Sheet Metal Assemblies in Which the Nut Is Welded to One Sheet and the Tightening of the Combination Embosses the Sheets Into Interlocking Registration.
First use Oct. 14, 1964.

SN 208,234. Calfax, Inc., Redondo Beach, Calif. Filed Dec. 16, 1964.



For Self-Locking Fasteners.
First use Oct. 8, 1964.

SN 208,643. Thornhill-Craver Company, Inc., Houston, Tex. Filed Dec. 21, 1964.

TC

Owner of Reg. No. 511,195.
For Pipe or Scraper Trap Closures, Bleeder Plugs and Adapters and Cage Nipples.
First use February 1938, on pipe or scraper trap closures.

SN 210,483. Sterling Faucet Company, Morgantown, W. Va. Filed Jan. 22, 1965.

solotrot 21

The drawing is lined for blue. Owner of Reg. No. 689,357.
For Sink Faucets, With and Without an Aerator or Spray, Lavatory Centersets, With and Without Drain Parts, an Aerator or Drain, Bath and Shower Faucets, With and Without an Arm and Flange, a Shower Head or a Diverter Spout.
First use Dec. 5, 1963.

SN 210,795. Lily Mills Company, Shelby, N.C. Filed Jan. 27, 1965.

LILY

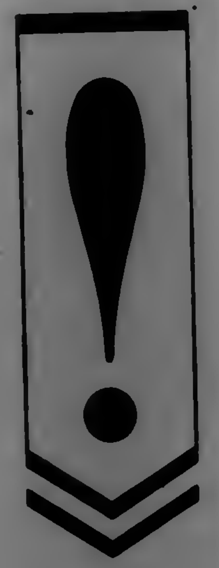
Owner of Reg. Nos. 237,163, 722,021, and others.
For Zippers.
First use Jan. 11, 1965.

SN 211,336. Arenco Machine Company Incorporated, Teterboro, N.J. Filed Feb. 4, 1965.

rolly

For Wall Hanger.
First use Jan. 11, 1965.

SN 213,561. Haws Drinking Faucet Company, Berkeley, Calif. Filed Mar. 8, 1965.



For Decontamination Shower Units and Eye and Face Washing Fountains.
First use Oct. 15, 1964.

Class 14—Metals and Metal Castings and Forgings

SN 196,064. P. R. Mallory & Co. Inc., Indianapolis, Ind. Filed July 17, 1964.

ULTRAMAG

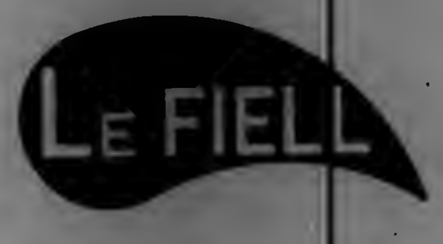
For Magnetic Metal Alloys or Magnetic Metal Materials for Further Fabrication by Others.
First use on or about Feb. 28, 1961.

SN 204,721. Union Carbide Corporation, New York, N.Y. Filed Oct. 23, 1964.

CARVAN

For Alloy Additives.
First use on or about May 8, 1963.

SN 211,077. Le Fiell Manufacturing Co., Santa Fe Springs, Calif. Filed Feb. 1, 1965.



For Metal Tubes Both Cylindrical and Tapered for General Use in the Industrial Arts.
First use Feb. 15, 1960.

SN 211,286. C. M. Lovsted, Inc., Seattle, Wash. Filed Feb. 3, 1965.

ROYAL

For Steel Castings.
First use November 1920.

SN 214,047. Waukesha Foundry Company, Waukesa, Wis. Filed Mar. 12, 1965.

WAUKESHA METAL

Applicant disclaims the word "Metal" apart from the mark as shown.
For Alloys Made Up of a Copper Base With a Percentage of 18 to 20 Percent Nickel and With Small Contents of Silicon, Tin, Iron, Lead and Zinc.
First use 1919.

SN 215,433. National Steel Corporation, Pittsburgh, Pa. Filed Mar. 31, 1965.

WEIRTON

Owner of Reg. No. 605,260.
For Steel Sheets and Strip, Galvanized Steel Sheets and Strip, and Tinplate.
First use 1917.

SN 215,682. Achorn Steel Company, Cambridge, Mass. Filed Apr. 5, 1965.

ACHORN 512

For Mold Steel.
First use on or about Jan. 1, 1945.

SN 215,821. R. Lavin & Sons, Inc., Chicago, Ill. Filed Apr. 5, 1965.

NDZ-S

For Copper Base Alloys in Wrought and Cast Forms, Especially Ingots for Remelting.
First use Apr. 17, 1964.

SN 216,008. Joseph T. Ryerson & Son, Inc., Chicago, Ill. Filed Apr. 7, 1965.

RY-AX

For Alloy Steel.
First use Jan. 2, 1938.

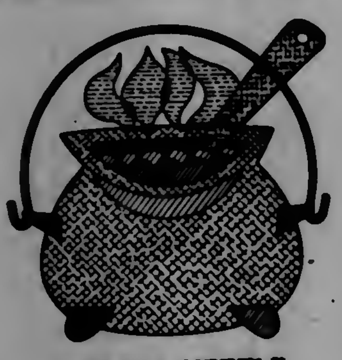
SN 216,009. Joseph T. Ryerson & Son, Inc., Chicago, Ill. Filed Apr. 7, 1965.

RYCASE

For Alloy Steel.
First use Jan. 2, 1930.

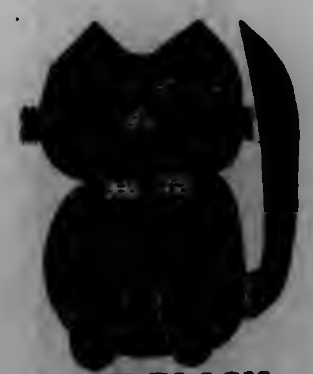
Class 16—Protective and Decorative Coatings

SN 185,393. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co., Fullerton, Calif. Filed Jan. 27, 1964.



The drawing is lined for the colors gray, brown, and orange. No registration rights are claimed for the words "Copper Kettle" apart from the mark shown in the drawing, but applicant waives none of its common law rights therein.
For Copper Metallic Spray Paint.
First use Jan. 2, 1963.

SN 185,402. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co., Fullerton, Calif. Filed Jan. 27, 1964.



The drawing is lined for the colors gray and yellow. No registration rights are claimed for the words "Cat Black" apart from the mark as shown, but applicant waives none of its common law rights in the marks shown or any feature thereof.
For Spray Paint.
First use Jan. 2, 1963.

SN 185,449. Snyder Brothers Company, Toccoa, Ga. Filed Jan. 27, 1964.

SNYLAC

For Wood Stains, Industrial Lacquers for Application on Metal, Wood, and Plastics, Wood Varnishes, and Industrial Exterior and Interior Paints.
First use Jan. 17, 1951.

SN 190,300. Tenax Finishing Products Company, Newark, N.J. Filed Apr. 3, 1964.

TENAX

For Industrial Corrosion Resistant Coatings Based on Vinyls, Lacquers, and Enamels Which Are Used by Manufacturers on the Products They Manufacture Such as Metal and Wood Cabinets, Drum Interiors and Lighting Fixtures.
First use May 1, 1948.

SN 190,369. W. R. Grace & Co., Cambridge, Mass. Filed Apr. 6, 1964.

ACIDEX

For Epoxy Resin Base Protective Coating in the Nature of a Paint for Interior and Exterior Surfaces.
First use July 1958.

SN 192,862. The Wickes Corporation, Saginaw, Mich. Filed May 6, 1964.

WALDORF

For Interior and Exterior Wall and Trim Paints.
First use Mar. 26, 1964.

SN 192,928. Micro-Chemicals, Inc., Dallas, Tex. Filed May 7, 1964.

AQUA GUARD

For Aerosol Film Forming Humidity Protectant for Automotive, Marine, Aircraft, Home, Farm, and Industry Use Which Prevents Rust and Corrosion and Protects All Types of Insulation and Rubber, Wood, Metal, and Plastic Surfaces Which Are Subject to Attack by Humidity, Oxidation, Moisture, and Similar Attack.
First use Feb. 7, 1964.

SN 197,451. Velsicol Chemical Corporation, Chicago, Ill. Filed July 8, 1964.

TUNIC

For Color Sealer for Asphalt Surfaces.
First use May 14, 1964.

SN 207,559. Bocour Artist Colors, Inc., New York, N.Y. Filed Dec. 7, 1964.

AQUA-TEC

For Artists' Colors.
First use June 1962.

Class 17—Tobacco Products

SN 159,187. American Machine & Foundry Company, New York, N.Y. Filed Dec. 17, 1962.

MICROFLAKE

For Tobacco Products—Namely, Tobacco Sheet Material, Cigar Binder and Wrapper, Cigar and Cigarette Filter and Smoking Materials Manufactured From Comminuted Tobacco and From Tobacco Dust.
First use at least as early as Apr. 19, 1962.

SN 191,731. Anna Wilke, d.b.a. Wilke Pipe Shop, New York, N.Y. Filed Apr. 21, 1964.

WILKE BLEND #5

The word "Blend" is hereby disclaimed apart from the mark as shown.
For Pipe Tobacco.
First use Jan. 6, 1934.

SN 196,071. Springfield Sugar & Products Co., Suffield, Conn. Filed June 19, 1964.

SWEET LIFE

For Cigarettes.
First use on or about Mar. 1, 1962.

SN 199,295. Maclin-Zimmer-McGill Tobacco Co., Incorporated, Petersburg, Va. Filed Aug. 5, 1964.

WAY-BACK

Owner of Reg. No. 117,547.
For Chewing and Smoking Tobacco.
First use 1904.

SN 199,296. Maclin-Zimmer-McGill Tobacco Co., Incorporated, Petersburg, Va. Filed Aug. 5, 1964.

LORD BEACONSFIELD

"Lord Beaconsfield" is the name of a deceased person.
Owner of Reg. Nos. 231,839 and 659,721.
For Chewing and Smoking Tobacco.
First use 1883.

SN 199,297. Maclin-Zimmer-McGill Tobacco Co., Incorporated, Petersburg, Va. Filed Aug. 5, 196.

CORNUCOPIA

Owner of Reg. No. 117,547.
For Chewing and Smoking Tobacco.
First use 1877.

SN 207,863. Camacho Cigars, Inc., Miami, Fla. Filed Dec. 10, 1964.

SAN MARCO

For Cigars.
First use Oct. 2, 1964.

SN 210,221. N.V. Cigarettes Import Company, Scheveningen, Netherlands. Filed Jan. 19, 1965.

SEVEN SEAS

Owner of Dutch Reg. No. 96,205, dated Jan. 6, 1949.
For Cigarettes and Other Tobacco Products.

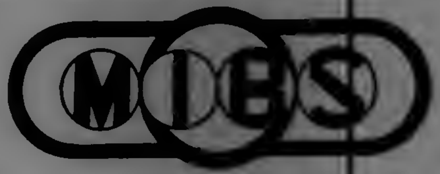
Class 18—Medicines and Pharmaceutical Preparations

SN 170,859. Philips Roxane, Inc., New York, N.Y. Filed June 12, 1963.

NAUSEX

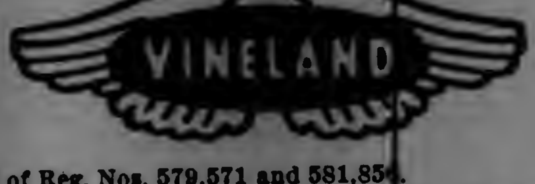
For Anti-Nauseants.
First use Mar. 15, 1962.
Subj. to Intf. with SN 144,354.

SN 195,641. Malcolm C. Campbell, d.b.a. Mib-Caps Company, Atlanta, Ga. Filed June 15, 1964.



For Timed-Action Cold and Sleep Capsules.
First use Apr. 1, 1964.

SN 200,304. Vineland Laboratories Inc., Vineland, N.J. Filed Aug. 20, 1964.



Owner of Reg. Nos. 579,571 and 581,85.
For Veterinarian Preparations—Namely, Medicinal Food Supplements, Vitamins, Antibiotics, Medications for Control and Treatment of Animal and Fowl Diseases, Healing Oils and Ointments, Saline Solution, Medications for Parasite Control in Animals and Fowl, Hormone Preparations, and Diethyl Stilbestrol Solutions.
First use Sept. 1, 1963.

SN 200,470. The Norwich Pharmacal Company, d.b.a. Eaton Laboratories, Norwich, N.Y. Filed Aug. 24, 1964.

FURACORT

Owner of Reg. No. 403,279.
For Topical Antibacterial and Anti-Inflammatory Agent.
First use Mar. 6, 1964.

SN 204,974. Geigy Chemical Corporation, Ardsley, N.Y. Filed Oct. 28, 1964.

KETRION

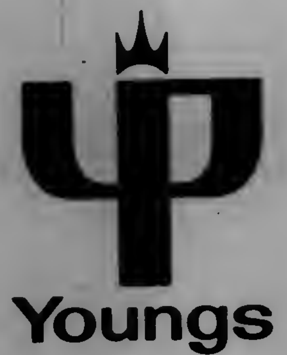
Owner of Reg. No. 708,016.
For Anti-Inflammatory Preparation.
First use Oct. 8, 1964.

SN 206,329. American Home Products Corporation, New York, N.Y. Filed Nov. 16, 1964.

MOTHER-UP

For Veterinary Preparation of the Liquid Spray for Use as an Aid in Helping Foster Mothers Accept Young Orphan Calves, Lambs, and Pigs.
First use Oct. 7, 1964.

SN 207,848. Youngs Drug Products Corporation, New York, N.Y. Filed Dec. 9, 1964.



The word "Youngs" is disclaimed apart from the mark as shown.
For Sterile Pads Impregnated With an Antiseptic Solution for Cleansing and Preparing the Skin Area Prior to Injecting.
Nov. 20, 1964.

SN 209,451. Orion Laboratories, Incorporated, Cleveland, Ohio. Filed Jan. 6, 1965.

ANICUT

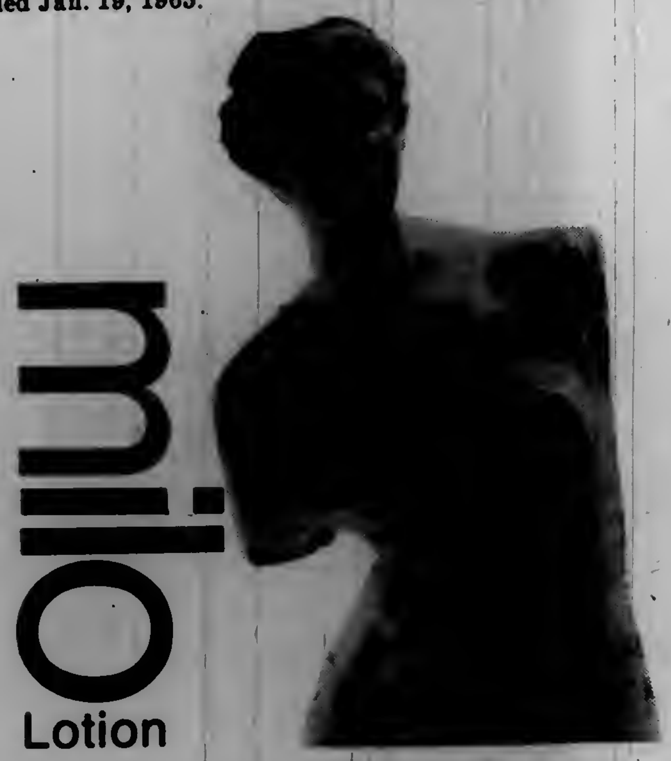
For Combined Wound Cleanser and Wound Dressing for Pets and Livestock.
First use Sept. 4, 1963.

SN 209,877. Ormont Drug & Chemical Co., Inc., Englewood, N.J. Filed Jan. 13, 1965.

BUROWETS

For Wet Dressing With an Absorbed Soothing and Astringent Medicated Solution for the Topical Relief of Inflammatory Conditions of the Skin Arising From Swelling, Bruises, Athlete's Foot, Insect Bites, Poison Ivy, Allergic or Other Environmental Skin Conditions.
First use Dec. 29, 1964.

SN 210,203. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 19, 1965.



No claim is made to the word "Lotion" as shown in the drawing.
For Antipruritic Preparation.
First use Jan. 12, 1965.

SN 210,813. Edward O. Rauchfleisch, d.b.a. Beachland Pharmacy, Euclid, Ohio. Filed Jan. 27, 1965.

ROECIDIN

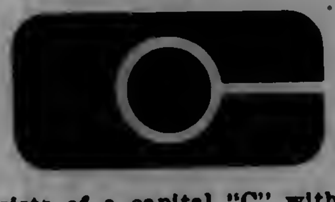
For Medicinal Preparation for Relief of Congestion Due to Head Colds, Hay Fever, and Sinus or the Like.
First use Nov. 1, 1962.

SN 211,310. Reyman Drug Company, Inc., Baltimore, Md. Filed Feb. 3, 1965.

LESFUNG

For Soothing Antibacterial and Fungicidal Preparation for Treatment of Skin Infections—Namely, Eczematous Eruptions and Athlete's Foot.
First use Dec. 29, 1964.

SN 211,629. Circle Pharmaceuticals, Inc., Indianapolis, Ind. Filed Feb. 9, 1965.



The mark consists of a capital "C" with a solid circle in the inner area or more particularly, a stylized horizontally elongated "C," with the "C's" inner area filled in partially with a perfect circle.
For Ethical Drugs, Sold on Physician's Prescription, To-Wit: Analgesic, Antitussive, Sedative, and Urinary Tract Syndrome Palliative-Chemotherapeutic-Antimicrobial Compound.
First use Jan. 26, 1965.

SN 212,147. Stanback Company, Ltd., Salisbury, N.C. Filed Feb. 16, 1965.

STANBACK

Owner of Reg. No. 505,815.
For Analgesic Preparations.
First use Jan. 1, 1924.

SN 212,394. Dermik Pharmacal Co., Inc., Syosset, N.Y. Filed Feb. 19, 1965.

CLAROXIN

Owner of Reg. No. 735,930.
For Pharmaceutical Preparation for Topical Application in Acne.
First use Sept. 10, 1964.

SN 213,021. Knoll A.-G. Chemische Fabriken, Ludwigshafen (Rhine), Germany. Filed Mar. 1, 1965.

MALIASIN

Owner of German Reg. No. 618,126, dated Mar. 20, 1952.
For Antiepileptic Drug.

SN 213,237. Nopco Chemical Company, Newark, N.J. Filed Mar. 3, 1965.

NOP-STRESS

For Water Dispersible Antibiotic, Vitamin or Trace Mineral Compositions or Their Mixtures Employed in Animal and Poultry Feeding.
First use Jan. 22, 1965.

SN 213,238. Nopco Chemical Company, Newark, N.J. Filed Mar. 3, 1965.

NOPJECT

For Injectable Solutions for Animals Containing Vitamins.
First use Oct. 9, 1964.

SN 213,280. Boyle & Company, Bell Gardens, Calif. Filed Mar. 4, 1965.

TERALASE

Owner of Reg. No. 708,206.
For Combination of Digestive Chemicals Incorporated as an Ingredient for Digestive Capsules Used in the Treatment of Enzyme Deficiency in the Digestive Tract.
First use June 26, 1959.

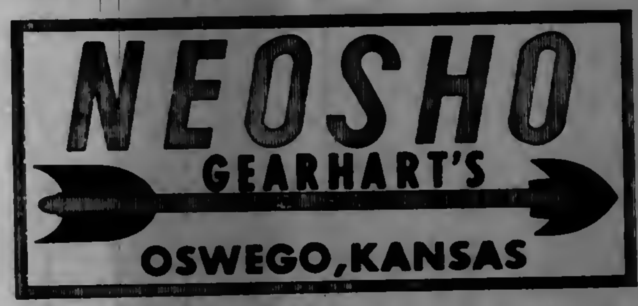
SN 214,451. Merck & Co., Inc., Rahway, N.J. Filed Mar. 18, 1965.

FLUZOL

For Chemotherapeutic Preparation for Veterinary Use.
First use on or about Feb. 5, 1965.

Class 19—Vehicles

SN 199,817. Jack G. Gearhart, d.b.a. Neosho Custom Coaches, Oswego, Kans. Filed Aug. 13, 1964.



The drawing is lined for the color red. Applicant disclaims the words "Custom Coach Mfg." and "Oswego, Kansas" as shown.
For Pick-Up Camper Coaches, Travel Trailers, and Pick-Up Covers.
First use Mar. 13, 1963.

SN 200,624. David Burdette Blue, Tulsa, Okla. Filed Aug. 26, 1964.

Dabchick

For Sailboat.
First use Apr. 1, 1964.

SN 202,637. Steward Printers and Lithographers Equipment Co., d.b.a. The Steward Company, Los Angeles, Calif. Filed Sept. 24, 1964.

GENERAL GRAPHIC

For Wheeled Bindery Trucks and Wheeled Drying Racks.
First use Sept. 3, 1964.

SN 208,654. Flexello Castors & Wheels Limited, Slough, England. Filed Dec. 17, 1964.

FLEXOPREME

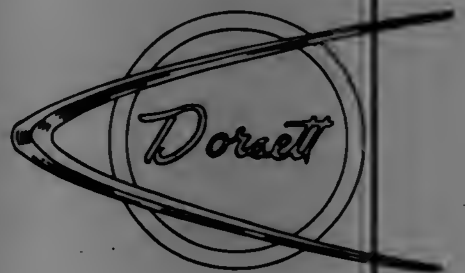
Owner of British Reg. No. 851,683, dated July 17, 1963.
For Plastic Centred Rubber Tyred Wheels (Not Parts of Machines).

SN 209,019. MacGregor-Comarain, Paris, France. Filed Dec. 29, 1964.

MAGRO-ROLL

Owner of French Reg. No. 513,073, dated Apr. 30, 1963 (Seine); Natl. Inst. No. 204,593; and U.S. Reg. Nos. 737,793, 740,518, and others.
For Roll Cover for Closing Railway Wagons and Barge Holds.

SN 209,149. Textron, Inc., Bremen, Ind. Filed Dec. 31, 1964.



For Boats.
First use Oct. 2, 1957.

SN 209,416. Carr Automotive Manufacturing Corporation, Tappahannock, Va. Filed Jan. 6, 1965.

DUAL FRICTION

For Brake Shoes and Brake Parts for Automobiles. and Trucks.
First use at least as early as December 1962.

SN 209,417. Carr Automotive Manufacturing Corporation, Tappahannock, Va. Filed Jan. 6, 1965.

POWER BOND

For Brake Shoes and Brake Parts for Automobiles and Trucks.
First use at least as early as December 1962.

SN 209,635. Universal Railway Devices Company, Chicago, Ill. Filed Jan. 8, 1965.

UNIVERSAL

Owner of Reg. No. 197,108.
For Spring Draft Gears, Friction Draft Gears, Draft Arms, Draft Lugs, Draft Yokes, Hand Brakes and Parts Thereof, Buffer Castings, Brake Adjusters, and Brake Rigging Bell Cranks.
First use on or about Oct. 2, 1913.

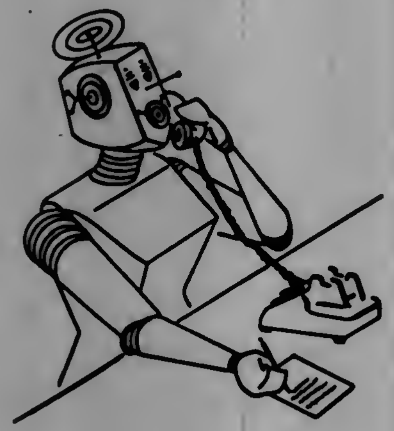
SN 209,666. Patrick H. Confer, d.b.a. Confer's Garage, Kawkawlin, Mich. Filed Jan. 11, 1965.

GALAVANTER

For Mobile Homes.
First use Dec. 14, 1964.

Class 21—Electrical Apparatus, Machines, and Supplies

SN 180,531. Robosonics, Inc., New York, N.Y. Filed Nov. 5, 1963.



Applicant disclaims the representation of the telephone apart from the mark as a whole.
For Telephone Answering and Monitoring Apparatus.
First use Sept. 25, 1963.

SN 187,535. L. G. Steinmetz, d.b.a. Gas Equipment & Engineering Company, Electronic Division, Evansville, Ind. Filed Feb. 26, 1964.

"Sky-Lite"

For Aircraft Transistorized Flashing Anti-Collision Lights, for Aircraft or Field Application.
First use Dec. 4, 1961.

SN 193,192. Molex Products Company, Brookfield, Ill. Filed May 11, 1964.

MOLEX

For Electrical Components Including Terminals, Plates and Blocks With Fittings, Separable Connectors and Switches and Parts Therefor.
First use April 1939.

SN 194,600. General Precision, Inc., Little Falls, N.J. Filed June 1, 1964.

FLIP-CHIP

For Solid State Micro-Miniature Electronic Circuits.
First use Mar. 2, 1964.

SN 195,396. Jeffrey Galion Manufacturing Company, Columbus, Ohio. Filed June 11, 1964.

Mineline

For A.C. and D.C. Electric Motors.
First use on or about May 27, 1964.

SN 196,151. H-P Products, Inc., Louisville, Ohio. Filed June 22, 1964.

BLUE-AIR

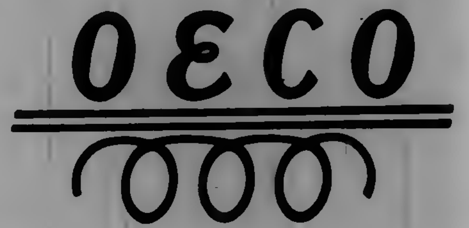
For Electrically Operated Built-In Vacuum Cleaning Systems.
First use Jan. 15, 1964.

SN 197,267. Consolidated Electronic Equipment Company Limited, Toronto, Ontario, Canada. Filed July 7, 1964.

CEECO

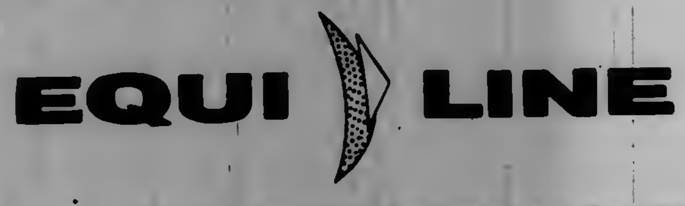
Priority claimed under Sec. 44(d) on Canadian application filed Jan. 9, 1964; Reg. No. 138,655, dated Dec. 31, 1964.
For Electric Terminal Blocks Used With Electronic Wiring and Equipment, D.C. to A.C. Inverters, and Battery Chargers; and Portable Fluorescent Lamps.
First use by at least November 1955, on electric terminal blocks used with electronic wiring and equipment; in commerce October 1957.

SN 198,580. Oeco Corporation, Portland, Oreg. Filed July 27, 1964.



For Electrical and Electronic Products—Namely, Transformers (Fixed and Variable Ratio), Reactors, Coils, Magnetic Amplifiers, Power Supplies (With Electronic and Electro Mechanical Rectifiers), Choppers, Silicon Controlled Rectifiers, Light Dimmers, and Electrical Resistors.
First use May 1954.

SN 201,671. Equipto Electronics Corporation, Aurora, Ill. Filed Sept. 11, 1964.



For Electronic and Electrical Equipment and Instrument Enclosures—Namely, Racks, Panels, Chassis, Cabinets and Consoles for Electronics Instrumentation, Electrical and Electro-Mechanical Purposes.
First use Aug. 7, 1964.

SN 205,086. Molecu-Wire Corporation, Scobeyville, N.J. Filed Oct. 29, 1964.

FENICOLOY

For Round and Flat Electrical Wire, Ribbon and Strip Formed of Ferrous Metallic Alloys for Electrical and Electronic Apparatus.
First use Apr. 15, 1964.

SN 205,087. Molecu-Wire Corporation, Scobeyville, N.J. Filed Oct. 29, 1964.

PELCOLOY

For Round and Flat Electrical Wire, Ribbon and Strip Formed of Non-Ferrous Metallic Alloys for Electrical and Electronic Apparatus.
First use Apr. 15, 1964.

SN 205,628. Topco Associates, Inc., Skokie, Ill. Filed Nov. 5, 1964.

TOPCO

For Electric Blankets.
First use June 29, 1964.

SN 206,143. E. I. du Pont de Nemours and Company, Wilmington, Del. Filed Nov. 13, 1964.

KAPTON

For Flexible Film for Electrical Insulation.
First use Sept. 25, 1964.

SN 206,340. Automotive Wiring Devices, Inc., Los Angeles, Calif. Filed Nov. 17, 1964.

AWD

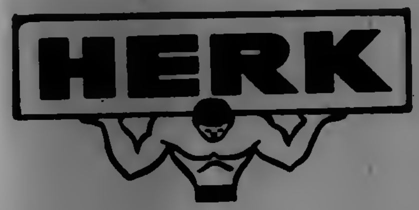
For Battery Cables, Sparkplug Wire Sets, Electric Cable, Electric Wire, Electric Connectors, Electric Terminals, Electric Plugs, Extension Cords and Lights, Engine Ignition Sets and Parts Thereof.
First use Sept. 17, 1964.

SN 206,460. Jefferson Electric Company, Bellwood, Ill. Filed Nov. 18, 1964.

REACTO-MERC

For Reactor Type Ballast for Mercury Vapor Lamps.
First use Oct. 21, 1964.

SN 214,723. Ullman Devices Corporation, Ridgefield, Conn. Filed Mar. 22, 1965.



For Horseshoe-Shaped Hand Magnets.
First use on or about Mar. 11, 1965.

Class 22—Games, Toys, and Sporting Goods

SN 192,671. Blazon, Inc., Akron, Ohio. Filed May 5, 1964.

SCOUT

For Animal Figure Adapted To Be Ridden by Children.
First use Mar. 17, 1964.

SN 198,375. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed July 22, 1964.

TUPPER!

Owner of Reg. Nos. 500,050 and 600,830.
For Baby Spoon Toys.
First use January 1958.

SN 198,440. Sony Corporation, Tokyo, Japan. Filed July 23, 1964.

SONY

For Dolls.
First use on about Mar. 16, 1963; in commerce on about Mar. 30, 1963.

SN 201,552. Rexall Drug and Chemical Company, d.b.a. Tupperware, Los Angeles, Calif. Filed Sept. 9, 1964.

TUPPER

Owner of Reg. Nos. 500,050 and 652,341.
For Toys—Namely, Game Chips.
First use January 1944.

SN 205,467. Donald W. Stone, Keene, N.H. Filed Nov. 3, 1964.

FIRE-FLI

For Bandalore-Type Top.
First use on or about June 12, 1964.

SN 205,843. Paco Products, Inc., Chicago, Ill. Filed Nov. 9, 1964.

DUNK HIM

For Apparatus Sold as a Unit for Playing a Target-Type Game.
First use Sept. 9, 1964.

SN 206,736. Space City Associates Toys and Ideas, Houston, Tex., assignee of Bernie F. McCreary, Jr., Houston, Tex. Filed Nov. 23, 1964.

SCATI-LAUNCH

For Toy Airplane and Throwing Device.
First use July 1, 1964.

SN 207,500. Kunststoffwerk Eugen Baier, Peterzell uber Oberndorf am Neckar, Germany. Filed Dec. 4, 1964.

NATTY'S KNITTER

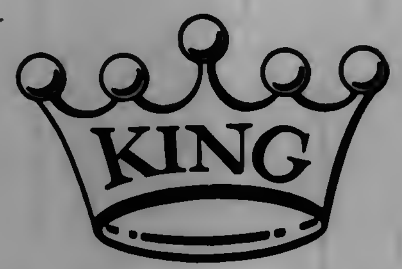
No claim of exclusive right is made to "Knitter" for the goods recited.
For Mechanical Knitting Toys That Knit Strands of Yarn.
First use at least as early as July 15, 1964; in commerce at least as early as July 15, 1964.

SN 208,298. Louis Marx & Co., Inc., New York, N.Y. Filed Dec. 16, 1964.

CAMPUS CUTIES

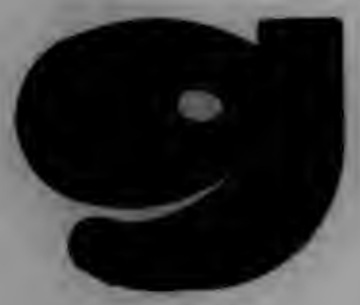
For Toy Miniature Figures.
First use Apr. 7, 1964.

SN 208,749. Robert C. King, d.b.a. King Sport-Line Company, Pasadena, Calif. Filed Dec. 23, 1964.



For Archery Equipment—Namely, Quivers, Arm Guards, Archers' Gloves, and Finger Tabs.
First use Feb. 21, 1962.

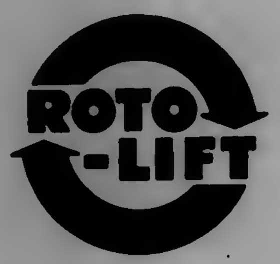
SN 209,600. The Garcia Corporation, Teaneck, N.J. Filed Jan. 8, 1965.



Owner of Reg. Nos. 736,722 and 736,348.
For Fishing Rods.
First use at least as early as May 18, 1960.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

SN 182,115. Real Estate Securities, Inc., Portland, Oreg. Filed Nov. 29, 1963.



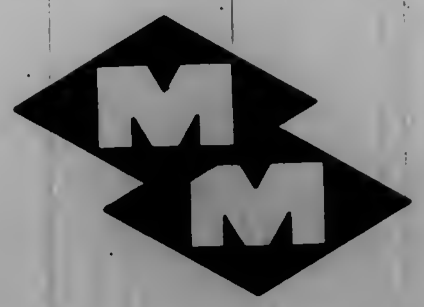
For Fork-Lift Merchandise Handling Trucks.
First use Aug. 1, 1963.

SN 184,116. The Upjohn Company, Kalamazoo, Mich. Filed Jan. 6, 1964.

CALF-PUMP

For Mechanical Pump Dispenser for Veterinary Medicine.
First use Nov. 8, 1963.

SN 185,500. Dura Corporation, Oak Park, Mich. Filed Jan. 28, 1964.



For Power-Driven Lawn Mowers and Snow Throwers of the Riding Type and of the Walking Attendant Guided Type, Tillers of the Walking Attendant Type, Garden Tractors, and Parts Therefor.
First use September 1959.

SN 186,858. Land Clearing Equipment, Inc., Dallas, Tex. Filed Feb. 17, 1964.

TREE KNIFE

The word "Knife" is disclaimed apart from the mark as shown.
For Clearing Blade for Attachment to a Bulldozer.
First use Jan. 17, 1963.

SN 192,555. Bryant Engineering Company, Port Huron, Mich. Filed May 4, 1964.

KRUSH-KING

For Apparatus for Destroying Bottles and Compressing Metal Receptacles.
First use Mar. 31, 1964.

SN 193,097. Besler Corporation, Emeryville, Calif. Filed May 11, 1964.

GENIE

For Hydraulically Actuated Work Platforms.
First use Mar. 24, 1964.

SN 193,177. Johnson Farm Machinery Co., Woodland, Calif. Filed May 11, 1964.

JOHNSON

For Agricultural Tools—Namely, Hay Rakes, Cultivators, Planters, Seed Broadcasters, Hay Bale Loaders, Sickles, and Almond Knockers.
First use 1943 on hay rakes.

SN 193,426. Tokheim Corporation, Fort Wayne, Ind. Filed May 13, 1964.

powerVac

For Air Actuated Liquid Pump and Parts Thereof.
First use May 6, 1964.

SN 193,724. Van-Marks Products Corporation, Detroit, Mich. Filed May 18, 1964.

TRIM-A-BRAKE

The word "Brake" is disclaimed except as a feature of the complete mark.
For Brakes for Braking or Bending Sheet Metal and Particularly Elongated Strips of Such Metal.
First use Apr. 10, 1964.

SN 193,735. Hy-Torq Products Corporation, Portland, Oreg. Filed May 15, 1964.

HY-TORQ

For Vehicle Differential Mechanisms.
First use July 12, 1960.

SN 194,204. Moeller Mfg. Co., Inc., d.b.a. Moeller Manufacturing Co., Greenville, Miss. Filed May 25, 1964.

SLICE-A-BIT

For Food Slicer—Namely, a Cutting Board Provided With Movable Tines Arranged To Hold the Material Being Sliced.
First use Dec. 20, 1963.

SN 194,592. Forrest F. Freeman, d.b.a. Forrest Manufacturing, Bakersfield, Calif. Filed June 1, 1964.

MICRO-GAP

For Automotive Distributor Point Adjusting Tool.
First use June 15, 1962.

SN 194,818. Monarch Road Machinery Company, Grand Rapids, Mich. Filed June 3, 1964.

HY-LO-JACK

For Power Hydraulic Controls, Hydraulic Pressure Pumps, and Components Thereof, for Use in Controlling the Positioning of Snow and Earth Moving Blades Mounted on Vehicles.
First use on or before Jan. 1, 1941.

SN 194,820. Monarch Road Machinery Company, Grand Rapids, Mich. Filed June 3, 1964.

DYNA-MIGHT

For Power Hydraulic Controls and Components Thereof for Controlling the Positioning of Snow and Earth Moving Blades Mounted on Vehicles and for Controlling Various Types of Industrial Hydraulic Actuators.
First use on or before Jan. 1, 1939.

SN 194,822. Monarch Road Machinery Company, Grand Rapids, Mich. Filed June 3, 1964.

DYNA-PACK

For Compact, Self-Contained, Industrial Hydraulic Power Unit and Associated Controls Therefor for Use in Lifting, Pulling, Pushing, Clamping, Testing, Bending, Positioning, Pressing, Cutting, Work Feeding, and the Like.
First use on or before Jan. 1, 1957.

SN 196,644. Wladzia G. Podbielniak Doyle and Collin M. Doyle (joint owners), d.b.a. Liquid Dynamics, Chicago, Ill. Filed June 29, 1964.

QUADRONIC

For Liquid Centrifuges Intended Primarily but Not Solely for Production Use, Parts, and Accessories Thereof.
First use Mar. 2, 1964.

SN 196,645. Wladzia G. Podbielniak Doyle and Collin M. Doyle (joint owners), d.b.a. Liquid Dynamics, Chicago, Ill. Filed June 29, 1964.

PLURI-STAGE

For Liquid Centrifuges Intended Primarily but Not Solely for Production Use, Parts, and Accessories Thereof.
First use Apr. 15, 1964.

SN 196,646. Wladzia G. Podbielniak Doyle and Collin M. Doyle (joint owners), d.b.a. Liquid Dynamics, Chicago, Ill. Filed June 29, 1964.

QQ

For Liquid Centrifuges Intended Primarily but Not Solely for Production Use, Parts, and Accessories Thereof.
First use May 20, 1964.

SN 196,819. Silverbrook Mfg. Co., Inc., Springfield, Mass. Filed June 30, 1964.

SOCK-O-MATIC

For Socket Wrench.
First use Jan. 27, 1964.

SN 197,096. Wladzia G. Podbielniak Doyle and Collin M. Doyle (joint owners), d.b.a. Liquid Dynamics, Chicago, Ill. Filed July 6, 1964.

MONO 1 MECHANIZE

For Liquid Centrifuges Intended Primarily but Not Solely for Production Use, Parts, and Accessories Thereof.
First use Mar. 2, 1964.

SN 197,383. Fulton Products Corporation, Shreveport, La. Filed July 8, 1964.

feedking

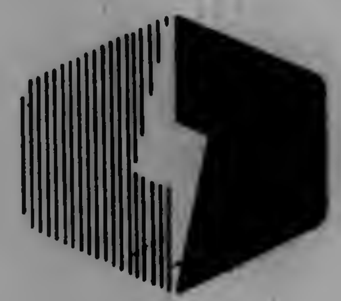
For Poultry Feeding, Watering and Service Units.
First use July 1963.

SN 197,518. Stratton Equipment Company, Cleveland, Ohio. Filed July 9, 1964.

LOAD CHAMP

For Portable Lifting Devices—Namely, Fork Lifts and Stackers.
First use Aug. 11, 1960.

SN 197,776. Red Jacket Manufacturing Company, Davenport, Iowa. Filed July 13, 1964.



The lining in the drawing represents the color red, but no claim is made as to color.
For Pumps—Namely, Submersible Pumps, Jet Pumps, Centrifugal Pumps, Sump Pumps, Pitcher Pumps, Windmill Pumps, Force Pumps, Tank Pumps, Chemical Feed Pumps, Pumps for Organic Liquids, Pump Cylinders, Pump Rods, Pump Rod Accessories, Pump Plungers, Injectors for Jet Pumps, Water Pressure Systems, and Discharge Manifolds for Gasoline Pumping Systems.
First use on or about June 1, 1963.

SN 198,301. Nautilus Industries, Inc., Freedland, Pa., assignee, by mesne assignment, of Terryphone Corporation, Camp Hill, Pa. Filed July 21, 1964.

Whirlaway

For Vacuum Cleaning Systems.
First use July 9, 1964.

SN 198,335. Wladzia G. Podbielniak Doyle and Collin M. Doyle (joint owners), d.b.a. Liquid Dynamics, Chicago, Ill. Filed July 22, 1964.

PLURI-PHASE

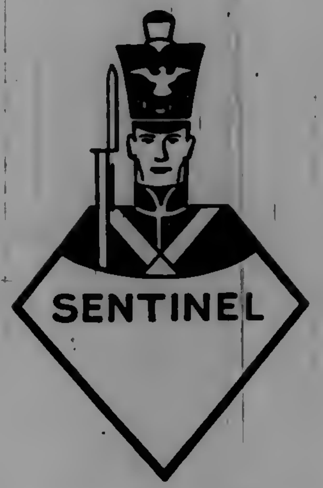
For Liquid Centrifuges Intended Primarily but Not Solely for Production Use, Parts, and Accessories Thereof.
First use May 15, 1964.

SN 198,726. Flex-A-Lite Corporation, Tacoma, Wash. Filed July 29, 1964.

FLEX-A-LITE

For Fans for Automobiles, Trucks, Tractors, Heaters, Air Conditioners, and Farm Machinery.
First use May 1959.

SN 199,630. Sentinel Distributors, Inc., Denver, Colo. Filed Aug. 10, 1964.



For Pressure and Temperature Responsive Safety Devices for Internal Combustion Engines.
First use August 1960.

SN 200,179. Gunson's Sortex Limited, London, England. Filed Aug. 19, 1964.

POLYGRADA

Owner of British Reg. No. B806,758, dated June 3, 1960.
For Machines for Sorting and Grading Articles by Size and Parts Thereof.

SN 201,205. Hyd-Row-Marker Corporation, West Memphis, Ark. Filed Sept. 3, 1964.

HYD'ROW-marker

No claim is made to the word "Marker" apart from the mark.
For Hydraulically Operated Attachment for Farm Machinery To Designate Rows.
First use on or about Mar. 1, 1964.

SN 202,944. Muskegon Piston Ring Company, Muskegon, Mich. Filed Sept. 29, 1964.

COLORIZED

For Automotive Equipment—Namely, Seals for Engine Valve Stems.
First use on or about July 31, 1964.

SN 203,380. Danish Import Inc., Birmingham, Mich. Filed Oct. 6, 1964.

DANVIK

For Hacksaw Blades.
First use Aug. 18, 1964.

SN 204,806. Kusber Manufacturing Company, Daly City, Calif. Filed Oct. 26, 1964.

WIPE-A-MATIC

For Meat Cleaning Machines.
First use May 1963.

SN 204,927. Simonds Saw and Steel Company, Fitchburg, Mass. Filed Oct. 27, 1964.

SI-MALOY

For Saws.
First use Oct. 4, 1951.

SN 206,322. Vermont American Corporation, Louisville, Ky. Filed Nov. 16, 1964.

FLO-FORGE

For Metal and Woodcutting Tools.
First use Sept. 25, 1964.

SN 206,392. Walker Manufacturing Company, Racine, Wis. Filed Nov. 17, 1964.

ROYAL SCOT

For Exhaust System Parts, Including Mufflers, Tail Pipes, Exhaust Pipes, Tail Pipe Spouts, Exhaust Elbows, Extensions, Deflectors, Clamps, Brackets, Hangers, Bushings, Grommets, and Insulators, and Cold Chisels, Wrenches, and Sump Pumps.
First use Mar. 31, 1962, on mufflers.

SN 206,485. Toledo-Beaver Tools, Inc., Toledo, Ohio. Filed Nov. 18, 1964.

TB

For Metal-Working Tools and Machines—Namely, Pipe Cutters, Pipe Threaders, Pipe Cutting and Threading Machines, and Abrasive Saws.
First use July 1, 1961.

SN 206,746. National Twist Drill & Tool Co., Rochester, Mich. Filed Nov. 23, 1964.

SKEW-SHEAR

For Thread-Cutting Taps.
First use Apr. 2, 1964.

SN 206,976. Smith-Berger Manufacturing Corporation, Seattle, Wash. Filed Nov. 25, 1964.

TUNA CLIPPER

The word "Tuna" is disclaimed apart from the trademark as a whole.
For Fish Beheading and Dressing Machines.
First use Nov. 12, 1964.

SN 207,192. Birmingham Hydraulics, Inc., Troy, Mich. Filed Dec. 1, 1964.

PAN-SEC

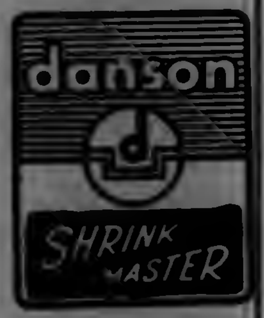
For Hydraulic Manifold Components and Assemblies.
First use on or about Mar. 28, 1963.

SN 207,230. Pulton Chain Kabushiki Kaisha, Saitama-ken, Japan. Filed Dec. 1, 1964.

PULTON

For Power Transmitting Chain Belts for General Use in Industrial Arts.
First use 1960; in commerce February 1[illegible]60.

SN 207,270. Barnett J. Danson and Associates Limited, Don Mills, Ontario, Canada. Filed Dec. 2, 1[illegible]64.



Owner of Canadian Reg. No. 136,555, dated July 10, 1964.
For Packaging Machine Which Shrinks Plastic Film Unto Packages or Products and Is Commonly Called a Shrink Tunnel.
First use Dec. 2, 1963; in commerce Dec. 2, 1963.

SN 207,862. Buehler Ltd., Evanston, Ill. Filed Dec. 10, 1964.

PORTAMET

Owner of Reg. Nos. 673,832 and 761,8[illegible].
For Machine for Polishing a Spot on Metal Objects for Microscopic Study.
First use Nov. 16, 1964.

SN 209,292. Minneapolis-Moline, Inc., Hopkins, Minn. Filed Jan. 4, 1965.

MOBILMATIC

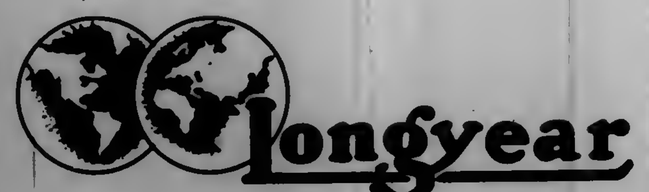
For Automatic Drive Mechanisms for Lift Trucks and Lift Trucks Equipped With Such Mechanisms.
First use during or about August 195[illegible].

SN 211,349. Crescent Niagara Corporation, Buffalo, N.Y. Filed Feb. 4, 1965.

BILLINGS

Owner of Reg. Nos. 270,927, 705,1[illegible], and others.
For Wrenches, Tongs, Hammers, Pliers, Vises, Clamps, Knurling Tools, Screw Drivers, Drifts, Drill Sockets, Reamer Holders, Drills, Chisels, Hand Punches, Wrench Sockets, Cotterpin Tools, Cutoff Tools, Lathe and Clamp Dogs, Spanners, Hand Snips, Hacksaw Frames, Awls, and Sales Display Boards for Such Goods.
First use on or about Apr. 1, 1926, on hand tools.

SN 211,442. E. J. Longyear Company, Minneapolis, Minn. Filed Feb. 5, 1965.



Owner of Reg. No. 615,697.
For Earth Drilling Tools and Equipment—Namely, Drills for Earth and Rock Formations, Diamond Core Drills, Earth and Rock Drilling Units, Mine Shaft Mucking Equipment, Bits for Drilling in Earth and Rock Formation, Reaming Shells, Core Barrels, Wire Line Core Barrels and Equipment, Recovery Tools, Drive Hammers for Driving Casing and Drill Rods, Pumping Units Used in Connection With Drilling in Earth and Rock Formations, Shale Shakers, Core Splitters, Lifting Bales, Casing Clamps, Churn Bucks, Hole Deflecting Devices, Grouting Equipment, Rod Pullers, Water Swivels and Under-Reamers and Industrial Drills.
First use July 1957.

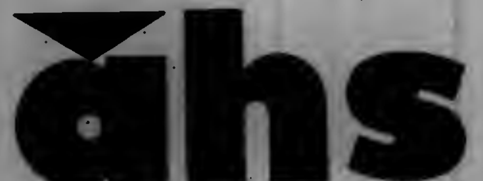
Class 24 — Laundry Appliances and Machines

SN 188,186. Bishop Freeman Co., Evanston, Ill. Filed Mar. 9, 1964.

CUSHNTOP

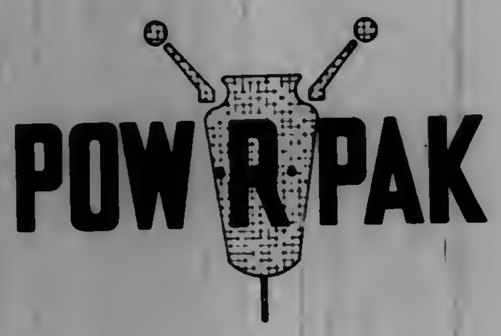
Owner of Reg. No. 672,325.
For Pads for the Pressing Surface of a Pressing Machine, Topping Surfaces for Pads for the Pressing Surface of a Pressing Machine and Combination Pads and Topping Surfaces for Pads for the Pressing Surface of a Pressing Machine.
First use on or about Dec. 4, 1955.

SN 190,049. American Heat-Seal, Inc., Milwaukee, Wis. Filed Apr. 1, 1964.



For Electrically Operated Presses, Mending Machines, Heat Sealing Machines, and Ironers and Presses, All for Industrial and Commercial Laundries.
First use on or about Nov. 1, 1960.

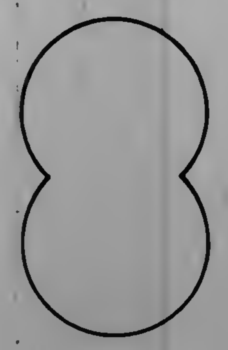
SN 204,527. United Brass Works, Inc., Randleman, N.C. Filed Oct. 21, 1964.



The drawing is lined for the color yellow.
For Fluid Pressure Actuating Devices for Garment and Laundry Machines Exclusive of Fluid Pressure Generating Devices Such as Steam Boilers.
First use on or about Sept. 16, 1964.

Class 25 — Locks and Safes

SN 195,501. Best Lock Corporation, Indianapolis, Ind. Filed June 12, 1964.



The mark consists of the numeral 8 formed by the line of division between the lock core and housing visible on the face of applicant's lock.
For Locks.
First use Jan. 24, 1925.

SN 207,684. Weiser Company, South Gate, Calif. Filed Dec. 7, 1964.

TROY

For Locking Devices—Namely, Inside Latch Sets, Inside Emergency Bath Lock Sets, Inside Closet Latch Sets, Key-In-Knob Lock Sets, Cylinder Grip Handle Lock Sets, Cylinder Knob Lock Sets, Cylinder Spring Latches, Cylinder Dead Locks, Dead Bolts, Entrance Latch and Cylinder Dead Lock Combinations, Entrance Latch and Cylinder Spring Latch Combinations, and Key Blanks.
First use first quarter of 1938.

Class 26 — Measuring and Scientific Appliances

SN 168,283. Addressograph-Multigraph Corporation, Mount Prospect, Ill., by merger from Charles Bruning Co., Inc., Mount Prospect, Ill. Filed May 7, 1963.

BRUNING

Owner of Reg. Nos. 565,125, 572,350, 662,551, and others.
For Reproduction Machines, Including Diazo Printers and Electrophotographic Printing Machines Capable of Exposing, Electrically Charging, and Otherwise Capable of Developing and Printing of Sensitized Treated Materials, Including Diazo Papers, Cloths and Films, and Electrophotographic Papers, and Replacement Parts for Said Machines.
First use 1931.

SN 178,150. Therm-O-Disc, Incorporated, Mansfield, Ohio. Filed Oct. 1, 1963.

AW

For Thermostats and Temperature Control Devices for Hot Water Heaters.
First use Aug. 1, 1949.

SN 179,403. Dales Plastics Sales, Inc., Glenbrook, Conn. Filed Oct. 21, 1963.

MEASURE MASTER

The word "Measure" is disclaimed apart from the trademark as a whole.
For Dispensing Containers and More Specifically to Containers for Dispensing Measured Quantities of Particulate Material Therefrom.
First use as early as Sept. 10, 1963.

SN 183,927. Rohde & Schwarz Sales Co. (U.S.A.), Inc., Passaic, N.J. Filed Jan. 2, 1964.

TERA-OHMMETER

For Electronic Measuring Instruments for Measuring Electrical Resistance in Electrical Insulating Materials.
First use May 1, 1963.

SN 184,893. Comptone Company, Ltd., New York, N.Y. Filed Jan. 20, 1964.

MADAME PRESIDENT

For Eye Glasses, Sun Glasses, Spectacles, Frames, and Parts Thereof, Including Lenses.
First use Dec. 23, 1963.

SN 187,913. Compagnie Generale d'Electro-Ceramique, Paris, France. Filed Mar. 4, 1964.

BERYCER

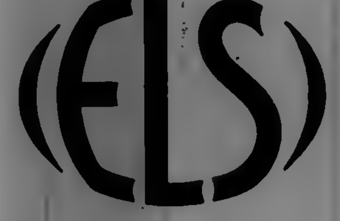
Owner of French Reg. No. 512,730, dated Apr. 12, 1963 (Seine); Natl. Inst. No. 203,440.
For Sintered Pieces From Beryllium Oxide; Crucibles; Laboratory Material, Pieces for the Atomic and Electronic Industry Made From This Matter, and Ceramic Compositions.

SN 189,242. Alexander Drafting Equipment Co., Pasadena, Calif. Filed Mar. 23, 1964.

SUB-ZERO

For Pocket Adding-Subtracting Machine.
First use on or about Dec. 20, 1963.

SN 191,528. Electronics for Life Sciences, Inc., Rockville, Md. Filed Apr. 20, 1964.



For Constant Current Stimulators. Electrometers and Components and Parts Thereof—Namely, Power Supplies.
First use Sept. 11, 1963.

SN 192,106. The Victoreen Instrument Company, Cleveland, Ohio. Filed Apr. 27, 1964.

VICOMATIC

For Photocopying Equipment—Namely, Office Photocopiers and Coin Controlled Photocopiers.
First use in or about February 1963.

SN 194,636. Monaco Optical Corp., Flushing, N.Y. Filed June 1, 1964.

ASTRO-MATIC

For Sunglasses.
First use May 6, 1964.

SN 195,315. Edmund R. Natke, d.b.a. Infotronics Company, River Forest, Ill. Filed June 10, 1964.

INFOTRONICS

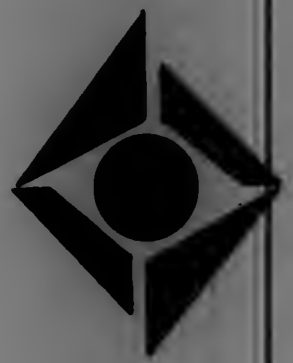
For Instrumentation Counting Devices Such as Electronic Counters, Hour Meters, Electric Counting Devices, and Mechanical Counting Devices.
First use on or about Oct. 5, 1960.

SN 196,797. New Brunswick Scientific Co., Inc., New Brunswick, N.J. Filed June 30, 1964.

FERMACELL

For General Purpose Fermentation Apparatus for Mass Cultivation of Microbial Cells in Batch Production and Continuous Culture Applications, and Particularly Suited to Microbiological and Biochemical Research Including Laboratory, Pilot-Plant, and Small Scale Industrial Fermentations.
First use Mar. 12, 1963.

SN 199,109. Recognition Equipment Incorporated, Dallas, Tex. Filed Aug. 3, 1964.



For Automatic Character Recognition Equipment, and Equipment Used in Conjunction Therewith—Namely, Electro-Mechanical Document Handling Apparatus, Optical-Electronic Apparatus for Identifying Printed Characters, and Computers for Controlling the Operation of Such Apparatus.
First use June 20, 1964.

SN 199,186. Duro-Tension Corporation, Shreveport, La. Filed Aug. 4, 1964.

DURO TENSION®
THE MIRACLE GRIP

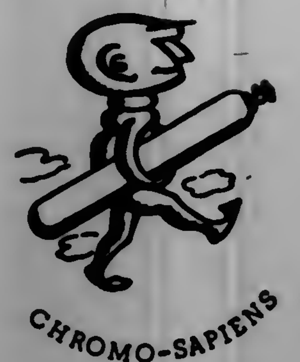
Applicant disclaims exclusive rights to the phrase "The Miracle Grip."
For Elastic Hose Sections Used To Cause Tension on Eyeglasses' Ear Pieces by Sliding Sections Over the Hinges Thereof.
First use May 14, 1964.

SN 199,519. Electronic Instruments Limited, Richmond, Surrey, England. Filed Aug. 7, 1964

VIBRET

Owner of British Reg. No. 807,103, dated June 14, 1960.
For pH Meters.

SN 202,024. Gas Chromatography Limited, Maidenhead, England. Filed Sept. 16, 1964.



No exclusive claim is made to the representation of the gas cylinder apart from the mark as shown.
For Apparatus and Instruments for the Analysis and Separation of Gasses, Liquids or Solids Based on the Principles of Chromatography.
First use June 1, 1964.

SN 202,372. Hengstler Numerics, Inc., Palisades Park, N.J. Filed Sept. 22, 1964.

HECON

For Counting Devices—Namely, Counters, Tachometers, and Measuring Wheels.
First use in or about April 1964.

SN 203,298. Knox Manufacturing Co., Schiller Park, Ill. Filed Oct. 5, 1964.

KNOX

For Projection Screens.
First use October 1953.

SN 204,711. Quantico Corporation, Eastlake, Ohio. Filed Oct. 23, 1964.

QUANTICO

For Liquor Control Systems—Namely, Recording and Measuring Dispensers, Seals of Such Dispensers, Bottle Top Adapters and Lock Strap Therefor and Inserts for Reducing the Effective Volume of the Measuring Chamber Therein.
First use Mar. 17, 1964.

SN 204,729. Accura Ltd., Franklin Square, N.Y. Filed Oct. 26, 1964.

MONOTEL

For Photographic Accessories and More Particularly a Monocular Lens Attachment for a Camera for Increasing the Focal Length of the Lens of the Camera.
First use July 13, 1964.

SN 205,219. Donald N. Yates, d.b.a. Yates Co., Gibsonia, Pa. Filed Oct. 30, 1964.

LITHOVISION

For Animated Displays and Polarising Grids for Creating Animated Effects.
First use on or about May 1964.

SN 205,275. The Gems Company, Inc., Farmington, Conn. Filed Nov. 2, 1964.

Gems

For Switches, Particularly Liquid Flow and Level Switches.
First use July 1955.

SN 205,356. SCM Corporation, New York, N.Y. Filed Nov. 2, 1964.

MULTIMODE

For Data Processing Equipment.
First use June 1, 1964.

SN 205,485. Advanced Register, Inc., Framington, Mass. Filed Nov. 4, 1964.

FAREMASTER

For Coin Handling Equipment—Namely, Fare Boxes for Receiving and Valuing Coins at Random.
First use Sept. 19, 1964.

SN 208,160. Textron Inc., Cheshire, Conn. Filed Dec. 14, 1964.

NOVALITE

For Illumination Source on Optical Comparators.
First use Nov. 30, 1964.

SN 208,401. Sondell Research & Development Company, Palo Alto, Calif. Filed Dec. 17, 1964.

MICROSPHERES

For Particle Counting Beads for Use With Mechanical Counters in Counting Inorganic or Biological Cells.
First use May 23, 1963.

SN 208,421. Agfa Aktiengesellschaft, Leverkusen, Germany. Filed Dec. 18, 1964.

ISO-RAPID

Owner of German Reg. No. 792,661, dated Feb. 25, 1964.
For Photographic Cameras.

SN 208,529. Martin Bekedam, Oakland, Calif. Filed Dec. 21, 1964.

OMNITROL

The drawing is lined for red.
For Liquid Level Controls, Liquid Pressure Controls, Temperature Controls for Liquids, Combination Level Controls and Alternators for Causing One Pump To Operate When Liquid Rises to a Certain Height and for Causing a Second Pump To Operate When the Liquid Again Rises to the Same Height.
First use July 20, 1964.

SN 208,734. Fotorite, Inc., Chicago, Ill. Filed Dec. 23, 1964.

FOTO/TONE

For Photosensitive Paper
First use Nov. 17, 1964.

SN 209,079. Franklin Gno Corporation, West Palm Beach, Fla. Filed Dec. 30, 1964.

GAMDAR

For Equipment Which Measures Distance, Velocity, Time, Direction, and the Other Parameters of Object Location Utilizing Penetrating Radiation.
First use July 10, 1964.

SN 210,023. Litton Systems, Inc., Beverly Hills, Calif. Filed Jan. 15, 1965.

VIBRAROTOR

For Inertial Guidance Instruments.
First use on or about Dec. 15, 1964.

SN 210,043. Polaroid Corporation, Cambridge, Mass. Filed Jan. 15, 1965.

SWINGER

For Photographic Apparatus and More Particularly Photographic Cameras.
First use Jan. 12, 1965.

Class 27 — Horological Instruments

SN 204,344. Benrus Watch Company, Inc., New York, N.Y. Filed Oct. 20, 1964.

TRAILBLAZER

For Watches.
First use Sept. 30, 1964.

SN 206,002. Major Watch Case International Corp., New York, N.Y., assignee of Clairmont Trading Corp., New York, N.Y. Filed Nov. 12, 1964.

CY

For Watch Cases.
First use Oct. 16, 1964.

SN 214,056. Wyler Watch Factory, Ltd., Bienne, Switzerland. Filed Sept. 15, 1964.

WYLER VETTA

Owner of U.S. Reg. Nos. 417,664, 515,726, and 524,526.
For Watches and Watch Parts.
First use Feb. 15, 1963; in commerce Feb. 15, 1963.

Class 28 — Jewelry and Precious-Metal Ware

SN 193,983. Reliable Stores Corporation, Baltimore, Md. Filed May 21, 1964.

'Moon Glow'

For Diamond Rings.
First use May 1, 1964.

SN 215,887. Oneida Ltd., Oneida, N.Y. Filed Apr. 6, 1965.

FIRST FROST

For Sterling Silver Flat Tableware.
First use Mar. 11, 1965.

Class 29 — Brooms, Brushes, and Dusters

SN 148,194. Sentry Hardware Corporation, Cleveland, Ohio, by change of name from Interstate Hardware Merchandising, Inc., Cleveland, Ohio. Filed July 12, 1962.

SENTRY

For Lawn Sweeper.
First use Sept. 14, 1961.

SN 202,563. Du-Fold, Inc., Cleveland, Ohio. Filed Sept. 24, 1964.

MR. MOP

The word "Mop" is disclaimed apart from the mark as shown.
For Mops.
First use at least as early as Aug. 26, 1964.

SN 204,572. William E. Hooper and Sons Company, Baltimore, Md. Filed Oct. 22, 1964.

MASSASOIT

For Mops.
First use Oct. 7, 1964.

SN 213,207. Cotton Specialty Company, Inc., Chicago, Ill. Filed Mar. 3, 1965.

BLUE RIBBON

For Scrubbing and Polishing Mops and Roving Prepared Therefor.
First use June 14, 1922.

SN 214,903. Permanent Pigments, Inc., Norwood, Ohio. Filed Mar. 24, 1965.

DANA

Owner of Reg. No. 714,623.
For Artists' Brushes.
First use June 29, 1962.

Class 30 — Crockery, Earthenware, and Porcelain

SN 187,321. Pan's Dell Pottery, Joplin, Mo. Filed Feb. 24, 1964.

PAN'S DELL

For Pottery of the Hollowware Type.
First use July 14, 1963.

Class 31 — Filters and Refrigerators

SN 157,546. Perry Equipment Corporation, Mineral Wells, Tex. Filed Nov. 19, 1962.

Peco

For Oil, Gas, Air, and Water Filtering and/or Separating Equipment for Use in Petroleum Production and Processing.
First use July 25, 1958.

SN 173,448. General Filter Company, Ames, Iowa. Filed July 22, 1963.

MULTICELL

For Horizontal Pressure Filters for Water Filtration.
First use 1951.

Class 32 — Furniture and Upholstery

SN 201,377. Church Interiors, Inc., Tacoma, Wash. Filed Sept. 8, 1964.

PORTA-CLASS

For Portable, Knock-Down Space-Divider Wall Units Convertible for Use as Table Surfaces.
First use on or about Nov. 1, 1963.

SN 207,966. Lifetime Foam Products, Inc., North Chicago, Ill. Filed Dec. 11, 1964.

LIFE-O-PEDIC

For Mattresses.
First use at least as early as Oct. 11, 1960.

SN 211,228. Purofied Down Products Corp., New York, N.Y. Filed Feb. 2, 1965.

TANADOWN

For Pillows.
First use Nov. 16, 1964.

SN 211,639. Fiber Industries, Inc., Charlotte, N.C. Filed Feb. 9, 1965.

SERENE

Owner of Reg. No. 518,149.
For Pillows.
First use on or before Jan. 20, 1965.

SN 211,735. Lanier Electronic Laboratory, Inc., Atlanta, Ga. Filed Feb. 10, 1965.

CARRIVOICE

Owner of Reg. No. 774,981.
For Portable Lecterns.
First use on or about Nov. 8, 1963.

SN 211,806. Roy E. Ferree, Inc., Valencia, Pa. Filed Feb. 11, 1965.

LAZY LOOP

For Combination Rocker and Cradle.
First use Sept. 21, 1964.

Class 34 — Heating, Lighting, and Ventilating Apparatus

SN 122,912. Carrier Corporation, Syracuse, N.Y. Filed June 27, 1961.

DUOPAC

For Heating and Cooling Apparatus for Personal Comfort.
First use Jan. 10, 1961.

SN 190,371. Hadco Aluminum Products Company, Littlestown, Pa. Filed Apr. 6, 1964.

CAROUSEL

For Decorative Lanterns of the Post and Bracket Type.
First use on or prior to Aug. 29, 1963.

SN 195,636. The Broaster Co., Rockton, Ill. Filed June 15, 1964.

BROCO

For Gas-Fired Broilers and Broiler Ovens, and Combination Electrical Ovens and Hot Top Serving Units.
First use Sept. 10, 1963.

SN 196,106. Breeze Illinois Incorporated, Wyoming, Ill. Filed June 22, 1964.

BREEZE ILLINOIS

The word "Illinois" is disclaimed apart from the mark.
For Furnaces, Boilers, Oil Burners, and Hot Water Heaters.
First use June 5, 1964.

SN 201,422. Gustin-Bacon Manufacturing Company, Kansas City, Mo. Filed Sept. 8, 1964.

GUSTIN gb BACON

Owner of Reg. Nos. 607,811, 620,198, and 720,341.
For Bonded Glass Fiber Air Transmission Tubes and Ducts.
First use Jan. 7, 1963, on ducts.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

SN 183,580. The Gates Rubber Company, Denver, Colo. Filed Dec. 26, 1963.

Poly-Power

For Power Transmission Belts.
First use Dec. 5, 1963.

SN 201,418. Gustin-Bacon Manufacturing Company, Kansas City, Mo. Filed Sept. 8, 1964.

GUSTIN gb BACON

Owner of Reg. Nos. 607,811 and 620,198.
For Railroad Products—Namely, Packing Cups and Gaskets.
First use Jan. 7, 1963, on gaskets.

SN 203,128. Technical Rubber Company, Inc., Johnstown, Ohio. Filed Oct. 1, 1964.

FLOW SEAL

The word "Seal" is disclaimed apart from the mark as shown.
For Self-Vulcanizing Outside-Inside Repair for Tubeless Tires.
First use June 12, 1959.

SN 208,682. Gould-National Batteries, Inc., St. Paul, Minn. Filed Dec. 22, 1964.

MOLYCROM

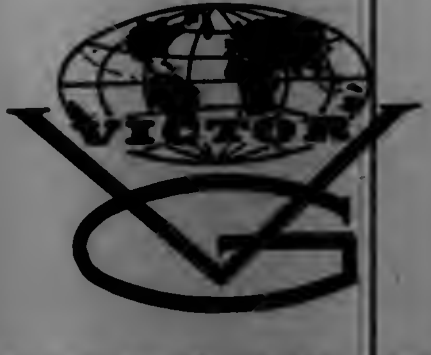
For Piston Rings.
First use July 20, 1964.

SN 208,683. Gould-National Batteries, Inc., St. Paul, Minn. Filed Dec. 22, 1964.

MOLYFLEX

For Piston Rings.
First use July 20, 1964.

SN 209,638. Victor Manufacturing & Gasket Company, Chicago, Ill. Filed Jan. 8, 1965.



Owner of Reg. Nos. 284,265, 780,996, and others.
For Gaskets and Parts Thereof—Namely Soft Metallic and Non-Metallic Sealing Members: Treated and Untreated Paper, Sheet Cork, Compressed Asbestos Sheets, Asbestos Millboard Sheets, Felt Sheets and Strips, Soft Metal Sheets and Stampings Therefrom for Making Said Gaskets and Sealing Members; Shims and Strip Shim Stock; Packing and Sheet Material for Making the Same for Machinery Joints and Joints in Containers and Conveyors of Cases, Fluids, and Semi-Fluids; and Fluid Seals Composed in Part of Synthetic Rubber and Other Plastic Polymers, and of Such Polymers in Part and in Part of Metal.
First use Oct. 30, 1964.

SN 209,685. Fabreeka Products Company, Boston, Mass. Filed Jan. 11, 1965.

FABSYN

Owner of Reg. Nos. 138,447 and 381,144.
For Conveyor Belting.
First use Jan. 4, 1965.

Class 36 — Musical Instruments and Supplies

SN 188,510. Clarence J. Burns, Elkhart, Ind. Filed Mar. 12, 1964.

SCENESONIC

For Musical Instruments—Namely, Stereophonic Record Players.
First use Aug. 12, 1962.

SN 188,511. Clarence J. Burns, Elkhart, Ind. Filed Mar. 12, 1964.

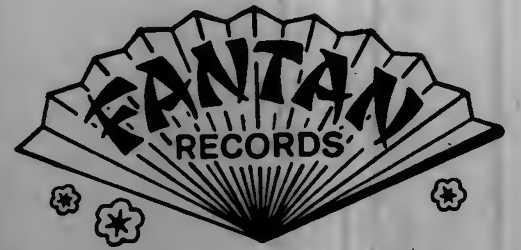
For Musical Instruments—Namely, Stereophonic Record Players.
First use Aug. 12, 1962.

SN 190,095. McKean Products, Inc., Elkhart, Ind. Filed Apr. 1, 1964.

4 IN 1

For Wind Musical Instrument Bore Cleaning Kit.
First use Oct. 20, 1962.

SN 192,595. Hiatt's, Inc., Seattle, Wash. Filed May 4, 1964.



Applicant disclaims the word "Records" apart from the mark as shown.
For Phonograph Records.
First use Mar. 25, 1964.

SN 203,363. Jack L. Westheimer, d.b.a. Westheimer Sales Co., Chicago, Ill. Filed Oct. 5, 1964.

KINGSTON

For Guitars, Electric Guitars, Basses, Electric Basses, Mandolins, Ukuleles, Baritone Ukuleles, Violins, Violin Accessories, Banjos, Cellos, Clarinets, Saxophones, Trombones, Trumpets, Harmonicas, Drum Sets, Snare Drums, Bongo Drums, Congo Drums, Drum Accessories, Cymbals, Music Instrument Stands, Guitar Straps and Accessories, Musical Instrument Pickups and Amplifiers, and Maracas.
First use Mar. 12, 1962, on drums.

Class 37 — Paper and Stationery

SN 169,945. Kyowa Rubber Industry Company, Ltd., Nishinari-ku, Osaka, Japan. Filed May 29, 1963.

O'Band

Owner of Japanese Reg. No. 462,697, dated Mar. 18, 1955.
For Rubber Bands.

SN 169,946. Kyowa Rubber Industry Company, Ltd., Nishinari-ku, Osaka, Japan. Filed May 29, 1963.

pylon

Owner of Japanese Reg. No. 570,191, dated Apr. 15, 1961.
For Rubber Bands.

SN 182,661. Sanford Ink Company, Bellwood, Ill. Filed Dec. 9, 1963.

MAJOR ACCENT

For Liquid Paint Felt Tip Marking and Coloring Applicators.
First use Sept. 18, 1963.

SN 186,250. The J. C. Hall Company, Pawtucket, R.I. Filed Feb. 7, 1964.

QUIKPOST

Owner of Reg. No. 753,347.
For Personal Checks and Check Book Covers.
First use Jan. 9, 1964.

SN 195,509. Brown Company, Berlin, N.H. Filed June 12, 1964.

NU-BLU

For Flour Sack Paper.
First use Sept. 28, 1962.

SN 196,955. East Texas Pulp and Paper Company, Silsbee, Tex. Filed July 2, 1964.

TEXTAG

Owner of Reg. Nos. 637,744, 767,196, and others.
For Fine Printing Paper Stock Sold in Wholesale Lots.
First use June 13, 1964.

SN 197,639. Weyerhaeuser Company, Tacoma, Wash. Filed July 10, 1964.

MIQUON

For Printing Papers Including Printing Papers for Greeting Cards.
First use May 1960.

SN 198,603. Weyerhaeuser Company, Tacoma, Wash. Filed July 27, 1964.

CLIVEDEN

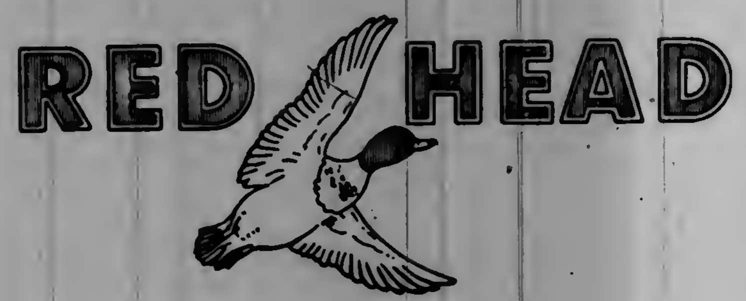
For Printing Paper.
First use 1944.

SN 198,608. Weyerhaeuser Company, Tacoma, Wash. Filed July 27, 1964.

MANOR

For Printing Paper.
First use Jan. 15, 1947.

SN 199,713. International Paper Company, New York, N.Y. Filed Aug. 10, 1964.



The drawing is lined for the color red, but applicant does not claim color as a feature of the mark and reserves the right to use any color or combination of colors.
For Wrapping Paper.
First use Feb. 10, 1960.

SN 202,828. Malco Plastics Incorporated, Baltimore, Md. Filed Sept. 28, 1964.

MALCO

For Plastic Credit Cards, Calendar Cards, Signs, and Shelf Strips.
First use January 1951.

SN 203,013. Raymond S. Kalwajtys, Chicago, Ill. Filed Sept. 30, 1964.

PHOTO-CURIO

For Photograph Holders and Albums.
First use Jan. 2, 1963.

SN 204,466. Georgia-Pacific Corporation, Portland, Oreg. Filed Oct. 21, 1964.

FORMRITE

For Business Form Paper in Roll Form.
First use Mar. 14, 1961.

SN 205,023. Westab Inc., Dayton, Ohio. Filed Oct. 28, 1964.
Owner of Reg. No. 642,731.

PRESSIT SEALIT

For Correspondence and Mailing Envelopes.
First use Dec. 6, 1955.

SN 205,800. The Esterbrook Pen Company, Camden, N.J. Filed Nov. 9, 1964.

MIGHTY MARK

For Felt-Tip Markers.
First use Oct. 10, 1964.

SN 208,487. Natser Corporation, d.b.a. Acco Products, Ogdensburg, N.Y. Filed Dec. 18, 1964.

ACCORING

Owner of Reg. No. 629,112 and others.
For Looseleaf Binders.
First use in or about January 1961.

SN 208,566. Georgia-Pacific Corporation, Portland, Oreg. Filed Dec. 21, 1964.

MEKAN-I-KLOTH

For Paper Towels.
First use January 1937.

SN 208,822. Hammermill Paper Company, Erie, Pa. Filed Dec. 24, 1964.

HAMMERMILL
ACCOLADE

Owner of Reg. Nos. 137,793, 735,674, and others.
For Paper for Printing and Writing Purposes.
First use July 26, 1963.

SN 208,925. Hammermill Paper Company, Erie, Pa. Filed Dec. 28, 1964.

HAMMERMILL SCRIPTMARK

Owner of Reg. Nos. 137,798, 735,674, and others.
For Paper for Writing and Printing Purposes.
First use July 26, 1963.

SN 209,093. Kaiser Aluminum & Chemical Corporation, Oakland, Calif. Filed Dec. 30, 1964.

KAISER

Owner of Reg. Nos. 594,769 and 594,770.
For Polyethylene Film Used as a Wrap for Foods and Other Items.
First use June 25, 1963; at least as early as 1951 on a wrap product made of aluminum.

SN 209,248. First National Agency of Navarre, Inc., Navarre, Minn. Filed Jan. 4, 1965.

PAYRO

For Bank Deposit Tickets.
First use Dec. 14, 1964.

SN 209,263. Hoffmaster Company, Inc., Oshkosh, Wis. Filed Jan. 4, 1965.

CELTEX

Owner of Reg. Nos. 520,592 and 775,858.
For Paper Napkins, Paper Table Covers, and Paper Place Mats.
First use Nov. 30, 1964.

SN 209,264. Hoffmaster Company, Inc., Oshkosh, Wis. Filed Jan. 4, 1965.

LADY GRACIOUS

For Paper Napkins, Paper Table Covers, and Paper Place Mats.
First use Nov. 30, 1964.

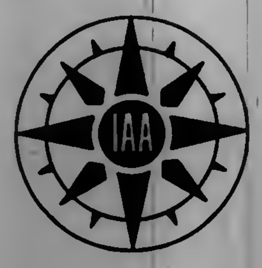
SN 209,265. Hoffmaster Company, Inc., Oshkosh, Wis. Filed Jan. 4, 1965.

LADY CELLUTEX

Owner of Reg. Nos. 520,592 and 775,858.
For Paper Napkins, Paper Table Covers, and Paper Place Mats.
First use Nov. 30, 1964.

Class 38 — Prints and Publications

SN 206,457. International Advertising Association, Inc., New York, N.Y. Filed Nov. 18, 1964.

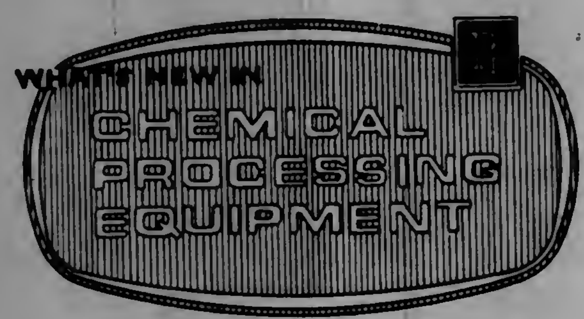


Owner of Reg. No. 689,127.
For Monthly Newsletter and Information Booklets Published From Time to Time.
First use Sept. 11, 1962.

SN 207,205. The General Tire & Rubber Company, Akron, Ohio. Filed Dec. 1, 1964.

Owner of Reg. Nos. 752,967, 644,474, and others.
For House Organ.
First use July 26, 1962.

SN 207,525. Putman Publishing Company, Chicago, Ill. Filed Dec. 4, 1964.



The drawing is lined for red. Owner of Reg. Nos. 647,859, 778,783, and others.
For Quarterly Magazine.
First use Nov. 18, 1964.

SN 209,827. Waldoroth Label Corporation, Boston, Mass. Filed Jan. 12, 1965.

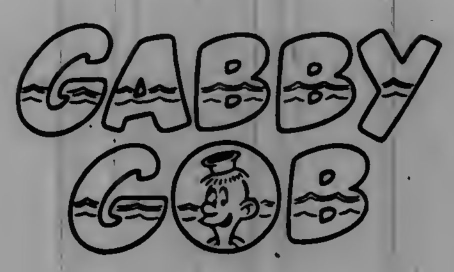
For Cold Process Pressure Sensitive Labels.
First use Dec. 1, 1964.

SN 210,295. Jack Gassman, d.b.a. Universal Merchandising Co., Philadelphia, Pa. Filed Jan. 21, 1965.

OUR TOWN

For Calendars.
First use on or about Dec. 27, 1963.

SN 210,308. Harvey Features Syndicate, New York, N.Y. Filed Jan. 21, 1965.



For Comic Cartoon Strip.
First use Oct. 15, 1964; May 15, 1964, in a different form.

Class 39 — Clothing

SN 169,464. The Manhattan Shirt Company, New York, N.Y. Filed May 22, 1963.

COUNTRY COUSINS

Owner of Reg. Nos. 542,970 and 542,971.
For Ladies' Outer Shirts and Outer Pants, Blouses and Skirts, Shirt and Blouse Combinations, and Blouse and Outer Shorts Combinations.
First use Mar. 28, 1963.

SN 171,859. Edmont Inc., Coshocton, Ohio. Filed June 26, 1963.

EDMONT FIREBALL

Owner of Reg. No. 732,184, and others.
For Fluorescent Safety Gloves for Fireman, Policemen, Railroad Workers, Highway and Utility Maintenance Workers, and the Like.
First use June 10, 1963.

SN 173,739. College Clothing Company, d.b.a. Glen-Mar, Waltham, Mass. Filed July 25, 1963.

GLEN-MAR

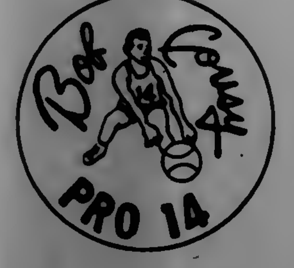
For Wearing Apparel for Girls and Preteens—Namely, Skirts, Slacks, Shorts, Blazers, and Shirts.
First use November 1961.

SN 183,640. Washington Manufacturing Company, Nashville, Tenn. Filed Dec. 26, 1963.

LADY AMBERLEY

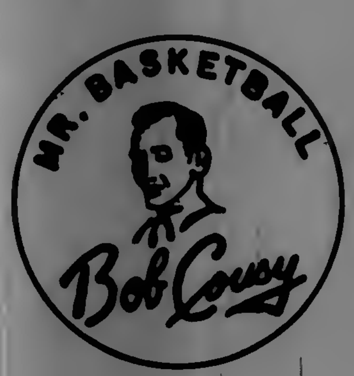
"Lady Amberley" does not identify a particular living individual. Owner of Reg. Nos. 672,241, 720,387, and 739,769.
For Ladies' and Girls' Sportswear—Namely, Pants, Slacks, Dungarees, Pedal Pushers, Jamaica and Bermuda Shorts, Short Shorts, Culottes, Skirts, Blouses, Jackets, Jumpers, and Bowling Shirts.
First use Apr. 14, 1961.

SN 185,236. Randolph Manufacturing Co., Inc., Randolph, Mass. Filed Jan. 23, 1964.



The name "Bob Cousy" is that of an individual whose consent is of record.
For Canvas Shoes and Sneakers.
First use Nov. 8, 1963.

SN 185,237. Randolph Manufacturing Co., Inc., Randolph, Mass. Filed Jan. 23, 1964.



The name "Bob Cousy" is that of an individual whose consent is of record.
For Canvas Shoes and Sneakers.
First use Dec. 12, 1963.

SN 193,806. Monsanto Company, St. Louis, Mo. Filed May 19, 1964.

PRO-RATED

For Men's and Boys' Outergarments—Namely, Shirts, Slacks, Sweaters, and Outer Coats.
First use May 11, 1964.

SN 194,593. William F. Fretz & Son, Inc., Doylestown, Pa. Filed June 1, 1964.

ST. REGIS SLACKS

No claim is made to the word "Slacks" except in combination with the mark as shown.
For Trousers.
First use May 22, 1964.

SN 194,681. Teijin Limited, Osaka, Japan. Filed June 1, 1964.

TEIJIN

Owner of Japanese Reg. No. 482,054, dated May 29, 1956.
For Lounge Suits, Jackets, Vests, Slacks, Trousers, Pants, Raincoats, Topcoats, Overcoats, Uniforms, Working Clothes, Dress Shirts, Sport Shirts, Blouses, Negligees, Pajamas, Dresses, Jumpers, Skirts, Cardigans, Aprons, Bathing Suits, Sweaters, Stockings, Socks, Gloves, Mittens, Gauntlets, Slips, Petticoats, Panties, Brassieres, Corsets, Shorts, Bloomers, Chemises, Scarves, Shawls, Mufflers, Shoes, Capes, Handkerchiefs, Neckties, Collars, Cuffs, Belts, Hats, Bathing Caps, and Caps.

SN 195,861. Handcraft Incorporated, New York, N.Y. Filed June 17, 1964.

SYMPHONY SQUARES

For Men's Silk Pocket Handkerchiefs.
First use May 11, 1964.

SN 198,677. Talbott Knitting Mills, Inc., Reading, Pa. Filed July 28, 1964.

TALURE

For Knitted Ladies' Outerwear Garments, Including Sweaters, Skirts, and Dresses.
First use July 23, 1964.

SN 200,181. Hanes Corporation, Winston-Salem, N.C., assignee of P. H. Hanes Knitting Company, Winston-Salem, N.C. Filed Aug. 19, 1964.

SENAH

For Sportswear—Namely, Sports Undershirts, Sports Outershirts, Sports Underwear, Shorts and Bathing Trunks, Jackets and Sweaters, Men's and Children's Hosiery and Socks, and Children's Sleepers.
First use July 23, 1964.

SN 201,806. C. & M. Hosiery Mills, Inc., Baltimore, Md. Filed Sept. 14, 1964.

For Hosiery.
First use May 15, 1962.

SN 203,273. Farah Manufacturing Company, Inc., El Paso, Tex. Filed Oct. 5, 1964.

Master Ply

The word "Ply" is disclaimed apart from the mark as shown.
For Men's and Boys' Slacks and Fabrics Sold Exclusively in the Form of Such Garments.
First use Sept. 17, 1964.

SN 203,274. Farah Manufacturing Company, Inc., El Paso, Tex. Filed Oct. 5, 1964.

CavGab

For Men's and Boys' Slacks and Fabrics Sold Exclusively in the Form of Such Garments.
First use Sept. 17, 1964.

SN 203,652. Cooper's, Incorporated, Kenosha, Wis. Filed Oct. 9, 1964.

UNI-SPAN

For Hosiery for Men, Women, and Children.
First use Sept. 22, 1964.

SN 204,268. Lorch-Westway Corp., d.b.a. Kohen Ligon Fols, Dallas, Tex. Filed Oct. 19, 1964.

JEANNE DURRELL

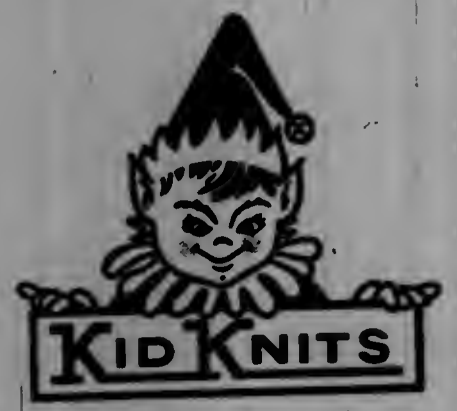
The name "Jeanne Durrell" is fanciful.
For Ladies' and Misses' Dresses, Suits, and Ensembles of Dresses and Jackets.
First use Nov. 15, 1937.

SN 204,323. Union Knitting Mills, Inc., Schuylkill Haven, Pa. Filed Oct. 19, 1964.

REEDS Play Age

For Underwear Made of Cotton Knit Material, Particularly Boys' Shirts, Boys' Shorts or Trunks; Boys' Outer Suits, Children's Suits, Children's Twin (Shirt and Panty) Sets, Children's Vests, Girls' Short Sleeve Vests, Children's Bloomers, Children's Panties, Boys' Pullover or Polo Shirts; Infants' Binders; and Infants' Shirts or Wrappers; Children's Sleepwear.
First use May 23, 1939.

SN 205,322. Munsingwear, Inc., Minneapolis, Minn. Filed Nov. 2, 1964.



Applicant disclaims the exclusive use of the word "Knits" apart from the mark as shown.
For Children's Underwear.
First use Oct. 19, 1964.

SN 205,853. S. A. des Chaussures "Sirius," Romans, Drone, France. Filed Nov. 9, 1964.

ATHOS

For Shoes.
First use Oct. 15, 1953; in commerce Sept. 30, 1962.

SN 206,223. Burma-Bibas, Inc., New York, N.Y. Filed Nov. 16, 1964.

CHANNEL

For Neckties.
First use Aug. 20, 1964.

SN 206,561. Mars Hosiery Company, Inc., Asheville, N.C. Filed Nov. 19, 1964.

BOOT-LEGGERS

For Knee-Length Stockings.
First use Sept. 25, 1964.

SN 206,593. L. Abelson, Inc., New York, N.Y. Filed Nov. 20, 1964.

JAMAICA BAY

For Children's and Young Men's Sport Coats, Suits, and Zippered Jackets.
First use May 8, 1964.

SN 207,413. Munsingwear, Inc., Minneapolis, Minn. Filed Dec. 3, 1964.

HOLLYWOOD
Vassarette

Owner of Reg. Nos. 687,999, 746,676, and others.
For Women's Hosiery.
First use Aug. 25, 1964.

SN 207,919. Unishops, Inc., Jersey City, N.J. Filed Dec. 10, 1964.

TOP OF THE CLASS

For Boys' Pajamas and Shirts, Slacks, Sweaters, and Jackets.
First use Dec. 1, 1964.

SN 208,921. Glensder Corporation, New York, N.Y. Filed Dec. 28, 1964.

GLENDREAM

For Ladies', Misses', and Girls' Head and Neck Scarfs, Hats, Hoods, Kerchiefs, Parkas, Hair Bands, and Caps.
First use Nov. 2, 1964.

SN 209,244. Divina Footwear, Inc., Miami, Fla. Filed Jan. 4, 1965.

Bortini

For Shoes.
First use Dec. 3, 1964.

SN 209,529. Ocean Pool Supply Company, Inc., Huntington Station, N.Y. Filed Jan. 7, 1965.

OCEAN
SPEED

Owner of Reg. Nos. 215,424 and 779,937.
For Swimming Trunks.
First use Apr. 10, 1964.

SN 209,630. Robert Hosiery Mills, d.b.a. Rondo Mills Corporation, Collegeville, Pa. Filed Jan. 8, 1965.

SIR RONDO

Owner of Reg. Nos. 597,417 and 674,229.
For Men's Slippers.
First use Dec. 22, 1964.

SN 209,758. Belgrade Shoe Co., Auburn, Maine. Filed Jan. 12, 1965.

MOXEES

Owner of Reg. No. 534,058.
For Men's, Women's, and Children's Shoes.
First use Jan. 21, 1949.

SN 209,785. Johnson Hosiery Mills, Inc., Hickory, N.C. Filed Jan. 12, 1965.

Four J's

For Hosiery.
First use Dec. 18, 1964.

SN 209,786. Johnson Hosiery Mills, Inc., Hickory, N.C. Filed Jan. 12, 1965.

Four Jay's

For Hosiery.
First use Dec. 18, 1964.

SN 209,787. Johnson Hosiery Mills, Inc., Hickory, N.C. Filed Jan. 12, 1965.

4-J

For Hosiery.
First use Dec. 18, 1964.

SN 209,788. Johnson Hosiery Mills, Inc., Hickory, N.C. Filed Jan. 12, 1965.

J
J
J
J

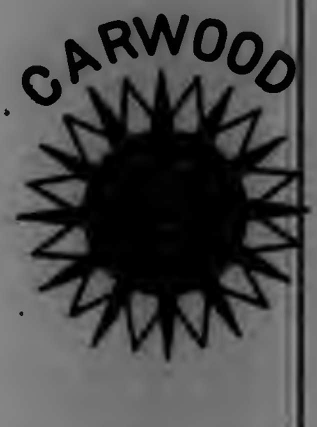
For Hosiery.
First use Oct. 4, 1960.

SN 209,842. Eagle-Freedman-Roedelheim Co., Quakertown, Pa. Filed Jan. 13, 1965.

TROMBLEE

For Men's Shirts.
First use Mar. 2, 1964.

SN 209,991. Chadbourn Gotham, Inc., Charlotte, N.C. Filed Jan. 15, 1965.



Owner of Reg. Nos. 429,337, 770,865, and others.
For Slacks, Shorts, Shirts, Jackets, Jeans, and Ski Wear.
First use Oct. 1, 1964.

SN 210,071. R. G. Barry Corporation, Columbus, Ohio. Filed Jan. 18, 1965.

SWISHABLES

For Slippers.
First use Dec. 18, 1964.

SN 211,024. Blue Bell, Inc., Greensboro, N.C. Filed Feb. 1, 1965.

BRAT BRITCHES

No claim is made to the word "Britches" apart from the mark as shown.
For Shorts and Pants for Little Boys.
First use Jan. 26, 1965.

Class 40—Fancy Goods, Furnishings, and Notions

SN 210,512. American Lace Leather Co., Inc., Richmond, Va. Filed Jan. 25, 1965.

EAGLE

For Leather Lacing and Laces.
First use 1903.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 181,797. Reef Industries, Inc., Houston, Tex. Filed Nov. 22, 1963.

VINYLAP

For Plastic Impregnated Burlap.
First use at least as early as June 1, 1961.

SN 189,446. Cluett, Peabody & Co., Inc., New York, N.Y. Filed Mar. 24, 1964.

TEXPLORE

For Shirting Fabrics Made of Natural Fibers, Synthetic Fibers, and Blends Thereof.
First use Jan. 8, 1964.

SN 193,549. Indian Head Mills, Inc., New York, N.Y. Filed May 15, 1964.

CANDLE-MIST

For Fabrics of Cotton, Silk, and Synthetics for Use in the Manufacture of Wearing Apparel, Including Bridal Gowns and Related Articles.
First use Apr. 20, 1964.

SN 193,873. Indian Head Mills, Inc., New York, N.Y. Filed May 20, 1964.

CITATION

Owner of Reg. No. 207,943.
For Piece Goods Made of Silk, Cotton, Synthetic Fibers, or Blends Thereof.
First use 1925.

SN 194,679. Teijin Limited, Kita-ku, Osaka, Japan. Filed June 1, 1964.

TEIJIN

Owner of Japanese Reg. Nos. 416,129, dated Sept. 17, 1952, 429,892, 429,893, 429,894, 429,895, and 429,896, dated Aug. 21, 1953.
For Fabrics, Including Laces and Embroideries, of Silk, Cotton, Wool, and Hemp.

SN 195,391. Fibresearch Corporation, d.b.a. Sanibel Company, Lawrence, Mass. Filed June 11, 1964.

SANIBEL

For Pile Fabrics.
First use June 2, 1964.

SN 200,331. The Codan Gummi A/S, Copenhagen, Denmark. Filed Aug. 21, 1964.

TEXWEB

Owner of Danish Reg. No. 645/64, dated Feb. 22, 1964.
For Rubber Furniture Webbing.
First use 1956 ; in commerce 1956.

SN 200,940. The Kendall Company, Walpole, Mass. Filed Aug. 31, 1964.

Owner of Reg. Nos. 133,720, 509,864, and 591,265.
For Sheets.
First use on or before Sept. 1, 1955.

SN 200,971. Prince Mills, Inc., New York, N.Y. Filed S.R. Aug. 31, 1964 ; Am. P.R. May 13, 1965.

CASHMINK

For Textile Fabrics in the Piece of Cashmere and Wool Blended With Mink Fibres.
First use Mar. 2, 1963.

SN 203,935. Canton Cotton Mills, Canton, Ga. Filed Oct. 14, 1964.

WESTERN TWILL-DENIM

Applicant disclaims the words Twill-Denim apart from the mark as shown.
For Piece Goods of Cotton, Wool, Synthetic Fibers, and Combinations Thereof.
First use Oct. 17, 1949.

SN 204,638. Collins & Aikman Corporation, New York, N.Y. Filed Oct. 23, 1964.

PRIMAVERA

For Tricot Fabrics for Making Into Loungewear and Lingerie Garments.
First use Mar. 20, 1963.

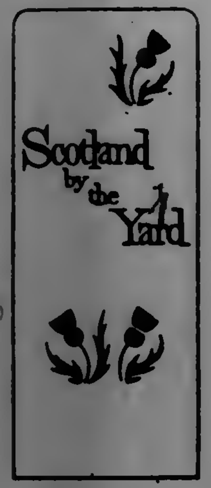
SN 205,431. Janice Leather Imports Ltd., New York, N.Y. Filed Nov. 3, 1964.

Applicant disclaims the descriptive wording "The Glow of Leather and the Go of Cotton" appearing in the drawings.
For Textile Fabrics for Making Into Apparel Such as Suits, Dresses, Coats, Jackets, Hats, Pants, and Rainwear and the Like.
First use June 18, 1964.

SN 205,801. Etacol International Ltd., Zurich, Switzerland. Filed Nov. 9, 1964.

Priority claimed under Sec. 44(d) on Swiss Reg. No. 204,055, dated May 14, 1964. Owner of U.S. Reg. No. 779,968.
For Interlinings (Textile).

SN 206,296. Scotland by the Yard, Washington, D.C. Filed Nov. 16, 1964.



No exclusive claim is made to the geographic term "Scotland" apart from the mark as shown.
For Piece Goods for Making Into Wearing Apparel, Slipcovers, Draperies, and the Like.
First use April 1961 ; October 1954 as to "Scotland by the Yard."

SN 206,420. Collins & Aikman Corporation, New York, N.Y. Filed Nov. 18, 1964.

SOFT TALK

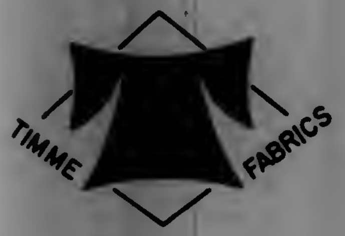
For Textile Fabrics Made of Synthetic Fibers for Use in the Making of Lingerie, Loungewear, and the Like.
First use Dec. 27, 1962.

SN 206,843. Etacol International Ltd., Zurich, Switzerland. Filed Nov. 24, 1964.

ETADRESS

Owner of Swiss Reg. No. 203,330, dated Mar. 9, 1964 ; and U.S. Reg. No. 779,968.
For Interlinings (Textile).

SN 208,785. E. F. Timme & Son, Inc., New York, N.Y. Filed Dec. 23, 1964.



No registration rights are claimed for the word "Fabrics" apart from the mark as shown. Owner of Reg. Nos. 390,325, 655,556, and others.
For Pile Fabrics in the Piece; Rugs, Carpets; Plastic Coated Fabrics for Upholstery Purposes, Friezes and Flat Upholstery and Drapery Fabrics Made of Cotton, Wool, Mohair, Synthetic and Metallic Fibers and Combinations Thereof.
First use Oct. 1, 1964; Apr. 10, 1929, as to "Timme Fabrics" ; Aug. 1, 1954, as to "Timme."

SN 206,862. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Dec. 24, 1964.

THE VERY FABRIC OF IMAGINATION

Applicant disclaims the exclusive right to the generic word "Fabric," except as part of the mark as shown.

For Fabrics Made of or Containing Natural, Man-Made, or Synthetic Fibers, and Adapted To Be Made Up Into Articles of Apparel for Men, Women, and Children.

First use on or about Aug. 5, 1960.

SN 210,096. Collins & Aikman Corporation, New York, N.Y. Filed Jan. 18, 1965.

PILE-PUFF

For Upholstery Fabric.

First use Nov. 23, 1964.

Class 43 — Thread and Yarn

SN 194,678. Teijin Limited, Kita-ku, Osaka, Japan. Filed June 1, 1964.

TEIJIN

Owner of Japanese Reg. Nos. 384,917, dated June 3, 1950, and 422,129, 422,130, and 422,131, dated Mar. 5, 1953.

For Threads and Yarns.

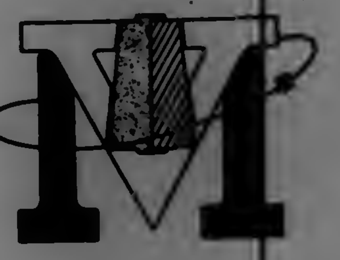
SN 205,657. Emile Bernat & Sons Co., Uxbridge, Mass. Filed Nov. 6, 1964.

BLARNEY-SPUN

For Hand Knitting Yarns.

First use Oct. 23, 1964.

SN 209,208. Valley Mills, Inc., Columbiana, Ala. Filed Dec. 31, 1964.



The drawing is lined to reproduce the lines appearing in the mark on the specimens.

For Yarn Made From Man–Made Fibers.

First use Dec. 11, 1964.

Class 44 — Dental, Medical, and Surgical Appliances

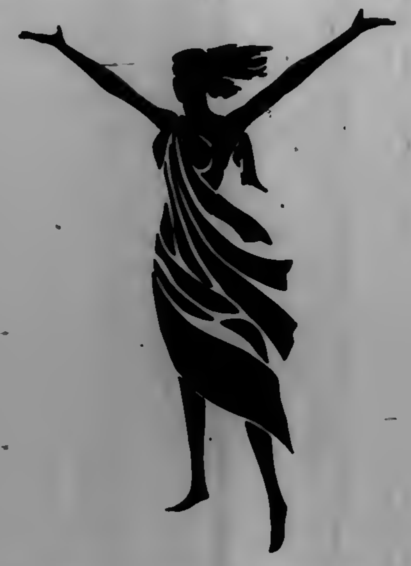
SN 189,730. Ritter Company, Inc., Rochester, N.Y. Filed Mar. 26, 1964.

MODULAIRE

For Compact Dental Operating Pedestal Console.

First use Feb. 25, 1964.

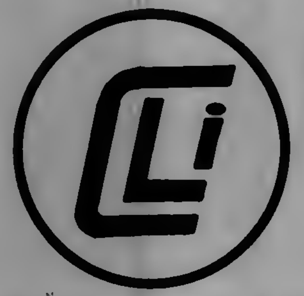
SN 197,754. Ormco Corporation, Glendora, Calif. Filed July 13, 1964.



For Dental and Orthodontic Appliances, Tools, and Equipment for Correcting, Restoring, and Treating Defects of the Oral Cavity; Tools and Equipment To Prepare Such Appliances; and Tools and Equipment Employed in the General Dental, Orthodontic, Pediadontic, and Oral Surgeon's Office.

First use Jan. 2, 1961.

SN 199,968. Cobe Laboratories, Los Angeles, Calif. Filed Aug. 17, 1964.



For Surgical Tubing, Surgical Tubing Accessories, Forceps, Surgical Clamps, and Scalpels.

First use July 30, 1964.

SN 208,230. Bird Corporation, Richmond, Calif. Filed Dec. 16, 1964.

BIRD

Owner of Reg. No. 706,080.

For Pulmonary Therapy Equipment for Applying Anesthetic Agents and for Ventilating Mammals—Namely, Medical Positive Phase Respirators; Medical Positive-Negative Phase Respirators; Medical Automatic Leak-Compensating Respirators; Physiological Volume Limiting Respirators for Intensive Care; Complete Volume Limiting Ventilators for Intensive Care, Including Sensing Device Connected to the Patient; Anesthesia Ventilators, Including Accessories; Portable Respirators and Air Compressors; Humidifiers and Nebulizers; Automatic Resuscitators; Emergency Hand Resuscitators; Masks; Tracheotomy Fittings; Endotrachael Adapters; Intubation Adapters; Pressure Reducing Regulators; Intensive Care Stands; Infant and Adult Breathing Circles; Wall Outlet Valves; Pedestals; Wheel Sets; Support Arms; Cooling and Filtration Coils; Spirometers; Portable Cases; Dispensing Bottles; and Component Parts and Accessories.

First use Jan. 1, 1958.

SN 209,952. Lewis L. Rogers III, Wilkes-Barre, Pa. Filed Jan. 14, 1965.

QWIK-TRAC

For Traction Frames for Use on Persons Suffering Fractures or Other Orthopedic Conditions.

First use Oct. 22, 1964.

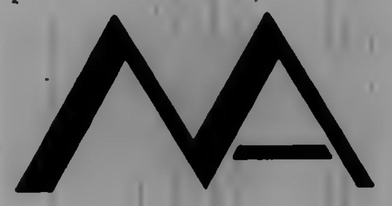
SN 210,462. Nuclear-Chicago Corporation, Des Plaines, Ill. Filed Jan. 22, 1965.

PHO/GAMMA

For Scintillation Camera for Imaging and Recording the Distribution of Radioisotopes in Organs or Body Areas of a Patient.

First use Nov. 30, 1964.

SN 210,921. American Hospital Supply Corporation, d.b.a. Midwest American Dental Division of American Hospital Supply Corporation, Evanston, Ill. Filed Jan. 29, 1965.



For Dental Handpieces, Dental Consoles, Movable Supports for Dental Chairs, Dental Chucks and Burs for Handpieces, Foot-Operated and Hand-Operated Control Units for Dental Handpieces, and Dental Syringes and Tools.

First use on or before Jan. 1, 1965.

SN 211,020. Beltone Electronics Corporation, Chicago, Ill. Filed Feb. 1, 1965.

BRAVO

For Hearing Aids and Accessories.

First use Jan. 15, 1965.

SN 211,022. Beltone Electronics Corporation, Chicago, Ill. Filed Feb. 1, 1965.

ANDANTE

For Hearing Aids and Accessories.

First use Jan. 20, 1965.

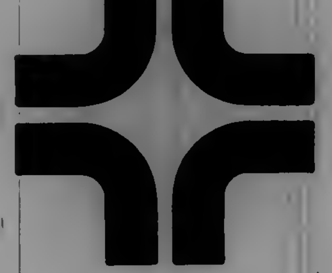
SN 211,068. International Latex Corporation, Dover, Del. Filed Feb. 1, 1965.

SOFTAM

For Tampons.

First use Jan. 25, 1965.

SN 211,072. Johnson & Johnson, d.b.a. Jelco Laboratories, New Brunswick, N.J. Filed Feb. 1, 1965.



For Disposable Syringes and Needles.

First use Nov. 6, 1964.

SN 211,073. Johnson & Johnson, d.b.a. Jelco Laboratories, New Brunswick, N.J. Filed Feb. 1, 1965.

JELCO

Owner of Reg. No. 542,908.

For Disposable Syringes and Needles.

First use Nov. 6, 1964.

SN 211,267. Engelhard Hanovia, Inc., Newark, N.J. Filed Feb. 3, 1965.

HANOVIA

For Ultraviolet Lamps.

First use Apr. 6, 1953.

SN 211,981. Beltone Electronics Corporation, Chicago, Ill. Filed Feb. 15, 1965.

RONDO

For Hearing Aids and Accessories.

First use Jan. 29, 1965.

SN 211,982. Beltone Electronics Corporation, Chicago, Ill. Filed Feb. 15, 1965.

TEMPO

For Hearing Aids and Accessories.

First use Jan. 22, 1965.

SN 211,983. Beltone Electronics Corporation, Chicago, Ill. Filed Feb. 15, 1965.

ETUDE

For Hearing Aids and Accessories.

First use Jan. 27, 1965.

SN 212,214. H.G. Enterprises, Kansas City, Mo. Filed Feb. 17, 1965.

FEMALE-DRI

Owner of Reg. Nos. 711,928 and 771,969.

For Hygenic Belts.

First use April 1964.

SN 212,382. C. R. Bard, Inc., Murray Hill, N.J. Filed Feb. 19, 1965.

TINK-COL

For Male and Female Pediatric Urine Collector.

First use Feb. 2, 1965.

Class 46 — Foods and Ingredients of Foods

SN 123,929. The Kelling Nut Co., Chicago, Ill., assignee, by mesne assignment, of Sesa-Kraft, Inc., Paris, Tex. Filed July 13, 1961.

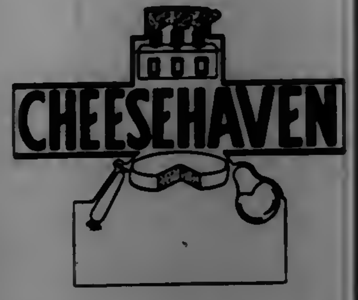
SESA-MAIZE

Owner of Reg. Nos. 678,590 and 696,501.

For Mixture of Sesame Seed Flour and Corn Flour.

First use May 23, 1961.

SN 151,292. Richard H. Brassel, d.b.a. Cheesehaven, Port Clinton, Ohio. Filed Aug. 16, 1962.

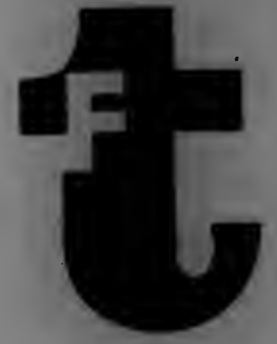


No claim of exclusive right is made to the representation of the goods per se as shown.

For Cheeses, Mustard, Chocolates, Maple Syrup, Horseradish, and Pizza Sauce.

First use on or about Apr. 1, 1954.

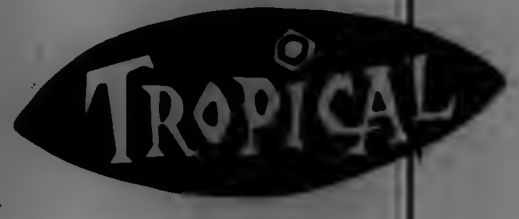
SN 181,876. Finlays AG, Zug, Switzerland. Filed Nov. 26 1963.



Priority claimed under Sec. 44(d) on Swiss Reg. No. 199,548, dated Aug. 29, 1963.

For Pure Instant Tea or Soluble Tea for Use in the Preparation of Beverages, With or Without Added Sugar, Milk or Lemon or a Combination of These.

SN 187,761. Naomi Rabin Karosen, d.b.a. Tropical Preserving Co., Los Angeles, Calif. Filed Mar. [illegible], 1964.

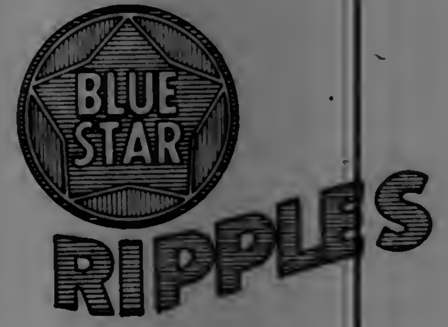


Owner of Reg. No. 182,198.

For Jams, Jellies, Fruit Preserves, and Apple Butter.

First use January 1910.

SN 192,351. Fairmont Foods Company, Omaha, Nebr., assignee of Blue Star Foods, Inc., Loves Park, Ill. Filed Apr. 30, 1964.



The drawing is lined for blue and red. Owner of Reg. No. 552,259.

For Snack Food Items—Namely, Potato Chips.

First use at least as early as 1959.

SN 203,755. The Griffith Laboratories, Inc., Chicago, Ill. Filed Oct. 12, 1964.

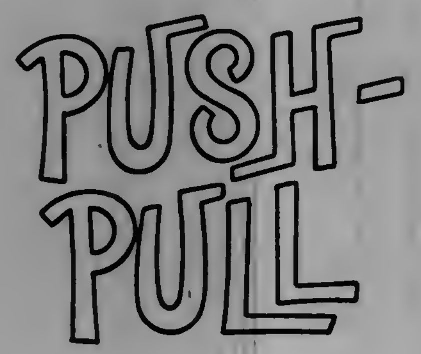
FOSTATE

Owner of Reg. No. 633,277.

For Compound for Accelerating the Curing of Meat Products, Comprising Sodium Acid Pyrophosphate and Sodium Erythorbate.

First use Sept. 15, 1964.

SN 204,422. Topps Chewing Gum, Incorporated, Brooklyn, N.Y. Filed Oct. 20, 1964.



For Chewing Gum.

First use Oct. 2, 1964.

SN 205,629. Topco Associates, Inc., Skokie, Ill. Filed Nov. 5, 1964.

TOPCO

Owner of Reg. No. 649,412.

For Bird Seed.

First use Oct. 11, 1963.

SN 207,410. Mobile Chef, Incorporated, Louisville, Ky. Filed Dec. 3, 1964.

MOBILE CHEF

For Frozen Food Products, i.e., Barbecue Beef, Barbecue Pork, Bean Soup, Beef Broth, Beef Gravy, Beef Stew, Chili Con Carne, Chili Con Carne With Beans and Spaghetti, Hamburgers, Italian Spaghetti Sauce With Beef, Italian Spaghetti Sauce Without Beef, Roast Beef, Tenderloin Steaks, Vegetable Soup, and Fish.

First use Oct. 1, 1964.

SN 208,957. P. & S. Plum, Ltd., d.b.a. Plumrose Inc., Copenhagen, Denmark. Filed Dec. 28, 1964.

PLUMROSE

Owner of U.S. Reg. Nos. 320,642 and 680,865.

For Cheese, Cream, Cooked Ham, Pate de Foie, Cocktail Sausages, Liver Paste, and Deviled Ham, Fresh and Canned Meats.

First use in 1932 on cheese, cream, and cooked ham; in commerce in 1932.

SN 209,041. Sternco Industries, Inc., Allendale, N.J. Filed Dec. 29, 1964.

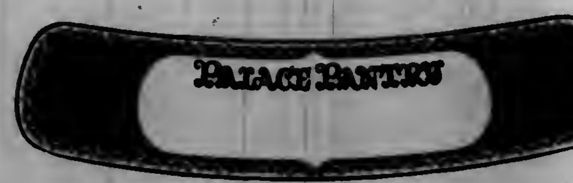
IMPROVER FOOD

The word "Food" is disclaimed apart from the mark.

For Food for Aquarium Fish.

First use June 10, 1957.

SN 209,095. King Kelly Foods, Dairy Valley, Calif. Filed Dec. 30, 1964.



For Preserves.

First use Nov. 30, 1964.

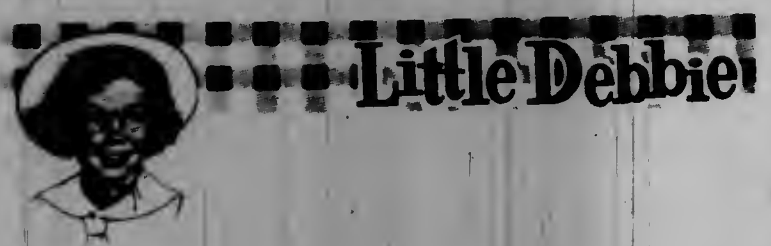
SN 210,464. Pangburn Company, Inc., Fort Worth, Tex. Filed Jan. 22, 1965.

RANCH RHYTHM

For Candy.

First use Nov. 23, 1943.

SN 212,030. McKee Baking Company, Collegedale, Tenn. Filed Feb. 15, 1965.

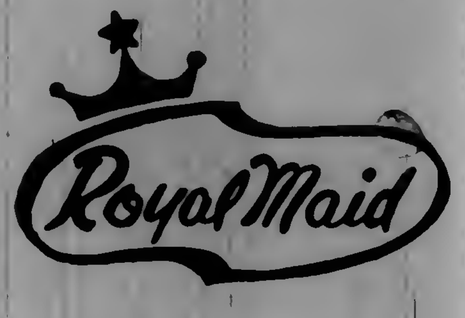


The portrait identifies "Debra D. McKee," whose consent is of record. Owner of Reg. Nos. 735,443 and 783,765.

For Cakes and Cookies.

First use Dec. 18, 1961; 1934 as to the gingham check design.

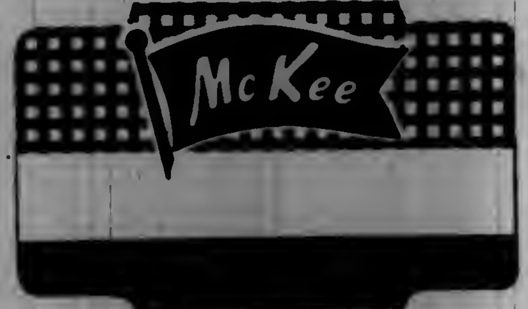
SN 213,523. H. E. Butt Grocery Company, Corpus Christi, Tex. Filed Mar. 8, 1965.



For Bakery Products—Namely, Cookies.

First use Jan. 20, 1965.

SN 213,590. McKee Baking Company, Collegedale, Tenn. Filed Mar. 8, 1965.

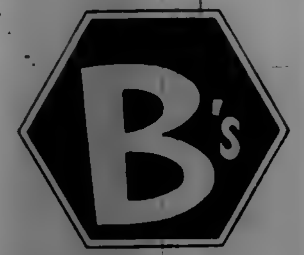


Owner of Reg. No. 789,411.

For Cakes and Cookies.

First use about 1955; 1934 as to the design portion; 1939 as to the word "McKee."

SN 213,643. Bachman-Jack's Corporation, Reading, Pa. Filed Mar. 9, 1965.

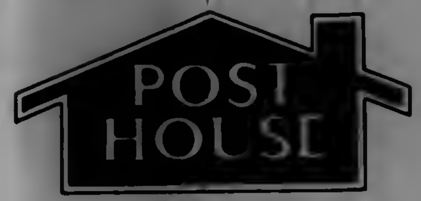


For Pretzels.

First use Jan. 26, 1965.

Class 49 — Distilled Alcoholic Liquors

SN 205,338. Post Houses, Inc., Forest Park, Ill. Filed Nov. 2, 1964.



For Alcoholic Liquors—Namely, Rum, Bourbon Whiskey, Canadian Whisky, Scotch Whisky, Gin, and Vodka.

First use May 1, 1964.

Class 50 — Merchandise Not Otherwise Classified

SN 163,781. Addressograph-Multigraph Corporation, Cleveland, Ohio. Filed Mar. 4, 1963.

PHOTO-DIRECT

For Planographic Plates.

First use Aug. 13, 1962.

SN 190,192. McCormick & Company, Incorporated, Baltimore, Md. Filed Apr. 2, 1964.

DUO FLIP TOP

No claim to exclusive rights in the use of the words "Flip Top" is made apart from the other features of the mark as shown.

For Closures for Containers Filled With Pulverulent or Granular Materials—Namely, Spices, Seasonings, and Herbs.

First use Mar. 18, 1964.

SN 209,010. Robert L. Gladke, d.b.a. Gladco Aviation, Elmira, N.Y. Filed Dec. 29, 1964.

PILOT HOMER

For Decorative Metal Aviation Symbols for Residential Display.

First use Dec. 24, 1964.

SN 214,625. Duro Decal Co., Inc., Chicago, Ill. Filed Mar. 22, 1965.

DURO-BRITE

Owner of Reg. No. 639,700.

For Non-Electrical Signs.

First use Mar. 18, 1965.

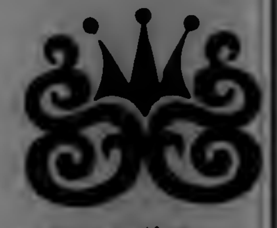
SN 216,249. John Thomas Batts, Inc., Zeeland, Mich. Filed Apr. 12, 1965.

SILHOUETTE

For Garment Hangers.
First use in or about January 1965.

Class 51 — Cosmetics and Toilet Preparations

SN 205,759. Alberto-Culver Company, Melrose Park, Ill. Filed Nov. 9, 1964.



For Anti-Perspirant Preparation.
First use Jan. 14, 1964.

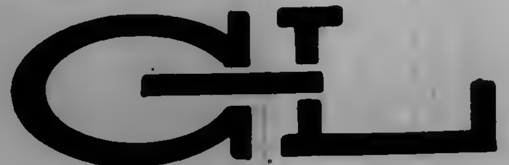
Class 52 — Detergents and Soaps

SN 194,527. House of Fragrance, Inc., New York, N.Y., assignee of Societe Technique de Parfumerie F. Millot, Societe Anonyme, Paris, France. Filed May 28, 1964.

F. MILLOT

"F. Millot" was the name of the founder of applicant's original business, now deceased. Owner of Reg. No. 766,861.
For Toilet Soaps.
First use January 1890; in commerce February 1939.

SN 200,097. Glass Laboratories, Inc., Brooklyn, N.Y. Filed Aug. 18, 1964.



For Moistened Pads for Washing and Refreshing the Face and Hands.
First use June 1962.

SN 211,359. W. R. Grace & Co., New York, N.Y. Filed Feb. 4, 1965.

EZOWAY

For Biodegradable Concentrated Cleaner for Use in Food Processing Plants.
First use Dec. 31, 1964.

SN 213,925. Aerosol Corporation of America, Clifton, N.J. Filed Mar. 12, 1965.

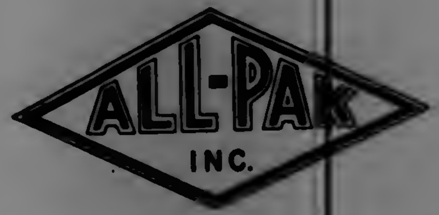
FUZZY WUZZY

For Bath Soap.
First use Feb. 23, 1965.

SERVICE MARKS

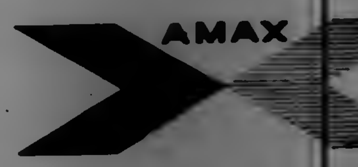
Class 100 — Miscellaneous

SN 180,697. All-Pak, Inc., Pittsburgh, Pa. Filed Dec. 4, 1963.



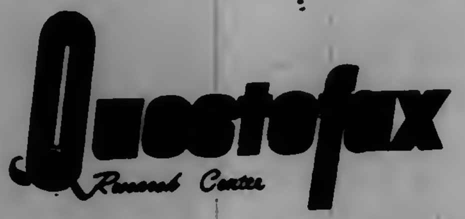
For Container Distributorship Services, Solving Packaging Problems, and Locating the Proper Material for Packaging Various Liquids and Solids.
First use January 1959.

SN 195,912. American Metal Climax, Inc., New York, N.Y. Filed June 18, 1964.



The drawing is lined for shading only. Owner of Reg. No. 693,396 and others.
For Research Consulting and Technical Advisory Service in the Fields of Metallurgy and Chemistry.
First use Feb. 23, 1959.

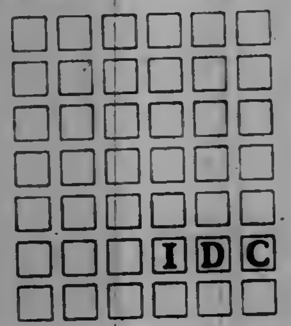
SN 261,176. Harriet M. Andrews, d.b.a. Harriet Andrews Research Services, Baltimore, Md. Filed Sept. 3, 1964.



Applicant disclaims the words "Research Center."
For Research Services for Others To Determine Consumer Reaction to Their Products.
First use Jan. 31, 1961.

Class 101 — Advertising and Business

SN 203,295. Information Dynamics Corporation, Wakefield, Mass. Filed Oct. 5, 1964.



For Operations Research, Systems Analysis, Systems Engineering, Equipment Development, and Service Operations.
First use Oct. 15, 1962.

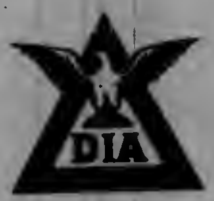
SN 209,054. Appeal Printing Company, Inc., New York, N.Y. Filed Dec. 30, 1964.

APC

For Printing Services—Namely, Corporate, Financial, and Legal Printing Services.
First use 1935.

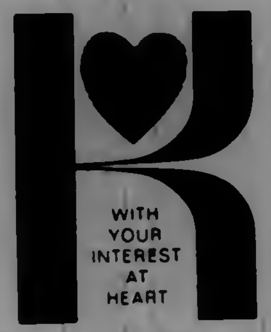
Class 102 — Insurance and Financial

SN 199,801. Detroit Insurance Agency, Detroit, Mich. Filed Aug. 13, 1964.



For Insurance Agency Services.
First use Oct. 13, 1953.

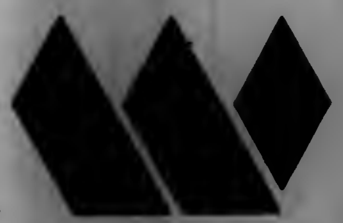
SN 204,799. The Knickerbocker Federal Savings & Loan Association, New York, N.Y. Filed Oct. 26, 1964.


WITH YOUR INTEREST AT HEART

The drawing is lined for red, but color is not claimed as a feature of the mark.
For Savings and Loan Services.
First use Oct. 21, 1964.

Class 104 — Communication

SN 205,895. WHAS, Inc., Louisville, Ky. Filed Nov. 9, 1964.



The mark consists of a fanciful design of the letter "W.".
For Radio and Television Communication Services.
First use Mar. 23, 1964.

Class 105 — Transportation and Storage

SN 200,604. Trailerent, Inc., Secaucus, N.J. Filed Aug. 25, 1964.

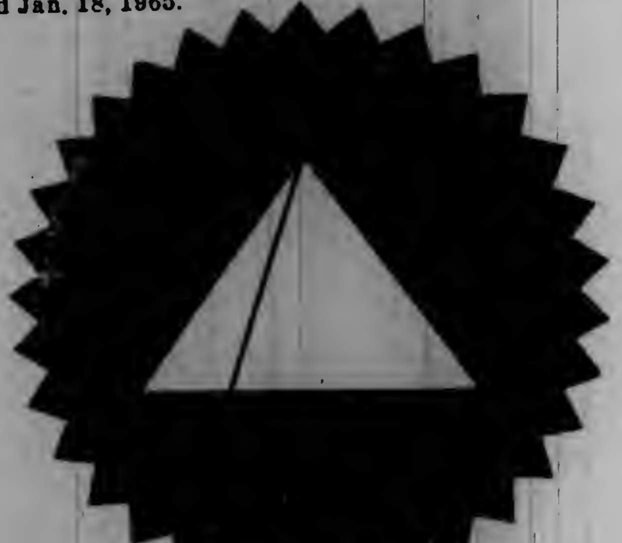
TRAILERENT

Owner of Reg. No. 661,783.
For Leasing of Commercial Trailers and Servicing Thereof.
First use May 24, 1956.

COLLECTIVE MEMBERSHIP MARKS

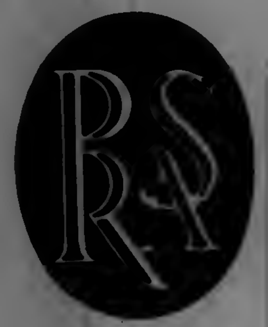
Class 200

SN 210,147. National Selected Morticians, Evanston, Ill. Filed Jan. 18, 1965.



For Indicating Membership in the Organization.
First use Mar. 26, 1961.

SN 210,715. Public Relations Society of America, Incorporated, New York, N.Y. Filed Jan. 8, 1965.

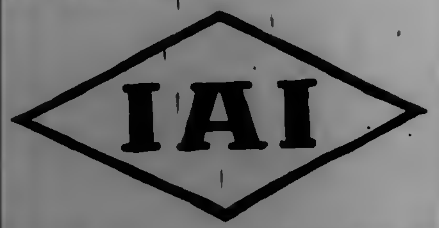


For Indicating Membership in Applicant.
First use 1948.

CERTIFICATION MARKS

Class A — Goods

SN 196,965. International Association on Immunity, Inc., St. Paul, Minn. Filed July 2, 1964.



The mark certifies that the goods have been produced under conditions required by applicant and meet standards established by applicant.

For Immune Milk, Products Obtained From Immune Milk, and Products Obtained From Immunized Animals.

First use October 1963.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

792,750. HART'S SCHNEIDER STRAIN AND DESIGN. Hart's Hatchery, Inc. SN 111,882. Pub. 8–21–62. Filed 1–16–61.

792,751. ANGELWOOD ETC. AND DESIGN. Angelo & Son. SN 176,705. Pub. 5–4–65. Filed 9–11–63.

792,752. YOU BET AND DESIGN. Pyramid Charcoal Briquette Company. SN 177,289. Pub. 5–4–65. Filed 9–18–63.

792,753. RED CARPET. The Sexauer Company. SN 187,158. Pub. 5–4–65. Filed 2–20–64.

792,754. REPRESENTATION OF A STAR DESIGN. The Char-Lite Manufacturing Company. SN 193,105. Pub. 5–4–65. Filed 5–11–64.

792,755. PORTRAIT (DESIGN). Jonathan Green & Sons. SN 198,550. Pub. 5–4–65. Filed 7–27–64.

792,756. UNIDRIL. General Foods Corporation. SN 199,735. Pub. 5–4–65. Filed 8–12–64.

792,757. STELLÁCEL. Celanese Corporation of America. SN 201,810. Pub. 5–4–65. Filed 9–14–64.

792,758. SANCHO. Carl Freudenberg Kommanditgesellschaft. SN 202,011. Pub. 5–4–65. Filed 9–16–64.

792,759. SANDY NEW. Martin Harold Kelly, d.b.a. Sandy New. SN 202,304. Pub. 5–4–65. Filed 8–31–64.

792,760. WEAR 'N TEAR. The Charles C. Hart Seed Company. SN 203,008. Pub. 5–4–65. Filed 9–30–64.

792,761. BIG A. American Hardware Supply Company. SN 203,146. Pub. 5–4–65. Filed 10–2–64.

792,762. TULIP (DESIGN). W. R. Van Der Schoot, Inc. SN 203,534. Pub. 5–4–65. Filed 10–7–64.

792,763. TAMPYL. Polymers, Inc. SN 203,608. Pub. 5–4–65. Filed 10–8–64.

792,764. TY-PAK. Johns-Manville Corporation. SN 203,767. Pub. 5–4–65. Filed 10–12–64.

Class 2 — Receptacles

792,765. CARRYBIN. Jarke Corporation. SN 183,912. Pub. 5–4–65. Filed 1–2–64.

792,766. MULTOMATIC AND DESIGN. The Mead Corporation. SN 197,601. Pub. 5–4–65. Filed 7–10–64.

792,767. "ZIP-IT." The Mead Corporation. SN 198,568. Pub. 5–4–65. Filed 7–27–64.

Class 3 — Baggage, Animal Equipments, Portfolios, and Pocketbooks

792,768. TEDCO AND DESIGN. Ralph R. Teetor, d.b.a. Ralph R. Teetor Engineering Development. SN 206,333. Pub. 5–4–65. Filed 11–13–64.

Class 4 — Abrasives and Polishing Materials

792,769. PARAGON. United States Borax & Chemical Corporation. SN 197,521. Pub. 2–2–65. Filed 7–9–64.

792,770. NPI. Nutrilite Products, Inc. SN 203,684. Pub. 5–4–65. Filed 10–9–64.

792,771. BRIGHT TIME. Dartmouth Marketing Co., Inc. SN 203,715. Pub. 5–4–65. Filed 10–9–64.

Class 5 — Adhesives

792,772. AMERICAN AND DESIGN. American "Pres-Stix" Tape Company. SN 168,800. Pub. 5–4–65. Filed 5–14–63.

792,773. VALTAC. United Merchants and Manufacturers, Inc. SN 184,857. Pub. 8–18–64. Filed 1–17–64.

792,774. KLIMAX. Viking-Criterion Paper Corporation. SN 188,164. Pub. 5–4–65. Filed 3–6–64.

Class 6 — Chemicals and Chemical Compositions

792,775. MAGNIFLOC. American Cyanamid Company. SN 158,502. Pub. 7–2–63. Filed 12–5–62.

792,776. BEST. The Best Fertilizers Co. (Delaware corporation), assignee of The Best Fertilizers Co. (California corporation). SN 158,680. Pub. 11–10–64. Filed 12–7–62.

792,777. BEST AND DESIGN. The Best Fertilizers Co. (Delaware corporation), assignee of The Best Fertilizers Co. (California corporation). SN 158,681. Pub. 11–10–64. Filed 12–7–62.

792,778. NON-COM. Koppers Company, Inc. SN 168,331. Pub. 5–4–65. Filed 5–7–63.

792,779. TELCOLUX. Ciba Limited. SN 171,618. Pub. 5–4–65. Filed 6–24–63.

792,780. TIOXIDE. British Titan Products Company Limited. SN 171,960. Pub. 5–4–65. Filed 6–27–63.

792,781. SANILITE. Van Waters & Rogers, Inc., d.b.a. Wendover Specialties, Inc. SN 180,470. Pub. 5–4–65. Filed 11–4–63.

792,782. THANOL. Jefferson Chemical Company, Inc. SN 186,362. Pub. 5–4–65. Filed 2–10–64.

792,783. SUPER-SAT. R.I.T.A. Chemical Corporation. SN 192,635. Pub. 5–4–65. Filed 5–4–64.

792,784. J-PLUS. Miles Laboratories, Inc. SN 196,886. Pub. 12–29–64. Filed 7–1–64.

792,785. STALL. Monsanto Company. SN 199,086. Pub. 5–4–65. Filed 8–3–64.

792,786. SEP-LAK! Zymak Biochemical Corp. SN 199,159. Pub. 5–4–65. Filed 8–3–64.

792,787. ARMAGEL. Armour Pharmaceutical Company. SN 201,078. Pub. 5–4–65. Filed 9–2–64.

792,788. SPRING-BAK. Mallinckrodt Chemical Works. SN 202,285. Pub. 5–4–65. Filed 9–21–64.

792,789. PENNSTARCH. Pennsalt Chemicals Corporation. SN 202,840. Pub. 5–4–65. Filed 9–28–64.

792,790. B. AMIGO. Reliance Chemicals Corporation. SN 202,850. Pub. 5–4–65. Filed 9–28–64.

792,791. IMA. Holiday Inns of America, Inc. SN 203,177. Pub. 5–4–65. Filed 10–2–64.

792,792. KANDU. The Kroger Co. SN 203,302. Pub. 5–4–65. Filed 10–5–64.

792,793. BOSCODUR. United Shoe Machinery Corporation. SN 203,547. Pub. 5–4–65. Filed 10–7–64.

792,794. SCOTCH. Minnesota Mining and Manufacturing Company. SN 203,679. Pub. 5–4–65. Filed 10–9–64.

792,795. WADE'S GUM-KUM. Willie C. Wade. SN 203,705. Pub. 5–4–65. Filed 10–9–64.

792,796. INSTANT OCEAN AND DESIGN. Aquarium Systems, Inc. SN 203,719. Pub. 5–4–65. Filed 10–12–64.

Class 7 — Cordage

792,797. WALL MANILA ROPE ETC. AND DESIGN. Wall Rope Works, Inc. SN 189,024. Pub. 5-4-65. Filed 3-18-64.

Class 10 — Fertilizers

792,798. THREE DIAMONDS (DESIGN). Mitsubishi Chemical Industries Limited. SN 187,508. Pub. 5-4-65. Filed 2-26-64.

792,799. PLAY-BULL. Organic Compost Corporation. SN 202,950. Pub. 5-4-65. Filed 9-29-64.

792,800. TREY. E. I. du Pont de Nemours and Company. SN 208,864. Pub. 5-4-65. Filed 10-1[illegible]-64.

Class 12 — Construction Materials

792,801. WEYCON. Weyerhaeuser Company. SN 185,738. Pub. 5-4-65. Filed 1-30-64.

792,802. HFC ARMOR. Goodyear Aerospace Corporation. SN 188,630. Pub. 5-4-65. Filed 8-1[illegible]-64.

792,803. RAVENSWOOD. Ravenswood Panel Corporation. SN 191,212. Pub. 5-4-65. Filed 4-1[illegible]-64.

792,804. PACIFIC POOLS. Pacific Steel Pool Corp. SN 193,981. Pub. 5-4-65. Filed 5-21-64.

792,805. FLEX-SULATION. Grant Wilson Incorporated. SN 198,015. Pub. 5-4-65. Filed 7-[illegible]6-64.

792,806. MARCITE. Paddock of California, Inc. SN 198,075. Pub. 5-4-65. Filed 7-17-64.

792,807. PLYADEK. Reichhold Chemicals, Inc. SN 200,661. Pub. 5-4-65. Filed 8-26-64.

792,808. DYRO. Kemlite Corporation. SN 204,680. Pub. 5-4-65. Filed 10-23-64.

Class 13 — Hardware and Plumbing and Steam-Fitting Supplies

792,809. VIBRA-TURBINE. The Cleveland Vibrator Company. SN 191,363. Pub. 3-16-65. Filed 4-17-64.

792,810. ISO-CHECK. Atwood & Morrill Co. SN 192,981. Pub. 5-4-65. Filed 5-8-64.

792,811. VARI-FLO. The Hale Company. SN 198,169. Pub. 5-4-65. Filed 7-20-64.

792,812. U-PLUMB PRODUCTS. Essex Plumbing and Heating Wholesalers Incorporated. SN 198,947. Pub. 5-4-65. Filed 7-31-64.

792,813. TRUSS PIPE. Kyova Pipe Company. SN 200,266. Pub. 5-4-65. Filed 8-20-64.

792,814. AMBER-TAP. Polytop Corporation. SN 202,502. Pub. 5-4-65. Filed 9-23-64.

792,815. HI-JACK. Olympic Foundry Company. SN 202,837. Pub. 5-4-65. Filed 9-25-64.

792,816. TARP-TYS. Transparent Bag Company. SN 202,891. Pub. 5-4-65. Filed 9-28-64.

792,817. CPS. Genova Products. SN 205,686. Pub. 5-4-65. Filed 11-6-64.

Class 14 — Metals and Metal Castings and Forgings

792,818. HB. A. Finkl & Sons Company. SN 205,805. Pub. 5-4-65. Filed 11-9-64.

792,819. DC. A. Finkle & Sons Company. SN 205,806. Pub. 5-4-65. Filed 11-9-64.

792,820. E-A AND DESIGN. American Brake Shoe Company. SN 209,900. Pub. 5-4-65. Filed 1-14-65.

792,821. DETACLAD. E. I. du Pont de Nemours and Company. SN 210,002. Pub. 5-4-65. Filed 1-15-65.

792,822. DU PONT AND DESIGN. E. I. du Pont de Nemours and Company. SN 210,106. Pub. 5-4-65. Filed 1-18-65.

792,823. ELOXOLOY. Elox Corporation of Michigan. SN 210,110. Pub. 5-4-65. Filed 1-18-65.

792,824. MISCELLANEOUS DESIGN. The International Nickel Company, Inc. SN 210,130. Pub. 5-4-65. Filed 1-18-65.

Class 15 — Oils and Greases

792,825. HOOKER. Hooker Chemical Corporation. SN 206,547. Pub. 5-4-65. Filed 11-19-64.

792,826. TEXCLAD. Texaco Inc. SN 208,704. Pub. 5-4-65. Filed 12-22-64.

792,827. SPOTOIL. Spotoil Corporation. SN 208,974. Pub. 5-4-65. Filed 12-28-64.

Class 16—Protective and Decorative Coatings

792,828. LIQUINITE. Liquid Nitrogen Processing Corporation. SN 185,220. Pub. 5-4-65. Filed 1-23-64.

792,829. PUMPKIN ORANGE AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 185,385. Pub. 5-4-65. Filed 1-27-64.

792,830. GO GREEN AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 185,387. Pub. 5-4-65. Filed 1-27-64.

792,831. OLD IVORY AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 185,388. Pub. 5-4-65. Filed 1-27-64.

792,832. UNI-CAL 66. The California Ink Company, Inc. SN 198,402. Pub. 3-9-65. Filed 7-23-64.

Class 17—Tobacco Products

792,833. PANTHER. Universal Cigar Corporation. SN 207,095. Pub. 5-4-65. Filed 11-27-64.

Class 18 — Medicines and Pharmaceutical Preparations

792,834. ARC. ARC, Inc. MULTIPLE CLASS (Classes 18 and 52). SN 162,128. Pub. 5-4-65. Filed 2-6-63.

792,835. MASTENIDE. Warren-Teed Pharmaceuticals Inc. SN 183,141. Pub. 5-4-65. Filed 12-16-63.

792,836. TOE-EZE. A. Allen Horton, d.b.a. Acid-Eze Company. SN 183,759. Pub. 5-4-65. Filed 12-30-63.

792,837. GENSOL. General Mills, Inc. SN 191,854. Pub. 5-4-65. Filed 4-23-64.

792,838. BONA-C. American Medicinal Corporation. SN 193,526. Pub. 5-4-65. Filed 5-15-64.

792,839. NODOZ. Bristol-Myers Company. SN 194,027. Pub. 5-4-65. Filed 5-22-64.

792,840. VITADIN AND DESIGN. Vitadin Pharmaceuticals, Inc. SN 196,744. Pub. 5-4-65. Filed 6-29-64.

792,841. C-QUENS. Eli Lilly and Company. SN 197,965. Pub. 5-4-65. Filed 7-16-64.

792,842. ANALTRAN. Chas. Pfizer & Co., Inc. SN 198,372. Pub. 5-4-65. Filed 7-22-64.

792,843. PEDUROX. International Pharmaceutical Corporation. SN 199,997. Pub. 5-4-65. Filed 8-17-64.

792,844. CORTISUM. Summers Laboratories, Inc. SN 203,349. Pub. 5-4-65. Filed 10-5-64.

792,845. CLAY ADAMS AND DESIGN. Clay-Adams, Inc. SN 204,050. Pub. 5-4-65. Filed 10-15-64.

792,846. KABIKINAS. Aktiebolaget Kabi. SN 208,166. Pub. 5-4-65. Filed 12-15-64.

792,847. COLPRONE. American Home Products Corporation. SN 208,664. Pub. 5-4-65. Filed 12-22-64.

792,848. VENTAIRE. The Dietene Company. SN 208,818. Pub. 5-4-65. Filed 12-24-64.

792,849. SYNCRO-MATE. G. D. Searle & Co. SN 211,486. Pub. 5-4-65. Filed 2-8-65.

Class 19—Vehides

792,850. MAJOR. Regie Nationale des Usines Renault. SN 186,193. Pub. 12-1-64. Filed 2-6-64.

792,851. ABBY AND DESIGN. Rimer, Incorporated. SN 197,778. Pub. 5-4-65. Filed 7-13-64.

792,852. AZALEA AND DESIGN. Rimer, Incorporated. SN 197,779. Pub. 5-4-65. Filed 7-13-64.

792,853. EMPRESS AND DESIGN. Rimer, Incorporated. SN 197,780. Pub. 5-4-65. Filed 7-13-64.

792,854. WINDWARD. Kayot, Inc. SN 203,186. Pub. 5-4-65. Filed 10-2-64.

792,855. MIZPAH. Macdon, Inc. SN 203,312. Pub. 5-4-65. Filed 10-5-64.

792,856. DIPLOMAT BY VAGABOND. Guerdon Industries, Inc. SN 203,869. Pub. 5-4-65. Filed 10-13-64.

792,857. CUSHION V AND DESIGN. Lone Star Boat Company. SN 204,075. Pub. 5-4-65. Filed 10-15-64.

Class 21 — Electrical Apparatus, Machines, and Supplies

792,858. SIGALARM. Crane Products Manufacturing Company, Inc., assignee of Daniel R. Winters. SN 124,614. Pub. 10-30-62. Filed 7-24-61.

792,859. HI-G. HI-G Incorporated. SN 175,491. Pub. 10-20-64. Filed 8-21-63.

792,860. TI-CAD. Texas Instruments Incorporated. SN 177,923. Pub. 5-4-65. Filed 9-27-63.

792,861. DEKA-TRIGGER. Baird-Atomic, Inc. SN 179,104. Pub. 5-4-65. Filed 10-16-63.

792,862. COLORICON. Compagnie Francaise Thomson-Houston. SN 194,138. Pub. 5-4-65. Filed 5-25-64.

792,863. THOMICON. Compagnie Francaise Thomson-Houston. SN 194,140. Pub. 5-4-65. Filed 5-25-64.

792,864. NOCTICON. Compagnie Francaise Thomson-Houston. SN 194,141. Pub. 5-4-65. Filed 5-25-64.

792,865. ISOPULSE. Ateliers des Charmilles, Societe Anonyme. SN 198,395. Pub. 5-4-65. Filed 7-23-64.

792,866. PP AND DESIGN. The Clarken Company, d.b.a. Porcelain Products Co. SN 200,702. Pub. 5-4-65. Filed 8-27-64.

792,867. ULTDELAY. Airborne Accessories Corporation. SN 200,996. Pub. 5-4-65. Filed 9-1-64.

Class 22 — Games, Toys, and Sporting Goods

792,868. MERRY MAID. Mary Jo Harer. SN 175,576. Pub. 5-4-65. Filed 8-22-63.

792,869. SANI-BABE. The Bomar Company, Inc. SN 179,602. Pub. 5-4-65. Filed 10-23-63.

792,870. CARODEO. Norman Bennett. SN 186,052. Pub. 5-4-65. Filed 2-5-64.

792,871. POCKET BUBBLES. Wham-O Mfg. Co. SN 186,797. Pub. 5-4-65. Filed 2-14-64.

792,872. BABY PRINCESS. Princess Grace Doll, Inc. SN 189,207. Pub. 5-4-65. Filed 3-20-64.

792,873. BALL OF FAME AND DESIGN. Amerace Corporation. SN 193,436. Pub. 5-4-65. Filed 5-14-64.

792,874. AN ORIGINAL F-P FISHER-PRICE TOY AND DESIGN. Fisher-Price Toys, Inc. SN 193,652. Pub. 5-4-65. Filed 5-18-64.

792,875. OMEGA AND DESIGN. The Dee Bee Company. SN 195,656. Pub. 5-4-65. Filed 6-15-64.

792,876. PRIZO. Louis Kessler, d.b.a. Novelty Games Co. SN 200,104. Pub. 5-4-65. Filed 8-18-64.

792,877. THE HUSTLER. Rozel Industries, Inc. SN 202,046. Pub. 5-4-65. Filed 9-16-64.

792,878. SUZY CUTE. De Luxe Reading Corporation. SN 202,071. Pub. 5-4-65. Filed 9-17-64.

792,879. VAN HILL. Delaware Mercantile Company, Inc. SN 202,133. Pub. 5-4-65. Filed 9-18-64.

792,880. FIREBIRD. Gayla Industries. SN 202,258. Pub. 5-4-65. Filed 9-21-64.

792,881. SHIELD AND WHALE (DESIGN). Atlantic Lures, Inc. SN 202,347. Pub. 5-4-65. Filed 9-22-64.

792,882. WRIST-ROCKET. Howard F. Ellenburg, d.b.a. Trumark Manufacturing Company. SN 202,361. Pub. 5-4-65. Filed 9-22-64.

792,883. KLICKUM. Zadek-Feldstein Co., Inc. SN 202,403. Pub. 5-4-65. Filed 9-22-64.

792,884. POLY-DYNE. Campbell Manufacturing Company Limited. SN 202,412. Pub. 5-4-65. Filed 9-23-64.

792,885. THE AZTEC. Fred H. Hayden, d.b.a. The Aztec Golf Bag Mfg. Company. SN 202,475. Pub. 5-4-65. Filed 9-23-64.

792,886. CHUCKER AND DESIGN. Laird Enterprises. SN 202,603. Pub. 5-4-65. Filed 9-24-64.

792,887. TRU-STEP. Tru-Step, Inc. SN 203,356. Pub. 5-4-65. Filed 10-5-64.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

792,888. ROLLING CULTIVATOR AND DESIGN. Lilliston Implement Company. SN 138,510. Pub. 4-14-64. Filed 2-23-62.

792,889. CREST KUT. The Weldon Tool Company. SN 169,672. Pub. 5-19-64. Filed 5-24-63.

792,890. SERVOCHIEF. Jackson Vibrators, Inc. SN 181,147. Pub. 10-20-64. Filed 11-14-63.

792,891. PAC. Clemtex, Ltd. SN 182,037. Pub. 5-4-65. Filed 11-29-63.

792,892. GOULD ENGINE PARTS AND DESIGN. Gould-National Batteries, Inc. MULTIPLE CLASS (Classes 23 and 35). SN 193,547. Pub. 5-4-65. Filed 5-15-64.

792,893. CINCINNATI. The Cincinnati Milling Machine Co. SN 200,327. Pub. 5-4-65. Filed 8-21-64.

792,894. CINCINNATI. The Cincinnati Milling Machine Co. SN 200,328. Pub. 5-4-65. Filed 8-21-64.

792,895. CINCINNATI. The Cincinnati Milling Machine Co. SN 200,416. Pub. 5-4-65. Filed 8-24-64.

792,896. CINCINNATI. The Cincinnati Milling Machine Co. SN 200,911. Pub. 5-4-65. Filed 8-31-64.

792,897. CINCINNATI AND DESIGN. The Cincinnati Milling Machine Co. SN 200,912. Pub. 5-4-65. Filed 8-31-64.

792,898. GENERAL GRAPHIC. Steward Printers and Lithographers Equipment Co., d.b.a. The Steward Company. SN 202,638. Pub. 5-4-65. Filed 9-24-64.

792,899. SMICO. Smico, Inc. SN 205,909. Pub. 5-4-65. Filed 11-9-64.

792,900. CRD. Lamb-Grays Harbor Co., Inc. SN 208,464. Pub. 5-4-65. Filed 12-18-64.

792,901. NU-CLEAR. Universal American Corporation. SN 208,788. Pub. 5-4-65. Filed 12-23-64.

Class 26 — Measuring and Scientific Appliances

792,902. REALTONE. Realtone Electronics Corp. (Delaware corporation), by merger from Realtone Electronics Corp. (New York corporation). SN 192,753. Pub. 4-6-65. Filed 5-5-64.

Class 27 — Horological Instruments

792,903. DI CONTI. Julius Goldstein & Son, Inc. MULTIPLE CLASS (Classes 27 and 28). SN 205,284. Pub. 5-4-65. Filed 11-2-64.

792,904. BIVOUAC. Manufacture d'Horlogerie Favre-Leuba S.A. SN 210,026. Pub. 5-4-65. Filed 1-15-65.

Class 28 — Jewelry and Precious-Metal Ware

792,903. (See Class 27 for this trademark.)

792,905. MENORCA AND DESIGN. Leo Gluck, d.b.a. Perfect Pearl Co. SN 194,880. Pub. 5-4-65. Filed 6-4-64.

792,906. NAMELY YOURS. Coro Incorporated of Rhode Island. SN 209,769. Pub. 5-4-65. Filed 1-12-65.

792,907. PHOTO-JEWEL. S. Lesse & Sons, Inc. SN 210,022. Pub. 5-4-65. Filed 1-15-65.

Class 29 — Brooms, Brushes, and Dusters

792,908. MODGLIN MAID AND DESIGN. Modglin Company. SN 194,202. Pub. 5-4-65. Filed 5-25-64.

792,909. DUET. Kaydan Products Development Corporation. SN 208,199. Pub. 5-4-65. Filed 12-15-64.

792,910. ZIPPY-MOP. Milton Arnold Zelinkoff, d.b.a. The House of Zelinkoff, and The Zelinkoff Company. SN 210,395. Pub. 5-4-65. Filed 1-21-65.

Class 30 — Crockery, Earthenware, and Porcelain

792,911. HAMPTON FINE CHINA AND DESIGN. Midland Enterprises, Inc. SN 186,376. Pub. 5-4-65. Filed 2-10-64.

Class 31 — Filters and Refrigerators

792,912. HYDROPAK. Luber-Finer Incorporated. SN 179,432. Pub. 5-4-65. Filed 10-21-63.

792,913. TECTROL. Whirlpool Corporation. SN 187,371. Pub. 5-4-65. Filed 2-24-64.

792,914. JORDON AND DESIGN. Jordon Commercial Refrigerator Company. SN 193,791 Pub. 5-4-65. Filed 5-19-64.

792,915. MISCELLANEOUS DESIGN. Barnebey-Cheney Company. SN 197,228. Pub. 5-4-65. Filed 7-3-64.

792,916. FREEZOR-EAZOR. Robert I. Larus. SN 203,100. Pub. 5-4-65. Filed 10-1-64.

792,917. ROLL-O-MAT. American Air Filter Company, Inc. SN 203,247. Pub. 5-4-65. Filed 10-5-64.

792,918. CANLINE. De Laval Turbine Inc. SN 203,484. Pub. 5-4-65. Filed 10-7-64.

Class 32 — Furniture and Upholstery

792,919. CUSTOM FOLIO. Henredon Furniture Industries, Incorporated. SN 192,393. Pub. 5-4-65. Filed 4-30-64.

792,920. VERI-VISIBLE. Acme Visible Records, Inc. SN 203,716. Pub. 5-4-65. Filed 10-12-64.

792,921. WONDER-BLEND AND DESIGN. New York Feather Co., Inc. SN 204,994. Pub. 5-4-65. Filed 10-28-64.

Class 34 — Heating, Lighting, and Ventilating Apparatus

792,922. PATIO GAS GRILL BY FALCON. Falcon Mfg. Company, Inc. SN 180,387. Pub. 10-27-64. Filed 11-4-63.

792,923. CINCINNATI. The Cincinnati Milling Machine Co. SN 200,417. Pub. 5-4-65. Filed 8-24-64.

Class 35 — Belting, Hose, Machinery Packing, and Nonmetallic Tires

792,892. (See Class 23 for this trademark.)

792,924. MEDALLION. The Mohawk Rubber Company. SN 187,948. Pub. 5-4-65. Filed 3-4-64.

792,925. GUARDWELL. Hennessy Lubricator Company, Inc. SN 203,294. Pub. 5-4-65. Filed 10-5-64.

Class 36 — Musical Instruments and Supplies

792,926. TOWER T AND BALL DESIGN. Capitol Records, Inc. SN 200,153. Pub. 5-4-65. Filed 8-19-64.

792,927. TOWER AND T DESIGN. Capitol Records, Inc. SN 200,154. Pub. 5-4-65. Filed 8-19-64.

Class 37 — Paper and Stationery

792,928. NIGHTWRITER. Nightwriter Corporation. SN 194,508. Pub. 5-4-65. Filed 5-28-64.

792,929. SURWEB. Georgia-Pacific Corporation. SN 204,467. Pub. 5-4-65. Filed 10-21-64.

792,930. BI-LAM. Milprint, Inc. SN 204,692. Pub. 5-4-65. Filed 10-23-64.

792,931. POMPS. The Crystal Tissue Company. SN 204,967. Pub. 5-4-65. Filed 10-28-64.

Class 38 — Prints and Publications

792,932. BOOK OF PEARLS. H. Leland Kaplan. SN 155,078. Pub. 5-4-65. Filed 10-12-62.

792,933. FOCUS ON THE FUTURE. Joseph R. De Maio, d.b.a. De Maio Associates. SN 163,571. Pub. 5-4-65. Filed 2-27-63.

792,934. MINERALS PROCESSING. Ceramic Publications, Inc. SN 176,886. Pub. 5-4-65. Filed 9-13-63.

792,935. CRYSTAL ELEGANCE. Norcross, Inc. SN 179,553. Pub. 5-4-65. Filed 10-22-63.

792,936. SPOT O GOLD. Leonard Edge. SN 182,280. Pub. 5-4-65. Filed 12-3-63.

792,937. THE EDUCATIONAL PAPERBACK RESEARCHER. Hertzberg New Method, Inc. SN 185,412. Pub. 5-4-65. Filed 1-27-64.

792,938. JAPANESE CHARACTERS (DESIGN). "Sokagakkai" Religious Corporation. SN 187,624. Pub. 5-4-65. Filed 2-27-64.

792,939. JAPANESE CHARACTERS (DESIGN). "Sokagakkai" Religious Corporation. SN 187,625. Pub. 5-4-65. Filed 2-27-64.

792,940. ACA LIST. Kenneth H. Krause, d.b.a. Associated Commercial Attorneys List. SN 187,939. Pub. 5-4-65. Filed 3-4-64.

792,941. YOUR PURSE STRINGS. Newsday, Incorporated. SN 189,494. Pub. 5-4-65. Filed 3-24-64.

792,942. PRESURMARK. Kaumagraph Company. SN 189,595. Pub. 5-4-65. Filed 3-25-64.

792,943. WATER WORKS AND WASTES ENGINEERING. The Reuben H. Donnelley Corporation. SN 189,988. Pub. 5-4-65. Filed 3-31-64.

792,944. THE ENGINEERING ECONOMIST. The American Society for Engineering Education. SN 190,225. Pub. 5-4-65. Filed 3-30-64.

792,945. VIDECOLOR. Independent Television Corporation. SN 190,730. Pub. 5-4-65. Filed 4-9-64.

792,946. TODAY'S SECRETARY. McGraw-Hill, Inc. SN 193,884. Pub. 5-4-65. Filed 5-20-64.

792,947. PRINTING PRODUCTION. Penprint Publications, Inc. SN 198,492. Pub. 4-27-65. Filed 7-24-64.

792,948. PRACTI/FILE. Carter Products, Inc. SN 198,716. Pub. 5-4-65. Filed 7-29-64.

792,949. THE HOME NEWS. Home News Publishing Company. SN 200,103. Pub. 5-4-65. Filed 8-18-64.

792,950. THE FLYER SERVING AVIATION IN THE MIDWEST. The Flyer, Inc. SN 200,636. Pub. 5-4-65. Filed 8-26-64.

792,951. ARTOONS. Towler Trading Co., Ltd. SN 200,679. Pub. 5-4-65. Filed 8-26-64.

792,952. CINETTE. Eothen Films Limited. SN 202,122. Pub. 5-4-65. Filed 9-16-64.

792,953. BLUEPRINT FOR SUCCESS. Success Motivation Institute, Inc. SN 202,861. Pub. 5-4-65. Filed 9-28-64.

792,954. GRAPH (DESIGN). Success Motivation Institute, Inc. SN 202,862. Pub. 5-4-65. Filed 9-28-64.

792,955. LEGACIES OF SUCCESS. Success Motivation Institute, Inc. SN 202,863. Pub. 5-4-65. Filed 9-28-64.

792,956. DAIRY EXTRA. Farm Journal, Inc. SN 203,078. Pub. 5-4-65. Filed 10-1-64.

792,957. MAGIC MOTION. Hallmark Cards, Incorporated. SN 204,940. Pub. 5-4-65. Filed 10-26-64.

792,958. MEL-A-KARD. Mel-A-Kard Company. SN 205,594. Pub. 5-4-65. Filed 11-5-64.

792,959. WP AND TREE DESIGN. World Publishing Company. SN 205,908. Pub. 5-4-65. Filed 11-9-64.

792,960. OFFICE APPLIANCES. OA Business Publications, Inc. SN 206,067. Pub. 5-4-65. Filed 11-12-64.

792,961. BEEF EXTRA. Farm Journal, Inc. SN 207,876. Pub. 5-4-65. Filed 12-10-64.

Class 39 — Clothing

792,962. UNIQUES. S. & K. Shoe Co., Inc. SN 156,905. Pub. 10-1-63. Filed 11-8-62.

792,963. PARA-PANTS. Farah Manufacturing Company, Inc., assignee of Homer W. McCoy. SN 169,957. Pub. 1-14-64. Filed 5-29-63.

792,964. SYMBRA. Ger-Ro-Mar, Incorporated. SN 186,351. Pub. 5-4-65. Filed 2-10-64.

792,965. RALLY 'ROUND RANDY AND DESIGN. Randy Knitwear, Inc. SN 187,044. Pub. 5-4-65. Filed 2-19-64.

792,966. PETER KAY. Peter Kay Uniform Corp.. SN 190,733. Pub. 5-4-65. Filed 4-9-64.

792,967. CP AND DESIGN. Cluett, Peabody & Co., Inc. MULTIPLE CLASS (Classes 39 and 42). SN 191,908. Pub. 5-4-65. Filed 4-24-64.

792,968. PRIMSTYLE ETC. AND DESIGN. F. W. Woolworth Co. SN 193,249. Pub. 12-22-64. Filed 5-11-64.

792,969. LINDA LEE. Plymouth Wholesale Corporation. SN 198,661. Pub. 5-4-65. Filed 7-28-64.

792,970. LOOK AT YOUR STOCKINGS EVERYBODY ELSE DOES AND DESIGN. The Mayer Company, Inc., d.b.a. The Mayer Company Inc. SN 199,908. Pub. 5-4-65. Filed 8-14-64.

792,971. CHARLES OF THE RITZ. Lanvin-Charles of the Ritz, Inc. SN 201,128. Pub. 5-4-65. Filed 9-2-64.

792,972. PIRELLI. M. Aron Corporation. SN 201,251. Pub. 5-4-65. Filed 9-2-64.

792,973. YOUTH PARK. Aimcee Wholesale Corporation. SN 203,137. Pub. 5-4-65. Filed 10-2-64.

792,974. THUNDERWEAR. Duofold, Inc. SN 205,576. Pub. 5-4-65. Filed 11-5-64.

792,975. ROYAL STORK. Jain-Sax Clothing Co., Inc. SN 206,459. Pub. 5-4-65. Filed 11-18-64.

792,976. USI AND DESIGN. U.S. Industries, Inc. SN 206,580. Pub. 5-4-65. Filed 11-19-64.

792,977. MOJUD. Kayser-Roth Corporation. SN 206,861. Pub. 5-4-65. Filed 11-24-64.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

792,967. (See Class 39 for this trademark.)

792,978. MALIWATT. Crompton & Knowles-Malimo, Inc. SN 188,081. Pub. 5-4-65. Filed 3-6-64.

792,979. MOR-KOTE. Genesco Inc., assignee of Flagg-Utica Corporation. SN 189,695. Pub. 5-4-65. Filed 3-26-64.

792,980. SOMINAIRE. Bates Manufacturing Company. SN 191,027. Pub. 5-4-65. Filed 4-14-64.

792,981. LIRELLE. Courtaulds North America Inc. SN 193,264. Pub. 5-4-65. Filed 5-12-64.

792,982. GAMELINE. Arthur Gamlin, d.b.a. Nevada Layout Company. SN 194,046. Pub. 5-4-65. Filed 5-22-64.

792,983. SLEEPY HOLLOW. The Kendall Company. SN 195,678. Pub. 5-4-65. Filed 6-15-64.

792,984. RUGGEDENE. The Kendall Company. SN 196,452. Pub. 5-4-65. Filed 6-25-64.

792,985. FURY TWILL. J. P. Stevens & Co., Inc. SN 200,296. Pub. 5-4-65. Filed 8-20-64.

792,986. CONEPREST. Cone Mills Inc. SN 204,639. Pub. 5-4-65. Filed 10-23-64.

792,987. WONDER-BLEND AND DESIGN. New York Feather Co., Inc. SN 204,992. Pub. 5-4-65. Filed 10-28-64.

792,988. AQUA. French Textiles Company. SN 205,052. Pub. 5-4-65. Filed 10-29-64.

792,989. SATIN SOFT. Associated Dry Goods Corporation. SN 205,483. Pub. 5-4-65. Filed 11-3-64.

792,990. WHITE TOP. Southern Mills, Inc. SN 205,966. Pub. 5-4-65. Filed 11-10-64.

792,991. SEASONAIRE. Allied Stores Corporation. SN 205,986. Pub. 5-4-65. Filed 11-12-64.

792,992. SLEEPWAY. The Springs Cotton Mills. SN 206,087. Pub. 5-4-65. Filed 11-12-64.

Class 43 — Thread and Yarn

792,993. CROFTWOOL. Edgewater Woolen Company. SN 198,943. Pub. 5-4-65. Filed 7-31-64.

792,994. GRANT CREST. W. T. Grant Company. SN 206,533. Pub. 5-4-65. Filed 11-19-64.

Class 44—Dental, Medical, and Surgical Appliances

792,995. THE "K" SYSTEM AND DESIGN. The Motloid Company, Inc. SN 199,751. Pub. 5-4-65. Filed 8-12-64.

Class 45—Soft Drinks and Carbonated Waters

792,996. FRUITETTE. The Grapette Company, Inc., d.b.a. Grapette Products Co. SN 174,663. Pub. 7-28-64. Filed 8-8-63.

792,997. BAR MAGIC AND DESIGN. Dell Products Corp. SN 202,918. Pub. 5-4-65. Filed 9-2[illegible]-64.

Class 46—Foods and Ingredients of Foods

792,998. ALL STAR. All Star Foods, Inc., assignee of All Star Dairy Association, Inc. SN [illegible]7,241. Pub. 5-4-65. Filed 7-8-59.

792,999. LA INCA. Inter-American Food Products, Inc. SN 161,519. Pub. 5-4-65. Filed 1-2[illegible]-63.

793,000. DUBUQUE SYMBOL OF FLAVOR AND QUALITY AND DESIGN. Dubuque Packing Company. SN 161,594. Pub. 5-4-65. Filed 1-29-63.

793,001. MARS CARAMEL BITS AND DESIGN. Mars, Incorporated, by merger and change of name from Mars, Incorporated. SN 174,402. Pub. 5-4-65. Filed 8-5-63.

793,002. MARS CHERRY BITS AND DESIGN. Mars, Incorporated, by merger and change of name from Mars, Incorporated. SN 174,403. Pub. 5-4-65. Filed 8-5-63.

793,003. MARS GOODIE ROLL AND DESIGN. Mars, Incorporated, by merger and change of name from Mars, Incorporated. SN 174,405. Pub. 5-4-65. Filed 8-5-63.

793,004. MARS GOODIE ROLLS AND DESIGN. Mars, Incorporated, by merger and change of name from Mars, Incorporated. SN 174,406. Pub. 5-4-65. Filed 8-5-63.

793,005. MARS NUTS OVER CARAMEL AND DESIGN. Mars, Incorporated, by merger and change of name from Mars, Incorporated. SN 174,407. Pub. 5-4-65. Filed 8-5-63.

793,006. REPRESENTATION OF A CLOTHED HUMANIZED FIGURE. Eskimo Pie Corporation. SN 175,828. Pub. 5-4-65. Filed 8-23-63.

793,007. J.J. AND DESIGN. John J. Kovacevich. SN 177,057. Pub. 2-9-65. Filed 9-16-63.

793,008. SUNBURST (DESIGN). Eskimo Pie Corporation. SN 178,904. Pub. 5-4-65. Filed 10-14-63.

793,009. REPRESENTATION OF A CLOTHED HUMANIZED FIGURE. Eskimo Pie Corporation. SN 178,905. Pub. 5-4-65. Filed 10-14-63.

793,010. REPRESENTATION OF A CLOTHED HUMANIZED HEAD. Eskimo Pie Corporation. SN 178,906. Pub. 5-4-65. Filed 10-14-63.

793,011. SUNBURST (DESIGN). Sunspiced Foods Company. SN 183,633. Pub. 5-4-65. Filed 12-26-63.

793,012. SKI-MO AND DESIGN. Eskimo Pie Corporation. SN 183,672. Pub. 5-4-65. Filed 12-27-63.

793,013. AA. Artco Distributors, Inc. SN 188,703. Pub. 5-4-65. Filed 3-16-64.

793,014. GI·GI. Artco Distributors, Inc. SN 188,704. Pub. 5-4-65. Filed 3-16-64.

793,015. PEERLESS. Corn Products Company. SN 190,159. Pub. 5-4-65. Filed 4-2-64.

793,016. "AMIEL'S" AND DESIGN. Amiel's Jumbo Submarine Sandwiches, Inc. SN 191,900. Pub. 5-4-65. Filed 4-24-64.

793,017. "AMIEL'S." Amiel's Jumbo Submarine Sandwiches, Inc. SN 191,903. Pub. 5-4-65. Filed 4-24-64.

793,018. BOHEMIAN BOY. Hygrade Food Products Corporation. SN 193,375. Pub. 5-4-65. Filed 5-13-64.

793,019. WALKING CHILI AND DESIGN. John Turner, d.b.a. Turner's. SN 194,260. Pub. 5-4-65. Filed 5-25-64.

793,020. McDOUBLE. McDonald's Corporation. SN 197,151. Pub. 5-4-65. Filed 7-6-64.

793,021. MAX PACK. Max Lutz, d.b.a. Max Lutz Company and Max Lutz Co. SN 198,964. Pub. 5-4-65. Filed 7-31-64.

793,022. LASCCO AND DESIGN. Los Angeles Smoking & Curing Co. SN 201,037. Pub. 5-4-65. Filed 9-1-64.

793,023. VOLENDAM. William Davies Co. Inc. SN 202,778. Pub. 5-4-65. Filed 9-28-64.

793,024. HI-WATER. Hi-Water Co., Inc. SN 203,009. Pub. 5-4-65. Filed 9-30-64.

793,025. CHOXAN. The Quaker Oats Company. SN 203,329. Pub. 5-4-65. Filed 10-5-64.

793,026. GAUCHOS. The Quaker Oats Company. SN 203,330. Pub. 5-4-65. Filed 10-5-64.

793,027. A. GRANDAY'S. Emma M. Thompson, d.b.a. Granday Canning Co. SN 203,543. Pub. 5-4-65. Filed 10-7-64.

793,028. HY-SKOR AND DESIGN. H. B. Taylor Co. SN 207,674. Pub. 5-4-65. Filed 12-7-64.

793,029. COFFIER. John Sexton & Co. SN 208,397. Pub. 5-4-65. Filed 12-17-64.

Class 48—Malt Beverages and Liquors

793,030. IPA. John Labatt Limited. SN 126,351. Pub. 5-4-65. Filed 8-21-61.

Class 49—Distilled Alcoholic Liquors

793,031. APHRODITE AND DESIGN. The Cathay Corporation. SN 191,251. Pub. 5-4-65. Filed 4-16-64.

793,032. CANADIAN NATIONAL. Esbeco Distilling Corporation, d.b.a. United Kingdom Products Co., Ltd. SN 199,272. Pub. 5-4-65. Filed 8-5-64.

Class 50—Merchandise Not Otherwise Classified

793,033. MASTER PHOTO AND LOGO DESIGN. Master Etching Corporation. SN 155,423. Pub. 5-4-65. Filed 10-18-62.

793,034. TOPOFOAM. John K. Karfo. SN 192,831. Pub. 5-4-65. Filed 5-6-64.

793,035. FERNANDA DESIGNS. Fernanda Designs. SN 199,532. Pub. 5-4-65. Filed 8-10-64.

793,036. TARA. Wallace Klarman, d.b.a. Beaux Art Materials. SN 205,299. Pub. 5-4-65. Filed 11-2-64.

793,037. AMERICRAFT AND DESIGN. Americraft, Inc. SN 205,562. Pub. 5-4-65. Filed 11-5-64.

793,038. ORTEX. The Eagle-Picher Company. SN 206,353. Pub. 5-4-65. Filed 11-17-64.

793,039. "MAGIC STAGE." International Dinner Theatres, Ltd. SN 207,129. Pub. 5-4-65. Filed 11-30-64.

793,040. SCHEMAT·A·KIT. Sem-Tek Mfg. Co., Inc. SN 208,396. Pub. 5-4-65. Filed 12-17-64.

793,041. ROTARYADVANCE. American Advertising Corporation. SN 208,423. Pub. 5-4-65. Filed 12-18-64.

793,042. SKEE. P.C.B. Inc. SN 211,095. Pub. 5-4-65. Filed 2-1-65.

793,043. BAK-A-SLAK. Pandora, Incorporated. SN 211,306. Pub. 5-4-65. Filed 2-3-65.

Class 51—Cosmetics and Toilet Preparations

793,044. ALLERCREME. Texas Pharmacal Company. SN 52,372. Pub. 5-4-65. Filed 5-27-58.

793,045. BETTY BUBBLES. Lander Co., Inc., d.b.a. Lander. SN 158,352. Pub. 9-17-63. Filed 12-3-62.

793,046. REHEIS. Armour Pharmaceutical Company, assignee, by mesne assignment, of Reheis Company, Inc. SN 160,324. Pub. 5-4-65. Filed 1-7-63.

793,047. REMEMBER ME. Fritzsche Brothers, Inc. SN 179,627. Pub. 5-4-65. Filed 10-23-63.

793,048. DAN AMIDE. International Drug Trading Inc. SN 186,624. Pub. 5-4-65. Filed 2-13-64.

793,049. MARTONE. Brunswig Drug Company, d.b.a. Martone Distributing Company. SN 187,553. Pub. 5-4-65. Filed 2-27-64.

793,050. WAV-O-BOB AND DESIGN. Victor Brog, d.b.a. The Gintone Laboratories and Rene St. Clair Products Co. MULTIPLE CLASS (Classes 51 and 52). SN 189,041. Pub. 5-4-65. Filed 3-19-64.

793,051. RD. Raymond Research Corp. SN 190,205. Pub. 5-4-65. Filed 4-2-64.

793,052. PAX. G. H. Packwood Manufacturing Co. SN 191,433. Pub. 5-4-65. Filed 4-17-64.

793,053. DUKE. Johnson Publishing Company, Inc. SN 202,029. Pub. 5-4-65. Filed 9-16-64.

793,054. RAVEEN. Johnson Publishing Company. SN 202,030. Pub. 5-4-65. Filed 9-16-64.

793,055. YOUNG CARE. Lehn & Fink Products Corporation, d.b.a. Tussy Cosmetics. SN 202,091. Pub. 5-4-65. Filed 9-17-64.

793,056. SECRET PASSION. The Andrew Jergens Company. SN 202,126. Pub. 5-4-65. Filed 9-18-64.

793,057. MAJESTY. John H. Breck, Inc. SN 203,068. Pub. 5-4-65. Filed 10-1-64.

793,058. PROTONE. John H. Breck, Inc. SN 203,375. Pub. 5-4-65. Filed 10-6-64.

793,059. PRO-TONE. John H. Breck, Inc. SN 203,376. Pub. 5-4-65. Filed 10-6-64.

793,060. ARABIAN NIGHTS. Ludwig Scherk, Inc. SN 203,410. Pub. 5-4-65. Filed 10-6-64.

793,061. DENTAGARD. Colgate-Palmolive Company. SN 203,476. Pub. 5-4-65. Filed 10-7-64.

793,062. AWARD. Colgate-Palmolive Company. SN 203,477. Pub. 5-4-65. Filed 10-7-64.

793,063. BANNER. Colgate-Palmolive Company. SN 203,478. Pub. 5-4-65. Filed 10-7-64.

793,064. REGAL. Colgate-Palmolive Company. SN 203,480. Pub. 5-4-65. Filed 10-7-64.

793,065. PRIME. Colgate-Palmolive Company. SN 203,481. Pub. 5-4-65. Filed 10-7-64.

793,066. LIP SMACKIN'. Cameo, Inc. SN 203,567. Pub. 5-4-65. Filed 10-8-64.

Class 52—Detergents and Soaps

792,834. (See Class 18 for this trademark.)

793,050. (See Class 51 for this trademark.)

793,067. HALT. Samuel Bonat & Bro., Inc. SN 146,458. Pub. 10-29-63. Filed 6-8-62.

793,068. LITTLE DOC AND DESIGN. Gus J. Schaffner, Jr., d.b.a. Gus J. Schaffner Co. SN 166,414. Pub. 5-4-65. Filed 4-9-63.

793,069. MIGHTY WHITEY AND DESIGN. Domestic Linen Supply & Laundry Co. SN 184,365. Pub. 5-4-65. Filed 1-10-64.

793,070. MARTONE. Brunswig Drug Company, d.b.a. Martone Distributing Company. SN 187,554. Pub. 5-4-65. Filed 2-27-64.

793,071. MANGENE AND DESIGN. Victor Brog, d.b.a. The Gintone Laboratories. SN 189,040. Pub. 5-4-65. Filed 3-19-64.

793,072. AQUA-DE. E. M. Howey. SN 191,389. Pub. 5-4-65. Filed 4-17-64.

793,073. BORCOIL. Tri-Bros. Chemical Corp. SN 195,256. Pub. 5-4-65. Filed 6-9-64.

793,074. STEP OFF. S. C. Johnson & Son, Inc. SN 200,730. Pub. 5-4-65. Filed 8-27-64.

793,075. SWERL. Colgate-Palmolive Company. SN 202,120. Pub. 5-4-65. Filed 9-17-64.

793,076. PHOS-O-SUDS. Britex Corporation. SN 202,908. Pub. 5-4-65. Filed 9-29-64.

793,077. IMA. Holiday Inns of America, Inc. SN 203,181. Pub. 5-4-65. Filed 10-2-64.

793,078. NAUGHTY PUP. Glamorene, Incorporated. SN 203,281. Pub. 5-4-65. Filed 10-5-64.

793,079. PROTECTO. Parts Inc. SN 203,424. Pub. 5-4-65. Filed 10-6-64.

793,080. KATANA CHARACTERS (DESIGN). Swank, Inc. SN 203,439. Pub. 5-4-65. Filed 10-6-64.

793,081. NPI. Nutrilite Products, Inc. SN 203,685. Pub. 5-4-65. Filed 10-9-64.

Service Marks

Class 100—Miscellaneous

793,082. JACK'S. Jack's Franchising Company Incorporated. SN 196,866. Pub. 5-4-65. Filed 7-1-64.

Class 101—Advertising and Business

793,083. GROTESQUE FIGURE. Henry V. Kayes, d.b.a. Burnie Bluflame. SN 176,201. Pub. 5-4-65. Filed 9-3-63.

793,084. ORDER-MATION. Monroe International, Inc., assignee of Tel-Atlas, Inc. SN 179,479. Pub. 5-4-65. Filed 10-21-63.

793,085. TEL-ATLAS. Monroe International, Inc., assignee of Tel-Atlas, Inc. SN 179,480. Pub. 5-4-65. Filed 10-21-63.

Class 102—Insurance and Financial

793,086. THINK. The State Automobile & Casualty Underwriters. SN 189,841. Pub. 5-4-65. Filed 3-6-64.

Class 103—Construction and Repair

793,087. CARTOON CARICATURE OF SLEEPY MAN. Ajax Sewer Cleaning Corp. SN 197,237. Pub. 5-4-65. Filed 7-7-64.

793,088. NWI NORTHWEST INDUSTRIES, INC. AND DESIGN. Northwest Industries, Inc. SN 197,418. Pub. 5–4–65. Filed 7–8–64.

Class 105 – Transportation and Storage

793,089. MR VIP AND DESIGN. V.I.P. Travel Service, Inc. SN 186,790. Pub. 5–4–65. Filed 2–1[illegible]–64.

Class 107 – Education and Entertainment

793,090. GOLF-O-TRON AND DESIGN. M. Richard Speiser, assignee of Golf-O-Tron Corporation. SN 168,820. Pub. 5–4–65. Filed 5–14–63.

793,091. ADVENTUROUS MISSION. The Domestic and Foreign Missionary Society of The Protestant Episcopal Church in the United States of America. SN 199,803. Pub. 5–4–65. Filed 8–13–64.

793,092. THE GOOD LIFE. The Domestic and Foreign Missionary Society of The Protestant Episcopal Church in the United States of America. SN 1[illegible]9,804. Pub. 5–4–65. Filed 8–13–64.

793,093. M AND DESIGN. Morris Animal Foundation. SN 200,273. Pub. 5–4–65. Filed 8–20–64.

Collective Membership Marks

Class 200

793,094. RETAIL CLERKS UNION ETC. AND DESIGN. Retail Clerks International Association. SN 176,958. Pub. 5–4–65. Filed 9–13–63.

793,095. INMA AND DESIGN. International Nutria Marketing Association. SN 194,392. Pub. 5–4–65. Filed 5–27–64.

793,096. MISCELLANEOUS DESIGN. National Swimming Pool Institute. SN 198,655. Pub. 5–4–65. Filed 7–28–64.

Certification Mark

Class B – Services

793,097. RETAIL CLERKS UNION ETC. AND DESIGN. Retail Clerks International Association. SN 176,955. Pub. 5–4–65. Filed 9–13–63.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

SECTION 1

(Combined Certificates)

793,099. Savin Business Machines Corporation, New York, N.Y. SN 194,752. Filed P.R. 6–2–[illegible]4; Am. S.R. 4–19–65.

SAVIN

Class 6—Chemicals and Chemical Compositions

For Developing Liquid for Office Copiers.
First use April 1960.

Class 26—Measuring and Scientific Appliances

For Photocopy Machines and Copy Paper for Photocopy Machines.
First use July 1960.

SECTION 2

Class 4 – Abrasives and Polishing Materials

793,098. Knomark, Inc., Springfield Gardens, N.Y. SN 184,246. Filed P.R. 1–8–64; Am. S.R. 11–10–64.

SHOE-N-BAG BEAUTY

For Spray Polish and Conditioner for Leather and the Like.
First use December 1957.

Class 6 – Chemicals and Chemical Compositions

793,099. See Section 1 (Combined Certificate).

Class 12 – Construction Materials

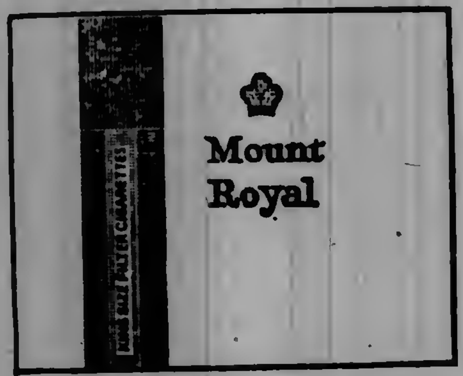
793,100. Chicago Metallic Sash Company, Chicago, Ill. SN 166,618. Filed P.R. 4–12–63; Am. S.R. 4–20–65.

SNAP-GRID

For Suspended Ceiling Systems Comprising Main Runners, Cross T's, Wall Channels, and Angle and Fastener Clips.
First use Feb. 26, 1963.

Class 17 – Tobacco Products

793,101. Messrs. John Cotton Limited, Edinburgh, Scotland. SN 194,058. Filed P.R. 5–22–64; Am. S.R. 3–12–65.



The drawing is lined for the colors red, blue, and yellow.
Owner of British Reg. No. 844,839, dated Feb. 8, 1963.
For Cigarettes.
First use Jan. 21, 1963; in commerce Jan. 21, 1963.

Class 18 – Medicines and Pharmaceutical Preparations

793,102. John O. Butler Company, Chicago, Ill. SN 142,271. Filed P.R. 4–16–62; Am. S.R. 10–16–64.

RED-COTE

For Composition for Disclosing Harmful Bacteria on the Teeth.
First use on or about Mar. 14, 1962.

Class 21 – Electrical Apparatus, Machines, and Supplies

793,103. Universal Manufacturing Corporation, Paterson, N.J., assignee of Universal Mfg. Corp., Paterson, N.J. SN 167,960. Filed P.R. 5–1–63; Am. S.R. 5–14–65.

SAFE-T-FUSE

For Fluorescent Lamp Ballasts.
First use Mar. 27, 1963.

Class 22 – Games, Toys, and Sporting Goods

793,104. Layman E. Allen, d.b.a. Wff 'N Proof, New Haven, Conn. SN 177,188. Filed P.R. 9–17–63; Am. S.R. 4–6–65.

EQUATIONS

For Equipment (or Apparatus) Sold as a Unit for Playing Educational Games and for Use in Teaching Mathematics.
First use Sept. 9, 1963.

Class 26 – Measuring and Scientific Appliances

793,099. See Section 1 (Combined Certificate).

793,105. William E. Chaperon, Bay City, Mich. SN 156,788. Filed P.R. 11–5–62; Am. S.R. 4–28–65.

SAFE SITE

For Gun Bore Sighting Device.
First use Sept. 1, 1961.

793,106. Compass Instrument & Optical Co. Inc., New York, N.Y. SN 168,071. Filed P.R. 5–3–63; Am. S.R. 5–10–65.

MONOSCOPE

For Gun Sight Devices for Attachment to Rifles To Help in Aiming at Distant Objects and Targets.
First use 1958.

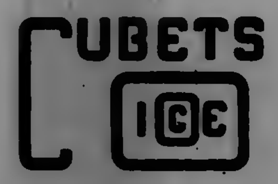
793,107. Proctor & Associates Company, Redmond, Wash. SN 203,027. Filed P.R. 9–30–64; Am. S.R. 3–26–65.

PROCTOR

For Communications Electronics Equipment—Namely, Pulse Distortion Analyzer, Remote Pulse Indicator, Pulse Generator, Telephone Busy Visual Control Unit and Universal Test Adapter.
First use Dec. 30, 1961.

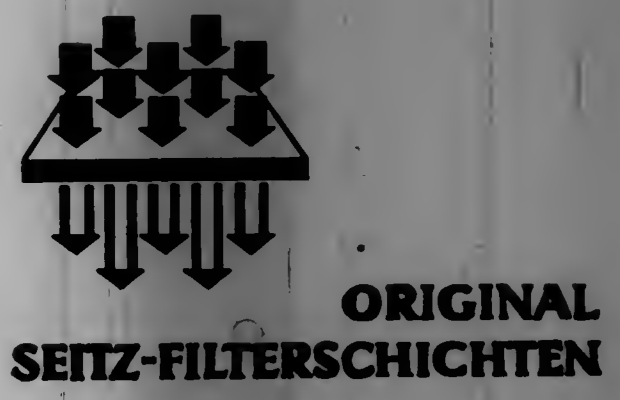
Class 31 – Filters and Refrigerators

793,108. Bonnie Knepper, d.b.a. Knepper Industry, De Witt, Iowa. SN 162,095. Filed P.R. 2–5–63; Am. S.R. 5–21–65.



For Ice Cube Trays.
First use Jan. 4, 1963.

793,109. Seitz-Asbest-Werke Theo & Geo Seitz Kommanditgesellschaft, Bad Kreuznach, Germany. SN 173,403. Filed P.R. 7–18–63; Am. S.R. 5–26–65.



Owner of German Reg. No. 771,517, dated Mar. 15, 1963; and U.S. Reg. No. 770,123.
For Filtering Materials and Filter Layers Made of Derivatives of Said Filtering Materials, Especially Raw and Refined Powders, Fibers and Granulates of Organic and Inorganic Origin and Mixtures of All Types of Said Substances, Mixtures of Said Raw Materials and Mixtures Thereof With Coal, Earth, Sand and Diatomaceous Earth; Felt, Vegetable Fibers, Synthetic Fibers, Linen, Paper and Cotton.

Class 32 – Furniture and Upholstery

793,110. Junkunc Bros. American Padlock Company, Chicago, Ill. SN 172,912. Filed P.R. 7–12–63; Am. S.R. 5–21–65.

KEY-KEEPER

For Storage Cabinets for Keys.
First use Mar. 7, 1963.

Class 37 – Paper and Stationery

793,111. The Chicago Desk Pad Company, Inc., Chicago, Ill. SN 209,144. Filed 12–31–64.

REDI-MOUNT

For Sheets for Holding and Protecting Photographs, Newspaper Clippings and the Like.
First use Oct. 15, 1963.

Class 44—Dental, Medical, and Surgical Appliances

793,112. Adolph D. Wiseman, d.b.a. Pick-A-Dent Corporation, San Francisco, Calif. SN 20[illegible]642. Filed 1–8–65.

TOOTH SAVERS

For Tooth Picks.
First use Jan. 9, 1963.

Class 46—Foods and Ingredients of Foods

793,113. Pearce-Young-Angel Co., Greenville, S.C. SN 169,867. Filed P.R. 5–28–63; Am. S.R. 4–19–65.

MR. BUTLER

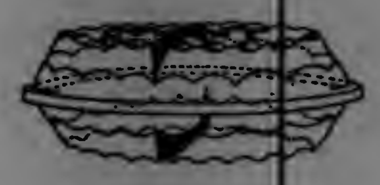
For Food Products—Namely, Tea for Use in Making Iced Tea, Mayonnaise, Salad Dressing, Mustard, French Dressing, Worcestershire Sauce, and Jelly.
First use Nov. 13, 1958.

793,114. Ira Wilson & Sons Dairy Co., Detroit, Mich. SN 170,503. Filed P.R. 6–6–63; Am. S.R. 2–10–65.

STA-FRESH

For Dairy Products—Namely, Fluid Milk and Ice Cream.
First use May 1, 1963.

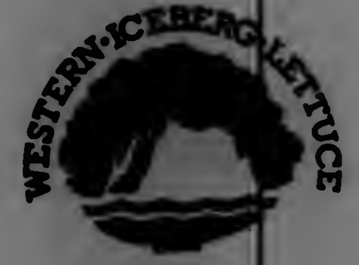
793,115. Thomas Carvel, Yonkers, N.Y. SN 174,168. Filed 8–1–63.



The mark consists of the shape of the container in which the goods are sold together with the word "Carvel" impressed into the top thereof in inverted fashion. The drawing is lined for shading only.

For Bulk Frozen Dairy Confections—Namely, Ice Cream, Frozen Custards, Frozen Milk, Sherbet and Ices.
First use Jan. 1, 1956.

793,116. Western Iceberg Lettuce, Incorporated Salinas, Calif. SN 187,366. Filed P.R. 2–24–64; Am., S.R. 11–16–64. COLLECTIVE MARK.



The mark incorporates along with the words "Western Iceberg Lettuce" a montage with an abstract rendering of an iceberg incorporated therein.

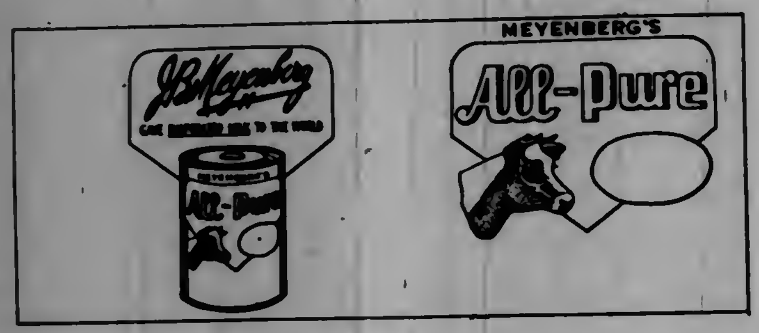
For Lettuce.
First use Aug. 5, 1963.

793,117. California Canners and Growers, d.b.a. Filice & Perrelli Canning Company, San Francisco, Calif. SN 187,853. Filed P.R. 3–3–64; Am. S.R. 5–3–65.

WATERPAK

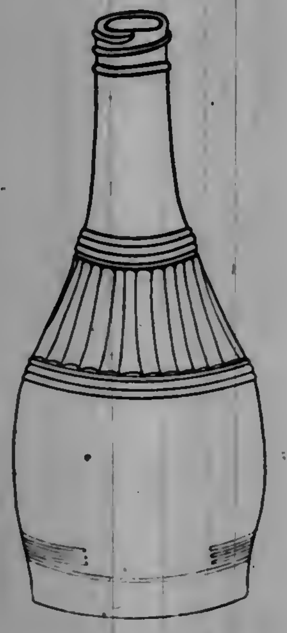
For Canned Fruits.
First use Oct. 23, 1943.

793,118. Meyenberg Milk Products, Inc., d.b.a. Meyenberg Milk Products Co., San Francisco, Calif. SN 188,026. Filed P.R. 3–5–64; Am. S.R. 11–30–64.



For Canned Evaporated Milk.
First use Jan. 20, 1942.

793,119. Regina Grape Products Co., Etiwanda, Calif. SN 193,213. Filed P.R. 5–11–64; Am. S.R. 4–19–65.



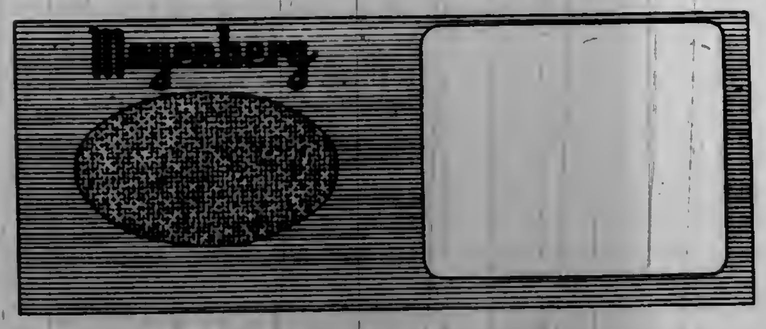
The trademark consists of the configuration of the container for the goods.

For Wine Vinegar; a Meat, Fowl, and Fish Marinade.
First use at least as early as 1949.

793,120. Brazilian Foods, Inc., New York, N.Y. SN 193,532. Filed P.R. 5–15–64; Am. S.R. 5–20–65.

For Coffee.
First use Apr. 27, 1964.

793,121. Meyenberg Milk Products, Inc., San Francisco, Calif. SN 199,588. Filed P.R. 8–10–64; Am. S.R. 2–9–65.



The drawing is lined for yellow and blue.

For Canned Goat Milk.

First use 1937; 1921 as to the mark "Meyenberg" on canned milk.

Class 49—Distilled Alcoholic Liquors

793,122. Schenley Distillers, Inc., New York, N.Y. SN 188,806. Filed P.R. 3–16–64; Am. S.R. 3–9–65.

LORDSON

For Blended Whiskey.
First use Feb. 19, 1964.

Class 50—Merchandise Not Otherwise Classified

793,123. L. Marino, Inc., Brooklyn, N.Y. SN 201,038. Filed P.R. 9–1–64; Am. S.R. 3–1–65.

MARINO

For Tents, Tarpaulins, Canopies, Boat Covers, Truck Covers, Hatch Covers and Awnings, Windbreakers, Painters' Drop Cloths, and Protective Coverings for Machinery and Building Materials.
First use Feb. 21, 1963.

Class 51—Cosmetics and Toilet Preparations

793,124. Clairol Incorporated, New York, N.Y. SN 194,703. Filed P.R. 6–2–64; Am. S.R. 5–21–65.

EASY COLOR

For Hair Tinting, Dyeing, and Coloring Preparations.
First use Jan. 29, 1964.

Class 52—Detergents and Soaps

793,125. Whink Products Company, Eldora, Iowa. SN 191,969. Filed P.R. 4–24–64; Am. S.R. 5–13–65.

COLLAR CLEAN

For Fabric Cleaning Composition.
First use Sept. 30, 1963.

Service Marks

Class 100—Miscellaneous

793,126. Pollak and Skan, Inc., Chicago, Ill. SN 136,815. Filed P.R. 1–29–62; Am. S.R. 5–19–65.

RENTAL ENGINEERING PERSONNEL

For Providing Engineering Personnel on a Temporary Basis.
First use July 1, 1961.

793,127. Documentation Incorporated, Bethesda, Md. SN 160,370. Filed P.R. 1–8–63; Am. S.R. 10–16–64.

DOCUMENTATION INCORPORATED

For Information-Retrieval Services.
First use June 3, 1952.

Class 102—Insurance and Financial

793,128. Herts System, Inc., New York, N.Y. SN 169,732. Filed P.R. 5–27–63; Am. S.R. 5–10–65.

AUTO-matic

For Extending of Credit in Connection With the Rental of Vehicles.
First use May 15, 1959.

Class 106—Material Treatment

793,129. Carhart Photo, Inc., Rochester, N.Y. SN 176,262. Filed P.R. 8–30–63; Am. S.R. 5–13–65.

For Services of Film Developing and Photo Finishing.
First use Aug. 31, 1960.

TRADEMARK REGISTRATIONS RENEWED

44,489. COSMEON. Cl. 29. 7-11-05.
46,110. SHUREDRY. Cl. 42. 9-5-05.
46,490. REPRESENTATION OF MULTITUDE OF FIGURES OF S AND Z SHAPE (DESIGN). Cl. 22. 9-19-05.
47,550. REPRESENTATION OF CARYATIDS ETC. (DESIGN). Cl. 22. 11-7-05.
195,435. LOFTYPOPS. Cl. 46. 2-24-25.
195,849. WECO AND DESIGN. Cl. 12. 3-3-25.
196,223. DI-NOC. Cl. 38. 3-10-25.
197,508. LINDOL. Cl. 16. 4-21-25.
197,836. VIOLET SEC. Cl. 51. 4-28-25.
198,490. WENTYNE AND DESIGN. Cl. 46. 5-19-25.
198,629. JAY BEE HUMDINGER AND DESIGN. Cl. 23. 5-19-25.
198,986. DRAGONSATIN. Cl. 42. 6-2-25.
199,371. THE NATIONAL LIFE AND ACCIDENT INSURANCE CO. SHIELDS YOU AND DESIGN. Cl. 38. 6-9-25.
199,639. JOHN KING & SON'S. Cl. 42. 6-16-25.
200,111. ARROW AND DESIGN. Cl. 39. 6-23-25.
200,218. LE DEBUT. Cl. 51. 6-30-25.
200,654. CHEROKEE. Cl. 16. 7-7-25.
200,695. KITCHENKRAFT. Cl. 42. 7-7-25.
200,875. EXTASIA. Cl. 42. 7-14-25.
200,948. CONTINENTAL SEAL OF ACCURACY AND DESIGN. Cl. 26. 7-14-25.
201,215. MIDDISTRIPE. Cl. 39. 7-21-25.
202,201. CHELMSFORD AND DESIGN. Cl. 45. 8-18-25.
203,296. CARPULE. Cl. 18. 9-15-25.
204,211. BUST OF GIRL PLACING ARCH SUPPORT IN SHOE. Cl. 39. 10-13-25.
204,255. REPRESENTATION OF CYCLE AND RIDER. Cl. 22. 10-13-25.
204,603. SUNKIST. Cl. 33. 10-20-25.
204,636. BO-KAY AND DESIGN. Cl. 42. 10-20-25.
204,815. PEDO-GRAPH. Cl. 26. 10-27-25.
204,884. ONIXOL. Cl. 6. 10-27-25.
205,122. NUGGET. Cl. 46. 11-3-25.
205,198. SATIN BOLERO. Cl. 42. 11-3-25.
205,487. DENTALONE. Cl. 18. 11-10-25.
205,526. B.F.I. Cl. 18. 11-10-25.
412,186. SATINTEX. Cl. 39. 2-20-45.
412,187. THRIFT CRAFT. Cl. 39. 2-20-45.
412,444. THRIFT LOOM. Cl. 39. 3-6-45.
412,556. MOUNTAINEER. Cl. 39. 3-13-45.
412,697. AIRY FAIRY. Cl. 46. 3-20-45.
413,413. ALUMCO. Cl. 12. 4-24-45.
413,959. IMPERIAL. Cl. 3. 5-22-45.
413,985. LILIPUT. Cl. 21. 5-22-45.
414,085. TRI-BASIC. Cl. 6. 5-22-45.
414,136. RWAY. Cl. 32. 5-29-45.
414,149. EXALGAE. Cl. 6. 5-29-45.
414,189. KOPEEFUN. Cl. 22. 5-29-45.
414,195. DUBARRY. Cl. 51. 5-29-45.
414,287. FLAMBEAU RED. Cl. 16. 6-5-45.
414,520. STRATOLINER. Cl. 39. 6-12-45.
414,766. PQ AND DESIGN. Cl. 52. 6-26-45.
414,882. AEROMATIC AND DESIGN. Cl. 32. 7-3-45.
415,391. REPRESENTATION OF A SHOEMAKER (DESIGN). Cl. 39. 8-7-45.
415,411. CHOBILE. Cl. 18. 8-7-45.
415,412. TERHYDROL. Cl. 18. 8-7-45.
415,516. SHORT SNORTER. Cl. 48. 8-7-45.
415,556. NO SOONER SAID THAN DONE DEPARTMENT. Cl. 38. 8-7-45.
415,625. ARMOURCLAD. Cl. 4. 8-14-45.
415,778. LIFE IN HOLLYWOOD DEPT. Cl. 38. 8-14-45.
415,779. NON-STOP SENTENCE DERBY. Cl. 38. 8-14-45.
415,780. THAT WAS NEW YORK. Cl. 38. 8-14-45.
416,439. RATEL. Cl. 21. 9-11-45.
416,620. CANRITE. Cl. 52. 9-25-45.
416,682. DESIGN OF ORANGE BAND. Cl. 23. 9-25-45.
416,785. WISHBONE. Cl. 44. 9-25-45.
417,317. JANIE. Cl. 52. 10-23-45.
417,321. TROOPERTWILL. Cl. 42. 10-23-45.
417,426. ECLIPSE. Cl. 46. 10-30-45.
417,461. NOPCOGEN. Cl. 6. 10-30-45.
417,475. NURSERYTYME. Cl. 32. 10-30-45.
417,553. BADGER. Cl. 26. 10-30-45.
417,618. FIDELITY X-VAR STRIPPER AND DESIGN. Cl. 16. 11-6-45.

TRADEMARK REGISTRATIONS CANCELED

Section 7(d)

422,007. CERECILLIN. Cl. 6. 6-25-46.

Section 8

305,494. SEEZ OZ AND UNDERLINE. Cl. 6. 8-15-33.
325,121. FRICTION PROOF AND DESIGN. Cl. 15. 6-11-35.
325,466. NORTH COUNTRY Cl. 46. 6-25-35.
331,515. RED BIRD AND DESIGN. Cl. 6. 1-14-36.
364,985. COOL-WAVE. Cl. 34. 2-21-39.
366,015. TARGET. Cl. 13. 3-28-39.
366,246. AUTOYRE. Cl. 23. 4-4-39.
366,557. BERRY BROS. & CO. Cl. 47. 4-18-39.
368,148. DU PONT. Cl. 32. 6-6-39.
368,258. FAERIE SURELOCK. Cl. 42. 6-13-39.
375,220. SILVER SHORE. Cl. 46. 2-13-40.
387,730. FULLERIZED. Cl. 42. 5-27-41.
410,619. MARLIN AND DESIGN. Cl. 28. 12-5-44.
411,812. HERCULOX. Cl. 42. 2-6-45.
444,141. AIRWAVE. Cl. 34. 8-15-51.

The following registrations issued June 2, 1959

679,431. ORTHOPLENE. Cl. 1.
679,432. PARAPLENE. Cl. 1.
679,433. CAPLENE. Cl. 1.
679,434. METAPLENE. Cl. 1.
679,435. LOCK-PROOF AND DESIGN. Cl. 2.
679,436. SNOW DRIFT. Cl. 2.
679,439. DIAMOND GARDNER AND DESIGN. Cl. 2.
679,444. STABILOGUM. Cl. 5.
679,449. FABS. Cl. 6.
679,467. SIZ. Cl. 6.
679,470. HIBOR. Cl. 6.
679,492. NORUSOL. Cl. 16.
679,500. BAC-SPOR-CID BSC. Cl. 18.
679,502. THEOPHYLEX. Cl. 18.
679,503. CHICK-N-ZYME. Cl. 18.
679,505. CHICKZYME. Cl. 18.
679,508. DRI-UP. Cl. 18.
679,516. INFORMATION POST. Cl. 21.
679,526. IMPERIAL. Cl. 21.
679,529. CAR-DEL. Cl. 21.
679,537. MADISON AVENUE AND DESIGN. Cl. 22.
679,540. STACKS BUILDER. Cl. 22.
679,541. STRIKE 300. Cl. 22.
679,548. EASY-RINK. Cl. 22.
679,550. STAMPI AND DESIGN. Cl. 23.
679,552. CITSAFE. Cl. 23.
679,556. BAG-O-MATIC. Cl. 23.
679,559. SKYRAK. Cl. 23.
679,570. SPEED SPRAY SR. Cl. 23.
679,573. TREND. Cl. 23.
679,574. TEMCO. Cl. 23.
679,579. JEMCO AND DESIGN. Cl. 23.
679,581. UNITED ELECTRODYNAMICS. Cl. 26.
679,584. VIEWPAK. Cl. 26.
679,585. STEAK-TENDER. Cl. 26.
679,595. GLO-RAY. Cl. 28.
679,596. VACULINE. Cl. 31.
679,601. THE NUMBER ONE MATTRESS AND DESIGN. Cl. 32.
679,603. PALACENE. Cl. 32.
679,604. HYWORTH. Cl. 32.

679,612. SAF-E-FIRE ETC. AND DESIGN. Cl. 34.
679,614. SALTMASTER. Cl. 34.
679,616. AM-PAK. Cl. 34.
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Grapette Co., The, d.b.a. Grapette Products Co., Camden, Ark. 792,996, pub. 7–28–64. Cl. 45.
Grapette Products Co.: *See*—
    Grapette Co., The.
Green, Jonathan, & Sons, Kearney, N.J. 792,755, pub. 5–4–65. Cl. 1.
Greenwich Games, New York, N.Y. 679,537, canc. Cl. 22.
Guerdon Industries, Inc., Southfield, Mich. 792,856, pub. 5–4–65. Cl. 19.
Hale Co., The, Tulsa, Okla. 792,811, pub. 5–4–65. Cl. 13.
Hallmark Cards, Inc., Kansas City, Mo. 792,957, pub. 5–4–65. Cl. 38.
Hansen Records Inc., New York, N.Y. 679,623, canc. Cl. 36.
Harer, Mary Jo, Los Angeles, Calif. 792,868, pub. 5–4–65. Cl. 22.
Hargreaves Industrial: *See*—
    Hargreaves, Robert F.
Hargreaves, Robert F., d.b.a. Hargreaves Industrial, Portland, Oreg. 679,614, canc. Cl. 34.
Hart, Charles C., Seed Co., The, Wethersfield, Conn. 792,760, pub. 5–4–65. Cl. 1.
Hartford Mattress Co. Inc., to Hartford Mattress Corp., Hartford, Conn. 414,882, ren. 7–20–65. Cl. 32.
Hartford Mattress Corp.: *See*—
    Hartford Mattress Co. Inc.
Hart's Hatchery, Inc., Medford, Oreg. 792,750, pub. 8–21–62. Cl. 1.
Hayden, Fred H., d.b.a. The Aztec Golf Bag Mfg. Co., St. Petersburg, Fla. 792,885, pub. 5–4–65. Cl. 22.
Hays Corp., The, Michigan City, Ind. 305,494, canc. Cl. 6.
Heminway Silk Co., The, Watertown, Conn., to Belding Heminway Co., Inc., New York, N.Y. 205,198, ren. 7–20–65. Cl. 42.
Hendedon Furniture Industries, Inc., Morganton, N.C. 792,919, pub. 5–4–65. Cl. 32.
Hennessy Lubricator Co., Inc., Chambersburg, Pa. 792,925, pub. 5–4–65. Cl. 35.
Hertz System, Inc., New York, N.Y. 793,128. Cl. 102.
Hertzberg New Method, Inc., Jacksonville, Ill. 792,937, 5–4–65. Cl. 38.
Hi-G, Inc., Windsor Locks, Conn. 792,859, pub. 10–20–64. Cl. 21.
Hi-Water Co., Inc., Chicago, Ill. 793,024, pub. 5–4–65. Cl. 46.
Holiday Inns of America, Inc., Memphis, Tenn. 792,791, pub. 5–4–65. Cl. 6.
Holiday Inns of America, Inc., Memphis, Tenn. 793,077, pub. 5–4–65. Cl. 52.
Home News Publishing Co., New Brunswick, N.J. 792,949, pub. 5–4–65. Cl. 38.
Honegger-Huette Lumber Co., d.b.a. Car-del Products Co., Fairbury, Ill. 679,529, canc. Cl. 21.
Hooker Chemical Corp., Niagara Falls, N.Y. 792,825, pub. 5–4–65. Cl. 15.
Hooper, William E., and Sons Co.: *See*—
    Bidwell, John A., Co., Inc.
Horlacher Brewing Co., Allentown, Pa. 415,516, ren. 7–20–65. Cl. 48.
Horton, A. Allen, d.b.a. Acid-Eze Co., Trion, Ga. 792,836, pub. 5–4–65. Cl. 18.
House of Zelinkoff: *See*—
    Zelinkoff, Milton A.
Howard Industries, Inc., Racine, Wis. 679,683, canc. Cl. 44.
Howey, E. M., Woodbury, N.J. 793,072, pub. 5–4–65. Cl. 52.
Hudnut, Richard, Morris Plains, N.J. 197,836, ren. 7–20–65. Cl. 51.
Hudnut, Richard, Morris Plains, N.J. 200,218, ren. 7–20–65. Cl. 51.
Hudnut, Richard, Morris Plains, N.J. 414,195, ren. 7–20–65. Cl. 51.
Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co., Fullerton, Calif. 792,829–31, pub. 5–4–65. Cl. 16.
Hydraulic Press Brick Co.: *See*—
    Streator Brick Co.
Hygrade Food Products Corp., Detroit, Mich. 793,018, pub. 5–4–65. Cl. 46.
Iceland Products, Inc., New York, N.Y. 679,730, canc. Cl. 46.
Independent Television Corp., New York, N.Y. 792,945, pub. 5–4–65. Cl. 38.
Inertol Co., Inc., Newark, N.J., to Koppers Co., Inc., Pittsburgh, Pa. 414,149, ren. 7–20–65. Cl. 6.
Inter-American Food Products, Inc., Long Island City, N.Y. 792,999, pub. 5–4–65. Cl. 46.
International Chemical Co., Inc.: *See*—
    Morch, A. B.
International Dinner Theatres, Ltd., Richmond, Va. 793,039, pub. 5–4–65. Cl. 50.
International Drug Trading Inc., Detroit, Mich. 793,048, pub. 5–4–65. Cl. 51.
International Nickel Co., Inc., The, New York, N.Y. 792,824, pub. 5–4–65. Cl. 14.
International Nutria Marketing Association, Watonga, Okla. 793,095, pub. 5–4–65. Cl. 200.
International Pharmaceutical Corp., Norristown, Pa. 792,843, pub. 5–4–65. Cl. 18.
Irwin, Neisler & Co., to Neisler Laboratories, Inc., Decatur, Ill. 415,411–12, ren. 7–20–65. Cl. 18.
Jack's Franchising Co., Inc., Birmingham, Ala. 793,082, pub. 5–4–65. Cl. 100.
Jackson Vibrators, Inc., Ludington, Mich. 792,890, pub. 10–20–64. Cl. 23.
Jain-Sac Clothing Co., Inc., New York, N.Y. 792,975, pub. 5–4–65. Cl. 39.
Jarke Corp., Chicago, Ill. 792,765, pub. 5–4–65. Cl. 2.
Jefferson Chemical Co., Inc., Houston, Tex. 792,782, pub. 5–4–65. Cl. 6.
Jergens, Andrew, Co., The, Cincinnati, Ohio. 793,056, pub. 5–4–65. Cl. 51.
Johanesen Engineering & Mfg. Co. Inc., Chicago, Ill. 679,579, canc. Cl. 23.
Johns-Manville Corp., New York, N.Y. 792,764, pub. 5–4–65. Cl. 1.
Johnson, Fabian, d.b.a. Fab Products Co., New Milford, Conn. 679,449, canc. Cl. 6.
Johnson & Johnson, New Brunswick, N.J. 679,596, canc. Cl. 31.
Johnson Publishing Co., Inc., Chicago, Ill. 793,053–4, pub. 5–4–65. Cl. 51.
Johnson, S. C., & Son, Inc., Racine, Wis. 793,074, pub. 5–4–65. Cl. 52.
Jordon Commercial Refrigerator Co., Philadelphia, Pa. 792,914, pub. 5–4–65. Cl. 31.
Junkunc Bros. American Padlock Co., Chicago, Ill. 793,110. Cl. 32.
Kaplan, H. Leland, Houston, Tex. 792,932, pub. 5–4–65. Cl. 38.
Karfo, John K., New York, N.Y. 793,034, pub. 5–4–65. Cl. 50.
Kaumagraph Co., New Castle, Del. 792,942, pub. 5–4–65. Cl. 38.
Kay, Peter, Uniform Corp., Woodside, N.Y. 792,966, pub. 5–4–65. Cl. 39.
Kaydan Products Development Corp., Havertown, Pa. 792,909, pub. 5–4–65. Cl. 29.
Kayes, Henry V., d.b.a. Burnie Bluflame, Denver, Colo. 793,083, pub. 5–4–65. Cl. 101.
Kayot, Inc., Mankato, Minn. 792,854, pub. 5–4–65. Cl. 19.
Kayser-Roth Corp., New York, N.Y. 792,977, pub. 5–4–65. Cl. 39.
Kelly, Martin H., d.b.a. Sandy New, Lincroft, N.J. 792,759, pub. 5–4–65. Cl. 1.
Kemlite Corp., Joliet, Ill. 792,808, pub. 5–4–65. Cl. 12.
Kendall Co., The, Walpole, Mass. 411,812, canc. Cl. 42.
Kendall Co., The, Walpole, Mass. 792,983–4, pub. 5–4–65. Cl. 42.
Kessler, Louis, d.b.a. Novelty Games Co., Brooklyn, N.Y. 792,876, pub. 5–4–65. Cl. 22.
Klarman, Wallace, d.b.a. Beaux Art Materials, Atlanta, Ga. 793,036, pub. 5–4–65. Cl. 50.
King, John, & Son Ltd.: *See*—
    King, John, & Son.
King, John, & Son, to John King & Son Ltd., Glasgow, Scotland. 199,639, ren. 7–20–65. Cl. 42.
Knepper, Bonnie, d.b.a. Knepper Industry, Dewitt, Iowa. 793,108. Cl. 31.
Knepper Industry: *See*—
    Knepper, Bonnie.
Knomark, Inc., Springfield Gardens, N.Y. 793,098. Cl. 4.
Kohner Bros., New York, N.Y. 679,540–1, canc. Cl. 22.
Koppers Co., Inc.: *See*—
    Inerto Co., Inc.
Koppers Co., Inc., Pittsburgh, Pa. 792,778, pub. 5–4–65. Cl. 6.
Kovacevich, John J., Arvin, Calif. 793,007, pub. 2–9–65. Cl. 46.
Krause, Kenneth H., d.b.a. Associated Commercial Attorneys List, New York, N.Y. 792,940, pub. 5–4–65. Cl. 38.
Kroger Co., The, Cincinnati, Ohio. 792,792, pub. 5–4–65. Cl. 6.
Kyova Pipe Co., Ironton, Ohio. 792,813, pub. 5–4–65. Cl. 13.
Labatt, John, Ltd., London, Ontario, Canada. 793,030, pub. 5–4–65. Cl. 48.
Laird Enterprises, Palmdale, Calif. 792,886, pub. 5–4–65. Cl. 22.
Lamb-Grays Harbor Co., Inc., Hoquiam, Wash. 792,900, pub. 5–4–65. Cl. 23.
Lander: *See*—
    Lander Co., Inc.
Lander Co., Inc., d.b.a. Lander, New York, N.Y. 793,045, pub. 9–17–63. Cl. 51.
Lanvin-Charles of the Ritz, Inc., New York, N.Y. 792,971, pub. 5–4–65. Cl. 39.
Larabee Flour Mills Co.: *See*—
    Commander-Larabee Milling Co.
Larus, Robert I., New York, N.Y. 792,916, pub. 5–4–65. Cl. 31.
Lehn & Fink Products Corp., Bloomfield, N.J. 793,055, pub. 5–4–65. Cl. 51.
Lesse, S., & Sons, Inc., Philadelphia, Pa. 792,907, pub. 5–4–65. Cl. 28.
Lilliston Implement Co., Albany, Ga. 792,888, pub. 4–14–64. Cl. 23.
Lilly, Eli, and Co., Indianapolis, Ind. 792,841, pub. 5–4–65. Cl. 18.
Liquid Nitrogen Processing Corp., Malvern, Pa. 792,828, pub. 5–4–65. Cl. 16.
Loewy, Gene, Alvin, Tex. 679,550, canc. Cl. 23.
Loft Candy Corp.: *See*—
    Loft, Inc.
Loft, Inc., New York, N.Y., to Loft Candy Corp., Long Island City, N.Y. 195,435, ren. 7–20–65. Cl. 46.
Lone Star Boat Co., Plano, Tex. 792,857, pub. 5–4–65. Cl. 19.
Los Angeles Smoking & Curing Co., Los Angeles, Calif. 793,022, pub. 5–4–65. Cl. 46.
Luber-Finer, Inc., Los Angeles, Calif. 792,912, pub. 5–4–65. Cl. 31.
Ludlow Papers, Inc., Needham Heights, Mass. 679,431–4, canc. Cl. 1.
Ludwig Scherk, Inc., New York, N.Y. 793,060, pub. 5–4–65. Cl. 51.
Lutz, Max, Co.: *See*—
    Lutz, Max.
Lutz, Max, d.b.a. Max Lutz Co. and Max Lutz Co., McAllen, Tex. 793,021, pub. 5–4–65. Cl. 46.

Lyons Canning Co., Inc.: *See*—
  Salter Canning Co.
MCI Plastics Corp., Howell Township, N.J. 679,435, canc. Cl. 2.
Macdon, Inc., Cle Elum, Wash. 792,855, pub. 5–4–65. Cl. 19.
Mackenzie, Duncan, Co.: *See*—
  Mackenzie, Duncan R.
Mackenzie, Duncan R., d.b.a. Duncan Mackenzie Co., New York, N.Y., to R. S. Cowen, Larchmont, N.Y. 417,317, ren. 7–20–65. Cl. 52.
MacPherson Bros. Leather Co: *See*—
  Stapleton Leather Co.
Majestic Wine Co.: *See*—
  Pioneer Liquor Co., Inc.
Mallinckrodt Chemical Works, St. Louis, Mo. 792,788, pub. 5–4–65. Cl. 6.
Manufacture d'Horlogerie Favre-Leuba S.A., Lancy-Geneva, Switzerland. 792,904, pub. 5–4–65. Cl. 27.
Marino, L., Inc., Brooklyn, N.Y. 793,123. Cl. 50.
Marlin Jewelers, Inc., New York, N.Y. 410,619, canc. Cl. 28.
Mars, Inc., from Mars, Inc., Chicago, Ill. 793,001–5, pub. 5–4–65. Cl. 46.
Martone Distributing Co.: *See*—
  Brunswig Drug Co.
Master Etching Corp., Englewood, N.J. 793,033, pub. 5–4–65. Cl. 50.
Mayer Co., Inc., The, d.b.a. The Mayer Co., Inc., New York, N.Y. 792,970, pub. 5–4–65. Cl. 39.
Mead Corp., The, Dayton, Ohio. 792,766–7, pub. 5–4–65. Cl. 2.
Mel-A-Kard Co., Pittsburgh, Pa. 792,958, pub. 5–4–65. Cl. 38.
Merck & Co., Inc.: *See*—
  Mulford, H. K., Co.
Merit Pharmaceutical Corp. of America, North Miami, Fla. 679,502, canc. Cl. 18.
Messrs. John Cotton, Ltd., Edinburgh, Scotland. 793,101. Cl. 17.
Meston's Travels, Inc., El Paso, Tex. 679,636, canc. Cl. 38.
Meyenberg Milk Products Co.: *See*—
  Meyenberg Milk Products, Inc.
Meyenberg Milk Products, Inc., d.b.a. Meyenberg Milk Products Co., San Francisco, Calif. 793,118. Cl. 46.
Meyenberg Milk Products, Inc., San Francisco, Calif. 793,121. Cl. 46.
Meyers, Louis, & Son, Inc., New York, N.Y. 679,656, canc. Cl. 39.
Mid-America Enterprises, Inc., Ottawa, Kans. 679,570, canc. Cl. 23.
Middishade Co., Inc., The: *See*—
  Middishade Co.
Middishade Co., to The Middishade Co., Inc., Philadelphia, Pa. 201,215, ren. 7–20–65. Cl. 39.
Midland Enterprises, Inc., New York, N.Y. 792,911, pub. 5–4–65. Cl. 30.
Miles Laboratories, Inc., Elkhart, Ind. 792,784, pub. 12–29–64. Cl. 6.
Millet, Jacques, Cannes, Alpes Maritimes, France. 679,717, canc. Cl. 46.
Milprint, Inc., Milwaukee, Wis. 792,960, pub. 5–4–65. Cl. 37.
Minnesota Mining and Mfg. Co.: *See*—
  Di-Noc Mfg. Co., The.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 792,794, pub. 5–4–65. Cl. 6.
Mitsubishi Chemical Industries Ltd., Chiyoda-ku, Tokyo, Japan. 792,798, pub. 5–4–65. Cl. 10.
Modglin Co., Hazlehurst, Miss. 792,908, pub. 5–4–65. Cl. 29.
Mohasco Industries, Inc., Amsterdam, N.Y. 679,676, canc. Cl. 42.
Mohawk Rubber Co., The, Akron, Ohio. 792,924, pub. 5–4–65. Cl. 35.
Mohican Stores, Inc., The, New York, N.Y. 679,700, canc. Cl. 46.
Monroe International, Inc., Orange, N.J., from Tel-Atlas, Inc., Los Angeles, Calif. 793,084–5, pub. 5–4–65. Cl. 101.
Monsanto Chemical Co.: *See*—
  Southern Independent Oil & Refining Co., Inc.
Monsanto Co., St. Louis, Mo. 792,780, pub. 5–4–65. Cl. 6.
Montgomery Ward & Co., Inc., Chicago, Ill. 679,665, canc. Cl. 39.
Morch, A. B., d.b.a. Norus Chemical Co., Hoboken, N.J., from International Chemical Co., Inc., Philadelphia, Pa. 679,492, canc. Cl. 16.
Morris Animal Foundation, Denver, Colo. 793,093, pub. 5–4–65. Cl. 107.
Motloid Co., Inc., The, Chicago, Ill. 792,995, pub. 5–4–65. Cl. 44.
Mulford, H. K., Co., Philadelphia, Pa., to Merck & Co., Inc., d.b.a. Quinton Co. 205,526, ren. 7–20–65. Cl. 18.
McDonald's Corp., Chicago, Ill. 793,024, pub. 5–4–65. Cl. 46.
McGraw-Hill, Inc., New York, N.Y. 792,946, pub. 5–4–65. Cl. 38.
N.V. Koninklijke Kamper Emaillefabrieken, Kampen, Netherlands. 679,612, canc. Cl. 34.
National Combination Storm Window and Door Institute, Inc., New York, N.Y. 679,772–3, canc. Cl. 101.
National Life and Accident Insurance Co., The, Nashville, Tenn. 199,371, ren. 7–20–65. Cl. 38.
National Oil Products Co., Harrison, to Nopco Chemical Co., Newark, N.J. 417,461, ren. 7–20–65. Cl. 6.
National Swimming Pool Institute, Washington, D.C. 793,096, pub. 5–4–65. Cl. 200.
Neisler Laboratories, Inc.: *See*—
  Irwin, Neisler & Co.
Neuhoff, Fred B., Co.: *See*—
  Neuhoff, Fred B.
Neuhoff, Fred B., d.b.a. Fred B. Neuhoff Co., Los Angeles, to Frank M. Wilson Co., Inc., Stockton, Calif. 205,122, ren. 7–20–65. Cl. 46.
Nevada Layout Co.: *See*—
  Gamlin, Arthur.
New, Sandy: *See*—
  Kelly, Martin H.
Newsday, Inc., Garden City, N.Y. 792,941, pub. 5–4–65. Cl. 38.
New York Consolidated Card Co., The, New York, N.Y., to The United States Playing Card Co., Cincinnati, Ohio. 46,490, ren. 7–20–65. Cl. 22.
New York Consolidated Card Co., The, New York, N.Y., to The United States Playing Card Co., Cincinnati, Ohio. 47,550, ren. 7–20–65. Cl. 22.
New York Feather Co., Inc., Brooklyn, N.Y. 792,921, pub. 5–4–65. Cl. 32.
New York Feather Co., Inc., Brooklyn, N.Y. 792,987, pub. 5–4–65. Cl. 42.
New Yorker Magazine, Inc., The: *See*—
  F-R Publishing Corp., The.
Nightwriter Corp., Alexandria, Va. 792,928, pub. 5–4–65. Cl. 37.
Nopco Chemical Co.: *See*—
  National Oil Products Co.
Norcross, Inc., New York, N.Y. 792,935, pub. 5–4–65. Cl. 38.
Northern Furniture Co., to Franklin Industries, Inc., Sheboygan, Wis. 414,136, ren. 7–20–65. Cl. 32.
Northwest Industries, Inc., Albany, Oreg. 793,088, pub. 5–4–65. Cl. 103.
Norus Chemical Co.: *See*—
  Morch, A. B.
Novelty Games Co.: *See*—
  Kessler, Louis.
Nurserytime Products, Inc.: *See*—
  Nurserytime Products.
Nurserytime Products, to Nurserytime Products, Inc., Brooklyn, N.Y. 417,475, ren. 7–20–65. Cl. 32.
Nutrilite Products, Inc., Buena Park, Calif. 792,770, pub. 5–4–65. Cl. 4.
Nutrilite Products, Inc., Buena Park, Calif. 793,081, pub. 5–4–65. Cl. 52.
OA Business Publications, Inc., Elmhurst, Ill. 792,960, pub. 5–4–65. Cl. 38.
Ohio Art Co., The, Bryan, Ohio. 679,436, canc. Cl. 2.
Olympic Foundry Co., Seattle, Wash. 792,815, pub. 5–4–65. Cl. 13.
Oregon Worsted Co., Portland, Oreg. 679,669, canc. Cl. 40.
Oregon Worsted Co., Portland, Oreg. 679,671–2, canc. Cl. 40.
Organic Compost Corp., Germantown, Wis. 792,799, pub. 5–4–65. Cl. 10.
P.C.B. Inc., Dundee, Ill. 793,042, pub. 5–4–65. Cl. 50.
Pacific Steel Pool Corp., Latham, N.Y. 792,804, pub. 5–4–65. Cl. 12.
Packwood, G. H., Mfg. Co., St. Louis, Mo. 793,052, pub. 5–4–65. Cl. 51.
Paddock of California, Inc., Albany, N.Y. 792,806, pub. 5–4–65. Cl. 12.
Palace Metal Products, Inc., Brooklyn, N.Y. 679,603, canc. Cl. 32.
Palmer, S. J., (N/C) Ltd., Newcastle-Upon-Tyne, England. 679,702, canc. Cl. 46.
Palos Verdes Photo Service, Lomita, Calif. 679,788, canc. Cl. 106.
Pandora, Inc., Kansas City, Mo. 793,043, pub. 5–4–65. Cl. 50.
Parke, Davis & Co., Detroit, Mich. 205,487, ren. 7–20–65. Cl. 18.
Parts Inc., Memphis, Tenn. 793,079, pub. 5–4–65. Cl. 52.
Pearce-Young-Angel Co., Greenville, S.C. 793,113. Cl. 46.
Pennsalt Chemicals Corp., Philadelphia, Pa. 792,789, pub. 5–4–65. Cl. 6.
Penprint Publications, Inc., Cleveland, Ohio. 792,947, pub. 4–27–65. Cl. 38.
Perfect Pearl Co.: *See*—
  Gluck, Leo.
Pfizer, Chas., & Co., Inc., New York, N.Y. 792,842, pub. 5–4–65. Cl. 18.
Philadelphia Quartz Co., Philadelphia, Pa. 414,766, ren. 7–20–65. Cl. 52.
Philco Corp.: *See*—
  Philco Radio and Television Corp.
Philco Radio and Television Corp., to Philco Corp., Philadelphia, Pa. 364,985, canc. Cl. 34.
Photo-Line Corp., The, Tulsa, Okla. 679,768, canc. Cl. 52.
Pick-A-Dent Corp.: *See*—
  Wiseman, Adolph D.
Pioneer Liquor Co., Inc., d.b.a. Majestic Wine Co., St. Louis, Mo. 679,745, canc. Cl. 47.
Plymouth Wholesale Corp., New York, N.Y. 792,969, pub. 5–4–65. Cl. 39.
Pollak and Skan, Inc., Chicago, Ill. 793,126. Cl. 100.
Polymers, Inc., Middlebury, Vt. 792,763, pub. 5–4–65. Cl. 1.
Polytop Corp., Slatersville, R.I. 792,814, pub. 5–4–65. Cl. 13.
Princess Grace Doll, Inc., New York, N.Y. 792,872 pub. 5–4–65. Cl. 22.
Proctor & Associates Co., Redmond, Wash. 793,107. Cl. 26.
Progress Paint Mfg. Co., Louisville, Ky. 200,654, ren. 7–20–65. Cl. 16.
Pro-Phy-Lac-Tic Brush Co.: *See*—
  Florence Mfg. Co.
Pyramid Charcoal Briquette Co., Cedar City, Utah. 792,752, pub. 5–4–65. Cl. 1.
Quaker Oats Co., The, Chicago, Ill. 793,025–6, pub. 5–4–65. Cl. 46.
Quinton Co.: *See*—
  Mulford, H. K., Co.

R.I.T.A. Chemical Corp., Chicago, Ill. 792,783, pub. 5–4–65. Cl. 6.
Radio Comics, Inc., New York, N.Y. 679,639, canc. Cl. 38.
Radio Television Products Corp., Grass Lake, Mich. 416,439, ren. 7–20–65. Cl. 21.
Randy Knitwear, Inc., New York, N.Y. 792,965, pub. 5–4–65. Cl. 39.
Ravenswood Panel Corp., Skokie, Ill. 792,803, pub. 5–4–65. Cl. 12.
Raymond Research Corp., New York, N.Y. 793,051, pub. 5–4–65. Cl. 51.
Realtone Electronics Corp., Jersey City, N.J., from Realtone Electronics Corp., New York, N.Y. 792,902, pub. 4–6–65. Cl. 26.
Regie Nationale des Usines Renault Billancourt (Seine), France. 792,850, pub. 12–1–64, Cl. 19.
Regina Grape Products Co., Etiwanda, Calif. 793,119. Cl. 46.
Reheis Co., Inc.: *See*—
  Armour Pharmaceutical Co.
Reichhold Chemicals, Inc., White Plains, N.Y. 792,807, pub. 5–4–65. Cl. 12.
Reliance Chemicals Corp., Houston, Tex. 792,790, pub. 5–4–65. Cl. 6.
Rene St. Clair Products Co.: *See*—
  Brog, Victor.
Retail Clerks International Assn., Non-Inc. Asso., Washington, D.C. 793,094, pub. 5–4–65. Cl. 200.
Retail Clerks International Assn., Washington, D.C. 793,097, pub. 5–4–65. Cl. 13.
Revere Vitamin & Feed Corp., New York, N.Y. 679,729, canc. Cl. 46.
Rimer, Inc., Clinton, S.C. 792,851–3, pub. 5–4–65. Cl. 19.
Rite Grade Corp., New York, N.Y. 679,595, canc. Cl. 28.
Roley, Eula N., Pana, Ill. 679,786, canc. Cl. 105.
Rondo Record Corp., Union City, N.J. 679,621, canc. Cl. 36.
Rouyer Guillet et Cie, Societe Anonyme, Saintes, Charente Maritime, France. 679,731, canc. Cl. 46.
Rozel Industries, Inc., Lincolnwood, Ill. 792,877, pub. 5–4–65. Cl. 22.
Rubinstein, Helena, Inc., New York, N.Y. 679,764, canc. Cl. 52.
S. & K. Shoe Co., Inc., Boston, Mass. 792,962, pub. 5–4–65. Cl. 39.
Salter Canning Co., to Lyons Canning Co., Inc., North Rose, N.Y. 325,466, canc. Cl. 46.
Santina, Washington, D.C. 679,668, canc. Cl. 39.
Savin Business Machines Corp., New York, N.Y. 793,099. (Multiple class, Classes 6 and 26.)
Sayford, Frank M., Co., Brooklyn, N.Y. 679,627, canc. Cl. 37.
Schaffner, Gus J., Co.: *See*—
  Schaffner, Gus J., Jr.
Schaffner, Gus J., Jr., d.b.a. Gus J. Schaffner Co., Pittsburgh, Pa. 793,068, pub. 5–4–65. Cl. 52.
Schenley Distillers, Inc., New York, N.Y. 793,122. Cl. 49.
Schneierson, I., & Sons, Inc., New York, N.Y. 412,186–7, ren. 7–20–65. Cl. 39.
Schneierson, I., & Sons, Inc., New York, N.Y. 412,444, ren. 7–20–65. Cl. 39.
Scholl Mfg. Co., Inc., The: *See*—
  Scholl Mfg. Co., Inc.
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Scholl Mfg. Co., Inc., to The Scholl Mfg. Co., Inc., Chicago, Ill. 204,815, ren. 7–20–65. Cl. 26.
Scholl Mfg. Co., Inc., to The Scholl Mfg. Co., Inc., Chicago, Ill. 204,884, ren. 7–20–65. Cl. 6.
Scholl Mfg. Co., Inc., The, Chicago, Ill. 416,785, ren. 7–20–65. Cl. 44.
Scholten's, W. A., Chemische Fabrieken N.V., Foxhol, Groningen, Netherlands. 679,444, canc. Cl. 5.
Scott Thermo-meter Corp., Rochester, N.Y. 679,585, canc. Cl. 26.
Sealol Winders, Inc., Providence, R.I. 679,574, canc. Cl. 23.
Searle, G. D., & Co., Skokie, Ill. 792,849, pub. 5–4–65. Cl. 18.
Seco Leather Products Co., West New York, to Evans-Aristocrat Industries, Inc., Elizabeth, N.J. 413,959, ren. 7–20–65. Cl. 3.
Sedberry, J. B., Inc.: *See*—
  Sedberry, James B.
Sedberry, James B., Utica, N.Y., to J. B. Sedberry, Inc., Tyler, Tex. 198,629, ren. 7–20–65. Cl. 23.
Seitz-Asbest-Werke Thio & Geo Seitz, Bad Kreuznach, Germany. 793,109. Cl. 31.
Sem-Tek Mfg. Co., Inc., Garwood, N.J. 793,040, pub. 5–4–65. Cl. 50.
Sexauer Co., The, Brookings, S. Dak. 792,753, pub. 5–4–65. Cl. 1.
Sexton, John, & Co., Chicago, Ill. 793,029, pub. 5–4–65. Cl. 46.
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Smico, Inc., Oklahoma City, Okla. 792,899, pub. 5–4–65. Cl. 23.
Smilen Bros., Inc., Brooklyn, N.Y. 679,711, canc. Cl. 46.
Smith, Norman A., Jr., d.b.a. The Dri-Up Co., Arrington, Va. 679,508, canc. Cl. 18.
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  Yankee Shoemakers, Inc., The.
Societe Anonyme Andre Citroen, Paris, France. 679,552, canc. Cl. 23.
"Sokagakkai" Religious Corp., Shinjuku-ku, Tokyo, Japan. 792,938–9, pub. 5–4–65. Cl. 38.
Sourdough Scotty, Inc., Reno, Nev. 679,738, canc. Cl. 46.
Southern Independent Oil & Refining Co., Inc., Evansville, Ind., to Monsanto Chemical Co., St. Louis, Mo. 325,121, canc. Cl. 15.
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Southern Mills, Inc., Atlanta, Ga. 792,990, pub. 5–4–65. Cl. 42.
Spotoil Corp., Seattle, Wash. 792,827, pub. 5–4–65. Cl. 15.
Springs Cotton Mills, The, Lancaster, S.C. 792,992, pub. 5–4–65. Cl. 42.
Staley, A. E., Mfg. Co., Decatur, Ill. 417,426, ren. 7–20–65. Cl. 46.
Stapleton Leather Co., d.b.a. MacPherson Bros. Leather Co., San Francisco, Calif. 679,662, canc. Cl. 39.
State Automobile & Casualty Underwriters, Des Moines, Iowa. 793,086, pub. 5–4–65. Cl. 102.
Stauffer Chemical Co.: *See*—
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Stetson, John B., Co., Philadelphia, Pa. 414,520, ren. 7–20–65. Cl. 39.
Stevens, J. P., & Co., Inc.: *See*—
  Britton Fabrics.
Stevens, J. P., & Co., Inc., New York, N.Y. 792,985, pub. 5–4–65. Cl. 42.
Steward Printers and Lithographers Equipment Co., d.b.a. The Steward Co., Los Angeles, Calif. 792,898, pub. 5–4–65. Cl. 23.
Stewart Dry Goods Co.: *See*—
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Stone, J., & Co. (Deptford) Ltd.: *See*—
  Stone, J., & Co. Ltd.
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Streator Brick Co., Streator, Ill., to Hydraulic Press Brick Co., St. Louis, Mo. 204,636, ren. 7–20–65. Cl. 12.
Success Motivation Institute, Inc., Waco, Tex. 792,953–5, pub. 5–4–65. Cl. 38.
Summers Laboratories, Inc., Fort Washington, Pa. 792,844, pub. 5–4–65. Cl. 18.
Sunkist Growers, Inc.: *See*—
  California Fruit Growers Exchange.
Sunshine Packing Corp., North East, Pa. 679,709, canc. Cl. 46.
Sunspiced Foods Co., Vacaville, Calif. 793,011, pub. 5–4–65. Cl. 46.
Superior Instruments Co., New York, N.Y. 679,801, canc. Cl. 26.
Swank, Inc., Attleboro, Mass. 793,080, pub. 5–4–65. Cl. 52.
Taylor, H. B., Co., Chicago, Ill. 793,028, pub. 5–4–65. Cl. 46.
Teetor, Ralph R., d.b.a. Ralph R. Teetor Engineering Development, Hagerstown, Ind. 792,768, pub. 5–4–65. Cl. 3.
Teetor, Ralph R., Engineering Development: *See*—
  Teetor, Ralph R.
Tel-O-Tronic Industries, Inc., New York, N.Y. 679,516, canc. Cl. 21.
Tennessee Copper Co., Copperhill, Tenn., to Tennessee Corp., New York, N.Y. 414,085, ren. 7–20–65. Cl. 6.
Tennessee Corp.: *See*—
  Tennessee Copper Co.
Texaco Inc., New York, N.Y. 792,826, pub. 5–4–65. Cl. 15.
Texas Instruments, Inc., Dallas, Tex. 792,860, pub. 5–4–65. Cl. 21.
Texas Pharmacal Co., San Antonio, Tex. 793,044, pub. 5–4–65. Cl. 51.
Thompson, Emma M., d.b.a. Granday Canning Co., Key West, Fla. 793,027, pub. 5–4–65. Cl. 46.
Thrift-D-Lux Cleaners, Inc., Los Angeles, Calif. 679,781, canc. Cl. 103.
Tower Products Corp., Brooklyn, N.Y. 679,798, canc. Cl. 21.
Towler Trading Co., Ltd., Kapaa, Kauai, Hawaii. 792,951, pub. 5–4–65. Cl. 38.
Trade-Wind Motorfans, Inc., Pico Rivera, Calif. 444,141, canc. Cl. 34.
Transparent Bag Co., Seattle, Wash. 792,816, pub. 5–4–65. Cl. 13.
Triax Equipment, Cleveland, Ohio. 679,559, canc. Cl. 23.
Tri-Bros. Chemical Corp., Morton Grove, Ill. 793,073, pub. 5–4–65. Cl. 52.
Trumark Mfg. Co.: *See*—
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Trump Laboratories: *See*—
  Trump, Percy P.
Trump, Percy P., d.b.a. Trump Laboratories, Santa Monica, Calif. 679,758, canc. Cl. 51.
Tru-Step, Inc., Goldendale, Wash. 792,887, pub. 5–4–65. Cl. 22.
Turner, John, d.b.a. Turner's, Chinese Camp, Calif. 793,019, pub. 5–4–65. Cl. 46.
Turner's: *See*—
  Turner, John.
United Geophysical Corp., Pasadena, Calif. 679,581, canc. Cl. 26.
United Kingdom Products Co., Ltd.: *See*—
  Esbeco Distilling Corp.
United Merchants and Manufacturers, Inc., New York, N.Y. 792,773, pub. 8–18–64. Cl. 5.
United Shoe Machinery Corp., Boston, Mass. 792,793, pub. 5–4–65. Cl. 6.
U.S. Industries, Inc., New York, N.Y. 792,976, pub. 5–4–65. Cl. 39.
United States Borax & Chemical Corp., Los Angeles, Calif. 679,470, canc. Cl. 6.
United States Borax & Chemical Corp., Los Angeles, Calif. 792,769, pub. 2–2–65. Cl. 4.
United States Playing Card Co., The: *See*—
  New York Consolidated Card Co., The.
United States Playing Card Co., The, Cincinnati, Ohio. 204,255, ren. 7–20–65. Cl. 22.
United States Rubber Co.: *See*—
  United States Rubber Products, Inc.

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Universal American Corp., New York, N.Y. 792,901, pub. 5–4–65. Cl. 23.
Universal Cigar Corp., New York, N.Y. 792,833, pub. 5–4–65. Cl. 17.
Upjohn Co., The, Kalamazoo, Mich. 422,007, canc. Cl. 6.
Utility Appliance Corp., Los Angeles, Calif. 679,616, canc. Cl. 34.
V.I.P. Travel Service, Inc., Chicago, Ill. 793,089, pub. 5–4–65. Cl. 105.
Van Der Schoot, W. R., Inc., Hillegom, Netherlands. 792,762, pub. 5–4–65. Cl. 1.
Van Waters & Rogers, Inc., d.b.a. Wendover Specialties, Inc., Salt Lake City, Utah. 792,781, pub. 5–4–65. Cl. 6.
Verdon Records, Inc., Burbank, Calif. 679,622, canc. Cl. 36.
Viking-Criterion Paper Corp., Long Island City, N.Y. 792,774, pub. 5–4–65. Cl. 5.
Vitadin Pharmaceuticals, Inc., Pawtucket, R.I. 792,840, pub. 5–4–65. Cl. 18.
Wade, Willie C., Stockton, Ga. 792,795, pub. 5–4–65. Cl. 6.
Wallace Silversmiths, Inc., Wallingford, Conn. 679,573, canc. Cl. 23.
Wallerstein Co., Inc., New York, N.Y. 679,503, canc. Cl. 18.
Wallerstein Co., Inc., New York, N.Y. 679,505, canc Cl. 18.
Wall Rope Works, Inc., Beverly, N.J. 792,797, pub. 5–4–65. Cl. 7.
Warner, Harold W., San Diego, Calif. 679,690, canc. Cl. 44.
Warner-Lambert Pharmaceutical Co.: *See*—
  American Chicle Co.
Warren-Ehret Co., Philadelphia, Pa. 19[illegible],849, ren. 7–20–65. Cl. 12.
Warren-Teed Pharmaceuticals Inc., Columbus, Ohio. 792,835, pub. 5–4–65. Cl. 18.
Wegner Canning Co., Inc., to Silver Shore Corp., Inc., Sodus, N.Y. 375,220, canc. Cl.46.
Weldon Tool Co., The, Cleveland, Ohio. [illegible]92,889, pub. 5–19–64. Cl. 23.
Wellington Sears Co., New York, N.Y. [illegible]17,321, ren. 7–20–65. Cl. 42.
Wendover Specialties, Inc.: *See*—
  Van Waters & Rogers, Inc.
Western Iceberg Lettuce, Inc., Salinas, Calif. 793,116. Cl. 46.
Weyerhaeuser Co., Tacoma, Wash. 792,801, pub. 5–4–65. Cl. 12.
Wff'N Proof: *See*—
  Allen, Layman E.
Wham-O Mfg. Co., San Gabriel, Calif. 792,871, pub. 5–4–65. Cl. 22.
Whink Products Co., Eldora, Iowa. 793,125. Cl. 52.
Whirlpool Corp., St. Joseph, Mich. 792,913, pub. 5–4–65. Cl. 31.
Wm. & Daisy Products Co., Chicago, Ill. 679,722, canc. Cl. 46.
Wilson, Frank M., Co., Inc.: *See*—
  Neuhoff, Fred B.
Wilson, Grant, Inc., Chicago, Ill. 792,805, pub. 5–4–65. Cl. 12.
Wilson, Ira, & Sons Dairy Co., Detroit, Mich. 793,114. Cl. 46.
Winters, Daniel R.: *See*—
  Crane Products Mfg. Co., Inc.
Wiseman, Adolph D., d.b.a. Pick-A-Dent Corp., San Francisco, Calif. 793,112. Cl. 44.
Woolworth, F. W., Co., New York, N.Y. 792,968, pub. 5–4–65. Cl. 39.
World Publishing Co., Cleveland, Ohio. 792,959, pub. 5–4–65. Cl. 38.
Yankee Shoemakers, Inc., The, to Sam Smith Shoe Corp., New Market, N.H. 415,391, ren. 7–20–65. Cl. 39.
Zadek-Feldstein Co., Inc., Brooklyn, N.Y. 792,883, pub. 5–4–65. Cl. 22.
Zelinkoff Co., The: *See*—
  Zelinkoff, Milton A.
Zelinkoff, Milton A., d.b.a. The House of Zelinkoff, and The Zelinkoff Co., Wichita, Kans. 792,910, pub. 5–4–65. Cl. 29.
Zymak Biochemical Corp., Bayamon, P.R. 792,786, pub. 5–4–65. Cl. 6.

U.S. GOVERNMENT PRINTING OFFICE : O—1965

U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 27, 1965 Volume 816 Number 4

PATENTS

NOTICES

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Examiner affirmed	280
Examiner affirmed in part	47
Examiner reversed	91
Total	418

Annual Index of Patents

The 1964 edition of the Annual Index of Patents has been published. Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Price: Buckram bound, $6.75.

Dedication

3,187,321.—*Stanley L. Kameny*, Woodland Hills, Calif. OPERATOR-COMPUTER COMMUNICATION CONSOLE. Patent dated June 1, 1965. Dedication filed Apr. 8, 1965, by the assignee, *The Bunker-Ramo Corporation*.

Hereby dedicates to the public that portion of said patent subsequent to November 24, 1981.

Disclaimer

2,963,620.—*Louis I. Knudson*, and *John David Pfeiffer*, Norwich, N.Y. SENSING IGNITER. Patent dated Dec. 6, 1960. Disclaimer filed Apr. 13, 1965, by the assignee, *General Laboratory Associates, Inc.*

Hereby enters this disclaimer to claims 10, 11 and 12 of said patent.

Adjudicated Patents

(D.C. Fla.) Conover Patent No. 2,699,054 (260—559), for TETRACYCLINE. Claims 1–3, 6, 13, 15 and 16 *Held* valid and infringed. *Chas. Pfizer & Co.* v. *Barry-Martin Pharmaceuticals, Inc.*, 241 F. Supp. 191; 145 USPQ 29.

(D.C. Ill.) Flick and Kudlaty Patent No. 2,798,777 (92—161), for CYLINDER MOUNT. Claims 1, 2 and 4 *Held* valid and infringed. *Flick-Reedy Corp.* v. *Hydro-Line Mfg. Co.*, 241 F. Supp. 127; 144 USPQ 566.

(D.C. Ill.) Flick Patent No. 2,842,284 (220—46), for CYLINDER END SEAL FOR FLUID PRESSURE. Claims 1, 2 and 5 *Held* invalid and not infringed. *Id.*

Patents Available for Licensing or Sale

2,716,558. ARTICLE CARRYING AND ROLLING TRANSPORT DEVICE. Anna K. Sullivan, 948½ S. New Hampshire, Los Angeles, Calif., 90006.

2,769,256. TRUCK SCRAPER. Dorothy Ose, 315 8th Ave., Granite Falls, Minn.

2,842,853. PISTOL SHAPED RULE CASE. Clint Hubbert, 7026C Kansas Ave., Plattsburg, N.Y.

3,129,307. DEVICE FOR ACCELERATING THE DISCONNECTION OF ELECTRIC SWITCHES AND FOR EXTINGUISHING THEIR ARC. Jose Munoz de Vargas, Seville, Spain. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

3,130,873. PRESSURIZED PRODUCTS DISPENSING CABINET. Stoner W. Klutz, 2907 Hickory St., Alexandria, Va.

3,175,355. POWER PLANT HOUSING FOR SUPERSONIC AIRCRAFT. Ernst Heinkel, Speyer, Germany. Correspondence to: Michael S. Striker, 360 Lexington Ave., New York 17, N.Y.

3,183,662. HEAT ENGINE. Theodore Y. Kosgren, Sr., 350 Willow Road, Barrington, Ill.

3,187,501. METHOD OF AND APPARATUS FOR AUGMENTING THRUST AND SUPPRESSING SOUND IN AIRCRAFT, ROCKETS, AND THE LIKE. Thomas E. Quick, Wichita, Kans. Correspondence to: Duane C. Bowen, 517 Beacon Building, Wichita, Kans., 67202.

3,188,105. SLED STRUCTURE. John Patrick O. Lee, RFD #3, Putney, Vt.

3,188,608. VEHICLE COMBINATION TURN AND DECELERATION INDICATOR. Adna G. Clarke, Jr., 2131 Armstrong St., Honolulu, Hawaii, 96822.

3,188,762. EMBELLISHED PHOTO-MOUNTS. Philip Morrill, 704 Marumsco Drive, Woodbridge, Va., 22191.

The following patents are offered for non-exclusive licensing by Lear Siegler, Inc., Instrument Division, W. O. Schmidt, Division Counsel, 4141 Eastern Ave., SE., Grand Rapids, Mich., 49508.

3,122,938.	ANTI-BACKLASH GEAR AND GEAR COMBINATION.
3,167,667.	PIEZOELECTRIC FORCE CONTROLLER.
3,186,240.	THERMOELECTRICALLY COOLED GYROSCOPE.

General Electric Company is prepared to grant non-exclusive licenses under the following 19 patents upon reasonable terms to domestic manufacturers.

Applications for license under the following 2 patents may be addressed to: Patent Counsel, Heavy Military Electronics Department, General Electric Company, Legal Section, Bldg. 1, Rm. 36, Court Street Plant, Syracuse, N.Y., 13206.

New Applications Received During May 1965

Patents	7478
Designs	465
Plant Patents	4
Reissues	39
Total	7986

Issue—July 27, 1965

Patents	1326	No. 3,196,458 to No. 3,197,783, incl.
Designs	42	No. 201,742 to No. 201,783, incl.
Reissues	3	No. 25,823 to No. 25,825, incl.
Total	1371	

3,076,193. ELECTRONIC SCANNING OF CIRCULAR ARRAYS.

3,155,821. COMPUTER METHOD AND APPARATUS.

Applications for license under the following 2 patents may be addressed to: General Electric Company, Patent Counsel, Silicone Products Department, Chemical and Metallurgical Division, Waterford, N.Y., 12188.

3,135,713. PROCESS FOR THE PRODUCTION OF ORGANOPOLYSILOXANE RESINS USING CERTAIN AMMONIUM COMPOUNDS.

3,137,720. TRIMETHYLSILYL SUBSTITUTED PHENOLS.

Applications for license under the following 6 patents may be addressed to: Patent Counsel, Major Appliance Division, General Electric Company, Appliance Park, Louisville, Ky., 40225.

3,169,518. ACCESSORY TRIM FOR FREE-STANDING KITCHEN APPLIANCE.

3,176,118. TEMPERATURE CONTROL MEANS FOR CONVERTIBLE DRAWER OVEN.

3,176,484. WASHING MACHINE WITH IMPROVED MEANS.

3,176,541. CONTROL KNOB WITH ADJUSTMENT MEANS.

3,177,739. BELT DRIVEN MEANS FOR SELECTIVELY PROVIDING TWO SPEEDS FROM A SINGLE SOURCE.

3,180,038. AUTOMATIC DRYER CONTROL CIRCUIT.

Applications for license under the following 9 patents may be addressed to: Patent Counsel, Construction Industries Division, General Electric Company, 1285 Boston Ave., Bldg. 1–B, Bridgeport, Conn.

3,160,791. PLUG-IN TYPE PANEL UNIT.

3,171,919. TRIP-FREE CIRCUIT BREAKER WITH MANUALLY OPERATED CONTACT DEFLECTING MEANS.

3,171,928. ELECTRIC CIRCUIT BREAKER WITH CAM SURFACES AND WEDGING ROLLER.

3,171,930. PRECALIBRATED THERMOSTATIC LATCH ASSEMBLY.

3,171,931. MULTIPLE ELECTRIC CIRCUIT BREAKER WITH COMMON TRIP BAR.

3,171,932. MULTIPOLE ELECTRIC CIRCUIT BREAKER WITH COMMON TRIPPING MEANS.

3,172,014. ELECTRIC CONTROL DEVICE PANEL ASSEMBLY WITH LOCKING STRIP.

3,176,550. WIRE STRIPPING MACHINE.

3,185,792. CIRCUIT BREAKER TRIP MECHANISM.

Foreign Patents Received in the Scientific Library as of June 30, 1965

Source	Date received	Highest number
Australia:		
(*Abstracts*)	June 28, 1965	56,973
(*Patents*)	June 10, 1965	253,418
Austria	June 11, 1965	239,900
Belgium	June 30, 1965	628,450
Canada	June 25, 1965	712,285
Czechoslovakia	June 9, 1965	113,101
Denmark	June 21, 1965	100,805
East Germany	June 11, 1965	39,505
Egypt	Mar. 23, 1965	4,968
Finland	Apr. 9, 1965	34,174
France:		
(*Patents*)	June 28, 1965	1,388,850
(*Additions*)	June 8, 1965	84,400
(*Medicaments*)	June 21, 1965	2,250 M
(*Additions*)	May 10, 1965	47 CAM
Germany:		
(*Auslegeschriften*)	May 20, 1965	1,188,520
(*Patents*)	May 20, 1965	1,175,881
Great Britain	June 30, 1965	995,484
India	June 14, 1965	89,253
Ireland	Feb. 9, 1965	23,946
Italy	May 3, 1965	630,000
Japan	June 23, 1965	10,360/65
Netherlands:		
(*Octrooiaanvragen*)	May 3, 1965	1,736/65
(*Patents*)	June 18, 1965	120,124
Norway	May 24, 1965	105,910
Pakistan	Feb. 3, 1964	112,446
Philippine Republic	Apr. 13, 1962	458
Poland	May 5, 1965	49,350
Rumania	June 3, 1965	42,867
Sweden	June 7, 1965	195,797
Switzerland	June 30, 1965	388,129
U.S.S.R.	June 22, 1965	169,455

Australia: First 2,000 incomplete
Belgium: First printed 493,079/1950
Canada: First printed 445,931/1948
Czechoslovakia: Not received between 81,300/1952 and 91,901/1959
Finland: First printed 19,428/1941
First 500 incomplete
Hungary: First received 5,792/1896
Latest 140,582/1951
Ireland: First received 10,000/1929
Italy: First 243,000 incomplete
Rumania: First received 40,380/1957
U.S.S.R.: Not received between 2,496/1928 and 116,000/1958
Yugoslavia: First received 10,001/1933
Latest 16,461/1941

PATENT EXAMINING CORPS

R. A. WAHL, Superintendent

CONDITION OF PATENT APPLICATIONS AS OF JUNE 1, 1965

PATENT EXAMINING OPERATIONS AND GROUPS	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
CHEMICAL EXAMINING OPERATION—P. E. MANGAN, Director.		
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CHEMICAL ENGINEERING, GROUP 180—G. D. MITCHELL, Manager Gas, Liquid and Solid Separation; Gas and Liquid Contact Apparatus; Distillation; Refrigeration; Concentrative Evaporators; Mineral Oils Apparatus; Misc. Physical Processes.	12-18-62	1- 5-61
ELECTRICAL EXAMINING OPERATION—N. H. EVANS, Director.		
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SECURITY, GROUP 220—S. BOYD, Manager Ordnance, Firearms and Ammunition; Radar, Sonar, Directional Radio, Torpedos, Seismic Exploring, Radio-Active Batteries; Nuclear Reactors, Powder Metallurgy, Rocket Fuels; Radio-Active Material.	12-27-62	5-12-60
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INFORMATION STORAGE AND RETRIEVAL, GROUP 240—W. W. BURNS, Manager Data Processing, Computation and Conversion; Storage Devices and Related Art.	7- 5-62	10-30-58
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Total number of pending applications (excluding Designs)	198,522
Total number of Design applications pending	5,223
Total number of applications awaiting action (excluding Designs)	146,049
Total number of Design applications awaiting action	1,905
Date of oldest new application awaiting action	July 5, 1962
Date of oldest amended application awaiting action	March 3, 1958

EXPIRATION OF PATENTS

The patents within the range of numbers indicated below expire during July 1965, except those which may have been extended under the provisions of the Veterans Patent Extension Act (64 Stat. 316 as amended by 66 Stat. 321) and those which may have expired earlier due to shortened terms under the provisions of Public Law 690. A list of Veterans' patents which have been extended appears in the *Annual Index of Patents—1953.*

Patents	Numbers 2,444,412 to 2,446,164, inclusive
Plant Patents	Numbers 799 to 804, inclusive

PATENT EXAMINING OPERATIONS AND GROUPS (Continued)	Actual Filing Date of Oldest Case Awaiting Action	
	New	Amended
MECHANICAL ENGINEERING EXAMINING OPERATION—F. H. BRONAUGH, Director.		
MATERIAL HANDLING, GROUP 310—A. BERLIN, Manager Material or Article Handling and Dispensing; Conveyors; Hoists; Elevators; Article Handling Implements; Store Service; Sheet and Web Feeding; Fluid Sprinkling and Fire Extinguishers; Coin Handling and Check Controlled Apparatus; Classifying and Assorting Solids.	6-18-63	6-30-61
MANUFACTURING; METAL AND PLASTICS WORKING, GROUP 320—N. BERGER, Manager Manufacturing Processes, Assembling, Combined Machines, Special Article Making; Metal Deforming; Sheet Metal and Wire Working; Metal Founding; Plastics Working Apparatus; Plastic Block and Earthenware Apparatus.	10-26-62	10-14-60
MACHINE TOOLS, MECHANISMS AND ELEMENTS, GROUP 340—A. M. HORTON, Manager Machine Tools for Shaping or Dividing Involving Cutting or Breaking; Machine Elements Including Power Transmission Components, Work and Tool Holders.	3- 5-63	9-29-59
TOOLS, JOINTS, AND HARDWARE, GROUP 350—T. J. HICKEY, Manager Miscellaneous Hardware; Tools; Joints; Cutlery; Locks; Fasteners; Rod Pipe and Electrical Connectors; Buckles; Buttons, Clasps, Etc.; Pushing and Pulling.	12-19-62	5- 3-61
FLUID HANDLING, GROUP 360—E. PAUL, Manager Fluid Handling; Valves; Pipes and Tubular Conduits; Fluent Material Handling; Lubrication; Baths, Closets and Sinks; Joint Packing; Centrifugal Bowl Separators.	2- 4-63	8-29-60
POWER PLANTS, MOTORS AND PUMPS, GROUP 370—C. F. GAREAU, Manager Power Plants, Combustion Power Plants, Expansible Chamber Motors, Rotary Motors and Rotary Expansible Chamber Motors, Expansible Chamber Devices and Internal Combustion Engines, Pumps and Pump Regulation.	4- 1-63	6- 7-60
HEAT GENERATION, TRANSFER AND UTILIZATION, GROUP 380—P. L. PATRICK, Manager Furnaces, Liquid Heaters and Vaporizers; Burners, Heat Exchange, Automatic Temperature and Humidity Regulation; Refrigeration; Drying; Ventilation; and Illumination.	4- 8-63	8-25-59
GENERAL ENGINEERING AND INDUSTRIAL ARTS EXAMINING OPERATION—J. A. MANIAN, Director.		
AMUSEMENT, HUSBANDRY AND PERSONAL TREATMENT, GROUP 410—A. RUEGG, Manager Amusement and Exercising Devices; Projectors; Animal and Plant Husbandry; Butchering; Earth Working and Excavating; Fishing etc.; Tobacco; Artificial Body Members; Dentistry; Jewelry; Surgery and Toiletry.	4- 1-63	7-18-61
CIVIL ENGINEERING, GROUP 420—B. BENDETT, Manager Building Structures; Bridges, Closures; Closure Operators; Safes; Earth Engineering; Drilling; Mining.	3- 5-63	4- 4-60
PHYSICS, GROUP 430—R. L. EVANS, Manager Photography; Sound and Lighting; Indicators and Optics; Measuring and Testing; Geometrical Instruments.	1-28-63	6-27-60
TEXTILES AND APPAREL, GROUP 440—R. C. MADER, Manager Textiles, Winding and Reeling; Tying Strands; Apparel; Boot and Shoe Making; Sewing Machines.	2-25-63	10-10-60
TRANSPORTATION, GROUP 450—P. ARNOLD, Manager Railways and Rolling Stock; Brakes; Land Vehicles; Aeronautics; Ships.	3-21-63	9-21-59
FURNITURE AND RECEPTACLES, GROUP 460—W. S. COLE, Manager Furniture; Supports; Cabinet Structures; Receptacles; Baggage.	5-14-63	5-22-61
PRINTING, STATIONERY AND MATERIAL TREATMENT, GROUP 470—L. W. VARNER, Manager Printing; Typewriters; Stationery; Material Treatment.	7-20-62	12-31-58
DESIGNS, GROUP 490—J. A. MANIAN, Manager Industrial Arts; Household, Personal and Fine Arts.	8-12-64	5-11-62

DECISIONS IN PATENT AND TRADEMARK CASES

U.S. Court of Customs and Patent Appeals

IN RE WILLIAM H. COX

No. 7279. Decided April 8, 1965

[52 CCPA —; 342 F.2d 1017; 145 USPQ 138]

1. PATENTABILITY—PROCESS—OBVIOUSNESS.

"On balance, we believe the Board erred in concluding that there is no patentable distinction between the method disclosed by Yost and that claimed by appellant. While it is true that both methods accomplish the same ultimate result, and may possibly utilize the same apparatus, the paths by which the goal is reached are conceptually very different, and we think appellant's path is the easier to travel. This factor, coupled with the absence of any recognition in Yost that alternative paths were possible, compels the conclusion that appellant's method would not have been obvious at the time he invented it."

2. SAME—PARTICULAR SUBJECT MATTER—"ANALYSIS OF SEISMIC RECORDS."

The refusal of certain claims in an application entitled "Analysis of Seismic Records," as unpatentable over the prior art, is reversed.

APPEAL from the Patent Office. Serial No. 823,772.

REVERSED.

George A. Smith for appellant.

Clarence W. Moore (*Jere W. Sears* of counsel) for the Commissioner of Patents.

Before WORLEY, *Chief Judge*, and RICH, MARTIN, SMITH, and ALMOND, Jr., *Associate Judges*

SMITH, *J.*, delivered the opinion of the court.

Appealed claims 9–13 of appellant's application Serial No. 823,772, filed June 29, 1959, relate to "Analysis of Seismic Records" and are drawn to a new use for an old apparatus. While the precise statutory ground of rejection is not easily discernible from the Examiner's answer, the Board appeared to consider the rejection as one for obviousness under 35 USC 103. Both the Solicitor and appellant seem to agree that section 103 is involved and we will proceed on that basis.

In the art of seismic exploration a persistent problem is that the detected signal resulting from a seismic "shot" contains large amounts of noise such as wind through trees, traffic sounds, electrical noise and other irrelevant information. The result is that the pertinent reflected signal which provides the sought-for data to the seismic explorers is obscured and difficult to recognize. A common approach to the problem has been the utilization of filters designed to suppress all frequencies in the detected composite pattern except those corresponding to the pertinent reflected signal. Appellant asserts in his specification, however, that the frequency-filtering approach is not wholly satisfactory due to certain limitations in filter design with respect to frequency response, phase shift and transient properties.

Appellant's specification and claims are directed to a new approach to the problem of signal discrimination and recovery which involves recovering the pertinent signal on the basis of discrimination between wave shapes rather than frequencies alone. In rather simplified form, appellant's method is as follows:

Using known techniques, appellant computes theoretically the waveform which could be expected to be reflected from a particular subsurface conformation. Once he has determined this theoretical "wavelet," he uses it in apparatus capable of continuously multiplying the ordinates of the "wavelet" by the ordinates of an actual, noise-containing seismic signal, and concurrently integrating the products over the time interval of the "wavelet." Such operation results in relative enhancement of the pertinent reflected signal, so that the trained observer is much more readily able to recognize the pertinent signal when it occurs in the complex wave pattern. Repeating the operation a number of times for comparison purposes serves to identify spurious signals resulting from chance correspondence of noise and "wavelet" peaks.

As one of the physical embodiments appellant discloses an optical arrangement said to be capable of performing an actual continuous integration. The preferred embodiment, however, is an electrical system which utilizes a delay line and attenuators. The delay line serves to isolate the ordinates of the actual detected signal waveform, while the attenuators are set in accordance with the ordinates of the theoretical wavelet. Such an arrangement cannot perform a true integration, but only an approximation thereof in terms of a summation of discrete values. The delay line may be electrical, or mechanical or acoustic; the delay may also be accomplished by means of staggered pick-ups on a multi-channel magnetic tape.

Claim 13 is illustrative of those on appeal and reads:

> 13. The new use, for analysis of a seismic waveform varying with time, of an apparatus comprising a tapped delay line providing simultaneously a plurality of outputs each of which represents the value of a waveform at a predetermined different instant of time, means comprising a plurality of attenuators individual to said outputs receiving said outputs and multiplying each by a predetermined individual constant to provide product outputs, means receiving said product outputs and summing them to provide a summed output and means for recording said summed output as a function of the time scale of said waveform, said new use involving introducing a seismic waveform to the apparatus as the waveform involved and adjusting said attenuators to provide as each of said individual constants the amplitude of a corresponding instantaneous portion of an expected reflection of a seismic wave.

The Patent Office relied upon the following patents as prior art:

Yost, 2,794,965, June 4, 1957.
Calvert et al., 2,801,351, July 30, 1957.

Calvert et al. was cited to meet the specific "tapped delay line" limitation of claims 12 and 13 and need not be considered by us, since it is our view that the claims stand or fall together.

Yost discloses apparatus and method for accomplishing the same ultimate result as appellant, i.e., easier identification of a pertinent reflection from a composite seismic trace. In essence, and stated very simply, Yost's method amounts to establishing a representative noise waveform and *subtracting* it from the composite waveform to leave the pertinent reflected signal standing alone. Yost's apparatus is in many ways similar to that disclosed by appellant, and we will assume arguendo that Yost's equipment would be suitable for use in appellant's claimed method with but minor modifications.

Thus the fundamental difference between the method of Yost and appellant's claimed method is clear: Yost establishes an expected *noise* waveform and *subtracts* it from the actual composite waveform in order to *isolate* the pertinent reflected signal. Appellant establishes the waveform of an expected *reflected signal* and *combines* it with the actual composite waveform in such a way as to *augment* the pertinent reflected signal.

Although the Board apparently recognized this difference, it regarded appellant's use of a theoretical wavelet rather than a noise waveform as merely "arbitrary." We think such a characterization of what is the very essence of appellant's claimed new use is erroneous. Indeed, it is the *least* arbitrary feature of the claimed method, since it depends entirely upon the theoretical shape which could be expected for a reflected signal in a particular geological area. And certainly it cannot be seriously argued that the *concept* of using a theoretical wavelet rather than a noise waveform was "arbitrary." It was, as are most unobvious innovations, the product of careful observation of prior art drawbacks and thoughtful reflection on means of overcoming them, with an ultimate *reasoned* (and *not* arbitrary) selection of a particular means.

We agree with appellant that establishing a representative noise waveform, as required by Yost, would in general be much more difficult than establishing the shape of an expected reflection. The Solicitor seems also to agree, for he states: "* * * Yost's approach requires the selection of a truly representative noise wave * * *. This may be difficult in view of the complex nature of the noise wave * * *." We think this factor emphasizes the unobviousness of appellant's method. For if it would have been obvious to add a theoretical reflection rather than subtract noise, we think the desirability of such an expedient makes it probable that Yost would have done so. But we have searched Yost in vain for an indication of any use of a theoretical wavelet instead of a noise pattern.[1]

[1] On balance, we believe the Board erred in concluding that there is no patentable distinction between the method disclosed by Yost and that claimed by appellant. While it is true that both methods accomplish the same ultimate result, and may possibly utilize the same apparatus, the paths by which the goal is reached are conceptually very different, and we think appellant's path is the easier to travel. This factor, coupled with the absence of any recognition in Yost that alternative paths were possible, compels the conclusion that appellant's method would not have been obvious at the time he invented it. [2] The appealed decision is accordingly reversed.

REVERSED.

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[1] The only statement in Yost of even remote pertinence is the following:

> * * * In a similar manner the anomalous or reflection components characteristic of a given area are characterized in a second auto-correlation function * * * which is obtained by similarly operating on a representative reflection record obtained in the same geological area. * * *

What this sentence seems to say, in effect, is that the waveform of a pertinent reflected signal could be determined in the same way as the noise waveform. But there is no suggestion that the former could or should be *used* in the same way as the latter. We do not agree with the Solicitor's conclusion that subtraction of the expected reflected signal instead of noise, so as to indicate the presence of actual reflections as flat valleys among noise peaks, would be "an obvious extension of Yost's signal cancelling idea to the balance of his seismographic trace." Moreover, if such an "extension" *were* obvious, even then it would not necessarily follow that appellant's *product integration* scheme would be patentably indistinguishable from a *subtraction* scheme.

U.S. Court of Customs and Patent Appeals

IN RE LAWRENCE A. HEINLE

No. 7233. Decided April 8, 1965

[—, CCPA —; 342 F.2d 1001; 145 USPQ 131]

1. CLAIM—CONSTRUCTION OF CLAIMS—COMBINATION AND ELEMENT THEREOF—PATENTABILITY—DOUBLE PATENTING.

"Our first point of disagreement is with the Examiner's view that the Heinle patent *claims* the core of the appealed claims 1–5. It should be perfectly clear that it claims a *combination* of the five elements denoted as A, B, C, D, and E. The core is but a single element in that combination, namely E, and it makes no difference to the discussion whether we call it an element or a "sub-combination" as the Patent Office has done. We think it is more properly denoted an element, notwithstanding the detailed specifications given for that element in the claim. It is a single thing. The *inclusion* of an element in a claim to a combination does not make the claim a claim *to* the element, nor is the element "claimed" therein. What is claimed is the totality of what is set forth and what is set forth here very distinctly is a *combination* of five specific elements, each described in more or less detail. The Examiner erred in holding that the core of element E is "claimed in the Heinle patent."

2. Same—Same—Combination.

"We have considered the word 'with' in the opening clause. In our opinion the meaning that must be given to it is, 'in combination *with* A, elements B, C, D, and E.' With that type of opening it *might* be that the claim would go on to describe details of an element A and then state the combination to be one of A *with* E. That is not the case here. Note the word 'and' as preceding element E, grammatically the last element of the five enumerated. If it had been intended to claim a two-element combination of the novel element E with an old spindle, clause E would appropriately have been introduced by the word 'of.' Alternatively, the style of claim 6 at bar would have been used, omitting the word 'with' and joining the two elements with the conjunctive 'and.'"

3. Patentability—Double Patenting.

In connection with the statements that "What the patent describes and claims as the invention involves a special wooden spindle (not of the endwise telescoping type but of the kind having end pins to drop in slots in a wall bracket), containing recesses in which spring-actuated holding elements are mounted to project outwardly and engage the ends of apertures in the tubular core of the toilet paper roll *to prevent it from shifting axially* on the spindle" and the statements that "Appellant has now brought before us an application which describes the *same* apertured core described in the patent * * * together with added description of *different* commonplace spindles of the endwise telescoping variety, and is urging the patentability of claims to this *element* (claims 1–5) as a patentable invention on its own account and of a claim (6) to the combination of this novel element (novelty not being questioned) with an old element, namely the *telescoping* spindle, which is not even shown in the patent," *Held* that "We do not find the grounds of rejection as stated by the Examiner and the Board under the head of double patenting to be supportable in fact or in law."

4. Patent—Patent Grant—Right to Use at Expiration.

"The issuance of a patent is no guarantee or even a representation that everything disclosed in it is immediately free of patent or other restraints legally created under the law. Should there be such other patents still in force when a patent expires, the monopoly of the expiring patent is not 'extended'; that monopoly ends and any other patents which may affect the rights of the public to use something the expiring patent discloses stand on their own legal foundations. The expiration of a patent right is not a guarantee of a right to use. The right to make, use or vend any given thing may be, and often is, subservient to several patents expiring at different times."

5. Patentability—Double Patenting—Combination and Element.

"We find the * * * claims directed to the core per se to have been improperly rejected for double patenting because the Patent Office was wrong in contending they are directed to the essential distinguishing feature of the combination claimed in the patent if, indeed, it does not contend that the patent actually claims the core, which we have held it does not do."

6. Same—Same—New Combination.

"* * * it [claim 6] is drawn to a combination of the novel core and an old telescoping spindle. As to it the Solicitor's brief says, erroneously, 'claim 6 recites specifically the same combination as that of the patent, since the claim [6] does not exclude the holding elements.' This is a non sequitur. Inspection of claim 6 will show that it is drawn to a different combination from the claim of the patent. Specifically, in claim 6 element A is an axially telescoping or expanding spindle; in the patent claim, supra, the spindle structure is made of the sub-combination of elements A, B, C, and D, a very different mechanism. The fact that claim 6 on appeal does not *exclude* holding elements is of no relevancy. The fact is it is drawn to the combination of a specific type of spindle, which is old, different from that claimed in the patent, and the specific core element, which is new. The functional relationships of the elements of the two combinations are different. We feel that claim 6 is a proper alternative way of claiming appellant's invention. The functional advantage of the core of claims 1–5 when it is used with the conventional telescoping spindle is that it simplifies the removability of the old telescoping spindle and this appears to be a new functional relationship justifying a claim to this combination of the new with the old element as a new combination. It has not been contended that the combination lacks novelty, or would have been obvious, and it certainly possesses more than enough utility to satisfy the law."

7. Same—Same—Terminal Disclaimer—Disclaimer of Sole Claim of Patent.

With reference to a terminal disclaimer in the Heinle application at bar, reducing the term of any patent granted thereon to that of the issued Heinle patent, and to a disclaimer of the sole claim of the patent, *Held* that "* * * we do not find it necessary to rely on the disclaimers, or either of them, to reverse in this case," that the disclaimers are "* * * effective in removing two of the frequently cited reasons given in support of double patenting rejections, extension of monopoly in point of time and prevention of the issuance of two patents on one invention," and that "With the disclaimers of record, we can find no possible support for the double patenting rejections in this case."

8. Application—Disclosure—Sufficiently of Disclosure.

"Our inspection of the application drawings leads us to agree with the Board that FIG. 2 depicts a pair of slots with the claimed width dimensions and to disagree that FIGS. 1 and 4 fail to show that same dimension. The latter figures are perspective views and it seems to us that they conform to the one-fourth circumference limitation almost exactly. But the claim requires only an approximation. Since we believe an amendment to the specification to state that one-fourth of the circumference is the aperture width would not violate the rule against 'new matter,' we feel that supporting disclosure exists."

9. Patentability—Particular Subject Matter—"Toilet Paper Core."

The decision of the Board of Appeals refusing all claims in an application entitled "Toilet Paper Core" on the ground of double patenting, and two claims as without support in the disclosure, is reversed.

Appeal from the Patent Office. Serial No. 816,848.

REVERSED.

Karl A. Limbach for appellant.

Clarence W. Moore (*Fred W. Sherling* of counsel) for the Commissioner of Patents.

Before Rich, *Acting Chief Judge*, and Martin, Smith, and Almond, Jr., *Associate Judges*, and Judge William H. Kirkpatrick, *United States Senior District Judge for the Eastern District of Pennsylvania*.

Rich, *J.*, delivered the opinion of the court.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 1–6, all claims in application Serial No. 816,848, filed May 29, 1959, entitled "Toilet Paper Core." This application is stated to be a continuation-in-part of application Serial No. 271,938, filed February 16, 1952, on which Patent No. 2,889,121 issued June 2, 1959. The main issue is double patenting.

The Invention

The invention is an improvement in the cylindrical cardboard core on which the commonly used roll of toilet paper is wound. The fixtures of one common type used to support such rolls are provided with cylindrical spindles having two telescoping parts which expand axially under the influence of a spring so that the spindle ends engage in sockets. In removing such a spindle from the fixture after the paper has been consumed it is necessary to grasp the spindle and move it axially. There is some difficulty in doing this when the spindle is covered by the empty cardboard core. We quote the apt description of the specification:

> * * * the close spacing of the ends of the support spindle * * * with respect to the adjacent sidewalls of [the] holder * * * makes difficult, finger insertion therebetween for the purpose of removal of the spindle by effecting the above described axial movement of same. As a consequence nails are broken and fingers are pinched in the process of spindle removal. Further, it is difficult to effect sufficient axial movement of the spindle for its removal from the holder by employing the alternate method of collapsing the core about the spindle, because of the problem of getting sufficient gripping engagement between the core and the typically slick surfaced spindle.

The invention obviates this difficulty and resides in the provision of a pair of opposed elongated slots in the core large enough so that the spindle can be gripped through the slots for removal. Claim 3, which we have broken up into lettered clauses, reads:

> 3. A toilet paper core
> [*a*] adapted for use with a support spindle insertable within the core and requiring axial movement through an operating distance for its removal from spindle end support means,
> said core being
> [*b*] of tubular shape
> [*c*] having diametrically opposed apertures disposed centrally of the length of the core,
> [*d*] with the circumferential width of each of said apertures being approximately one-fourth of the circumference of said core
> [*e*] thereby permitting passage therethrough of fingers for access to and gripping of said support spindle
> [*f*] and the axial length of said apertures being at least as large as said width plus said operating distance.

Claims 1–5 are all directed to "A toilet paper core" but claim 6, rejected on different grounds, is directed to a combination. It reads as follows:

> 6. In combination,
> [A] a support spindle having means for expanding and contracting said spindle axially thereof for an operating distance sufficient to permit insertion and removal of said spindle between opposed spindle receiving walls and latching of said spindle in said walls and
> [B] a tubular toilet paper core
> [1] mounted on side [said] spindle and
> [2] having in its side wall opposed apertures
> [*i*] the circumferential width of each of said apertures being approximately one-fourth of the circumference of said core
> [*ii*] thereby permitting passage therethrough of fingers for access to and gripping of said support spindle
> [*iii*] and the axial length of said apertures being at least as large as said width plus said operating distance.

The correspondence of [2], [*i*], [*ii*], and [*iii*] to limitations [*c*], [*d*], [*e*], and [*f*] of claim 3 will be apparent.

The Rejection

The Examiner and the Board relied on three references:

Heinle, 2,889,121, June 2, 1959.
Schwarzkopf, 1,860,058, May 24, 1932.
McConnell, 2,889,122, June 2, 1959.

Heinle is appellant's own patent, above referred to, issued on the parent application of the application at bar. The applications were copending and it is not "prior art." It is unnecessary to discuss Schwarzkopf or McConnell as they were cited only to show the admittedly old, conventional, telescoping spindles with which appellant's apertured core is used.

There are two grounds of rejection now relied on as summarily stated in the Patent Office Solicitor's brief: claims 1–6 are rejected on the ground of double patenting in view of the Heinle patent and claims 3 and 6 are additionally rejected as "including subject matter having no clear basis in the application as filed."

The Double Patenting Rejection

In considering this rejection we will first state more specifically that claims 1–5 were rejected, in the words of the Board, "on the ground of double patenting with respect to the single claim of the Heinle patent." Claim 6 was rejected, again in the Board's words, "as unpatentable over the Heinle patent claim in view of either Schwarzkopf or McConnell."

As to claims 1–5, we shall deal with them together since no one has pointed to any reason for distinguishing them on the double patenting rejection, or even pointed out the differences between them. As above stated, they are all directed to the core structure per se. The position of the Examiner as distilled in his answer was that "The structure of the core recited in these [appealed] claims is deemed to be clearly disclosed and claimed in the Heinle patent." The Board accepted this view and affirmed on it, adding its own further thought, as follows:

> * * * the *combination* claimed in the patent *includes* the core tube details of the instant separately claimed sub-combination, as an essential distinguishing feature of said *combination*. Under these circumstances, different concepts are not involved, *the inventions are not distinct*, and double patenting is present. *In re Coleman et al.*, 38 CCPA 1156; 90 USPQ 100; 189 F.2d 976; 1951 CD 475; 650 OG 926.
>
> Accordingly, the instant rejection of claims 1 through 5 will be sustained. [Emphasis ours.]

As the issue revolves around just what the Heinle patent does claim in its single claim, which the Board admitted is to a combination, we set it forth broken down into its elements:

> In combination with
> [A] a cylindrical core-mounting spindle having diametrically opposed, axially extending slots therein,
> [B] holding elements pivotally mounted in said slots for swinging movement from positions within said slots to positions in which they protrude from said slots,
> [*a*] at least one pair of said holding elements being swingable in opposite directions about their respective pivots,
> [C] spring means for urging said holding elements toward the positions in which they protrude from said slots,
> [D] said slots being provided with abutments to limit the amount of protrusion of said holding elements,
> [E] and a core for a roll of paper adapted to be circumposed on the spindle, said core comprising
> [*a*] a readily frangible tube adapted to be sleeved on the spindle and having
> [*i*] diametrically opposed slots through its walls for receiving said holding elements with the holding elements of said pair disposed adjacent opposite end walls of the slots for restricting relative axial motion between said spindle and said core,
> [*ii*] the slots in said core being of such width and length as to permit the free passage of an operator's fingers therethrough to release said holding elements.

[1] Our first point of disagreement is with the Examiner's view that the Heinle patent *claims* the core of the appealed claims 1–5. It should be perfectly clear that it claims a *combination* of the five elements denoted as A, B, C, D, and E. The core is but a single element in that combination, namely E, and it makes no difference to the discussion whether we call it an element or a "sub-combination" as the Patent Office has done. We think it is more properly denoted an element, notwithstanding the detailed specifications given for that element in the claim. It is a single thing. The *inclusion* of an element in a claim to a combination does not make the claim a claim *to* the element, nor is the element "claimed" therein. What is claimed is the totality of what is set forth and what is set forth here very distinctly is a *combination* of five specific elements, each described in more or less detail. The Examiner erred in holding that the core of element E is "claimed in the Heinle patent."[1]

The Examiner said that the core element is "clearly disclosed" in the Heinle patent, as of course it is, otherwise the present application would not be a continuation-in-part thereof, but we do not see what bearing that fact has on the issue before us.

Our second point of disagreement is with the Board's application of *In re Coleman et al.*, 38 CCPA 1156, 189 F.2d 976, 90 USPQ 100, in which this court *reversed* a double patenting rejection. The Board has quoted but a few words from a long paragraph which is a general discussion of the law, the whole of which contains more support for appellant than it does for the rejection. Among other things, the paragraph says:

> It is settled law that a party might be entitled to a patent for a combination *because of the cooperation of the elements contained therein*, and at the same time be entitled to a separate patent for one of the elements of the combination. * * * where the element does not constitute the sole distinguishing novelty in the combination the inventions are distinct and double patenting will not be found. [Original emphasis.]

Even were we to accept the Board's view of the law, for which it cited *Coleman*, we would still not agree with its conclusion for the further reason that we do not agree that the apertured tubular core "sub-combination," as it calls it, is the "essential distinguishing feature" of the combination of the sole claim of the Heinle patent. A mere look at the claim refutes the idea. What the patent describes and claims as the invention involves a special wooden spindle (not of the endwise telescoping type but of the kind having end pins to drop in slots in a wall bracket), containing recesses in which spring-actuated holding elements are mounted to project outwardly and engage the ends of apertures in the tubular core of the toilet paper roll *to prevent it from shifting axially* on the spindle. All of this mechanism is elaborately set forth in the claim as a novel combination.

Appellant has now brought before us an application which describes the *same* apertured core described in the patent, to be sure, together with added description of *different* commonplace spindles of the endwise telescoping variety, and is urging the patentability of claims to this *element* (claims 1–5) as a patentable invention on its own account and of a claim (6) to the combination of this novel element (novelty not being questioned) with an old element, namely the *telescoping* spindle, which is not even shown in the patent.

[3] We do not find the grounds of rejection as stated by the Examiner and the Board under the head of double patenting to be supportable in fact or in law. Without considering several other matters in the record and briefs, we feel constrained to reverse the double patenting rejection for the above reasons. We do take note, however, of certain points worthy of mention.

[4] The Examiner indicated in his answer that he was troubled by the thought "that after the expiration of the Heinle patent to the combination of the spindle and core, the public should be entitled to make and use the core set forth in the claim of the patent. The granting of a second patent claiming the same structure of the core but merely describing it as for a different use appears to improperly extend the monopoly of the first patent." We think we sufficiently answered this type of argument, which we consider legally unsound, in our recent opinion in *In re Sarett*, 51 CCPA 1180, 327 F.2d 1005, 140 USPQ 474, particularly in the 7th, 8th, and 9th paragraphs following the heading "The Relationship Between Appellant's and the Patentees' Inventions." The issuance of a patent is no guarantee or even a representation that everything disclosed in it is immediately free of patent or other restraints legally created under the law. Should there be such other patents still in force when a patent expires, the monopoly of the expiring patent is not "extended"; that monopoly ends and any other patents which may affect the rights of the public to use something the expiring patent discloses stand on their own legal foundations. The expiration of a patent right is not a guarantee of a right to use. The right to make, use or vend any given thing may be, and often is, subservient to several patents expiring at different times. Cf. *In re Mogen David Wine Corp.*, 51 CCPA 1260, 328 F.2d 925, 140 USPQ 575.

Claim 6 deserves a word in addition to claims 1–5. [5] We find the latter claims directed to the core per se to have been improperly rejected for double patenting because the Patent Office was wrong in contending they are directed to the essential distinguishing feature of the combination claimed in the patent if, indeed, it does not contend that the patent actually claims the core, which we have held it does not do.

[6] Claim 6, supra, is drawn to a combination of the novel core and an old telescoping spindle. As to it the Solicitor's brief says, erroneously, "claim 6 recites specifically the same combination as that of the patent, since the claim (6) does not exclude the holding elements." This is a non sequitur. Inspection of claim 6 will show that it is drawn to a different combination from the claim of the patent. Specifically, in claim 6 element A is an axially telescoping or expanding spindle; in the patent claim, supra, the spindle structure is made of the sub-combination of elements A, B, C, and D, a very different mechanism. The fact that claim 6 on appeal does not *exclude* holding elements is of no relevancy. The fact is it is drawn to the combination of a specific type of spindle, which is old, different from that claimed in the patent, and the specific core element, which

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[2] [1] We have considered the word "with" in the opening clause. In our opinion the meaning that must be given to it is, "in combination *with* A, elements B, C, D, and E." With that type of opening it *might* be that the claim would go on to describe details of an element A and then state the combination to be one *of* A *with* E. That is not the case here. Note the word "and" as preceding element E, grammatically the last element of the five enumerated. If it had been intended to claim a two-element combination of the novel element E with an old spindle, clause E would appropriately have been introduced by the word "of." Alternatively, the style of claim 6 at bar would have been used, omitting the word "with" and joining the two elements with the conjunctive "and." We have studied the patent specification and while it is in some ways pointed toward the core being the primary invention that is certainly not what is claimed.

is new. The functional relationships of the elements of the two combinations are different. We feel that claim 6 is a proper alternative way of claiming appellant's invention. The functional advantage of the core of claims 1–5 when it is used with the conventional telescoping spindle is that it simplifies the removability of the old telescoping spindle and this appears to be a new functional relationship justifying a claim to this combination of the new with the old element as a new combination. It has not been contended that the combination lacks novelty, or would have been obvious, and it certainly possesses more than enough utility to satisfy the law.

The Disclaimers

Appellant, following the Board's initial decision affirming the rejection, filed a request for reconsideration and at the same time filed (1) a terminal disclaimer in the application at bar, reducing the term of any patent granted thereon to that of the issued Heinle patent, and (2) a disclaimer of the sole claim of the patent. Appellant's purpose was to dispose conclusively of the arguments that (1) allowance of the appealed claims would result in extension of the monopoly of the patent beyond its expiration date and (2) that it would be obtaining two patents on one invention.

The Board, citing *In re Siu*, 42 CCPA 864, 222 F.2d 267, 105 USPQ 428, and other cases, refused to give any effect to the disclaimers, commenting,

> * * * the pertinent statutes do not "warrant the allowance of more than one patent for a single invention independently of the question of extension of monopoly." We deem it immaterial that in these cases there may have been only a terminal disclaimer involved and not as here a disclaimer of the prior patent in addition, since the basic doctrine enounced therein is not affected by the latter disclaimer.

We find the Board's position somewhat difficult to understand. It apparently proceeded wholly on its theory that there is only one invention here. We have already stated why we disagree with that. In *In re Dubois*, 46 CCPA 744, 262 F.2d 88, 120 USPQ 198, also cited by the Board, where we found two inventions to exist, as we do here, we held that a terminal disclaimer "effectively removed from the case any issue of extension of the monopoly * * *." We find the terminal disclaimer here to have a similar effect. In *In re Robeson*, 51 CCPA 1271, 331 F.2d 610, 141 USPQ 485, we held that a terminal disclaimer overcame the extension of monopoly objection to issuing a patent on "an obvious variation" of an invention claimed in an issued patent to the applicant and reversed the "double patenting" rejection. We followed that holding in *In re Kaye*, 51 CCPA 1465, 332 F.2d 816, 141 USPQ 829, and again reversed a double patenting rejection. (We note that these holdings as well as *In re Sarett*, supra, have all been subsequent to the Board's second opinion herein.)

As to the objection that there would be two patents for the same invention, this court held in *In re Hession*, 49 CCPA 809, 296 F.2d 930, 132 USPQ 40 (and the dissenters there were in agreement with the proposition) that a disclaimer of all claims of a patent was effective in removing such an objection. We think it is so effective here.

[7] It should be clear that we do not find it necessary to rely on the disclaimers, or either of them, to reverse in this case. We nevertheless hold the disclaimers to be effective in removing two of the frequently cited reasons given in support of double patenting rejections, extension of monopoly in point of time and prevention of the issuance of two patents on one invention. With the disclaimers of record, we can find no possible support for the double patenting rejections in this case.

Claims 3 and 6

There remains the rejection of these claims because they contain a limitation said to be without support in the disclosure. The limitation is that the width of the apertures in the core is "approximately one-fourth of the circumference of said core" ([*d*] in claim 3 and [2][*i*] in claim 6). The Examiner termed this a "mathematical dimension" and, finding no specific mention of it in the *words* of the specification, rejected appellant's argument that the width dimension of these claims is shown in the drawings and ruled that

> * * * a patent drawing does not define the precise proportions of the elements depicted and thus may not be relied on to show particular distances or sizes when the specification is completely silent in that respect. See *In re Olson*, 212 F.2d 590; 101 U.S.P.Q. 401 [41 CCPA 871].

The Board fully accepted this rejection and reasoning and added, in its second opinion, that

> * * * while FIGURE 2 might be said to depict a slot width of substantially the circumferential proportion involved [,] FIGURES 1 and 4 clearly do not.

First, we note the inexact nature of the limitation, "approximately one-fourth of the circumference" and its function in merely having opposed apertures of sufficient size to permit the fingers and thumb to grasp the spindle through them. In the *Olson* case this court (one judge dissenting) affirmed a refusal to permit reliance on patent drawings of a hydraulic hose coupling containing ball valves in support of claim limitations relating to dimensions "of the order of a few thousandths of an inch." We think the facts there clearly distinguish the *holding* of that case from the situation at bar. In the opinion in *Olson* the court said:

> The Board correctly held, however, that it is proper in support of claims which otherwise could not be allowed, to amend the specification of a pending application to include new matter clearly and conclusively disclosed by the drawings. *Bloodhart* v. *Levernier*, 20 CCPA (Patents) 917, 64 F.2d 367, 17 U.S. Pat. Q. 188; *Wiemer* v. *Coe, Comr. Pats.*, 45 USPQ 407.

This is the familiar rule that the drawings and the specification may be amended to conform to each other and that the added matter will not be deemed technical "new matter" within the prohibition of the law. 35 U.S.C. 132, Rule 118. See also our further discussion of the *Olson* case in *In re Wolfensperger*, 49 CCPA 1075, 302 F.2d 950, 133 USPQ 537.

[8] Our inspection of the application drawings leads us to agree with the Board that FIG. 2 depicts a pair of slots with the claimed width dimensions and to disagree that FIGS. 1 and 4 fail to show that same dimension. The latter figures are perspective views and it seems to us that they conform to the one-fourth circumference limitation almost exactly. But the claim requires only an approximation. Since we believe an amendment to the specification to state that one-fourth of the circumference is the aperture width would not violate the rule against "new matter," we feel that supporting disclosure exists. This rejection was therefore in error.

[9] The decision of the Board is reversed.
REVERSED.

ALMOND, *J.*, concurring, with whom **MARTIN**, *J.*, joins.

I would reverse the double patenting rejection because of the terminal disclaimer filed by appellant. *In re Robeson*, 51 CCPA 1271, 331 F.2d 610, 141 USPQ 485. I cannot agree with the majority that it is unnecessary to rely upon the disclaimers in order to reverse the Board. The core claimed in the application before us is obvious in view of the core which is an element of the patent claims. Thus, allowance of the present application without a terminal disclaimer would result in an unlawful extension of the monopoly. See my dissenting opinion in *In re Allen*, 52 CCPA —, — F.2d —, — USPQ —.

REISSUES

JULY 27, 1965

Matter enclosed in heavy brackets [ ] appears in the original patent but forms no part of this reissue specification; matter printed in italics indicates additions made by reissue.

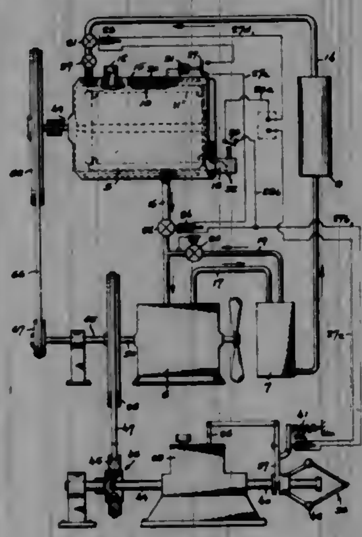
25,823

MOBILE DISPENSING FREEZER

Charles William Clark, Jr., Edmonds, Wash., assignor to Sweden Freezer Manufacturing Co., Seattle, Wash., a corporation of Washington

Original No. 3,052,103, dated Sept. 4, 1962, Ser. No. 56,832, Sept. 19, 1960. Application for reissue Sept. 2, 1964, Ser. No. 405,315

14 Claims. (Cl. 62—135)



14. In combination, a dispensing freezer having a rotary dasher, a normally closed discharge gate, and temperature response means, a second refrigeration load, a refrigeration system for said freezer and second load including a compressor, condenser means, and expansion means connected in refrigerant flow relationship, electrically-operated control valve means for controlling the flow of refrigerant through said freezer, a continuously operating speed-controlled internal combustion engine, means for driving said compressor from the engine, driving means from said engine to said dasher and including a normally disengaged clutch, clutch engaging means for said clutch including electrically actuated means, and control means including an electrical power supply and connected with said temperature response means, clutch engaging means and control valve means for engaging said clutch and for opening said valve means when the temperature of said freezer exceeds a predetermined level.

25,824

PHOTOGRAPHIC SILVER HALIDE EMULSIONS SENSITIZED WITH CYANINE DYES CONTAINING THE BENZISOXAZOLE NUCLEUS

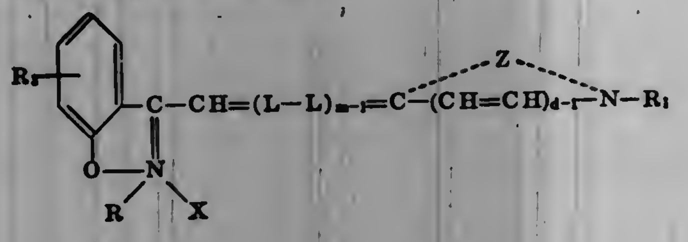
Emil B. Rauch, Port Dickinson, N.Y., assignor to General Aniline & Film Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Original No. 3,071,467, dated Jan. 1, 1963, Ser. No. 96,347, Mar. 17, 1961. Application for reissue Dec. 18, 1964, Ser. No. 432,916

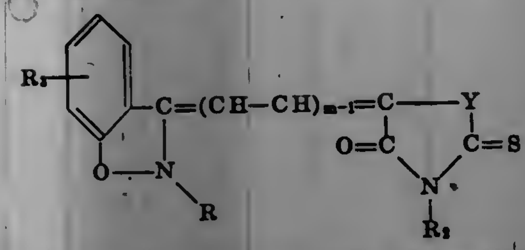
7 Claims. (Cl. 96—106)

1. A photographic silver halide emulsion sensitized with a sensitizing dye selected from those represented by the following general formula:

(I)



(II)



wherein R, R_1 and R_2 each represent a lower alkyl group, R_3 represents [an organic grouping selected from] *a member of* the [class] *group* consisting of *hydrogen*, lower alkyl, chlorine, lower alkoxy, hydroxy, nitro and amino, m is an integer of from 2 to 3, d is an integer of from 1 to 2, X is an anion, L, represents a methine group of the formula $\equiv C—R_4$, wherein R_4 represents a lower alkyl group, Y is selected from the class consisting of O, S and NR_5; wherein R_5 represents a lower alkyl group and Z represents the non-metallic atoms necessary to complete a heterocyclic nucleus of the thiazole series, thiodiazole series, benzothiazole series, quinoline series, pyridine series, and benzisoxazole series.

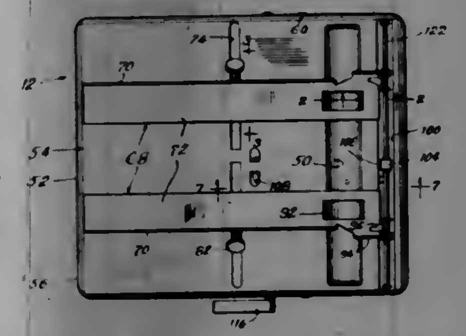
25,825

SHEET FEED CONTROL FOR DUPLICATING MACHINES

Edward M. Springer, Chicago, Ill., assignor, by mesne assignments, to Heyer, Inc., Chicago, Ill., a corporation of Illinois

Original No. 3,029,074, dated Apr. 10, 1962, Ser. No. 795,699, Feb. 26, 1959. Application for reissue Mar. 18, 1964, Ser. No. 363,318

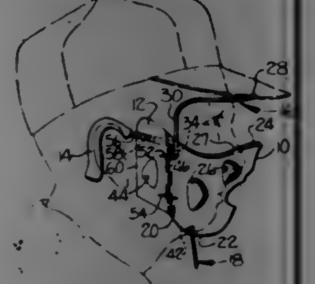
18 Claims. (Cl. 271—61)



1. In a device of the character disclosed, a feed table adapted for mounting on a duplicating machine for placing a stack of copy sheets thereon and for feeding the copy sheets therefrom to the [duplication] *duplicating* machine, a pair of side guides mounted on the feed table for laterally adjusting movements and confining the copy sheets against lateral displacement, and means solely at a leading end of the feed table for controlling release of the copy sheets from the feed table, including a transverse rod, said side guides having slots receiving the end portions of the rod and accommodating vertical movements of the rod, fingers on said rod positioned adjacent the leading end of the stack of sheets to engage the face of the uppermost sheet of the stack at the side edges of the sheet, a post connected with said rod between said fingers and movable vertically with said rod and fingers and forming stop means engaged by the leading edge of all but a relatively small number of copy sheets at the top of the stack, and positively blocking those copy sheets engaging it, said post constituting the sole element disposed ahead of and engaged by the leading edge of the copy sheets, and manually actuated means for raising the assembly that includes the rod, fingers and post.

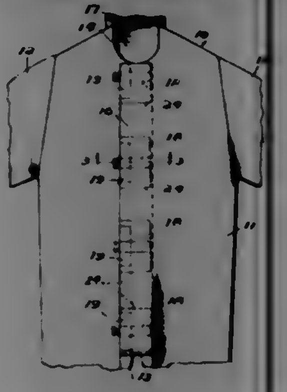
PATENTS
GRANTED JULY 27, 1965
GENERAL AND MECHANICAL

3,196,458
PROTECTIVE MASK
Larry F. Keith, 721 Cooper Drive, Charlotte, N.C.
Filed Aug. 14, 1963, Ser. No. 302,185
12 Claims. (Cl. 2—9)



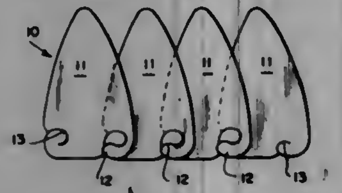
1. A protective mask adapted to be worn on the head of a wearer and comprising a frontal portion formed of stiff non-shattering material adapted to overlie and shield a substantial area of the face of the wearer, means connected to and extending rearwardly from said frontal portion generally toward and terminating short of the ears of the wearer for clamping the mask to the head of the wearer, said clamping means including a pair of side portions formed of stiff non-shattering material, said side portions being pivotally connected to and extending rearwardly from said frontal portion generally toward and terminating short of the ears of the wearer, and spring means biasing said side portions toward each other and into clamping engagement with the head of the wearer.

3,196,459
CLOSURE MEANS FOR A PROTECTIVE GARMENT
Joseph De Grazia, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Army
Filed May 1, 1962, Ser. No. 191,653
6 Claims. (Cl. 2—96)
(Granted under Title 35, U.S. Code (1952), sec. 266)



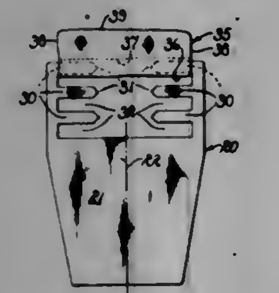
1. In a protective garment including an opening, flaps defining said opening, said flaps including opposed bodies of cohesive material adapted to abut and cohere when said flaps are overlapped and pressed together; the improvement comprising a plurality of vertically spaced and aligned pockets secured to each flap inwardly thereof, said bodies of cohesive material comprising a first row of vertically disposed and spaced strips secured to said pockets of one flap inwardly thereof and a second row of vertically spaced and horizontally arranged strips secured to the pockets of said other flap outwardly thereof, said strips of one flap being adapted to cross said strips of said other flap when said one flap is overlapped on said other flap, and each pocket being adapted to receive at least one finger of a wearer's hand therein, whereby to provide means for manually overlapping said flaps and pressing said crossed strips into cohering relation from inside said garment to close and secure said flaps.

3,196,460
STIFFENING AND CONTOURING MEANS
Marian Halstead, 25 Gramercy Park, New York, N.Y.
Filed Nov. 27, 1961, Ser. No. 154,974
5 Claims. (Cl. 2—255)



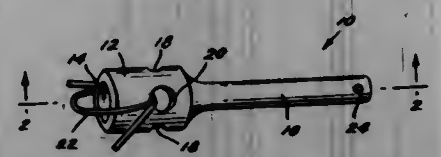
1. An articulated stiffening and contouring device comprising:
  stiffening means;
  said stiffening means comprising, in turn:
    a plurality of individual generally flat resilient members having:
    a periphery of a particular geometric contour;
    said members being disposed in partially overlapping relationship with respect to one another at said periphery; and
    swivel connecting means for articulately joining said members in the aforesaid overlapping relationship;
    enabling said members to individually and conjointly respond to variations in forces applied thereto at more than one plane, and further enabling said stiffening device to be responsive to the contour of substantially planar and curvilinear areas.

3,196,461
COMBINED POCKET HANDKERCHIEF AND SUPPORT
Carroll R. Erhardt, 1717 California Ave., Bakersfield, Calif.
Filed Dec. 2, 1963, Ser. No. 327,459
4 Claims. (Cl. 2—279)



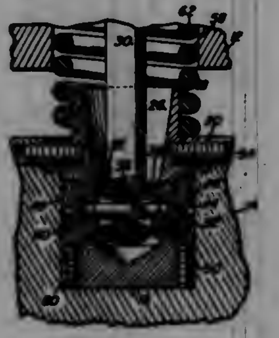
1. A combined pocket handkerchief and support comprising a substantially flat elongated support adapted for insertion and concealment in a breast pocket of a jacket, the support having opposite side edges, a lower entry end and an upper attachment end, and a pair of laterally opposed elongated attachment fingers inwardly oppositely extended from said attachment end of the support; and a handkerchief member having opposite ends and extended between laterally opposed edges, one of said ends having means receiving said fingers in detachable engagement therewith, and the other of said ends having a woven fabric appearance and spaced a predetermined distance from said one end to project from said pocket simulative of a conventional fabric pocket handkerchief.

3,196,462
STAPEDIAL PROSTHESIS
Mendell Robinson, 95 Forest Ave., Providence, R.I.
Filed Sept. 5, 1961, Ser. No. 135,843
3 Claims. (Cl. 3—1)



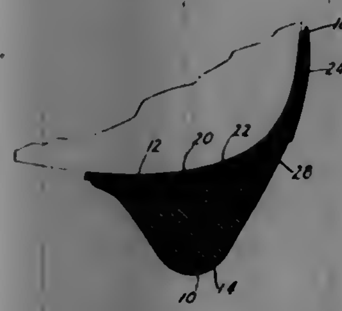
1. A stapedial prosthesis comprising an integral, one-piece body member, said body member having an enlarged open-ended tubular proximal portion, and a reduced solid shank portion extending axially from said proximal portion and centrally disposed with respect thereto, and a pair of apertures extending laterally through said proximal portion, the axes of said apertures being angularly disposed with respect to each other.

3,196,463
ANKLE JOINT FOR ARTIFICIAL LIMB
Clayton S. Farneth, Beaver, Pa.
(R.D. 2, Box 490–A, New Kensington, Pa.)
Filed May 23, 1962, Ser. No. 196,976
5 Claims. (Cl. 3—32)



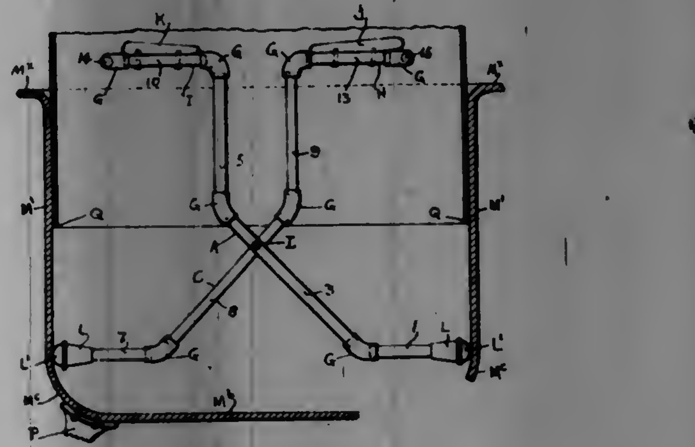
1. An artificial limb including artificial leg and foot members and an ankle joint connecting said members for limited flexibility in each of two vertical planes extending respectively longitudinally and transversely of a foot member, a body with a vertically extending chamber therein, said body being mounted in and fixedly secured to one of said members, a vertically extending rod having one end disposed in and secured to the other of said members and having on its other end a ball secured within and disposed for journaled movement in said chamber, said ball having a passage therethrough with a substantially horizontal axis lying in said transverse vertical plane, an ankle pivot pin carried by said body and extending transversely thereof and through said passage and securing said body and the associated member to said rod, said passage having its mid-portion journaled on said pin and having its opposite end portions of progressively increasing vertical extent from said mid-portion toward its ends providing clearance and limiting the tilting of said body and the associated member about a substantially horizontal axis in said longitudinal vertical plane, said chamber having upwardly divergent inner surfaces engageable by said rod and limiting inclination of said body and its associated member relative to the vertical axis of said rod, said body having therethrough a transverse bore intersecting said chamber and coaxial with said passage horizontal axis, a pair of plugs each movably received in and being removable through an opposite end of said transverse bore and having a bearing surface engaging said ball, said plugs journaling and retaining said ball therebetween and retaining said pivot pin in said passage, a closure means removably received each in an outer end of said transverse bore and each engaging and releasably retaining one of said plugs in said transverse bore.

3,196,464
BREAST PROSTHESIS
Florence C. McKee, 588 Longmeadow St., Longmeadow, Mass.
Filed Jan. 23, 1961, Ser. No. 84,023
5 Claims. (Cl. 3—36)



2. A breast prosthesis formed of foam rubber having a body portion with the shape of a human breast form and a generally flat rear surface from which the breast form projects, and comprising a malleable metal plate of substantial lateral extent imbedded in the prosthesis adjacent said rear surface and generally parallel thereto.

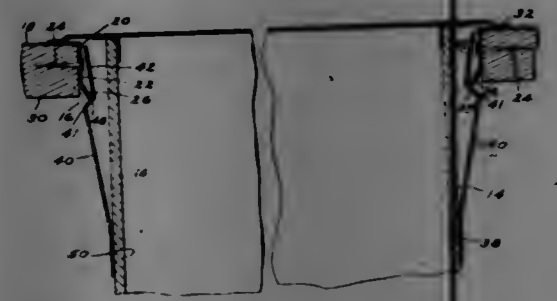
3,196,465
BATH TUB STOOLS
Donald Montgomery, 5 Payne St., West Kildonan, Winnipeg 17, Manitoba, Canada
Filed Dec. 3, 1962, Ser. No. 243,192
3 Claims. (Cl. 4—185)



1. In a conventional bath tub wherein upgoing side walls of the tub have their lower portions converging inwardly and downwardly to support a horizontally disposed tub bottom, a stool inserted in the tub and presenting inner and outer pairs of well spread legs extending transversely of the tub and crossing one another and pivotally interconnected together at their points of crossing by similar pivot pins in horizontal alignment and extending centrally and lengthwise of the tub and said pairs of legs having their outermost lower ends horizontally disposed and in frictional contact with the aforesaid inwardly and downwardly inclining lower portions of the side walls, and similar, horizontally disposed, independent and spaced seat sections extending lengthwise of the tub and fixedly secured to the upper ends of the respective pairs of legs and free of the said upgoing side

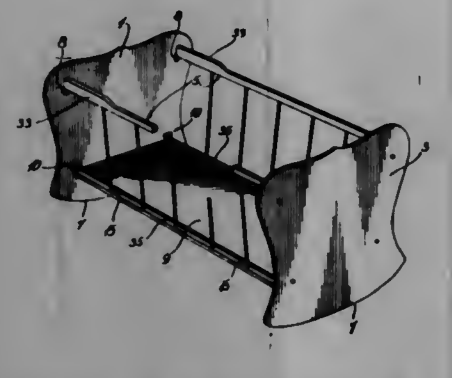
walls, the said pivot pins being so positioned that upon the weight of a sitter being applied on the seat sections, the outer ends of the legs at their points of contact with the inwardly and downwardly converging lower portions of the side walls aforesaid, will develop sufficient out pressure to prevent slippage of the stool under the applied weight of the sitter.

3,196,466
DROP-IN WATER STATION
Paul De Lorenzo, Detroit, Mich., assignor to Delfield Company, Detroit, Mich., a corporation of Michigan
Filed Jan. 28, 1963, Ser. No. 254,343
1 Claim. (Cl. 4—187)



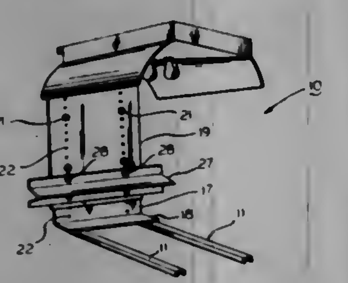
A water cabinet installation comprising a supporting counter having a rectangular opening defined by peripheral walls, a rectangular water cabinet having generally vertical sides and ends telescoped in said opening and provided at its upper end with an outwardly extending supporting flange projecting beyond said sides and ends having an outer marginal portion resting upon the upper surface of said supporting counter about said opening, said peripheral walls being provided with relatively thin elongated elements each of which extends approximately the entire length of the corresponding wall, each of said elements including upper and lower portions, said upper portion forming a base which is in surface to surface contact with and fixedly secured to the corresponding wall, the upper edge of said base being substantially flush with the upper surface of said supporting counter, the lower portion of each element being inclined downwardly and inwardly away from the corresponding wall to provide a retainer, the terminal lower edge of said retainer terminating below the lower surface of said supporting counter, and a plurality of separately formed and attached resilient spring retaining fingers carried by each side and end of said water cabinet and located outside said sides and ends at all times, said retaining fingers including attachment leg portions fixedly secured to said water cabinet, said retaining fingers also including elongated resilient flexing portions extending upwardly from said attachment leg portions, each flexing portion having a straight flat pilot section integral at its lower end with said attachment leg portion and in the free state of said flexing portion extending upwardly and laterally outwardly at an acute angle to the vertical, each flexing portion also having a straight flat retaining section extending upwardly and laterally inwardly from the upper end of said pilot section and a manually operable flat straight section extending upwardly from the upper end of said retaining section parallel to said pilot section, the upper end of said manually operable section defining the upper extremity of said flexing portion and in the free state of said flexing portion terminating in closely spaced relation to and beneath said outer marginal portion of said supporting flange, said pilot sections engaging in sequence said upper edges of said bases and said terminal lower edges of said retainers to cam said flexing portions laterally inwardly upon downward installation of said cabinet, said manually operable sections being adapted to be pressed laterally inwardly by hand to facilitate the downward installation of said cabinet, said retaining sections engaging under the lower edges of said retainers in the installed position of said cabinet to maintain said outer marginal portion in tight sealing engagement with the upper surface of said counter.

3,196,467
HINGED CONNECTIONS FOR FOLDING CRIBS OR THE LIKE
Jan Gradek, St.-Eustache, Quebec, Canada
Filed Oct. 7, 1963, Ser. No. 314,209
4 Claims. (Cl. 5—102)



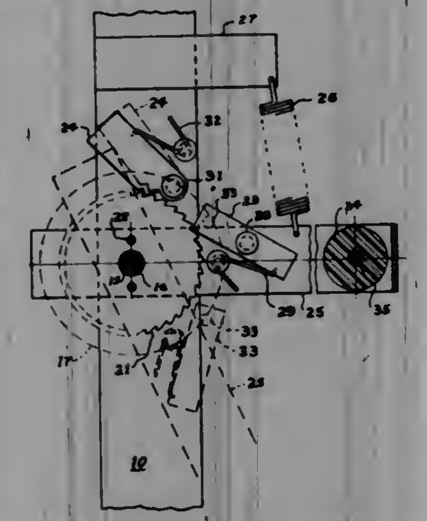
1. In a folding crib having a head and foot panel and two side panels connected thereto so as to fold over said head and foot panels in overlapping relationship, each side panel having a bottom member, hinges for joining said bottom members to said head and foot panels to allow said side panels to swing inwardly towards one another when said crib is unfolded, each hinge comprising: a retainer member, for each end of said bottom member, secured to said head and foot panels; an L-shaped connector member, for each retainer, having two legs perpendicular to one another; one of said legs being loosely received in a downwardly extending groove of each bottom member end whereby the side panels may swing around the axis of said leg; said retainer member having an oblong hole therethrough with a long and a short axis; an extended portion at the end of the other leg of each connector member having an axial extent greater than said short axis and smaller than said long axis; said portion being parallel to the other leg of the connector member.

3,196,468
THERAPEUTIC ACCESSORY FOR BEDS
Arthur C. McWilliams, 333 Barton, Evanston, Ill.
Filed July 23, 1963, Ser. No. 297,030
1 Claim. (Cl. 5—319)



A therapeutic accessory for maintaining the covers of a bed out of contact with the lower extremities of a patient, said accessory comprising a pair of laterally spaced elements extending substantially horizontally between a bed mattress and a support means for a bed mattress, said laterally spaced elements being coterminous with vertical extensions therefrom adapted to be in juxtaposition to the end of a bed mattress, a vertical member supported by said vertical extensions including a canopy extending from said vertical member into a position over a bed mattress and spaced therefrom for supporting said bed covers, means for adjusting the position of said canopy and said vertical member with respect to said vertical extensions, and structure adapted to be adjusted in position with respect to said vertical member and extending beneath a mattress a distance which is greatly less than the length of said laterally spaced elements for maintaining the end of a mattress in a raised opsition at the same time affording engagement of said laterally spaced elements between a mattress and a support means therefor.

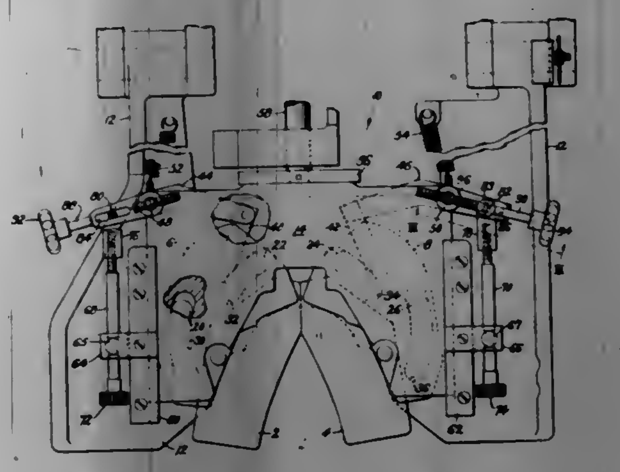
3,196,469
AUTOMATIC BUOY LINE ADJUSTMENT MECHANISM
Joseph C. Anthony, 1004 E. 2nd Plaza,
Panama City, Fla.
Filed Jan. 29, 1964, Ser. No. 341,147
4 Claims. (Cl. 9—8)
(Granted under Title 35, U.S. Code (1952), sec. 266)



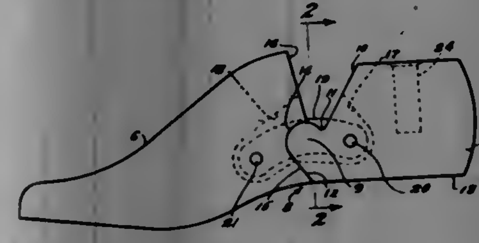
1. Apparatus for maintaining a short scope mooring for an anchored buoy comprising
a buoyant device and
an anchor,
a mooring line for connecting said device to the anchor,
a rotatable reel having a length of said line wound thereon, and
means responsible to tension changes within a certain range of magnitudes in said line due to wave action on said device for rotating said reel only in the direction to wind on said line as long as the maximum tension on said line is less than a predetermined value,
said tension responsive means for rotating said reel including
a ratchet wheel connected in driving relation to said reel,
a holding pawl yieldingly pressed toward engagement with the ratchet wheel for preventing reel unwinding motion thereof,
a reciprocating lever spring loaded in one direction and movable in the opposite direction by tension in said line, and
a ratchet pawl enabling a movement of said wheel to be effected in said one direction with slip or freedom in said opposite direction.

3,196,470
WIPER MEANS FOR LASTING MACHINES
Raymond M. Bowler, Salem Depot, N.H., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Oct. 4, 1963, Ser. No. 313,965
6 Claims. (Cl. 12—12.4)

1. In a machine for lasting shoes, wiping means comprising wipers, wiper carriers retaining the wipers, a reciprocating cover plate having means for guiding the wiper carriers in opening and closing directions, means for selectively and individually varying the extent of the closing motion of each wiper carrier, and means for selectively varying the initial position of each wiper carrier thereby to vary the positions of the wipers individually to accommodate various sizes and styles of shoes.



3,196,471
PLASTIC SHOE LAST CONSTRUCTION
Kenneth Heggs, Cincinnati, Ohio, and Charles J. Hunt, Morning View, Ky., assignors to Vulcan Corporation, Cincinnati, Ohio, a corporation of Ohio
Filed Apr. 6, 1964, Ser. No. 357,507
2 Claims. (Cl. 12—136)

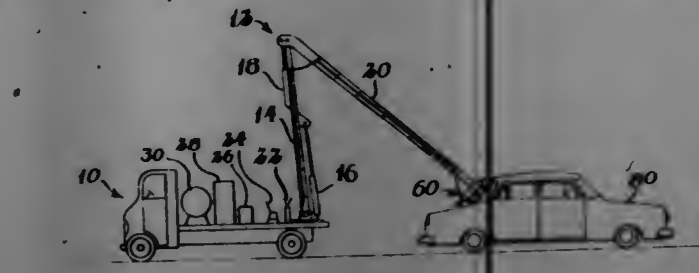


1. A two-part hinged last comprising a forepart and an adjacent heel part, a link connecting the forepart and the heel part for relative movements between an expanded position and a contracted position, a pivot pin anchoring one end of the link in the heel part, a pivot pin anchoring the opposite end of the link to the forepart, cooperative mating surfaces on said adjacent parts of the last extending heightwise of the last and consisting of a cylindrically shaped shoulder extending widthwise on the central portion of the heel part, a cooperative shoulder receiving socket formed on the forepart, abutting planar surfaces formed on the lower portions of the mating surfaces beneath the shoulder and socket and extending widthwise of the last, said surfaces being tangent to said shoulder and socket, respectively, and each planar surface lying in a plane passing through the insole of the last at an acute angle with respect to the vertical dimension of the last.

3,196,472
MOBILE WASHING APPARATUS FOR AUTOMOBILES AND THE LIKE
Angelo D. Ventrella, 5109 Carol Ave., Skokie, Ill.
Filed Feb. 12, 1964, Ser. No. 344,274
9 Claims. (Cl. 15—21)

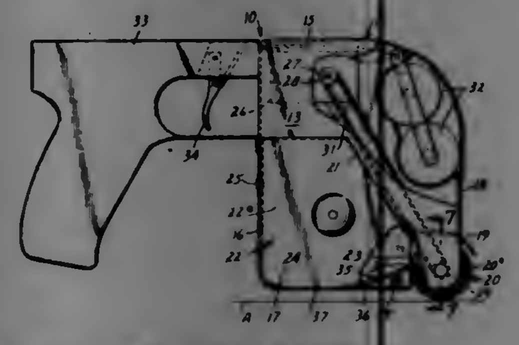
1. An apparatus for washing automobiles and the like comprising, a mobile base, an articulated boom swingably mounted on said base, a washing device mounted on said boom by first and second releasable means, which means are controlled from said base said first means being mounted on said boom and being movable relative thereto and said second means being mounted on said first means

and being movable relative thereto, said first and second means being adapted to support said washing device in a generally horizontal position for washing the upper surfaces of an automobile, and said first and second means, when released being adapted to support said washing device in a generally vertical position for washing the front, rear and sides of an automobile.



3,196,473
GRILL CLEANER

Willard J. Bell, 1355 W. Iowa Ave., St. Paul, Minn.
Filed Dec. 26, 1963, Ser. No. 333,558
3 Claims. (Cl. 15—[illegible]3)

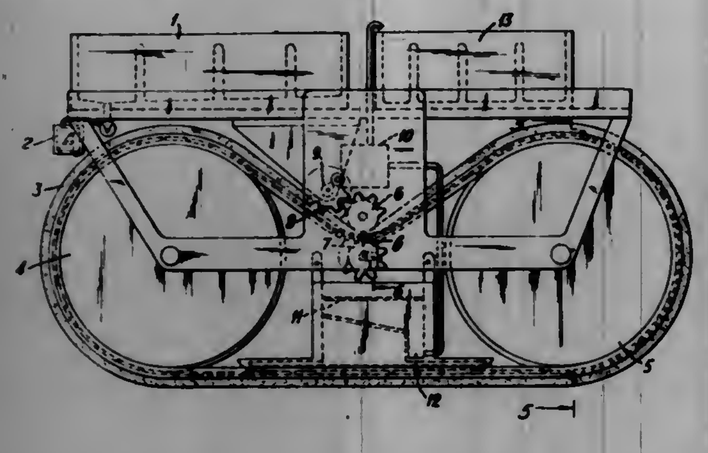


1. In a device of the class described,
(a) frame structure terminating at its lower end in a pair of depending fork elements,
(b) an elongated generally cylindrical brush element journalled for rotation between the extended ends of said fork elements,
(c) a refuse collecting receptacle detachably securable in said frame rearwardly of said brush element and having a bottom wall the plane of which is intermediate the axis and the lower peripheral limits of said brush element,
(d) said receptacle immediately rearwardly of said brush element defining a mouth of a width at least equal to the longitudinal dimensions of said brush element,
(e) power means carried by said frame for imparting rotation to said brush element in a direction to cause the lower limits thereof to move in the direction of said mouth,
(f) a blade-like deflector-tongue secured at its rear end to the bottom wall of said receptacle and terminating at its forward end intermediate the upper and lower limits of said mouth and engageable with the peripheral portion of said brush element throughout its longitudinal dimension, and
(g) yielding means biasing the projected forward end of said deflector-tongue in a downward direction.

3,196,474
ELECTRIC FLOOR WASHERS

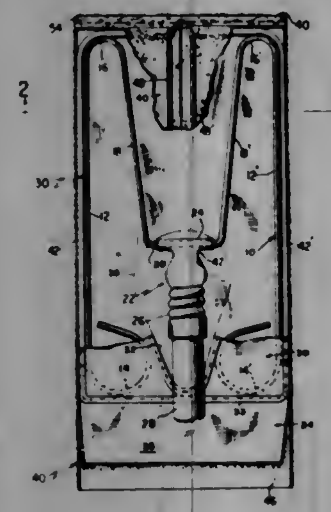
Brendan Gallagher, 76 Grove St., New Canaan, Conn.
Filed June 13, 1963, Ser. No. 287,690
8 Claims. (Cl. 15—[illegible])

1. A floor washing machine comprising a continuous belt including a spongy outer surface, a firm rubber base, perforations in said base adapted to allow the passage of fluid; a first roller; a second roller; said first and second rollers adapted to rotatably receive said belt; a pair of squeeze rollers; said squeeze rollers located between said first and second rollers within lines joining the outer ends of the vertical diameters of said first and second rollers; said squeeze rollers adapted to engage said belt in squeezing relationship and further adapted to rotate said belt; a sump located within the perimeter of said belt adjacent said squeeze rollers; a first tank mounted outside the perimeter of said belt adapted to contain a cleaning fluid, said tank opening upon said belt and having valve means adapted to control the flow of said fluid onto said belt; a second tank outside the perimeter of said belt; a pump adapted to pump used fluid from said sump into said second tank; and a motor adapted to actuate said squeeze rollers and said pump.



3,196,475
DRY MOPS

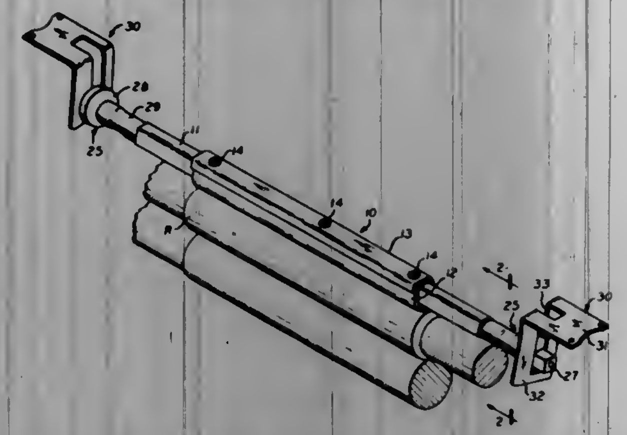
Sally N. Brown, 1025 5th Ave., New York, N.Y.
Filed Sept. 18, 1963, Ser. No. 309,633
6 Claims. (Cl. 15—228)



1. A cleaning mop of the character described comprising: a substantially rectangular resilient frame; a handle connector pivotally connected to the central section of said frame, said handle connector being provided with a socket in which a mop handle is adapted to be removably secured; a rectangular fabric body member which tightly envelopes said frame, an aperture in the top wall of said body member through which said handle connector extends; a relatively thick soft fuzzy resilient cushion member secured to the bottom wall of said body member, said cushion member being provided with a free end which extends rearwardly a substantial distance beyond the rear end of said body member; an enveloping bag-shaped cap member which is removably disposed about said body member and the said free end of said cushion member, the rear end of said cap member being open and the top wall thereof having a longitudinal slit which extends from the rear end thereof to substantially the mid-section thereof to permit the application of said cap member to said body member and the removal thereof from said body member.

3,196,476
ROLL CLEARING

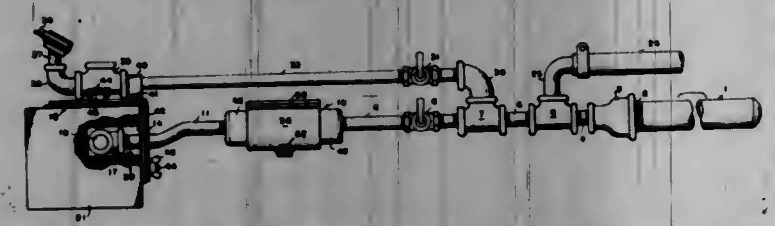
Alfred C. Morrow, Lowell, and Harry S. Barr, Jr., Charlotte, N.C., assignors to Pneumafil Corporation, Charlotte, N.C., a corporation of Delaware
Filed Nov. 6, 1962, Ser. No. 235,702
9 Claims. (Cl. 15—256.52)



4. A roll clearer comprising: a flexible walled wiping sleeve; an elongate clearer body within said sleeve of a cross-sectional dimension less than that of the interior cross-section of said sleeve permitting said sleeve to flex; a rotating journal on opposed ends of said body supporting said body for limited rotation about its axis; means for providing a limiting position of rotation and a sliding journal on opposed ends of said body supporting said body for sliding after said body has been rotated to said limiting position.

3,196,477
COMBINATION WALL AND WINDOW WASHING DEVICE

Emil A. Korkeakoski, 1221 SE. 35th, Portland, Oreg.
Filed Feb. 24, 1964, Ser. No. 346,723
3 Claims. (Cl. 15—525)

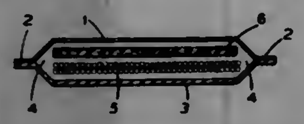


1. A cleaning device of the class described comprising a first tubular member and a second tubular member,
means connecting one end of said first and second tubular members in communication with a water supply,
a sponge,
means mounting said sponge to the opposite end of said second tubular member,
means attached to the opposite end of said first tubular member for distributing fluid to the interior of said sponge,
a squeegee secured to the opposite end of said second tubular member, and
means carried by said second tubular member securing said squeegee in parallel relation to said sponge.

3,196,478
APPLIER

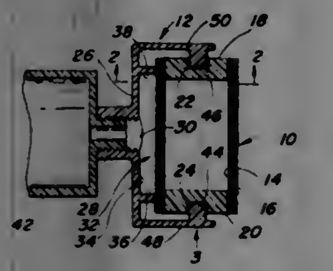
John W. Baymiller, Manheim Township, Lancaster County, and William A. Moggio, Millersville, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed May 2, 1963, Ser. No. 277,533
13 Claims. (Cl. 15—534)

1. An applier for applying a controlled amount of liquid to a surface to be treated with said liquid, said applier comprising at least two flexible opposing sheets circumferentially sealed together over a portion of their opposing faces to define an enclosed pouch therebetween, a plurality of 50–1,000 pressure-rupturable capsules having a size range of about 1,500–2,500 microns positioned inside said pouch, said capsules containing the liquid to be applied to a surface, one of said two sheets being impermeable to said liquid, the other of said two sheets being porous and adapted to allow passage of said liquid from said pouch to the surface being treated when at least a portion of said capsules are ruptured.



3,196,479
LIQUID APPLICATOR

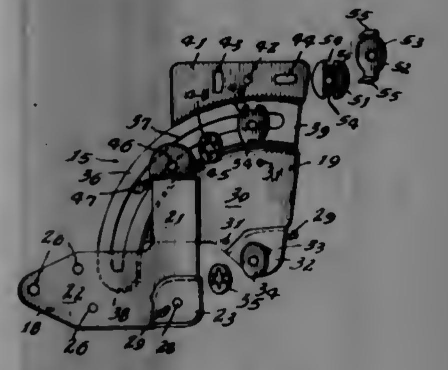
Paul E. Romoser, Windermere Court, Wayne, Pa.
Filed Sept. 25, 1963, Ser. No. 311,536
10 Claims. (Cl. 15—571)



1. A holder for a roller of a fluid applicator wherein the roller has a convex, pile-like surface, said holder comprising a body, wall means on said body providing a feed chamber, portions of said wall means defining a continuous, rigid surface having two opposite portions of concave configuration, said continuous rigid surface slidably engaging the pile-like surface of the roller at a substantially constant, predetermined distance thereinto, means on said body for rotatably supporting the roller such that a portion of the pile-like surface thereof at all times slidably engages said continuous rigid surface, and connector means on said body communicating with said feed chamber and adapted to connect the same to a fluid source.

3,196,480
COUNTER-BALANCING MECHANISM FOR STEREO SETS

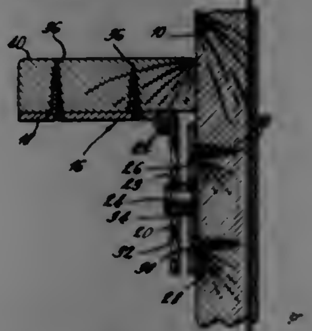
Robert M. Whittom, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed Dec. 14, 1962, Ser. No. 244,763
3 Claims. (Cl. 16—141)



1. A counter-balancing mechanism for supporting one member for pivotal movement relative to a second member, comprising a stationary bracket having a plate secured to the second member, an outwardly offset arcuate portion on the plate having an arcuate slot formed therein, an outwardly offset corner of the plate generally opposite the offset portion having an opening therein providing the center of curvature for said arcuate slot, a movable bracket secured to the first member including

two arms in a common plane and disposed at approximate right angles to each other, an offset portion at the junction of the two arms and having an opening aligned with the opening in the corner of the stationary bracket, pivotal means extending through the aligned openings joining the brackets together, a friction washer positioned between the offset portions and on the pivotal means to resist rotation between the brackets, one of said arms being secured to the first member, the second arm terminating in a free end having an opening aligned with the arcuate slot, and a slide pivot secured to the second arm and the offset arcuate portion on the stationary bracket including a friction washer sandwiched between the second arm and the offset arcuate portion and having a central opening aligned with said opening in the second arm and the slot, a second friction washer having a central opening aligned with the slot, said second washer being positioned behind the arcuate portion of the stationary bracket, a screw plate having a threaded opening aligned with the arcuate slot, said screw plate abutting said second friction washer, and an adjusting screw extending through the opening in said second arm, first friction washer, arcuate slot and second friction washer and threadingly engaging the opening in said screw plate to adjust the frictional resistance retarding movement of the slide pivot.

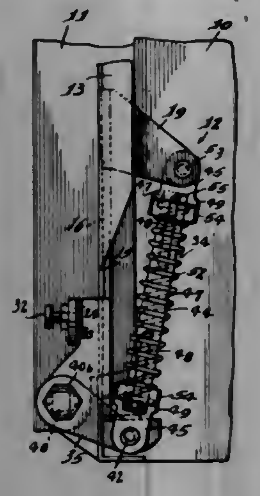
3,196,481
HINGED PANEL CONSTRUCTION AND HINGE THEREFOR
Santa T. Parker, Jr., 513 San Juan Drive, Bloomington, Ind.
Filed Feb. 4, 1963, Ser. No. 255,778
4 Claims. (Cl. 16—163)



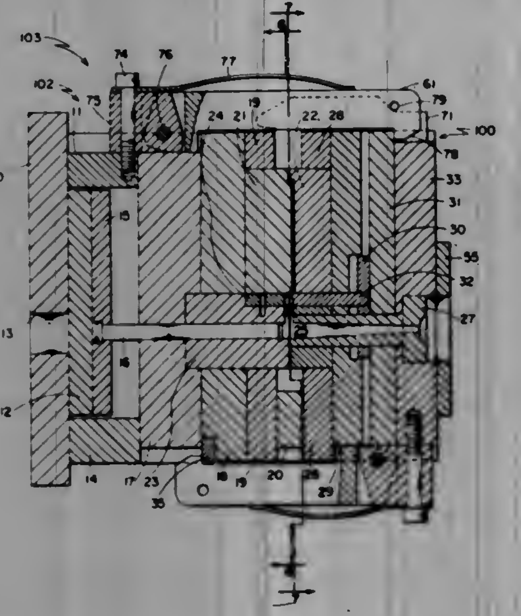
1. A hinge, comprising
(a) first and second leaves swingably interconnected at one of their ends by a pintle,
(b) said first leaf having a plurality of openings formed therein for reception of fastening means for mounting it on an object,
(c) a plate swingably connected to said second leaf on an axis normal to the axis of said pintle,
(d) said second leaf and plate having pluralities of openings formed therein whereby fastening means are receivable in the openings in said plate for mounting it on a second object, and
(e) means adjacent the interconnection of said second leaf and plate for disposing their adjacent faces in spaced relationship to each other outwardly from their interconnection.

3,196,482
COUNTERBALANCE HINGE ASSEMBLY
Wayne C. Bates, Rockford, Ill., assignor to National Lock Co., Rockford, Ill., a corporation of Delaware
Filed Feb. 21, 1963, Ser. No. 260,219
4 Claims. (Cl. 16—190)

1. A counterbalance hinge assembly for a door pivotally mounted in an enclosure, comprising a mounting bracket secured to the enclosure, an upper wing on said bracket and extending rearward thereof, a lower wing on the bracket extending forwardly thereof and having an opening therein, a rod forming a pivotal axis for and secured adjacent the lower edge of the door to rotate therewith, a toggle action spring assembly including a stop arm having an angularly arranged end, said rod extending through the opening in the lower wing and secured to one end of the stop arm to cause the arm to rotate therewith, a spring assembly pivotally mounted at one end to said upper wing and pivotally mounted at the opposite end to the angularly arranged end of the stop arm, said spring assembly including a pair of opposed relatively longitudinally slidable spring retainers, each retainer including an enlarged head for pivotally mounting the retainer and an elongated body, a spring support on each retainer adjacent the enlarged head, a compression spring surrounding the elongated bodies between and abutting the spring supports to normally urge the retainers outwardly and retain the door in closed position, a short tab on the lower wing and an adjusting screw in the tab and adapted to engage the angularly arranged end of the stop arm when the door is in fully open position.

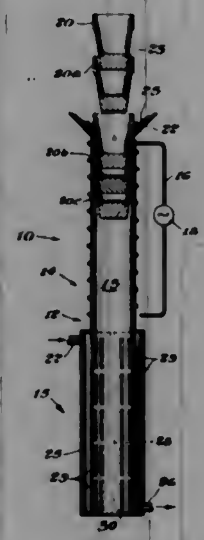


3,196,483
MOLDING DEVICE
Thomas H. Eyles, Leominster, Mass., assignor to Foster Grant Co., Inc., Leominster, Mass., a corporation of Delaware
Filed Mar. 5, 1962, Ser. No. 177,524
12 Claims. (Cl. 18—2)



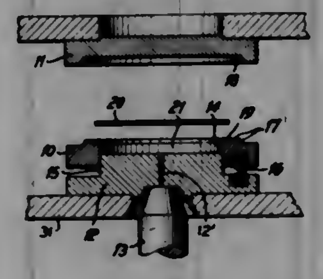
1. A mold for molding thermoplastic articles comprising a pair of cooperating die cavity blocks, a movable ejector degating cutter pin mounted on a movable ejector degating pin plate, means for retaining said die cavity blocks in a closed position and means for moving said ejector degating pin plate and said ejector degating cutter pin whereby a plastic gate formed in molding a thermoplastic article in said die cavity blocks is cut and removed from said article while said article is retained in said mold cavity.

3,196,484
APPARATUS FOR CONTINUOUS PRODUCTION OF FOAMED PLASTIC OBJECTS
Charles R. Wiles, Midland, and Kenneth R. Hilton, Harrison, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Sept. 1, 1961, Ser. No. 135,494
6 Claims. (Cl. 18—5)



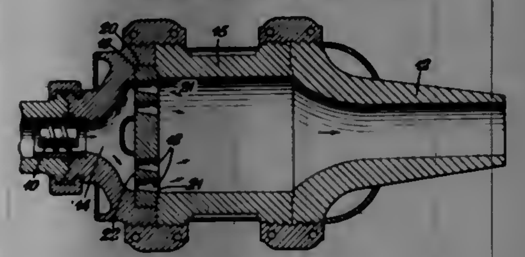
1. In a continuous molding appartus for the molding of thermoplastic objects from expandable thermoplastic resinous material the apparatus defining a mold passageway adapted to receive molds, the mold passageway having at least a heating portion and a cooling portion, a plurality of molds, each of the molds adapted to nest with a like mold and define a cup-like configuration therebetween, the cup-like configuration being adapted to receive expandable thermoplastic resinous material, the housing being generally vertically disposed, an upwardly opening hopper disposed adjacent the uppermost opening of the mold passageway and the heating portion of the passageway adjacent the hopper.

3,196,485
APPARATUS FOR MANUFACTURING OF PRESSED FORM-PIECES OF ARTIFICIAL MATERIAL
Werner Battenfeld, Lindenstrasse, and Erhard Langecker, Oststrasse 32, both of Meinerzhagen, Westphalia, Germany
Filed Apr. 10, 1962, Ser. No. 186,490
4 Claims. (Cl. 18—5.3)



1. An apparatus for the manufacture of pressed plate-like form-pieces of synthetic material, comprising
an intermediate mold part having a central recess,
a lower mold part disposed adjacent said intermediate mold part, and having a central projection received guidingly in said central recess of said intermediate mold part,
a matrix having a surface profile and being removably and sealingly received in said intermediate mold part to close one end of said central recess of said intermediate mold part,
an upper mold part disposed coaxially opposite said intermediate mold part and engaging the latter, as well as said matrix in operative position,
said matrix, said intermediate mold part and said lower mold part defining jointly a cavity therebetween, and
yielding means disposed between said intermediate mold part and said lower mold part to narrow down said cavity upon exerting axial pressure between said upper mold part and said intermediate mold part.

3,196,486
AUGER EXTRUSION FOR FURNACE ELECTRODES
Elmer G. Shesler, Fostoria, Elmer A. Bowen, Findlay, and Ronald F. Burden, Fostoria, Ohio, assignors to Union Carbide Corporation, a corporation of New York
Filed Apr. 16, 1962, Ser. No. 187,635
4 Claims. (Cl. 18—12)

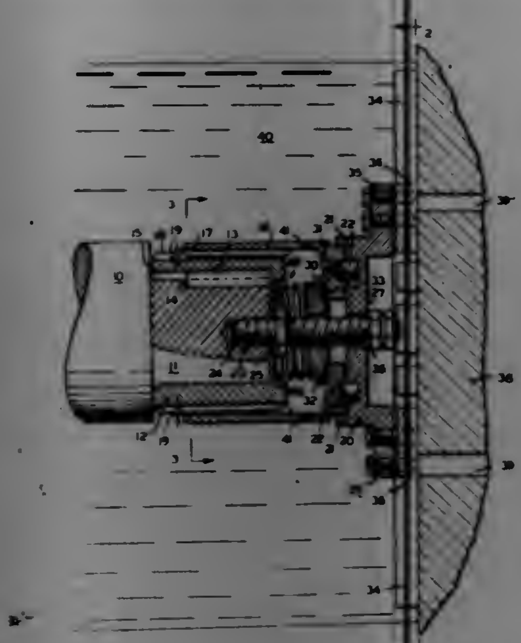


1. An apparatus for the extrusion of pitch bonded carbon electrodes which comprises an auger for delivering a carbonaceous mix stream to a forming die of a larger diameter than the diameter of said auger, an expansion chamber adjacent said auger, said expansion chamber having a generally circular cross-section of a diameter at least approximately 1.2 times the diameter of said forming die, and an orientation sleeve of uniform diameter intermediate said expansion chamber and said forming die, said expansion chamber being provided with a stationary plate spaced apart from the exit aperture of said chamber and being of such diameter that it defines an annulus between its periphery and the periphery of said expansion chamber thereby eliminating the coring effect of said auger by obstructing the flow of the straight through center portion of the mix such that the mix upon emerging from the central zone of said die is flowing at substantially the same speed as said mix exiting along the peripheral walls of said die.

3,196,487
MELT CUTTER APPARATUS
William Dale Snelling, Port Neches, Tex., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed July 18, 1963, Ser. No. 296,042
7 Claims. (Cl. 18—12)

1. An improved rotary melt cutter apparatus for producing pellets from a strand or strands of a partly molten thermoplastic resin in cooperation with an extrusion die, said extrusion die having a planar die surface intersected by one or more extrusion orifices, said improved rotary melt cutter apparatus adapted to be driven rotationally by a rotating shaft structure, said apparatus comprising a rotating knife assembly and connecting means cooperating with said assembly and such associated rotating shaft structure for rotationally connecting such rotating shaft structure to said rotating knife assembly, said apparatus further comprising a biasing means urging said rotating knife assembly axially toward said planar die surface and said orifices, said apparatus further comprising adjustable limiting stop means, said limiting stop means mounted on said rotating shaft structure and cooperating with said rotating knife assembly to oppose and limit the movement of said rotating knife assembly toward said planar die surface, said rotating knife assembly cooperat-

ing with said biasing means and said adjustable stop means, and supported by said connecting means in position relative to said planar die surface and said orifices of said extrusion die such that said rotating knife assembly

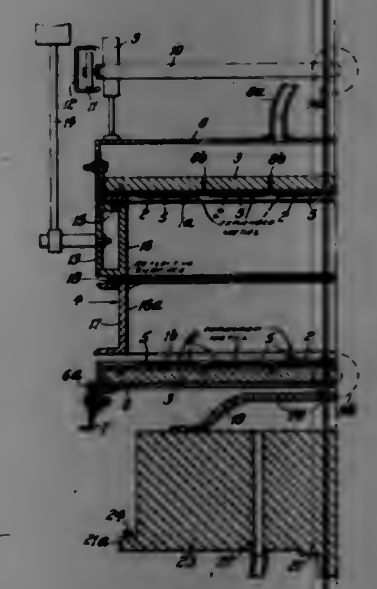


is maintained adjacent, in alignment parallel to, and in operative cutting relationship with said planar die surface and said orifices so that no more than a predetermined, limited amount of wear of the knife assembly and die surface occurs during operation of the apparatus.

3,196,488
HEATERS FOR VACUUM FORMING APPARATUS

James Jones-Hinton, Tanworth-in-Arden, Solihull, and Thomas Edward Horace Gray, Wylde Green, Sutton Coldfield, England, assignors to Dunlop Rubber Company Limited, London, England, a company of Great Britain

Filed May 9, 1962, Ser. No. 193,586
5 Claims. (Cl. 18—19)

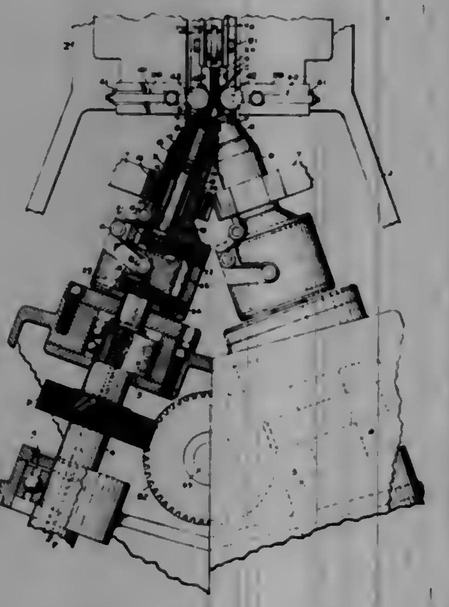


1. Apparatus for forming sheets of thermoplastic materials by the vacuum process comprising a framework, having an upper portion and a lower portion with said upper portion locatable directly above said lower portion, each portion being in the form of the sides of a box, means for relatively moving said portions vertically into and out of clamping engagement respectively for clamping a sheet of thermoplastic material between the portions and for releasing a sheet of said material from between said portions, two heaters locatable in position one above and one below the framework for softening a sheet of said material supported by the framework prior to forming, each heater comprising a substantially continuous reticulate heating element and having a heating surface area substantially equal to the area within the clamping framework, and means for moving at least one of the heaters in a horizontal direction towards and away from the framework.

3,196,489
COILING MACHINE

Walter V. Chery, Meadville, Pa., assignor to Talon, Inc., a corporation of Pennsylvania

Filed Apr. 15, 1963, Ser. No. 274,378
21 Claims. (Cl. 18—19)



1. In a coiling machine of the class described,

a pair of cylindrical rotatable members arranged in side-by-side relation,

means for delivering a continuous length filament to each of said rotatable members,

a mandrel arranged concentric with each of said rotatable members and extending outwardly therefrom around which each of the respective filaments are adapted to be wound upon rotation of said rotatable members so as to form a coiled filament therearound,

means arranged around the periphery of each of said rotatable members which cooperate with one another to deform each of the filaments at spaced-apart intervals therealong as the respective filaments pass from the rotatable members to the respective mandrels,

means for rotating each of said rotatable members relative to their respective mandrels whereby the respective filaments are coiled around the respective mandrels, and

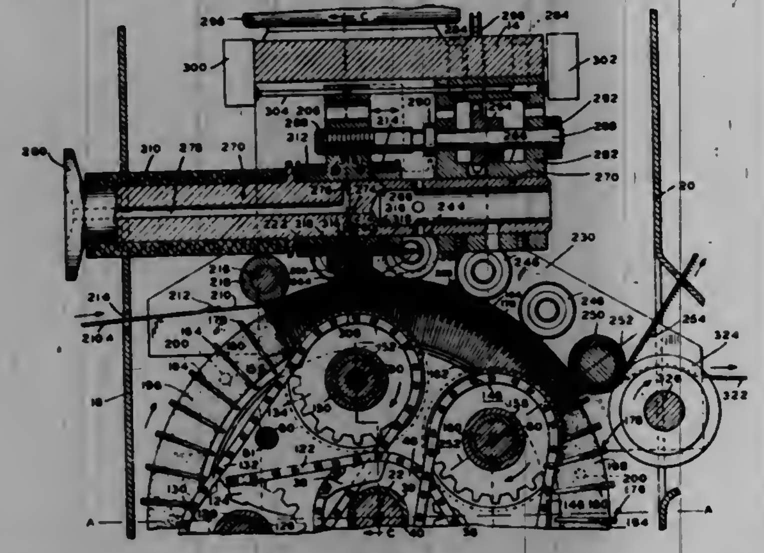
means arranged beyond said rotatable members for intermeshing said coiled filaments one with the other as they pass therealong.

3,196,490
APPARATUS FOR MANUFACTURE OF A CONTINUOUS STRIP OF MOLDED PLASTIC PRODUCT

George H. Erb, Fayson Lakes, N.J., assignor to Velok, Ltd., a corporation of Canada

Filed Nov. 14, 1961, Ser. No. 152,243
13 Claims. (Cl. 18—21)

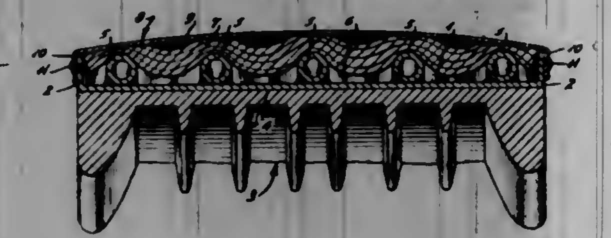
1. In an apparatus for continuously forming a plurality of injection molded plastic objects, the combination of a plurality of separate mold forming bodies each having a pair of opposed end walls, a top wall and front and front and rear side walls intersecting said top wall to form front and rear edges, and at least some of said bodies having formed along at least one of said edges a plurality of injection mold forming recesses each of which opens from said edge into the top wall of said body and opens from said edge into the contiguous side wall of said body, means for driving said bodies successively through a closed path, said driving means including first driving means yieldably and frictionally engageable with said opposed end walls of each of said bodies throughout the length of said closed path and second driving means positively engageable with at least some of said bodies and effective in a predetermined portion of said closed path for pressing a substantial number of successively disposed bodies firmly against one another in the direction of movement of said bodies through said portion of said closed path with the front wall of each body pressed into face to face engagement with the rear wall of the body immediately ahead thereof whereby said recesses are closed off to form throughout said portion of said path rows of injection mold cavities between said bodies and open only into top wall surfaces of said bodies, pressure means for injecting at a predetermined point in said portion of said path a moldable plastic material into the successive rows of injection mold cavities as said mold forming bodies move past said predetermined point, and said first driving means being effective for separating said mold forming bodies to successively open each row of injection molding cavities for withdrawal from said mold forming recesses of the solidified plastic objects therein.



3,196,491
TIRE RETREADING MATRIX

Earle W. Hawkinson, deceased, late of Minneapolis, Minn., by Francis W. Gaasedelen, administrator, Minneapolis, Minn., assignor to Paul E. Hawkinson Company, Minneapolis, Minn., a corporation of Minnesota

Continuation of application Ser. No. 689,641, Oct. 11, 1957. This application Oct. 5, 1962, Ser. No. 228,721
7 Claims. (Cl. 18—38)

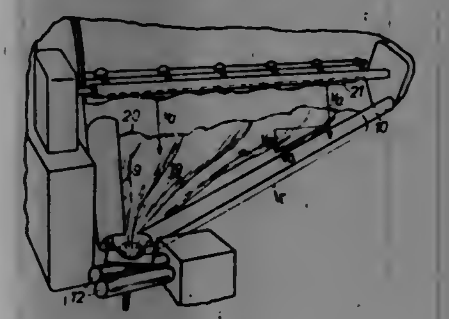


1. An endless rigid transversely cylindrical mold body formed of sheet metal and having its opposite side edges turned radially outwardly to provide therewith endless parallel continuous ringlike body sustaining flanges, said mold body having a truly cylindrical inner surface extending between the outer faces of said flanges and uniformly sustained thereby, heating means secured to the outer surface of said body intermediate said flanges and protected thereby, and a matrix having an arcuate outer surface corresponding in curvature with the sustained inner truly cylindrical surface of said mold body axially received therewithin over said corresponding cylindrical surface and secured thereto and flush with the outer faces of said ring-like flanges.

3,196,492
APPARATUS FOR CONNECTING SEVERED CARD WEB

Rolf Binder, Winterthur, and Paul Stäheli, Wallisellen, Switzerland, assignors to Rieter Machine Works Ltd., Winterthur, Switzerland, a corporation of Switzerland

Filed Jan. 22, 1962, Ser. No. 167,789
Claims priority, application Switzerland, Feb. 8, 1961, 1,504/61
2 Claims. (Cl. 19—106)



1. In combination with a carding machine having a doffer, a doffing comb delivering a card web, and a trumpet receiving the delivered web;

a stationary card web guide means formed by a substantially plane metal sheet having substantially the configuration of a right-angled triangle whose acute angled corners are cut off,

said metal sheet having a marginal portion representing the long cathetus of said right-angled triangle and being longitudinally adjacent to said doffing comb,

said metal sheet having a second marginal portion representing the short cathetus of said right-angled triangle, said second marginal portion being bent out of the plane of said metal sheet and extending between one end of said doffing comb and said trumpet for guiding one lateral marginal portion of the web on a relatively short path toward said trumpet,

said metal sheet having a third marginal portion representing the hypotenuse of said right-angled triangle, said last mentioned marginal portion being bent out of the plane of said metal sheet and extending between the opposite end of said doffing comb and said trumpet for guiding the opposite lateral marginal portion of the web on a relatively long path toward said trumpet.

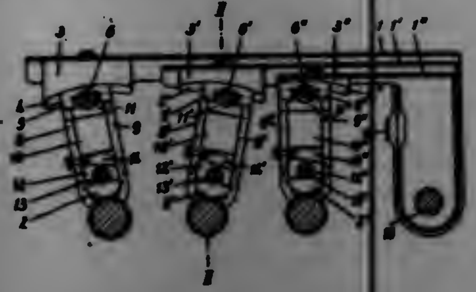
3,196,493
LOADING DEVICE FOR TOP ROLLERS OF DRAWING MECHANISMS OF SPINNING MACHINES

Sigmund Kemmler, Geislingen, Steige, Wurttemberg, Germany, assignor to Wurttembergische Spindelfabrik G.m.b.H., Sussen, Wurttemberg, Germany

Filed July 24, 1961, Ser. No. 126,820
Claims priority, application Germany, Aug. 19, 1960, W 28,406
11 Claims. (Cl. 19—272)

1. A device for loading the top rollers of a drawing mechanism for a spinning machine comprising at least one pair of associated top and bottom rollers, at least a part of said bottom roller consisting of a magnetizable material, a supporting arm, means for pivotably mounting said supporting arm near one end, magnet means associated with said pair of top and bottom rollers, said magnet means including a pair of spaced magnet arms, means

for securing one end of each magnet arm of said magnet means to said supporting arm, the other end of each of said magnet arms opposite said supporting arm being



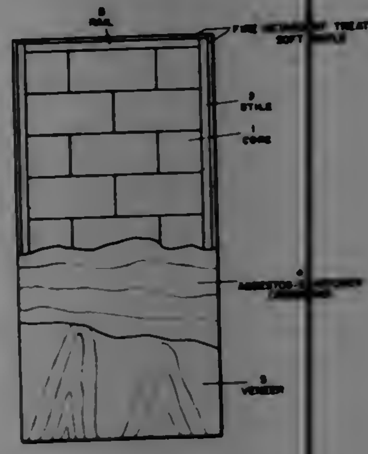
spaced by an air gap from said magnetizable part of said bottom roller, and a bearing member of a non-magnetizable material mounted between said magnet arms for rotatably mounting said top roller.

3,196,494
FIRE RESISTANT DOOR

Seymour Hartman, Mahopac, N.Y., and Reuben F. Hoffmann, Algoma, Wis., assignors to United States Plywood Corporation, New York, N.Y., a corporation of New York

Filed Feb. 14, 1963, Ser. No. 258,396

5 Claims. (Cl. 20—15)



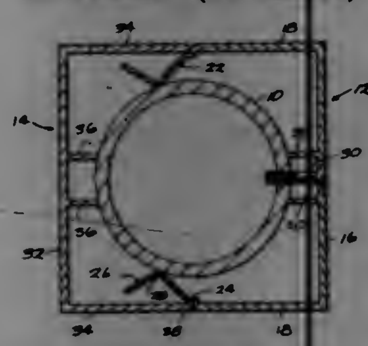
1. A fire door comprising a core composed essentially of calcium silicate subhydrate, a peripheral frame surrounding said calcium silicate subhydrate on all sides to form a continuous outside area, said peripheral frame composed essentially of asbestos fibers, diatomaceous earth and an inorganic binder, and a crossband on each side of said core composed essentially of an asbestos neoprene composition, and said crossbands extending over the entire core and frame in a single plane direction.

3,196,495
COLUMN COVERING

Harry L. Owen, 907 Cedar St., Niles, Mich.

Filed Oct. 8, 1962, Ser. No. 228,913

12 Claims. (Cl. 20—16)



1. A column covering for a tubular metal building column, comprising

a first metal covering member fitting with clearance around a part of said column and having spaced column-engaging parts,

means for securing said covering member to said column in predetermined relation and including snap grip of said column by a pair of converging column-gripping flanges,

a second metal covering member fitting with clearance around the remainder of said column and having spaced column-engaging parts, and

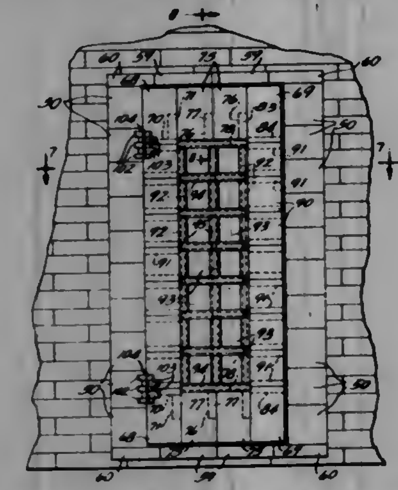
complementary snap lock means carried by the marginal portions of said covering members and interfitting to interconnect said members.

3,196,496
INTERLOCKING BUILDING BLOCKS FOR FORMING MOVABLE CLOSURES

Stephen J. Czecholinski, 3019 S. 7th St., Milwaukee 15, Wis.

Original application July 15, 1955, Ser. No. 522,248, now Patent No. 3,076,286, dated Feb. 5, 1963. Divided and this application Dec. 13, 1962, Ser. No. 244,411

2 Claims. (Cl. 20—16)



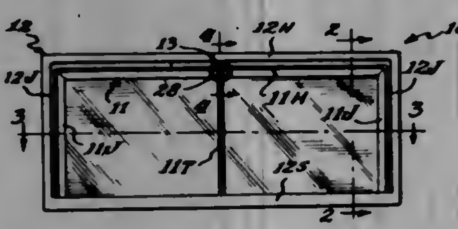
1. In a closure assembly for selectively closing the door and window openings in a wall of a building; a plurality of edge blocks defining the perimeter of the closure, said edge blocks presenting mortises along their edges; double dovetail inserts disposed in adjacent mortises of said edge blocks for securing the latter together in the desired configuration; a plurality of panel blocks assembled in the opening formed by said assembled edge blocks to complete the closure; a plurality of tenons extending from each of said panel blocks, and a plurality of connectors between said panel blocks presenting longitudinal mortises along two opposite sides, the mortises being engaged by said tenons for connecting said panel blocks to each other in a panel assembly; and means connecting said panel assembly to said edge blocks for completing the closure.

3,196,497
LOCK ARRANGEMENT FOR WINDOW STRUCTURE

John P. Malmrose and Bulow A. Peterson, Kewanee, Ill., assignors to Kewanee Manufacturing Company, a corporation of Illinois

Filed June 4, 1963, Ser. No. 285,532

2 Claims. (Cl. 20—53)



1. In a window structure combination that includes a rigid window frame comprised of spaced pairs of horizontal and vertical rails collectively defining a window opening bordered about its periphery by a fore and aft inwardly facing sash stop at a location intermediately of fore and aft extremities of said window frame, and a rigid sash frame comprised of corresponding spaced pairs of horizontal and vertical rails of substantially less fore and aft dimension than said window frame rails and arranged to seat in closed position within said window frame to span said window opening and abut said sash stop, means mounting said sash frame to undergo swinging movement towards and away from closed position in said window frame, said sash frame having a fore-and-aft inwardly directed planar flange on its upper horizontal rail, said window frame having an outwardly sloped drain wall on its lower horizontal rail and spaced inwardly of said sash stop to define a downwardly tapering pocket for receiving the lower horizontal sash rail in snug relation therein and said window frame having an internal marginal abutment surface facing outwardly through said window opening at a location recessed within its upper horizontal rail and spaced inwardly of and above said planar flange and a snap-on lock mountable on said planar flange to engage said abutment surface when the sash frame is fully seated in the window frame, said lock comprising a one-piece steel lock body of multi-angular cross sectional configuration and having a generally fore and aft extending intermediate plate section having inner and outer ends, a tongue integrally connected to said plate section at its inner end by a reverse bend portion of said body and extending in generally parallel underlying relation to a portion of said plate section to undergo limited swinging movement relatively toward and away from said plate section, a substantially planar leaf section integrally connected to said plate section at its outer end by another reverse bend portion of said body and extending generally fore and aft at an oblique angle to said plate section in overlying relation thereto to project inwardly thereof and undergo swinging movement relatively toward and away from said plate section, said leaf section terminating in an inner end providing an inwardly directed stop located inwardly of the inner end of said plate section, and means depending from said inner end of said leaf section and manually engageable to produce downward swinging movement of said leaf section, with said tongue and corresponding plate portion constituting a set of gripping jaws defining a pocket opening through an entrance mouth beneath the outer end of said plate section to receive and engageably retain said planar flange in pinching relation between said jaws and dispose said stop in position for engagement with said abutment surface with said downward swinging movement of said leaf section enhancing the pinching action of said jaws to prevent lock actuating forces from accidentally disengaging the lock from said flange.

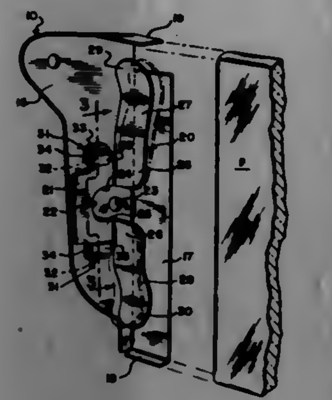
3,196,498
LOUVER RETAINING CLIP FOR JALOUSIE WINDOW

John H. Hochull, Jr., Syosset, and Gustav H. Lengenfelder, Woodbury, N.Y., assignors to Diamond Manufacturing Corp., Middle Village, N.Y., a corporation of New York

Filed May 24, 1963, Ser. No. 282,984

5 Claims. (Cl. 20—62)

1. In a jalousie window construction, a bracket and retaining clip assembly for a pane of jalousie plate glass having an end panel, a back panel integral with the end panel and at right angles thereto, means for supporting the weight of the pane on the back panel and a retaining clip comprising an elongated central body section disposed adjacent and parallel to the end panel, the body section carrying two resilient fingers projecting in opposite directions for engaging the pane on the opposite surface thereof from the back panel, and connections between the central section of the clip and the end panel at upper and lower locations spaced apart lengthwise of the clip and on opposite sides of the lengthwise center of the clip, each connection having co-acting parts respectively on the end panel and on the clip, which parts in co-



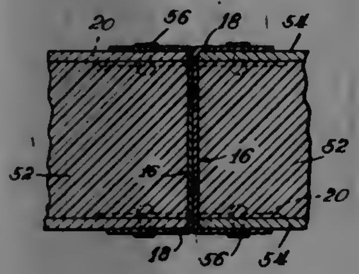
acting with one another are sufficiently separated from one another to allow limited movement of the retaining clip in all directions.

3,196,499
SANDWICH PANEL FASTENERS

Irving S. Houvener, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed May 21, 1962, Ser. No. 196,349

1 Claim. (Cl. 20—4)



A panel wall structure including in combination, a pair of side plates, a plastic foam insulation member positioned between said pair of side plates, fastener elements arranged about the periphery thereof forming a frame for said panel wall structure including a flat elongated member having side walls along the length thereof, a plurality of integral triangular prongs arranged in spaced parallel relation to each of said side walls and in alternate spaced longitudinal relation relative to one another, said side plates being disposed between one of said side walls and said prongs, respectively, with said prongs being embedded into said plastic foam insulation member to maintain said side plates in spaced parallel relation, said prongs and said side walls being formed to provide holes for the receipt of rivet means extended through said side wall and one of said prongs for securing said fastener means to said panel wall structure.

3,196,500
FOLLOWER CONTROL FOR TRAVELING RECEPTACLE

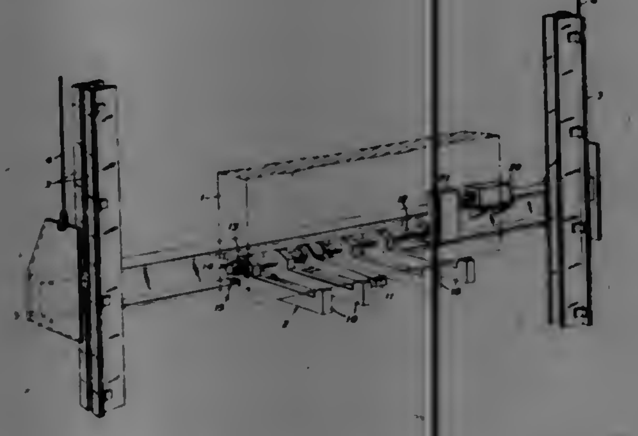
Harold G. Frostick, North Palos Township, Cook County, Ill., assignor to United States Steel Corporation, a corporation of New Jersey

Filed Mar. 4, 1963, Ser. No. 262,784

7 Claims. (Cl. 22—57.2)

1. In a traveling receptacle installation driven by an electric motor, for lowering the severed product of a vertically downwardly delivering continuous metal cast-

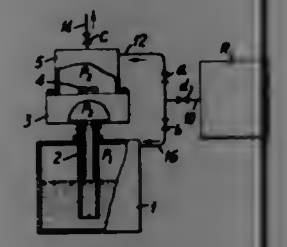
ing unit and the like, means for follower control of the receptacle in relation to emergent product comprising means for self-spacing said receptacle relative to the lower end of unsevered product including means carried by the receptacle for sensing the degree of proximity of said unsevered product, when in the near vicinity thereof, and means responsive to said sensing means for control of the direction and speed of said motor, said sensing and control means being so aligned that the unloaded receptacle travels upwardly until the sensing means are actuated at a predetermined spacing between receptacle and unsevered product, to reverse the direction of receptacle travel to a downward direction, which approach and reversal is repeated until product severance, whereby a protective air gap is maintained between the receptacle proper and the emerging product during the period the receptacle is in position awaiting receipt of the severed product, said sensing and control means being additionally so aligned that product severance and bottoming thereof in the receptacle initiates downward travel of the receptacle to remove the severed product.



3,196,501
APPARATUS AND METHOD FOR METAL CASTING

Angel T. Balevsky and Ivan D. Nikolov, Sofia, Bulgaria, assignors to Balgarska Akademia Na Naukite, Sofia, Bulgaria

Filed Feb. 13, 1962, Ser. No. 173,052
10 Claims. (Cl. 22—68)

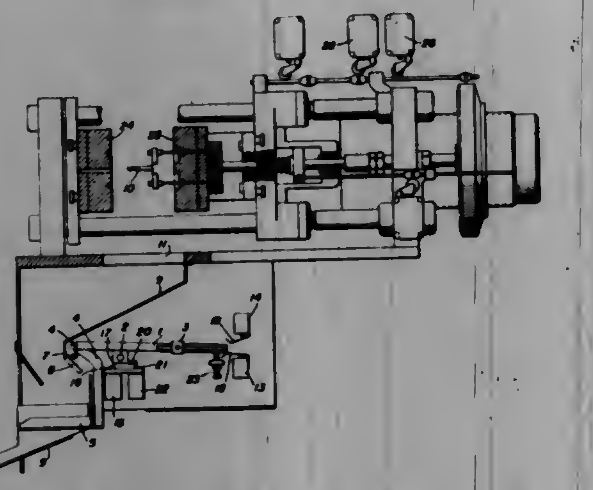


10. A pressure casting device comprising, in combination, a mold, a liqufied material reservoir connected to said mold, means for applying the same superatmospheric pressure to both said mold and said liquefied material reservoir, means for establishing a pressure differential between said reservoir and said mold, while maintaining the pressure at said reservoir and said mold at superatmospheric values with the pressure at the mold being less than the pressure at the liquefied material reservoir, to cause the liquefied material to flow from the liquefied material reservoir to mold to fill the mold gradually, and means for maintaining said pressure differential constant during the entire process of filling the mold, including a reservoir of fluid under pressure connected to one side of said mold and to said liquefied material reservoir.

3,196,502
CONTROL APPARATUS FOR AUTOMATIC SUPERVISION OF THE WORKING CYCLE OF A CASTING MACHINE

Ernst Wagner, Huechling, Lauf (Pegnitz), Germany, assignor to Gebr. Eckert G.m.b.H., Maschinenfabrik, Nurnberg, Germany, a firm

Filed Nov. 26, 1962, Ser. No. 240,099
Claims priority, application Germany, Nov. 29, 1961, E 22,030
9 Claims. (Cl. 22—68)

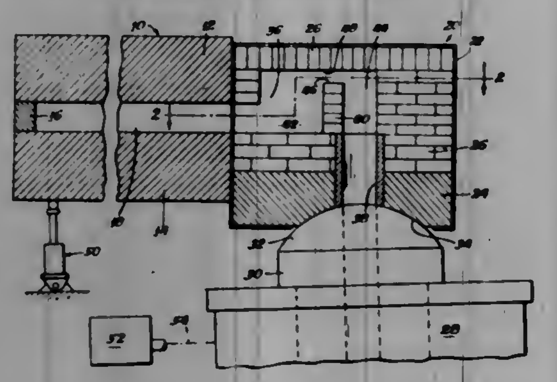


1. Control apparatus for supervising the operation of a casting machine in which a mold part is movable from an ejection position to a molding position and back to the ejection position, power means responsive to an initiating signal for operating said movable mold part through a complete molding cycle, a weighing device positioned to receive a casting ejected from said machine, and including a balance beam mounted to pivot about a tilting axis under the weight of a casting, blocking means controlled in timed relation with the operation of said power means for holding said balance beam in its normal casting-receiving position during the ejection period of said molding cycle and for a predetermined time thereafter, and means responsive to tilting of said balance beam under the weight of a casting of a predetermined weight for controlling said power means to initiate another molding cycle.

3,196,503
APPARATUS FOR PRESSURE POURING OF CAST METAL ARTICLES

Edmund Q. Sylvester, Shaker Heights, Ohio (% Griffin Wheel Company, 445 N. Sacramento Blvd., Chicago 12, Ill.)

Filed Dec. 26, 1961, Ser. No. 161,986
6 Claims. (Cl. 22—69)

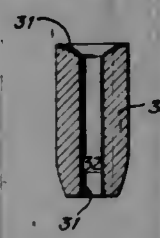


6. An inlet assembly for pivotally connecting a mold assembly having a cavity therein to a pouring tube of a pressure pouring ladle assembly, comprising an outer frame-like housing, a refractory material contained within said housing, a mating surface formed externally on the bottom of said refractory material for pivotal connection with the upper end of the pouring tube, and passage means formed within said refractory material and having its terminal portion opening horizontally, said passage means being operative for communicating between said mating surface and said cavity when said mold assembly is operatively connected to said inlet assembly, said passage means having such great transverse dimensions as to provide a reservoir of molten metal therein, after the said cavity is filled, that is of substantially greater capacity than the cavity per unit length in the direction of flow of the molten metal, the inlet assembly being closed to the exterior except through said passage means.

3,196,504
CAST NOZZLE INSERTS

Robert W. Limes, Cleveland, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Filed Feb. 27, 1962, Ser. No. 175,956
5 Claims. (Cl. 22—85)



1. A steel pouring ladle comprising a container lined with refractory material, the bottom of said container provided with a nozzle body having an opening therethrough and a coating of refractory material deposited on the surface of said nozzle body defining said opening for the flow of molten steel therethrough, said coating being an unfired, refractory, phosphate-bonded, ceramic material, consisting essentially of alumina component, at least about 20%, and phosphoric acid component affording between about 2 and 10 parts by weight of acid per 100 parts of alumina, said alumina-acid reaction product being the sole bonding material in said coating.

3,196,505
METHODS OF MAKING SAND MOLDS OR CORES FOR CASTING

Rolf Erhard Morén, Alfredshem, Sweden, assignor to Mo Och Domsjo Aktiebolag, Ornskoldsvik, Sweden, a corporation of Sweden

No Drawing. Filed Dec. 14, 1961, Ser. No. 159,467
Claims priority, application Sweden, Jan. 2, 1961, 21/61
4 Claims. (Cl. 22—193)

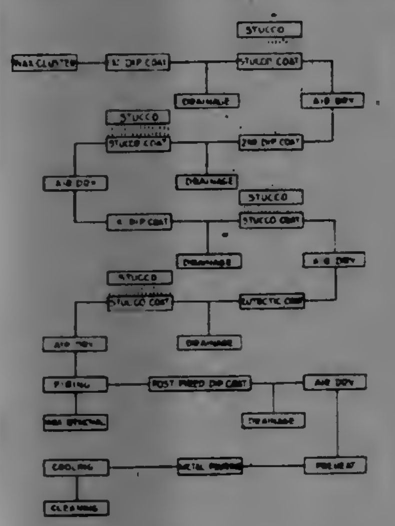
1. A method of making sand molds or cores for metal casting, comprising adding to sand aluminous cement in an amount of 0.1 to 5% by weight based on the weight of the sand, an alkaline earth metal compound selected from the group consisting of alkaline earth oxides and alkaline earth hydroxides in an amount of 0.2 to 8% by weight based on the weight of the sand, and a water-soluble cellulose derivative in an amount of 0.05 to 4% by weight based on the weight of the sand, forming molds or cores therefrom, and hardening said molds or cores.

3,196,506
METHOD OF MAKING A SHELL MOLD BY LOST WAX PROCESS

Theodore Operhall and Charles W. Schwartz, Whitehall, Mich., and Dickson Van Scholk, Salem, Ohio, assignors, by mesne assignments, to Howe Sound Company, New York, N.Y., a corporation of Delaware

Original application Jan. 13, 1958, Ser. No. 708,628, now Patent No. 2,961,751, dated Nov. 29, 1960. Divided and this application Nov. 8, 1960, Ser. No. 68,075
3 Claims. (Cl. 22—196)

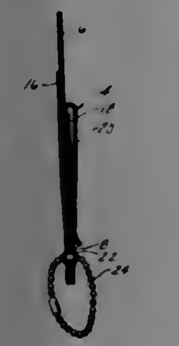
1. In the method of producing a shell mold for metal casting, the steps of coating a pattern of heat-disposable material with a slurry of a finely divided ceramic selected from the group consisting of zircon, alumina, titania, thoria, chromite, sillimanite, mullite and magnesia, and characterized by small inversions by comparison with silica during heating from ambient temperature to a temperature of about 2000° F. whereby mimimum expansions take place, stuccoing the coated pattern with particulate ceramic materials selected from the group consisting of alumina and zircon, and characterized by small inversions by comparison with silica during heating from ambient temperature to about 2000° F. whereby minimum expansions occur, repeating the coating of the pattern alternately with the slurry and stucco to build up a shell of ceramic material characterized by low inversions during heating from ambient temperature to about 2000° F., drying the formed coatings on the pattern, introducing the pattern with the shell formed thereon into a zone heated to a temperature above 1800° F. whereby heat rapidly penetrates through the shell to the pattern initially to reduce surface portions of the pattern to a molten state before the remainder of the pattern is heated to a temperature which would cause expansions of the pattern by an amount greater than the portions reduced to a molten state and without development of expansion forces within the shell as would cause breakage of the shell during rapid heat-up thereof, and continuing to expose the shell-pattern to the elevated temperature of the heated zone until the pattern has been eliminated from the shell.



3,196,507
COMBINATION MONEY CLIP IMPLEMENT

Paul P. Loda, Ansonia, Conn., assignor to The Britton Corporation, Newington, Conn., a corporation of Connecticut

Filed Apr. 13, 1964, Ser. No. 359,182
10 Claims. (Cl. 24—3)



1. A combination money clip comprising an elongated sheath member of flexible sheet material, said sheath member having front and rear wall portions in generally overlying relationship and joined to each other adjacent the longitudinal margains thereof to provide a pocket therebetween; a clip member with two generally parallel extending leg portions connected at one end and having their other ends biased toward each other, the front wall

portion of said sheath member being interposed between said two leg portions, one of said leg portions thereby being received within said sheath member between said front and rear wall portions thereof, said one leg portion being dimensioned cooperatively and snugly fitting within said pocket for imparting rigidity thereto, the other leg portion being biased tightly against said one leg portion through the thickness of the material of said front wall portion to provide relatively slip resistant gripping of associated money received between said other leg portion and said front wall portion, said one leg portion of said clip member being secured within said pocket of said sheath member; and an elongated implement slidably received in said pocket between said one leg portion and said rear wall portion of said sheath member, said sheath member and implement being cooperatively dimensioned with one end portion of said implement extending outwardly from said pocket of said sheath member for convenient gripping by a user, said sheath member and said one leg portion being configured and dimensioned to receive said implement snugly therebetween and to restrain frictionally said implement from inadvertently sliding outwardly from said sheath member, said rear wall portion of said sheath member extending to the outer end of said one end portion of said implement and providing a tab portion overlying said one end portion.

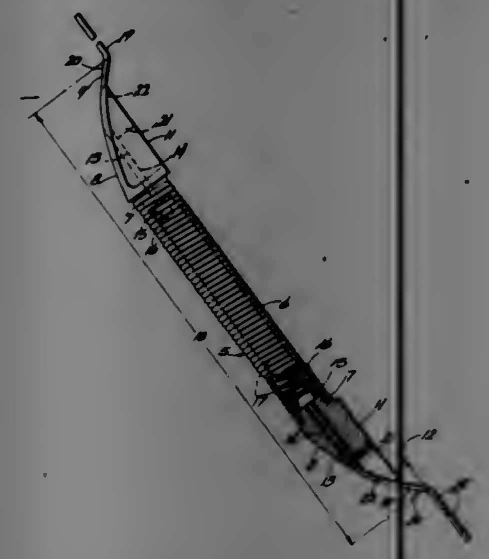
3,196,508

LICENSE PLATE FASTENERS

D. Benton Carter, 3423 N. Central Ave., Rockford, Ill.

Filed Dec. 20, 1961, Ser. No. 160,788

12 Claims. (Cl. 24—73)



1. In a license plate fastener adapted for application to an assembly including a bracket or other support having holes provided therein and a license plate having two holes for reception of fasteners provided therein in widely and longitudinally spaced relation, an elongated closely coiled spring of a diameter and size of wire tending to stay normally straight, said spring in straight condition being of a length to reach from one of said holes approximately to the other but being adapted to be buckled intermediate its ends or near either end to permit application to a license plate assembly, heads rigid with the opposite ends of said spring and disposed for abutment with a flat surfaec on one side of the license plate assembly, and rigid elongated extensions extending beyond the outer ends of the heads on opposite ends of said spring which when the spring is buckled have their extremities brought closer together enough to permit entering the same through the holes in the plate and through registering holes in the plate supporting bracket or other support, whereby upon return of the spring to substantially straight form to secure the plate in place on the bracket or other support by engagement of the heads on a flat surface on one side of the license plate assembly and engagement of the extensions on the other side of the license plate assembly.

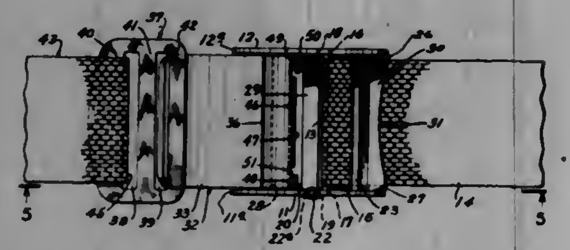
3,196,509

SAFETY SEAT BUCKLE FOR AIRCRAFT AND MOTOR VEHICLES

Allan L. Frew, Woodbury, Conn., assignor to Waterbury Buckle Company, Waterbury, Conn., a corporation of Connecticut

Filed Aug. 10, 1962, Ser. No. 216,151

1 Claim. (Cl. 24—77)



In a safety seat belt for a vehicle, a pair of flexible webbing straps adapted to be secured to said vehicle, a rectangular flat eye slide permanently secured to one of said straps and having a cross slot, and a buckle adjustably secured to the other of said straps, said buckle comprising a U-shaped housing having a base and a pair of resilient upstanding side walls provided with inwardly extending nubbins at the upper edges thereof, said base having a rear crossbar, ahd a pelican-hook shaped lever having one end of relatively small radius hooked over said crossbar and having a curved tongue of larger radius for insertion through the cross slot of said eye slide, the end of said tongue being held down in closed position by said nubbins and the resiliency of said side walls permitting said nubbins to be spread apart when moving said tongue into or out of its closed position, said one end of said lever which is hooked over said crossbar including two transversely spaced lugs and an intermediate portion located between said two lugs, said one end in the transverse zone of said two lugs embracing said crossbar by an extent sufficient to prevent the disassembly of said lever from said crossbar and in the transverse zone of said intermediate portion embracing said crossbar by an extent less than enough to prevent the disassembly of said lever from said crossbar but sufficient to cause it to engage said crossbar when said lever is in its closed position, with the result that said lever may be nonremovably secured to said crossbar by bending only said lugs and without bending said intermediate portion.

3,196,510

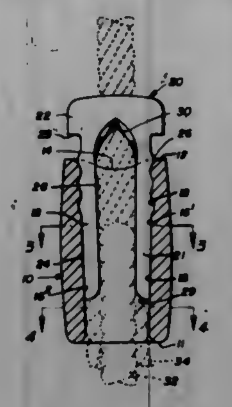
EYE SPLICE FITTING

William D. M. Boyd and Lovick P. Young, Vancouver, British Columbia, Canada, assignors to A. I. Steel and Iron Foundry Ltd., Vancouver, British Columbia, Canada

Filed May 27, 1963, Ser. No. 283,387

2 Claims. (Cl. 24—126)

1. In a rope fitting assembly, a multistrand cable having a body portion, and an eye formed at one end of said body portion, said eye including two parts integral with said body portion, each part containing a plurality of strands, said parts being overlapped and intertwined with each other, the free ends of said parts overlapping said body portion adjacent said eye, a fitting comprising an elongated sleeve surrounding said body portion and free ends of said parts, a retaining member having a pair of elongated spaced resilient legs and a head connecting the legs at one end thereof, said head being greater in width than the diameter of the bore of the sleeve, the distance between the outer surfaces of said legs being slightly larger than a portion of said sleeve, said retaining member being forced into the sleeve with the head disposed within the cable eye and the spaced legs straddling said body portion and the free ends of said parts, said legs being wedged by said portion of the sleeve into clamping engagement with said body portion and free ends of said parts to prevent relative movement threof.



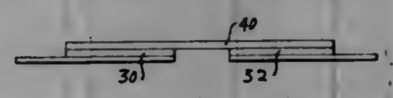
3,196,511

FASTENING MEANS

Mildred M. Kintner, 3624 Vistula Road, Mishawaka, Ind.

Filed July 15, 1963, Ser. No. 295,084

1 Claim. (Cl. 24—204)



A fastening means in combination with wearing apparel having two spaced pieces of fabric material with internal and external surfaces: said fastening means comprising a pad-like element of relatively soft felt-like material on the external surface of each piece of fabric material, said pad-like elements being positioned adjacent each other and having numerous closely spaced resilient loops over substantially the entire surface of each element, and a removable elongated element having a strip of cloth-like material with inner and outer sides, said inner side of said strip having numerous closely spaced resilient hook-like members over substantially the entire inner side of the cloth-like material for engaging the loops of each of said pad-like elements, the interengagement of the hook-like members with the loops of the pad-like elements holding said elongated element to said pad-like elements and thereby retaining said pieces in closely spaced relation, and an ornamental means on the outer side of said strip.

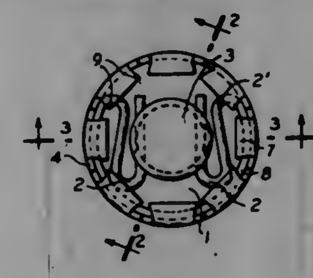
3,196,512

PRONG SNAP FASTENERS

Herman Koehl, N. Main St., Danielson, Conn.

Filed Oct. 15, 1963, Ser. No. 316,391

11 Claims. (Cl. 24—218)



1. In a prong snap fastener,

at least two elements comprising a socket member and a stud member,

said stud member being received by said socket member in the operative position of said prong snap fastener,

each of said elements comprising a base having a continuous peripheral wall and a centrally disposed and axially extending tubular portion,

said peripheral wall of said base terminating into a plurality of prongs having pointed ends to be bent over and extending through material, upon securing said prong snap fastener to said material, and

a tongue disposed between and adjacent to each pair of adjacent prongs and extending inwardly spaced apart from said base and said prongs being disposed in their inwardly bent-over position opposite a portion of said adjacent tongues, thereby clamping said material between said tongues and said bent-over prongs.

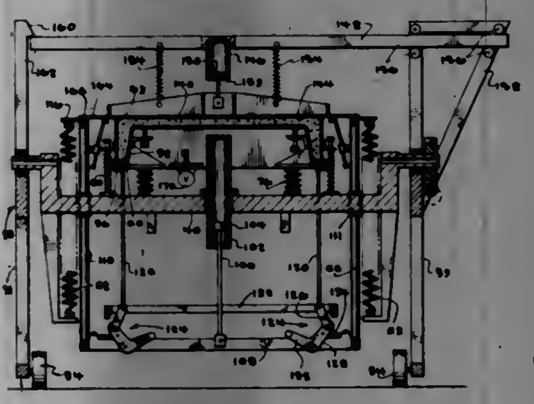
3,196,513

MACHINE FOR MAKING PRECAST CONCRETE PRODUCTS

Domenico Parma, Carrera 7a No. 17–01, Oficina No. 365, Bogota, Colombia

Filed Feb. 11, 1963, Ser. No. 257,723

7 Claims. (Cl. 25—41)



1. In a machine for molding a concrete product,

the combination comprising a supporting frame,

a mold having an exterior mold part and an interior mold part,

first spring means mounting said interior mold part on said frame,

second spring means mounting said exterior mold part on said frame,

an ejector member movable between said exterior and interior mold parts and forming the bottom of said mold,

resilient means exerting a downward biasing force on said ejector member,

stop means on said exterior mold part limiting downward movement of said ejector member and transmitting said downward force to said exterior mold part,

means for moving said ejector member between said exterior and interior mold parts for ejecting concrete products therefrom,

and additional stop means limiting upward movement of said exterior mold part relative to said frame so as to separate said exterior mold part from the concrete product when said ejector member is moved between said exterior and interior mold parts.

3,196,514

APPARATUS FOR CUTTING PILE FABRIC

George T. Cheetham, 855 Bridge St., and Sidney H. Hunking, 42 Holbrook Ave., both of Lowell, Mass., and Peter S. Dolly, 433 Putney St., St. Lamberts, Quebec, Canada

Filed Jnne 18, 1962, Ser. No. 203,074

4 Claims. (Cl. 26—9)

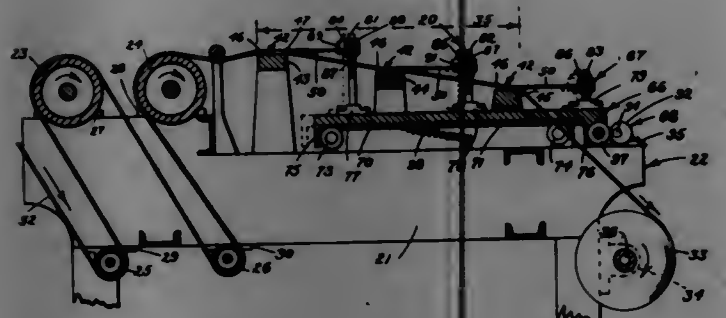
1. Apparatus for cutting the float yarns in all of the races of a pile fabric web in one pass of said web through a pile cutting machine, said apparatus comprising:

means for advancing said web at a predetermined speed along a longitudinal path through a cutting station on said machine;

a plurality of individual, elongated, pile cutting knives, one for each race of said fabric;

each said knife including a sheath and an upstanding blade with an upper, tapered, cutting edge thereon, the forward portion of each said sheath and blade being inserted in one of said races to cut the float yarns thereof from inside the race,

free terminal, rearward ends on said knives projecting from said races in transverse alignment at said cutting station;



and power actuated vibration means at said station including a longitudinally movable carriage extending entirely across said machine at said cutting station;

said carriage having a transversely extending shelf supporting the rearward ends of said knives and a vertical face abutting, and engaging, the rearward ends of said knives for advancing said knives within said races;

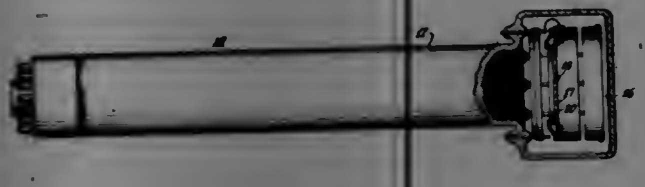
said vibration means being operable on all of the free terminal rearward ends of said knives to periodically advance said knives into said races with relatively short, high speed strokes thereby lengthening the life of said cutting edges.

3,196,515
METHOD OF MANUFACTURING PICKUP TUBES

Robert L. Van Asselt and William M. Kramer, Lancaster, Pa., assignors to Radio Corporation of America, a corporation of Delaware

Filed Jan. 30, 1962, Ser. No. 169,840

7 Claims. (Cl. 29—25.18)



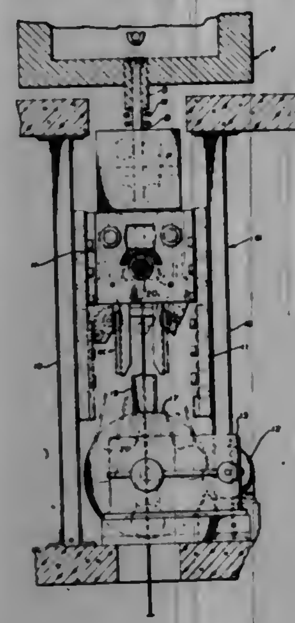
1. The method of manufacturing a target electrode assembly for use in a television pickup tube, said method comprising forming a subassembly, said subassembly including an apertured support member having a temporary supporting film thereon and a layer of metal on said supporting film, said method comprising raising the temperature of said subassembly to a temperature below the oxidizing temperature of said metal while said subassembly is in a non-oxidizing atmosphere, changing to an oxidizing atmosphere, and then raising the temperature of said subassembly to a temperature above the oxidizing temperature of said metal.

3,196,516
CONTINUOUS CASTING AND ROLLING OF METALS

John C. Bongiovanni, University Heights, Ohio (221 Elmtree Road, New Kensington, Pa.)

Filed Oct. 28, 1960, Ser. No. 65,818

7 Claims. (Cl. 29—33)



7. A mill for the continuous conversion of metal into a rolled form from molten metal comprising: means for producing a vertically descending billet directly from molten metal, constant speed tandem pinch roll means engaging said billet below the first said means to determine a feed rate of said billet, a rigid frame and a housing mounted and guided thereon for vertical reciprocation below the pinch roll means, power driven means for reciprocating the housing, a roll carriage supported and guided in said housing for vertical reciprocation along a said billet extending therethrough, cooperating means on the frame and carriage for reciprocating the carriage in lagging relation to the housing, a pair of horizontally spaced horizontal rolls horizontally shiftably mounted in but vertically fixed relative to said carriage on opposite sides of the billet path for movement toward and away from the billet, a pair of variably spaceable vertically extended roll backing cam plates mounted in said housing, and means supported in the housing and acting on the cam plates for establishing a downward stroke working spacing of the plates and for releasing the plates and thereby the rolls as the housing approaches the top of an upward return stroke and the bottom of a downward working stroke respectively; said cam plates having like roll camming faces including respectively sloped lower surfaces mutually upwardly convergent to respective substantially vertically straight mutually parallel upper surfaces:

3,196,517
APPARATUS FOR FORMING LENGTHS OF SHAPED WIRE FROM WIRE STOCK

Lavon K. Cooper, Pataskala, Ohio, assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York

Filed July 11, 1963, Ser. No. 294,338

4 Claims. (Cl. 29—33)

1. Apparatus for forming finite lengths of shaped wire from wire stock, the apparatus comprising:

first and second opposed spaced-apart terminal gripping fingers operable to grip a finite length of formed wire therebetween,

a stationary member fixedly mounting the first finger such that said first finger extends in one direction therefrom,

first and second wire stock receiving members supported by said stationary member for movement adjacent said fingers in said one direction and in a second direction opposite said one direction,

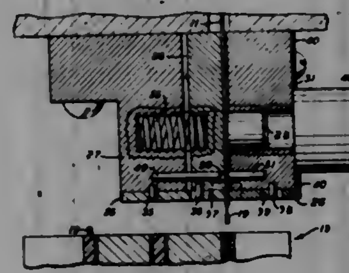
said first and second members including respective first and second spaced-apart opposed faces for receiving wire stock therebetween,

the first member being driven by movement of the second member in said second direction so that said first finger projects beyond said first face of said first member,

means mounting the second gripping finger for biased, slidable movement on said second member, movement of a surface of the second member in said second direction shearing a length of wire stock gripped between said second finger moving with said second member in said second direction and said first finger projecting from said first member, and providing an abutting surface for a previously formed length of wire gripped between said fingers,

a pair of substantially opposed wire stock shaping elements,

one element of said pair being mounted on said stationary member and extending into a bore formed in said first member, said one element projecting from said first face of said first member to contact the wire stock upon movement of said first member in said second direction,



the other element of said pair projecting from said second face of said second member a predetermined distance and coacting with said one element upon movement of said first and second members in said second direction to shape a length of wire stock positioned therebetween,

means for driving said second member against said first member until both members are driven initially in said second direction so as to shear a previously shaped length of wire stock against a surface of said second member thereby providing a formed wire, and to shape a successive length of wire stock positioned between said members, the driving means thereafter driving said second member in said one direction, and

means for advancing the successive length of shaped wire stock between said first and second fingers upon movement of said second member in said one direction.

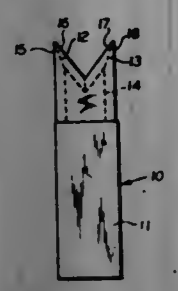
3,196,518
LATHE CUTTER BITS

Alvin Williams, 223 W. 135th St., New York 30, N.Y.

Filed Apr. 23, 1963, Ser. No. 275,098

2 Claims. (Cl. 29—95)

1. A cutter bit for a lathe comprising a shank portion and a cutter portion extending therefrom, said cutter portion being substantially a frustrum of a pyramidal section having an M-shaped base, with said cutter portion having geometrically similar M-shaped top and bottom surfaces which are outwardly disposed with respect to the shank portion, said top surface being the larger in dimensions and having a plurality of cutting edges defined by its boundary edges, and a pair of outwardly disposed cutting tips defined by the intersections of said boundary edges, with the lateral sides of said frustro-pyramidal cutter portion being inclined inwardly toward the bottom surface to provide clearance for said cutting edges and tips.

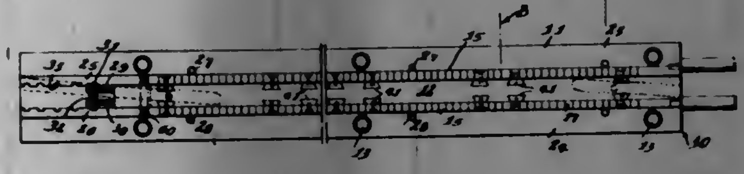


3,196,519
SURFACE BROACHING APPARATUS

Charles O. Lofgren, Rockford, Ill., assignor to Sundstrand Corporation, a corporation of Illinois

Filed Oct. 1, 1962, Ser. No. 227,400

11 Claims. (Cl. 29—95.1)



1. A broach holder and broach tool combination for surface broaching comprising, planar broach tools, a body with a base and an upstanding flange extending along the length thereof, said flange having opposite exposed faces extending upwardly relative to the base and gradually diverging from each other and each adapted to engage the separate planar broach tool positioned thereagainst at a slight outward angle with the broach teeth at a level above the flange, means for positioning the broach tools at an angle inclined to the length of the base to provide a rise per tool comprising a pair of sloped surfaces on said base underlying the location of the broach tools, means for adjusting the height of the broach tools comprising a pair of wedge members associated one with each of said sloped surfaces, means for adjusting said wedge members lengthwise of the base comprising screw means threaded in the base and engaging the wedge members, and means for securing the broach tools to the flange including a plurality of movable dovetailed blocks mounted in said flange and exposed to said faces to each receive a screw passing through the broach tool with the blocks being movable along paths normal to said sloped surfaces.

3,196,520
TUBULAR ROLLER WITH CARRIER CORE AND DIVISION OF THE GAP BETWEEN THE ROLLER AND CORE INTO LONGITUDINAL CHAMBERS

Valentin Appenzeller, Krefeld, Germany, assignor to Eduard Kusters Maschinenfabrik, Krefeld, Germany, a German company

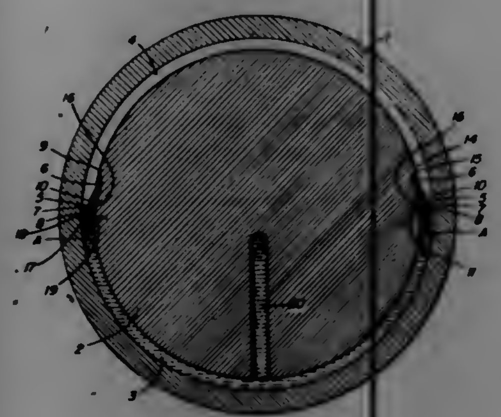
Filed Mar. 5, 1963, Ser. No. 262,888

Claims priority, application Germany, Nov. 10, 1962, K 48,202

4 Claims. (Cl. 29—116)

1. A roller for applying pressure along a side thereof to webs of material, said side comprising the operative side of the roller, said roller having a stationary core supported at its ends, a tube with its outer surface forming the web-contacting periphery of the roller and rotating about the stationary core and having an internal cross-section greater than the cross-section of the core thereby forming a space betwen the core and the tube throughout its entire internal periphery, closure means at the ends

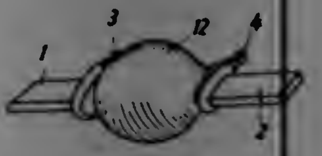
of said tube, in combination with sealing means along opposite longitudinal sides of said core extending to the internal periphery of the tube separating the space between the core and tube into first and second longitudinal chambers, the first chamber being on the operative side of the roller and containing a fluid medium under pressure, said sealing means comprising a pivotable strip having first and second arms at an angle to each other, a V-



shaped longitudinal recess in said core, the open end of said recess facing said first chamber, and spring means on said core for pressing said first arm against the internal periphery of said tube, said first arm lying substantially radially of said tube and having a side bearing against the internal periphery of the tube, said second arm having a longitudinal knife-edge for pivoting in said V-shaped recess, the walls of said recess including an acute angle greater than the angle formed by said knife-edge.

3,196,521
FUSE CARTRIDGE

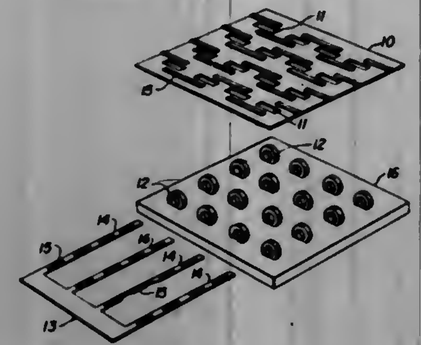
Fritz Hollmann, Rheydt, Rhineland, and Hans Emmerich, Rheydt-Glesenkirchen, Germany, assignors to Fritz Driescher Spezialfabrik fur Elektrizitatswerksbedarf, Rheydt, Rhineland, Germany
Filed Sept. 19, 1960, Ser. No. 56,722
Claims priority, application Germany, Apr. 4, 1960, D 33,033
4 Claims. (Cl. 29—155.5)



1. A method of making a cartridge fuse, comprising the steps of producing a conductive unit including a pair of spaced-apart elongated conductor members having confronting ends joined by a fusible link, and consecutively forming two bodies of nonconductive material in nested relationship about said link and said confronting ends, one of said bodies being a porous inner core of arc-quenching material completely enveloping said link and said confronting ends, the other of said bodies being an integrally molded one piece shell of synthetic resin closely surrounding said core in direct contact with the entire core surface while letting outer extremities thereof project outwardly from the shell, the molding of said shell being carried out in a split mold having a cavity accommodating said link and said confronting ends, upon a gripping of said outer extremity between separable parts of the mold, with an all-around clearance corresponding to the combined thickness of said shell and said core.

3,196,522
MEMORY CORE MATRIX WITH PRINTED WINDINGS

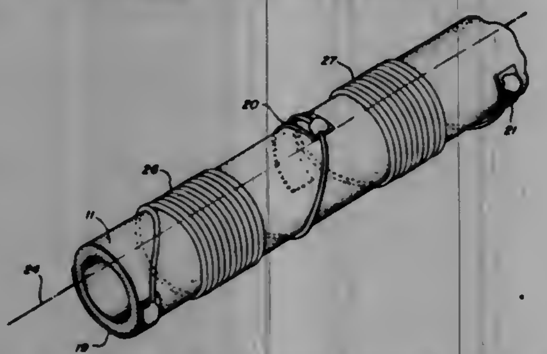
Joseph M. Bernstein, Bensenville, and George J. David, Chicago, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Jan. 6, 1961, Ser. No. 81,185
2 Claims. (Cl. 29—155.5)



1. The method of producing a magnetic memory device comprising a plurality of magnetic ring cores and comprising a pair of relatively flat insulating members, at least one of said members being substantially in the form of a comb having a base portion and a plurality of fingers extending from said portion to carry said cores and the other insulating member having a plurality of parallel slots, said method comprising the steps of (1) applying conductor segments along the fingers of said comb-shaped member and applying other conductor segments to the other insulating member in a direction substantially perpendicular to the conductor segments on said fingers and parallel to said slots, (2) assembling said cores with respect to said fingers with said fingers extending through said cores, and (3) stacking said two insulating members one immediately on top of the other so that said cores are locked in position in said slots and said conductor segments are formed into continuous windings extending through and between said cores.

3,196,523
METHOD OF CONSTRUCTING A TUNING STRIP

John F. Bell, Wilmette, Ill., assignor to Zenith Radio Corporation, Chicago, Ill., a corporation of Delaware
Original application June 30, 1958, Ser. No. 745,414, now Patent No. 3,083,339, dated Mar. 26, 1963. Divided and this application June 6, 1962, Ser. No. 200,568
3 Claims. (Cl. 29—155.5)



1. The method of constructing a tuning strip comprising the following steps:

affixing a series of terminals to a core member of insulating material at spaced points along said core;

winding a continuous conductor upon said core member in a single uninterrupted pass therealong to form a multiplicity of conductor turns;

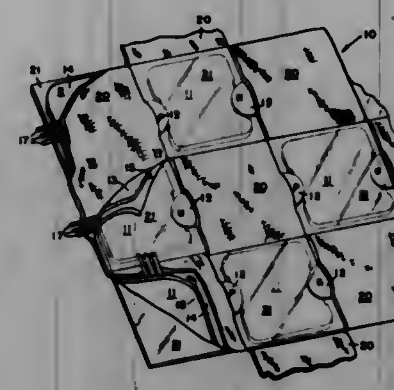
establishing both an electrical and a mechanical connection between each said terminal and an adjacent portion of said conductor;

severing said conductor without severing said core member between selected ones of said terminals to arrange said remaining conductor turns in a plurality of multi-turn inductance coils;

and discarding said severed pieces of said conductor.

3,196,524
THERMOELECTRIC COOLING DEVICES AND METHOD OF MAKING THE SAME

Ralph Ewing Jamison, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Original application Apr. 18, 1961, Ser. No. 103,751, now Patent No. 3,099,137, dated July 30, 1963. Divided and this application Jan. 21, 1963, Ser. No. 261,923
6 Claims. (Cl. 29—155.5)



1. In a method of making a flexible thermoelectric device, the steps comprising:

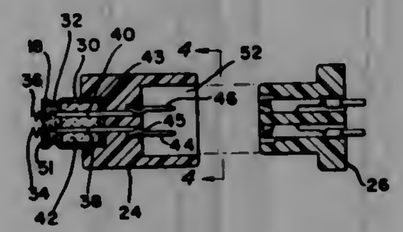
notching a flexible heat conducting metal foil inwardly from one edge of said foil;

securing a thermoelectric pellet, of a size at least as large as the width of said notch, in said notch between and in electrical contact with said foil adjacent both opposite edges thereof formed by said notch, so that said pellet is in electrical contact and in heat transfer relation with said foil;

subsequently notching said foil inwardly from the edge thereof opposite said one edge to form a notch intersecting with said first defined notch to completely separate the portions of said foil on opposite sides of said thermoelectric pellet, so that the sole electrical connection between the separated portions of foil is through said thermoelectric pellet.

3,196,525
METHOD OF FORMING A HEATING UNIT

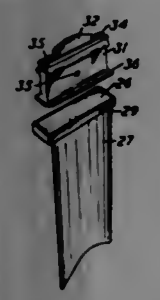
Charles W. Gillespie, Vandalia, and Ronald L. Leonard, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Original application Apr. 12, 1961, Ser. No. 102,499. Divided and this application Dec. 30, 1963, Ser. No. 334,502
1 Claim. (Cl. 29—155.65)



The method of forming a heating unit having a dielectric material-filled tubular sheath, first and second resistance coils, first and second terminal wires, an alignment bushing having first and second holes, a ported sealing member, first and second connector tabs and a terminal block having first and second ports and first and second recesses connected respectively to the first and second ports thereof, said method comprising the sequential steps of joining said first and second resistance coils respectively to said first and second terminal wires, threading said alignment bushing onto said first and second terminal wires respectively through the first and second holes thereof to space said terminal wires apart, sliding said first and second terminal wires through the ported sealing member and respectively through the first and second ports in said terminal block until the ends thereof extend respectively beyond said first and second recesses, welding said first and second connector tabs respectively to said first and second terminal wires, positioning said first and second connector tabs respectively in keyed relationship to said first and second recesses whereby to lock said terminal wires against rotating relative to said terminal block thereby to group said resistance coils, said terminal wires, said alignment bushing, said sealing member, said terminal block and said connector tabs into an assembly wherein said terminal block serves as a process fitting for subsequent method steps before becoming a permanent part of said heating unit, then threading said resistance coils, said alignment bushing and said terminal wires into said tubular sheath until the end of said tubular sheath abuts said sealing member to sandwich said terminal block and said sealing member between said connector tabs and said tubular sheath, said threading being in a manner to space said resistance coils from each other along their lengths and from said tubular sheath, filling said tubular sheath compactingly with said dielectric material to retain said resistance coil in said sheath, closing the end of said tubular sheath through which said dielectric material was filled, and forming said tubular sheath into a heating element of desired configuration.

3,196,526
METHOD OF MAKING TURBINE BLADES

Frederick Walter Amos, Stanmore, Frank Thomas Wheatley, Edgware, and Leonard William Wickens and Arthur William Steward Mangles, London, England, assignors, by mesne assignments, to Bristol Siddeley Engines, Limited, Bristol, England, a British company
Claims priority, application Great Britain, June 13, 1961, 21,328/61
Filed June 12, 1962, Ser. No. 201,906
7 Claims. (Cl. 29—156.8)



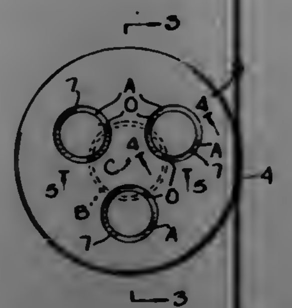
1. A method of making a hollow metal blade for an elastic fluid machine including the steps of forming a jointless metal tube from blank flat sheet material, forming the end of the length of the tube into a blade platform, forming the other part of the length of the tube into a blade section, and swaging the edge of the platform over a part of a separately made metal blade root of finished shape such that the rest of the blade root may be attached to a turbine wheel.

3,196,527
METHOD OF NOZZLE FORMATION

John U. Bete, Marion, Mass., assignor to Bete Fog Nozzle, Inc., Greenfield, Mass., a corporation of Massachusetts
Original application Jan. 18, 1961, Ser. No. 83,411, now Patent No. 3,104,063, dated Sept. 17, 1963. Divided and this application July 9, 1963, Ser. No. 293,806
2 Claims. (Cl. 29—157)

1. The method of forming an atomizing nozzle for liquids comprising forming in the front surface of a platelike piece a number of circular groove formations around spaced axes intersecting said platelike piece with

the bottom portions of the groove formations at predetermined dimensions and milling the rear surface of said platelike piece in a circular channel around an axis normal to said platelike piece and to a depth and in a shape to overlap and intersect each of said groove formations and remove the bottom portions of each groove formation at two spaced areas to form a number of tiny atomizing orifices leading from said groove formation.



3,196,528
METAL SHEET ARTICLE AND PROCESS FOR MAKING

Irwin Broverman, Orange, and Michael J. Pryor, Hamden, Conn., assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia

No Drawing. Filed Dec. 18, 1961, Ser. No. 160,282

7 Claims. (Cl. 29—157.3)

7. A process of fabricating a sheet metal panel having a smooth hard component layer and distensions raised from the opposite softer component layer to form hollow portions in said panel, said panel comprising, as the hard component, a sheet of aluminum containing from 0.1% to 0.3% zirconium uniformly dispersed therein in a finely divided form, and a sheet of essentially said aluminum as the softer component, comprising the steps of

(A) forming a blank by positioning said sheets adjacent one another, one of said sheets having applied to a confronting surface thereof a pattern of weld inhibiting material,
(B) heating said blank to a temperature within the range of 700° to 975° F.,
(C) pressure welding said sheets together in the areas not covered by said weld inhibiting material,
(D) cooling and cold working said blank to develop a high strength level in said sheets,
(E) partially annealing said blank in a critical temperature range in which said softer aluminum component undergoes considerable loss of strength by recovery and recrystallization but in which said aluminum with zirconium component undergoes only slight loss of strength by recovery relative to said softer aluminum component thereby developing a differential in yield strength between the component layers thereof while preserving the finely divided zirconium dispersion,
(F) and inflating the blank in the unwelded areas by the application of fluid pressure therein.

3,196,529
APPARATUS FOR SECURING OBJECTS TOGETHER

Robert J. Schwinghamer, 7314 Martha Drive SE., Huntsville, Ala.

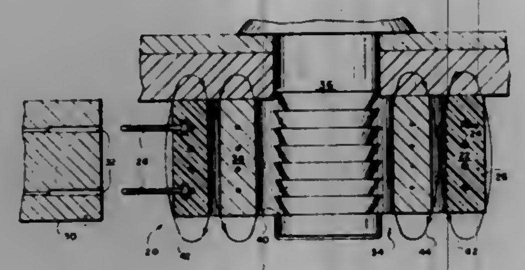
Filed Sept. 28, 1962, Ser. No. 227,684

24 Claims. (Cl. 29—200)

(Granted under Title 35, U.S. Code (1952), sec. 266)

1. Apparatus for securing objects together comprising:

(A) fastener means having a head means and a free end portion,
  (1) said head means being adapted to engage one surface of said objects to be secured together, while said free end portion extends through and projects beyond the other surface of said objects,
(B) deformable clamp means having an inner diameter greater than the diameter of said free end portion of said fastener means,
  (1) said clamp means being positioned around said free end portion of said fastener means and against the other surface of said objects to be secured together, and
(C) magnetomotive force producing means positioned adjacent said clamp means for applying a constricting force of such strength and duration to said clamp means as to cause it to be swaged about said free end portion of said fastener means thereby securing said objects together.

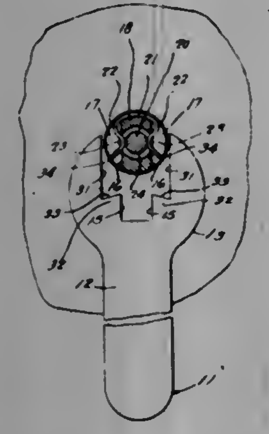


3,196,530
CAR DOOR HANDLE TOOL

Frank P. Newbury, Denver, Colo., by decree of distribution, assignor to Dorothy E. Newbury

Filed Apr. 16, 1963, Ser. No. 273,339

1 Claim. (Cl. 29—229)



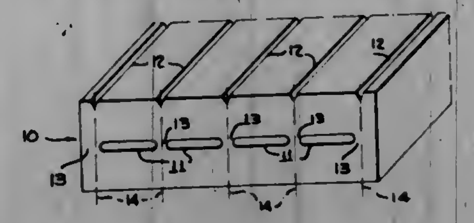
A motor vehicle door handle removing tool for use in moving the U-shaped retaining springs engaged in side grooves in door handles to normally retain the handles on their shafts, said tool comprising a flat rigid body formed with a notch having inner parallel rigid side wall portions spaced apart by slightly more than the distance between the inner walls of the side grooves in the door handles, so that the notch can engage on a door handle with said parallel side wall portions received in said side grooves, and respective shoulder elements formed in the notch and extending outwardly from said side wall portions at the opposite side corners of the notch, said shoulder elements having rearwardly and laterally inclined forward edges and parallel inner longitudinal edges, whereby the shoulder elements present acute angles at their inner corners, said rearwardly and laterally inclined forward edges being engageable with the ends of the legs of the U-shaped retaining springs to push the legs along the side grooves.

3,196,531
METHOD OF LOCATING HIDDEN REGIONS IN COMPOSITE LAMINATE STOCK, AND PRODUCT

Edward J. Ripling, Flossmoor, Ill., assignor to Continental Can Company, Inc., New York, N.Y., a corporation of New York

Filed June 24, 1963, Ser. No. 289,958

15 Claims. (Cl. 29—407)



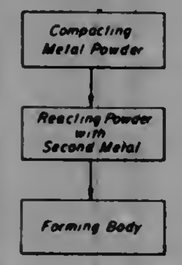
1. The method of preparing metal articles having channels therein, which comprises preparing a billet having metal portions enclosing a mass of anti-welding material and also having a mass of a second material distinct from the metal of the billet in having a different response to electromagnetic excitation, said masses being at predetermined locations relative to one another and being competent of extruding during the rolling of the billet, rolling the billet to form a strip in which the said anti-welding material remains hidden between surface layers of rolled-out metal and both said materials extend along the strip, detecting by electromagnetic means the location in the rolled strip of the rolled-out mass of the second material prior to the separation of the said surface layers, marking the exterior of the strip at at least one point correlated to the detected location of said mass of second material, severing the strip longitudinally along a line spaced from the rolled-out mass of the anti-weld material and at a predetermined lateral spacing relative to the marking.

3,196,532
METHOD OF FORMING A SUPERCONDUCTIVE BODY

Paul S. Swartz, Carl H. Rosner, and Harold H. Hirsch, all of Schenectady, N.Y., assignors to General Electric Company, a corporation of New York

Filed Feb. 5, 1965, Ser. No. 430,773

10 Claims. (Cl. 29—420)



1. A method of forming a high critical field superconductive body in bulk form which comprises compacting vanadium powder, reacting said compacted vanadium powder with molten silicon, and forming a body with a reaction product therein containing a continuous network of a superconducting material.

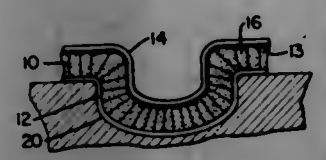
3,196,533
METHOD FOR FORMING HONEYCOMB MATERIALS

Noble N. Ida, Boulder, and Jack T. Snyder, Littleton, Colo., assignors to The Martin Marietta Corporation, Baltimore, Md., a corporation of Maryland

Filed July 10, 1963, Ser. No. 294,052

14 Claims. (Cl. 29—421)

1. A method for forming a curved honeycomb sandwich from a flat honeycomb sandwich composite consisting of a flat honeycomb core and a pair of matching flat face plates; said method comprising the steps of bonding one of said face plates to one face of said core, filling the cells of said core with a melted solid compressible material, allowing said material to solidify, placing the other of the face plates against the opposite face of said core to form a honeycomb sandwich composite, positioning said composite over a die situated in an explosive forming medium adapted to transmit to said composite the shock forces generated by the detonation of an explosive, explosively forming the composite to assume the curvature of said die, removing the composite from the said medium and die, removing the other said face plate, removing said solid material, and bonding the other said face plate to said core.

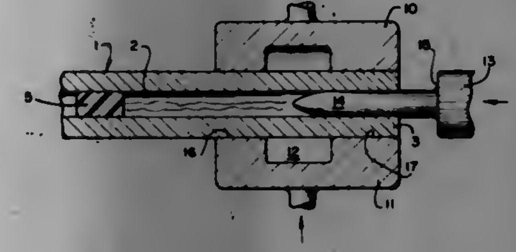


3,196,534
METHOD OF HOT WORKING LOCALIZED PORTIONS OF HOLLOW METAL ARTICLES

J. D. Ditson, Asbury, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey

Filed Nov. 20, 1963, Ser. No. 325,020

4 Claims. (Cl. 29—423)



1. A process of hot working a portion of a hollow metal article comprising: depositing a mass of material within the article which is capable of being vaporized by heat at a temperature required for hot working the hollow metal article, at least some of said material being deposited in said article at a location remote from the portion of the article to which local heat is to be applied wherein the material will be heated slowly enough to continue vaporizing and bathing the interior of the portion being heated with vapors which will prevent scale from forming therein during the later hot working step; applying heat to the portion of the article sufficient to raise its temperature to the required hot working temperature; and hot working the heated portion while said material vaporizes and prevents scale from forming in said article while it is heated.

3,196,535
METHOD OF MAKING INSULATED HOSE CLAMPS

James C. Crawford, Jr., White Plains, N.Y., and Ralf L. Hartwell, Cranford, N.J., assignors to Johns-Manville Corporation, New York, N.Y., a corporation of New York

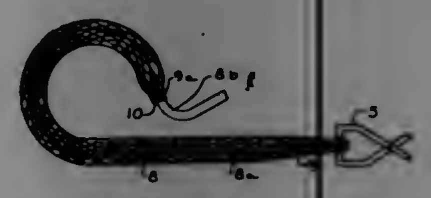
Original application Nov. 12, 1958, Ser. No. 773,474, now Patent No. 3,139,253, dated June 30, 1964. Divided and this application May 31, 1962, Ser. No. 216,940

2 Claims. (Cl. 29—446)

1. A method for making a heat and vibration-resistant clamp for holding conduits in a desired location comprising:

(a) positioning an insulating cushion within a loose-

ly fitting, open-ended, tubular, knitted wire, mesh envelope,
(b) said insulating cushion comprising a heat-resistant material adapted to dampen vibrations,
(c) inserting one end of a preformed metal strip having end portions and an intermediate portion, preformed into a loop corresponding to the shape of the conduit to be held, between said insulating cushion and said tubular, knitted wire, mesh envelope,
(d) positioning said insulating cushion and said tubular, knitted wire, mesh envelope relative to said preformed metal strip by relative movement between said metal strip and said insulating cushion and said tubular, knitted wire, mesh envelope so that said insulating cushion forms a second loop having a radius of curvature smaller than said first loop and said tubular, knitted wire, mesh envelope surrounds said insulating cushion and said metal strip,
(e) securing one end of said tubular, knitted wire, mesh envelope to said preformed metal strip adjacent but spaced from the other end of said preformed metal strip,
(f) applying tension to the other end of said tubular, knitted wire, mesh envelope to stretch said tubular, knitted wire, mesh envelope along its longitudinal axis while holding said insulating cushion in position adjacent the inner peripheral surface of said loop portion of said metal strip,
(g) stretching said tubular, knitted wire, mesh envelope to reduce the longitudinal cross-sectional configuration thereof until it is contiguous to the inner surface of said insulating cushion and the outer surface of said preformed metal strip,
(h) securing the stretched tubular, knitted wire, mesh envelope to said preformed metal strip adjacent but spaced from said one end of said preformed metal strip, and
(i) severing the remaining portion of said stretched tubular, knitted wire, mesh envelope.



3,196,536
METHOD OF CONNECTING GRAPHITE ARTICLES TO ONE ANOTHER OR TO ARTICLES OF DIFFERENT MATERIALS

Wilhelmus Franciscus Knippenberg and Albert Huizing, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed July 23, 1962, Ser. No. 211,872

Claims priority, application Netherlands, Aug. 29, 1961, 268,735

5 Claims. (Cl. 29—472.7)

1. A method of joining graphite articles to other articles selected from the group consisting of graphite, quartz, ceramics and metals comprising applying an alloy consisting essentially of gold and a member selected from the group consisting of tantalum in an amount of from 1% to 25% by weight and columbium in an amount of from 1% to 10% by weight in contact with opposing surfaces of said articles and melting said alloy in an inert atmosphere.

3,196,537
METHOD AND COMPOSITION FOR WELDING CAST IRON

Robert H. Groman, East Moline, Ill., Joseph F. Quaas, Island Park, N.Y., and Rene D. Wasserman, Stamford, Conn., assignors to Eutectic Welding Alloys Corporation, Flushing, N.Y., a corporation of New York

No Drawing. Filed Feb. 17, 1960, Ser. No. 9,172

15 Claims. (Cl. 29—487)

1. A method of welding cast iron which comprises the steps of applying intense concentrated heat to the portions of the parent metal to be joined for roughening and superficially heating them, abutting said superficially heated portions of said parent metal and depositing in a plurality of passes by a spray type transfer compatible weld metal, said weld metal having a total carbon content of not more than one percent in the undiluted form, upon the abutted superficially heated portions before said abutted superficially heated portions cool substantially, and immediately rapidly cooling said weld metal after each pass is deposited.

13. A composition for welding cast iron essentially consisting of the following constituents in the enumerated ranges of percentages by weight:

Constituents:	Range
Nickel	96.6–99
Chromium	0.20–1.00
Manganese	0.35–1.50
Carbon	0.40–0.90

14. An electrode for welding cast iron essentially consisting of a core made of the composition set forth in claim 13 covered by a coating of the following constituents in the enumerated ranges of parts by weight:

Constituent:	Range of parts by weight
Graphite	10–30
Alkaline earth metal carbonates	25–60
Silicon metal powder (80 to 120 mesh)	5–20
Heavy metal oxides selected from the group consisting of manganese dioxide and both manganese dioxide and lead oxide	2.5–25
Deoxiding ferro alloys	3–30

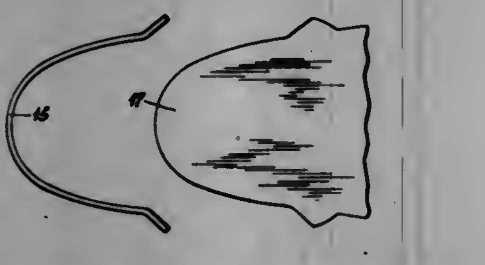
intimately admixed with a concentrated aqueous solution of an alkali-metal silicate, containing effective amounts of both a wetting agent and an anti-foaming agent, said solution being employed in an amount sufficient to impart to the coating composition from a creamy to pasty consistency.

3,196,538
HARD-SURFACING PROCESS

Neil J. Zachman, Willowdale, Ontario, Canada, assignor to Union Carbide Canada Limited, Toronto, Ontario, Canada, a corporation of Canada

Original application Nov. 24, 1961, Ser. No. 154,600, now Patent No. 3,159,463, dated Dec. 1, 1964. Divided and this application Nov. 7, 1963, Ser. No. 322,182

4 Claims. (Cl. 29—487)



1. A process for providing a wear-resistant surface on a steel article which comprises arranging wrought cobalt-base alloy material in closely adjoining relation with the steel article; fusing the adjoining portions of the steel article and wrought cobalt-base alloy material to form a mass of fused metal therebetween consisting essentially of material derived from the fused portions of the cobalt-base alloy and steel article; subsequently causing the fused metal to solidify; and post-heating the thus produced composite article to avoid cracking in the heat-affected zone of the steel portion of the composite article; said wrought cobalt-base alloy material having a composition of between about 30 and 31 percent chromium, about 4.5 percent tungsten, between about 1.1 and about 1.6 percent carbon, up to 1.5 percent molybdeum, up to 3 percent nickel, up to 3 percent iron, up to 2 percent silicon, up to 2 percent manganese, the balance being substantially all cobalt.

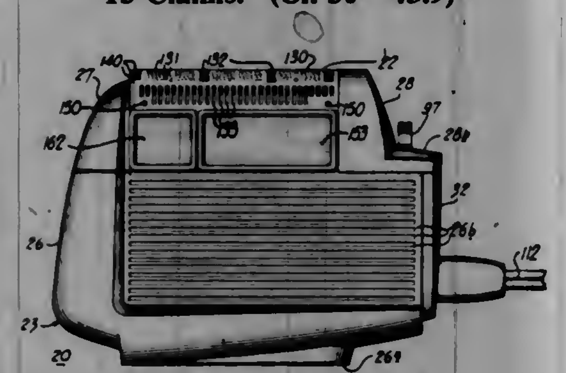
4. A process for providing a wear-resistant surface on an edge of a plain carbon steel article which comprises preforming a strip of wrought cobalt-base alloy material to the shape of the edge which is to be provided with a wear-resistant surface; arranging said edge and said cobalt-base alloy strip in closely adjoining relation; fusing the adjoining portions of the steel article and cobalt-base alloy strip to form a mass of fused metal therebetween consisting essentially of material derived from the fused portions of the cobalt-base alloy and steel article; subsequently causing the fused metal to solidify; and immediately post-heating the thus produced composite article at a temperature of about 500° F. to 600° F. for about 90 minutes with subsequent air-cooling to room temperature to thereby avoid cracking in the heat-affected zone of the steel portion of the composite article, said cobalt-base alloy strip having a composition of between about 30 and 31 percent chromium, about 4.5 percent tungsten, between about 1.1 and about 1.6 percent carbon, up to 1.5 percent molybdeum, up to 3 percent nickel, up to 3 percent iron, up to 2 percent silicon, up to 2 percent manganese, the balance being substantially all cobalt.

3,196,539
ELECTRIC DRY SHAVER

Ivar Jepson, Oak Park, and Francis J. Schuessler, Chicago, Ill., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed May 12, 1961, Ser. No. 109,551

13 Claims. (Cl. 30—43.9)



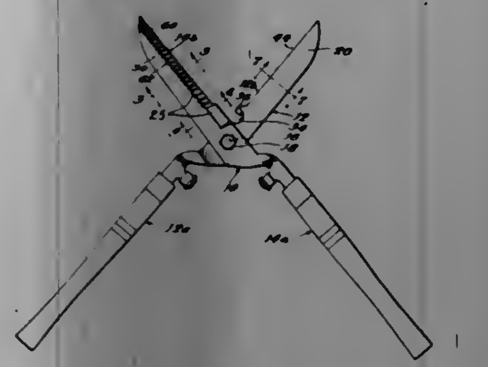
1. A dry shaver comprising an electric motor, a cutting assembly secured to said motor including an oscillating blade supporting means, means drivingly interconnecting said motor and said blade supporting means, a casing comprising a cup-shaped member and a pair of end caps, said cup-shaped member having an open end, one of said end caps including a laterally extending shelflike portion having an opening defined therein, means for securing said motor within said cup-shaped member with said cutting assembly projecting from the open end of said cup-shaped member, said end caps being disposed one at either end of said cutting assembly with said shelflike portion of said one end cap remote from said cutting assembly, switch means for controlling said electric motor including an insulating switch plate and manually actuatable switch knob pivoted to said plate, and means for securing said switch plate to said motor in said casing with said knob projecting through said opening defined in the shelflike portion of said one end cap.

3,196,540
HEDGE SHEARS WITH PRUNER NOTCH

Leonhard Porzky, Watertown, Wis., assignor to Village Blacksmith Corporation, a corporation of Delaware

Filed Feb. 14, 1963, Ser. No. 258,460

2 Claims. (Cl. 30—254)



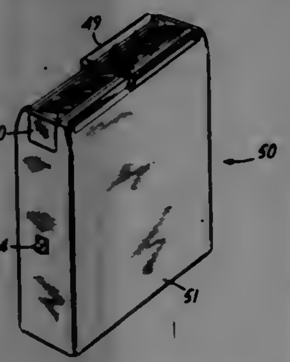
1. A pruning and shearing tool, comprising: a pair of metal blades pivotally secured together, a flat inner face on each of the blades extending from the pivot to the outer extremity, said blades having bevels respectively formed on the outer faces thereof forming edges in said flat faces for cutting limbs and the like, one of said blades having a pair of cutting edges and a bevel surface intersecting the outer face of the blade along a straight line extending over the length of the blade opposite both said cutting edges, said bevel surface adjacent the pivot providing a straight cutting edge with an included angle of no more than 12° in said bevel and the balance of said blade providing a shearing edge with an included angle of more than 12°, the other blade having a shear edge with an arcuate limb holding edge opposite said straight cutting edge with an extremity extending beyond the general edge of the blade whereby to restrain an object held by the arcuate edge from movement along the longitudinal extent of the blades when the latter are brought together for lopping a limb or the like.

3,196,541
SHAVING APPARATUS

Arthur J. Foley and Clifford Thomas Foley, both of Portland, Conn.

Filed Dec. 27, 1962, Ser. No. 247,692

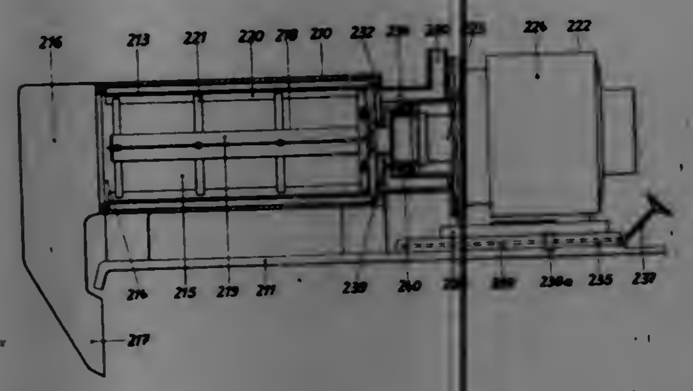
4 Claims. (Cl. 30—43.6)



1. A cutting apparatus comprising
a first triangular shaped blade having an apex, a notched base and four cutting edges,
a second triangular shaped blade having an apex, a notched base and four cutting edges, said first and second blades positioned with their cutting edges adjacent and with the apex of said first blade intersecting the notch in the base of said second blade and the apex of said second blade intersecting the notch in the base of said first blade thereby forming four acute cutting angles, and
means for moving said blades across each other while maintaining the cutting edges of said first and second blades in adjacent relationship.

3,196,542
CHURN

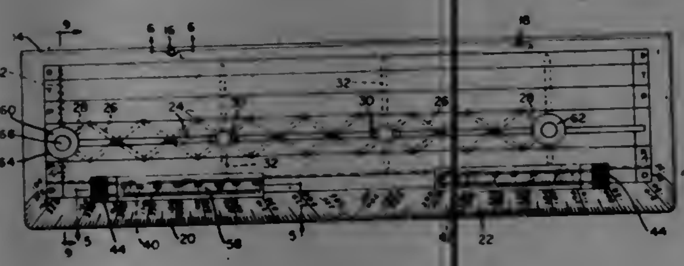
Karl Plock, Dortmund-Luecklemberg, Karl Quest, Dortmund, Anton Flaskamp, Munich, and Ludwig Eisenreich, Weibenstephan, near Freising, Germany, assignors to Holstein & Kappert Maschinenfabrik Phonix G.m.b.H., Dortmund, Germany
Filed Aug. 19, 1963, Ser. No. 302,878
3 Claims. (Cl. 31—34)



1. A butter making churn comprising cylindrical vessel means having an internal chamber and arranged to receive starting material at one end and to discharge butter and liquid at the other end thereof; rotary agitating means extending into said chamber and having a shaft which is coaxial with said vessel means and electric motor having an output shaft drivingly connected with said first mentioned shaft so as to rotate said agitating means whereby the material admitted into said chamber is transformed into butter and liquid issuing from the other end of said vessel means; a bearing sleeve fixed to said motor and surrounding a portion of said first mentioned shaft, said sleeve being receivable in said chamber at said one end of the vessel means, and an arrangement for moving one of said means axially of the other means so as to vary the output of the churn, when necessary, said sleeve extending into and being withdrawable from said chamber in response to reciprocation of said one means.

3,196,543
NAVIGATIONAL PLOTTER

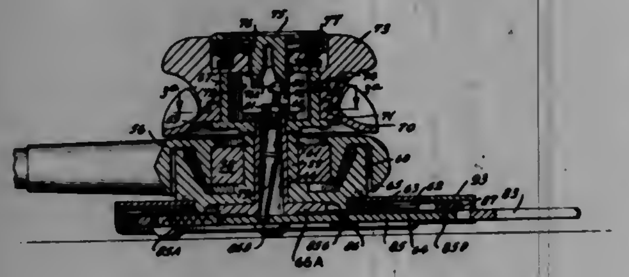
Ray J. Casten, Natick, Mass., assignor, by mesne assignments, to Faris Corporation, Natick, Mass., a corporation of Massachusetts
Filed Feb. 28, 1962, Ser. No. 176,222
2 Claims. (Cl. 33—75)



1. A navigational instrument comprising an elongated ruler with parallel long edges, said ruler having two longitudinal slots extending from near one end thereof to near the other end thereof and an elongated recess under each slot, a lazy-tongs device in each said recess comprising a series of crossed links of equal length joined to one another at their mid points and at their ends and forming a pattern consisting of a series of similar diamonds, short blocks slidably fitted in each said slot and attached to the end joints and to uniformly spaced intermediate joints of the corresponding series of crossed links, and a finger button at each end joint of each said series of links, the number of diamonds formed by the links in one of said devices between any two blocks thereof being a multiple of three, the number of diamonds formed by the links in the other said device between any two blocks thereof being a multiple of five.

3,196,544
DRAFTING MACHINE

Allister L. Baker, Denville, and William R. Krause, Secaucus, N.J., assignors to Keuffel & Esser Company, Hoboken, N.J., a corporation of New Jersey
Filed Oct. 25, 1961, Ser. No. 147,680
4 Claims. (Cl. 33—79)



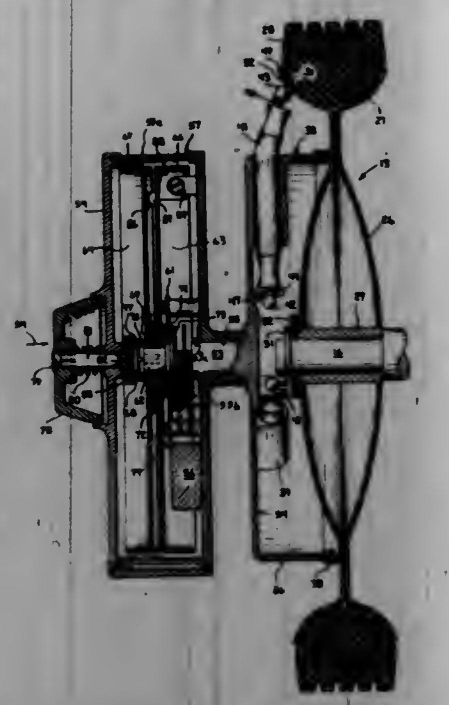
1. A drafting head structure comprising a drafting head support movable in all directions on the surface of a drawing board while maintaining a line of said support in parallel relation at all times, a shaft having a bore rotatably mounted on said support, a drafting head plate fixed to said shaft, a cup having a bore in the bottom thereof mounted on said shaft in fixed relation, a pawl-operating wheel having a boss projecting therefrom rotatably mounted on said cup, said cup and said boss of said pawl-operating wheel being provided with slots therein, a drafting head rotating knob mounted on said cup, a control bar positioned in said cup and extending diametrically into the slots of said cup and boss of said pawl-operating wheel, a lever pivotally mounted in said bore of said shaft and being connected to said control bar, a link mounted in said drafting head plate and connected to said lever, and a pawl operatively connected to said link whereby said pawl can be operated by rotation of said pawl-operating wheel, a disc mounted on said drafting head support for cooperation with said pawl to retain said drafting head in fixed relation to said drafting head support, a cam push-button mounted on said drafting head operating knob and having its cam surface cooperable with said lever in one direction, and a spring operable to move said pawl into operative position with respect to said disc.

3,196,545
YARDAGE GAGE FOR GOLF CARTS

Evertson H. Zell, 4747 Millersville Road, and Thomas W. Duncan, 4611 Radnor Road, both of Indianapolis, Ind.
Filed July 17, 1961, Ser. No. 124,514
12 Claims. (Cl. 33—141)

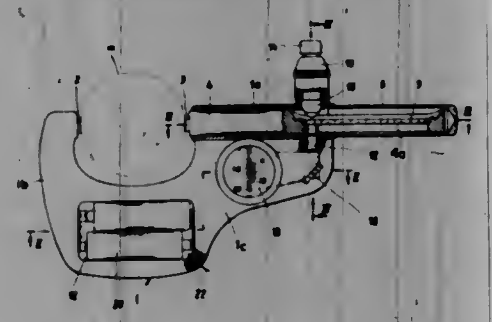
1. A mechanism for measuring played and unplayed distances adapted for attachment to a golf cart wheel comprising: a first element adapted for attachment to the golf cart wheel and rotatable therewith, a drive shaft extending from said first element concentric with the axis of rotation of the wheel, a housing supported on said drive shaft, means for maintaining said housing substantially stationary as said drive shaft rotates, a reference position indicating means carried by said housing, a first member mounted for rotation within said housing and carrying a distance played scale cooperating with said reference position indicating means, a second member mounted for rotation within said housing and carrying an unplayed distance scale cooperating with said reference position indicating means, clutch connection means between said members and said drive shaft to permit rotation of the members in

unison by the drive shaft, whereby rotation of the cart wheel is transferred to said members, and manually operable means accessible from the exterior of said housing for overriding said clutch connection means to permit individual orientation of said distance scales with relation to said reference position indicating means.



3,196,546
PRECISION CALIPER

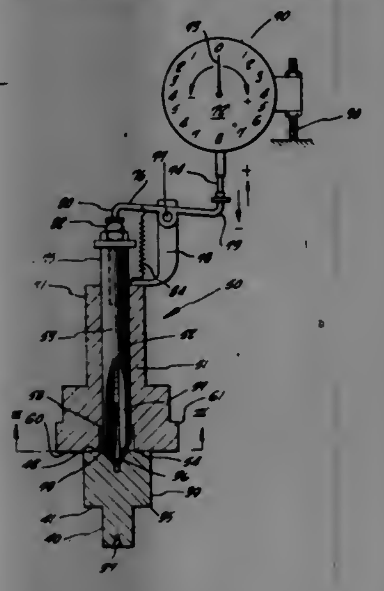
Paul Himmelsbach and Albert Baab, Bad Kreuznach, Germany, assignors to Jos. Schneider & Co., Optische Werke, Bad Kreuznach, Rhineland, Germany, a corporation of Germany
Filed Sept. 27, 1962, Ser. No. 226,618
Claims priority, application Germany, Oct. 20, 1961, Sch 30,450
4 Claims. (Cl. 33—143)



1. A precision caliper comprising a substantially flat yoke-shaped frame with a first jaw and a second jaw; a fixed first stud on said first jaw; a tubular guide element on said second jaw in line with said fixed stud, said guide element being provided with a handle-shaped extension facing away from said first jaw; a piston axially slidable in said guide element; a second stud carried on said piston for displacement therewith and facing said fixed stud; a pair of juxtaposed flat indicator members of light-transmissive material with a contact surface perepndicular to the plane of said frame mounted thereon in line with said piston, one of said indicator members being rigid with said piston and bearing a distance scale at least partly receivable in said extension, the other of said indicator members being fixed on said frame and bearing a vernier scale positioned for co-operation with said distance scale to represent the separation of said studs; a source of light mounted on said frame adjacent the junction of said guide element with said extension for transIumination of said indicator members in a direction substantially in said plane and perpendicular to the direction of sliding motion of said piston, said frame being provided in the region of said second jaw with a recess aligned with said source for receiving transluminating light rays therefrom; optical magnifying means for said light rays in said recess; deflector means in said recess beyond said magnifying means for directing said light rays onto a path generally perpendicular to said plane; a viewing screen parallel to said plane carried on said frame at a location laterally offset from said guide element for illumination by said light rays upon their emergence from said recess; and control means on said frame in the region of said second jaw for slidingly displacing said piston in said guide element.

3,196,547
MACHINIST'S GAUGING DEVICES

Myles S. Welch, 511 E. Maple, Glendale, Calif.
Filed Feb. 26, 1962, Ser. No. 175,768
3 Claims. (Cl. 33—169)



1. A center-hole comparator for use with machine tools having a pair of spaced apart coaxially oriented centers for supporting a workpiece during an operation on the workpiece by the machine tool, the comparator comprising

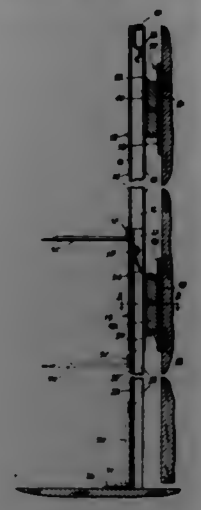
(a) a sleeve defining a vertical bore therethrough,
  a rod disposed within the bore in close slidable fit relative to the sleeve,
    the lower end of the rod having a fluted conical tip defined thereon, the interior angle of the cone corresponding to the cone of a standard center hole,
(b) said sleeve including rod guide and workpiece abutting means at the lower end of the sleeve engaged within the flutes of the rod
  whereby the lower end of the rod is dependable below said means, and
(c) a precision distance measuring means operatively coupled to the rod and operable in response to movement of the rod to indicate deviation of the rod tip from a standard location thereof and to indicate the direction in which the rod is disposed relative to the standard location.

3,196,548
MEASURING DEVICE

Harold C. Moore, 1400 Norman Place, Warson Woods, Mo.
Filed Feb. 4, 1963, Ser. No. 255,838
8 Claims. (Cl. 33—169)

1. An elongated measuring stick having graduations therealong; at least a pair of attaching means to hang the stick in vertical position on a wall or the like, and a measuring bar adapted to be attached to and project horizontally from the stick; each attaching means comprising a spaced magnetic block element and a corresponding

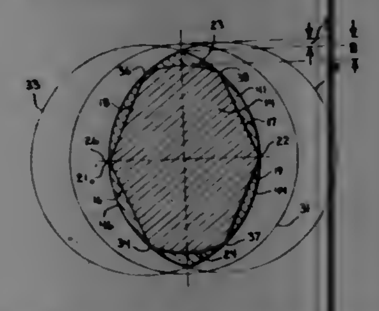
receptacle element of magnetic material, one element of each pair being on the stick and the other being adapted for attachment to the wall or like support, the receptacle element including portions engageable at the top and opposite sides of the magnetic block, whereby the pair of attaching means can properly position and also support the stick.



3,196,549

SEGMENT TYPE LOCATING PIN

Arthur H. Alexander, 6433 N. Oakland, Indianapolis, Ind.
Filed Nov. 28, 1962, Ser. No. 240,618
5 Claims. (Cl. 33—174)



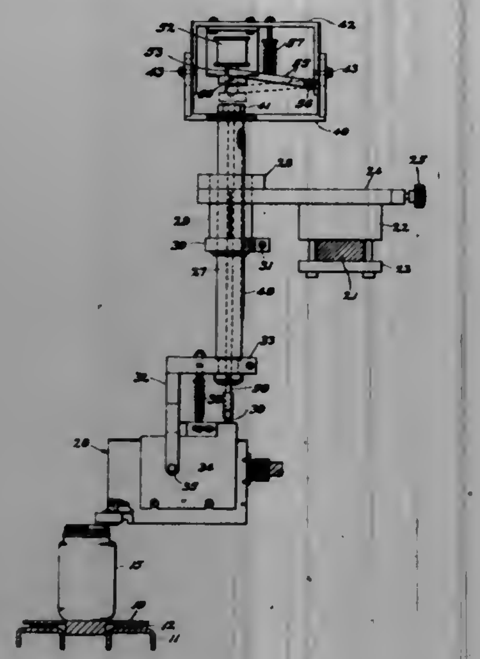
5. A pin for locating or gaging a workpiece or the like, said pin having a cross-sectional configuration in a plane normal to the longitudinal axis of the pin defined by arcs of equal length and equal radii joined at their ends, the radial centers of said arcs being spaced from each other by a distance corresponding to the relative positional tolerance of two points on said workpiece.

3,196,550

DIFFERENTIAL TRANSFORMER APPARATUS FOR INSPECTING GLASS CONTAINER FINISHES

James H. McMeekin, Brockway, Pa., assignor to Brockway Glass Company, Inc., Brockway, Pa.
Filed Feb. 18, 1963, Ser. No. 259,304
5 Claims. (Cl. 33—174)

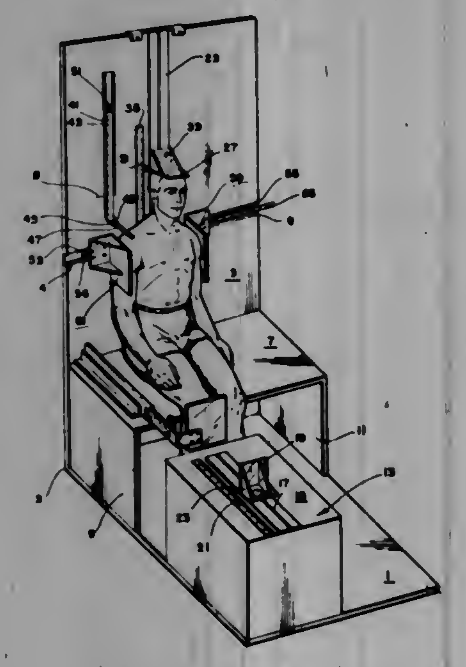
1. Means for sensing irregularities in plane or arcuate surfaces comprising three equally spaced contact members aligned in a common plane, means supporting said members for independent movement in said plane, a series of three transformers in axial registry with said contact members, armature means movable axially in each of said transformers to vary the inductive output thereof, the two end transformers having equal output potentials at corresponding normal armature positions and the intervening transformer having an output potential equal to the sum of the other two at a corresponding normal armature position but of opposite polarity, whereby the normal net output of the three transformers is zero, each of said armature means being connected for movement with one of said contact members for axial movement in its associated transformer upon movement of said contact member in a direction generally normal to the surface being sensed to vary the output potential of its associated transformer proportionate to the degree of movement of such contact member, and means connected to receive the net output of said transformers and adapted to produce a control impulse upon predetermined deviations in such net output from zero.



3,196,551

INTEGRATED ANTHROPOMETRIC DEVICE

Joseph R. Provost, Levittown, and Edmund C. Gifford, Philadelphia, Pa., and John Lazo, Audubon, N.J., assignors to the United States of America as represented by the Secretary of the Navy
Filed May 8, 1963, Ser. No. 279,663
3 Claims. (Cl. 33—174)
(Granted under Title 35, U.S. Code (1952), sec. 266)



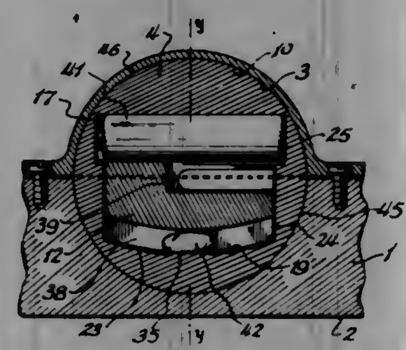
1. In a structure of the class described, the combination with a seat
(a) of a supporting L-shaped frame therefore forming a back member and a base member for the seat, the back member having a vertical groove thereon;
(b) a footrest having a horizontal groove thereon spaced a predetermined distance from the seat on the base member;

(c) first measuring means disposed on said back member and slidable in said vertical groove for determining the sitting height of a subject sitting on the seat;
(d) second measuring means disposed on said back member for determining the shoulder height of a subject sitting on the seat;
(e) third measuring means disposed on the back member a predetermined vertical distance from the seat for determining the shoulder breadth of a subject sitting on the seat;
(f) fourth measuring means disposed on the seat for determining the buttock-knee length of a subject sitting on the seat;
(g) fifth measuring means disposed on said footrest and slidable in said horizontal groove for determining the buttock-leg length of a subject sitting on the seat;
(h) sixth measuring means disposed on said back member and slidable in said vertical groove for determining the standing height of a subject.

3,196,552

CARPENTER'S LEVEL WITH ELECTRICAL INDICATION

Paul T. Richards, 105 Susan Cove, East Norwich, N.Y.
Filed Nov. 19, 1962, Ser. No. 238,494
5 Claims. (Cl. 33—214)

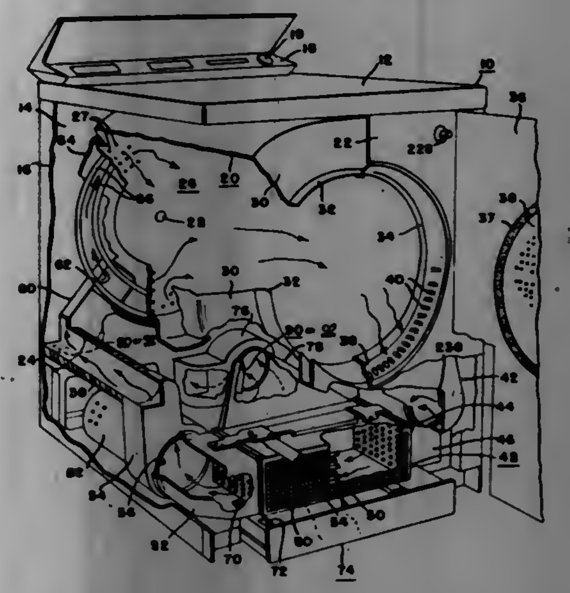


1. A carpenter's level providing an electrical indication comprising
(a) a base member having upper and lower surfaces, said lower surface being flat and adapted to be held against a surface of an object the orientation of which with respect to the horizontal is to be determined,
(b) means defining a cylindrical opening in said base member and including a semicircular lower wall in said base member and a corresponding semicircular upper wall defining portion projecting from the upper surface of said base member,
(c) a cylindrical housing adapted to fit within said cylindrical opening in frictional engagement with the walls thereof and with full 360° angular freedom about the major axis of said cylindrical housing,
(d) electrical level-sensing switch means, electric indicating means, battery means, and electrical conductor means connecting said switch, indicating and battery means in circuit when said housing is in a horizontal orientation, all of said electrical means being self contained in said cylindrical housing and electrically independent of said base member,
(e) protractor scale carried by said housing and extending at least 180° around the periphery thereof, and
(f) a pair of reference indices cooperable with said scale and located on said base member on diametrically opposite sides of said cylindrical opening whereby said lower base member surface is used for orienting an object with respect to the horizontal throughout 360°.

3,196,553

TEMPERATURE RESPONSIVE TIMER CONTROL FOR A CLOTHES DRIER

Homer W. Deaton and Raymond M. Hutchinson, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Sept. 19, 1960, Ser. No. 56,930
7 Claims. (Cl. 34—45)



1. A control circuit for a condensing dryer having means defining a recirculating air stream and a single pass cooling air stream in heat transfer relationship to said recirculating air stream, a heater for said recirculating air stream and a primary motor for initiating said air streams comprising means for sequentially controlling said heater and said primary motor in a drying cycle including a timer motor and a timer switch, a thermostat in the outlet of said cooling air stream having a thermostat switch and a thermally responsive means for controlling said thermostat switch, a relay switch in series with said timer motor and said timer switch and having a relay coil for actuating said relay switch in series with said thermostat switch and said timer switch and in parallel with said timer motor and said relay switch, said relay coil adapted to open said relay switch when said coil is energized and adapted to close said relay switch when said coil is deenergized, said thermostat switch having a pair of movable contacts in series with said relay coil and being normally closed upon increase in temperature to condition said relay coil for energization, and said thermally responsive means operating to restrain one of said contacts, thereby to open said thermostat switch to deenergize said relay coil and start said timer motor to terminate said drying cycle upon a decrease in said temperature.

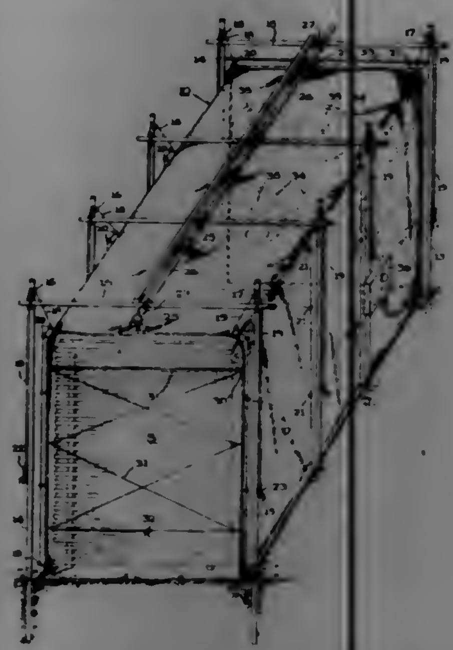
3,196,554

APPARATUS COMPRISING BAFFLES AND INFLATABLE AIR FOILS FOR DRYING LUMBER

Samuel Carlton Smith, Memphis, Tenn., assignor to Fan-Air Systems, Inc., Memphis, Tenn., a corporation of Tennessee
Original application June 30, 1959, Ser. No. 823,892, now Patent No. 3,090,130, dated May 21, 1963. Divided and this application July 26, 1962, Ser. No. 212,637
4 Claims. (Cl. 34—50)

1. In an installation for drying lumber, a rectangular enclosure comprising side and rear walls and a roof and open at its front extremity designed to contain a stack of lumber, a series of evenly disposed fans mounted in said rear wall to pull air through said enclosure, motors for said fans, a circuit including a humidostat to control said motors in accordance with atmospheric humidity, a series of vertically disposed, inwardly swinging baffles hingedly mounted on said side walls, looped fabric air foil mem-

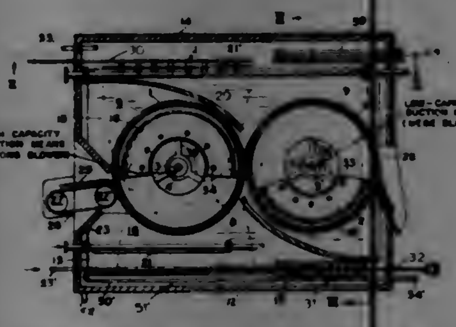
bers affixed at the inner extremities of said baffles open to and inflatable by the air stream at their forward, inner edges and contacting the lateral walls of said stack of lumber, downwardly swinging baffles hingedly mounted in parallel beneath the roof of said enclosure, looped fabric air foil members open to the air stream at their forward, inner edges affixed to the inner extremities of said baffles and contacting the upper surface of said stack of lumber when said baffles are in lowered position whereby air at desired humidity will be pulled at a constant velocity through the stack of lumber and will be prevented from escaping around said stack by said baffles and inflatable air foils.



3,196,555
DRYING APPARATUS

Wolfgang Friedel and Heinz Fleissner, Egelsbach, Germany, assignors to Fleissner G.m.b.H., Egelsbach, near Frankfurt am Main, Germany, a corporation of Germany

Filed Oct. 3, 1961, Ser. No. 142,561
Claims priority, application Germany, Oct. 4, 1960, F 32,263; Oct. 27, 1960, F 32,423
8 Claims. (Cl. 34—115)

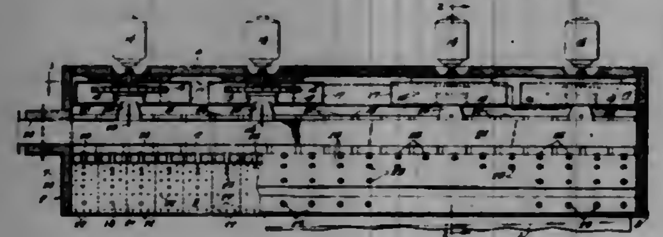

HIGH CAPACITY SUCTION MEANS (STRONG BLOWER)
LOW-CAPACITY SUCTION MEANS (WEAK BLOWER)

8. In a system for drying a coherent layer of material, the combination comprising a plurality of closely spaced drums adapted to be traversed by said layer including at least one undershot drum and at least one overshot drum rotatable about parallel horizontal axes, said drums being provided with perforated peripheral walls; first and second fluid-circulating means each having an intake port communicating with the interior of said undershot and said overshot drum, respectively, for subjecting same to suction, each of said fluid-circulating means having at least one outlet port; drive means for rotating said drums in unison and adapted for carrying a layer of a material to be dried on the underside of said undershot drum and on the topside of said overshot drum; shield means within each of said drums registering with portions of said walls not adapted to be covered by said layer, thereby rendering the respective circulating means ineffective at said portions; and guide means for directing the outflow of said outlet ports onto the outer surfaces of said drums at locations adapted to be covered by said layer, the suction force created by said first fluid-circulating means in said undershot drum being greater than the suction in said overshot drum, said guide means being positioned to direct the outflow of the outlet port of the second circulating means through both of said drums and to direct the outflow of the outlet port of said first circulating means through said undershot drum only.

3,196,556
APPARATUS FOR CONTROLLING THE DRYING AND EVAPORATION INTENSITY OF PAPER MACHINE CYLINDERS

Claes Allander, Bromma, and Sven Wallin, Jonkoping, Sweden, assignors to Aktiebolaget Svenska Flaktfabriken, Stockholm, Sweden

Filed Feb. 6, 1962, Ser. No. 172,059
5 Claims. (Cl. 34—122)



1. Apparatus for controlling the evaporation intensity in a cylinder paper machine by blowing a treating gas comprising a hot mixture of water vapor and air against a web of paper moving on a cylinder, comprising in combination, means forming an arcuate pressure chamber around a portion of the circumference of the cylinder, said pressure chamber having an inner wall facing the web and parallel thereto and an outer wall, said inner wall having small gas blowing apertures throughout its extent and axially elongated gas return openings at spaced circumferential points between groups of said blowing apertures, said gas return openings being greater in cross section than said blowing apertures, gas return tubes extending through the inner and outer walls of said pressure chamber from said return openings, means forming a suction chamber behind said pressure chamber and a distribution chamber behind the suction chamber, said suction chamber communicating with said return openings, a blower arranged in a dividing wall between said suction chamber and said distribution chamber for moving return gas from said suction chamber to said distribution chamber, a conditioned hot gas supply duct extending axially in said suction chamber and spaced from the walls of the suction chamber and having a valved outlet disposed directly in the intake of said blower and providing for the flow of return gas therearound, a valved supply tube extending through said suction chamber from said distribution chamber to said pressure chamber to supply treating gas to said pressure chamber and an insulating hood enclosing all of said chambers.

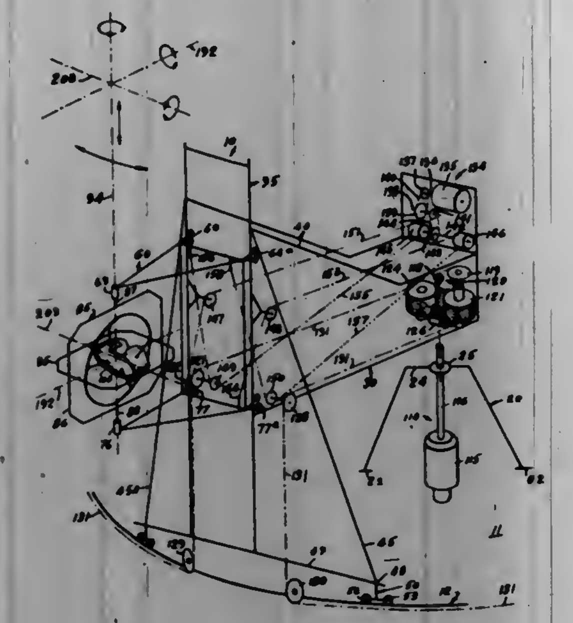
3,196,557
CENTRIFUGE MOUNTED MOTION SIMULATOR

Jess S. W. Davidsen, Los Altos, and Estin H. Baker, Cupertino, Calif., assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Aug. 28, 1961, Ser. No. 134,481
22 Claims. (Cl. 35—12)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A centrifuge mounted motion simulator comprising; a pylon, a centrifuge arm having a pivotal connection at one end to said pylon and being movable thereabout, ground support means supporting the other end of

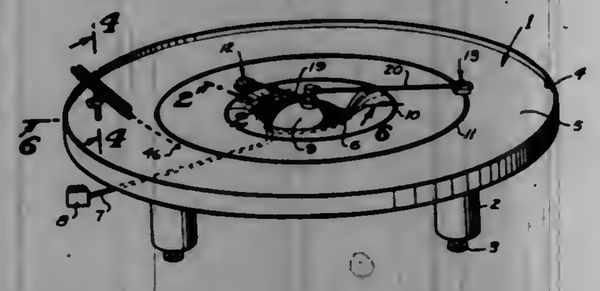
said centrifuge arm, a cockpit, means connecting said cockpit to said centrifuge arm other end for vertical movement, means to vertically move said cockpit independently of said centrifuge arm's speed of rotation, and drive means for rotating said centrifuge arm and cockpit about said pylon.



3,196,558
MEANS FOR VISUALLY INDICATING FLIGHT PATHS OF VEHICLES BETWEEN THE EARTH, VENUS AND MERCURY

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of John G. Small

Filed May 16, 1963, Ser. No. 281,069
1 Claim. (Cl. 35—45)



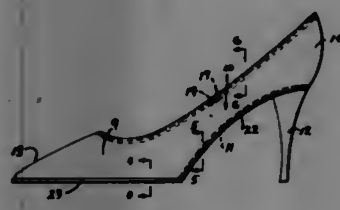
Means for visually indicating flight paths of space vehicles, comprising:

(a) a magnetic ball;
(b) a table for supporting said ball and representing a portion of the planetary system including a central area representing the Sun, the surface of the table having a progressively increasing, downward slope toward the Sun-representing central area in proportion to the gravitational field of the Sun whereby said ball tends to roll toward said Sun-representing area with increasing acceleration;
(c) a drive means disposed under said table and including coaxial drive shafts extending upwardly through the central portion of the table;
(d) radiating arms disposed above said table and joined to said shafts, said arms dimensioned to correspond to the radial distances between selected planets and the Sun;
(e) planet-representing elements carried by said arms for rotation on the upper side of said table about said Sun-representing central area, said elements being magnetized to establish magnetic fields representative of the gravitational fields associated with said planets;
(f) and a launching means for said ball for initiating movement of said ball on said table at a predetermined velocity for spiral movement toward the Sun-representing area across the paths of said planet-representing elements.

3,196,559
SHOE AND SLIP COVER THEREFOR

Vivienne J. Thompson, 787 N. Waterview, Clermont, Fla.

Filed Sept. 21, 1964, Ser. No. 398,011
3 Claims. (Cl. 36—2.5)



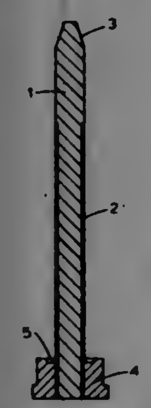
1. In combination with a shoe having an upper and a sole,

(a) a shoe cover fitting snugly over the shoe,
(b) means for attaching the cover to the upper edge of the shoe upper,
(c) a rigid member joined to the lower forward edge and toe of the cover and engaging the sole,
(d) and an elastic member joined to the lower edge of the cover on opposite sides of the shoe and extending across under the shank of the shoe to draw the cover down snugly over the shoe and to hold the rigid member in engagement with the sole.

3,196,560
SHOE HEEL REINFORCING DOWEL AND TOP LIFT

Peter Harry Powell, Hessle, England, assignor to Hollis Heels Limited, Yorkshire, England, a British company

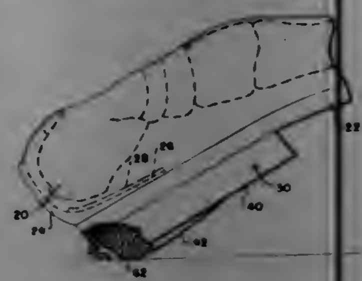
Filed May 12, 1964, Ser. No. 366,768
Claims priority, application Great Britain, Aug. 19, 1963, 32,788/63
5 Claims. (Cl. 36—34)



1. A combined reinforcing dowel and top lift, comprising: an elongated dowel pin member tapered at its upper end and flat at its lower end; a top lift member through which said dowel member extends downwardly, said flat end being substantially flush with the lower face of said lift member; and securing means consisting of at least one deformation formed in the upper portion of said lift member, said deformation extending into a complementary deformation formed in said pin member and spaced from said flat end thereof.

3,196,561
RUBBER HEEL HAVING A REAR IMPACT SECTION AND A COLLAPSIBLE SKIRT-LIKE PORTION

**William T. Champion, 2333 Presidio Drive,
San Diego, Calif.
Filed Jan. 3, 1963, Ser. No. 249,571
9 Claims. (Cl. 36—35)**

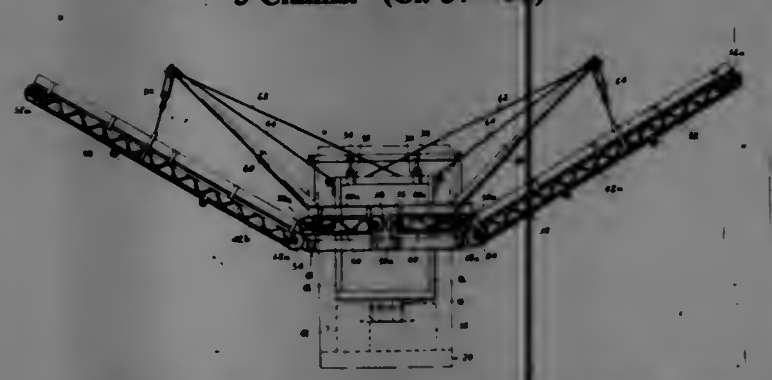


1. An article of manufacture comprising a heel for a shoe, said heel having:

(A) an upper horizontally extending section, through which section the entire heel is secured to a shoe:
(B) a forward weight bearing portion below said section;
(C) an arcuately shaped rear impact portion below said section;
(D) and an arcuately shaped downwardly extending, outwardly flexible and downwardly collapsible skirt-like portion, said skirt-like portion being formed of resilient material such as rubber and disposed outwardly of the impact portion throughout at least the margin of the rear and an immediate part of one side of said rear impact portion.

3,196,562
EXCAVATING MACHINE

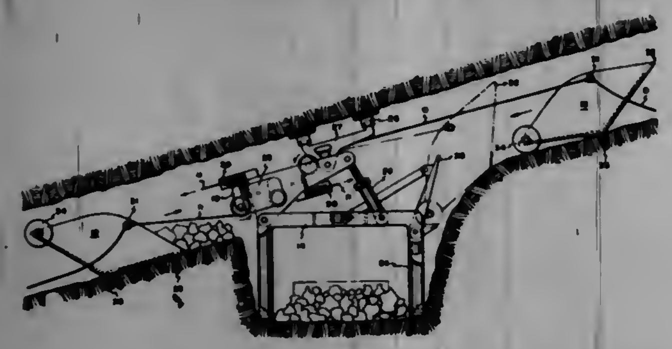
**Vincent S. Penote, 18555 Parkland Drive,
Shaker Heights, Ohio
Filed Mar. 16, 1962, Ser. No. 180,187
3 Claims. (Cl. 37—90)**



1. In a mobile excavating machine having a chassis, traction mechanism supporting said chassis for movement along the ground, a boom frame projecting generally longitudinally from each end of said chassis, an endless digging unit movably mounted on each boom frame for digging operations in a generally vertical plane, each boom frame being pivotally supported on said chassis for swinging movement in a generally vertical plane for varying the depth of excavation of the respective digging unit, power means for selectively pivoting each boom frame, other power means for simultaneously driving said digging units, and a discharge conveyor mechanism mounted on each of said boom frames and extending transversely through the respective digging unit, each of said conveyor mechanisms comprising a plurality of generally elongated conveyor units disposed in generally end-to-end relation and extending laterally to opposite sides of the respective digging unit, each conveyor unit comprising an inner section mounted on the respective boom frame and an outer section pivoted for movement in a generally vertical plane and with respect to said inner section, the last mentioned plane being disposed generally perpendicularly to the first mentioned plane, said outer section being of a considerably greater length than the length of the associated inner section, means for selectively pivoting said outer conveyor section in its said vertical plane, said inner sections of said conveyor units of each conveyor mechanism, at the inner ends thereof, being disposed in material transferring relation, and power means for selectively driving each of said conveyor sections of each conveyor unit in either lengthwise direction, whereby excavated material from both digging units may be simultaneously discharged to opposite sides of the respective digging unit, or to only one selected side thereof, and at a selected elevation with respect to the machine.

3,196,563
MINING APPARATUS AND METHOD OF OPERATING THE SAME

**Daniel M. Schwartz, Donald E. Hendrickson, and Rolf A. Knopp, Salt Lake City, Utah, assignors to The Elmco Corporation, Salt Lake City, Utah, a corporation of Delaware
Filed May 8, 1962, Ser. No. 193,211
1 Claim. (Cl. 37—115)**

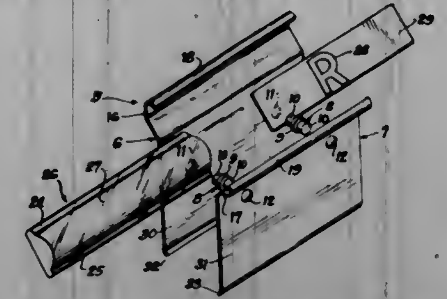


A carrying device for attachment to cables mounted to be pulled back and forth across the floor of a mining area to retrieve broken ore therefrom, said device comprising an open-top unitary bucket structure having fixed material-confining side, front and rear walls and including a load-engaging edge on the front wall, said front and rear walls being joined together at the bottom of the bucket, ground-engaging support means on the bottom of said bucket substantially at the juncture of said front and rear walls, and tow means responsive to pull in one direction for depressing said load-engaging edge to a lowered position for scooping into a mass of broken ore and responsive to pull in the opposite direction for elevation of said load-engaging edge thereby to confine ore within the walls of said device, said means comprising a cable-engaging tow fixture fixed on said bucket at an elevation above said ground-engaging support means whereby said bucket is pivoted in opposite directions about said ground-engaging support means upon the application of opposite pulling forces to said fixture, and a wheel rotatably mounted on said bucket adjacent the juncture of said rear wall with the top edges of said side walls, the radius of said wheel being less than the distance between said ground-engaging support means and the axis of rotation of said wheel, the plane of said wheel being generally parallel to said side walls.

3,196,564
GUIDE TAB

**Harold W. Boedeker, River Forest, Ill., assignor to C. L. Barkley & Co., Chicago, Ill., a corporation of Illinois
Filed Oct. 8, 1962, Ser. No. 228,960
3 Claims. (Cl. 40—23)**

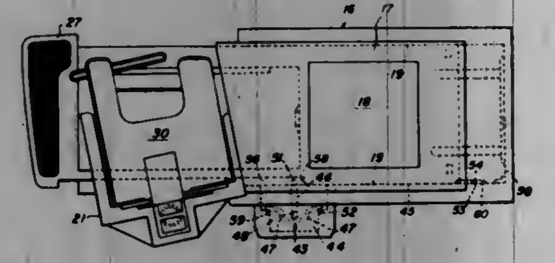
1. A guide tab for index cards or the like comprising complemental clamping plate members, rivets extending loosely through intermediate portions of said clamping members for holding said clamping members together but in slightly spaced relation below the points of engagement of said rivets, the lower portions of said members below said points of engagement being substantially flat and disposed substantially parallel to each other whereby to receive an index card therebetween, the upper portions of said clamping members above said points of engagement being curved to form opposed holding pockets, a



lens having opposite edges slidable into said holding pockets to spread the upper portions of said members and cause the lower portions of said members tightly to grip the index card, and an indicia-bearing member inserted under said lens.

3,196,565
SLIDE CHANGER FOR PROJECTORS

**William H. Horton, Rochester, N.Y., assignor to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 155,423, Nov. 28, 1961. This application Feb. 8, 1965, Ser. No. 433,837
6 Claims. (Cl. 40—79)**

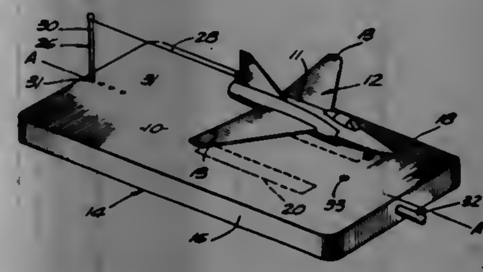


1. In a slide changing device having a support member and an aperture through which images of slides may be projected, the combination comprising:

a reciprocating slide changer member slidably carried by said support member and movable in opposite directions to move slides individually to and from registry with said aperture;
ratchet means comprising an arm pivotally mounted on one of said members and movable to and from a normal position;
a first edge on the other of said members positioned to engage said arm and move said arm about its pivot from said normal position to actuate said ratchet means upon movement of said slide changer member in one direction;
a second edge on said other member;
said ratchet means having spring means for urging said one end of said arm yieldably into engagement with said second edge;
said second edge being spaced from the pivot of said arm a distance less than the length of said arm to prevent return movement of said arm to its normal position while one end of said arm is in engagement with said second edge;
said second edge having a shoulder engageable by said ratchet means when actuated to prevent movement of said slide changer member in the opposite direction if an attempt is made to so move it while said one end of said arm is in engagement with said second edge; and
said other member having a relieved portion positioned to cooperate with said arm after predetermined movement of said slide changer member in said one direction for releasing said arm for movement by said spring means to its normal position out of engagement with said second edge, thereby disabling the ratchet means and releasing said slide changer member for movement in such opposite direction.

3,196,566
DISPLAY APPARATUS

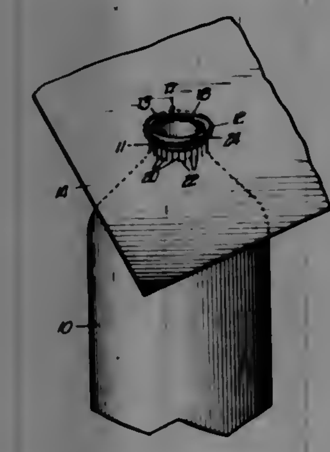
**John V. Littlefield, 1016 Palm Ave., Los Angeles, Calif.
Filed June 21, 1963, Ser. No. 289,590
1 Claim. (Cl. 40—106.3)**



A display apparatus for maintaining an object in an apparently unsupported position above a base, said apparatus comprising: a base including a non-magnetic part; an object also including a non-magnetic part, said object being adapted to be maintained in position spaced above said base in a manner creating the illusion of free flight; a pair of elongated magnetic members secured to the non-magnetic parts of said base, said magnetic members being disposed in generally parallel spaced apart relation to one another, said magnetic members being disposed with like poles adjacent to one another; a third elongated magnetic member secured to the non-magnetic part of said object, said object being positioned so that poles of its magnet are generally above those poles of said pair of magnets which are of the same polarity; a cord secured between said object and said base to extend generally parallel to said magnets to restrain said object against movement parallel to said magnets, said cord being of such length that the magnetic member of said object is slightly displaced longitudinally thereof, relative to the magnetic members of said base and in such direction that said object is magnetically biased in a direction to tension said cord.

3,196,567
DISPLAY DEVICE

**Edward A. Boehmer, 2037 DeCook Ave., Park Ridge, Ill., and James E. Roth, 15W 414 Fillmore St., Elmhurst, Ill.
Filed June 15, 1961, Ser. No. 117,405
3 Claims. (Cl. 40—310)**



1. In combination, a bottle having a neck provided with an external beaded rim encircling the mouth of the bottle, a display device comprising a single member of

flat sheet material disposed in a single plane, said member having an opening provided with a continuous curved edge spaced inwardly from all edges of said member throughout its entire extent, said curved edge being dimensioned and shaped so that upon application of the opening in said member to the beaded rim of the bottle a portion of said edge will seat and rest upon the top of the beaded rim of the bottle, and tab means formed along the edge of said opening and engaging externally of the neck of the bottle and under the beaded rim of the bottle forwardly of where said portion of the edge of said opening seats and rests upon the top of the beaded rim of the bottle to hold said single member in inclined position by cooperation with the top and bottom of the beaded rim of the bottle.

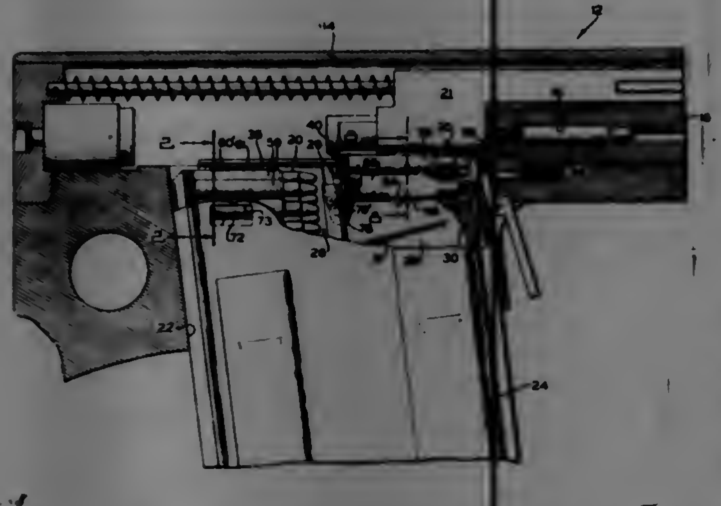
3,196,568
SWITCHING DEVICE FOR A TANDEM-TYPE MAGAZINE FEEDING SYSTEM

Frederick P. Reed, Ludlow, Mass., assignor to the United States of America as represented by the Secretary of the Army

Filed Jan. 7, 1964, Ser. No. 3[illegible]6,327

6 Claims. (Cl. 42—18)

(Granted under Title 35, U.S. Code (1952), sec. 266)



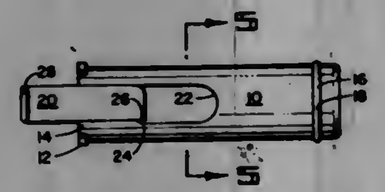
1. In a firearm, the combination including a receiver having a magazine well, a bolt disposed in said receiver for reciprocation between a battery and a recoil position, a barrel with a chamber for receiving a cartridge for discharge, a magazine for a plurality of cartridges insertable into said magazine well, a front compartment in said magazine for receiving a double stack of the cartridges, a rear compartment in the magazine for receiving a double stack of the cartridges, a follower disposed in said front compartment for biasing the cartridges therein to a feeding position relative thereto, said follower including a flat platform, a positioner mounted on said platform so as to be pivotally displaced to one of two alternate positions for locating the cartridges in the double stack alternately in two rows and to be pivotally displaceable by the cartridge transferred from said rear compartment to said front compartment to prevent interference with such transfer and a flat formed on the base of said positioner, a magazine spring seated against said platform for biasing the cartridges in said front compartment toward the feeding position relative thereto and a transverse section of said magazine spring arranged for joint contact with said platform and said flat for biasing said positioner to a vertically upright position relative to said platform, means in the rear compartment for biasing the cartridges therein to a feeding position relative thereto, a rammer disposed on the bolt for successively transferring the cartridges from the feeding position in the front compartment into the chamber responsive to reciprocation of said bolt, a feed pawl disposed on said bolt for successively transferring the cartridges from the feeding position in said rear compartment to the feeding position in said front compartment, and switch assembly means including a depressor arranged for contact by the leading one of the cartridges in said rear compartment to depress the leading cartridge from the feeding position therein when said magazine is inserted into the magazine well and a lever arranged in cooperation with said depressor and said follower in said front compartment for releasing the leading one of the cartridges in said rear compartment to the feeding position therein when the next to the last one of the cartridges in said front compartment is transferred into the chamber and discharged.

3,196,569
SHOTGUN GAUGE ADAPTER

Daniel J. Thomason, 156 Windemere St., Springfield, Mass.

Filed June 22, 1964, Ser. No. 376,758

1 Claim. (Cl. 42—77)



A shotgun gauge adapter for adapting a shotgun having a rabbeted chamber accommodating a shell of a certain gauge to the firing of a shell of another gauge and comprising, a gauge reduction conversion tube removably insertable within the chamber and having an outer diameter complemental to the certain gauge and an inner bore corresponding in diameter to the shell of the other gauge, said tube having a concavo-convex annular noncontinuous flange at its breech end complemental to and seatable in the rabbet in the chamber with a cutaway section at one segment thereof, said tube having an annular ring inwardly of the muzzle end thereof and fitted around and extending radially outwardly from the outer surface of said tube and of a diameter for fitting snugly and concentrically within the rabbet, said tube having a rearwardly-facing open-ended dove-tailed groove provided on its outer peripheral surface and communicating with the breech end of the tube at the cutaway section of the flange, the groove communicating with an enlarged recess at one side and adjacent the inner end thereof, a slide having dove-tailed sides complemental to the sides of the groove of said tube and being axially slidable in the groove for locked interengagement of said slide and tube, a lug integral with and extending outwardly from one side of said slide for disengagement of said slide from said tube as said slide is motivated to a forwardmost position and with said lug being receivable in the enlarged recess and for interlocking of said slide and tube as said slide is motivated to a rearwardmost position and with said lug being abuttable with the end of the recess.

3,196,570
ICE FISHING TIP-UP

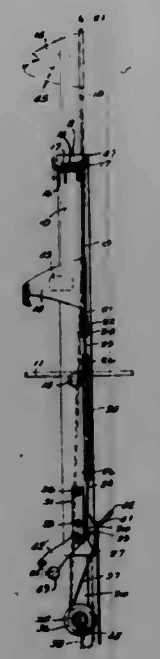
Henry C. Borisch, Rte. 1, Box 193, Crandon, Wis.

Filed Sept. 11, 1963, Ser. No. 308,107

5 Claims. (Cl. 43—17)

5. An ice fishing tip-up comprising:
a mast,
a movable strike indicator at the top of the mast,
fishing apparatus at the bottom of the mast,
a trigger responsive to a fish strike at said apparatus,
motion transmitting connections from said trigger to said strike indicator to actuate said strike indicator as a consequence of trigger actuation,

said fishing apparatus comprising a reel and a line wound thereon,
said trigger comprising a lever, pivot means pivoting the lever to the mast,
means for coupling the line to one end of the lever at one side of the pivot means and adjustable weight means at the other end of the lever at the other side of the pivot means and which must be overcome by the pull on the line caused by a fish strike to actuate the trigger.

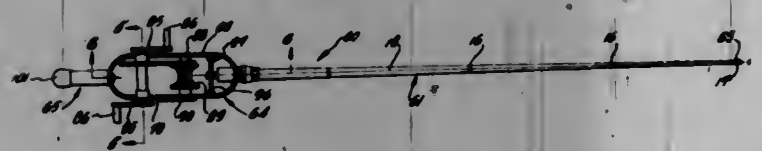


3,196,571
FISHING REEL

William E. Esplin, 15445 Labrador St., Sepulveda, Calif.

Filed Oct. 28, 1963, Ser. No. 319,310

3 Claims. (Cl. 43—20)



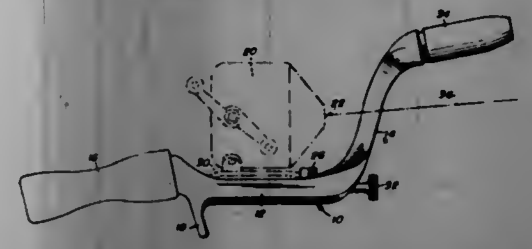
1. Fishing apparatus comprising, in combination,
- (a) a fishing pole having a butt end and a tip end,
- (b) a reel assembly including
  - (1) a support frame having spaced apart end portions and defining a frame open central portion,
  - (2) means mounted to one of the end portions for releasably coupling the frame to the butt end of the pole,
  - (3) a spool adapted to carry a quantity of fishing line circumferentially thereof,
  - (4) over-running clutch and brake means interconnecting the frame and spool and rotatably mounting the spool in the central portion of the frame, and
  - (5) means for rotating the spool to reel in fishing line and including a pair of manually operated opposed cranks disposed on opposite sides of the frame and means operatively connecting the cranks to the spool for rotation of the spool in one direction to reel in fishing line in response to operation of at least one of the cranks in one direction and for operating the clutch and brake means to controllably oppose rotation of the spool in the opposite direction in response to operation of at least one of the cranks in the opposite direction, and
- (c) a handle secured to the other frame end portion and extending away from the frame.

3,196,572
FISHING ROD

James R. Steinle, 800 N. Broadway, Greenville, Ohio

Filed Nov. 24, 1961, Ser. No. 154,750

2 Claims. (Cl. 43—22)



1. A reel mount for a fishing rod comprising a frame having a rearward seat portion terminating in a hand grip and a forwardly and upwardly extending arm portion, fishing rod receiving means on the front end of said arm portion, attaching means on said seat portion for releasably engaging a fishing reel, a fishing line extending from a reel on said seat portion to the underside of a rod in said rod receiving means, said arm portion having its midpart laterally offset to only one side of said mount and said line, said line having its other side unobstructed by said mount so that it may be displaced laterally away from said arm portion to a side of said mount.

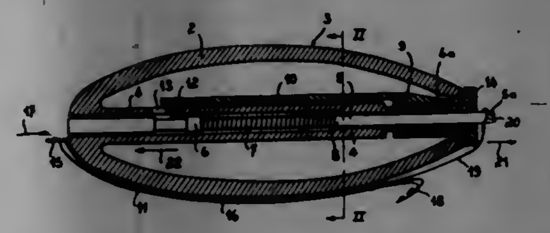
3,196,573
FISHING LURE

Léon Joseph Arsène Emard, 3 Rue d'Orleans, Nantes (Loire-Atlantique), France

Filed Jan. 18, 1963, Ser. No. 252,454

Claims priority, application France, Jan. 29, 1962, 42,245, Patent 1,320,883; Nov. 29, 1962, 43,090, Patent 82,696

5 Claims. (Cl. 43—35)



3. A fishing lure mountable on an angling line, comprising an elongated body having at least one inwardly deformable portion; at least one hook secured directly to said line; releasable retaining means in said body connectable with said hook for holding said hook proximal to said body, said retaining means including a rod extending longitudinally in said body and longitudinally displaceable therein between a first position wherein an extremity of said rod emerges from said body and a second position wherein said extremity is withdrawn into said body, and a spring biasing said rod into said second position, said hook being disposed wholly externally of said body, a loop affixed to said hook and releasably engageable with said extremity in said first position of said rod; and coupling means within said body triggerable by said deformable portion for actuating said retaining means to release said hook therefrom and permit said hook to be drawn away from said body.

3,196,574
MAGNETICALLY ACTUATED FISHING PLUG

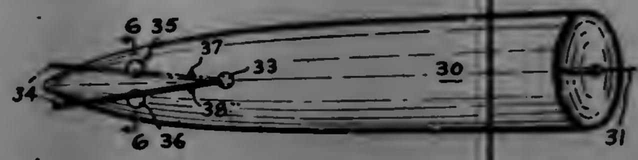
Emory L. Weimer, Orondo, Wash.

Filed Nov. 29, 1963, Ser. No. 326,686

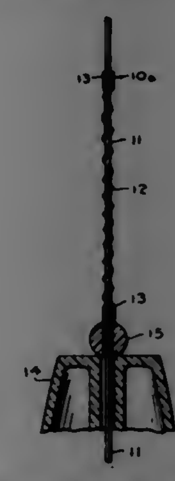
3 Claims. (Cl. 43—42.03)

3. In a magnetically actuated fishing plug, a plug body; a thin flat vane external to and mounted on the rear end portion of the plug body; pivotal mounting means connecting the forward end portion of said vane with said plug body providing swinging movement of the vane about an axis which intersects and is perpendicular to the

longitudinal axis of the plug body and is coincident with the plane of said vane, said vane being movable from one side to the other of a medial position in which the plane of said vane is coincident with the axis of the plug body; and permanent magnet means operatively connected between the plug body and the vane providing a magnetic connection between said plug body and said vane capable of imparting quick pivotal movement to said vane and adapted to yieldingly hold said vane in two different positions at the respective sides of its said medial position.



3,196,575
FISHLINE FLOAT STOP MEANS
Richard J. Kotis, 1673 Overlook Road, Kent, Ohio
Filed Nov. 26, 1963, Ser. No. 325,969
5 Claims. (Cl. 43—44.8[illegible])



1. An adjustable stop for a fishing float including an apertured portion for sliding reception of a fishline; comprising a tubular coil of hard, fine wire on the order of Phosphor bronze which in original coiled condition has an internal diameter greater than the diameter of the fishline; said wire having the characteristic of being tempered to be manually formable to given shapes as opposed to having the usual spring-like resiliency of compression and tension springs, said coil being axially extended intermediate the ends and the extended portion being correspondingly radially contracted, said extended coil when slidably received on the fishline being manually, varyingly adjustable between selectively fixed conditions of axial extension and contraction thereof effecting corresponding radial contraction and extension, respectively, intermediate the ends of the coil; said coil in radially contracted condition thereby frictionally gripping the line, for stopping sliding movement of the float by engagement of said apertured portion with an end of the gripped coil, the gauge of said hard, fine wire being such that the outside diameter of the coil will pass easily through the eyes of conventional line-winding reels.

3,196,576
LIVE BAIT CONTAINER
Lee H. Thomas, Sr., 52 Courtney Drive, Charleston, S.C.
Filed Nov. 8, 1962, Ser. No. 236,778
9 Claims. (Cl. 43—5[illegible])

1. A container for live bait, such as minnows, shrimp and the like, comprising

(a) top, bottom, side and end walls defining a chamber adapted to contain water and the live bait therein,

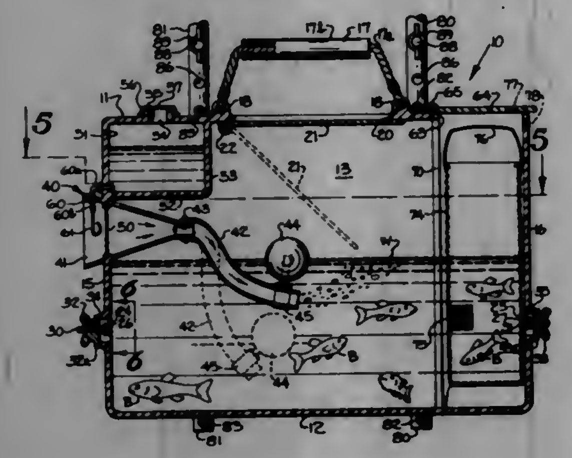
(b) air scoop means carried by one of said end walls and communicating with the upper portion of said chamber at a point above the level at which the water is adapted to be contained therein,

(c) conduit means connected to the inner end of said air scoop means and extending outwardly and downwardly therefrom and terminating in an open free end portion,

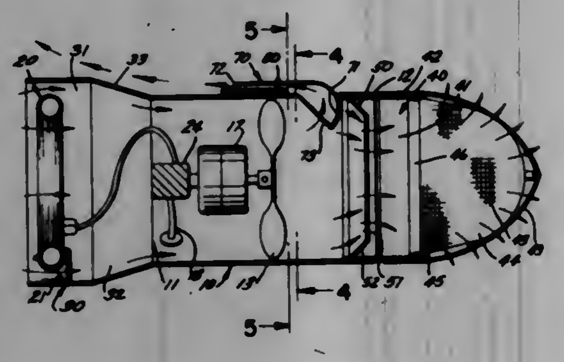
(d) means operatively connected to said free end portion of said conduit means for maintaining the same at a predetermined depth below the surface of the water contained in the chamber at all times regardless of the amount of water therein for controlling agitation of the water and for optimum aeration thereof,

(e) means operatively connected to said air scoop means for dispensing an air coolant directly into an air stream passing therethrough prior to its delivery to the water in said container for cooling the air stream to cool the water in the container to maintain the bait alive, and

(f) mounting means operatively associated with said container and engageable with a vehicle for mounting said container on the exterior of said vehicle with said air scoop means pointing in the direction of travel of said vehicle so that upon movement of said vehicle said air scoop means captures an air stream and directs the same into said conduit means which delivers the air stream to the water contained in said container at the predetermined optimum depth for aerating the water to maintain the bait in a live condition during transport to a fishing site.

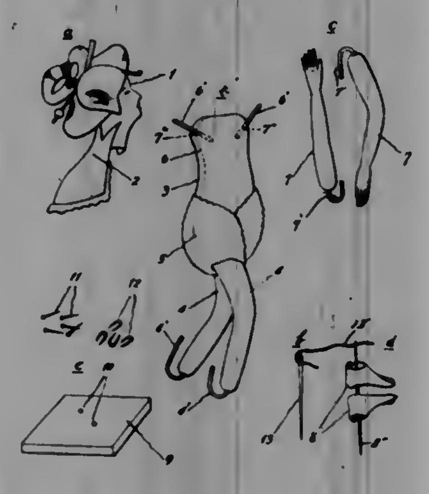


3,196,577
INSECT EXTERMINATOR
Donald M. Plunkett, Concord Township, Delaware County, Ohio, assignor to Dublin Enterprises, Incorporated, Dublin, Ohio, a corporation of Ohio
Filed Apr. 9, 1962, Ser. No. 186,215
4 Claims. (Cl. 43—139)



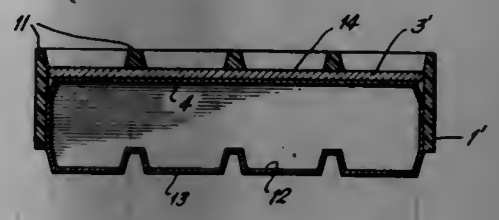
1. A device for attracting, confining and exterminating insects, said device comprising in combination: a cylindrical conduit, formed with an inlet opening, an output opening and a central bore; a fan positioned within said conduit; means, comprising a light located adjacent said inlet opening; means for operating said fan and said light; an inlet duct, formed with an outer cylindrical portion, radially disposed about said lamp, and an inner portion, defining a conical throat, said inner portion connecting said outer portion with said inlet opening; a discharge baffle having a frustoconical configuration, located adjacent said output opening, said baffle defining a discharge orifice; a rigid, foraminate barrier, formed with a hemispherical configuration and removably connected to said output opening; a scent duct located outside of said conduit and in communication with said central bore, said scent duct being provided with a rear wall having an arcuate configuration; a deflector surface spaced between said scent duct and said outer cylindrical portion of said inlet duct.

3,196,578
DOLL MAKING ASSEMBLY AND METHOD
Satako Ozawa, 3 Akasaka Hinoki-cho, Minato-ku, Tokyo, Japan
Filed Apr. 3, 1962, Ser. No. 184,895
7 Claims. (Cl. 46—22)



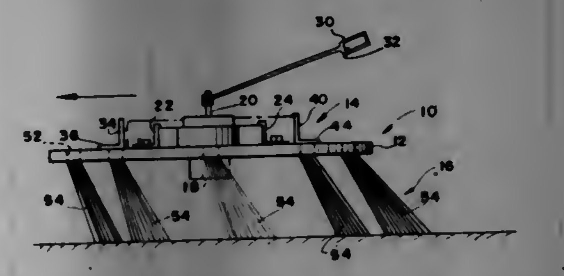
1. A Japanese doll assembly comprising: a head including a doll's face having features characteristic of a Japanese female and having a hairpiece characteristic of a Japanese female's coiffure, said head including a neck attached thereto, said neck having an alignment mark thereon; a torso having a stuffed lower portion defining the doll's rump and hips and an upper portion defining the doll's back, bust and shoulders, said upper portion having an inclined hole therein for receiving an end portion of said neck, said torso having an alignment mark thereon whereby said neck's alignment mark is alignable with said torso's alignment mark when said neck is received in said inclined hole so that said head and neck are arranged in a predetermined inclination with respect to said torso, each shoulder of said torso having a hole defined therein; a pair of arms each having a hand formed at one end thereof and having a wire projection extending from an opposite end thereof, said wire projections being receivable in the respective shoulder holes for attaching said arms to said torso; a pair of legs integral with said torso's lower portion and extending therefrom; a pair of stuffed socks defining the doll's feet attachable to the respective ends of said legs; a pedestal for said doll; pin means associated with said stuffed socks for securing said doll on said pedestal; and clothing for said doll comprising a petticoat for covering the lower portion of said torso and said pair of legs, a collar for covering the upper portion of said torso and shoulders, a kimono for covering the upper and lower portions of said torso and said legs, and an obi adapted to be draped around said kimono to cover a substantial portion of said doll's upper torso portion.

3,196,579
MAGNETIC BUILDING ELEMENTS WITH PROTECTIVE MEANS
Wilhelm Lepper, Bad Honnef, Germany, assignor to Beli-Finanz G.m.b.H., Zug, Switzerland, a corporation of Switzerland
Filed Nov. 30, 1962, Ser. No. 241,385
Claims priority, application Germany, Jan. 18, 1962, L 40,990
3 Claims. (Cl. 46—25)



1. A toy building block comprising,
a frame of non-magnetic material,
a permanent magnet plate secured within said frame,
a grid structure of non-magnetic material overlying said permanent magnet plate, said permanent magnet plate and grid structure together forming one exterior face of said block, said frame and grid structure together constituting means protecting said plate from blows and abrasion,
an element having a waffle-like exterior surface secured within said frame said surface providing a face of said block positioned oppositely to said one face,
said element being of a material and shape to constitute means which is magnetically attracted to said permanent magnet plate and which will mate with an opposed said one face of a similar toy block.

3,196,580
TOY VEHICLE HAVING RESILIENT SUPPORTS AND SELF-CONTAINED DRIVE MEANS
Robert G. Rakestraw, 304½ E. 6th St., Rome, Ga.
Filed May 1, 1962, Ser. No. 191,516
12 Claims. (Cl. 46—243)

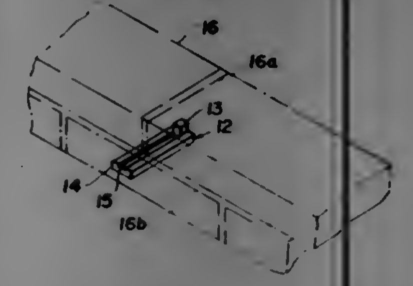


1. Toy vehicle comprising: a platform, a plurality of support elements joined to said platform in depending relationship and spaced from one another near the periphery of said platform, said support elements extending from said platform in an array having at least two materially different directions of extent and said support elements being spaced from one another around a major portion of the periphery of said platform, said support elements being of elongated resilient construction; a self-contained power source operatively carried by said platform and means operatively carried by said platform for imparting a vibratory motion to said platform upon actuation of said power source to thereby transmit a force to a surface upon which said toy vehicle is mounted via said support elements; at least a significant number of said support elements being rearwardly and downwardly directed with respect to the direction in which said force is transmitted, said self-contained power source including a motor, said motor being positioned substantially at the geometric center of said platform, said motor having an output shaft extending vertically therefrom; said means for imparting a vibratory motion to said platform including a lever arm joined to said output shaft in angular

relationship to the output shaft, a weight mounted at the outer free end of said lever arm, said lever arm being rotatable about a vertical axis by said motor and output shaft to impart vibratory motion to said platform by a shift in the center of gravity of the toy vehicle caused by rotation of said lever arm and weight, said lever arm being of such length that said weight is successively carried into substantially vertical alignment with at least a majority of the spaced support elements by the rotation of said motor output shaft.

3,196,581
GAGE ELEMENT FOR MASONRY CONSTRUCTION

Deno Castelli, Western and Clark Aves., Jeannette, Pa.
Filed Mar. 23, 1962, Ser. No. 182,010
4 Claims. (Cl. 50—8[illegible])

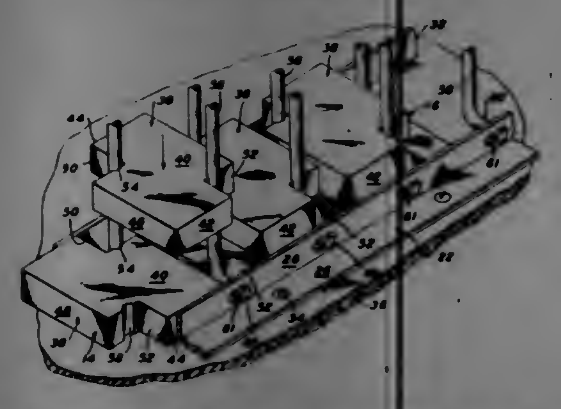


2. In a brick wall comprised of a plurality of courses of adjoining bricks having mortar between the adjoining bricks, an insert in the form of a small block having a base portion of a thickness corresponding to the desired thickness of mortar between said courses of bricks, a groove extending along the top surface of said base portion and an upstanding portion extending into said groove at right angles to said base portion, having a thickness corresponding to the desired thickness of mortar between confronting ends of said adjoining bricks.

4. The construction recited in claim 2 wherein said base portion is elongated sufficiently to provide a handle portion which projects beyond the front surface of the wall during gaging.

3,196,582
WALL AND BLOCK THEREFOR

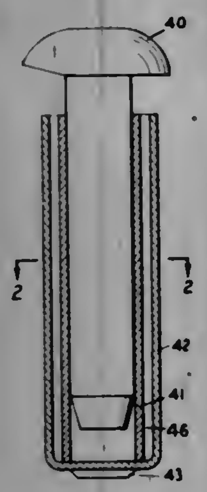
Morton M. Rosenfeld, 271 Madison Ave.,
Mount Vernon, N.Y.
Filed Jan. 17, 1962, Ser. No. 166,813
1 Claim. (Cl. 50—1[illegible]4)



A wall comprising a plurality of courses of blocks, a central portion of said wall having blocks in a first course disposed in a predetermined relationship with respect to each other, a second course next adjacent to said first course constructed from blocks identical to the blocks of said first course, the blocks in said second course having a predetermined relationship with respect to each other different from the relationship of the blocks in said first course, said blocks in said first course having side faces juxtaposed to one another and exposed end faces, said blocks in said second course having side faces juxtaposed to each other and exposed end faces, said blocks having corner notches at diametrically opposite corners, said notches in the blocks of the first course overlapping a portion of the notches of the blocks in the second course, thereby providing an upright channel, a reinforcement member disposed in said upright channel, templates, said templates being L-shaped in cross section and including an upright portion placed against the end faces of blocks in the lowermost course of said wall, said templates having an outwardly extending flange adapted to be secured to a horizontal surface, said upright portions of said templates having holes therein adjacent the corner notches of said lowermost course of blocks, said reinforcement member including a toe extending in a direction substantially perpendicular to the longitudinal axis of the reinforcement member, said toe being placed in the corner notch of the blocks in the lowermost course, said toe extending outwardly from said last-mentioned notch into the hole in said upright portion of said templates adjacent said last-mentioned corner notch.

3,196,583
MEANS FOR ATTACHING RAILS TO SLEEPERS

Albert Edward Rex, 10 Torrens St., Linden Park, South Australia, Australia, and Edward George Bennett, 117 N. East Road, Collinswood, South Australia, Australia
Filed July 3, 1961, Ser. No. 121,687
Claims priority, application Australia, July 8, 1960, 62,382/60; Dec. 16, 1960, 67,653/60; Jan. 6, 1961, 130/61
1 Claim. (Cl. 50—474)

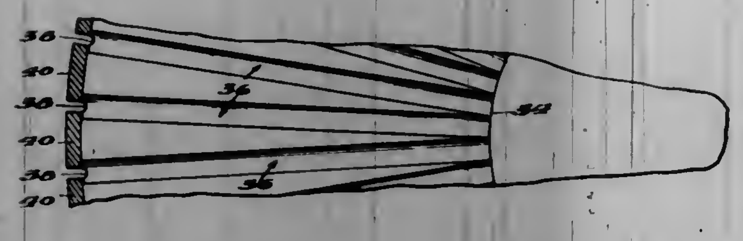


Apparatus for attaching a rail to a concrete sleeper, said apparatus comprising: a generally tubular socket member adapted for being embedded in said concrete sleeper and including an outwardly projecting protrusion adapted to prevent removal of the socket member from said sleeper, said socket member having a square cross-section and thereby having four corners, said socket member further having a closed end and an open end, a spring member extending axially through said socket and resting on the socket at the closed end thereof, and a rail spike supported in said spring member in spaced relation from the closed end of the socket member, said spike having a smooth outer contour, said spring member including four axially extending corrugations of rounded form respectively engaging the corners of the socket member, said spring member including smooth portions between said corrugations which are complementary to the smooth outer contour of the spike but which cooperatively normally define an opening of smaller radial dimension than said outer contour such that, with the rail spike inserted into said spring member, the corrugations apply pressure both against the corners of the socket member and against the spike while contacting the latter over a substantial portion of the outer contour thereof whereby

the spike is frictionally retained in the socket, said smooth portions being spaced from said socket by said corrugations.

3,196,584
ABRASIVE WHEELS AND SEGMENTED DIAMOND WHEELS

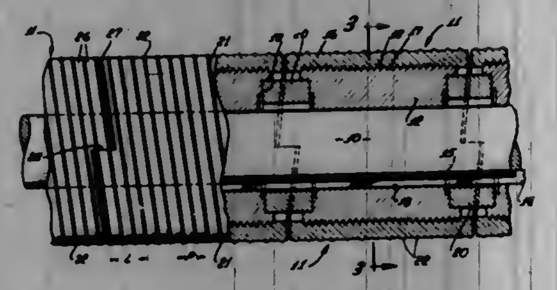
John Tatko, Middle Granville, N.Y.
Filed June 28, 1963, Ser. No. 291,397
12 Claims. (Cl. 51—206)



3. An abrasive grinding blade comprising a circular disk, a plurality of abrasive segments secured to the peripheral edge of the disk, said segments being spaced apart, and a plurality of passageways extending from the center of the disk radially through the disk and terminating in the spaces between the segments, said disk having a plurality of transverse slots intersecting said passageways adjacent said peripheral edge, whereby coolant fluid is conveyed to the zone of coaction between the abrasive material and a workpiece.

3,196,585
DIAMOND MILLING CUTTERS

Frank L. Christensen and Donald H. Mabey, Salt Lake City, Utah, assignors to Christensen Diamond Products Company, Salt Lake City, Utah, a corporation of Utah
Filed Sept. 6, 1963, Ser. No. 307,177
21 Claims. (Cl. 51—206)

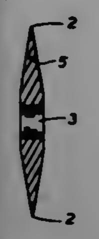


3. In a milling cutter: a generally cylindrical unitary matrix body adapted to be rotated about an axis and having multiple pitch helical ridges of matrix material having crests and extending around its periphery through a plurality of revolutions; and individual diamond cutting elements embedded in said ridges at their crests, the elements in each ridge being spaced from each other and overlapping each other progressively along said ridge in a direction normal to said axis.

3,196,586
SHAPING TOOL FOR CELLULAR POLYSTYRENE

Milton G. Brown and Fred F. Platner, Lancaster, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed July 1, 1963, Ser. No. 292,009
5 Claims. (Cl. 51—394)

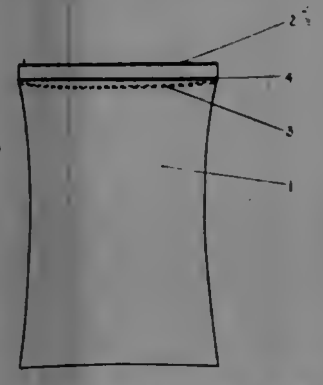
1. A disc-shaped tool adapted to cut foam polystyrene comprising a circular base member having planar opposing cutting faces forming an angle in the range of 8°–12° at the outer peripheral edge thereof, and a multiplicity of separate spaced particles of grit in a grit size



range of 60 to 30 individually disposed on said cutting surfaces from the edge thereof to the hub of the tool and spaced from each other a distance in the range 1/16–1/2 inch.

3,196,587
PACKAGING PROCESS

Anthony Hayward, Thornton, and John William Hill, Cleveleys, England, assignors to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain
Filed Sept. 17, 1962, Ser. No. 223,968
Claims priority, application Great Britain, Sept. 26, 1961, 34,434/61
4 Claims. (Cl. 53—25)



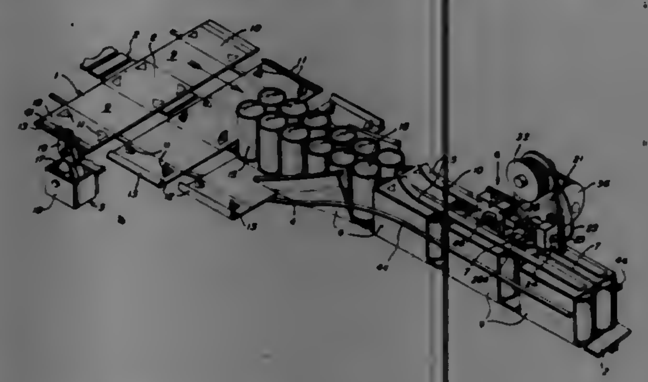
1. A process for the packaging of a particulate material or a plurality of small articles in a plastic bag that comprises raising the temperature of the material or articles materially above ambient temperature; filling the material or articles into the bag; forming an interrupted seal across an opening of the bag, the interruptions in said seal being insufficiently large to allow the easy escape of the material or articles therethrough; flattening the bag to expel air through the interruption in said seal and redistribute the material or articles within the bag to minimize the thickness of the material or article filled bag and maximize the lateral extent thereof; and thereafter forming a continuous seal across said opening of the bag before the material or articles have cooled to ambient temperature; allowing said material or articles in said bag to cool to ambient temperature, whereby upon cooling said bag takes on a stippled appearance as the air remaining in the bag contracts thereby facilitating more stable palleting of said bag with like filled bags; and palleting said bag with like filled bags.

3,196,588
METHOD OF SEALING PACKAGES

Francis A. Childsey, Jr., Devon, Pa., assignor to Container Corporation of America, Chicago, Ill., a corporation of Delaware
Continuation of application Ser. No. 125,920, July 10, 1961. This application Aug. 2, 1963, Ser. No. 299,671
1 Claim. (Cl. 53—32)

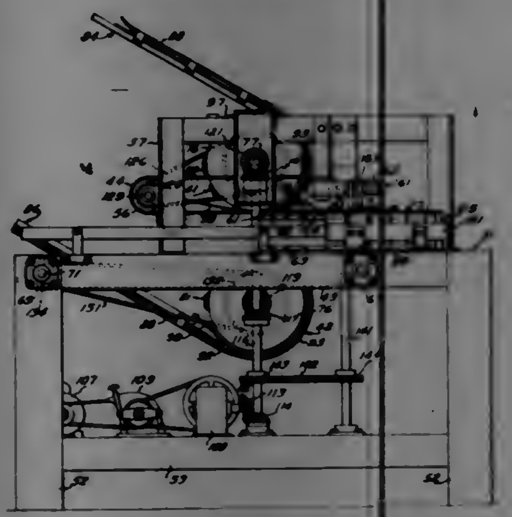
The method of forming a package of the type in which cans grouped in two longitudinal rows are confined in a paperboard sleeve formed from a blank having a central panel disposed against corresponding ends of the cans, side panels hinged to the central panel and folded against the sides of the cans, closure panels hinged to respective side panels and folded against the opposite ends of the cans, and glue panels hinged to respective closure panels and folded in face-to-face contact with each other between the rows of cans, comprising the steps of

(a) continuously advancing the blank, in a direction transverse to its length, with one side of the central panel disposed against corresponding ends of the cans;
(b) applying a primary adhesive to one of the glue panels on the side of the blank opposite from that disposed against the ends of the cans;
(c) wrapping the blank around the group of cans and inserting the glue panels between the rows in face-to-face contact with each other to form a primary glue joint extending longitudinally of the package between adjacent edges of said closure panels;
(d) applying compression to the panels to maintain the package in snug erected condition;
(e) applying a secondary adhesive, having a faster rate of setting than said primary adhesive and in the form of a narrow bead, between the adjacent edges of said closure panels to form a secondary glue joint substantially co-extensive with and disposed outwardly adjacent said primary glue joint;
(f) maintaining said compression against said panels until the secondary adhesive has set sufficiently to make the package self-supporting while the primary adhesive is setting;
(g) releasing said compression.



3,196,589
APPARATUS FOR ORIENTING CYLINDRICAL OBJECTS AND SECURING THE SAME TOGETHER

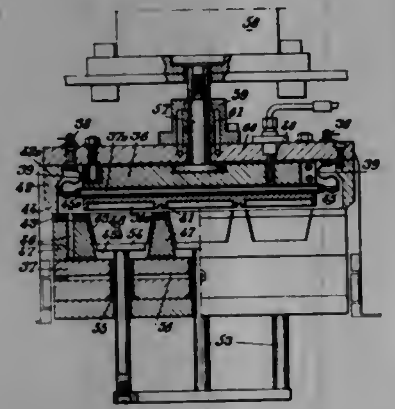
Thomas L. Cook, San Francisco, Calif., assignor of one-third to Kenneth H. Norberg, Tiburon, Calif., one-third to Warren V. Glass, Sausalito, Calif., and one-third to Leo Tellefsen, El Cerrito, Calif.
Original application May 25, 1959, Ser. No. 815,570, now Patent No. 3,096,575, dated July 9, 1963. Divided and this application Aug. 1, 1962, Ser. No. 220,345
4 Claims. (Cl. 53—48)



1. Apparatus of the character described including a longitudinally extending can conveyor adapted to move two adjacent rows of cans in side by side relation, said conveyor supporting said cans on the outermost portions thereof whereby the adjacent end portions of cans in the two rows are unobstructed for the application of a clip thereto, a pair of disc-like members mounted for rotation in a plane including the conveyor axis with said members disposed on opposite sides of said conveyor, and each of said members having a peripheral portion adapted to receive a can clip in one position of rotation of the member and apply the same to the beads of adjacent cans in another position of member rotation.

3,196,590
APPARATUS FOR VACUUM PACKAGING

Jacques Gaspard Honoré Ollier, 17 Rue General Henrion Bertier, Neuilly-sur-Seine, France; Georges Frédéric Grosshans, 53 bis Rue de Boulainvilliers, Paris, France; and Robert Gaston Masson, 6 Blvd. de Courbevoie, Neuilly-sur-Seine, France
Filed Oct. 17, 1962, Ser. No. 231,125
3 Claims. (Cl. 53—112)

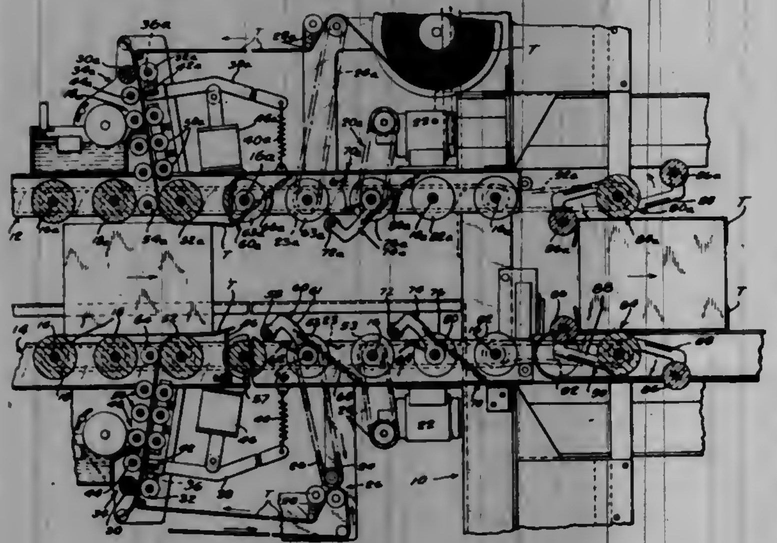


1. Apparatus for making step-by-step a band of closed boxes, each containing a determined quantity of a product, from a first strip of flexible material formed with a longitudinally extending series of open-topped boxes containing said quantity of product and a second flat strip of material, comprising in combination:

an evacuable enclosure comprising fixed upper enclosing means and movable lower enclosing means, said upper and lower enclosing means cooperating to provide a substantially gas-tight enclosure when said movable lower enclosing means is in its upper position, while movement of said movable lower enclosing means to its lower position provides an inlet aperture for entry of an open-topped box of said first strip and a portion of said second flat strip into said enclosure;
drawing means for advancing step-by-step into said enclosure an open-topped box of said first strip containing said determined quantity of said product and a portion of corresponding length of said second strip with said portion of said second strip immediately above said open-topped box;
means for reducing the pressure within said enclosure to a value below atmospheric pressure;
a heat sealing electrode disposed in said enclosure above the position assumed by said portion of said second strip, the lower part of said electrode having the shape of the contour of said open-topped boxes;
electrode advancing means for moving said electrode downwardly into contact with said contour, thereby sealing the portion of said second strip to the open-topped box containing said quantity of product to form a gas-tight closed box containing said quantity of product while the pressure within said enclosure is maintained to said value below atmospheric pressure, whereby, upon restoring the pressure within said enclosure to atmospheric pressure, a pressure differential is created between the outside and the inside of said gas-tight closed box which produces a motion of at least one side of said flexible material forming said closed box thereby causing said determined quantity of said product inside said box to fill substantially uniformly said gas-tight closed box,
and means for repeating the step-by-step cycle of advancing said first and said second strip, reducing the pressure within said enclosure, sealing said box and restoring the atmospheric pressure within said enclosure.

3,196,591
MECHANISM FOR TAPING CARTONS

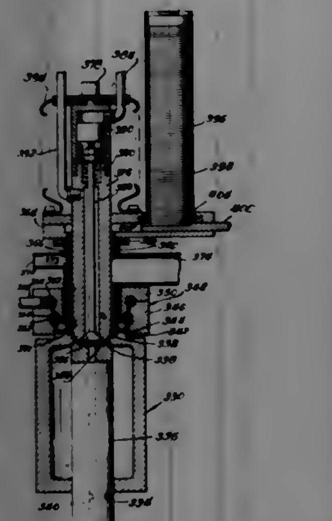
John Guido, Palisades, Louis R. Baselice, Cliffside Park, and Thomas J. Decker, Fort Lee, N.J., assignors to General Corrugated Machinery Company Inc., Palisades Park, N.J., a corporation of New Jersey
Filed Dec. 19, 1961, Ser. No. 160,552
2 Claims. (Cl. 53—137)



2. In a carton taping machine, the combination with a continuously running, carton driving conveyor, of means responsive to the travel of the conveyor-driven carton, automatically to feed out, moisten and cut a length of tape while applying an intermediate portion of the tape to a longitudinally extending face of the carton with an end portion of predetermined length protruding beyond the front face of the carton, a rock and roll device comprising a frame supported for rocking movement about an axis which is disposed outside the carton path, parallel to the plane of conveyance, and at right angles to the direction of conveyance, a roller carried by the free end of the frame and disposed in parallelism with the frame axis, and spring means constantly urging the frame toward and against a stop or limit means, the same constituting a normal position in which the roller is held in the path of carton advance, across the plane of carton-conveyor engagement, and in a position well in advance of the frame axis, the construction and arrangement being such that the carton forces the roller before it, causing the roller first to fold in the tape length which protrudes beyond the leading face of the carton, then to roll in and out along the leading carton face while pressing said tape length against said face, then to bear against the adjacent longitudinal face of the carton for the full length of the carton, and finally to return the roller quickly against said limit means upon the clearing of the roller by the carton, the conveyor including a multiplicity of evenly spaced, constantly driven roller shafts, one of said shafts serving to support the frame with freedom for rocking movement, rollers drivably mounted on said shaft at opposite sides of said frame, and driven rollers fixed on the next following conveyor shaft and spaced from one another to provide clearance for said frame as it rocks forward.

3,196,592
MACHINE FOR MAKING AND FILLING BLOWN PLASTIC BOTTLES

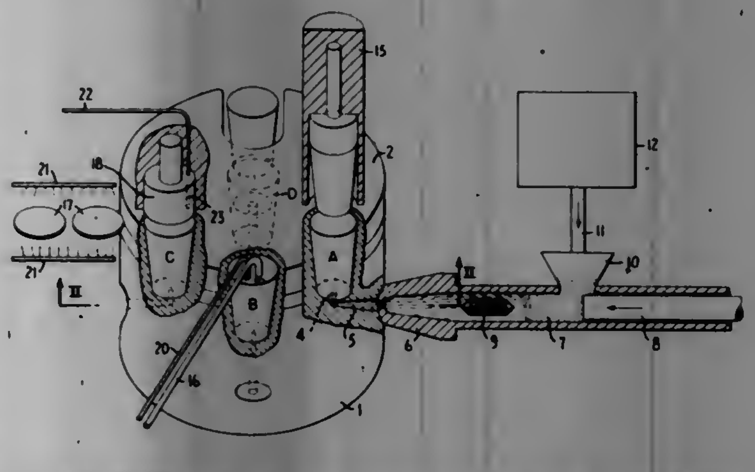
Grant W. Cheney, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Original application Apr. 13, 1960, Ser. No. 21,941. Divided and this application Apr. 10, 1964, Ser. No. 365,545
8 Claims. (Cl. 53—140)



1. An assemblage for blow molding, filling, and capping a thermoplastic bottle comprising, a molding die having a cavity, an extruding head including a mandrel means, said molding die being positioned adjacent the extruding die and being formed with an opening which receives said mandrel means in spaced relation, a plunger slidably arranged in the molding die and adapted to seat upon an inner edge of said opening, said extruding die being arranged to inject a plastic material into the molding die opening and about said mandrel to form a neck portion of a bottle and to continue such injecting while the plunger is being moved away from said opening to form a closed bottom parison having an elongated wall, means to cutoff flow of plastic material into said opening after the parison has been formed, means to establish a pressure differential upon the wall of the parison to force it into engagement with the wall of the molding die cavity, means to fill the molded bottle with a liquid product, and means to cap the liquid filled bottle.

3,196,593
MANUFACTURE AND FILLING OF CONTAINERS

Arie Hey, Etten, North Brabant, Netherlands, assignor to Lever Brothers Company, New York, N.Y., a corporation of Maine
Original application Nov. 10, 1960, Ser. No. 68,564. Divided and this application June 18, 1964, Ser. No. 376,194
8 Claims. (Cl. 53—140)

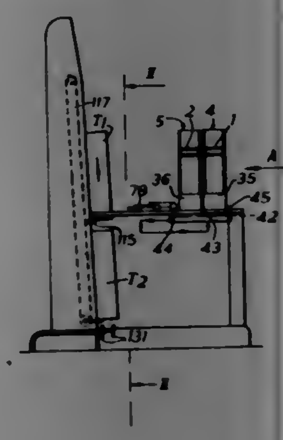


1. An apparatus for producing closed filled containers comprising a cavity plate having a mould cavity therein, a supply plate adjacent to and overlying said cavity plate,

a core member movable relative to said supply and cavity plates for movement into and out of said cavity, means for injecting a molten plastic into said cavity when said core member is in said cavity to form a container, means on said supply plate for introducing a filling material into said container, means on said supply plate for applying a cover to said container after the latter is filled, means in said cavity plate for ejecting the filled, covered container from said cavity and means for moving said cavity plate, supply plate and core member relatively to form, fill, cover and eject said container.

3,196,594
APPARATUS FOR COLLECTING CIGARETTES IN TRAYS

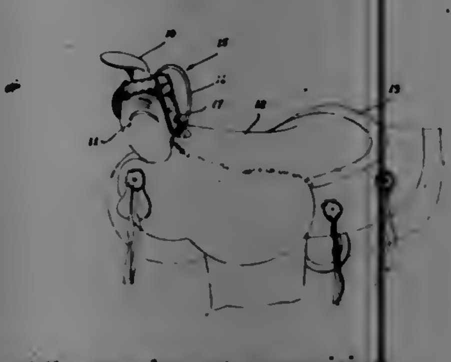
Heinz Focke and Friedrich Pfuhl, Bremen-Hemelingen, Germany, assignors to Focke & Pfuhl, a German company
Filed Dec. 1, 1961, Ser. No. 156,395
Claims priority, application Great Britain, Dec. 9, 1960, 42,524/60
4 Claims. (Cl. 53—236)



1. Cigarette-collecting apparatus, in which batches of cigarettes are successively pushed from a delivery station into an open-sided receptacle, the said apparatus comprising a support for empty receptacles, a support for filled receptacles, a first conveyor means to receive empty receptacles in succession from their support and to lower them in succession past said delivery station to be filled with cigarettes, a second conveyor means to receive filled receptacles in succession and to raise said filled receptacles and deliver them in succession on to the support for filled receptacles, and transfer means to transfer filled receptacles in succession from the first to the second conveyor means.

3,196,595
SADDLE HANDLE ATTACHMENT

Hugh B. McKeen, Jr., Glenwood, N. Mex.
Filed July 22, 1964, Ser. No. 384,372
4 Claims. (Cl. 54—[illegible]6)



1. A saddle attachment comprising:

(a) a handle member,

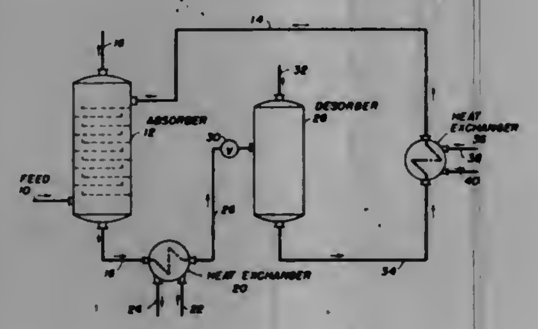
(b) a handle strap integral with and extending from one end of said handle member for passing underneath the pommel of a western-style saddle,

(c) a locking strap secured to and extending from the opposite end of said handle member for passing over the top of the pommel of a western-style saddle and including a loop therein for encircling and gripping the saddle horn of a western-style saddle, and

(d) buckling means for securing said handle strap and said locking strap to each other to secure said attachment to a saddle.

3,196,596
METHOD FOR ABSORPTION OF CARBON DIOXIDE

Loren N. Miller, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Dec. 19, 1961, Ser. No. 160,562
2 Claims. (Cl. 55—48)

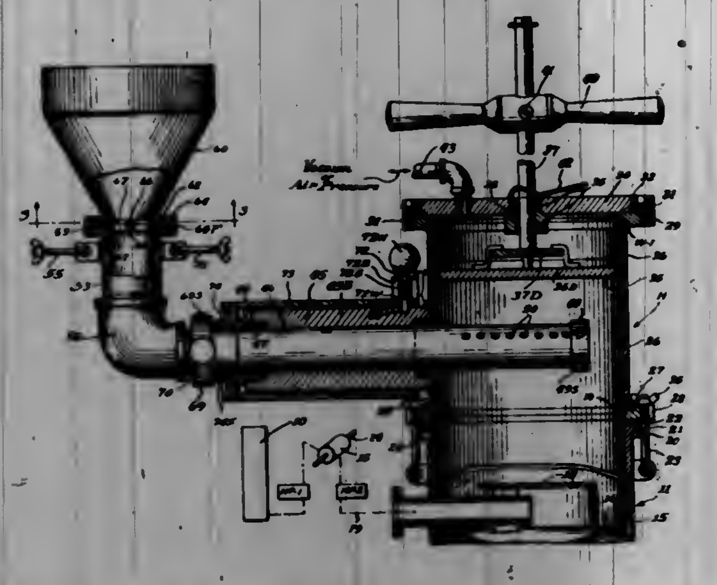


1. A process of separating carbon dioxide from natural gas containing carbon dioxide which consists in introducing said natural gas into an absorption zone maintained at about 800 p.s.i., wherein said natural gas is contacted with a liquid absorbent introduced into said absorption zone at a temperature of about −50° F., and effecting preferential absorption of said carbon dioxide in said absorbent, removing from said absorption zone a stream of rich absorbent at a temperature of about 5° F., cooling said rich absorbent to about 0° F., reducing the pressure of said rich absorbent to desorb carbon dioxide from said rich absorbent with a simultaneous cooling of said rich absorbent to about −55° F., utilizing the desorbed cooled absorbent at a source of low-temperature refrigeration for recovering helium from natural gas and purifying it by passing said cooled absorbent through a heat exchanger in a helium purification process wherein the temperature of the desorbed absorbent is raised to about −50° F. to cool the helium-containing natural gas to the low temperature required for helium purification, and recycling the desorbed absorbent at about −50° F. to said absorption zone.

3,196,597
TANK-LOADING AND DE-AERATION OF VISCOUS MATERIALS

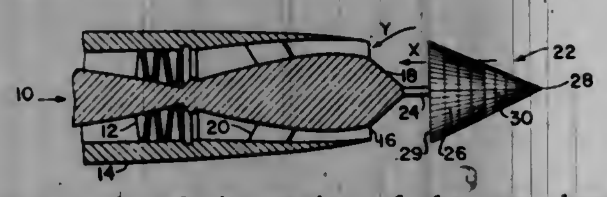
Jack R. Piper, Mount Prospect, Ill., assignor, by mesne assignments, to International Telephone and Telegraph Corporation, New York, N.Y., a corporation of Maryland
Filed Mar. 22, 1962, Ser. No. 181,694
6 Claims. (Cl. 55—194)

1. A supply container for containing highly viscous flowable material comprising an upright tank having a top wall, a piston movable up and down in the tank and a piston rod extended slidably through said top wall for so moving the piston, means for releasably holding the piston in an upper position near said top wall, a horizontal inlet pipe mounted for limited sliding movement radially through an upper portion of the tank between an inner position wherein an inner portion of the inlet pipe is located beneath the piston and within the tank and an outer position wherein the inner end of the inlet pipe is out of the downward path of said piston, means for feeding the material into said horizontal pipe and said tank, and means for applying vacuum to the upper portion of the tank communicating with the portion of the tank beneath the piston.



3,196,598
INLET DEFLECTOR FOR JET ENGINES

Walter T. Olson, Fairview Park, Ohio, assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed Oct. 31, 1962, Ser. No. 234,568
2 Claims. (Cl. 55—306)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. In an aircraft jet engine of the type having a nacelle forming an air inlet at the forward end thereof and a center body rigidly mounted on the nacelle in the air inlet, the improvement comprising

a center post rigidly mounted on the forward end of the center body and extending outward from the air inlet, and

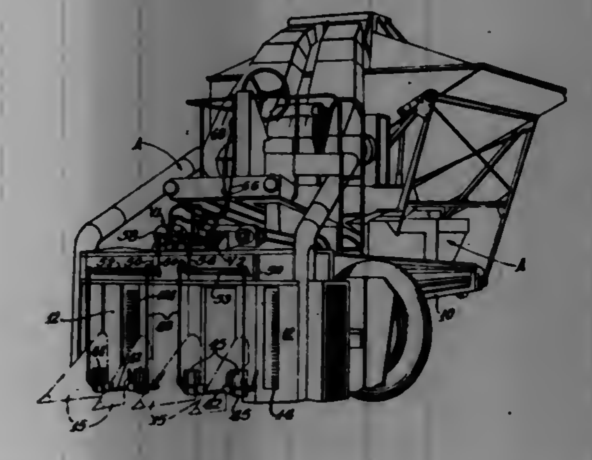
deflector means mounted on said center post ahead of the nacelle for obstructing the entry of foreign objects into the air inlet, said deflector means comprising

a plurality of spaced rods arranged in the form of a cone whereby said foreign objects are deflected from the air inlet, each of said rods having a forwardly directed end mounted on the center post and a rearwardly directed end located forwardly from the inlet at the base of the cone so that the spacing between the inlet and the base of the cone forms a substantially unobstructed air passage thereby enabling air to flow between the outer periphery of the nacelle and the base of the cone when a portion of the deflector means is momentarily covered by said foreign objects.

3,196,599
AUTOMATIC HEIGHT CONTROL SYSTEM

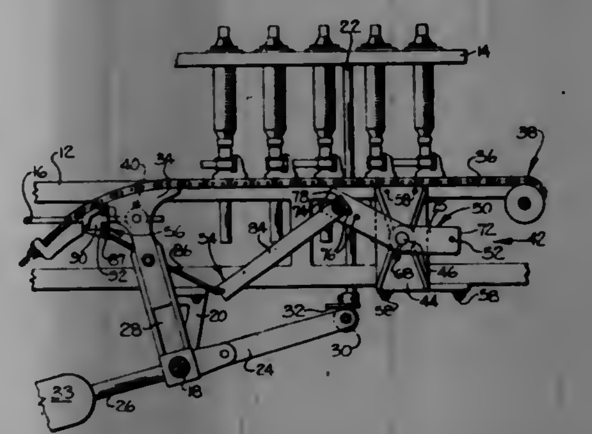
Elmo R. Meiners, Anchor, Ill., and Melvin E. Bonomo, R.R. 9 E., Gibson City, Ill.
Filed May 20, 1963, Ser. No. 281,444
2 Claims. (Cl. 56—11)

1. In combination with a row crop machine having a crop manipulating head vertically adjustable relative to the frame of the machine and hydraulically operated means to effect such vertical adjustment; a system of the character described having ground contour responsive means for automatically controlling said hydraulically operated adjusting means and comprising feeler apparatus mounted on the machine frame and having a pair of ground engaging shoes located on opposite sides of the row being manipulated and in substantially lateral alignment with the crop manipulating portion of said head, a hydraulic control valve for said hydraulically operated adjusting means mounted on the crop manipulating head and having a neutral position, a "raise" position and a "lower" position, hydraulic connections from said control valve to said hydraulically operated means to effect raising of said crop manipulating head in the "raise" position of said control valve and lowering of said crop manipulating head in the "lower" position of said control valve, and an operative connection from said ground contour responsive means to said control valve to move it to "raise" position upon said ground contour responsive means responding to a rise in ground contour at the crop manipulating portion of said head and to move it to "lower" position upon said ground contour responsive means responding to a dip in the ground contour at the crop manipulating portion of said head, said ground engaging shoes being connected together for simultaneous raising and lowering movement relative to said crop manipulating portion of said head in response to the sensing of the ground contour and being further connected with said hydraulic control valve whereby the highest raised ground engaging shoe is effective to position the valve.



3,196,600
ASSEMBLY FOR POSITIONING THE RING RAIL OF SPINNING MACHINES OR THE LIKE

Iodlce Ashley McDuffy, Jr., 36 Back St., and Raymond E. Patton, 406 N. Green St., both of Selma, N.C.
Filed Sept. 6, 1963, Ser. No. 307,249
9 Claims. (Cl. 57—54)



1. In a spinning machine or the like having a frame, a ring rail mounted for vertical reciprocatory movement relative to said frame, means operatively connected to

said ring rail and biasing the same to an upward position, and builder motion means operatively connected to said biasing means and said ring rail for imparting said reciprocatory movement to said ring rail during operation of the machine, an improved assembly for placing and maintaining said ring rail in a lowered position during doffing of the machine, said assembly comprising:

- (a) linkage means connected to said biasing means and actuatable for relieving the upward bias upon said ring rail and for thus effecting lowering of said ring rail to a doffing position;
- (b) crank means connected to said linkage means and carried by said frame for pivotal movement about an axis in a first direction from an initial position to a dead center position for actuating said linkage means and for further pivotal movement in said first direction beyond said dead center position to a terminal position, said crank means when intermediate said initial position and said dead center position having a positive moment exerted thereon by said biasing means in opposition to said pivotal movement in said first direction and said crank means when pivoted beyond said dead center position having a negative moment exerted thereon by said biasing means tending to produce further pivotal movement thereof in said first direction;
- (c) and means for counterbalancing said negative moment exerted on said crank means when said crank means reaches said terminal position to stop and maintain said crank means at said terminal position during doffing, while permitting pivotal movement of said crank means in a direction opposite to said first direction upon completion of the doffing operation.

3,196,601

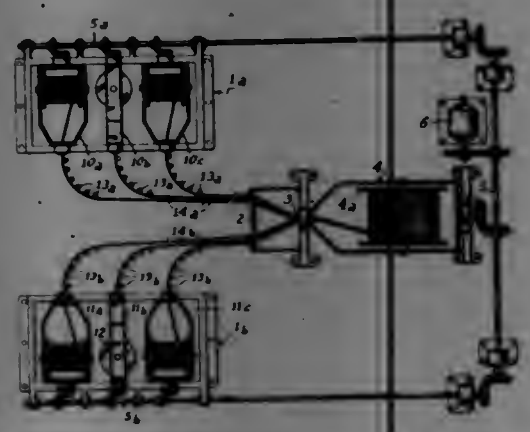
DEFLECTOR DEVICE FOR A REVOLVING WIRE OR THE LIKE

Otto Haugwitz, La Celle-Saint Cloud, France, assignor to Societe Anonyme Geoffroy-Delore, Paris, France, a French company

Filed Sept. 17, 1963, Ser. No. 309,511

Claims priority, application France, Sept. 17, 1962, 909,617, Patent 1,341,597

11 Claims. (Cl. 57—60)



1. A device for deflecting the path of a continuous flexible element which is simultaneously fed longitudinally along said path and rotated about its longitudinal axis, which device comprises a stationary arcuate supporting member corresponding in arcuate extent to the angle by which said path is to be deflected, a series of roller supports spaced along the length of the arcuate member, and mounted on the arcuate member for pivotal movement about axes extending in generally radial planes of said member, and rollers mounted on said supports for free rotation about axes generally transverse to the first axes, said rollers being engageable by said flexible element.

3,196,602

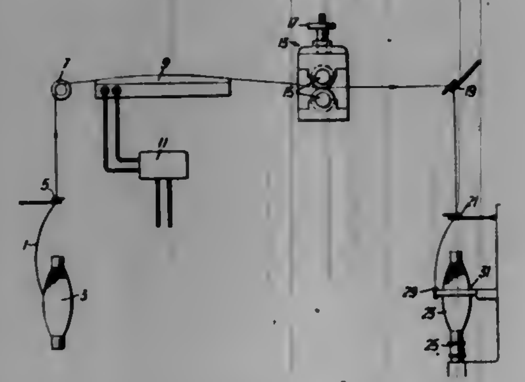
CRIMPING SYNTHETIC THERMOPLASTIC YARNS

Donald Glyn Jenkins, Abersychan, Pontypool, and Brian Edward Clapson, Cwmbran, England, assignors to British Nylon Spinners Limited, Pontypool, England

Original application May 11, 1962, Ser. No. 194,108. Divided and this application Sept. 6, 1963, Ser. No. 311,275

Claims priority, application Great Britain, May 19, 1961, 18,251/61

7 Claims. (Cl. 57—157)



1. A process for crimping a synthetic thermoplastic multifilament yarn consisting of the steps of:

- (a) imparting a low degree of twist to said yarn;
- (b) heating said twisted yarn to a temperature of at least 100° C. but not greater than 30° C. below the melting point of the material of the yarn whilst the yarn is under tension;
- (c) squeezing the twisted yarn between the surfaces of a pair of driven nip-rollers whilst it is at the said temperature; and
- (d) back-twisting the yarn.

7. A crimped multifilament yarn of synthetic thermoplastic material made by the process of claim 1.

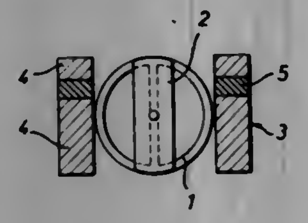
3,196,603

MAGNETIC MOVEMENT SYSTEM FOR ELECTRONIC OR ELECTRIC CLOCKS

Robert Walter Reich, Merzhauserstr. 143, Freiburg im Breisgau, Germany

Filed Jan. 15, 1964, Ser. No. 337,842

1 Claim. (Cl. 58—28)



In an electric clock comprising a magnetic drive system and an electric circuit associated with a source of energy for energizing said system, an improved magnetic drive system which comprises: a solenoid coil comprising a generally cubically shaped coil body provided with an interior chamber enclosed by top and bottom walls and two opposite side walls; a rotatable shaft extending through said top and bottom walls and said chamber; a balance wheel provided with a magnetized spoke mounted on said shaft within said chamber, the relative dimensions of said balance wheel and said chamber being such as to permit said balanced wheel to oscillate freely and uninhibited in said chamber; windings in said coil body surrounding said shaft, and an iron ring of substantially the same thickness as said balance wheel provided around the sidewalls of said coil body.

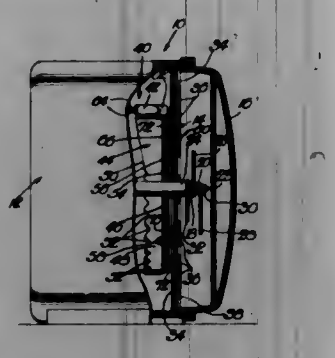
3,196,604

CLOCK WITH SEPARATE DAY AND NIGHT DIALS

Philip A. Sidell, West Hartford, Conn., assignor to The Ingraham Company, Bristol, Conn., a corporation of Connecticut

Filed Oct. 4, 1963, Ser. No. 313,915

9 Claims. (Cl. 58—50)



1. In a clock, the combination of a first dial having plate means of which a first plate area is light-impermeable and the remaining plate area is translucent, with said plate means having front and back faces and hour indicia on said first plate area visible and indivisible at the front face thereof in daylight and in the dark, respectively; light means behind said plate means for illuminating the back face thereof; and a night dial having other hour indicia and including said light means and translucent plate area, said other hour indicia being between said light means and said translucent plate area and confronting the latter for projection of their images thereagainst, and the translucency of said remaining plate area and the intensity of its rear illumination are such that said images are visible and substantially invisible at the front face of said plate means in the dark and in daylight, respectively.

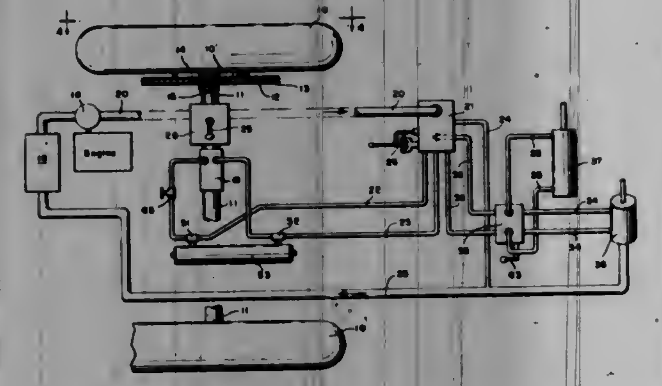
3,196,605

HYDRAULIC POWER SYSTEM FOR TRACTORS

Jack D. Stevens, 4797 1st Ave. S., Seattle, Wash.

Filed July 12, 1963, Ser. No. 294,680

3 Claims. (Cl. 60—6)



1. A wheel mounted vehicle including a vehicle propelling engine, mechanical means interconnecting said engine and vehicle wheels for normally propelling the vehicle, a hydraulic system including an engine driven hydraulic pump, a hydraulically actuated work element mounted on said vehicle, means for controlling the hydraulic actuation of said work element, an auxilary vehicle propelling means, said auxiliary propelling means including a hydraulic motor, supply and relief lines interconnecting said hydraulic motor and hydraulic pump, means interconnecting said hydraulic motor and the vehicle wheels, control means for actuating said hydraulic motor and a hydraulic shock absorbing means interconnected to both of said supply and relief lines between said pump and motor whereby the initial hydraulic pressure from the pump to the motor is of reduced magnitude.

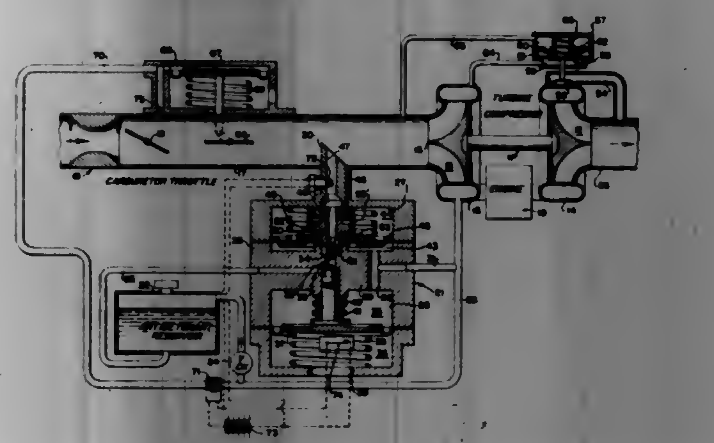
3,196,606

ANTIDETONANT CONTROL FOR TURBO-CHARGED ENGINES

Robert L. Cholvin, El Segundo, and Alexander Silver, Tarzana, Calif., assignors to The Garrett Corporation, Los Angeles, Calif., a corporation of California

Filed Oct. 30, 1961, Ser. No. 148,615

14 Claims. (Cl. 60—13)



1. Apparatus for supplying and controlling the injection of an antidetonant into the operating fuel-air mixture of an internal combustion engine, the mixture being supplied from a carburetor through a compressor of a turbo-supercharger driven by the engine exhaust, comprising: a reservoir for the antidetonant; nozzle means for injecting the antidetonant into the mixture upstream of the compressor; means for controlling flow of antidetonant from said reservoir to said nozzle as a function of differential pressure across said compressor; and means for bypassing engine exhaust from the inlet to the outlet of said turbine upon the occurrence of a predetermined differential between the compressor outlet pressure and the inlet pressure of mixture supplied from the carburetor, said controlling means and said bypassing means beginning to open at substantially the same pressure differential.

3,196,607

ROCKET PROPULSION METHOD USING ORGANIC SULFUR-CONTAINING FUELS

Thomas F. Doumani, Whittier, and Clarence S. Coe, Rolling Hills, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Apr. 25, 1952, Ser. No. 284,442

19 Claims. (Cl. 60—35.4)

1. In a method of operating a jet propulsion motor wherein a fuel is burned in a combustion chamber with a proportion of an inorganic oxidizer at least about 50% of the amount required for complete combustion of said fuel, and the products of combustion are allowed to escape through a jet thereby producing a driving force, said oxidizer being selected from the group consisting of oxygen, nitric acid, nitrous oxide, hydrogen peroxide and metal chlorates, the improvement which comprises employing as said fuel a composition consisting of a substantial proportion, at least about 1% by volume, of an organic sulfur compound selected from the group consisting of methyl mercaptan, ethyl mercaptan, phenylmercaptan, cyclohexyl mercaptan, ethenyl mercaptan, dimethyl sulfide, diethyl sulfide, phenylisopropyl sulfide, dicyclopentyl sulfide, thiophene, methyl thiophene, thiophane, methyl thiophane, dimethyl disulfide, diethyl disulfide, phenyl isopropyl disulfide, dicyclopentyl disulfide, dimethyl sulfone, diethyl sulfone, dicyclopentyl sulfone, phenyl isopropyl sulfone, butadiene sulfone, dihydrothiophene sulfone, thiophane sulfone, dimethyl sulfoxide, diethyl sulfoxide, phenyl isopropyl sulfoxide, dimethylcyclopentyl sulfoxide, any remaining component of said fuel consisting essentially of a hydrocarbon diluent for said sulfur compound.

3,196,608

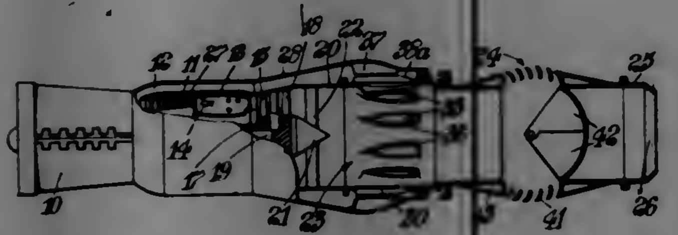
APPARATUS TO ADMIX BY-PASS AIR WITH EXHAUST GASES IN A BY-PASS GAS-TURBINE ENGINE

John Valentine Tindale, Alvaston, Derby, England, assignor to Rolls-Royce Limited, Derby, England, a British company

Filed June 2, 1960, Ser. No. 33,498

Claims priority, application Great Britain, June 23, 1959, 21,573/59

7 Claims. (Cl. 60—35.6)



1. Apparatus to admix compressed air with exhaust gases comprising an annular wall structure defining within it an exhaust gas receiving duct, outer wall means externally of said wall structure and cooperating therewith to define a compressed air passage, said wall structure having in it a series of circumferentially spaced holes open to the compressed air passage, and a series of stub pipes on the interior of said wall structure and projecting a short distance radially and axially in a downstream direction into the exhaust gas duct, said stub pipes communicating through said holes with the compressed air passage and being open at their radially inner ends to the exhaust gas duct, the plane of each of said last mentioned openings forming an acute angle with respect to the axis of said exhaust gas duct, whereby air entering said exhaust gas duct through said stub pipes has a substantial radial component of velocity.

3,196,609

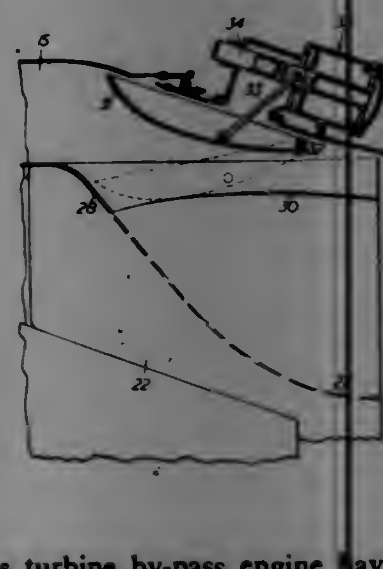
GAS TURBINE BY-PASS ENGINE

John Ingram, Mickleover, Derby, Martin Land, Smalley, and Donald McLean, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a company of Great Britain

Filed Aug. 16, 1962, Ser. No. 217,441

Claims priority, application Great Britain, Aug. 18, 1961, 29,960

11 Claims. (Cl. 60—35.6)



1. A gas turbine by-pass engine having in flow series compressor means, combustion equipment, turbine means, a turbine exhaust duct, and a jet pipe; an ancillary air duct and a by-pass duct each of which is arranged to receive air compressed by the compressor means; a plurality of conduit means spaced peripherally around the jet pipe for introducing by-pass air from the by-pass duct into the jet pipe to mix with the turbine exhaust gases therein; and means operatively associated with a selected number of said plurality of conduit means for changing the flow area of the selected number of conduit means, said last-mentioned means being operable when compressed air is being drawn off through the ancillary air duct to simultaneously alter the effective flow area of the turbine exhaust duct and the effective total flow area of the plurality of conduit means whereby the by-pass ratio is maintained substantially constant, said selected number of conduit means being less than the total number of said conduit means.

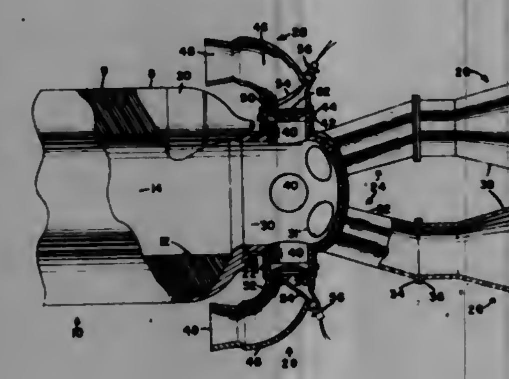
3,196,610

SOLID PROPELLANT ROCKET MOTOR HAVING REVERSE THRUST GENERATING MEANS

Frank P. Anderson, Brigham City, Utah, assignor to Thiokol Chemical Corporation, Bristol, Pa., a corporation of Delaware

Filed May 3, 1963, Ser. No. 277,745

3 Claims. (Cl. 60—35.54)



1. A rocket motor comprising a cylindrical casing having a forward end and an aft end and containing a propellant charge, an adapter ring on the aft end of said casing, first nozzle means detachably connected to the adapter ring on the aft end of said casing and directed rearwardly to provide a primary thrust for said motor when said propellant charge is ignited, said first nozzle means comprising a plurality of cylindrical ducts that are integral with, and diverge outwardly from, said aft end, each of said ducts having an external flange thereon, a plurality of partially cylindrical and partially truncated conical posterior nozzle segments, each of said nozzle segments having an external flange thereon that is rigidly secured to the flange on the said duct with which it is operatively associated, second nozzle means connected to said casing and directed forwardly to provide a secondary thrust axially opposing and counteracting said primary thrust at a predetermined time during burning of said propellant charge, said second nozzle means comprising a plurality of radially extending necks that are integral with said aft end, each of said necks having an external flange thereon, a plurality of forwardly directed nozzles, each of said nozzles having an external flange thereon, that is rigidly secured to the flange on the said neck with which it is operatively associated, the axis of said second nozzle means lying in a circle whose midpoint is on an extension of the longitudinal axis of the rocket motor and said circle is concentric to a second circle formed by the axis of said primary thrust nozzles, rupturable closure means constructed and arranged within each of said necks and each of said nozzles in alinement with the flanges thereon to close said second nozzle means and means positioned in each of said nozzles outwardly of said closure means for rupturing said closure means at said predetermined time to initiate said opposing and counteracting thrust.

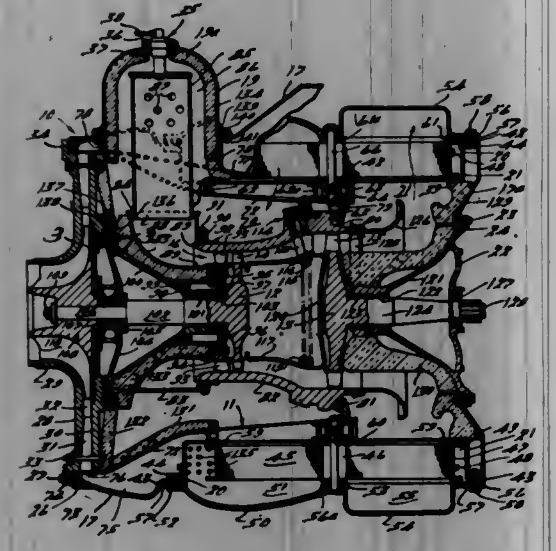
3,196,611

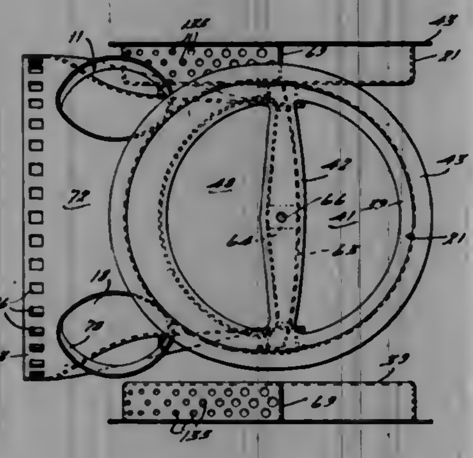
GAS TURBINE ENGINE

Willi Henny, Southfield, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed July 3, 1961, Ser. No. 121,395

14 Claims. (Cl. 60—39.51)





1. In a gas turbine engine having a pair of coaxial rotors, an outer housing, an inner housing within said outer housing and containing said rotors, annular gas passage means supported by said inner housing coaxially with said rotors for conducting motive gases thereto, said outer housing including a plurality of domes at locations spaced around the axis of said gas passage means and rotors, said inner housing comprising a separate frame structure at the base of each dome and having a radially outer surface extending transversely to the radius from said axis at the central region of the associated dome, the edges of adjacent frame structures being secured together to complete an inner housing of box section transversely of said axis, each frame structure having a sector shaped gas passage therein and terminating in the downstream direction with respect to said gas passage means, in a cross member bounding an edge of said gas passage, a regenerator receiving pan within each dome and having a sidewall secured at its outer edge to said outer housing, the bottom of each pan comprising a platform parallel to the associated frame structure and having a pair of sector shaped gas passages therein spaced by a cross arm overlying the cross member of said frame structure, one of said pair of passages overlying the passage in the associated frame structure, a regenerator rotatably mounted within each pan, the bottom of each pan being secured at a fluid tight seal to the associated frame structure entirely around the overlying passages in said pan and frame structure.

3,196,612

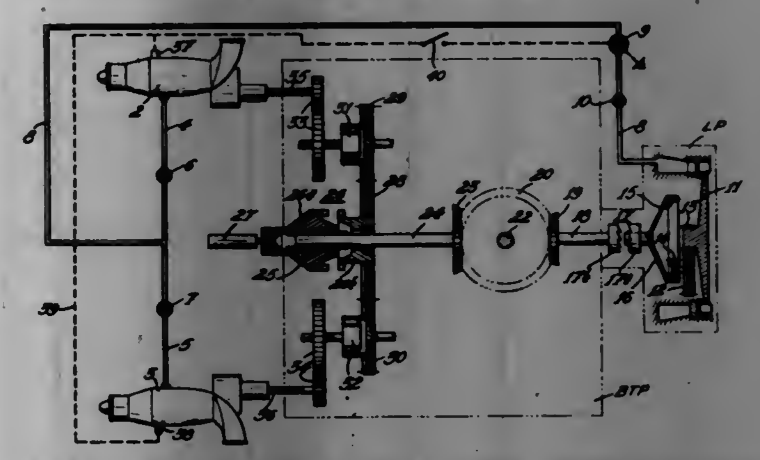
METHOD AND APPARATUS FOR STARTING GAS TURBINE DRIVEN HELICOPTER ROTORS

André Henri Laville, Enghien, and Francis Henri Marie Joseph Maillard, Courbevole, France, assignors to Sud-Aviation Société Nationale de Constructions Aeronautiques, Paris, Seine, France

Filed June 26, 1963, Ser. No. 290,818

Claims priority, application France, July 2, 1962, 902,634, Patent 1,337,306

9 Claims. (Cl. 60—39.18)



1. A process of starting and speeding up the rotor of a helicopter driven by at least one gas turbine engine by means of a drive assembly connected to said rotor having means for clutching and declutching each gas turbine engine from said rotor, said process comprising declutching each gas turbine engine from the drive assembly, speeding up each gas turbine engine to the continuous r.p.m. rating thereof, bleeding compressed air from the outlet of the compressor of at least one gas turbine engine, utilizing said compressed air to start and speed up the rotor, and finally clutching each gas turbine engine with said drive assembly in order to drive the speeded-up rotor.

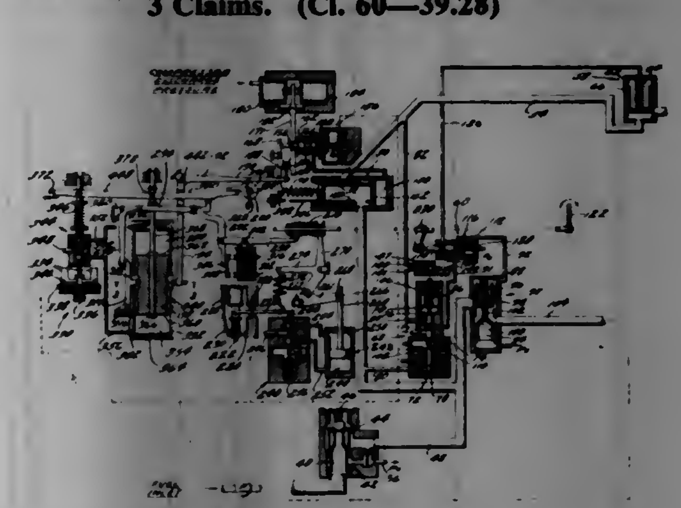
3,196,613

FUEL CONTROL

Robert D. Porter, Simsbury, Conn., and Charles F. Stearns, East Longmeadow, Mass., assignors to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Continuation of application Ser. No. 33,822, June 3, 1960. This application Feb. 11, 1963, Ser. No. 258,117

3 Claims. (Cl. 60—39.28)

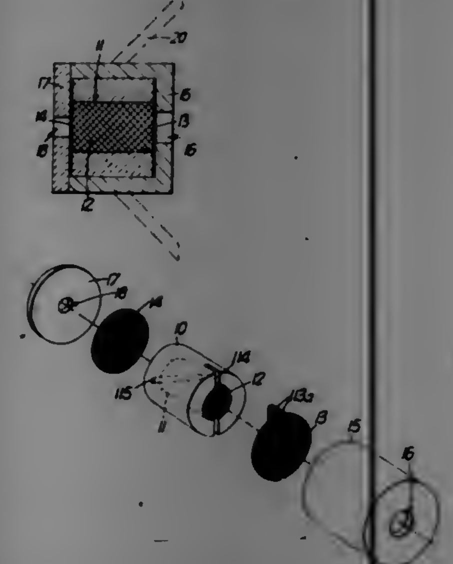


1. In a fuel control for a turbine-type power plant having a combustion zone, a source of fuel under pressure, conduit means connecting said source and said zone permitting flow of fuel from said source to said zone, a throttle valve located in said conduit means for regulating said flow of fuel, transducer means controlling said throttle valve, control means including a speed responsive device responsive to a plurality of parameters of power plant operation controlling the said transducer means, said control means also including a movable member, which member is movable by said

speed responsive device, connection means interconnecting said movable member and said transducer means, said connection means including a first link, a second link pivotally secured to one end of said first link, said first link having the other end connected to said speed responsive device, said second link responding to the movement of said movable member for positioning said transducer means, a connecting rod secured to said movable member and having one end attached to the first and second link at the point where said first link is pivotally secured to said second link and a pivotal member interconnecting said transducer means and said second link.

3,196,614
IGNITION DEVICE FOR COMBUSTION EQUIPMENT

Brian Toone, Littleover, Derby, and Allan Michael Barham, Mickleover, Derby, England, assignors to Rolls-Royce Limited, Derby, England, a British company
Filed June 28, 1962, Ser. No. 206,003
Claims priority, application Great Britain, July 11, 1961, 25,147/61
6 Claims. (Cl. 60—39.82)

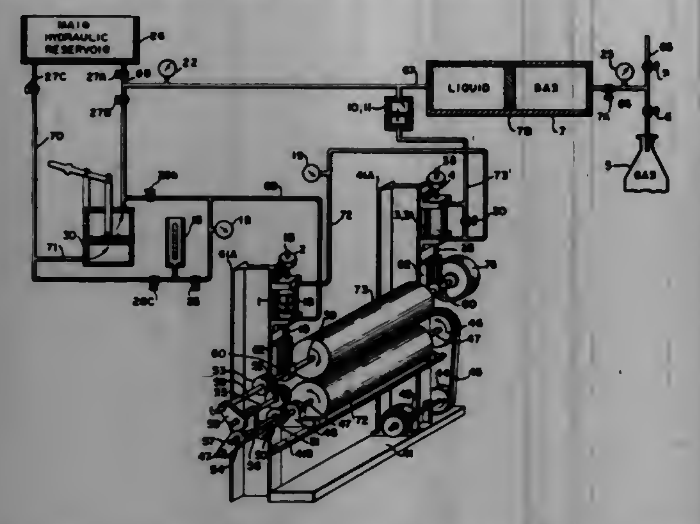


1. A prime mover ignition device adapted to promote auto-ignition of fuel injected into a combustion supporting gas stream, or to promote combustion stability, or both, comprising a mass of refractory material and a foraminate element of platinum, or rhodium, or iridium, or alloys of these, or other suitable metal having catalytic properties in promotion of combustion, the foraminate element comprising a portion in the form of spiral roll which has a plurality of spaced convolutions and is located axially in a flow passage, extending in the refractory mass between those surfaces thereof which in use face upstream and downstream in the gas stream and a portion in the form of a disc at the downstream end of the flow passage, the disc portion at the downstream end being formed to a T-shaped and the leg of the T-section being inserted into a slot or notch in the refractory mass and the spiral roll portion.

3,196,615
OVERLOAD RELEASE MECHANISMS

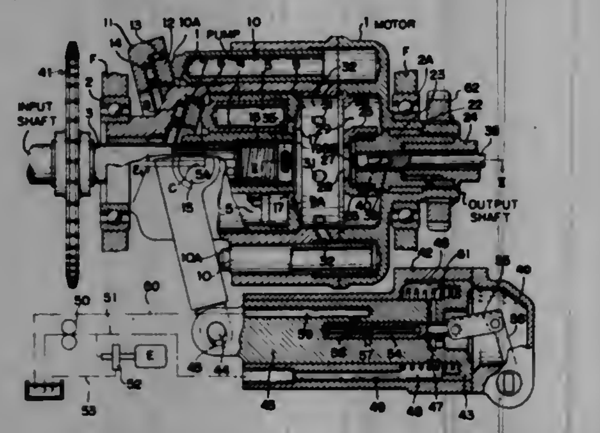
Harry P. Kautz, Broomfield, Colo., assignor to Mine and Smelter Supply Co., Denver, Colo., a corporation of Colorado
Original application May 4, 1961, Ser. No. 107,730, now Patent No. 3,122,992, dated Mar. 3, 1964. Divided and this application Nov. 6, 1963, Ser. No. 321,930
10 Claims. (Cl. 60—51)

1. An overload release mechanism comprising a compartmented accumulator having a shiftable piston therein and containing gas in one compartment thereof and liquid in the other; a main liquid reservoir; a pump, and a plurality of spaced apart cylinders each of which is provided with a piston head and a piston rod connected to different parts of a force applying machine; valved conduits connecting said main liquid reservoir to said pump and to the forward compartment of one of said cylinders; a separate conduit connecting the rear compartment of the said one cylinder to the forward compartment of the other of said cylinders, and additional valved conduits interconnecting the rear compartment of the said other cylinder to said main liquid reservoir and to the liquid compartment of said accumulator through a check and resistor valve whereby movement of the piston in the said one cylinder will cause synchronous movement of the piston in the said other cylinder.



3,196,616
AUTOMATIC CONTROLLING MEANS FOR SWASH PLATE TYPE PRESSURE-FLUID TRANSMISSION GEARS

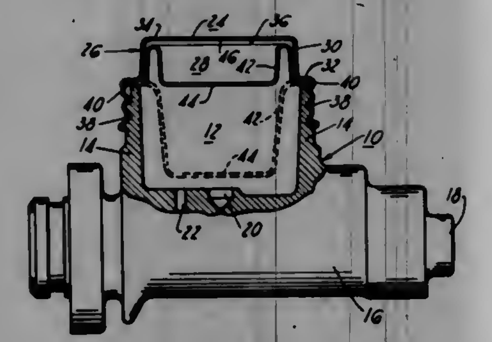
Tasuku Date, Nobusuke Harada, and Noriyuki Takahashi, Tokyo, Japan, assignors to Kabushiki Kaisha Honda Gijitsu Kenkyosho, Kita Adachi-gun, Saitama Prefecture, Japan, a corporation of Japan
Filed June 5, 1963, Ser. No. 285,627
Claims priority, application Japan, June 5, 1962, 37/22,462
6 Claims. (Cl. 60—53)



1. A pressure fluid transmission gear having fluid under pressure therein, comprising a rotatable variable displacement pump mounted upon a shaft which is adapted to be attached to a prime mover, a rotatable motor of the variable displacement type mounted concentrically with said pump and adapted to be attached to a driven member, an element for changing the displacement of said motor mounted for rotation in a clockwise and counterclockwise direction on an axis perpendicular to the axis of said shaft and eccentric to the axis of rotation of said pump and said motor, whereby when the output torque or the load is changed, thereby changing the pressure of the fluid, the force exerted upon the said element is changed, thereby causing it to rotate, and further comprising a force exerting means responsive to engine speed attached to said element in such a way that it exerts force controlling movements of the said member caused by the variations in output torque or load.

3,196,617
MASTER CYLINDER CAP

William E. Ferrell, Paul B. Shutt, and George W. Shafer, St. Joseph, Mich., and Kyle E. McAfee, Grafton, Ohio, assignors to The Bendix Corporation, St. Joseph, Mich., a corporation of Delaware
Filed Apr. 12, 1963, Ser. No. 272,731
4 Claims. (Cl. 60—54.6)

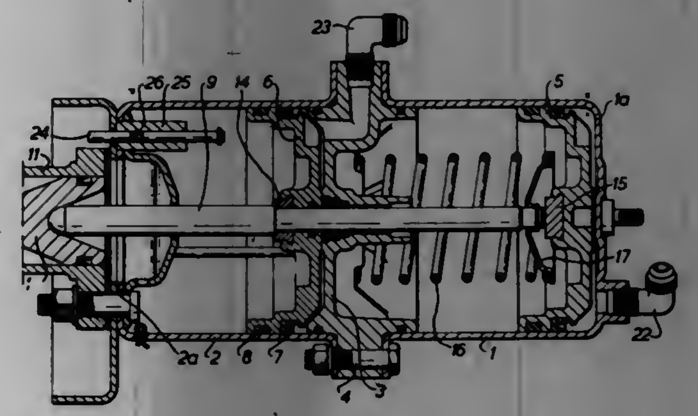


1. The combination of a master cylinder and a cap therefor comprising: said master cylinder having a reservoir comprising an annular wall open at the upper end thereof, a bore located at the lower end of said reservoir, the axis of said bore extending normal to the axis of said reservoir, fluid pressure generating means located in said bore, and port means communicating said reservoir with said bore; said cap comprising a cover member comprising an annular wall portion closed at the top end by a transverse portion and open at the bottom end thereby defining a generally cup-shaped cavity therein, breather port means in said cover member for communicating said cavity to atmosphere, an integral one-piece sealing member bridging said cavity at the bottom of said top member for sealing the reservoir from said cavity and from the atmosphere. said sealing member comprising an annular outer portion squeezed between said cover member and an upper portion of said peripheral reservoir wall, an inner disc-shaped portion, and a flexible annular U-shaped portion, the inner edge of said annular outer portion being spaced from the peripheral edge of said disc-shaped inner portion, said inner edge being approximately the same diameter as the inner surface of said upper portion of said reservoir wall, one leg of said U-shaped portion being connected to said inner edge of said outer portion and the other leg of said U-shaped portion being connected to said peripheral edge of said inner portion, the legs of said U-shaped portion extending in planes transverse to the plane of said inner disc-shaped portion, said one leg extending adjacent to the inner surface of said wall portion of said cover member for substantially the entire length thereof, said other leg being located substantially within said cavity, the combined length of said legs of said U-shaped portion being approximately the same as the depth of the inner surface of said reservoir wall, and means for connecting said cap to said reservoir.

3,196,618
FLUID PRESSURE-OPERATED BRAKING APPARATUS

George Kenneth Farmery, Scothern, Lincoln, and Wilbur Mills Page, Lincoln, England, assignors to Clayton Dewandre Company Limited, Lincoln, England
Filed Mar. 12, 1964, Ser. No. 351,295
Claims priority, application Great Britain, Mar. 22, 1963, 11,433/63
7 Claims. (Cl. 60—54.6)

1. In a fluid pressure brake operating apparatus, an actuator unit comprising two coaxial cylinders, a piston slidably mounted in each cylinder, an operating rod slidably mounted on the axis of said cylinders and having one end in separable abutment with one of said pistons disposed within one of said cylinders, return spring means biasing said rod into abutment with said one piston, the other of said pistons disposed in the other of said cylinders being centrally apertured to pass said rod and the other end of said rod projecting through said other cylinder for operative connection with the master cylinder of a vehicle braking system, means providing a separable unidirectional motion transmitting connection between said rod and said other piston, and means for simultaneously independently applying a fluid pressure differential to both of said pistons for displacing them in brake actuating direction for displacing said rod toward said master cylinder connection, said one piston abutting said rod and said other piston being coupled in motion transmitting association with said rod by said unidirectional connection when said pistons are displaced in said brake actuating directon, whereby by virtue of its separable connections with said pistons said rod may be displaced in brake actuating direction by either of said pistons alone or both together acting in tandem and spring biased displacement of said rod in the opposite direction displaces both of said pistons in said opposite direction.



3,196,619
METHOD FOR DISPOSING OF HARMFUL ORGANIC WASTE MATERIALS

D'Arcy A. Shock, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware
No Drawing. Filed Apr. 19, 1961, Ser. No. 103,963
10 Claims. (Cl. 61—36)

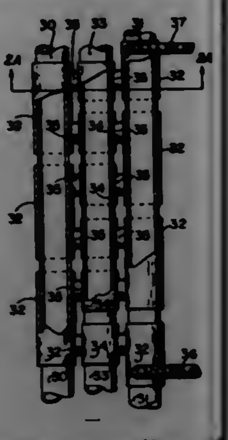
1. A method of treating harmful organic waste material for safe and intentional disposal of same which comprises entrapping said waste in a solid state by the steps of mixing the waste material with an oil base, thixotropic fluid which is compatible therewith; and disposing of the mixture in an inaccessible subterranean location other than a well being treated to restore lost circulation and allowing same to solidify.

3,196,620
THERMOELECTRIC COOLING SYSTEM

Thore M. Elfving, 433 Fairfax Ave., San Mateo, Calif., and Sven Thomas Elfving, San Mateo, Calif.; said Sven T. Elfving assignor to said Thore M. Elfving
Filed Feb. 10, 1964, Ser. No. 343,678
27 Claims. (Cl. 62—3)

1. A thermoelectric assembly comprising a plurality of pairs of bodies of semiconductive material of opposite conductivity type each having hot and cold junction ends, a plurality of first metal tubes each joined to the cold junction ends of each of said pairs of bodies to form a junction bridge between them, a straight fluid conduit for

circulation of a fluid therethrough, said first metal tubes being disposed along said conduit and electrically insulated from one another, and a plurality of second metal tubes joined to the hot junction ends of said bodies.



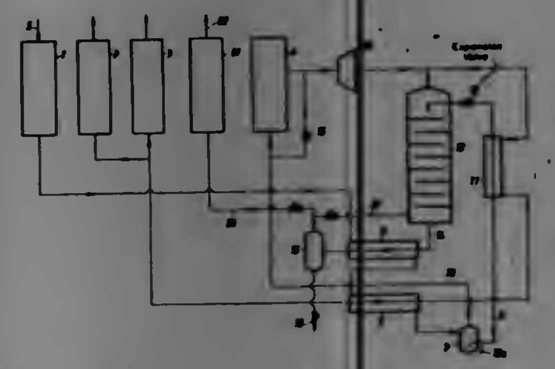
3,196,621

METHOD OF SEPARATING AIR BY LOW TEMPERATURE RECTIFICATION

Rudolf Becker, Munich-Solln, Germany, assignor to Gesellschaft fur Linde's Eismaschinen Aktiengesellschaft, Hollriegelskrueth, near Munich, Germany, a company of Germany

Filed Dec. 16, 1960, Ser. No. 76,224

2 Claims. (Cl. 62—13)



1. A method of separating air by low temperature rectification with production of oxygen at least partly in liquid form, which comprises liquefying at a superatmospheric pressure a part of the air to be separated—after being cooled and cleaned in a regenerator of a set of regenerators—by recuperative heat exchange with a fraction from the bottom and a fraction from the top of a single stage low pressure rectification column, separating an oxygen-enriched liquid part from a nitrogen-enriched gaseous part; rectifying only the liguid part after being expanded in said low pressure recification column in counterflow to an ascending gas formed by partial evaporation of the rectified liquid part to produce oxygen in pure state to be recovered at least partly in liquid form; and pre-heating the separated gaseous part by heat exchange with air to be separated; work performingly expanding said pre-heated gaseous part, mixing the expanded gas with the top gas of the rectification column and cooling with said mixed gases firstly the separated liquid part to be expanded and rectified and then the air to be at least partly liquefied by recuperative heat exchange before said mixed gases being passed through at least one regenerator of said set of regenerators for cooling and cleaning the air to be seperated, said recuperative heat exchange of the regeneratively cooled and cleaned air to be separated being performed by one part of said regeneratively cooled and cleaned air being branched off and at least partially reheated in one of said regenerators in its last cold period and being work-performingly expanded from a higher pressure to an intermediate pressure, heat exchanging with the separated nitrogen enriched gaseous part coming from an oxygen in the low pressure column evaporating top condenser of a separation room at that intermediate pressure into which said part of the reheated and expanded air is passed after said heat exchange, and being performed by the residual part of said regeneratively cooled and cleaned air being liquefied heat exchanging with top gas of the recification column mixed with said separated nitrogen-enriched gaseous part being preheated and work performingly expanded, said mixed gases having been used to subcool the separated liquid part coming from the bottom of said separation room, said residual other part of the regeneratively cooled and cleaned air being expanded into the upper part of said separation room at an intermediate pressure.

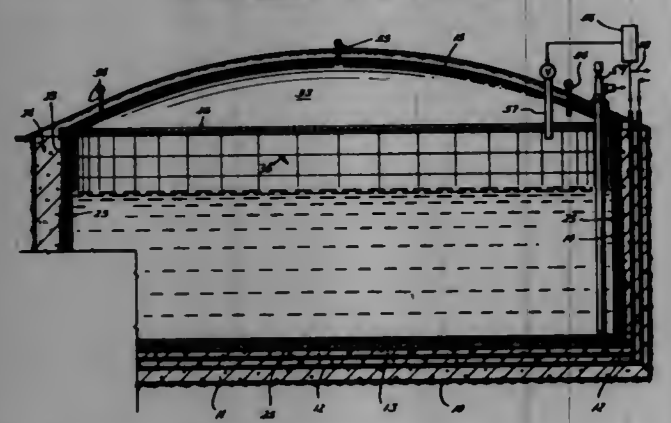
3,196,622

CRYOGENIC STORAGE TANK

Ernest L. Smith, Shreveport, La., and Arthur R. Duffy, Columbus, Ohio, assignors, by direct and mesne assignments, to Texas Eastern Transmission Corporation, Shreveport, La., a corporation of Delaware

Continuation of abandoned application Ser. No. 246,816, Dec. 24, 1962. This application Feb. 4, 1963, Ser. No. 256,491

13 Claims. (Cl. 62—45)



1. A cryogenic storage tank comprising,

an outer supporting shell having a substantially vertical side wall and floor and top providing a complete continuous enclosure, said side wall and floor being made of concrete,

insulation means completely lining said tank including a plurality of blocks of insulation material,

a sheet of continuous impervious material completely lining the floor and side wall of said tank and providing a liquid and vapor barrier,

said insulation means lining said side wall arranged in a plurality of layers with one layer on each side of the portion of the sheet of impervious material lining said side wall,

and means supported on said floor engaging the inner layer of said insulation means lining said side wall and holding the insulation means and sheet of impervious material lining said side wall in place.

3,196,623

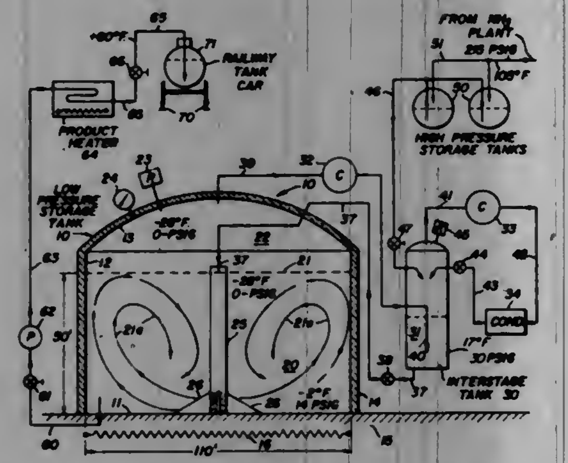
SYSTEMS FOR STORING PRODUCTS IN THE LIQUID PHASE THAT ARE NORMALLY IN THE GAS PHASE

Edgar J. Kelly, Lake Zurich, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Dec. 20, 1962, Ser. No. 246,108

7 Claims. (Cl. 62—54)

1. A system for storing in the liquid phase a product that is characterized by being entirely in the gas phase under atmospheric pressure and ambient temperature conditions; said system comprising an upstanding heat-insulated storage tank adapted to contain a body of the product in the liquid phase under substantially atmospheric pressure and relatively low temperature conditions, said storage tank including a top wall and a bottom wall, said top wall being disposed well above the level of the contained body of liquefied product to define a chamber therebetween, an interstage tank, means for withdrawing from said chamber the gaseous product evolved from the contained body of liquefied product and for compressing said gaseous product and for delivering said product to said interstage tank at relatively high temperature and relatively high pressure conditions, thereby to maintain substantially atmospheric pressure of the gaseous product in said chamber and also to maintain said relatively low temperature of the contained body of liquefied product as a consequence of evaporation thereof, the head of the body of liquid product being substantially high to produce a substantial pressure on the liquid product adjacent to said bottom wall, the liquid product being characterized by a relatively higher density at the surface thereof adjacent to said chamber and a relatively lower density adjacent to said bottom wall, an upstanding tube arranged in said storage tank and having an open top end disposed somewhat above the level of the contained body of liquefied product and communicating with said chamber, the lower portion of said tube having passages therein and communicating with the lower portion of the contained body of liquefied product adjacent to said bottom wall, and means for supplying into the open top end of said tube condensate from said interstage tank under relatively high pressure and relatively high temperature conditions, whereby a first portion of the thus supplied condensate is flashed into the gas phase substantially at atmospheric pressure and escapes from the open top end of said tube into said chamber and a second portion of the thus supplied condensate is correspondingly cooled to said relatively low temperature condition and said relatively higher density to provide cooled liquefied product that falls through said tube to produce a flow of the thus cooled liquefied product downwardly through said tube and from the lower portion thereof and via said passages over said bottom wall so as to induce circulation of the liquefied product and upwardly therein and toward the surface thereof adjacent to said chamber, thereby to minimize stagnant pockets of the contained body of liquefied product having a temperature condition substantially above said relatively low temperature condition.



3,196,624

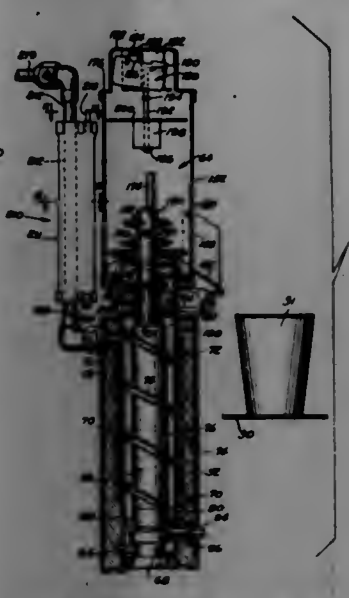
METHOD AND APPARATUS FOR MAKING, STORING OR DISPENSING ICE CUBES

Donald S. Reynolds, Wilmette, Ill., assignor, by mesne assignments, to Reynolds Products, Inc., Arlington Heights, Ill., a corporation of Illinois

Filed June 29, 1961, Ser. No. 120,574

20 Claims. (Cl. 62—71)

8. An ice cube making machine comprising mechanism for producing flaked ice and having a flaked ice outlet therefor, an extruding head positioned adjacent to said flaked ice outlet and having an ice compressing and ice shaping passage therethrough, feed mechanism for moving flaked ice from said outlet of said flaked ice mechanism into and through said ice passage in said extruding head, an ice blocking member driven by said feed mechanism for periodically substantially blocking the outlet of said ice passage to compress and to congeal the particles of flaked ice therein to form in said ice passage a rod of compact and coherent ice, and an ice cutter driven by said feed mechanism for breaking the rod of compact and coherent ice into individual compact and coherent ice cubes as the rod issues from said ice passage.



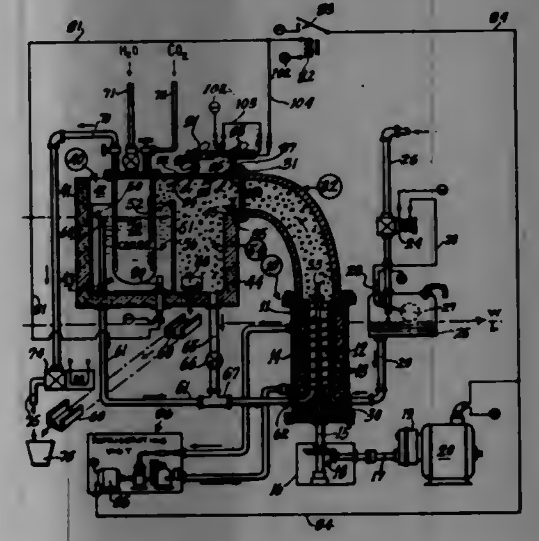
3,196,625

COMBINATION ICE CHIP MAKER-DISPENSER AND METHOD

Frank G. Nicolaus, Chicago, Ill., assignor, by mesne assignments, to Lion Manufacturing Corporation

Filed July 16, 1962, Ser. No. 209,828

14 Claims. (Cl. 62—71)



7. A method for preparing and storing chipped ice for injection in beverages and also for heat transfer and area cooling in a beverage vending machine, said method comprising the freezing of a thin film of water on the inside wall of a refrigerated cylinder, scraping ice from said wall by means employing a driven unidirectional scraper driving said ice along a feed path, directing the driven ice from said path into a first storage compartment at an upper level therein constituting a topping level, confining a water bath in a tank disposed in heat-exchanging contact with ice in said compartment, providing an ice spillway into the bath in adjacency to said compartment and at the said topping level along a line of progress of ice directed into the compartment as aforesaid, whereby ice is injected into the bath to cool the same, and controlling the operation of said driven ice scraper in accordance with a predetermined desired temperature in the bath.

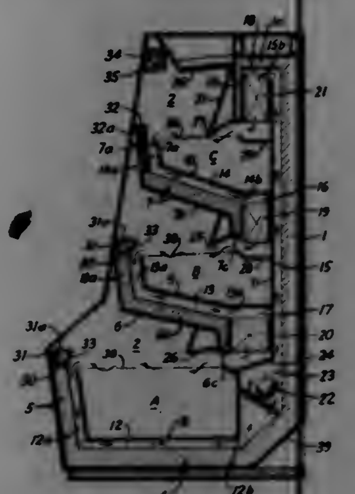
3,196,626
MULTI-TIERED OPEN BIN REFRIGERATED SHOWCASES AND IN METHOD OF REFRIGERATING PERTAINING THERETO

Martin Gabler, Eichmuhle, Bad Tolz, Upper Bavaria, Germany

Filed Oct. 17, 1963, Ser. No. 316,877

Claims priority, application Germany, Oct. 24, 1962, G 26,787; Nov. 9, 1962, G 36,360

12 Claims. (Cl. 62—89)



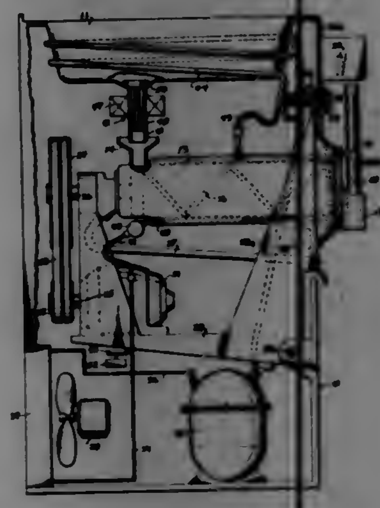
1. In the method of refrigerating by recirculation of air the contents of open bins of a showcase in which bins are arranged one above another, the steps of syphoning air at a certain volumetric rate from one elevated bin into the next lower bin by increasing the density of the air being syphoned by refrigeration at a point between the levels of the bins; withdrawing at substantially the same rate air from the lower bin and elevating such withdrawn air by imparting mechanical kinetic energy thereto; refrigerating the air at a zone above the level of the lowest bin; and then discharging the last refrigerated air into an elevated bin at said certain rate.

3,196,627
AUTOMATIC MIX FEED SYSTEM FOR DISPENSING FREEZERS

Harvey F. Swenson, Seattle, Wash., assignor to Sweden Freezer Manufacturing Co., Seattle, Wash., a corporation of Washington

Filed May 3, 1962, Ser. No. 192,200

8 Claims. (Cl. 62—136)



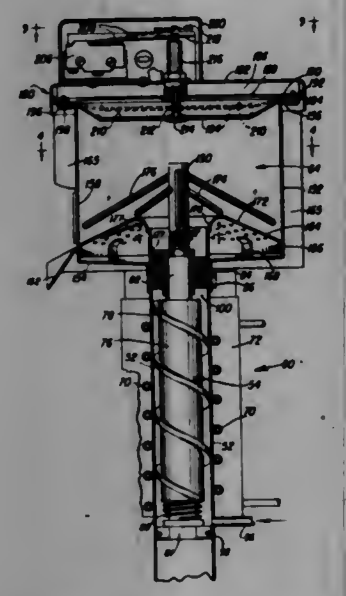
1. In a dispensing freezer, a cradle assembly including a freezing cylinder which has an inlet for liquid product and a gate-controlled outlet for discharging frozen product, a motor-driven rotary dasher in said cylinder exerting a torque, means for mounting said cradle assembly for swinging movement relative to a swing axis which is parallel to the plane in which said torque is exerted and offset from the center of gravity of said cradle assembly, means yieldingly resisting said swinging movement, and means for supplying liquid product to said inlet when said cradle assembly has swung a predetermined amount responsive to a respective weight reduction in cylinder contents below a given amount as a consequence of dispensing frozen product from said outlet.

3,196,628
ICE MAKING AND DISPENSING MACHINE

Donald S. Reynolds, Wilmette, Ill., assignor to Reynolds Products, Inc., Rolling Meadows, Ill., a corporation of Illinois

Filed June 10, 1963, Ser. No. 286,717

13 Claims. (Cl. 62—137)



1. An ice cube making machine comprising an upstanding cylindrical freezing chamber having an outlet at the upper end thereof, means for supplying water to said freezing chamber, means for cooling said freezing chamber, an upstanding auger in said freezing chamber for scraping flaked ice therefrom and for delivering the flaked ice to said outlet, an extruding head positioned above and spaced from the upper end of said auger and having a plurality of ice compressing and ice shaping passages therethrough, drive mechanism for operating said auger to force the flaked ice from said outlet into and through said ice passages, and an ice cutter mounted on said auger for rotation therewith and disposed immediately above and slightly spaced from the upper end of said extruding head and said ice passages therethrough, the radial extent of said ice cutter being such as to block each ice passage for at least about 90° rotation of said auger sequentially to form in said ice passages rods of compact and coherent ice and thereafter sequentially to break the rods of ice into individual compact and coherent ice cubes as the rods issue from said ice passages.

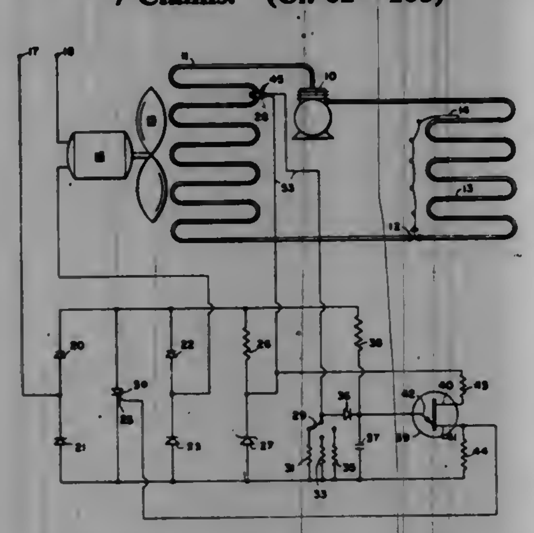
10. A combination ice cube making and dispensing machine comprising, a housing having a dispensing spout extending therefrom, an ice cube making machine disposed in the lower portion of said housing and having an outlet at the upper end thereof, an ice cube storage hopper in the upper portion of said housing and having an inlet in the lower end thereof communicating with said outlet and having a discharge opening communicating with said spout, a cover for the upper end of said storage hopper, ice level control mechanism on the upper surface of said cover and a flexible and resilient diaphragm on the lower surface of said cover completely covering the upper end of said hopper to provide insulation therefor and to protect said ice level control mechanism mounted on said cover from the moisture and ice within said hopper, said ice level control mechanism permitting operation of said ice cube making machine only when the level of ice cubes in said hopper is within predetermined limits, a door for said opening movable between a normally closed position and an open dispensing position, and a control member mounted on said housing adjacent to said spout for controlling the movement of said door and movable between a door closing position and a door opening position, said control member being movable to said door opening position upon the placement of a container thereagainst and beneath said spout for causing the dispensing of ice from said hopper through said opening and said spout into the associated container contacting said control member.

3,196,629
REFRIGERATION HEAD PRESSURE CONTROL SYSTEMS

Russell E. Wood, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed June 1, 1964, Ser. No. 371,262

7 Claims. (Cl. 62—183)



1. A refrigeration system comprising a compressor, a condenser, an evaporator, and a refrigerant metering device connected to provide refrigeration; a fan arranged for passing air over said condenser to condense refrigerant therein; a fan motor arranged to drive said fan, switch means arranged to control the passage of current through said fan motor, said switch including actuating means to actuate said switch to a conducting state; temperature responsive means disposed in heat exchange relation with said condenser; means providing to said actuating means a control signal which is a function of time and sensed temperature to periodically actuate said switch to a conducting state; and means to periodically actuate said switch to a non-conducting state, so as to limit the effective power supplied to said motor to a value which results in a fan speed which provides at least a predetermined desired minimum condenser temperature.

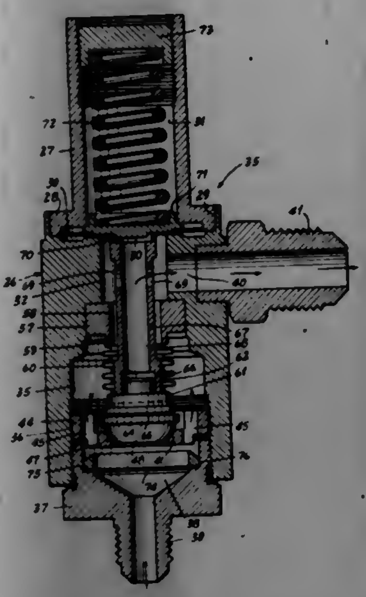
3,196,630
CONSTANT HORSEPOWER CONTROL VALVE

William J. Barbier, St. Louis, Mo., assignor to Alco Valve Company, St. Louis, Mo., a corporation of Missouri

Filed July 31, 1961, Ser. No. 128,191

5 Claims. (Cl. 62—197)

1. In a refrigeration system of the type having a compressor, a condenser, an expansion device and an evaporator piped in series, with a sensing bulb connected to the expansion device and positioned downstream of the evaporator, a pilot valve comprising a valve housing having an inlet port connected upstream of the evaporator and an outlet port connected downstream of the evaporator, a partition within the housing separating its interior into two chambers, an orifice through the partition through which refrigerant fluid can flow, the partition defining a planar face immediately adjacent the edge of the orifice, a member movable relative to the orifice for alternately throttling and opening the orifice, the member having a planar face on it opposite the planar face of the partition, and means for automatically maintaining the face of the member substantially parallel to the face of the partition, having a body portion defining a portion of the sphere, and means defining a seat within which the body portion protrudes with a spring for adjusting the position of the body portion within the seat to maintain the aforesaid parallel relationship.

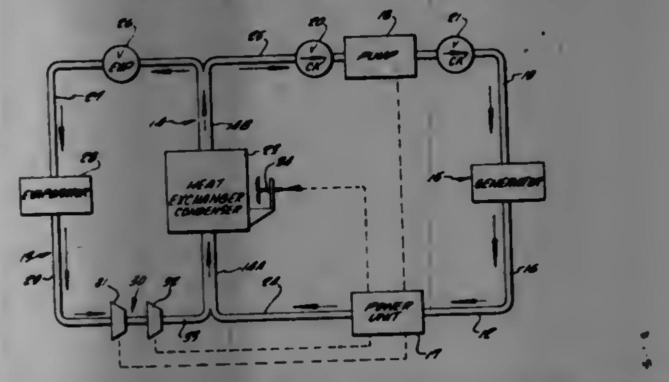


3,196,631
PORTABLE REFRIGERATION CHEST

Kenneth D. Holland, 707 Brooktree Road, Pacific Palisades, Calif.

Filed June 25, 1962, Ser. No. 204,989

1 Claim. (Cl. 62—238)



A system for a refrigerating apparatus having power and refrigerating loops for flow of a single circulating medium having gaseous and liquid phases, each of the power and refrigerating loops having a circulating medium flow path common to the other loop, the system comprising,

(a) heat input means in the power loop for changing the circulating medium from the liquid phase to the gaseous phase and having a circulating medium inlet and a circulating medium outlet,

(b) a power unit in the power loop having a circulating medium inlet and an outlet and connected to the outlet of the power loop heat input means,

(c) a circulating medium pump means in the power loop discharging to the inlet of the power loop heat input means and operatively connected to the power unit,

(d) a heat exchanger for changing the circulating medium from the gaseous phase to the liquid phase having a circulating medium inlet connected in fluid flow relation to the outlet of the power unit and a circulating medium outlet, the outlet of the heat exchanger being connected in fluid flow relation to the pump means,

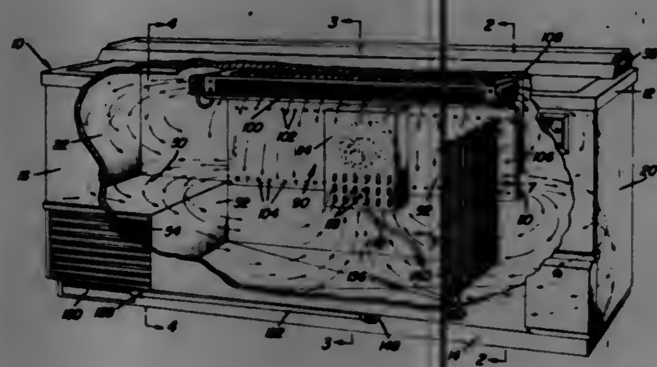
(e) circulating medium liquid phase expansion and evaporator means in the refrigerating loop for changing the circulating medium from the liquid phase

to the gaseous phase connected in fluid flow relation to the outlet of the heat exchanger, and
(f) a gaseous phase compressor means having an inlet and an outlet in the refrigerating loop and operatively connected to the power unit, the compressor means inlet being connected in fluid flow relation to the expansion and evaporator means, the compressor means outlet being connected in fluid flow relation to the inlet of the heat exchanger,
(g) the power unit comprising
  (1) housing defining a central elongate cavity therein,
  (2) first and second pairs of oppositely disposed bores in the housing extending from the cavity to closed ends spaced from the cavity,
  (3) a beam member disposed longitudinally of the cavity,
  (4) a plurality of pistons connected to the beam member, each of said pistons extending from the beam member into reciprocal engagement with one of the bores of the first and second pairs of bores,
  (5) compressed gas inlet and outlet ducts to and from the housing adjacent each of the ones of the first pair of bores,
    said ducts communicating with the bores of the first pair at the closed ends thereof,
    the inlet ducts being connected to the outlet of the power loop heat input means,
  (6) valving means in said compressed gas ducts for alternating the communication of said first bores between the compressed gas inlet and outlet ducts, one of the first bores communicating with its associated inlet duct when the other of the first bores communicates with its associated outlet duct,
  (7) first fluid duct means communicating with the second pair of bores and connected to the outlet of the expansion and evaporator means, and
  (8) second fluid duct means communicating with the second pair of bores and connected to the inlet of the heat exchanger,

whereby said alternating communication of the compressed gas inlet and outlet ducts with the bores of the first pair reciprocates the beam member laterally of the cavity, and whereby the second pair of bores and the pistons therein comprise the compressor means in the refrigerating loop.

3,196,632
REFRIGERATED CABINET

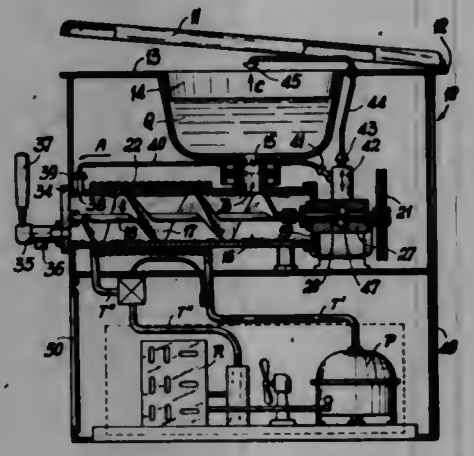
Herman L. Buffington, P.O. Box 19[illegible]1, Spartanburg, S.C.
Filed Dec. 30, 1963, Ser. No. 334,225
10 Claims. (Cl. 62—281)



1. A refrigerator comprising a cabinet including top, bottom, side and end walls defining a cooling chamber therein together with a refrigeration machinery compartment separated from said cooling chamber, a mechanical refrigerating system housed within said cabinet, said refrigerating system including an evaporator unit mounted within the top portion of said cooling chamber and refrigeration machinery enclosed in said compartment in the lower portion of said cabinet, air circulating means in said cabinet comprising a housing mounted in the upper portion of said cooling chamber, said housing enclosing said evaporator unit and extending along one of said side walls, and having an air inlet opening, an air inlet duct establishing communication from said cooling chamber into said housing through said air inlet opening for effecting chilling of air by said evaporator unit, an impeller mounted in said air inlet duct, said housing having vertically and longitudinally spaced air outlet ports discharging air horizontally from said housing both longitudinally and transversely of said cooling chamber, an air inlet duct mounted on said housing and surrounding said inlet opening, said duct having a downwardly opening inlet end extending centrally of said cooling chamber and below the mid-portion thereof together with inlet ports in said duct at said inlet end opening horizontally through the sides of said duct both longitudinally and transversely of said cooling chamber and substantially midway of the vertical height of the latter.

3,196,633
ICE CREAM FREEZER AND DISPENSER

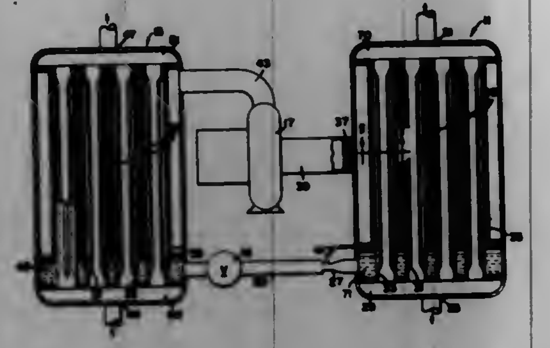
Silvano Rapazzini and Alberto Cipelletti, both of 23 Via Imbonati, Milan, Italy
Filed Dec. 20, 1962, Ser. No. 246,268
Claims priority, application Italy, Dec. 23, 1961, 23,183/61
13 Claims. (Cl. 62—342)



1. In a continuous operating ice cream freezer and dispenser device including a refrigerated freezing and processing chamber having a fore portion associated with ice cream dispensing means and a rear portion, a supply means located above said chamber and communicating with said rear portion thereof for supplying a liquid mix thereto, and rotary means having helical components, supported and driven in said chamber for beating the said mix into a pasty material and for progressing and urging said material from said rear portion towards and into said fore portion and outside said ice cream dispensing means, the improvement including a source of pressurized air communicating only with said fore portion closely adjacent to said dispensing means for supplying to the material in said fore portion of said chamber air at a rate largely in excess of the amount required for emulsifying said pasty material into a foamy ice cream to be dispensed therefrom, and to cause thereby the excess of the said air to flow rearwardly through the chamber to be cooled by contact with said refrigerated chamber and the material therein, to escape from said chamber through the rear portion thereof and to bubble through the said liquid mix in said supply vat for refrigerating said liquid mix.

3,196,634
REFRIGERATION SYSTEM

Donald G. Rich, Fayetteville, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed Mar. 29, 1963, Ser. No. 268,902
5 Claims. (Cl. 62—394)

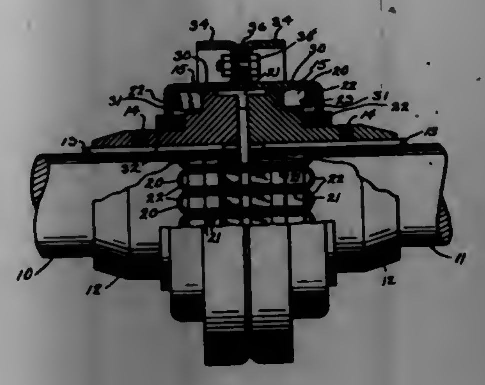


1. In a refrigeration system, a heat exchanger for promoting heat transfer between refrigerant in said refrigeration system and another fluid medium, said heat exchanger comprising:
  (1) a shell adapted to contain refrigerant vapor;
  (2) a plurality of heat exchange tubes disposed within said shell, each of said heat exchange tubes comprising;
    (a) a relative impervious, hollow, tubular, heat conducting, metal interior member,
    (b) a relatively porous tubular, heat conducting metal, exterior member,
    (c) one of said members being formed with a plurality of spaced, continuous indentations extending along the axis of said heat exchange tube, and forming with the other of said members a plurality of axially extending, spaced, continuous refrigerant channels having a porous wall portion, and
    (d) said interior and exterior members being secured to each other, in heat exchange relation with each other, in the regions between said spaced refrigerant channels by an axially extending relatively low resistance thermal and mechanical bond;
  (3) a first fluid header in communication with the hollow interior of said relatively impervious interior members of said heat exchange tubes adjacent one end thereof, and a second fluid header in communication with the hollow interior of said relatively impervious interior members of said heat exchange tubes, adjacent the other end thereof, for passing said other heat exchange medium through said plurality of heat exchange tubes;
  (4) a third fluid header disposed in communication with said channels formed in said heat exchange tubes for passage of liquid refrigerant in said refrigeration system.

3,196,635
COUPLING

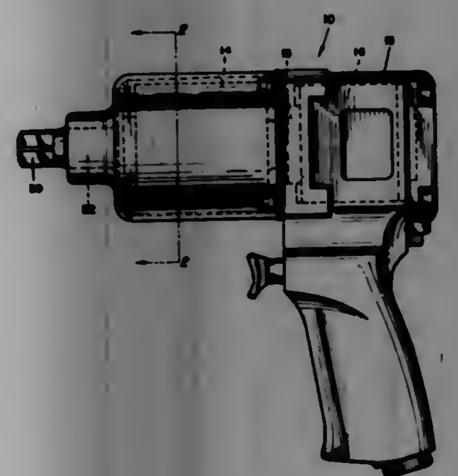
Walter P. Schmitter, deceased, late of Wauwatosa, Wis., by A. Louise Schmitter, Wauwatosa, Wis., and Robert V. Abendroth, Whitefish Bay, Wis., co-executors, assignors to The Falk Corporation, Milwaukee, Wis., a corporation of Wisconsin
Filed Jan. 7, 1963, Ser. No. 249,947
9 Claims. (Cl. 64—15)

1. In a flexible coupling including a pair of axially disposed coupling members each having peripherally spaced teeth defining axially directed peripheral grooves therebetween, the grooves and teeth of one coupling member normally aligning with those of the other coupling member; the combination therewith of a plurality of continuous closed loop spring grid elements operatively connecting said coupling members with adjacent pairs of said grid elements having adjacent leg portions thereof disposed in abutting complementary relation in respective grooves of said coupling members, each of said grid elements surrounding a respective pair of the aligned teeth of said coupling members.



3,196,636
SEALING DEVICE FOR POWER TOOL

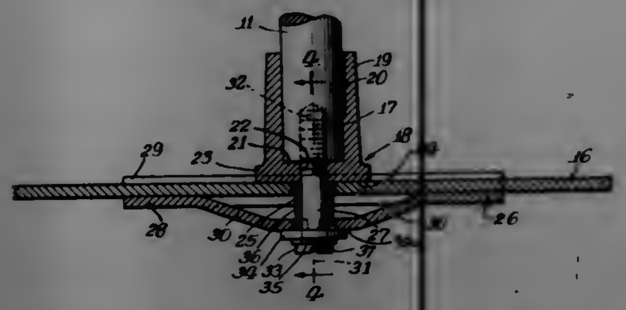
Donald R. Piatt, Bernardsville, N.J., and Christopher K. Brown, Camp Hill, Pa., assignors to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed May 15, 1963, Ser. No. 280,647
9 Claims. (Cl. 64—26)



1. A sealing device for an impulse tool for applying a predetermined torque to an object and having a housing means adapted to contain a fluid, spindle means in said housing means and in said fluid and drive means operatively associated with one of said housing means and said spindle means for causing relative rotary movement between said housing means and said spindle means, the other of said housing means and said spindle means being adapted to engage said object, said sealing device comprising:
  (a) land means disposed on said housing means and
  (b) a through type spindle blade in said spindle means and engageable with said land means once during each revolution of said relative rotary movement to dynamically seal off a portion of said fluid so that the pressure in said portion increases thereby causing the other of said housing means and said spindle means to rotate with respect to said one and to apply a torque to said object,
  (c) one of the land means and the spindle blade being disposed in spaced relationship from an axis of symmetry of said housing means and a longitudinal axis of said spindle means, respectively.

3,196,637
SLIP CLUTCH

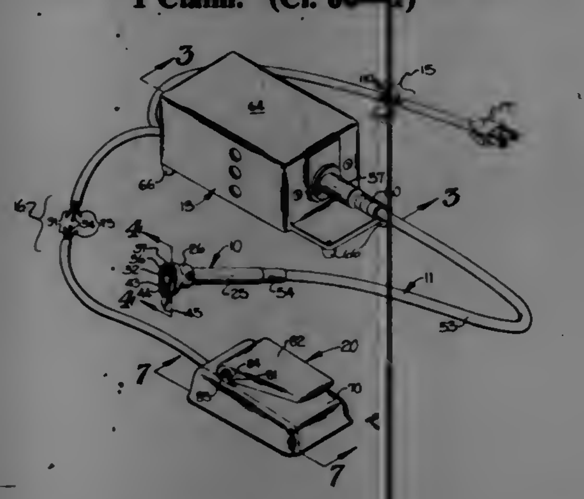
John A. Orr, Sr., Chicago, Ill., assignor to J. A. Orr Company, Inc., a corporation of Illinois
Filed July 9, 1963, Ser. No. 293,624
7 Claims. (Cl. 64—[illegible]0)



1. Structure for yieldably mounting an elongated blade having a central opening on one end of a rotatable shaft, comprising: an elongate channel having a web, spaced side flanges, and a pair of opposed, spaced spring fingers extending from said web to adjacent the perpendicular centerline of the web, said channel being arranged to receive the blade therein with the blade ends projecting substantially from the opposite ends of the channel and the central opening of the blade aligned with said perpendicular centerline of the web; an adapter arranged to be fixed to the end of the shaft, said adapter having an axial opening; a bolt extending through the space between said fingers, the blade opening, and the adapter opening and having a first end portion arranged to be coaxially secured to the rotatable shaft end and an opposite end portion; force applying means associated with said opposite end portion engaging said opposed spring fingers to urge the channel toward said first end of the bolt and thereby urge the blade carried in said channel into frictional engagement with said adapter; and an annular spacer concentrically around the bolt and extending axially outwardly from the adapter to limit the movement of said force applying means toward said adapter to limit the force of frictional engagement between the blade and the adapter to a preselected value.

3,196,638
REVERSIBLE ROTARY HOSIERY MENDING APPARATUS

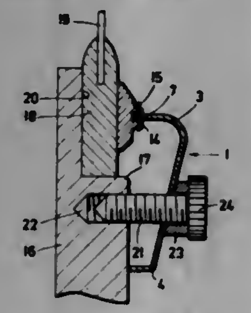
Stanford Marley, 37—28 80th St., Jackson Heights, N.Y.
Filed Aug. 8, 1961, Ser. No. 130,088
1 Claim. (Cl. 66—1)



Apparatus for restoring pulled threads in knitted fabric comprising, in combination with a shaft, a hub on said shaft, supporting means in which said shaft is journaled, a work-engaging element carried by said hub, and a reversible electric motor operatively connected to said shaft; a foot-operated switch including an armature, a foot-pedal operatively connected to said armature and being progressively movable unidirectionally from one position to another position, first and second contact means successively and independently engageable by said armature with movement of said foot-pedal from said one position to said other position, said first and second contact means being electrically connected to opposite sides of said motor in parallel relationship and being in series with said armature, a source of electric power for said motor, and circuit means electrically connecting said armature in series with said power source, whereby said armature effects rotation of said motor and of said hub in one direction when said foot-pedal is partially moved from said one position to said other position and effects rotation of said motor and of said hub in the opposite direction upon further movement of said foot-pedal towards said other position.

3,196,639
NEEDLE LEAD FASTENING DEVICE FOR WARP KNITTING MACHINES

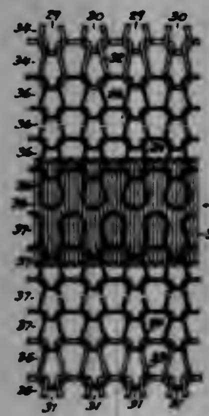
Josef Zebisch, Grabenstrasse 2, Obertshausen, Germany
Filed Oct. 15, 1963, Ser. No. 316,260
Claims priority, application Germany, Oct. 19, 1962, M 42,778
10 Claims. (Cl. 66—114)



1. In a knitting machine, in combination:
(a) a needle bar;
(b) needle lead means movable on said needle bar in a predetermined direction;
(c) a plate member;
(d) fastening means for fastening said plate member to said needle bar in predetermined spatial relationship; and
(e) a shoe member hingedly secured to said plate member and abuttingly engaging said needle lead means for urging the same toward said needle bar transversely of said direction when said plate member is in said spatial relationship to said needle bar.

3,196,640
HOSIERY

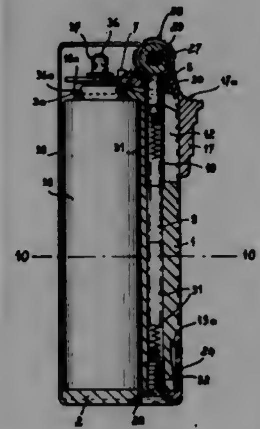
Harold Louis Hanisch, Fond du Lac, Wis., assignor to Infants Socks Incorporated, Fond du Lac, Wis., a corporation of Delaware
Filed June 21, 1962, Ser. No. 204,147
5 Claims. (Cl. 66—172)



1. Hosiery having a tubular rib knit top portion peripherally joined to a tubular plain knit leg portion by a coursewise extending seam enclosing terminal courses of said portions therein and wherein at least one of said portions is provided with a terminal area knit of relatively extensible yarn with the area adjacent thereto knit of relatively non-extensible yarn, the said terminal area comprising the courses thereof enclosed in said seam and an additional plurality of courses of said relatively extensible yarn between said adjacent area and said seam, the said seam having its sewing stitches so arranged as to extend through each wale of said enclosed course.

3,196,641
GAS LIGHTER

Henri Louis Raymond Genoud, Lyon, France, assignor to Etablissements Genoud & Cie., a company of France
Filed May 22, 1963, Ser. No. 282,323
Claims priority, application France, Jan. 8, 1963, 43,197, Patent 1,352,928
4 Claims. (Cl. 67—7.1)

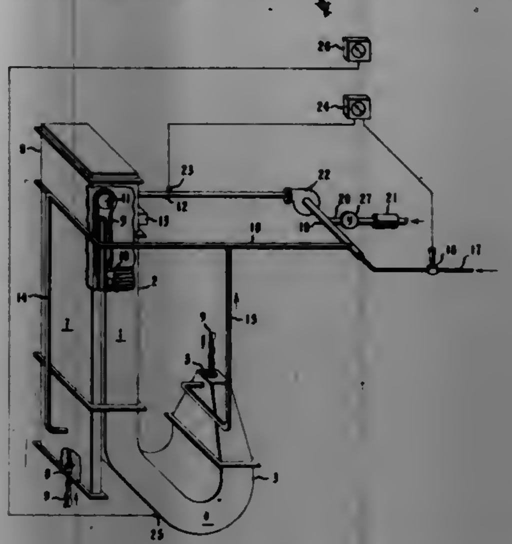


1. A gas lighter comprising a U-shaped body of molded plastic material including an elongated vertical web having a longitudinal channel, an upper perforated flange, and a lower flange, a fuel container fitted between the two flanges of the body and engaging the web of the body, valve means on and closing the container and including a stem projecting upwardly through the perforation in the upper flange of the body, a knurled wheel revolvably carried by the body in horizontal registry with the location of the valve means a valve controlling lever pivotally carried by the body and extending underneath the wheel, means for supporting a flint within the web of the body registering with the wheel and including a spring in said channel in the body of the web, and a screw screwed into the web of the body at an end remote from the flint, a U-shaped sheath slidingly fitted over the container and including flanges which engage the web of said U-shaped body, and a locking member of molded plastic material including perpendicular flanges, one flange detachably holding the flanges of the sheath over the web of the body and the other flange secured between the screw head and the body.

3,196,642
APPARATUS FOR THE CONTROLLED HEATING OF FABRICS WITH AN AIR/STEAM HEATING MEDIUM

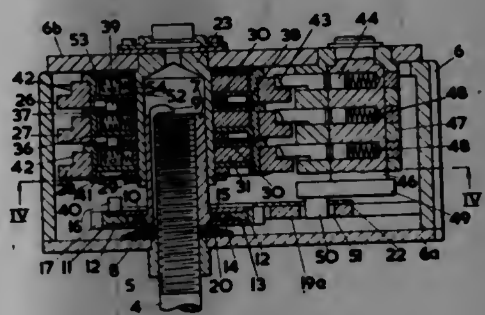
Hugh D. Terhune, Wilmington, and Harold F. Porter, Hockessin, Del., and James L. Moore, Charlotte, N.C., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Dec. 31, 1962, Ser. No. 248,332
6 Claims. (Cl. 68—5)

1. Apparatus for continuously heating textile fabric preimpregnated with a treating liquid and for temporarily storing the heated fabric therein, said apparatus comprising a substantially closed J-box and means to continuously advance a strand of fabric therethrough, said J-box including a fabric heating zone having a fabric entrance port and a fabric storage zone having a fabric exit port, means to supply an air/steam heating medium directly to said heating zone and the fabric advancing therethrough, said fabric storage zone being utilized to temporarily store said heated fabric in a compact mass, conduit means and circulating means for said heating medium, said conduit means extending from said circulating means to said heating zone and from said heating zone to said circulating means, and means for continuously supplying a controlled amount of steam to said heating medium in said conduit means.



3,196,643
PERMUTATION LOCKS

Leslie Robert Moss, London, England, assignor to National Research Development Corporation, London, England
Filed May 28, 1963, Ser. No. 283,766
Claims priority, application Great Britain, May 31, 1962, 20,998/62
12 Claims. (Cl. 70—133)



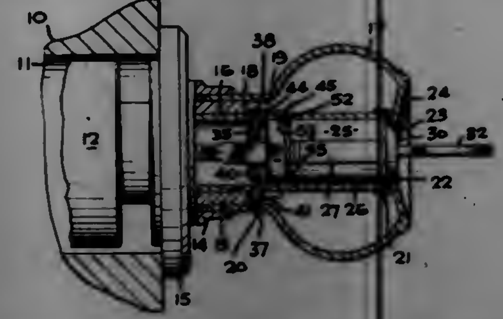
2. A permutation lock comprising a bolt, a bolt actuating means, at least one cylinder lock including a rotary barrel and axially slidable pins located radially of said barrel, at least one permutation disc for controlling the cylinder locks, a rotary and axially movable dial and a drive wheel movable with said dial, said drive wheel being movable into a position to operate the permutation discs only and into a position to operate the bolt actuating means only.

3,196,644
SPINDLE DEVICE FOR RELEASABLY RETAINING A LOCKING MECHANISM ASSEMBLY

Fred J. Russell, 3800 Don Felipe Drive, Los Angeles, Calif., Joseph D. Witt, Whittier, and Roger J. Nolin, Monterey Park, Calif.; said Witt and said Nolin assignors to said Russell
Filed Nov. 29, 1962, Ser. No. 240,986
10 Claims. (Cl. 70—224)

5. In a lock comprising a hand hold, a tubular spindle, a lock operating mechanism mounted within the spindle, a keeper means movably mounted on the spindle, a shoulder on the lock operating mechanism, said spindle having a hole in alignment with said shoulder, said hand hold and said spindle having aligned openings, a portion of said keeper means extending through said hole in releasable engagement with said shoulder and another portion of said keeper means extending through said aligned

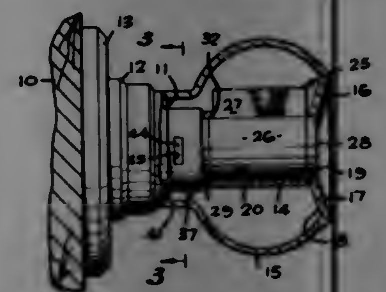
openings, said keeper means being movable between positions alternatively of engagement and disengagement with said shoulder whereby to hold said lock operating mecha-



nism in place in the spindle and in the alternative to release said lock operating mechanism for removal from the spindle.

3,196,645
COMBINATION KEY-OPERATED MECHANISM AND HAND-HOLD FACE SUPPORT

Fred J. Russell, 3800 Don Felipe Drive,
Los Angeles, Calif.
Filed Dec. 11, 1962, Ser. No. 243,763
3 Claims. (Cl. 70—224)

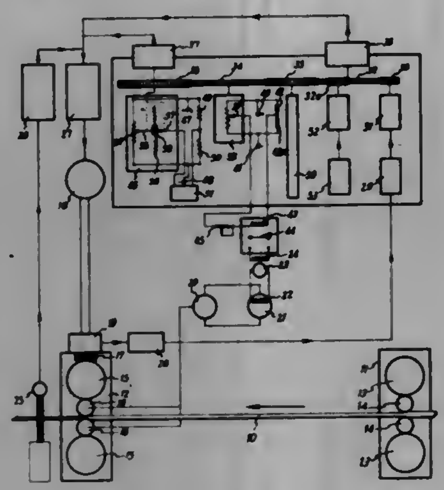


1. In a door lock a hub, a spindle mounted in the hub, a hand-hold having a neck spaced from and in nonrotatable relationship with the spindle and rotatably supported upon said hub to form an inner stabilizing support for the hand-hold, a face portion of the hand-hold having an opening in alignment with the spindle and a key-operated mechanism releasably attached to said spindle, said key-operated mechanism comprising a casing mounted within the outer portion of the spindle, and a cylinder plug rotatably mounted in said casing, said key-operated mechanism having an outer end extending outwardly beyond the spindle and slidably into said opening in said face portion from the inner side thereof, said outer end being in supporting relationship with said face portion and providing thereby an outer stabilizing support for the hand-hold at its face end.

3,196,646
METHOD AND APPARATUS FOR MAINTAINING SUBSTANTIALLY CONSTANT STRIP GAUGE IN A TANDEM MILL

Harry Eugene Brys, Butler, Pa., assignor to Armco Steel Corporation, Middletown, Ohio, a corporation of Ohio
Filed Oct. 30, 1961, Ser. No. 148,680
10 Claims. (Cl. 72—9)

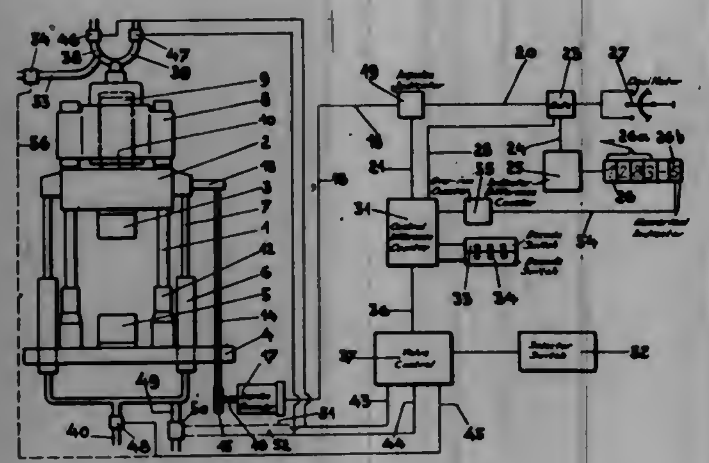
1. In a strip rolling mill comprising at least two mill stands having screw-down mechanisms and mill drive motors, through which the strip passes in being rolled, a gauge disposed to sense the thickness of the strip issuing from one of the mill stands and to produce a qualitative electrical signal upon deviation of the strip thickness from a predetermined gauge, at least one of said mill stands being a control stand, means for causing said qualitative signal to initiate operation of said screw-down mechanism of said control stand in the appropriate direction to correct said deviation, a speed control for the mill drive motor of said control stand, an operative connection between said screw-down mechanism and said speed control, whereby said speed control is actuated in the appropriate direction concurrently with said screw-down mechanism to compensate for change in tension on the strip between said mill stands which would otherwise be produced by said screw-down operation, means for measuring the amount of movement of said screw-down



mechanism, means actuated by said measuring means for interrupting operation of said screw-down mechanism after a predetermined amount of movement irrespective of completion of the correction, and an operative connection between said screw-down mechanism and said measuring means.

3,196,647
CONTROL OF HYDRAULIC FORGING PRESSES

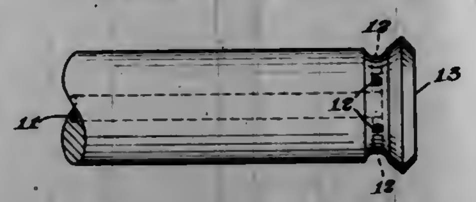
Ralf Schneider, Dusseldorf-Ratingen, Germany, assignor to Schloemann Aktiengesellschaft, Dusseldorf, Germany
Filed July 14, 1961, Ser. No. 124,191
Claims priority, application Germany, July 21, 1960, Sch 28,200
4 Claims. (Cl. 72—21)



1. A hydraulic forging press, comprising: an upper die and a lower die between which work-pieces are forged, pistons and cylinders for raising and lowering the upper die, valves controlling the admission of pressure liquid and filling liquid to the said cylinders and the discharge of liquid therefrom, an impulse-generator actuated by the movements of the upper die and adapted to deliver positive and negative impulses according to the magnitude and direction of such movements, an oscillator adapted to furnish positive and negative impulses controllable at will, a control difference counter connected with the impulse-generator and with the oscillator so as to receive impulses from both of them, and, by known digital and switching technique, to deliver switching signals, a valve control actuated by switching signals received from the control difference counter and adapted to open and close the valves of the hydraulic press in accordance with such signals.

3,196,648
IMPACT EXTRUSION PROCESS

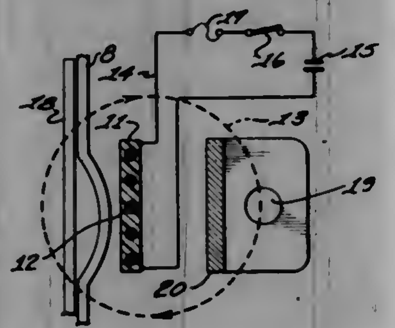
Martin A. Molnar, Sanford, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Apr. 30, 1962, Ser. No. 190,933
2 Claims. (Cl. 72—38)



1. In an impact extrusion process for producing thin-walled extrusions which comprises positioning a blank at the die face of an impact extruder and advancing a punch mating with said die against said blank thereby to deform and extrude said blank in accordance with the shape of said punch and die, said punch having a center passage extending part way therethrough, said center passage connected to outward extending passages which exit from the wall of said punch behind the head of said punch, the improvement which consists essentially of passing a pressurized gas flow through the interior of said punch, said gas flow exiting from said punch at the side wall behind the head of said punch, said gas flow being at a pressure so as to provide a gas cushion between the side wall of the punch and the blank being formed and said gas cushion not undergoing detrimental reaction with the extruder and blank being formed, initiating said pressurized gas flow prior to the time the punch head contacts said blank being formed and continuing said pressurized gas flow at least through said forming cycle.

3,196,649
DEVICES FOR METAL-FORMING BY MAGNETIC TENSION

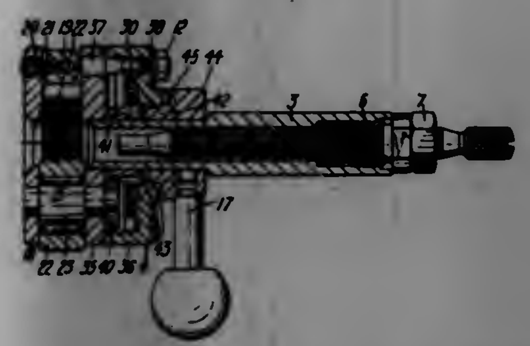
Harold P. Furth, Berkeley, Calif., assignor to Advanced Kinetics, Inc., Costa Mesa, Calif., a corporation of California
Filed Feb. 16, 1962, Ser. No. 173,680
6 Claims. (Cl. 72—56)



1. In a device for forming metal by magnetic pressure,
energy source means for generating a slowly rising current,
a first conductor responsively connected to said energy source means to provide a slowly rising magnetic field corresponding to said slowly rising current,
an electrically conductive metal work piece positioned within said magnetic field to have a current induced therein corresponding to said slowly rising magnetic field,
a second conductor positioned within said magnetic field,
means for disconnecting said first conductor from said energy source, said magnetic field collapsing when said first conductor is disconnected from said energy source,
said collapsing magnetic field inducing currents in said metal work piece and said second conductor which interact with said magnetic field to create magnetic pressure on said work piece.

3,196,650
SELF-OPENING THREAD ROLLING HEAD

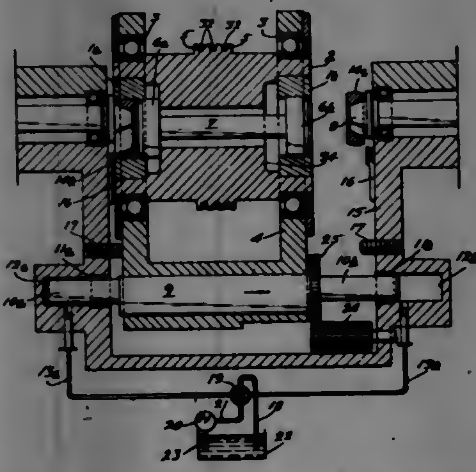
Werner Kruse, Schwarzenbek, near Hamburg, Germany, assignor to Wilhelm Fette Prazisionswerkzeug-Fabrik, Hamburg, Germany
Filed June 14, 1961, Ser. No. 117,179
Claims priority, application Germany, July 9, 1960, F 31,265; Dec. 1, 1960, F 32,667
1 Claim. (Cl. 72—67)



A self-threading rolling head comprising a housing in which freely rotatable threading rollers are concentrically arranged around the axis of said head, eccentric spindles supporting said rollers, gear members on said spindles, a hollow shank portion adapted to support said head and for mounting in a machine tool, a central gear rotatably mounted on said shank portion and held against axial movement thereon, a stop rod adjustably mounted in said shank for engaging the end of a workpiece after said threading rollers have moved a predetermined distance along said workpiece, a clutch interposed between the housing and said gear, said housing being slidably splined on the end of said hollow shank and secured against rotation relative thereto and said central gear which is engageable with said first named gears being rotatably journaled on the shank and engageable with the housing through said clutch to secure said central gear against rotation, and spring means for rotating said central gear after said clutch has been released when the end of said workpiece engages said stop and moves said head forwardly on the splined portion of said shank to disengage said clutch.

3,196,651
ROLLING MILL FOR RINGS

Gustaf Herman Kärrberg, Tisdagsgat 1, Goteborg, Sweden, and Karl Gustav Einar Derman, St. Angsvagen 15B, Savedalen, Sweden
Filed Dec. 13, 1961, Ser. No. 159,116
Claims priority, application Sweden, Dec. 17, 1960, 12,244/60
12 Claims. (Cl. 72—70)



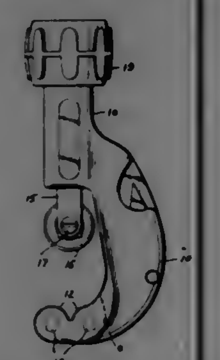
1. In a rolling mill including a frame structure and means mounted in the frame structure for working annular blanks into rolled blanks, a matrix carrier, a pair of spaced apart matrices mounted in said carrier wherein rolling of the blanks is effected, an ejector piston mounted in each matrix, means mounting the pistons and matrix

carrier for relative movement, said pistons being coupled together whereby upon relative movement of the carrier and pistons, one of said pistons is positioned relative to its matrix to accommodate an annular blank for rolling therein and the other piston is positioned relative to its matrix to eject a rolled blank therefrom.

3,196,652

SWAGING BACK-UP ROLLERS

John W. Meese, Avon, Ohio, assignor to The Ridge Tool Company, Elyria, Ohio, a corporation of Ohio
Filed Mar. 4, 1963, Ser. No. 262,685
5 Claims. (Cl. 72—70)

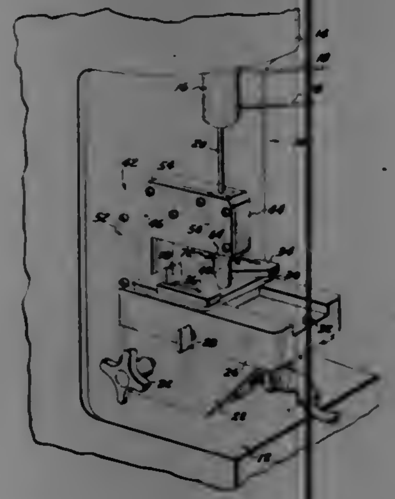


1. A back-up roll for pipe and tubing cutters which have a wedge shaped blade arranged to be forced into the article being cut and to cause displacement of the material of the article in a direction outward of the periphery of the tube comprising a narrow rotatable roller member comprising a hub with an upstanding flange, said flange having a width substantially equal to the metal which will be displaced by the blade with which the roller is to be used, said member being arranged to engage with the article opposite to the place it is being cut and to roll down the material upset by the blade and at least one stabilizing member is disposed to one side of the first member and engages the article laterally of the first member, said first member being held against movement laterally of its axis and said stabilizing member being mounted for movement laterally of its axis.

3,196,653

BALL SIZING MACHINE

George Anthony Gazan, 22050 Telegraph Road, Southfield, Mich.
Filed Mar. 7, 1962, Ser. No. 178,099
2 Claims. (Cl. 72—75)

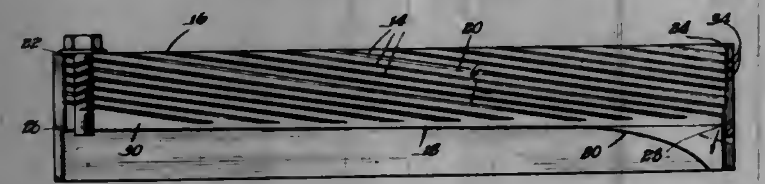


1. A ball sizing machine, comprising: a C-shaped frame member disposed in a vertical position and having a central, generally circular track extending through the frame and terminating at each extremity thereof; spring retaining means associated with the frame at the upper extremity thereof and operative to receive balls expelled from the upper end of the track and to retain such balls, said ball retention means being spring loaded so that downward force exerted on a ball disposed therein is operative to release the ball from the retention means; ram means cooperative with said ball retention means and operative to press a ball through said retention means, through an undersized hole in a workpiece disposed in the gap of the frame, into the lower extremity of said track; a fluid passage associated with the lowest point on said track operative to permit entrance of fluid into said track; an a ball having a diameter substantially equal to the desired diameter of said hole normally disposed within said track.

3,196,654

SCREW ROLLING DIE

Lewis Gordon, Eagle Heights, Elgin, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed June 11, 1962, Ser. No. 201,375
4 Claims. (Cl. 72—88)

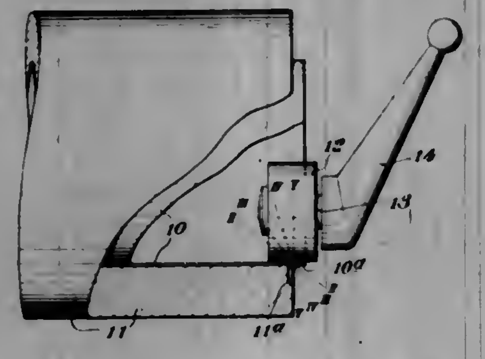


1. A thread rolling die comprising a workpiece engageable face including generally diagonally disposed ribs for forming helical thread convolutions on a workpiece, said ribs extending from adjacent a first longitudinal margin of said face toward a second longitudinal margin of said face, said die being relieved along and laterally outwardly of said second margin from an entering end of the die toward a discharge end of the die for providing a recess and accommodating material of a workpiece projecting laterally of said second margin during a thread rolling operation, and said die including means disposed laterally of said second margin in a direction away from said first margin and traversing said recess for positively engaging said projecting material of the workpiece and breaking said material from the remainder of the workpiece during a thread rolling operation.

3,196,655

LINERS OR SLEEVES FOR ENGINE CYLINDERS AND THE LIKE

Stanley Hedgecock, deceased, late of Wolverhampton, England, by Vivien Janet Hedgecock and John Hedgecock, executors, both of Wolverhampton, England, assignors to Laystall Engineering Company Limited, London, England, a company of Great Britain
Filed Sept. 14, 1962, Ser. No. 257,354
3 Claims. (Cl. 72—101)

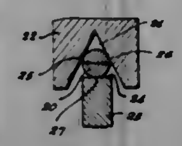


1. Method of manufacturing a cylinder liner, comprising the steps of mounting a metal cylindrical sleeve within rotatable sleeve holding means so that a part of the sleeve to be outflared projects therefrom, bringing an eccentrically mounted roller to bear on the inner surface of the projecting part, rotating the sleeve about its axis, turning said roller about an axis so that the projecting part is outflared to form a flange, and reducing the radius of turning of said roller, as the outflaring progresses until said flange is at right angle to the sleeve axis.

3,196,656

WIRE CONDITIONING APPARATUS

Archibald P. Johnston, 1845 E. 57th St., Los Angeles 58, Calif.
Filed Aug. 6, 1962, Ser. No. 214,878
17 Claims. (Cl. 72—162)

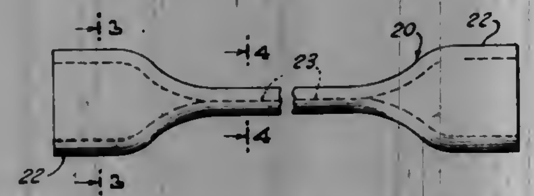


1. A wire conditioning device comprising:
at least one circular groove roll adapted for rotation about a selected axis, said groove roll having an outer peripheral triangular groove extending about the full circumference of said groove roll and adapted to receive a wire to be conditioned;
and a circular, rotatable edge roll for each groove roll, said edge roll having an end face for contacting the wire within said triangular groove, the width of said end face being less than the maximum width of said groove, said edge roll extending into said groove, whereby said end face will contact wire within said groove only at points inward of the outer peripheral edges of said groove roll.

3,196,657

METHOD OF MAKING TUBING

Howard A. Fromson, Rogues Ridge Road, Weston, Conn.
Filed July 16, 1959, Ser. No. 827,628
1 Claim. (Cl. 72—199)



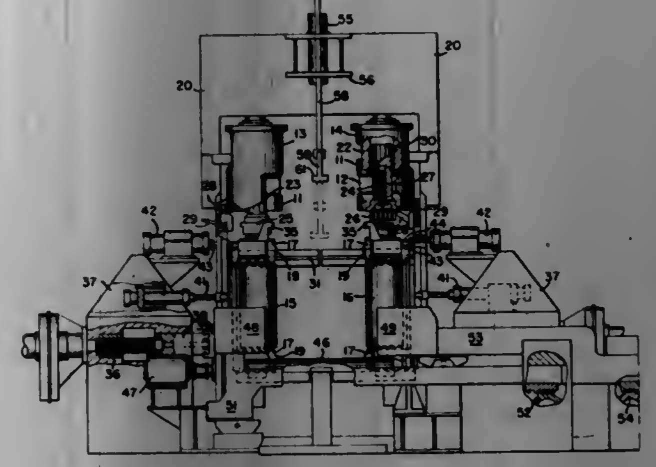
In a method of producing thin-walled metal tubing having integrally connected adjoining segments of different wall thicknesses, the steps which comprise collapsing a segment of a hollow tubular blank to a flattened strip-like form with opposing interior surfaces of said collapsed segment being coated with a weld preventing material. said collapsed segment being integrally connected to an adjoining segment of the blank. and then rolling said collapsed segment of the blank in a lengthwise direction between cylindrical pressure rolls whereby the rolled segment is elongated in length and simultaneously reduced to a constant thickness which is less than twice the wall thickness of the adjoining unrolled segment of the blank. and expanding the formed. collapsed segment of the blank into a hollow tube by separating the opposing interior surfaces thereof.

3,196,658

ROLL CHANGING RIG

Maurice Paul Sieger and James Richard Adair, Pittsburgh, Pa., assignors to United Engineering and Foundry Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed Feb. 25, 1963, Ser. No. 260,612
Claims priority, application Great Britain, Mar. 9, 1962, 9,113/62
11 Claims. (Cl. 72—239)

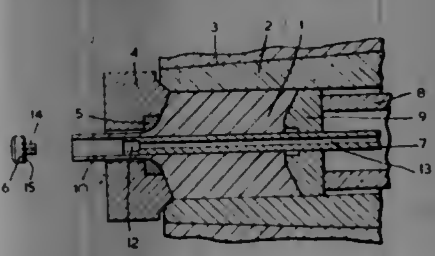
1. An apparatus for changing a roll of a rolling mill comprising:
a table having a plurality of rollers arranged adjacent to said mill for handling workpieces for said mill,
means for rotating said rollers of said table so as to convey a workpiece relative to said mills,
a carriage having means to carry a roll of said mill.
said carriage having a member of a length sufficient to engage simultaneously at least two rollers of said table and being supportable and advanced relative to said mill by said table. and
means for receiving a roll from the mill and for placing it upon said carriage and for removing a roll from said carriage for insertion into said mill.



3,196,659

METHOD OF EXTRUSION OF METALS OF HOLLOW SECTION

John Harper Cairns, Stourton, near Leeds, England, assignor of one-half to Yorkshire Imperial Metals Limited, Stourton, England, a company of Great Britain
Original application Oct. 18, 1962, Ser. No. 231,394, now Patent No. 3,172,536, dated Mar. 9, 1965. Divided and this application Aug. 26, 1964, Ser. No. 392,247
Claims priority, application Great Britain, Oct. 20, 1961, 37,681/61
2 Claims. (Cl. 72—264)



1. A method of piercing a heated billet prior to extrusion comprising the steps of temporarily placing at the front of an extruding mandrel a nose piece which is larger in cross-section than said mandrel, forcing said nose piece and mandrel through said billet to produce a tunnel therethrough which is larger than said mandrel. stopping said mandrel with said nose piece supported in an extrusion die so that said mandrel is correctly centered and located with respect to said die, and applying pressure to said billet to cause the metal thereof to flow around said mandrel to form a tunnel in said billet corresponding in size and location to said mandrel.

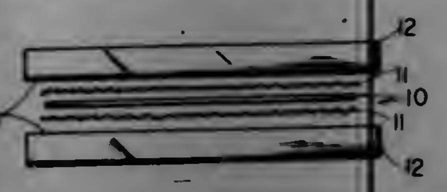
3,196,660

METHOD OF FLATTENING METALLIC DISCS

Walter J. Olson, Bloomfield, N.J., assignor to Specialties Development Corporation, Belleville, N.J., a corporation of New Jersey
Filed June 28, 1962, Ser. No. 205,917
3 Claims. (Cl. 72—376)

1. The method of flattening discs. which method comprises sandwiching a relatively ductile metallic disc between a pair of metallic screen sheets having lesser duc-

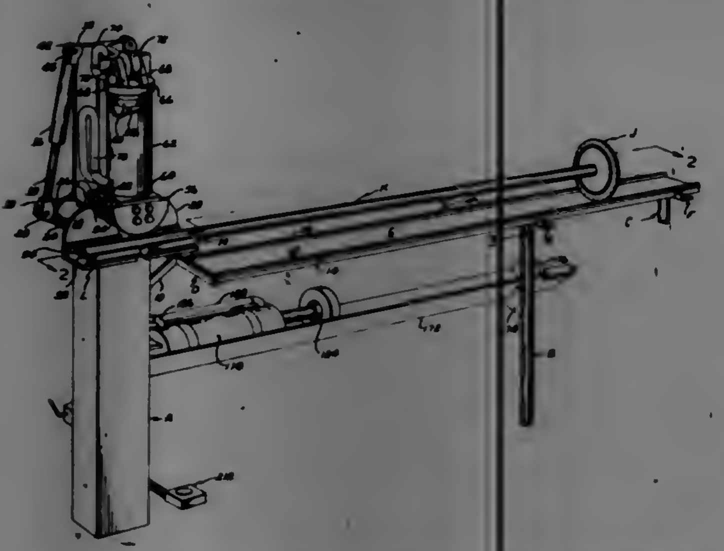
tility than the disc; placing the sandwich between a pair of dies having rigid, flat, parallel and relatively hard op-



posed surfaces moving the surfaces into engagement with the screen sheets; and applying sufficient mechanical pressure on the dies to flatten the disc.

3,196,661
APPARATUS FOR FORMING REPLACEMENT EXHAUST PIPES AND METHOD OF USING SAME

Bruce J. Lance, Paramount, Calif.
(1460 Chase Drive, Corona, Calif.)
Filed Dec. 15, 1961, Ser. No. 159,604
5 Claims. (Cl. 72—3[illegible]9)



1. In a machine for bending a length of tubing that includes a vertical column, two spaced parallel shafts pivotally supported by said column, two plates rigidly affixed to said shafts, a vertically movable member supported from said column above said shafts, first power means for moving said member upwardly and downwardly, second power means for tending to restrain pivotal movement of said shafts as said member moves downwardly relative thereto, in combination:

(a) two elongate longitudinally aligned jaws supported from said plates, said jaws having a plurality of transversely spaced grooves of semi-circular cross section and of different diameters formed in the upper surfaces thereof, with each of said diameters being substantially the same as the external diameter of one of said lengths of tubing to be bent;

(b) a downwardly curved pressure-exerting member supported from the lower end of said vertically movable member, which pressure-exerting member has a plurality of transversely spaced grooves of semi-circular cross section formed in the lower surface thereof that are in vertical alignment with said grooves in said jaws and complementary in size relative thereto;

(c) a circular protractor;

(d) first means for removably affixing said protractor to a first end of a length of said tubing, with the center of rotation of said protractor being in alignment with the longitudinal axis of said length of tubing;

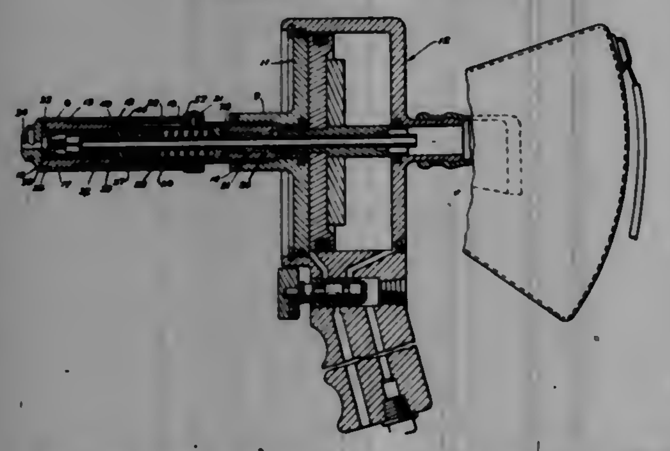
(e) an elongate horizontal protractor support that permits rotational and longitudinal of movement of said protractor relative thereto;

(f) first means for adjustably holding said support in a manner to permit said support to occupy any one of a plurality of transverse positions relative to said column, with the diameter of said protractor and the height of said first means being so related that a length of tubing having said protractor mounted thereon is substantially horizontally disposed when said protractor rests on said support and a portion of said tubing rests in one of said grooves that is of substantially the same diameter as the external diameter of said length of tubing, and with the longitudinal axis of said length of tubing having said protractor mounted thereon lying in the same vertical plane as the longitudinal axis of one of said grooves when said support is in a particular one of said transverse positions; and

(g) second means for measuring the longitudinal movement of said length of tubing having said protractor mounted thereon relative to said support as said tubing is intermittently advanced towards said jaws to have bends formed therein by the downward movement of said pressure-exerting member relative to said jaws, with the longitudinal spacing between said bends being determined by the relative movement of said length of tubing and protractor relative to said protractor support, and the circumferential angulation between said bends being determined by the degree of rotation of said length of tubing and protractor relative to said support.

3,196,662
PULLING HEAD DEVICE FOR THE STEM OF FASTENERS

Walter R. Simmons, Buena Park, Calif., assignor to Textron Industries, Inc., a corporation of Delaware
Filed July 31, 1963, Ser. No. 298,930
7 Claims. (Cl. 72—391)

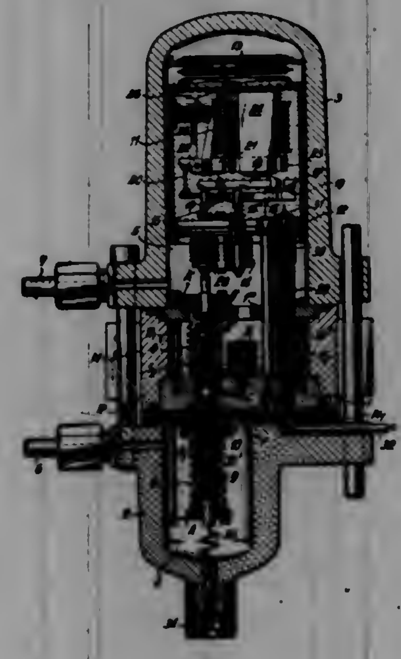


1. Pulling head device for pulling a stem slidable through a fastener member for setting the fastener member, comprising

(a) a sleeve
(b) a nose on the sleeve for exerting pressure on the fastener while the stem is pulled
(c) means to connect said sleeve to the pressure member of a power tool
(d) a tubular drawbolt reciprocable away from said nose for pulling said stem and movable toward said nose into an initial position for receiving said stem
(e) said nose and the adjacent end of said drawbolt having axially aligned apertures for the insertion of said stem
(f) a stem gripping jaw device in said drawbolt axially aligned with said apertures to receive said stem
(g) means in said drawbolt to close said jaw device grippingly on said stem when said drawbolt is pulled relatively to said sleeve
(h) spring means normally to urge said jaw device to said jaw closing means
(i) and means to limit the action of said urging means in stem receiving position of said drawbolt relatively to said jaw closing means to prevent the closing of said jaw device in said stem receiving position and to preload said spring means
(j) a jaw pusher movable in said drawbolt, said jaw device being between said jaw pusher and said adjacent end of said drawbolt
(k) said spring means in said drawbolt urging said jaw pusher toward said adjacent end and against said jaw device
(l) said drawbolt having an elongated slot through at least a side thereof, and said jaw pusher projecting through said slot to the outside of said drawbolt
(m) a fixed abutment in the path of said jaw pusher abutted by said jaw pusher in the stem receiving position of said jaw device, said elongated slot extending beyond said abutment toward said adjacent end whereby the force of said pusher member is applied for pressing said jaw device to said jaw closing means when the pulling of said drawbolt frees said jaw pusher from said abutment.

3,196,663
ELECTRICAL DIFFERENTIAL-PRESSURE METER

Horst Ziegler, Berlin-Charlottenburg, and Otto Marock, Berlin-Friedenau, Germany, assignors to Continental Elektroindustrie Aktiengesellschaft, Askania-Werke, Berlin-Mariendorf, a corporation of Germany
Filed May 24, 1962, Ser. No. 197,341
Claims priority, application Germany, May 26, 1961, C 24,206
9 Claims. (Cl. 73—398)

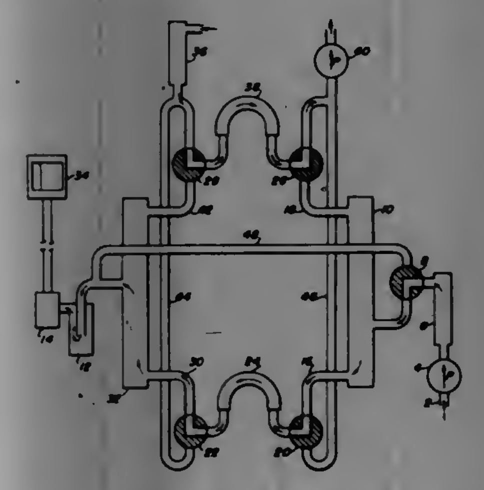


1. An electrical differential-pressure measuring system comprising a mechanical differential-pressure measuring device having two pressure chambers separated by a partition displaceable in response to the pressure difference between said chambers, and comprising further an electro-mechanical force compensator for transferring a force corresponding to a pressure difference into an electrical quantity, said compensator having a displaceably mounted meter element, means for transferring said force to said element, means for electrically connecting resultant displacements of said element, means for producing an electrical current in response to said detected displacement, and electro-magnetic force productive means responsive to said current to develop a compensating force opposing said first-mentioned force acting on said element, said system being characterized in that:

(a) said meter element, detecting means, and compensating force productive means of said electro-mechanical compensator are all located inside a housing filled with a protective liquid;
(b) said housing is demountably attached to said differential-pressure measuring device;
(c) said liquid filling said compensator housing is subjected to the pressure inside one of said pressure chambers by means of a flexible wall in said housing establishing a pressure-communicative relationship between the interior of said housing and said one pressure chamber, said flexible wall exerted at most a weak flexible-opposing force;
(d) said force corresponding to said pressure difference produced by said differential-pressure measuring device is transferred from the interior of said one pressure chamber to said meter element inside said compensator housing by means of an elastic, through-the-wall coupling in said housing, said coupling exerting at most a weak flexure-opposing force, mechanical coupling elements inside said pressure chamber and inside said housing being placed in force-communicating relation with each other by said coupling;
(e) said mechanical coupling elements inside said housing comprising a rotatable lever to which said first-mentioned force transferred by means of said elastic through-the-wall coupling is applied to a rotatable lever; and
(f) said housing wall also contains a second coupling similar to said first-mentioned coupling, by means of which a force corresponding to any pressure difference between said housing interior and said one pressure chamber is applied to said last-named lever in a differential-pressure compensating sense.

3,196,664
PROCESS OF EMPLOYING FRONTAL ANALYSIS CHROMATOGRAPHY IN WELL LOGGING

Edwin E. Teal, Houston, Tex., assignor to National Lead Company, New York, N.Y., a corporation of New Jersey
Filed July 15, 1959, Ser. No. 827,406
6 Claims. (Cl. 73—23.1)



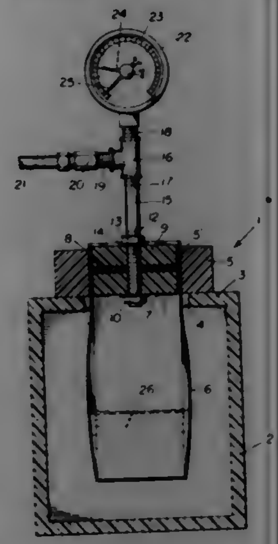
1. The process of detecting methane in an air-gas mixture subject to containing hydrogen, methane, higher hydrocarbons, and water vapor, which comprises the steps of causing the air-gas mixture to flow through one after another of the columns in a set of like chromatographic columns to a common effluent path, the flow of said air-gas mixture being repetitively shifted at predetermined time intervals from one column to another column of said set; continuing said flow and said repetitive shifting during said detecting process; during the course of said flow analyzing the effluent gas mixture which flows along said path to determine its methane content; and back flushing each column with a sufficient volume of air to completely purge said column of all adsorbed gases during the time the feed gas is flowing through other columns of the set.

3,196,665
HYDRAULIC CARTON TESTER

Dale W. Quackenbush, Longview, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

Filed Feb. 25, 1963, Ser. No. 260,379

2 Claims. (Cl. 73—37)



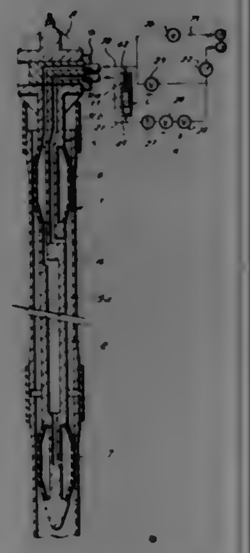
1. A hydraulic tester for determining the bursting strength of a carton or the like, comprising: a supporting member having an opening therethrough for receiving the carton to be tested, a sealing and supporting structure adapted to be extended into the open upper end of a carton, including a lower plate member supported on a threaded pipe means, an upper plate member supported by said threaded pipe means and a pliant gasket member supported by said threaded pipe means and positioned between said upper and lower plate members, means on said pipe member to move said upper plate member downwardly relative to said lower plate member to expand said gasket member outwardly and form a seal around said open upper end of said carton, said carton and said structure frictionally supported by the engagement of said gasket member with said supporting member, and gauge means connected to said threaded pipe for measuring the pressure of fluid pumped into said carton through said pipe means.

3,196,666
COMPENSATOR

George E. Conover, Houston, Tex., assignor to Lynes, Inc., a corporation of Texas

Filed May 18, 1962, Ser. No. 195,724

5 Claims. (Cl. 73—40.5)



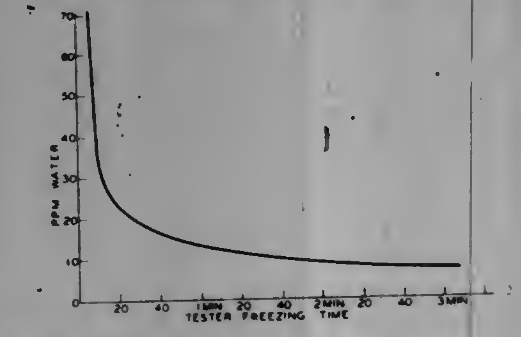
1. An apparatus for testing tubular members for leaks, comprising, a tool, said tool including a body adapted to be inserted in the tubular member to be tested, spaced closure elements on said body for sealing off a portion of the tubular member between said elements, a control head on said body having passage means therein, said body having passage means for flowing fluids from the control head to activate said closure elements to a sealed off position, passage means in said body for communicating with the tubular member portion between said elements in the tubular member, additional passage means in said control head communicating with said last named passage means in said body for flowing fluids to the sealed off portion between said elements after said elements are in sealed off position, a pair of conduit means for conducting fluid to said control head, one of said conduits connected to said control head passage means that communicates with said elements and the other of said pair of conduits connected with said control head passage means that communicates with said sealed off portion of the tubular member, and compensating means connected between said pair of conduit means, said compensating means including a pair of pistons and cylinders for transferring a greater pressure to said conduit that communicates with said elements than exists in said conduit that communicates with said sealed off portion of the tubular member.

3,196,667
MOISTURE DETERMINATION

Henry E. Alquist and Dan E. Smith, Bartlesville, Okla., assignors to Phillips Petroleum Company, a corporation of Delaware

Filed Oct. 31, 1960, Ser. No. 66,104

5 Claims. (Cl. 73—53)



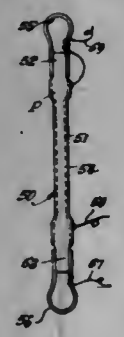
1. The method of determining the moisture content of a fluid under pressure which comprises flowing said fluid through a testing zone while maintaining a restricted passage therein, thus causing expansion of said fluid and resultant cooling of said zone, further restricting said flow passage and determining the time required to cause said flow passage to close due to freezing of moisture therein.

3,196,668
DUAL SEMICONDUCTOR STRAIN GAUGES

William H. McLellan, Pasadena, Calif., assignor to Electro-Optical Systems, Inc., Pasadena, Calif., a corporation of California

Filed Mar. 26, 1962, Ser. No. 183,336

5 Claims. (Cl. 73—88.5)



1. A semiconductor strain gauge comprising, in combination:

(a) an elongate unitary semiconductor crystal body of a predetermined crystallographic orientation, said crystal body defining a first region of one predetermined conductivity type, and a second region of opposite conductivity type, said first region and second region being electrically isolated, said first region defining a first semiconductor strain gauge element having a first gauge factor and said second region defining a second semiconductor strain gauge element having an opposite polarity gauge factor; and,

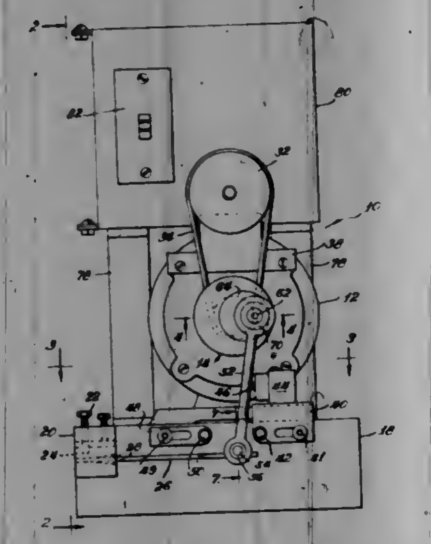
(b) means electrically interconnecting said first and second gauge elements.

3,196,669
FLEXURE FATIGUE TESTER

Kenneth C. Fischer, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed July 2, 1962, Ser. No. 206,927

5 Claims. (Cl. 73—91)



1. A fatigue tester for flexure testing of a plastic specimen, and having means to provide for rupture of said specimen comprising in combination, a motor means, an eccentric drive assembly arranged for rotation by the motor means, an arm pivotally affixed to the eccentric drive assembly and reciprocated thereby, a clamp arranged to hold the test specimen fixed at one end while the other end is engaged by the arm so that reciprocal movement of the arm will cause a flexing of the specimen about each side of a neutral axis of the specimen, and means engageable by the arm comprising a switch which controls said motor means and a switch arm extending adjacent said arm pivotally affixed to said eccentric drive assembly whereby upon rupture of said specimen said switch will be actuated via said switch arm to cause immediate cessation of motor operation.

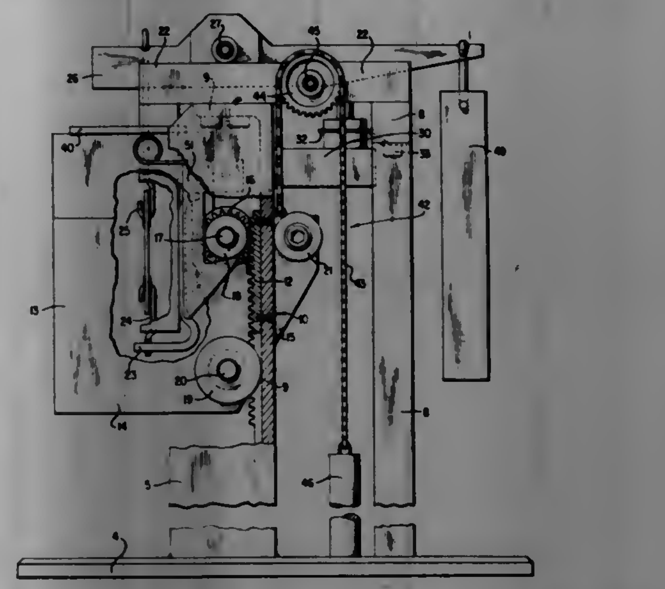
3,196,670
APPARATUS FOR MEASURING STRESS-RUPTURE PROPERTIES OF PLASTICS

Louis L. Lander, Jr., Washington Township, Morris County, N.J., assignor to Union Carbide Corporation, a corporation of New York

Filed Feb. 27, 1962, Ser. No. 175,937

4 Claims. (Cl. 73—95)

1. An apparatus for simultaneously determining the stress-rupture properties of a plurality of test specimens comprising a frame, a gear rack vertically mounted on each end of said frame, a tank closed on the sides and bottom and open at the top, a shaft rotatably mounted on said tank, gears fixed on each end of said shaft, said gears riding on the track of said gear rack with said gears and said tank vertically movable with respect to said frame, said tank capable of containing a meduim in which said specimens are tested, a plurality of upper and lower members, each of said lower members connected to said frame and capable of being atached to the bottom of one of said test specimens, each of said upper members capable of being attached to the top of one of said test specimens, said upper and lower members capable of holding each of said specimens within the confines of said tank lever arms pivotally mounted on said frame and connected to said upper members, one lever arm being connected to one of said upper members, and means to apply a constant stress to each of said specimens through the lever arm and the upper member connected to said lever arm.

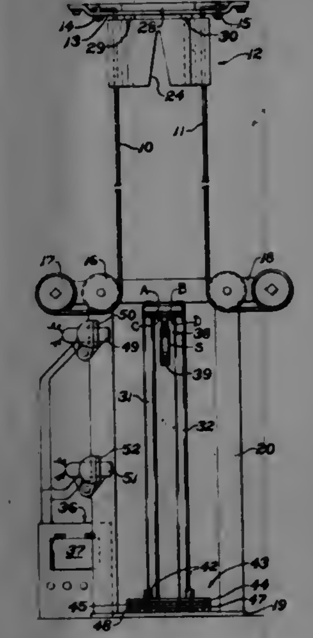


3,196,671
APPARATUS FOR TENSILE TESTING MATERIALS AT RAPID RATES OF LOAD APPLICATION

Mark L. Dannis, Maple Heights, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York

Filed Nov. 1, 1962, Ser. No. 234,644

6 Claims. (Cl. 73—95)



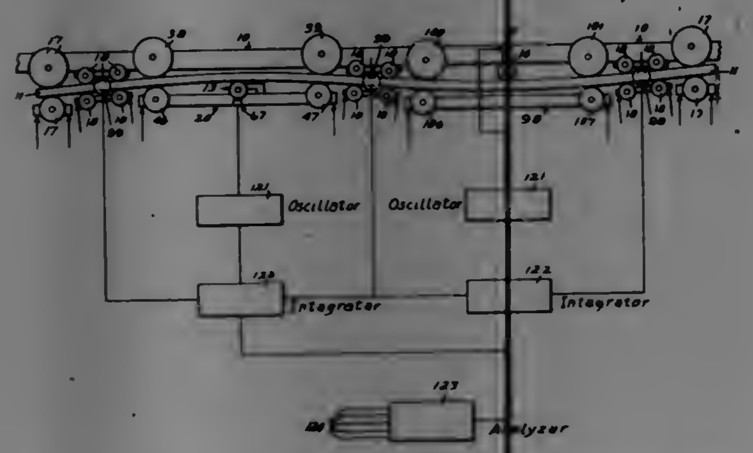
1. Testing apparatus of the type described comprising a weight member, vertically extending guide means for guiding said weight member in free fall under the influence of gravity, means for releasably holding said weight member at a predetermined elevation between said guide means, a specimen support independent of said guide means adjacent the lower ends of the latter and including a portion for suspending a test specimen from the support, means adapted to be suspended from the specimen support by the specimen with the last-named means including oppositely extending cylindrical projections provided with removable deformable sleeves and disposable in the path of said weight member for engage-

ment thereby when the weight member is released and is near the end of its free fall, the said weight member having openings which are substantially inverted V-shape in cross section engageable with the said oppositely extending projections, means responsive to the force exerted upon said specimen support, and indicating means connected to said force responsive means.

3,196,672
MEANS FOR MEASURING STIFFNESS OF LUMBER

Harold A. Keller, Clarkston, Wash., assignor to Potlatch Forests, Inc., Lewiston, Idaho, a corporation of Delaware

Filed July 24, 1961, Ser. No. 126,284
10 Claims. (Cl. 73—1[illegible])



8. An apparatus for indicating the longitudinal stiffness of a wooden board, comprising:

a supporting framework;

first and second support means on said framework in longitudinally spaced locations adapted to contact a first surface of a board along longitudinally spaced transverse lines during movement of the board in a longitudinal direction relative to the framework;

deflection means mounted on said framework at a longitudinally aligned position intermediate said first and second support means, including force applying means mounted on said framework for limited movement relative thereto in a direction perpendicular to a first plane containing the lines of contact of said first and second support means and the board, said force applying means being adapted to contact a second surface of the board opposite to said first surface as the board moves in contact with said first and second support means, the perpendicular distance between said first plane and a parallel plane tangential to the area of contact of said force applying means and the board being less than the board thickness between the two contacted board surfaces;

and means on said framework operatively connected to said deflection means adapted to indicate the stiffness of the board during contact of the board by said first and second support means and said deflection means.

3,196,673
DEVICE FOR TESTING AUTOMOTIVE COOLING SYSTEMS

Thomas A. Carson, La Puente, Calif., assignor to The Ni-Arb Co., Inc., El Monte, Calif., a corporation of California

Filed Jan. 5, 1962, Ser. No. 164,471
1 Claim. (Cl. 73—1[illegible])

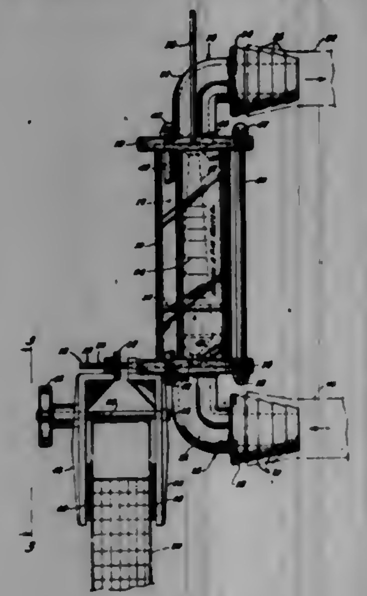
A device to measure the rate of flow of fluid through the cooling system of an automotive vehicle, wherein an upper part of a radiator of the vehicle is connected by a short hose of the vehicle to an engine block of the vehicle, said device comprising:

an upright cylinder having a light-transmitting wall, said cylinder being of approximately uniform internal cross section with minor variations along its length;

an upright spindle inside the cylinder, said spindle being progressively reduced in cross section from its lower end to its upper end to form with the cylinder an upright annular passage that progressively increases in cross-sectional area from its lower end to its upper end, the lower end and the upper end of said annular passage having an inlet port and an outlet port, respectively;

an annular float positioned in said annular passage to be elevated by said fluid stream, said annular float surrounding said tapered spindle, whereby the annular clearance between the tapered spindle and the float progressively increases with the elevation of the float;

resilient means carried by and surrounding said float, said resilient means being biased radially outward against said inner surface of said cylinder to follow the minor variations in internal cross section of the cylinder and to minimize upward flow of the fluid past the perimeter of the float whereby the elevation of the float by the fluid stream is determined substantially entirely by the cross-sectional area of said annular clearance that is necessary to accommodate the rate of flow of the stream;



a downwardly extending jaw member mounted on the lower end of said cylinder to engage one face of said radiator;

a second downwardly extending jaw member mounted on the lower end of said cylinder to engage the other face of the radiator, and

means interconnecting portions of said two jaw members, said interconnecting means being adjustable to close the jaw members on the radiator to support said cylinder;

means to releasably connect said inlet port to said engine block to receive coolant fluid therefrom; and

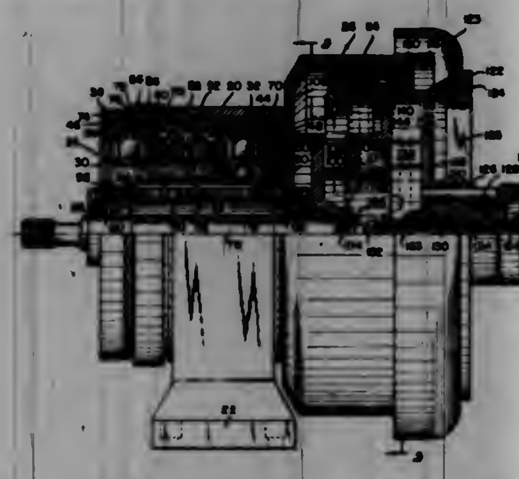
means to releasably connect said outlet port to said radiator to deliver the coolant fluid thereto.

3,196,674
DYNAMOMETERS

Bo N. Hoffstrom, Santa Monica, Calif., assignor to Douglas Aircraft Company, Inc., Santa Monica, Calif.

Filed Sept. 15, 1961, Ser. No. 150,111
4 Claims. (Cl. 73—134)

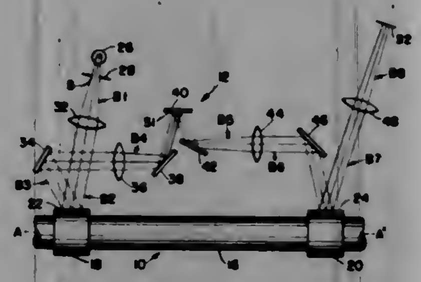
1. Torque absorbing and measuring apparatus comprising a fixed housing, a brake housing rotatably carried by said fixed housing, said brake housing having an annular working chamber, an annular divider in said working chamber providing first and second radial passages connected at their inner ends, said brake housing having an axially extending inlet passage connected to the outer end of said first radial passage and an axially extending outlet passage connected to the outer end of said second radial passage, a plurality of stator vanes rigid with said brake housing and positioned in said first radial passage, said stator vanes being inclined to rotate air passing inwardly over them in a predetermined direction, a torque receiving shaft rotatably carried by said brake housing, a plurality of pump vanes carried by said shaft and positioned in said second radial passage and adapted to rotate air in said second radial passage in a direction opposite to said predetermined direction, the rotation of said shaft and said pump vanes causing air to flow from said inlet passage to said outlet passage successively over said stator vanes to rotate said air in said predetermined direction to develop a force tending to rotate said brake housing, and the direction of rotation of said air being reversed by said pump vanes, and means in said outlet passage for causing said rotating air to flow axially of said brake housing to develop a further force tending to rotate said brake housing, and means connected to said fixed housing and to said brake housing to yieldably oppose rotation of said brake housing, and throttle means for varying the size of one of said radial passages to thereby vary the force tending to rotate said brake housing.



3,196,675
OPTICAL TORQUEMETER

Donald R. Buchele, Columbia Station, Alois Krsek, Jr., North Olmsted, and Marvin W. Tiefermann, Bay Village, Ohio, assignors to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration

Filed Feb. 28, 1963, Ser. No. 261,912
6 Claims. (Cl. 73—136)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. Apparatus for measuring torques applied to a shaft rotating at high speeds, said apparatus comprising

a pair of axially spaced reflectors on said shaft,

a light source for forming a light beam that is directed toward one of said reflectors thereby producing a moving intermittent reflected beam that sweeps along an arcuate path as said shaft rotates,

a converging lens in said path for forming a moving image of said light source that intermittently sweeps in a plane substantially parallel with the axis of rotation of said shaft,

lens means for reforming light from said moving image into a light beam that moves in phase with said moving reflected beam,

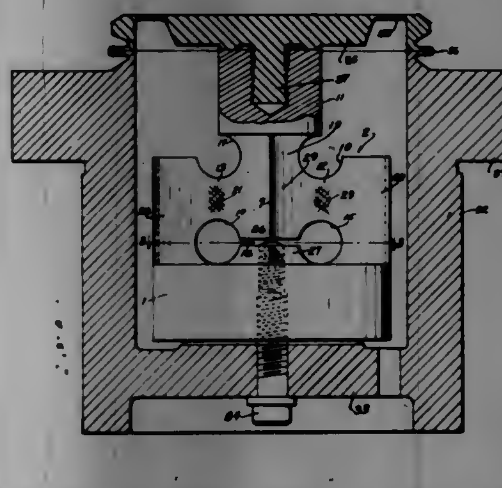
means for directing said moving light beam toward the other of said reflectors thereby producing a stationary intermittent reflected beam that is deflected by the application of torques to said rotating shaft, and

another converging lens in the path of said stationary intermittent reflected beam for forming a stationary intermittent image of said light source that is deflected a distance proportional to the torques applied to said shaft.

3,196,676
SHEAR STRAIN TYPE FORCE MEASURING DEVICE

Hsia S. Pien, Newton, Mass., assignor to Baldwin-Lima-Hamilton Corporation, a corporation of Pennsylvania

Filed Dec. 31, 1962, Ser. No. 248,509
9 Claims. (Cl. 73—141)



1. A force responsive device in which a force to be measured is applied along a given axis comprising a force sensitive member extending in the direction of said axis and having at least one portion of generally rectangular shape when viewed in direction of said axis, said portion of said member being integrally connected with axially-spaced load-transmitting end portions and including a pair of rigid members integral therewith spaced laterally on opposite sides of said axis and extending from one of said end portions in direction of said axis for supporting said end portions of said member in relationship to one another, said member further including two shear strain sections integral therewith each extending laterally over between the other of said end portions and a different one of said laterally spaced supporting members and also extending axially for a predetermined distance in direction of said axis, said shear strain sections being connected with said one of said end portions only through said supporting members so as to have shear strains exhibited at the axially extending exterior surface areas thereof, and shear sensing strain gages mounted on said surface areas responding to force applied through said end portions along said axis.

3,196,677
CYCLIC PRESSURE LOADING SYSTEM

Paul P. Day, Potomac, and Ralph B. Allnutt, Silver Spring, Md., and Alexander B. Stavovy, Springfield, Va., assignors to the United States of America as represented by the Secretary of the Navy

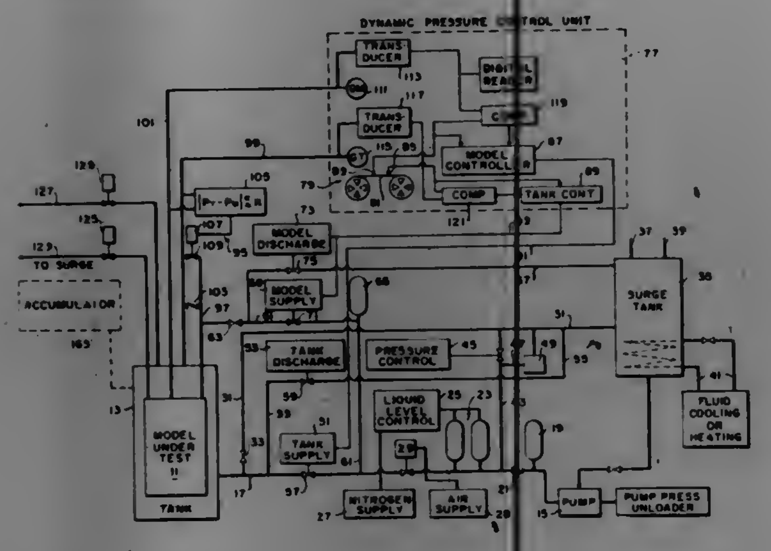
Filed Nov. 5, 1962, Ser. No. 235,587
23 Claims. (Cl. 73—148)
(Granted under Title 35, U.S. Code (1952), sec. 266)

4. In a dynamic pressure testing system wherein a model located in an environmental test tank is subjected to varying pressure loading from a fluid source, apparatus for maintaining the tank pressure at a predetermined essentially constant value despite pressure-induced volume

variations of said model resulting in transient pressures in the tank, comprising:

means coupled to the tank for controlling the pressure thereof;

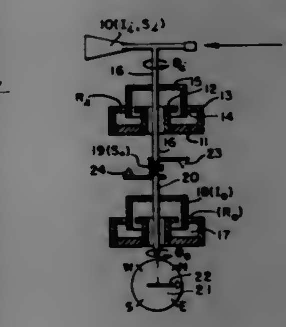
sensing means for directly sensing the pressure of the tank; and



feedback compensation control means connected to said sensing means and to said means for correctively adjusting the tank pressure for return to its predetermined pressure.

3,196,678
AVERAGING WEATHER VANE

Michael J. Di Toro, Massapequa, N.Y., assignor to Cardion Electronics, Inc., a corporation of Delaware
Filed July 20, 1962, Ser. No. 211,327
4 Claims. (Cl. 73—18[illegible])



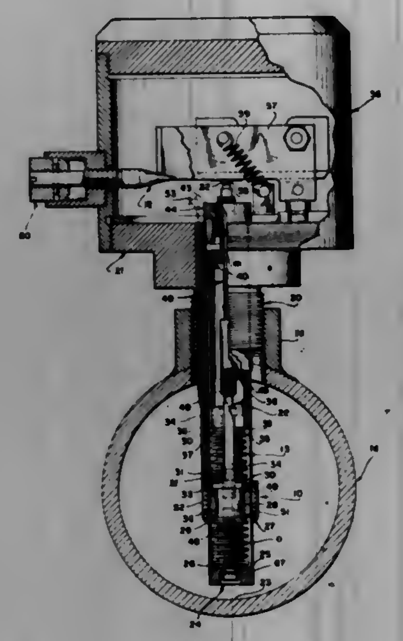
1. A weather vane comprising: a wind-deflectable rotatable vane having a predetermined moment of inertia and a predetermined aerodynamic stiffness and which for usual wind velocities is subject to resonant oscillation at a frequency independent of the frequency of wind direction fluctuations precluding the accurate determination of wind direction; a nonfriction damping apparatus including a stationary element and an element secured to said vane and having a damping constant proportioned to damp resonant oscillation of said vane beyond the critical value for wind velocity of a given value; and means coupled to said vane for determining wind direction.

3,196,679
FLUID NO-FLOW DETECTION APPARATUS

Walter L. Howland, Burbank, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.
Filed May 22, 1962, Ser. No. 196,638
7 Claims. (Cl. 73—2[illegible]4)

1. Detector apparatus adapted to be disposed within a fluid medium for detecting a flow condition thereof, comprising:

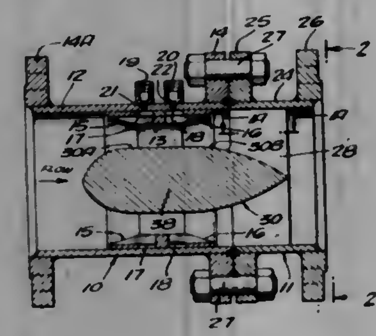
(a) first and second heat sensors differently coupled in spaced relationship within such medium to produce a differential output movement corresponding to the difference in temperature of such fluid medium respectively adjacent thereto; and



(b) heater means disposed between said sensors and effectively exposed to such fluid medium for transferring heat thereto.

3,196,680
FLOW TUBES

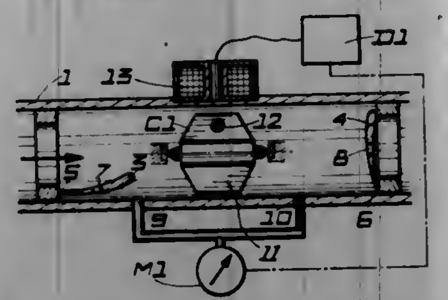
John R. Curran, North Scituate, R.I., assignor to International Telephone and Telegraph Corporation, Baltimore, Md., a corporation of Maryland
Filed Jan. 3, 1962, Ser. No. 163,984
4 Claims. (Cl. 73—213)



1. Flow measuring apparatus comprising a conduit, an obstruction mounted in said conduit and spaced from the walls of said conduit and defining a fluid passage with said walls, and pressure-sensing means for sensing pressures in said passage, said conduit comprising two pipe sections, means for securing said pipe sections in alignment with each other, one of said pipe sections having a web member extending inwardly thereof, at least a portion of said fluid-obstructing body being mounted on said web with a major portion thereof extending into the other pipe section, said web member having two pressure ports, one of said pressure ports being in communication with a conduit in said web member which terminates centrally at the upstream end of said obstruction, the other of said ports being in communication with a conduit in said web member which terminates at the wall of said other pipe section and adjacent to said obstruction.

3,196,681
APPARATUS FOR MEASURING THE FLOW OF A GAS

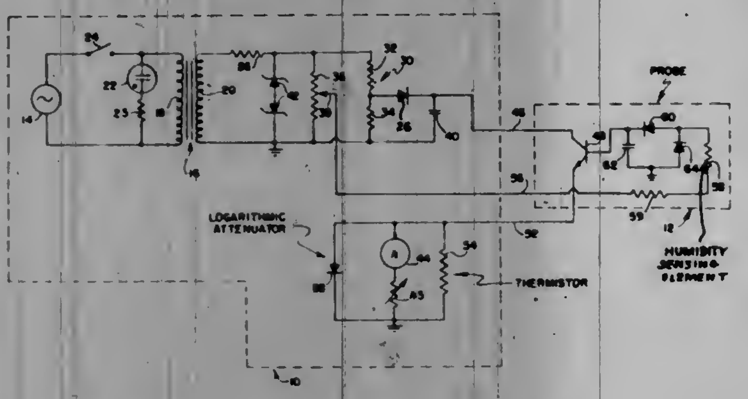
Stéphane J. Estrabaud, Antony, France, assignor to Rochar Electronique, Montrouge, Seine, France, a corporation of France
Filed Nov. 23, 1962, Ser. No. 239,493
Claims priority, application France, Dec. 9, 1961, 881,527, Patent 1,315,810
3 Claims. (Cl. 73—231)



1. An apparatus for measuring the flow of a gas in a pipe, of the type comprising a turbine rotor arranged in said pipe, said turbine rotor being adapted to be rotated at a velocity proportional to the volumetric flow of the gas, at least one magnet secured to said turbine rotor, at least one winding coupled to said magnet and electronic counting means connected across said winding for receiving recurrent pulses therefrom, said apparatus further comprising a duct portion forming part of said pipe, first and second valve seats in said duct portion, first and second swing valve members respectively pivoted at one point of said first and second seats, the flow of the gas in one direction keeping one of the valve members completely open and completely closing the other valve member, while reversal of the flow closes the open valve member and opens the closed valve member at the respective ends thereof; a discharge opening in each of said valve members; said turbine rotor and said magnet being arranged within said duct portion.

3,196,682
HUMIDITY SENSING CIRCUIT

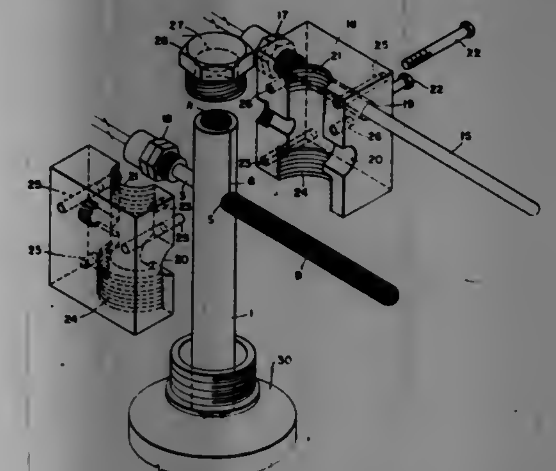
Clark E. Johnson, Jr., Minneapolis, Minn., assignor to Bacharach Industrial Instrument Company, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 13, 1963, Ser. No. 280,504
7 Claims. (Cl. 73—336.5)



1. A humidity sensing circuit comprising:
(a) alternating current supply means;
(b) a first diode;
(c) a transistor having a collector, emitter and base;
(d) an ammeter;
(e) means connecting said first diode, collector and emitter, and ammeter in series with said supply means;
(f) resistance means connected across said supply means having an intermediate tap;
(g) a humidity responsive resistor;
(h) a second diode;
(i) means connecting said resistor and second diode in series between said tap and said base, said second diode providing a low resistance path between said tap and base, and
(j) a third diode providing a low resistance path between said supply means and a point intermediate said resistor and said second diode.

3,196,683
PSYCHROMETRIC WET-BULB WATER SUPPLY SYSTEM

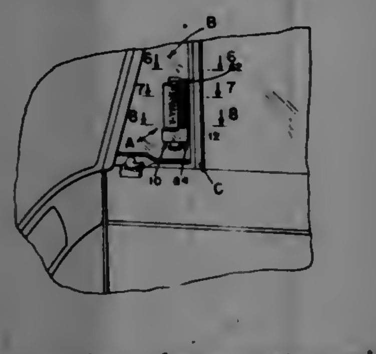
George P. Gross, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware
Filed Mar. 20, 1963, Ser. No. 266,648
2 Claims. (Cl. 73—338)



1. An improved wet-bulb water-supply system which comprises (a) a tube provided with a transverse hole adjacent to one end thereof and further provided with a slit extending longitudinally on both sides from said hole to the proximal end of said tube, and a cap closing said proximal end of said tube; (b) packing material filling said tube and providing a plurality of capillary passages therein; (c) a thermal sensing element inserted through said hole; and (d) a porous sleeve enclosing a portion of said thermal sensing element and contacting said packing.

3,196,684
INDOOR-OUTDOOR THERMOMETER UNIT FOR AUTOMOBILE WINDOW WING

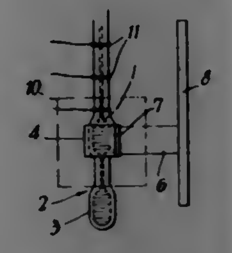
William F. Vernon, Sr., Newton, Iowa, assignor to The Vernon Company, Newton, Iowa
Filed Apr. 5, 1963, Ser. No. 270,848
7 Claims. (Cl. 73—340)



7. In an indoor-outdoor thermometer unit for mounting on a window member, outer panel means, inner panel means, means for mounting said outer panel means on the outer surface of a window member, means for mounting said inner panel means on the inner surface of the window member in juxtaposition to said outer panel means, a single temperature scale for said unit carried by said inner panel means, a first thermometer mounted on said outer panel means, a second thermometer mounted on said inner panel means offset from said first thermometer, said inner panel means having means opposite

said first thermometer through which said first thermometer may be viewed for use in conjunction with said single temperature scale, said second thermometer positioned adjacent said single scale for viewing in conjunction therewith.

3,196,685
THERMOSTATS
Bertram Robert Leigh, 12 Beacon Way, Rickmansworth, England, and Leonard George Thomas, 71 Edward St., Deptford, London SE. 8, England
Filed Apr. 27, 1962, Ser. No. 190,744
Claims priority, application Great Britain, May 1, 1961, 15,717/61
2 Claims. (Cl. 73—36[illegible].4)

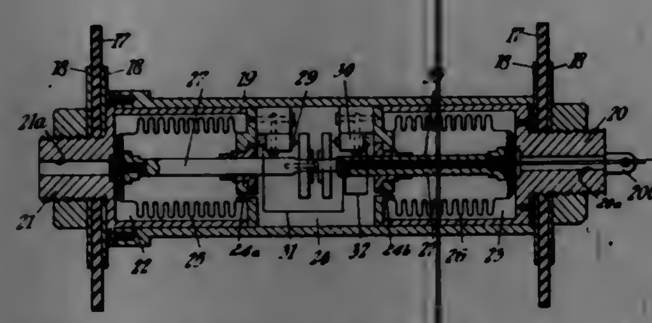


1. A thermostat device provided with means for adjusting its temperature setting, comprising a temperature sensing element, two semi-conductor elements, of P-type and N-type respectively, thermally connected with a conductor which embraces the said temperature-sensing element, and means for supplying a low-voltage direct current to the said junctions, whereby the Peltier thermoelectric effect produced at the said junctions is effective for adjusting the said temperature setting.

ERRATUM

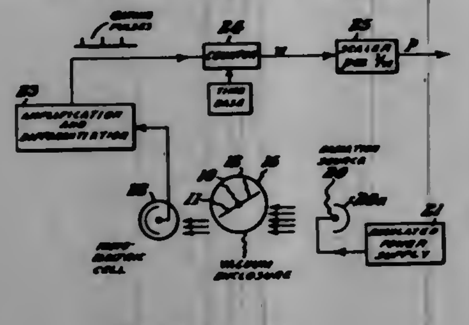
For Class 73—398 see:
Patent No. 3,196,66[illegible]

3,196,686
DEVICES FOR TRANSMITTING SIGNALS
John A. Cole, Henley-on-Thames, England, assignor to The Water Research Association, Marlow, England
Filed Feb. 27, 1962, Ser. No. 176,023
Claims priority, application Great Britain, Mar. 3, 1961, 7,792/61
9 Claims. (Cl. 73—3[illegible]8)



1. In a device adapted to be disposed within the interior of a longitudinally extending fluid flow system, means for creating a magnetic field of such strength as to be detectable outside the system, means responsive to pressure conditions within said system connected to said means for creating a magnetic field to effect the modulation of the magnetic field in accordance with said pressure conditions, means situated outside the system for detecting the modulated magnetic field and rendering a pressure condition readout in terms of said field, said device further including portions disposed transversely across the interior of said system to effect the movement of said device within the system by means of fluid flow acting on said portions.

3,196,687
ABSOLUTE PRESSURE GAGE FOR ULTRA-HIGH VACUUM MEASUREMENT
Samuel Schalkowsky, Radnor, Pa.
(4003 Woodlawn Road, Chevy Chase, Md.)
Filed Aug. 30, 1962, Ser. No. 220,524
7 Claims. (Cl. 73—398)



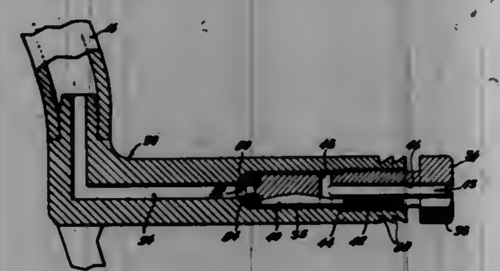
Code:
w = rate of rotation

1. Apparatus for measuring very small pressure produced forces, comprising in combination,

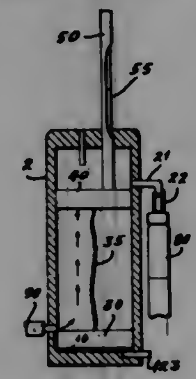
(1) a sensor device rotatable about a fixed position axis of rotation and including,
  (a) a target element upon which the pressure produced force to be measured acts,
  (b) a radiation receiving surface coupled to said target element in fixed relation thereto disposed laterally of said axis of rotation and upon which surface radiation is selectively directable to produce a torque tending to rotate said sensor about said axis of rotation in a first sense,
  (c) said target element extending laterally of said axis of rotation so that a net pressure produced force to be measured acting thereon produces a torque tending to rotate said sensor in a second sense opposite to said first sense about said axis of rotation,
(2) means for effecting communication between a pressure producing source and the target element,
(3) means for suspending said sensor for rotation about said fixed position axis,
(4) control signal generating monitor means effective to detect rotation of said sensor and generate control signals uniquely corresponding to said rotation,
(5) radiation projecting means disposed for projecting radiation onto the said radiation receiving surface of said sensor,
(6) control means coupled to said monitor means and to said radiation projecting means effective responsive to the control signals generated by said monitor means to control the quanta of radiation projected onto said sensor to thereby produce a torque on said sensor equal and opposite to that produced by the force being measured, and
(7) means responsive to the control signals generated by said monitor means effective to indicate the magnitude of the net pressure produced force to be measured.

3,196,688
BLEEDER MEANS FOR GAUGES
Norman J. Smith, Churchville, Pa., assignor to J. E. Lonergan Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 20, 1962, Ser. No. 174,540
1 Claim. (Cl. 73—418)

In a gauge, a housing, a gauge movement including a Bourdon tube mounted in said housing, bleeder means for bleeding a liquid from said Bourdon tube comprising an elongated tubular stationary arm having one end in fluid communication with said Bourdon tube and the free opposite end disposed exteriorly of the housing, said arm having a first bore section of comparatively small cross section adjacent said one end and a second bore section of greater cross section adjacent said free end to provide a cylindrical chamber, said first and second bore sections merging in a conical shoulder, said second bore section being threaded for a portion of its length adjacent its free end, a bleeder plug including an elongated shank portion having a tip at one end and external screw threads for a portion of its length opposite said tip end to threadedly engage with the threads in said second bore section, said unthreaded shank portion being of smaller cross section than said second bore section to provide a clearance therebetween, a sealing element made of a resilient, plastic material mounted on said tip of the bleeder plug having a chamfered peripheral edge adapted to abut said conical shoulder, means defining a passage extending through said plug including a radial section extending through said shank at a point beyond the external screw threads and an axial section extending from the radial section to the end opposite the tip, said bleeder plug adapted for axial movement in said chamber between an inner limit position wherein the tip of the bleeder plug abuts said conical shoulder closing communication between said Bourdon tube and said passageway thereby preventing flow of liquid from said Bourdon tube and an outer position in said arm wherein said tip is spaced from said conical shoulder opening communication between said Bourdon tube and said passageway thereby permitting flow of liquid from said Bourdon tube through said passageway exteriorly of the housing, at least one circumferentially extending undercut in the outer peripheral surface of said arm adjacent the free end thereof exteriorly of the housing, said undercut having a conical inwardly converging surface forming a serration adapted to interrupt flow of liquid along said arm and cause it to drip exteriorly of the housing.

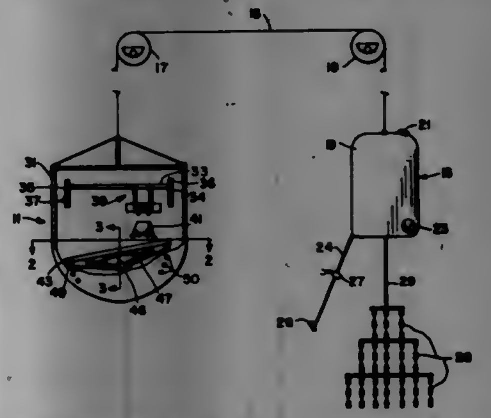


3,196,689
BREATH CONSTITUENT MEASUREMENT APPARATUS AND METHOD
Macquorn R. Forrester, 900 Crescent Drive, Clayton, Mo., and Glenn C. Forrester, Niagara Falls, N.Y.; said Glenn C. Forrester assignor to said Macquorn R. Forrester
Filed Apr. 18, 1963, Ser. No. 273,911
15 Claims. (Cl. 73—421.5)



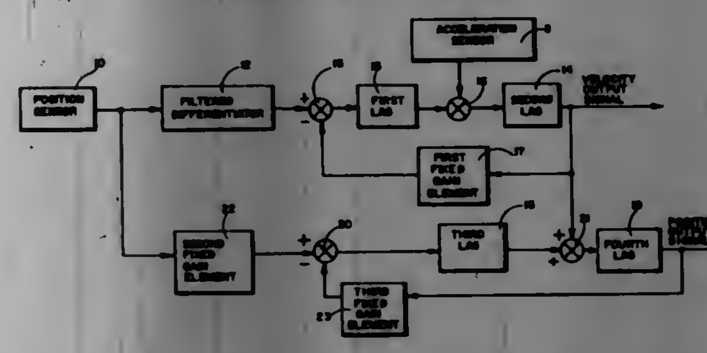
1. A human breath-constituent measuring device comprising a cylinder, first and second pistons relatively movable within said cylinder, means initially operative to direct breath into a space between said pistons to move said first piston away from said second piston, means limiting said separating movement to define at the limit a known predetermined volume of breath between said pistons, means, operative in response to the reaching of said limit to direct breath to the far side of the second piston, away from said first piston, whereby said breath is caused to move said second piston toward said first piston, and means limiting the movement of said second piston to a position at which the volume of breath on said far side of said second piston has reached an accurately predetermined desired amount whereby two samples of breath of accurately known volume are made available.

3,196,690
IMPACT SIMULATOR
George W. Brooks, Tabbs, Va., assignor to the United States of America as represented by the Administrator of the National Aeronautics and Space Administration
Filed June 12, 1962, Ser. No. 202,029
25 Claims. (Cl. 73—432)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A test apparatus for simulating effective gravitational accelerations for free falling objects in an environment having a gravitational field unequal to that of earth, comprising: support means releasably retaining a test object, means to release said object for free fall, an impact surface for said object vertically spaced from said support means, and means to accelerate said impact surface in the same general direction as said free falling object and at a predetermined rate less than that of said free falling object prior to impact of said object with said surface.

3,196,691
WIDE BAND SENSING APPARATUS
Alfonso S. Escobosa, Fullerton, Calif., assignor to North American Aviation, Inc.
Filed Nov. 15, 1961, Ser. No. 152,457
8 Claims. (Cl. 73—490)



1. In a device for producing a first signal indicative of rate of change of position with respect to time and a second signal indicative of position with respect to time, means for providing improved dynamic response comprising: a position sensor; a differentiator having a first-order lag associated therewith and coupled to said position sensor; a first first-order lag network and second first order lag in series circuit, said first first-order lag being coupled to said differentiator, and said second lag providing a first signal output, a first summing means interposed between said differentiator and said first first-order lag and coupled to said first output signal for comparison with the output of said differentiator; an acceleration sen-

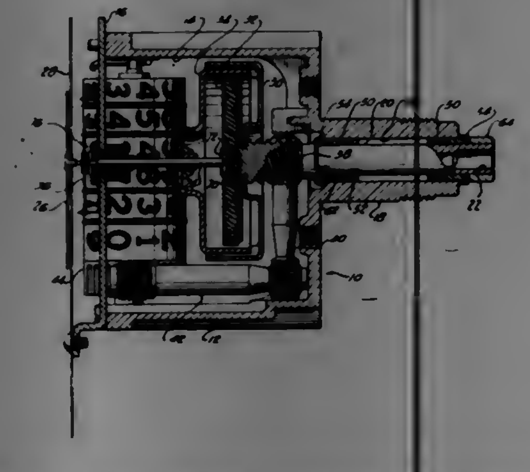
sor oriented to measure the second derivative of the variable sensed by said position sensor; a second summing means interposed between said first and second lags for summing the outputs from said accelerometer and said first first-order lag.

3,196,692
SHAFT SUPPORT AND DAMPING MEANS FOR EDDY CURRENT INSTRUMENT

Warren N. Jensen, Chicago, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Jan. 7, 1963, Ser. No. 249,714

7 Claims. (Cl. 73—4[illegible]6)



1. In an eddy current instrument, the combination comprising, a frame, a first shaft, spaced annular bearing inserts of plastic material received over the shaft supported by the frame to support the shaft for rotation relative to the frame, said bearing inserts being spaced apart at their adjacent ends to define therebetween adjacent the shaft an annular reservoir for holding a lubricant for lubricating the first shaft, a second shaft, spaced bearing elements adapted to support the second shaft for rotation relative to the frame, complementary eddy elements supported nonrotatably on the first and second shafts, respectively, operable to rotate therewith and to form an eddy torque transmission link between the shafts, and viscous damping means between the frame and the second shaft operable to dampen oscillation of the second shaft relative to the frame, said viscous damping means including one of the bearing elements for the second shaft being of plastic fabricated to a cup-shaped contour having its side walls extended over but spaced from the second shaft annularly thereof, a cup-shaped member secured to the second shaft and having its side walls in telescoping relationship with but spaced from the side walls of the one bearing element, and a viscous silicone fluid filling the annular chamber between the overlapping side walls.

3,196,693
DELAYED RELEASE LOCKING DEVICE

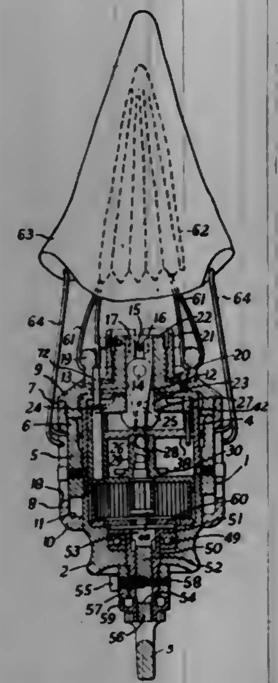
Daniel Waumsley Cooper, Woking, Surrey, England, assignor to G.Q. Parachute Company Limited, Woking, Surrey, England, a British joint-stock company

Filed Apr. 30, 1962, Ser. No. 191,103

Claims priority, application Great Britain, May 4, 1961, 16,248/61

5 Claims. (Cl. 74—3.54)

1. A delayed release locking device comprising a first member for supporting a load, a second member for attachment to a support, the first and second members each comprising a hollow housing, one telescopically slidable within the other, releasable attachment means comprising spaced lugs on one of said housings extending over apertures formed in the other housing for holding an attachment operatively connected to said members and operated to a released position by relative movement between said members, first detent means releasably holding said members together in a holding position, timing means located within one of the housings and operatively connected to said first detent means, a second detent means operatively connected to said timing means so as to prevent operation thereof, the second detent means being operatively connected to said members so as to be moved by limited relative movement between said members so as to permit operation of said timing means, said timing means operating said first detent means to a released position after a predetermined time so that the load and attachment may move said members relative to each other and cause said attachment means to be operated to a released position whereby the support assumes the load.

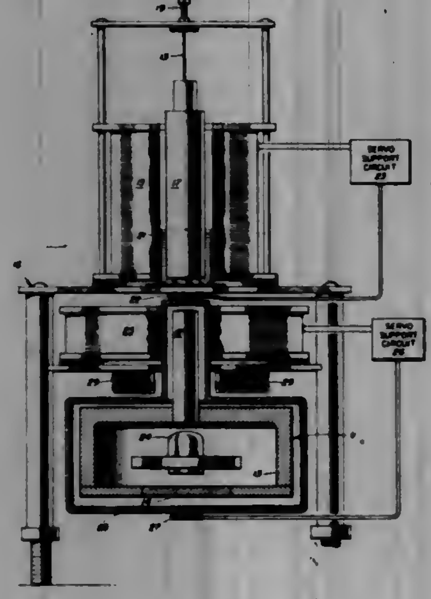


3,196,694
MAGNETIC SUSPENSION SYSTEM

Jesse W. Beams, Charlottesville, Va., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 19, 1964, Ser. No. 346,051

4 Claims. (Cl. 74—5.37)



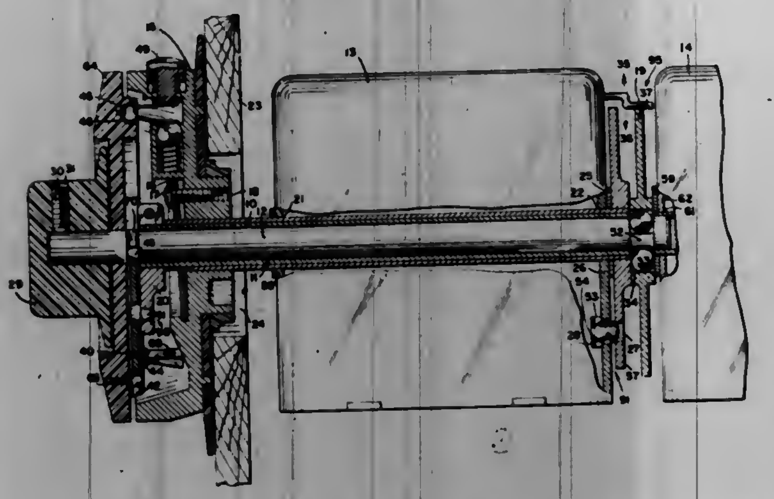
4. A suspension system, comprising:
a first rotor;
a second rotor placed in close proximity to said first rotor;
means for freely suspending said first rotor;
means for imparting rotational force to said first rotor;
means including said first rotor for freely suspending said second rotor; and
a vacuum chamber encompassing said first and second rotors.

3,196,695
COMBINED U.H.F.-V.H.F. INDEXING MECHANISM

Gianni A. Dotto, Dayton, Ohio, assignor to P. R. Mallory & Co. Inc., Indianapolis, Ind., a corporation of Delaware

Filed Apr. 6, 1964, Ser. No. 357,648

15 Claims. (Cl. 74—10.41)



1. An index means for indexing two tuners possessing the capacity of receiving television signals in widely separated frequency ranges comprising: three coaxial, rotatable shafts capable of independent rotation; means for supporting said three coaxial, rotatable shafts; a first shaft of said three coaxial, rotatable shafts coupled to an apertured detent means for indexing said first shaft; a second shaft of said three coaxial, rotatable shafts carried within said first shaft and coupled to an adjustable detent means for indexing said second shaft; a third shaft of said three coaxial, rotatable shafts carried within said second shaft and coupled to a fine index means to fine index said second shaft; and three knobs one each of said knobs coupled to said three coaxial, rotatable shafts for indexing said shafts at a predetermined index position.

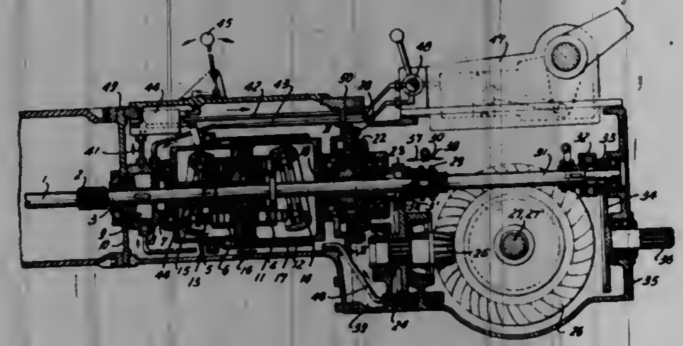
3,196,696
TRACTOR TRANSMISSIONS

Kaspar Ritter, Kirchheim, Teck, Germany, assignor to Allgaier-Werke G.m.b.H., Uhingen, Wurttemberg, Germany

Filed Aug. 22, 1961, Ser. No. 133,255

Claims priority, application Germany, Aug. 27, 1960, A 35,433

5 Claims. (Cl. 74—15.63)



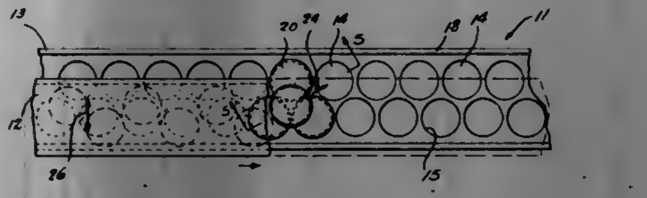
1. In a vehicle such as a tractor or the like, in combination, a hydraulic steplessly variable speed transmission; axle means which rotates during travel of the vehicle; a step-down transmission operatively connected to and transmitting a drive from said steplessly variable speed transmission to said axle means, said step-down transmission including a plurality of stages from said steplessly variable speed transmission to said axle means and the first of said stages being in the form of planetary gearing; a rotary power take-off shaft; including an elongated member connected to said engine-driven element for rotation therewith and extending through said variable speed transmission, and means for selectively connecting said power take-off shaft to said elongated member or to said step-down transmission or for connecting said step-down transmission to said elongated member.

3,196,697
APPARATUS FOR TRANSMITTING AND MODIFYING MOTION

Richard B. Wenger, 260 Main St., Saugerties, N.Y.

Filed Mar. 26, 1963, Ser. No. 268,129

8 Claims. (Cl. 74—22)



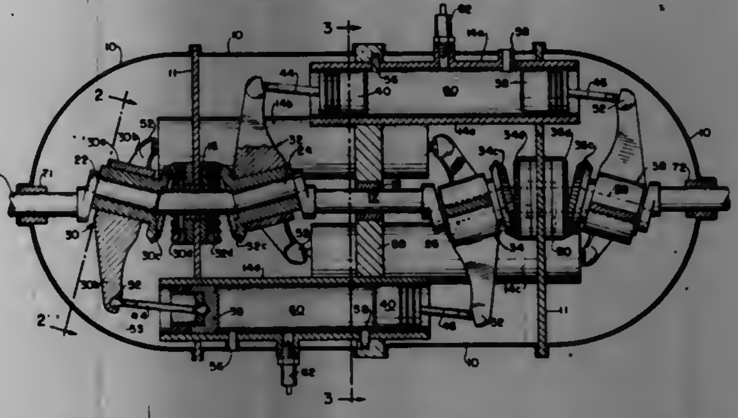
1. In a device for converting motion, a first race member having a surface provided with a pair of parallel staggered rows of recesses, a second race member having a surface facing said first-named surface and provided with a pair of parallel staggered rows of recesses extending parallel to said first-named rows, and a substantially tetrahedral rigid body interposed between said race members and having corner portions gearingly engaging in said recesses, said body being rotatably responsive to a force applied to one of said race members with the other race member held stationary, and developing a reaction moving said one race member laterally with respect to the direction of said force.

3,196,698
INTERNAL COMBUSTION ENGINE

Charles E. Liddington, 1001 Guthrie, Richland, Wash.

Filed June 5, 1962, Ser. No. 200,108

3 Claims. (Cl. 74—60)



3. An engine comprising a shaft having a rotatable central portion with a pair of obliquely inclined crank arms disposed at each opposite end of said central portion, a wobbling element mounted on each inclined crank arm, a plurality of cylinders spaced around and parallel to the axis of said shaft, said cylinders being equally divided in two spaced-apart transversely oriented banks, one of said banks being disposed intermediate of alternate wobbling elements, the other bank being disposed intermediately between the remaining wobbling elements, a pair of pistons reciprocating in opposed relation in each cylinder, a piston rod interconnecting a piston and an adjacent wobbling element, and means preventing each of said wobbling elements from rotating.

3,196,699
ACTUATING MECHANISM

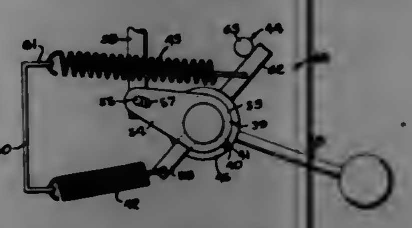
Harold N. Ipsen, P.O. Box 500, Rockford, Ill.

Filed Apr. 2, 1962, Ser. No. 184,299

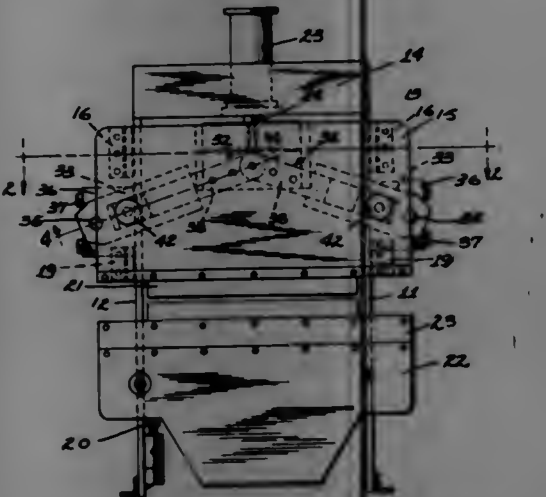
5 Claims. (Cl. 74—96)

3. In an actuating mechanism, the combination of, a body, an actuator mounted on said body for movement from a first position to an intermediate position, from

said intermediate position to a second position against a resistance force, and then back to said first position, an operator manually movable back and forth relative to said body, a lost motion connection between said operator and said actuator whereby movement of the operator in one direction first takes up the lost motion in said connection and then shifts the actuator from said first position to said intermediate position, movement of the operator in the other direction shifting said actuator back to said first position, and a spring acting on said actuator to urge the latter from said intermediate position toward said second position independent of any further movement of said operator in said one direction after said actuator is in said intermediate position thereby to shift said actuator to said second position, as permitted by the lost motion of said connection, when the spring force is greater than said resistance force.

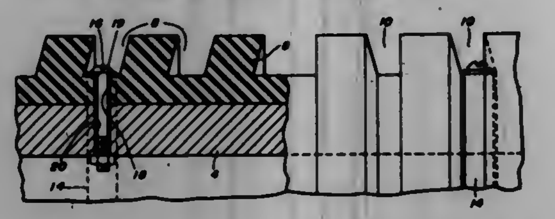


3,196,700
DRIVING MECHANISM FOR MACHINES
Nicholas Gron, 10829 S. Wabash Ave., Chicago, Ill.
Filed Apr. 30, 1963, Ser. No. 276,757
4 Claims. (Cl. 74—110)



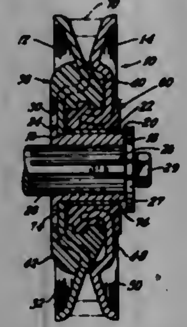
1. The combination with mechanism having a frame and a ram mounted on said frame for reciprocating movement, of means for driving said ram comprising a power member, a pair of similar longitudinally extensible and contractible levers adjacent one face of said ram, said levers having their inner end portions operatively connected to said power member and diverging outwardly therefrom to pivots on said frame portions at opposite sides of said mechanism equidistant from the connections of said levers to said power member, each of said levers comprising an outer housing portion having a longitudinal slot therein communicating with the side thereof adjacent said ram pivotally connected to one of said pivots and an inner member having its outer end slidably fitting in said slot for longitudinal movement therein with its inner end portion operatively connected to said power member for pivotal movement with respect thereto, a bearing member mounted in each of said slots for longitudinal movement therein beteen the outer end of said inner member and the end of the slot in the outer member, and means for pivotally connecting said bearing members and the ram portions adjacent thereto, whereby actuation of said power member causes said levers to pivot about their pivots on said frame and effect reciprocal movement of said ram in said frame.

3,196,701
RUBBER COVERED ROLL
Harry C. Morrow, Bethel Park, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Oct. 10, 1963, Ser. No. 315,278
7 Claims. (Cl. 74—230.7)



1. A rotatable roll for controlling movement of elongated objects passing thereover comprising a metal shell, a preformed rubber covering surrounding the metal shell, said covering having spaced apart peripheral slots therein, said covering having a lap joint therein extending at an angle transversely across the roll, and means for fastening said covering to said shell.

3,196,702
PULLEY APPARATUS
Edward T. Getz, Cleveland Heights, and Matthew Pacak, Solon, Ohio, assignors to Eaton Manufacturing Company, Cleveland, Ohio, a corporation of Ohio
Filed Sept. 10, 1963, Ser. No. 307,983
12 Claims. (Cl. 74—230.17)



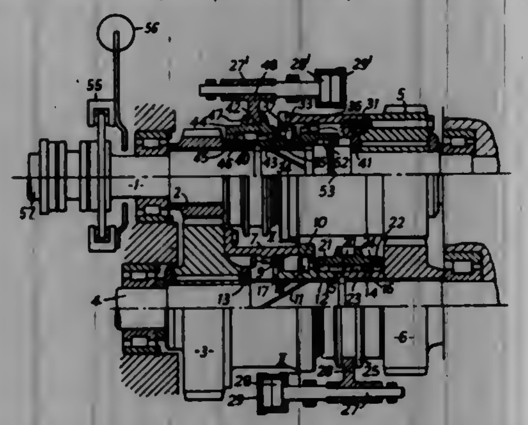
2. Self-compensating torque transmitting pulley apparatus comprising, in combination:

a plurality of sheave halves defining the effective diameter of said pulley apparatus;
a hub non-rotatably mutually cooperatively engageable with one of said sheave halves,
another of said sheave halves being rotatably mutually cooperatively engageable with said hub to enable said sheave halves to be rotatably movably disposed with respect to each other; and
self-compensating means mutually cooperatively engageable and structurally operatively associated with said plurality of sheave halves for varying the effective diameter of said pulley apparatus, said compensating means being so constituted and arranged as to dispose said plurality of sheave halves in axial movable relationship with respect to one another and to encompass a substantial portion of said sheave halves axially thereof, generally radially thereof and substantially annularly thereabout.

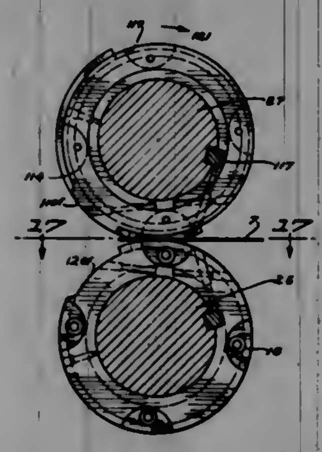
3,196,703
CHANGE SPEED GEARBOXES
Harold Sinclair, Kensington, London, and Herbert Arthur Clements, Weybridge, Surrey, England, assignors to S.S.S. Patents Limited, Surrey, England
Filed Mar. 11, 1963, Ser. No. 264,207
Claims priority, application Great Britain, May 21, 1962, 19,524/62
4 Claims. (Cl. 74—339)

1. A multi-ratio change speed gearbox comprising an input member, an output member, means operable to establish selectively a low speed gear path, and at least one

higher speed gear path between said input and output members, the means for establishing said low speed gear path comprising a first rotary clutch member drivably connected to one of said input and output members, clutch teeth on said first clutch member, a second rotary clutch member drivably connected to the other of said input and output members, an intermediate member, clutch teeth on said intermediate member, helical splines interconnecting said intermediate member and said second clutch member whereby said intermediate member is constrained for helical movement relative to said second clutch member into toothed engagement with said first clutch member upon rotation of said input member in the driving direction relative to said output member, and out of said toothed engagement upon a back-turning movement of said input member in the non-driving direction relative to said output member, and adjustable stop means operable selectively to prevent movement of said intermediate member in the said direction for toothed engagement beyond a position of toothed engagement with said first clutch member, and to permit movement of said intermediate member in the said direction to the extent that its teeth pass through and beyond the teeth of said first clutch member, to permit rotation of said input member in the driving direction without driving said output member via said low speed gear path.

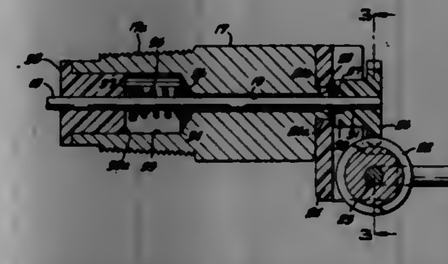


3,196,704
Y-SLOT BLANK CUTTING MACHINE
Ivan L. Kauffman, Minneapolis, Minn., assignor, by mesne assignments, to Ex-Cell-O Corporation, Detroit, Mich., a corporation of Michigan
Filed Dec. 19, 1958, Ser. No. 781,721
8 Claims. (Cl. 83—345)



1. Apparatus for forming slots in box blanks comprising a frame, a first shaft rotatably mounted on the frame, a second shaft rotatably mounted on the frame parallel to the first shaft, means on the frame for drivingly rotating said first and second shafts, a pair of cooperating knife means mounted on the shafts to rotate with the shafts for forming slots in the box blanks as the blanks are passed between the shafts, said knife means including a male knife assembly mounted on one of said shafts, said male knife assembly comprising a curved knife blade, an annular male die, a ring removably attachable to the male die for holding the male knife blade therebetween, said male die and ring each having an outwardly extending offset formed integrally therewith of a circumferential length less than one-half of the circumference of the male die and male ring respectively, said offsets being slanted inwardly toward a plane perpendicular toward the axis of rotation of the male knife assembly to form in a box blank a substantially V-shaped notch that extends in the direction of rotation of the male knife assembly and means for clampingly retaining the knife blade, ring and male die together in various selected limited adjusted angular positions relative to one another while retaining the same axial relationship of said knife blade, ring and male die; and a female knife assembly mounted on the other shaft, said female knife assembly including an annular female die and a ring member removably attachable to the female die with a space intermediate the female die and ring member, said female die and ring member each being integrally formed and including a radially inwardly extending cutout portion formed in the outer peripheral portion thereof and shaped to permit a close intermeshing fit with the offsets of the male die and ring when the male knife assembly and female knife assembly are mounted on respective shafts to have the circumferential surfaces located in close proximity to one another and means for clampingly retaining the ring member and female die together in various selected limited adjusted angular positions relative to one another while retaining the same axial relationship of said ring member and female die.

3,196,705
UNITARY INDEX DRIVE SHAFT ASSEMBLY FOR GAS METERS
Charles W. Stewart, Lancaster, Ohio, assignor to Karl L. Schaus, Tempe, Ariz.
Filed Nov. 14, 1963, Ser. No. 323,690
3 Claims. (Cl. 74—425)



2. A unitary index drive shaft assembly for a gas meter comprising an elongated tubular housing means having an externally screw threaded surface for mounting said assembly in a wall of a gas meter, said housing means including a shaft-receiving bore extending axially therethrough; an index drive shaft extending axially and rotatably through the bore of said housing means; gear means drivingly connected with one end of said shaft for imparting axial rotation thereto; an annular, resiliently compressible sealing ring carried snugly on said shaft and engaging said housing means adjacent the shaft-receiving bore thereof; and spring means mounted in said housing means and operable to maintain said sealing ring in tight-fitting engagement with said housing means.

3,196,706
CONTROL CABLE PROTECTIVE ASSEMBLY
Warren E. Sevrence, Adrian, Mich., assignor to American Chain & Cable Company, Inc., New York, N.Y., a corporation of New York
Filed Aug. 30, 1962, Ser. No. 220,500
3 Claims. (Cl. 74—501)

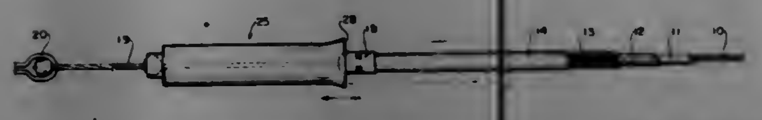
1. In a control cable including a casing, an end fitting secured to one end of said casing, and a core element reciprocable within said casing and having an end por-

tion extending from said end fitting, a protective end assembly for said cable comprising:

(a) a ball element affixed about said core element end portion; and

(b) an elongated hood comprising:

(i) a resilient socket joint element fitted about said

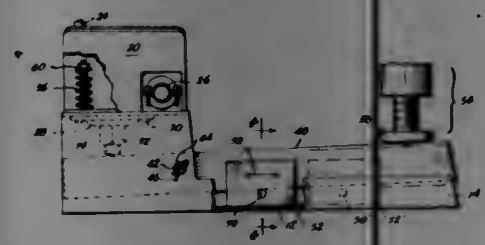


ball element in releasable universally pivotal moisture-sealed engagement therewith, and

(ii) a tubular body extending from said socket joint element about said core element end portion toward and loosely surrounding said end fitting.

3,196,707
SWITCH ACTUATING MECHANISM

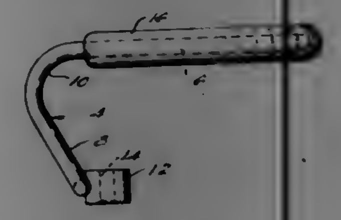
Lyle B. Muzzall, Jr., Box 56, Mount Vernon, Wash.
Filed Feb. 9, 1962, Ser. No. 172,319
15 Claims. (Cl. 74—522)



1. A weight responsive switch actuating mechanism comprising a base member of elongated, channeled configuration, a switch actuating member spaced above said base member, means mounting said switch actuating member on said base member, a rigid lever arm located within the channeled area of said base member with one end of said arm contacting said switch actuating member, and fulcrum means located within the channeled area of said base member, said fulcrum means intermediately supporting said lever arm for pivotal movement thereof, said fulcrum means being slidably adjustable along the channeled area of said base member to vary the extent of lever arm loading necessary to actuate said switch actuating member.

3,196,708
STEERING WHEEL

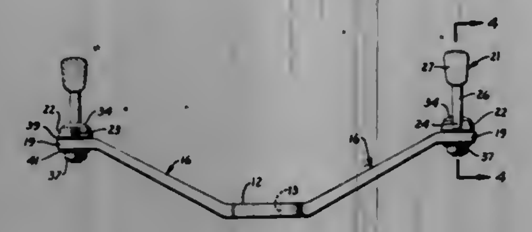
Paul R. Weitzman, Portland, Ind., assignor to Sheller Manufacturing Corporation
Filed Sept. 14, 1962, Ser. No. 223,687
4 Claims. (Cl. 74—552)



4. A steering wheel comprising a continuous circular ring of substantially constant radius including a first section disposed in a first plane and a second section disposed in a second plane angularly positioned relative to said first plane and connected by arcuately bent integral segments of said ring, a hub affixed to substantially the midpoint of said second section and disposed with its axis substantially perpendicular to and intersecting said first plane at substantially the center of the arcuate curvature of said first section, and a coating around at least a portion of said ring for facilitating the gripping thereof.

3,196,709
STEERING CONTROL WITH SWIVEL HANDLE

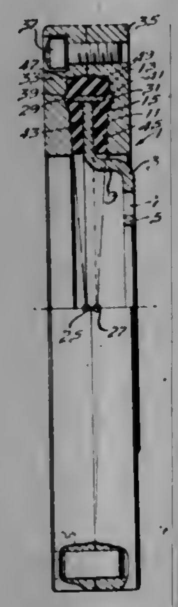
Richard A. Bickford, 611 Pierce Road, Menlo Park, Calif.
Filed Sept. 18, 1962, Ser. No. 224,314
3 Claims. (Cl. 74—557)



1. A steering control comprising a central base shaped for attachment to a steering column, a pair of arms extending outwardly from said base, each having a first aperture adjacent its outer end, a hand grip on the outer end of each said arm, said grip having a hand hold shaped to fit the hand of the driver, legs depending from said hand hold, a grip base receiving said legs and formed with a second aperture, a bolt passing through said apertures, means holding said bolt non-rotative relative to said grip, a nut in threaded engagement with said bolt, and at least one compressible friction disc interposed between said grip and arm, adjustment of said nut on said bolt varying the compressive and frictional force on said disc between said grip and arm to control and adjust the resistance to rotation of said grip relative to said arm.

3,196,710
DAMPER

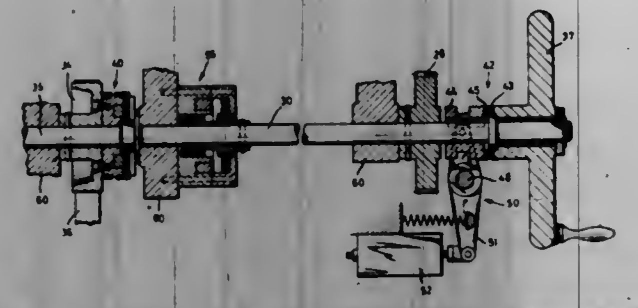
Thomas H. Peirce, 16725 Shaftsbury, Detroit, Mich.
Filed July 22, 1963, Ser. No. 296,646
9 Claims. (Cl. 74—574)



1. A torsional vibration damper for damping oscillations about an axis, comprising an inertia member having a cavity therein, a rubber body compressed in said cavity, and a retainer having a part radial to said axis and an outermost peripheral part annular with respect to said axis, said annular part being materially wider than said radial part, both said parts being embedded in said rubber and said annular part supporting the weight of the inertia member.

3,196,711
MACHINE TOOL TRANSMISSION ARRANGEMENT

Karl Spohn, Oberesslingen (Neckar), Germany, assignor to Index-Werke K.G. Hahn & Tessky, Esslingen (Neckar), Germany
Filed Dec. 13, 1961, Ser. No. 159,496
Claims priority, application Germany, Dec. 17, 1960, J 19,168
11 Claims. (Cl. 74—625)



1. In a machine tool, in combination, transmission means for transmitting motion to parts of the machine tool; machine drive means; machine drive clutch means connecting said machine drive means to said transmission means when said machine drive clutch means is engaged, and disconnecting said machine drive means from said transmission means when said machine drive clutch means is disengaged; manually operable means capable of being moved by the operator; manual drive clutch means connecting said manually operable means to said transmission means for actuating the latter from said manually operable means when said manual drive clutch means is engaged, and said manual drive clutch means disengaging said manually operable means from said transmission means when said manual drive clutch means is disengaged; a pair of electrical operating means respectively connected to said machine drive clutch means and said manual clutch means for respectively operating said drive and manual clutch means; and electrical connecting means interconnecting said pair of electrical operating means for disengaging one of said clutch means in response to engagement of the other of said clutch means and vice versa, whereby mechanical actuation of said transmission means is avoided when said manual drive clutch means is engaged and whereby said transmission means is connected to said drive means when said manual drive clutch means is disengaged.

3,196,712
POWER DRIVE ATTACHMENT FOR FLUID CONTROL VALVES

Harold S. Hilton, 13075 NE. 61st Place, Kirkland, Wash.
Filed Mar. 29, 1963, Ser. No. 269,103
3 Claims. (Cl. 74—625)

1. For use with a fluid control valve having a valve member movable in a valve body and operated by an elongated screw extending outwardly from the valve member between laterally spaced elongated arms of a yoke member projecting outwardly from the valve body, and a rotary hand wheel threaded to the outer end of the screw and mounted rotatably on the yoke: a power drive attachment comprising

(a) a ring gear,

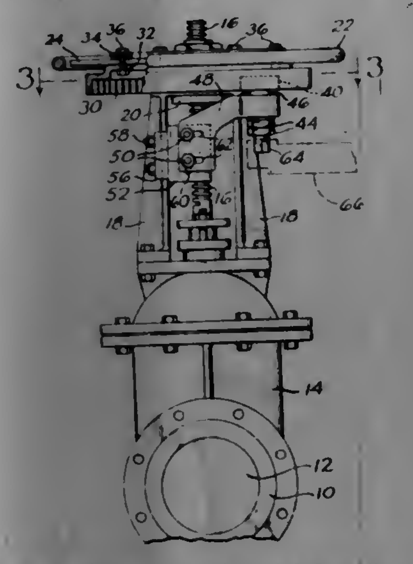
(b) mounting means engaging the ring gear and adapted to engage the hand wheel for releasably securing the ring gear to the hand wheel in a position freely encircling the screw,

(c) a pinion,

(d) pinion support means mounting the pinion for rotation thereon and adapted for releasable attachment to one of the laterally spaced arms of the yoke member for adjustment along the length of said arm for adjusting the pinion in its axial direction relative to the yoke arm,

(e) the support means including adjustment means for adjusting the pinion in its radial direction relative to the yoke arm,

(f) the support means thereby affording adjustment of the pinion in its axial and radial directions relative to

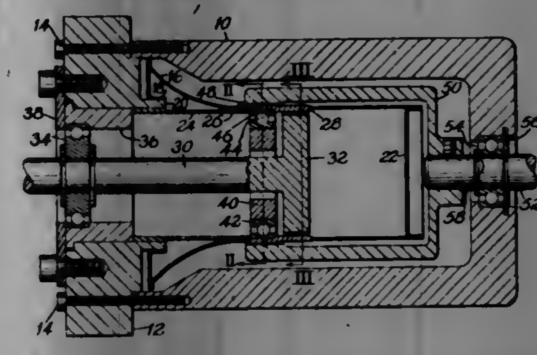


the yoke arm into driving engagement with the ring gear, and

(g) connector means engaging the pinion and adapted for releasable connection to a portable source of rotary power.

3,196,713
HERMETICALLY SEALED TRANSMISSIONS

Hugh A. Robinson, Wenham, Mass., assignor to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Jan. 9, 1964, Ser. No. 336,786
9 Claims. (Cl. 74—640)

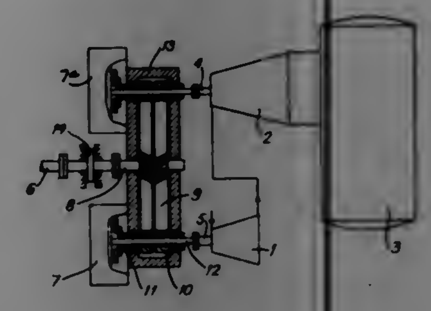


1. In mechanism for transmitting rotary motion through a wall, a tubular, radially deflectible member having an end portion hermetically mounted on the wall and secured against rotation, sets of axial spline teeth formed one internally and one externally on the member, respectively, input and output circular splines coaxial with the member and respectively meshing with one set of the spline teeth formed thereon, at circumferentially spaced localities, and wave generator means coaxial with the member and disposed axially adjacent to the circular splines to impose a rotary lobar shape on the member thereby to determine their localities of splined engagements.

3,196,714
REDUCTION TRANSMISSION FOR MARINE MACHINERY

Stig Torsten Lundström, Nacka, Sweden, assignor to Stal-Laval Turbin Aktiebolag, Finspong, Sweden, a Swedish corporation
Filed May 13, 1964, Ser. No. 366,986
Claims priority, application Sweden, May 13, 1963, 5,229/63
1 Claim. (Cl. 74—665)

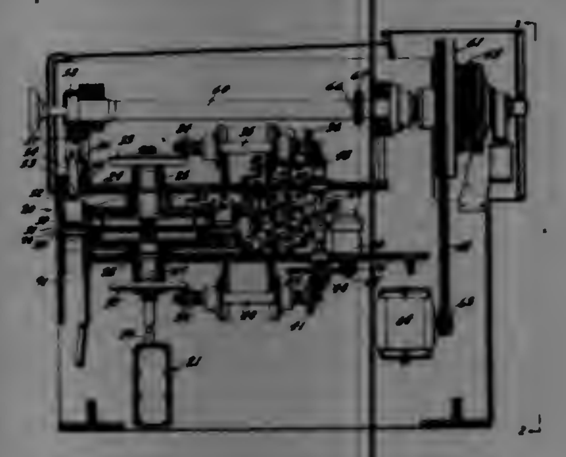
A reduction transmission for marine machinery comprising, a high pressure turbine and a low pressure turbine for the reduction in two steps of the turbine rotational speed to propeller shaft rotational speed, the first stage having epicyclic gearing having an input shaft coupled to one of the turbine driven shafts, a hollow output shaft extending from the epicyclic gearing, said input shaft extending through the hollow shaft, the hollow shaft being provided with a pinion located between the epicyclic gearing and the turbine, said pinion forming a part of the second stage, and a gear wheel on the propeller



shaft in mesh with said pinion, the axis of the pinions and the propeller shaft being located in the same horizontal plane with a casing enclosing and supporting the gearing and which casing is mainly symmetrical about a vertical plane passing longitudinally through the propeller shaft, said gear casing being of rectangular shape and erected on four supports placed one at the center of each side of the rectangle formed by the gear casing.

3,196,715
REMOTE CONTROL SYSTEM

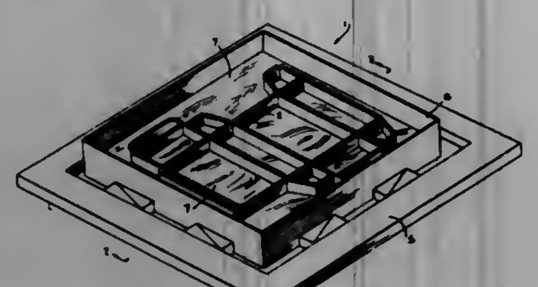
Walton Rainey, Ardmore, Martin Friedland, Flourtown, and Lucius E. Thomas, Norristown, Pa., assignors, by mesne assignments, to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Jan. 17, 1962, Ser. No. 166,962
27 Claims. (Cl. 74—821)



1. In mechanism for positioning control, turret means adapted to turn to any one of a plurality of different angular positions, cam means interconnected with said turret means and turning with said turret means, said cam means having a position corresponding to each of several different registry positions of said turret means, electric switch means operatively interconnected with said cam means, a relay matrix operatively interconnected to said electric switch means and selectively controlled by said switch means to produce a different output corresponding to the different switch means, drive means for turning said turret means and means responsive to cam operation of said switch means and selectively positioned by the relay matrix for operating said drive means and stopping said drive means at each of the turret positions.

3,196,716
CARTON BLANKING DIE AND METHOD OF MAKING

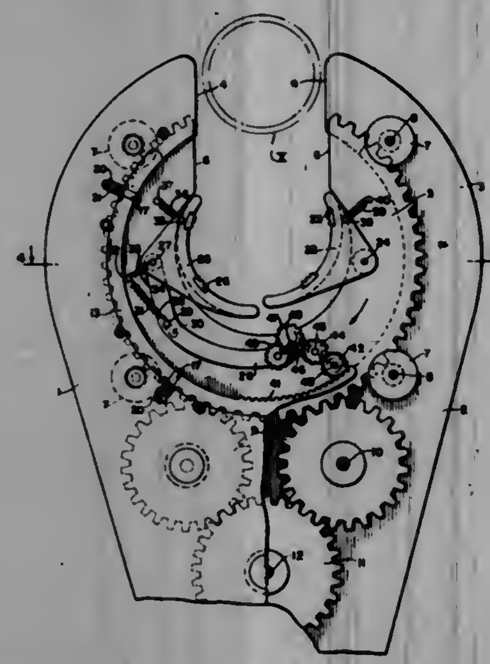
Willard R. Bonwit, Rydal, Pa., and John J. Hartlove, Baltimore, Md., assignors to The Lord Baltimore Press Incorporated, Baltimore, Md., a corporation of Maryland
Filed Feb. 21, 1962, Ser. No. 174,807
17 Claims. (Cl. 76—107)



1. The method of making a carton blanking die comprising the steps of supporting a set of rules in rigid supports in a pattern corresponding to the configuration of a carton blank, casting a material around and over the said rules to form a molded master die, removing the supports to expose a portion of each rule, casting a material about the exposed portion of the rules to form a molded unit die, and removing said unit die from the rules of the master die.

3,196,717
PIPE GRIPPING MECHANISM FOR CASING TONGS

Billy K. Sheppard, Eastland, Tex.
(2190 Woodland Drive, Stephenville, Tex.)
Filed July 29, 1963, Ser. No. 298,041
8 Claims. (Cl. 81—57)

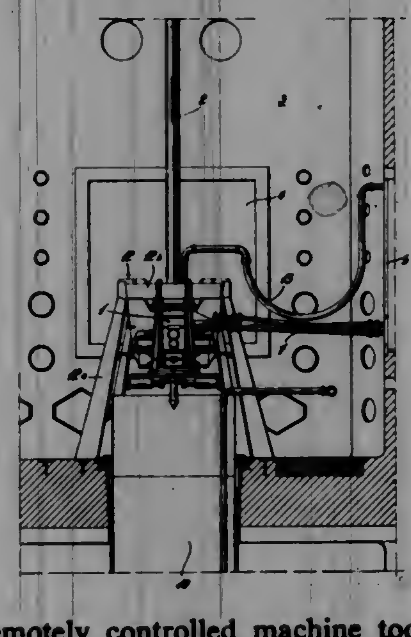


1. A pipe tongs comprising, in combination, an annular frame provided with a radial throat for the reception of a pipe, a partial ring rotatably mounted in said frame and having a side opening therein which may be brought into registry with said throat so that a pipe may be inserted laterally into said ring and disposed at the center thereof, means for rotating said ring about its central axis, a first pipe-gripping jaw pivotally mounted on said ring, an elongated rigid member pivotally mounted on said ring at a point between its ends, a second-pipe-gripping jaw pivotally carried by one end of said member in a position opposite said first jaw, a brake element frictionally engaging said frame, and means connecting said partial ring and brake element with the other end of said second jaw-

carrying member in such manner that rotation of said ring serves through said brake element to move said second jaw into biting engagement with the pipe.

3,196,718
REMOTE-CONTROLLED MACHINE TOOL FOR HOT CHAMBERS OF NUCLEAR ENERGY PLANTS

Horst Hermann, Leopoldsburg, Belgium, assignor to European Atomic Energy Community-Euratom, Brussels, Belgium
Filed June 11, 1962, Ser. No. 201,639
8 Claims. (Cl. 82—20)



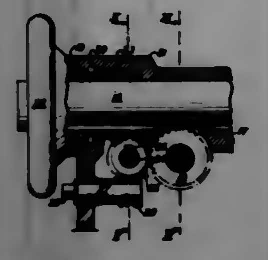
1. In a remotely controlled machine tool for use in a hot chamber of an atomic power plant, the combination comprising:

(a) a stationary machine base;
(b) workpiece clamping means within said base, adapted to hold and stabilize a workpiece to be machined;
(c) rotatable means engageable with said clamping means to cause clamping operation thereof;
(d) a rotatable, axially stationary, driving cylinder, mounted around said base and coaxial therewith;
(e) a tool table, including an adjustable machine tool adapted to engage the workpiece held by said clamping means; said tool table being threadedly mounted on said driving cylinder whereby relative rotation of said cylinder and table causes relative axial displacement thereof;
(f) an epicyclic transmission system interconnecting said driving cylinder and said tool table to cause relative rotation thereof;
(g) a satellite cage, included in said epicyclic system, rotatable about said driving cylinder to cause relative rotation and axial displacement of said driving cylinder and table, independently of the rotation of said driving cylinder, and
(h) power means for driving said rotatable means engageable with said clamping means, said driving cylinder and said rotatable cage.

3,196,719
TAILSTOCK WITH MULTIPLE DRIVE MODES

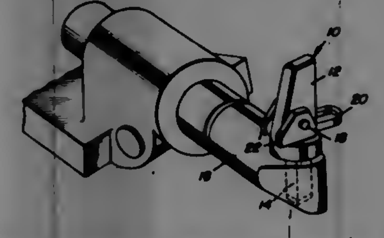
Pierre François de Valliere, 14 Avenue de Bretteville, Neuilly-sur-Seine (Seine), France
Filed June 19, 1961, Ser. No. 117,875
Claims priority, application France, June 24, 1960, 831,015, Patent 1,269,144
6 Claims. (Cl. 82—31)

1. A tailstock device comprising a slidably supported cylinder, a rack coupled to the cylinder for movement therewith, a pinion gear adapted for being externally driven and in constant mesh with said rack, a handwheel coaxially disposed with respect to said cylinder and traversed by said cylinder and means for selectively connecting said handwheel to said rack in irreversible driving relation whereby said cylinder can be selectively driven externally and sensitively through said pinion gear and irreversibly by said handwheel also through said pinion gear.



3,196,720
LATHE TOOL FOR RUBBER

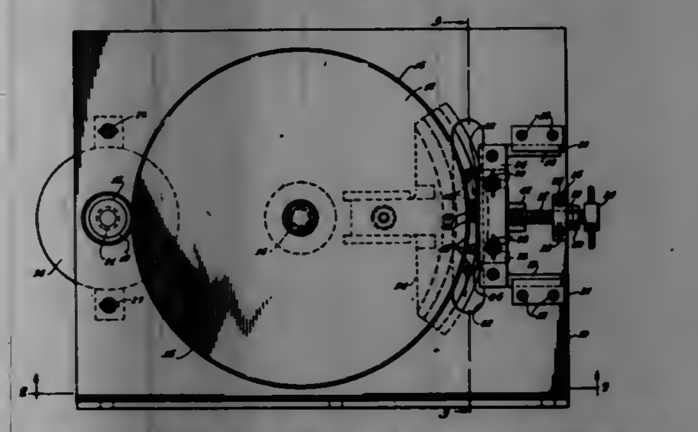
John G. Streckfus, 232 Margate Road, Timonium, Md.
Filed Dec. 21, 1962, Ser. No. 246,444
4 Claims. (Cl. 82—36)



1. In a lathe having mounted thereon a boring rod, with said boring rod having an aperture suitable for receiving and positioning a tool bit, a member having a shank at one end for reception and positioning by said aperture in said boring rod, a pair of substantially flat sides at the other end thereof, and a pair of shelf portions formed intermediate said shank and said flat sides, a cutter blade having a loop portion and a pair of leg portions extending therefrom, with said loop portion having a cutting edge therein, and means to clamp said leg portions against said flat sides with a longitudinal edge of each of said leg portions supported by a corresponding shelf portion.

3,196,721
WIRE STRIPPING MACHINE

Chester Brandon, Bethesda, Md., assignor to General Precision, Inc., a corporation of Delaware
Filed Nov. 9, 1962, Ser. No. 236,616
2 Claims. (Cl. 83—8)

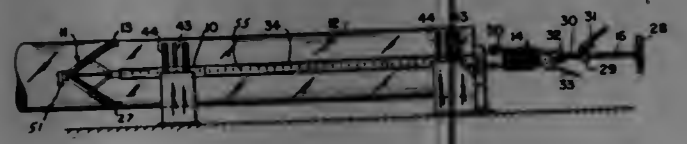


1. A machine for circumferential severing insulation of an insulated conductor comprising: a standard having a slot therein, a rotatable wheel mounted on said standard, said slot positioned in said standard vertically along a circumferential edge of said wheel, a platen spaced adjacent the periphery of said wheel on one vertical edge of said slot in said standard and adjustably mounted to

move along the radii of said wheel, a blade embedded in said platen and having a cutting edge protruding therefrom, said blade adjustably mounted to slide independent of said platen, a gauging block means provided to gauge the length of insulation removed from said insulated conductor having a plurality of spaced steps positionably mounted under said slot in said standard and opposite said rotatable wheel, said gauging block being adjustably positioned contiguous to the periphery of said wheel, and, a positioning means adapted to position a selected step of said gauge block beneath said slot of said standard.

3,196,722
PIPE CUTTER

Harold V. Lewis, Painted Post, and Courtland C. Stanton, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York
Filed Feb. 21, 1964, Ser. No. 346,515
5 Claims. (Cl. 83—12)



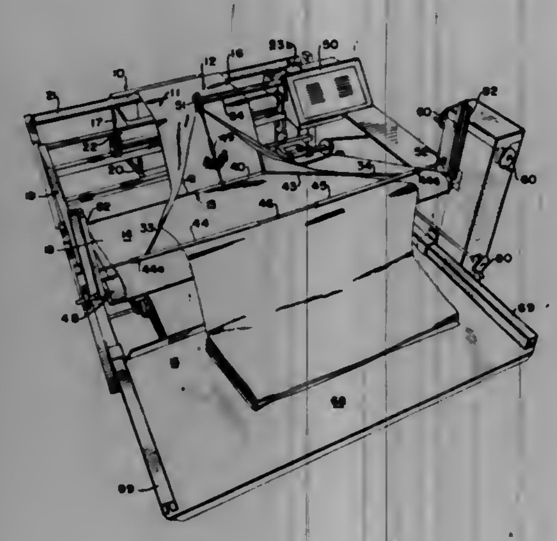
1. Means for circumferentially scoring the interior surface of glass pipe which means comprises a hollow support, a rod passing through said hollow support and extending therefrom and axially reciprocable with respect thereto, at least one first support arm attached to a pivot near one end of said rod outside said hollow support and attached at its remaining end to a cutting tool, a second arm attached at one end to a pivot on said hollow support and at its remaining end to a pivot on said first support arm midway between said cutting tool and said pivot to which said first arm is attached, and on the side of said rod opposite said cutting tool at least one third support arm attached to a pivot near one end of said rod outside said hollow support, a fourth arm attached at one end to a pivot on said hollow support and at its remaining end to a pivot on said third support arm midway between said pivot to which said third support arm is attached and the remaining end of said third support arm, means for rotating said rod and said hollow support and means for reciprocating said rod with respect to said hollow support.

3,196,723
METHOD AND MEANS FOR SLITTING AND OPENING TUBULAR MATERIAL

Samuel Cohn and Joseph Cohn, New York, Eugene Cohn, Great Neck, and Frank Catallo, Elmont, N.Y., assignors to Samcoe Holding Corporation, Woodside, N.Y., a corporation of New York
Filed Apr. 18, 1961, Ser. No. 103,927
18 Claims. (Cl. 83—23)

1. An apparatus for slitting and opening distortable tubular knitted material, which comprises guiding means, means for advancing the material over said guiding means and along a predetermined axis, means mounted adjacent said guiding means for slitting one layer of said material longitudinally as it is advanced, an opening frame positioned to receive slit material from said guiding means, said opening frame comprising a first portion guiding a central longitudinal area of the slit material through a predetermined path disposed at an angle to said predetermined axis and into a flat plane disposed at an angle to said predetermined path and a second portion controllably guiding outer longitudinal areas of said slit material through predetermined divergent paths and into said flat plane, said opening frame being so related to said predetermined axis and to said flat plane that all longitudinal portions of said material are controllably guided through paths of equal length in travelling to a predetermined transverse line in said plane.

4. The method of slitting and opening tubular material which comprises advancing the material longitudinally, slitting one layer of the material along one side as it advances past a predetermined point, immediately thereafter directing the slit edges of the material in divergent directions until the material is in flat open width form in a predetermined plane, and controllably directing the intermediate longitudinal portions of the material, between the points where the material is slit and where it is in flat form, through a predetermined path having a first portion disposed at a substantial angle to said plane and a second portion lying in said plane, such that the distance traveled by said intermediate longitudinal portions between said points equals the distance traveled by said slit edges.

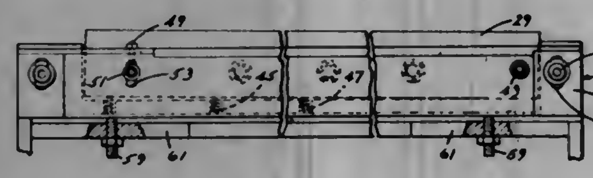


ERRATUM

For Class 83—345 see:
Patent No. 3,196,704

3,196,724
SHEAR TYPE CUTTER

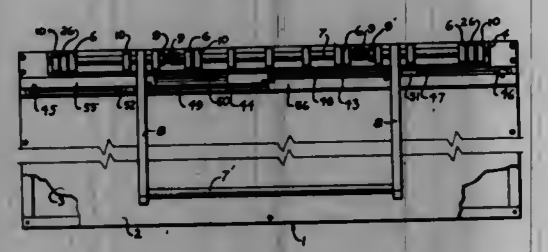
Carl A. Frank, Rivervale, N.J., assignor, by mesne assignments, to Avisun Corporation, Philadelphia, Pa., a corporation of Delaware
Filed Oct. 1, 1962, Ser. No. 227,233
3 Claims. (Cl. 83—349)



1. Apparatus for cutting a sheet material with a shearing action including a rotor, a blade carried by and projecting from the periphery of said rotor, said blade being disposed along a plane which is inclined relative to the axis of said rotor and having a cutting edge lying on a surface of revolution about the rotor axis, a fixed structure having a surface substantially parallel to the axis of said rotor, a bed-knife, said bed-knife having a cutting edge, means supporting said bed-knife for movement toward and away from said rotor and along said surface of the fixed structure, said bed-knife cutting edge cooperating with the cutting edge on said blade for shearing a sheet material progressively across its width as said rotor is turned, and springs located at spaced intervals along the length of the bed-knife for urging the same in a direction transversely to its longitudinal axis and snugly against said surface of said fixed structure whereby said bed-knife is maintained substantially parallel to the rotor axis yet is permitted to move along said supporting structure during the shearing of a sheet material.

3,196,725
PUNCHING APPARATUS HAVING MEANS TO CENTER WORKPIECE

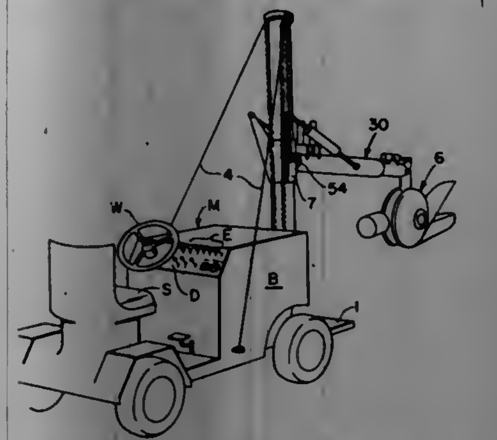
Claude K. Hulen, 1524 Charlotte, Kansas City, Mo.
Filed Jan. 28, 1963, Ser. No. 254,264
5 Claims. (Cl. 83—389)



1. A sheet punching apparatus comprising:
(a) a sheet supporting table, a riser bar fixed with respect to said table and having spaced bearing members extending therefrom, a shaft rotatably mounted in said bearing members, means operably secured to said shaft for selectively rotating said shaft through an arc,
(b) punch guide means on said riser bar, a plurality of spaced punching members axially slidable in said punch guide means, one of said punching members being at a center position of a line parallel to said shaft, connecting means between each of said punching members and said shaft for sliding said punching members in response to the rotation of said shaft, means forming a recessed open slot adjacent said riser bar for receiving said punching members thereinto,
(c) means in said table forming a receiving bore with a die opening into said slot for each of said punching members and aligned with said respective punching members across said slot, said punching members being reciprocably guided through said slot into said receiving bores upon actuation of said shaft rotating means,
(d) rod guide means on said riser bar, a rod slidable in said rod guide means,
(e) a head fixed to said shaft, a slot extending through said head and intersecting said recess,
(f) a pin in said head slot and movable therein toward and away from said recess, a resilient member in said recess and resiliently bearing against said pin for urging same tranvsersely of said head slot,
(g) a link pivotally connected between said pin and said rod whereby said head, pin and link operatively connect said shaft and said rod for sliding said rod in response to the rotation of said shaft,
(h) a hold-down bar having a height less than the height of said slot, said hold-down bar being operably secured to said rod for reciprocation in said slot,
(i) resilient means between said hold-down bar and said shaft, whereby said hold-down bar resiliently engages a sheet in said slot before said punching members enter said receiving bore upon actuation of said shaft rotating means,
(j) and adjustable lug means equally and simultaneously movable toward and away from said center position and engageable with a sheet to be punched to center said one punching member relative to opposed edges of said sheet.

3,196,726
MOBILE APPARATUS FOR CUTTING DISCARDED AUTOMOBILE BODIES INTO PIECES OF SCRAP STEEL

Joseph R. Mordan, 13260 Clinton St., Alden, N.Y.
Filed Sept. 20, 1963, Ser. No. 310,216
10 Claims. (Cl. 83—523)



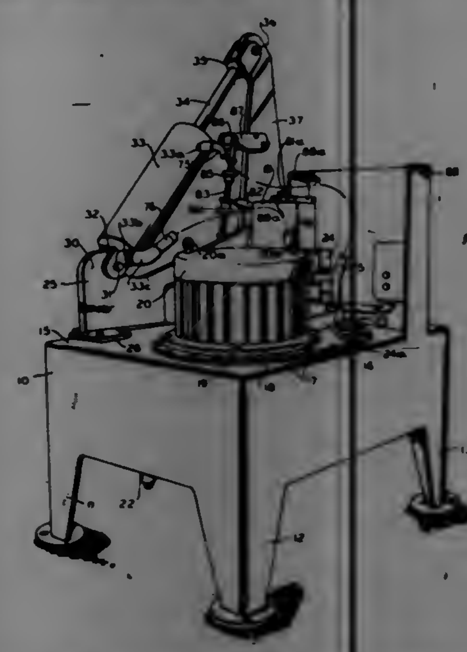
1. An apparatus for cutting discarded automobile bodies into pieces of scrap steel comprising, in combination: a wheeled mobile unit having a forwardly projecting shelf, an upright mast mounted upon the shelf for turning movement about its vertical axis, a sleeve mounted on the mast for vertical movement and for participation in its turning movement, an arm pivotally connected at its rear end to the sleeve for support, projecting forwardly from the sleeve and movable about its pivot in a vertical plane, an extensible and retractable linkage member for the support of the arm and having its rear end pivotally connected to the sleeve and its front end pivotally connected to the arm, a bracket pivotally pendent from the front end of the arm, a cutter carried by the bracket and consisting of pivotally connected companion shear parts operative by their relative pivotal movements to carry out the cutting operation, a series of power operated movable elements severally for effecting the turning movement of the mast in either direction, the vertical movement of the sleeve in either direction, the extensible and retractable movements of the linkage member with resultant vertical movement in either direction of the arm, the pivotal movement in either direction of the bracket from and to a position in which it is normal to the arm, and the relative pivotal movements of the shear parts, a series of controlling elements carried by the mobile unit and operable selectively by the driver of the mobile unit, and means severally responsive to the particular operations of the controlling elements for severally effecting the operations of the power operated elements.

3,196,727
HYDRAULIC SHEAR

Edwin B. Pray, 345 N. Montgomery St., San Jose, Calif.
Filed July 10, 1961, Ser. No. 122,778
6 Claims. (Cl. 83—601)

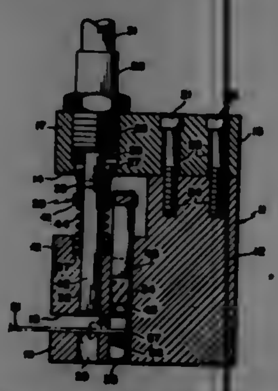
1. In hydraulically operated shears for cutting metal and the like, the combination comprising wall structure forming a tank for receiving the hydraulic fluid for operating the shear, a bottom shear arm, means for attaching said shear arm to the top of said tank, said shear arm having a portion projecting over a side of said tank, a cutting blade attached to said projecting portion, a movable shear arm, a shaft extending through holes formed in said bottom shear arm and in said movable shear arm, antifriction bearing means positioned on said shaft, said bearing means comprising a pair of roller bearing assemblies, each assembly having an inner race and an outer race with a plurality of roller bearings therebetween, said hole in one of said arms being recessed to form a housing for said roller bearing means, said housing having means for clamping said outer races of said roller bearing assemblies

to inner surfaces thereof, said movable shear arm also having a portion adapted to project over the side of said tank to cooperate with the projecting portion of said bottom shear arm, a cutting blade attached to the projecting portion of said movable shear arm, hydraulically operable means attached to said movable shear arm for rotating said movable shear arm on said bearing means to bring said cutting blades toward each other in a shearing operation, a pump, a motor for driving said pump, means for mounting said pump and said motor on said tank so that said pump is positioned inside of said tank to receive the hydraulic fluid therefrom, a directional valve having solenoid means for operation thereof, tubular connections between said hydraulically operable means, said directional valve and said pump, control means for said directional valve so that hydraulic pressure may be applied to said hydraulically operable means to open and close said cutting blades of said arms, said control means comprising a reversing switch for controlling the energization of said solenoid means and an adjustable mechanism connected to said movable arm for operating said reversing switch in accordance with the oscillatory movement of said movable arm.



3,196,728
METHOD AND APPARATUS FOR PUNCHING AND SLITTING

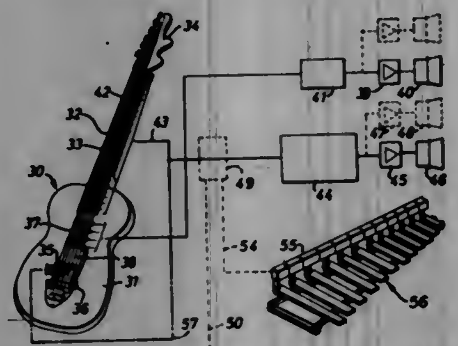
Greer B. Snow, 3041 Grand Ave., Miami, Fla.
Filed Feb. 19, 1963, Ser. No. 259,560
3 Claims. (Cl. 83—618)



1. For use in punching and slitting transparent plastic material, a device comprising; a block of solid material; said block having a slot therein adapted to receive a plurality of transparent plastic sheets to be provided with a hole and an adjacent weakened area, and a pair of substantially parallel openings lying normal to said slot; a piston slidably housed in said block and having carried thereby and fastened thereto a hole punch element and a slit-making element slidably housed in said openings, said slit making element being connected for vertical movement with the hole punch and being slidable in a horizontal plane for alignment relative to the hole punch on vertical movement, said elements being adapted to be moved upon application of force to said piston into and out of said slot portion for punching and slitting sheets of transparent plastic material received positioned therein; and means connected to said block for reciprocally driving said piston.

3,196,729
MUSICAL INSTRUMENTS

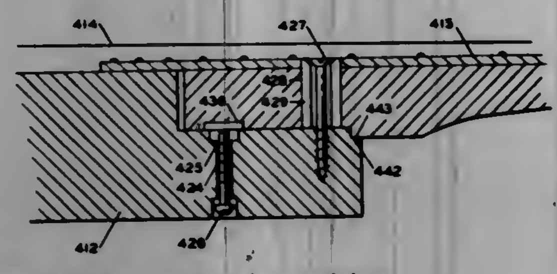
James Ormston Burns, Buckhurst Hill, and Gordon Spencer Chandler, Frimley, near Aldershot, England, assignors to Ormston Burns Limited, London, England
Filed Feb. 5, 1963, Ser. No. 256,363
Claims priority, application Great Britain, Feb. 5, 1962, 4,434
15 Claims. (Cl. 84—171)



1. A stringed musical instrument comprising a fingerboard, a plurality of metallic strings extending over said fingerboard and normally spaced therefrom, a plurality of spaced transversely extending frets along said fingerboard, each fret comprising a base moulded of a plastic material and having at its outer edge a groove, a plurality of metallic inserts received in said groove in spaced relationship to one another, the number of inserts in each fret corresponding to the number of strings and corresponding inserts in all the frets being associated with an individual string, the application of digital pressure to any particular string at a region above a fret bringing that string into engagement with the associated insert on that fret, means for electrically insulating said strings from one another, electrical connecting means connected with each of said strings and electrical connecting means extending through the frets and connected with each of said string-engaging inserts, said strings and said string-engaging inserts serving as switching means for controlling the operation of at least one other sound-producing device.

3,196,730
MUSICAL INSTRUMENTS

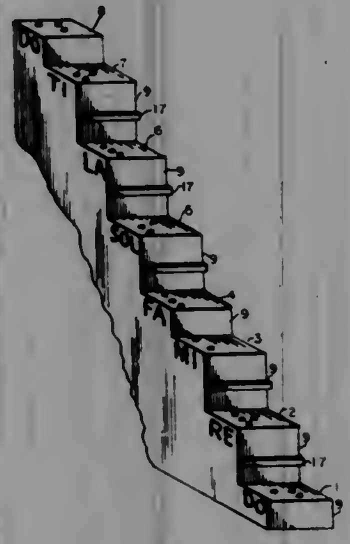
Francis L. Daniel, 1950 Wyandotte Road, Columbus, Ohio
Filed July 17, 1962, Ser. No. 210,425
13 Claims. (Cl. 84—293)



2. A musical instrument comprising
a solid body having a front end and a rear end;
a bridge secured to said body adjacent to the rear end of said body;
an elongated neck having a front end and a rear end and formed with a bore adjacent to its rear end and extending vertically downward therethrough and said neck being adjustably secured to said body at a point adjacent to the rear end of the neck;
a plurality of strings secured to the body at a point adjacent to the bridge and passing over the bridge and connected to the front end of the neck and tending to urge said front end of the neck upward and out of a straight line continuation of said body;
means comprising a screw passing vertically downward through said bore in the neck and threaded downwardly into said body for securing the neck to the body in such a manner that the neck may, to a limited extent, be moved angularly upward and downward relative to a straight line continuation of said body; and
means comprising a second screw operatively connected to said neck and said body for adjustably limiting the angular movement of the neck away from a straight line continuation of said body.

3,196,731
SOLFA STAIRWAY

Rae S. Ingley, 754 Old Lundy Road, Macon, Ga.
Filed July 22, 1963, Ser. No. 296,790
1 Claim. (Cl. 84—476)

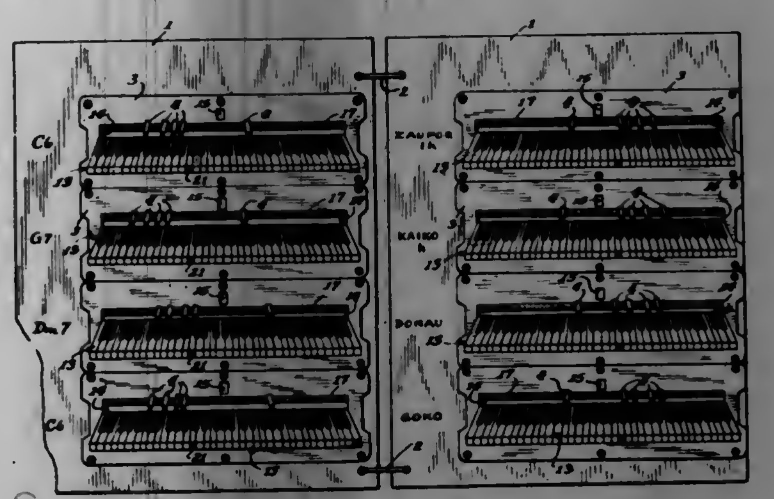


A stairway device for teaching the fundamentals of music to the blind comprising:
a plurality of steps equal in number to the number of tones in an octave of the major scale;
braille symbols on the tread of each step to identify each step with a tone of the major scale;
a plurality of risers separating said steps, said risers being dimensionally proportional in the vertical direction to the tonal intervals occurring between the tones represented by the steps; and
strips mounted on said risers in a direction parallel to the surface of said steps and spaced between the upper and lower edges of the risers a distance proportional to the intervals occurring between the tones represented by the steps and the tones of the chromatic scale.

3,196,732
TONALINGUA CHORDMASTER SET

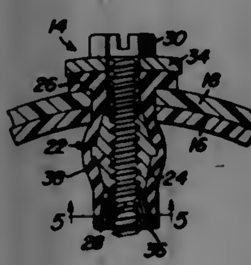
William B. Conner, P.O. Box 161, St. Cloud, Minn.
Filed June 18, 1962, Ser. No. 203,208
28 Claims. (Cl. 84—478)

1. In a display structure for indicating chord relationships, the combination of a body member having the representation of a piano keyboard thereon, an indicating member cooperable with said body member to designate a plurality of desired notes on such keyboard in a predetermined chord relation, and cooperating means on said body and indicating members for visibly presenting a melody note, said plurality of chord notes being displayed in predetermined relation with respect to the melody note to designate the keys representing the notes formnig the particular chord for the designated melody note, movement of said indicating member relative to said body member being operable to designate any melody note and the corresponding keys of the predetermined chord combination for such note.



3,196,733
FASTENER ASSEMBLY

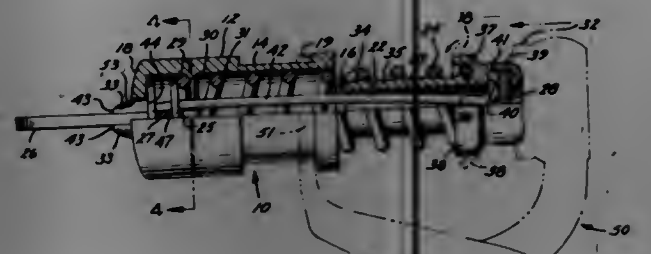
Irvin Cohen, Reading, and Bernard D. Levy, Pittsburgh, Pa., assignors to Construction Fasteners, Inc., Reading, Pa., a corporation of Pennsylvania
Filed Feb. 28, 1961, Ser. No. 92,188
2 Claims. (Cl. 85—75)



1. A fastener assembly for connecting overlapping panel portions of panel members comprising, deformable tubular seal means having a flexible pressure distributing seal portion disposed at one end of the tubular seal means, grip surface means disposed within the tubular seal means at an end opposite said one end, rigid insert means insertable within said opposite end of the tubular seal means and engageable with the grip surface means to resist rotation thereof, and fastener tightening means insertable through the tubular seal means from said one end for operative engagement with the insert means to maintain the insert means in an assembled position in the tubular seal means and subsequently displace the insert means entirely within the tubular seal means for outwardly deforming the tubular seal means thereabout, said insert means comprising a nut member having oppositely tapered portions separated by an annular shoulder for initially abutting against said opposite end of the tubular seal means when in assembled position therein, and thereafter produce expansion thereof along the tapered portions of the nut member.

3,196,734
FASTENING DEVICE

Lewis C. Finkle, Temple City, Calif., assignor to Wedgelock Corporation of California, North Hollywood, Calif., a corporation of California
Filed Apr. 5, 1963, Ser. No. 270,938
1 Claim. (Cl. 85—[illegible]1)

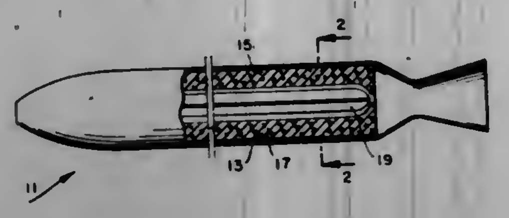


A fastening device comprising:
a body portion having an open end and a closed end;
an aperture in said closed end of said body portion;
spreadable wire means mounted in said body portion, said wire means comprising a pair of spreader wires each having an enlarged head extending through said aperture and a bowed shank extending out said open top;
a compressible spring having coils encompassing said wire means in said body portion and extending out said open top;
a hollow rivet encompassing said wire means and having a shank portion encompassed by said spring means, said rivet including means holding the upper coil of said spring captive;
an internal annular shoulder mounted in said body portion intermediate adjacent lower end coils on said spring to hold said spring captive in said body portion;
said upper coil holding means comprising a raised, external annular groove on said hollow rivet for securing said upper coil after expansion thereof and flange means on said rivet overlying said upper coil for maintaining said coil in firm engagement with said groove;
said groove being raised radially outwardly relative to said rivet shank portion and said flange means extending axially and engaging the surface of said upper coil;
each of said wires extending through said open top terminating in a turned-over head portion comprising an outwardly extending end portion of said wire, said hollow rivet comprising a land portion in the form of an annular shoulder located adjacent said head portions for seating one side of said head portions; and
a second rivet portion positioned adjacent the other side of said head portions after said head portions are seated for securing said head portions to said hollow rivet;
said second rivet portion including a flat surface engaging the turned-over head portions.

3,196,735
METHOD OF CASTING A FOAM-CORED ROCKET PROPELLANT GRAIN

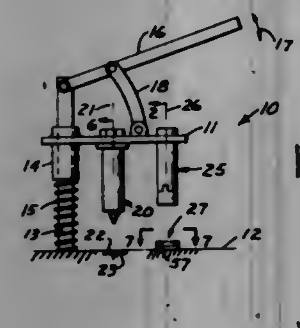
John E. Baldwin, San Jose, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 12, 1962, Ser. No. 202,027
5 Claims. (Cl. 86—1)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A method for casting a foam-cored rocket propellant grain in situ in a rocket motor comprising (a) coating the inside of said motor with an inhibitor, (b) disposing a preformed organic foam core centrally within said motor, (c) casting a propellant grain mixture around said core, and (d) curing said grain in place, during which said core is bonded to the grain and becomes an integral part thereof.



3,196,736
SHELL LOADER WITH HEATER AND CRIMPER ATTACHMENTS

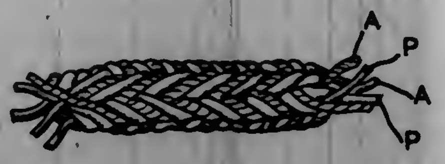
Leland A. Pace, 545 S. Los Robles, Pasadena, Calif.
Filed May 22, 1964, Ser. No. 369,416
17 Claims. (Cl. 86—25)



1. A shotgun shell reloading device comprising: a first and a second plate; means mounting the said plates so that one is movable toward the other along an axis; a sizer mounted to one of said plates, said sizer comprising a body with an axially-aligned central bore having a mouth open toward the other plate, a tapered expander inside the bore and narrowing toward the mouth, said expander including a peripheral cylindrical section, and a heater in said said expander to heat the same, there being an annular open space between the expander and the wall of the bore to receive a shell; a crimper having an axis, and mounted to one of said plates with its axis parallel to that of the plate motion, said crimper comprising a crimper sleeve having an internal cylindrical wall and an open mouth facing toward said other plate, and having an end adjacent to said mouth, a crimping shoulder on said internal wall, said crimping shoulder extending toward the axis as it extends away from the mouth, said crimping shoulder being spaced from said end by a fixed distance, a first and a second stop sleeve, both stop sleeves surrounding said crimper sleeve and being adapted to abut each other, the second stop sleeve being axially movable relative to the first stop sleeve, a tooth and a pair of adjacent recesses on the adjacent ends of the stop sleeves, the teeth being adapted to make contact in one relative rotational position of the stop sleeves, thereby establishing a first total axial length of the two stop sleeves, and to permit the teeth to mesh in another rotational position, thereby establishing a second total axial length of the two stop sleeves, the first stop sleeve being mounted to one of the plates, an external shoulder on the crimper sleeve adapted to be contacted by the second sleeve to force the crimper sleeve toward the second plate, a surface on said second plate contactible by one of said crimper or second stop sleeves, the crimper sleeve being axially movable relative to the first stop sleeve, and a spring urging the crimper sleeve away from said first stop sleeve; and handle means for moving the plates toward and away from each other.

3,196,737
GLAND PACKING MATERIAL

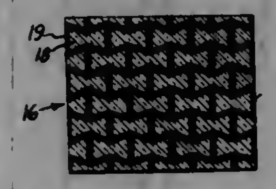
Samuel Clifford Walter Wilkinson, Cookham, England, assignor to Crane Packing Limited, Slough, England, a British company
Filed Dec. 10, 1962, Ser. No. 243,278
Claims priority, application Great Britain, Dec. 9, 1961, 44,148/61
16 Claims. (Cl. 87—6)



1. A gland packing material in the form of a strip of composite structure comprising strands of unsintered PTFE and strands of a non-synthetic resin material of greater strength than PTFE, said strands being braided together.

3,196,738
FIBER OPTICAL COMPONENTS

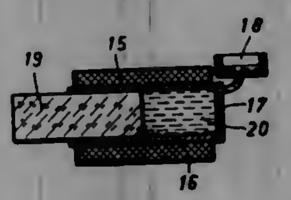
John W. Hicks, Jr., Fiskdale, Mass., assignor to American Optical Company, Southbridge, Mass., a voluntary association of Massachusetts
Filed Aug. 30, 1960, Ser. No. 52,886
5 Claims. (Cl. 88—1)



3. An optical component of the character described comprising a long and slender single strand of light-conducting material having a relatively high refractive index coated with a material of relatively low refractive index, said strand being uniformly cross-sectionally contoured to the configuration of a butterfly shaped re-entering polygon having a pair of oppositely disposed substantially plane parallel sides joined by a pair of concave V-shaped sides disposed opposite one another.

3,196,739
DISPERSION COMPENSATED PHOTOELECTRIC POLARIMETER

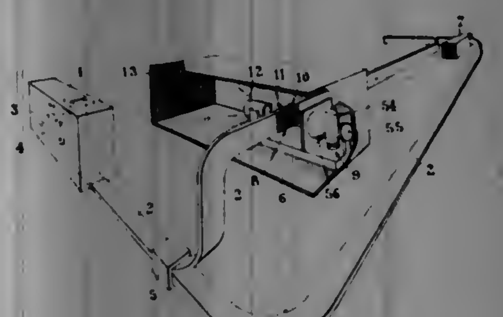
Hans Wenking and Johannes Flügge, Gottingen, Germany, assignors to Carl Zeiss, Oberkochen, Wurttemberg, Germany
Filed Mar. 20, 1961, Ser. No. 97,005
Claims priority, application Germany, Mar. 24, 1960, Z 7,895
4 Claims. (Cl. 88—14)



4. In a photoelectric polarimeter, a source of light to direct rays along a light path, a stationary polarizer and a stationary analyzer arranged in spaced relation within said light path to provide a space for receiving an object to be measured, a modulating Faraday coil in said light path energized by an alternating current and serving to rotate the plane of polarization of said light after passing through said polarizer, a compensating Faraday coil arranged in the direction of the light and in front of said analyzer, a photoelectric receiver within said light path arranged so that the light passing through said analyzer impinges thereon, an amplifier electrically connected to said photoelectric receiver, a current rectifier electrically connected to said amplifier for providing a direct current, means for supplying said direct current to said compensating Faraday coil in order to compensate the rotation of the plane of polarization in the object to be measured, said source of light furnishing light within a predetermined wave length range, said compensating Faraday coil containing at least two magneto-optically active substances, which have different Verdet constants, arranged one behind the other in the direction of the light, the Verdet constants of said two substances cooperating proportionally according to the effective path length through each substance so that a conformal dispersion of the Verdet constant of the compensating coil with the specific rotation of the object to be measured results within the wave length range of the source of light.

3,196,740
REMOTE-CONTROLLED LUMINOUS DISPLAY PANEL SYSTEM

Jacques Gouyou-Beauchamp, Ville d'Avray, and Francis Brugere, Gentilly, France, assignors to Societe Anonyme so-called: Saunier Duval, Paris, France
Filed Nov. 29, 1960, Ser. No. 72,333
Claims priority, application France, Dec. 1, 1959, 811,775, Patent 1,252,070
7 Claims. (Cl. 88—28)

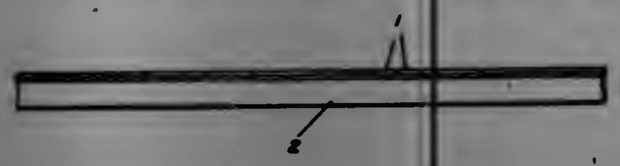


1. An installation for the remote-controlled luminous display on display panels of inscriptions carried by cards, which comprises a central control station incorporating a synoptic control board, flat-sectioned pneumatic tubes forming a circuit connecting said control board with said display panels, valves controlling a supply of compressed air to said tubes, diverting switching means in said circuit for diverting cards to selected display panels, each display panel comprising a screen, a lantern-slide carrier incorporating means for automatically positioning and ejecting the card to be projected onto said screen, a projector associated with said lantern-slide carrier and having a projection lamp, and electrical means for operating said valves, said diverting switching means and the means for positioning and ejecting the cards in and from said lantern-slide carrier, and also for switching on or off the projection lamp of said projector.

3,196,741
MOTION PICTURE SCREEN COATING

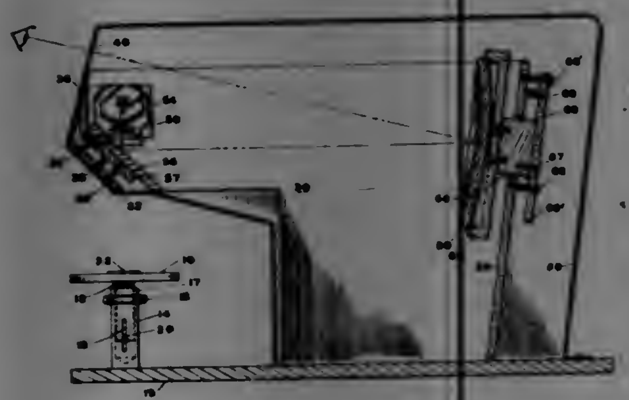
Sasuke Takahashi, 1,159 Uematsu, Yao, Osaka Prefecture, Japan
Filed Oct. 9, 1961, Ser. No. 143,552
Claims priority, application Japan, Oct. 18, 1960, 35/42,667; Jan. 1, 1961, 36/101
1 Claim. (Cl. 88—28.9)

A motion picture screen comprising a smooth black base member with an optical projection surface provided thereon, said surface comprising a colorless, adhesive coating with a layer of minute, colorless, flat, transparent, fine scales of the scabbard fish dispersed therein said scales being aligned parallel to said base member, and overlapping in a leafing arrangement so as to completely cover said base member.



3,196,742
MICROSCOPE OPTICAL SYSTEM INCLUDING CONCAVE REFLECTOR ELEMENT

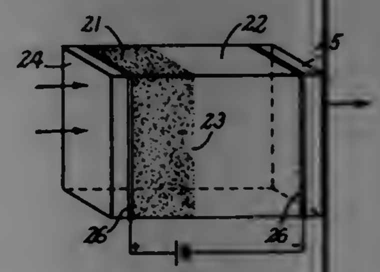
Robert J. Sparling, Pittsfield, Mass., assignor to Bausch & Lomb Incorporated, Rochester, N.Y., a corporation of New York
Filed Aug. 29, 1962, Ser. No. 220,225
1 Claim. (Cl. 88—39)



A magnifier or the like comprising the combination of a stage and a lens for forming an image of a specimen on said stage, an optical element including two curved surfaces defining a concave convex element of increasing thickness, said surfaces having approximately equal radii, and said element including a semi-transparent coating which reflects approximately 36% of incident light rays disposed on said concave surface and a reflective coating disposed on said convex surface, a beam deviator including three inclined mirrors directing the imaging light rays from said lens toward said element whereby the light rays impinging on the concave surface of said element are partially reflected by said semi-transparent coating and the transmitted portion of the rays is reflected by said reflective coating and means including said beam deviator, said optical element forming a pair of magnified unreverted erect images in space.

3,196,743
LIGHT MODULATION DEVICE EMPLOYING A SCOTOPHORIC LIGHT VALVE

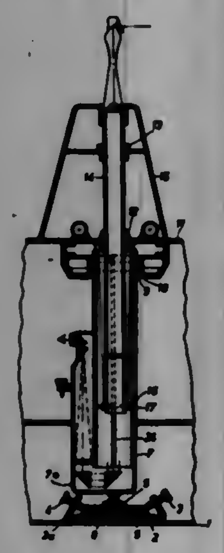
John F. Dreyer, Cincinnati, Ohio, assignor to Polacoat Incorporated, Blue Ash, Ohio
Filed Sept. 29, 1961, Ser. No. 141,900
5 Claims. (Cl. 88—61)



1. A device for light modulation comprising a light beam and a light valve therein, said light valve comprising a pellucid scotophor having mobile color centers therein and having a plurality of different discrete crystal portions in which the presence of said mobile color centers imparts characteristic peak light absorption at different wavelengths, said crystal portions being contiguous and electrically continuous, and means for establishing a variable potential gradient in said scotophor, whereby the relative number and position of color centers in each of said plurality of crystal portions can be varied.

3,196,744
YIELDABLE SUPPORT FOR A SUBMARINE PERISCOPE

Walter Werner, Konigsbronn, Wurttemberg, Germany, assignor to Carl Zeiss-Stiftung, Heidenheim (Brenz), Wurttemberg, Germany, a corporation of Germany
Filed Aug 31, 1962, Ser. No. 220,758
Claims priority, application Germany, Oct. 7, 1961, Z 9,007
4 Claims. (Cl. 88—69)



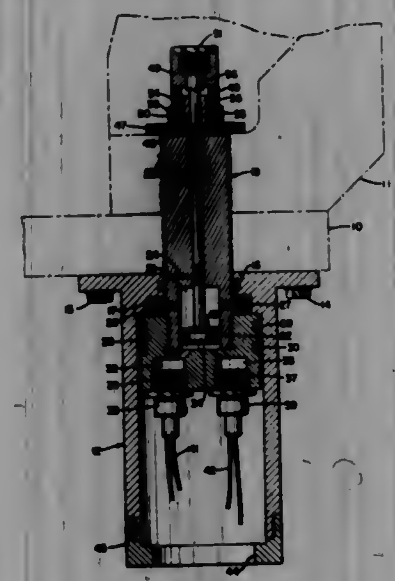
1. A periscope for submarine vessels comprising an axially movable and rotatable periscope tube and a rotatable mounted tubular housing which receives and supports the lower portion of said periscope tube, a casing affixed to the lower portion of said tubular housing, a bearing plate on the bottom wall of the hull of the submarine vessel, a bearing block in the center of said bearing plate having a spherical socket, a spherical bearing portion affixed to the lower horizontal face of said casing for being received in said socket, a ring having a curved outer surface attached to the upper end of said tubular housing, a hollow cylindrical bearing member attached to a portion of said vessel and engaging with its inner cylindrical surface the curved outer suface of said ring, and means forming an axially movable universal joint connecting the lower end of said periscope tube with said tubular housing, said spherical bearing portion and socket being aligned with the axis of said rotatably mounted housing to rotatably support said housing.

3,196,745
SEPARATION AND PIN PULLER MECHANISM

William H. Sustrich, Denver, and Neil J. Butterfield, Englewood, Colo., assignors to Martin-Marietta Corporation, Baltimore, Md., a corporation of Maryland
Filed June 7, 1963, Ser. No. 286,399
6 Claims. (Cl. 89—1)

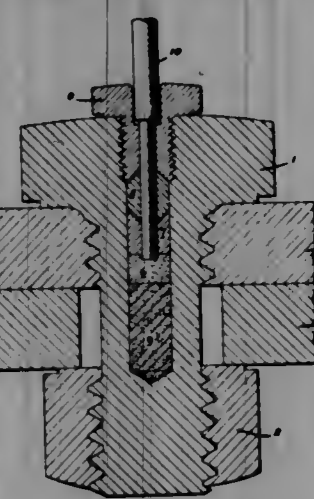
1. A releasable fastening mechanism for releasably securing a first part to a second part comprising: a connecting bolt means for extending through said parts having a first end and a second end; actuator rod means positioned centrally of said bolt means to move longitudinally relative thereto; first securing means for contacting the outer face of said first part releasably attached to said first end of said bolt means; locking means for releasably locking

said first securing means to said first end of said bolt means adapted to contact one end of said actuator rod means; second securing means for contacting the outer face of said second part including a hollow case; and actuating means supported in said case externally of said first and second parts for sequentially moving said actuator rod means in a first direction to effect release of said locking means and moving said bolt means in a second direction opposite said first direction to clear it of said parts fastened together by the fastening means, said actuating means including first and second communicating piston chambers having therein first and second piston means, respectively, and first and second propelling means for sequentially propelling said first and second piston means in said first and second directions, respectively, said piston chambers and said first piston means constructed and arranged so that said piston chambers are placed in communication by movement of said first piston in said first direction.



3,196,746
EXPLOSIVE RELEASE FASTENER

Walter L. Dahl, Greenfields Village, Woodbury, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Aug. 30, 1963, Ser. No. 305,634
5 Claims. (Cl. 89—1)



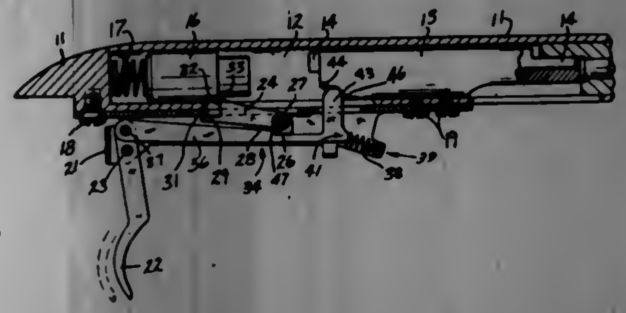
1. A releasable fastener which can be instantaneously severed at a predetermined location and which is is characterized by substantially sharpnel-free and nonleaking operation, comprising:

(a) an elongated housing adapted to engage with associated elements, said elongated housing having a central longitudinal bore closed at one end and containing in sequence from said end
(b) a base charge of a high velocity detonating explosive,
(c) a priming charge in propogating relationship to the base charge,
(d) a rigid compression plunger contiguous to the priming charge, said plunger being slidably mounted in and peripherally engaged by the bore,
(e) a plug of a pressure-extrudable material contiguous to said plunger and peripherally engaged by the bore,
(f) rigid closure means contiguous to said plug and closing said bore, said closure means, plug and compression plunger each having an aperture therethrough which is substantially coaxial with the bore of said housing, and

a length of low-energy detonation-transmitting cord extending through the aperture in the closure means and plug and terminating in propagating relationship to the priming charge, said cord being peripherally engaged by the wall of said aperture in the closure means and comprising a continuous core of explosive encased in a ductile metal sheath, said plug being in tight peripheral engagement with said sheath.

3,196,747
DISCONNECTOR TRIGGER MECHANISM

Ernest W. Gallagher and Robert A. Gillespie, both of Cobourg, Ontario, Canada, assignors to Olin Mathieson Chemical Corporation, a corporation of Virginia
Filed Mar. 20, 1964, Ser. No. 353,484
2 Claims. (Cl. 89—145)



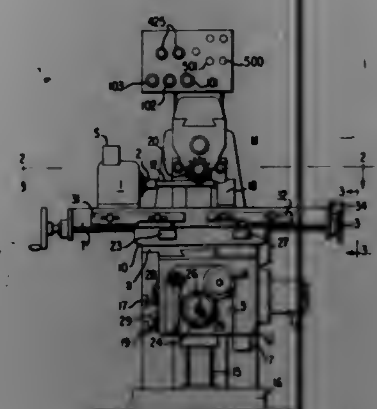
1. A firearm comprising a receiver having a bolt slide, a bolt within the slide having a sensing surface, said bolt being movable from a first position defining a closed bolt to a second position defining an open bolt, a bracket carried by the receiver, a finger piece pivotally mounted upon said bracket, a disconnector carried by the bracket having a sensing lug at one end thereof cooperating with the sensing surface effective to signal the first or second position of the bolt, said one end of said disconnector being resiliently supported in the bracket by a single spring means, the opposite end of said disconnector being hinged to the finger piece, a spring powered striker in said receiver, a sear carried by the receiver and normally operative to hold the striker in a cocked condition, said disconnector having a step located between the lug and the opposite end operative to engage and move the sear to release the striker only when the disconnector signals the first position of the bolt.

3,196,748
MACHINE TOOL CONTROL SYSTEM

Carl R. Apthorp, Jr., Shaker Heights, Francis A. Foster, Parma Heights, and Robert L. Nekola, Chesterland, Ohio, assignors to The Cleveland Twist Drill Company, Cleveland, Ohio, a corporation of Ohio
Filed Aug. 12, 1963, Ser. No. 301,307
56 Claims. (Cl. 90—11.42)

1. The method of machining a helical groove in a workpiece of circular cross-section in a machine having a tool and a work-holding spindle, which comprises mounting the workpiece on the spindle to turn and to travel in unison therewith,

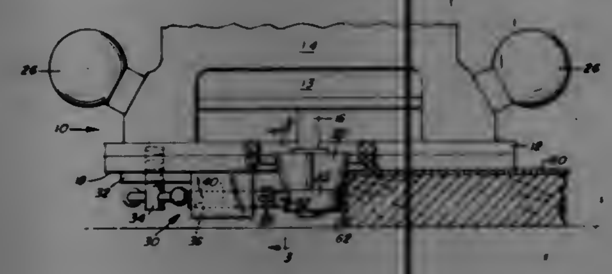
moving the spindle along a predetermined path relative to the tool at a selected rate, to achieve an operative relation between the mounted workpiece and the tool, generating pulses at a rate dependent upon said selected rate of movement of said spindle along said path,



and, while the spindle is so moving, rotating the spindle through a predetermined angle for each of a selected number of the generated pulses.

3,196,749
GUIDE ROLLER BRAKE FOR ROUTER

Alexander J. Zanni, Binghamton, N.Y., assignor to American Machine & Research Corporation, Johnson City, N.Y., a corporation of New York
Filed Jan. 23, 1964, Ser. No. 339,629
4 Claims. (Cl. 9[illegible]—[illegible]2)

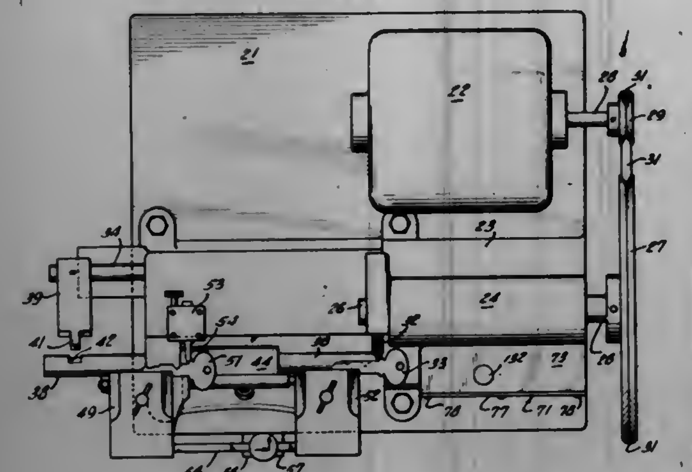


1. In combination with a router having an annular base, an electric motor mounted on said base with its motor shaft vertically disposed so that its lower end portion will be positioned centrally and below the hole in the base, a cutter mounted on the shaft and a guide roller mounted on the shaft below the cutter for rotation independently of the shaft, and a guide roller brake assembly mounted on the router base, said brake assembly comprising a pair of brake shoe assemblies adjustably mounted on the router base and adapted to engage the guide roller.

3,196,750
AUTOMATIC CONTROL SYSTEM FOR KEY DUPLICATING MACHINES AND THE LIKE

Frank G. Moessner, Dorval, Quebec, and Alfred B. Zion, Montreal, Quebec, Canada, assignors to Dominion Lock Company Ltd., Montreal, Quebec, Canada, a corporation of Canada
Filed Jan. 15, 1964, Ser. No. 337,925
9 Claims. (Cl. 90—[illegible].05)

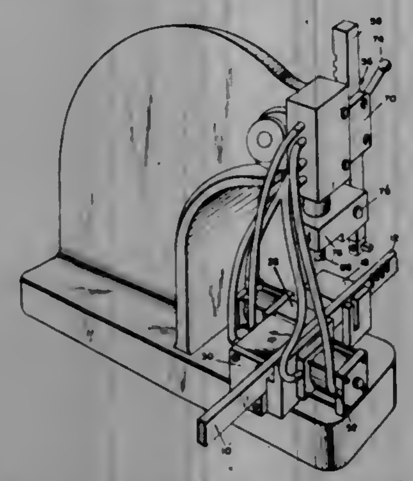
1. A system for controlling the cycle of a forward and reverse traverse of a machine element comprising a motor, a power source for said motor, drive means between said motor and said machine element, a normally open switch between said power source and said motor, first means for momentarily closing said switch, second means mounted between said switch and said element and operable when said first means is actuated to maintain said switch in a closed condition during the course of said



cycle, and third means on said element operative upon said second means at the end of said cycle to cause said switch to open.

3,196,751
APPARATUS FOR WORK PIECE HANDLING

Paul P. Ruminsky, Amherst, Ohio, assignor to Herbert C. Brauchla, Fremont, Ohio
Original application Mar. 5, 1963, Ser. No. 263,024. Divided and this application Dec. 10, 1963, Ser. No. 329,510
7 Claims. (Cl. 90—15.1)



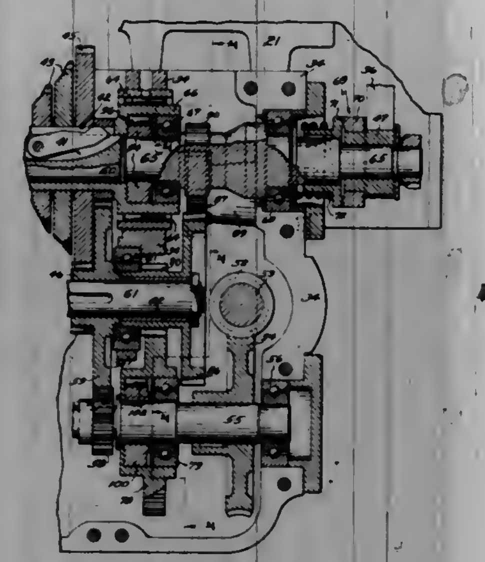
1. A work piece handler of the type including a base with a work piece trough defined therein and comprising:

(a) a stationary cylinder piece with a first locking member supported at one end of said base;
(b) a movable intermediary advance clamp having a work piece secondary locking member actuated transversely of said trough;
(c) a stationary end limit block supported at the other end of said base and abutting said advance clamp in advance position;
(d) means longitudinally advancing said advance clamp and a work piece secured to said advance clamp by said secondary locking member.

3,196,752
TRANSMISSION CONVERTING REVERSE DRIVE TO VARIABLE SPEED

Magnus Wahlstrom, Easton, and William M. Hoddinott, Milford, Conn., assignors to The Bridgeport Machines, Inc., Bridgeport, Conn., a corporation of Connecticut
Filed Jan. 25, 1962, Ser. No. 168,727
6 Claims. (Cl. 90—21)

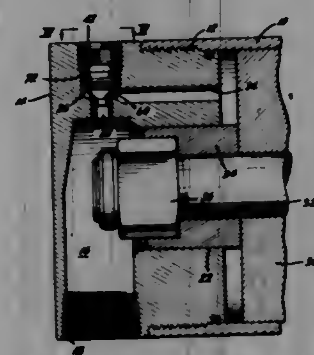
1. A gearing system for transmitting motion from a constant speed rotatively reversible input shaft to a rotatively unidirectional output shaft at different speeds in a constant direction, comprising in combination with said shafts, a main train of permanently meshed speed reduction gears powered at its high speed end by said input shaft and connected to impel said output shaft to run at relatively low speed, an auxiliary train of permanently meshed speed step-up gears powered at its low speed end by said input shaft and connected to impel said output



shaft to run at relatively high speed, whereby both of said trains are impelled simultaneously during both slow speed and high speed running of said output shaft, and one-way clutches cooperative respectively with each of said trains, at least one of said clutches being operative to disenable the drive of one of said trains by the other of said trains.

3,196,753
CUSHION CONTROL AND SURGE RELIEF

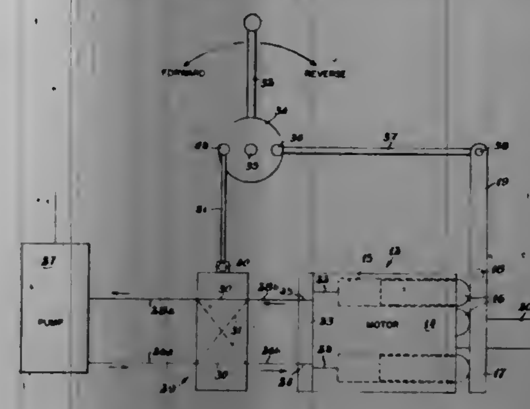
Raymond H. Maurer, Jackson, Mich., assignor to The Tomkins-Johnson Co., Jackson, Mich., a corporation of Michigan
Filed May 21, 1963, Ser. No. 282,080
12 Claims. (Cl. 91—26)



1. In an expansible chamber motor including a cylinder having a head enclosing an end thereof, a piston slideably and operably located within said cylinder, a port defined in said head normally directly communicating with the interior of said cylinder, cooperable valve means defined on said head and piston adapted to close said port from direct communication with said cylinder at a predetermined position of said piston relative to said head, a bleed passage defined in said head communicating with the interior of said cylinder adjacent said head and said port, a regulating valve within said passage regulating the flow therethrough, and surge relief means associated with said valve responsive to the pressure within said cylinder adjacent said head actuating said valve in proportion to said pressure.

3,196,754
MOTOR CONTROL SYSTEM

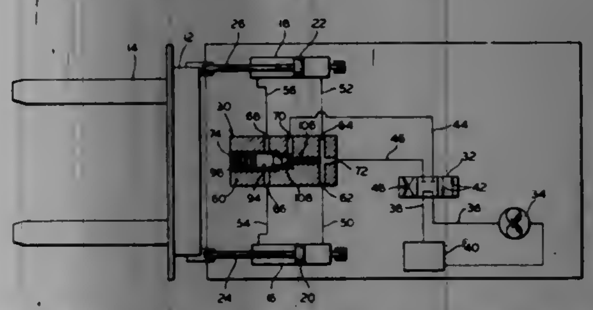
Stephen S. Baits, Rockford, Ill., assignor to Sundstrand Corporation, a corporation of Illinois
Filed Dec. 23, 1963, Ser. No. 332,409
6 Claims. (Cl. 91—199)



1. A controlled motor system comprising an adjustable displacement reversible hydraulic motor drivable by fluid pressure for translating the fluid pressure into rotational movement of an output shaft, said motor having an inlet and an outlet, a first passage normally in fluid communication with the inlet for supplying fluid to the motor, a second passage normally in fluid communication with the outlet for returning fluid from the motor, means for varying the displacement of the motor in a single range in one direction from a minimum displacement value, manually operable means movable in forward and reverse directions from a neutral center position and controlling the displacement varying means in said one range adapted to increase displacement of the motor upon movement away from neutral position in either direction and to decrease displacement to a minimum value upon movement to said neutral position from either direction, and means for cross-connecting the first and second passages respectively to said outlet and said inlet responsive to movement of said manually operable means from said neutral position in the reverse direction.

3,196,755
FLOW CONTROL SYSTEM FOR LOAD-HANDLING APPARATUS

Willard L. Chichester, Battle Creek, Mich., assignor to Clark Equipment Company, a corporation of Michigan
Filed Dec. 14, 1962, Ser. No. 244,823
7 Claims. (Cl. 91—411)

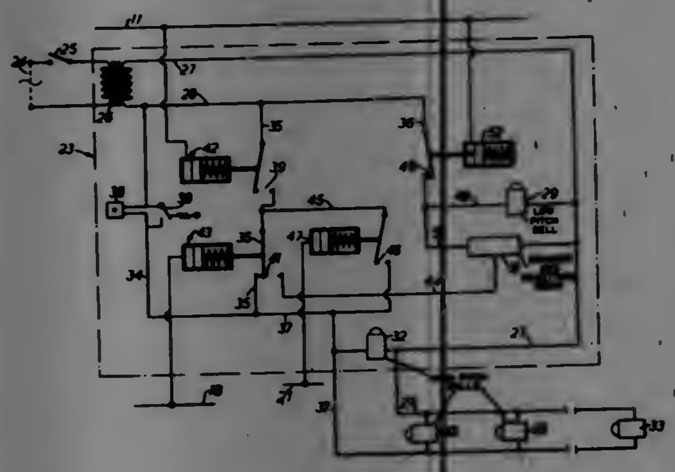


1. In a flow control system for a load-handling apparatus having a plurality of piston and cylinder units, the pistons of which are actuated away from one set of ends of the cylinders with load assistance and actuated away from the opposite set of ends of said cylinders against load resistance, means for connecting either set of ends of said cylinders with a source of fluid under pressure and for exhausting fluid from either set of ends of said cylinders in correlated in-one-end-out-the-other-end manner, said means including a single valve, a valve seat, means biasing said valve into fluid sealing relation with said valve seat, said valve in said sealing relation blocking exhaust from said other set of ends and being responsive to the pressure in said one set of ends

to allow the exhaust of fluid from said other set of ends only after build up of a predetermined pressure in said one set of ends to prevent cavitation in said one set of ends.

3,196,756
ROOF SUPPORT ASSEMBLIES

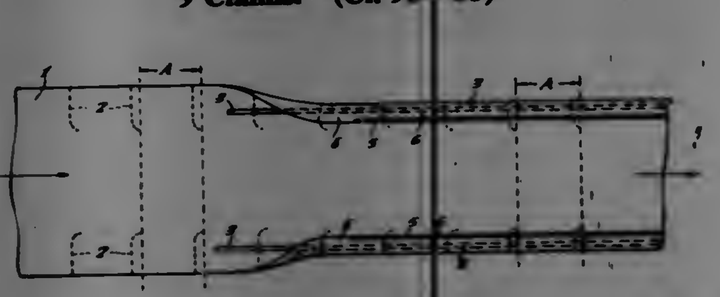
Douglas H. H. Bolton, Winchcombe, near Cheltenham, and Michael C. Potts, Prestbury, Cheltenham, England, assignors to Dowty Mining Equipment Limited, a British company
Filed Oct. 7, 1963, Ser. No. 314,324
Claims priority, application Great Britain, Oct. 10, 1962, 38,395/62
10 Claims. (Cl. 92—5)



1. A roof support assembly including a series of fluid-pressure-operated roof supports arranged to advance sequently, a source of fluid pressure connected to the roof supports for operating the roof supports, a fluid-carrying line along which fluid passes when each roof support undergoes an advancing operation, and sound-producing means responsive to the fluid pressure in the fluid-carrying line and arranged to emit one sound when the pressure is above a chosen value and a different sound when the pressure is below a chosen value, the values being so chosen that the variation in pressure which occurs in the fluid-carrying line when each roof support undergoes an advancing operation causes a change from one sound to the other.

3,196,757
METHOD FOR MAKING A DRAW STRING BAG

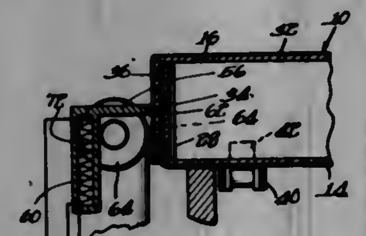
Bruce Samways, Bristol, England, assignor to Colodense Limited, Bristol, England, a company of Great Britain and Northern Ireland
Filed July 29, 1963, Ser. No. 298,172
Claims priority, application Great Britain, July 31, 1962, 29,392/62
9 Claims. (Cl. 93—35)



1. A continuous method for the manufacture of draw string bags comprising advancing a continuous web of a heat sealable flexible sheet material, forming a hem at each bag mouth forming margin of the web with selected portions defined by lines of weakness formed in the hems at bag width intervals to form detachable pulling tags in the completed bags, inserting draw strings in the hems at the same speed as the speed of travel of the web, sealing the open edges of the hems to the body of the web to form tubular channels enclosing the draw strings and, with the hems at the bag mouth forming margins lying in juxtaposition, sealing and severing the web transversely at bag width intervals coincident with an edge of each selected portion so as to seal portions of the draw strings intersected by the seals within the tubular channels and to separate individual bags with sealed side margins from the web.

3,196,758
METHOD AND APPARATUS FOR SEALING CARTONS

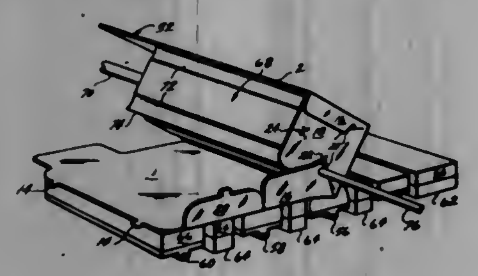
William R. Saidel, Park Forest, Ill., assignor to Integral Packaging Company, Chicago Heights, Ill., a corporation of Illinois
Filed Apr. 11, 1963, Ser. No. 272,273
6 Claims. (Cl. 93—36)



1. An apparatus for securing an end structure of a carton including overlapping inner and outer flaps and a coating of thermoplastic adhesive material between said flaps and on an outer surface of said outer flap, said apparatus comprising means for advancing said carton along a predetermined path of travel, a heatable bar, first heating means associated with said bar for heating said bar, said heatable bar being disposed adjacent said carton advancing means and having a predetermined width in a direction extending upwardly along a side of said path of travel for engaging said outer flap and pressing the outer flap against the inner flap and heating the adhesive material both between said flaps and on said outer surface, and a second heatable bar disposed adjacent said means downstream of said path of travel from said first bar, second heating means associated with said second bar for heating said second bar said second bar presenting an edge elongated lengthwise of said path of travel and having a narrow width in said direction as compared with said first bar for engaging a narrow band of said outer flap for holding said outer flap against said inner flap while exposing portions of said outer flap and said adhesive material offset from said edge for cooling.

3,196,759
METHOD OF FOLDING PLASTIC CONTAINERS

Charles E. Palmer, Turnpike Road, Somers, Conn., and Joseph S. Lemanski, Longmeadow, Mass.; said Lemanski assignor to said Palmer
Filed Nov. 8, 1963, Ser. No. 323,540
11 Claims. (Cl. 93—36)

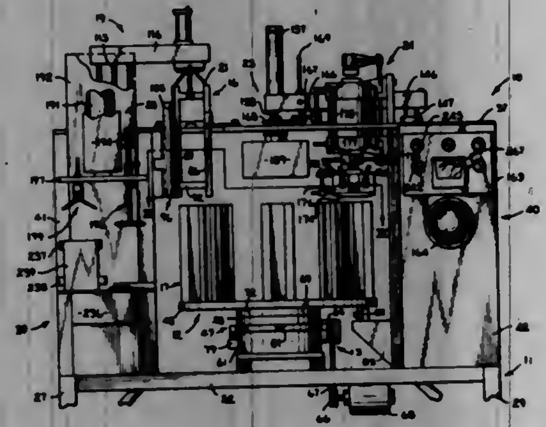


1. In the method of forming a container of synthetic plastic sheet material, the steps comprising forming an unscored container blank of semi-rigid synthetic plastic sheet material and including a body portion adapted to be cold folded into four wall panels defining a container body of

rectangular configuration and a side-locking flap along one outer side thereof, said blank having a locking tab on said one outer side and a cooperating locking incision adjacent the other outer side thereof for interengagement upon folding of the blank into the rectangular body configuration, said blank being incised along one edge at the lines of intended fold for the wall panels of the body to provide a bottom end wall flap, a pair of dust flaps and an end-locking flap and adapted to provide a closure for one end of the container, said end-locking flap and end-wall flap being spaced apart by a dust flap and one of said locking flap and end-wall flap extending from the portion of the blank adjacent said locking flap of the body portion, one of said locking flap and end wall flap having a locking incision therein and the other of said locking flap and end wall flap having a locking tab thereon engageable in said incision to provide a firm closure, said blank being incised along the other edge thereof at the lines of intended fold for the said wall panels to provide flaps adapted to be folded into a closure for the other end of said body; supporting the said blank between a die pad of resiliently deformable material and a rigid folding blade with the die pad providing resilient support for said blank along the intended fold line for the flaps along said one edge and defined by the inner end of the incisions therein forming the flaps; causing said blade to press said blank into said die pad along said line of intended fold to cause said deformable material to flow and fold the blank about the blade to establish a permanent fold in said blank defining the flaps on said edge; supporting said folded blank on a die pad of resiliently deformable material along the intended lines of fold defining the several wall panels of the body; and rolling a folding mandrel of generally rectangular cross section over said blank to cause the side edges thereof to press said blank into the deformable material along the intended lines of fold and cause the deformable material to flow and fold the blank about the side edges of the mandrel to establish permanent folds in the blank and form a rectangular body portion conforming generally to the periphery of said mandrel with a side flap overlying the adjacent wall panel formed by the other outer side of the blank, said locking tab of the side flap being thrust into said locking incision of the panel formed by the said other outer side during the rotation of the mandrel.

3,196,760
CARTON FORMING MACHINE

Morris A. Terry, Portage Township, Kalamazoo County, Mich., assignor, by mesne assignments, to Pre-O-Form Corporation, Warsaw, Ind., a corporation of Indiana
Filed Nov. 19, 1962, Ser. No. 238,401
18 Claims. (Cl. 93—44.1)



1. In a machine for receiving an erected tubular carton blank and for forming an end wall on the erected tubular carton blank from closure panel means at one end thereof, the combination comprising:

a frame structure;

carrier means mounted on said frame structure for substantially horizontal movement around a substantially vertical axis;

a plurality of elongated mandrels having rectangular cross sections, there being at least two groups of mandrels of different sizes, the mandrels of one size being connected to and extending upwardly from said carrier means at uniform intervals around said vertical axis and extending parallel with said vertical axis for movement by said carrier means along a closed, substantially horizontal path around said vertical axis, an erected carton blank being snugly and slidably receivable onto each mandrel of said one size;

drive means operably associated with said carrier means for effecting step-by-step movement of said carrier means along said path, whereby each of the mandrels of one group is moved, one at a time, into and out of the carton-receiving position in said path;

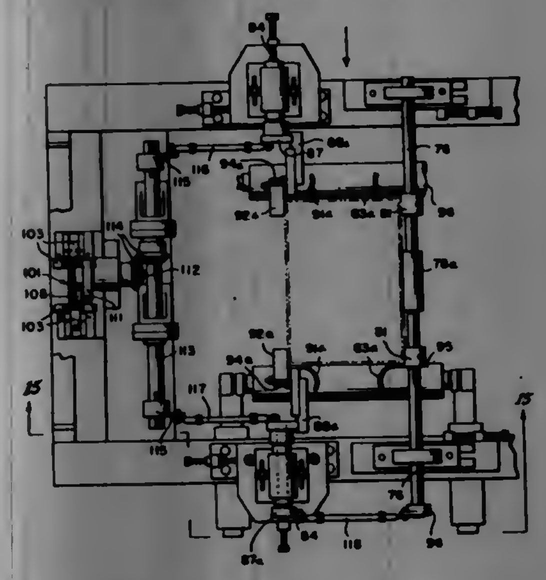
mechanism mounted on said frame structure along said path for sequentially performing operations upon the closure panel means, whereby the end wall is formed on each erected carton blank while it is on a mandrel of said one size;

means connected to said carrier means for moving said carrier means a selected amount around said vertical axis, whereby the mandrels of one group are moved into the positions occupied by the mandrels of the other group;

means for effecting the operation of said drive means and said mechanism on said frame structure.

3,196,761
CAM ACTUATED CASE FORMER

John E. Ullman, Huntingdon Valley, Pa., assignor to Huntingdon Industries Incorporated, Bethayres, Pa., a corporation of Pennsylvania
Filed June 25, 1963, Ser. No. 290,462
6 Claims. (Cl. 93—49)



1. A case former which forms the bottom portion of end-closing cases to adapt them for top loading, comprising a loading station having hopper means for holding a stack of flat end-closing case blanks, a glue station having means for applying an adhesive to the bottom flaps of said blanks, a forming station having means for turning the side panels, side flaps, and bottom flaps into set-up position, said forming station including a reciprocable mandrel having a bottom adapted to contact the bottom panel of a flat end-closing case blank when said blank is positioned in the forming station, first turner means mounted on a turner rod for turning the flaps of the inner side panel into set-up position against the mandrel, second turner means mounted on said first turner means and extending at right angles therefrom for turning the inner side panel into set-up position, third turner means mounted on a

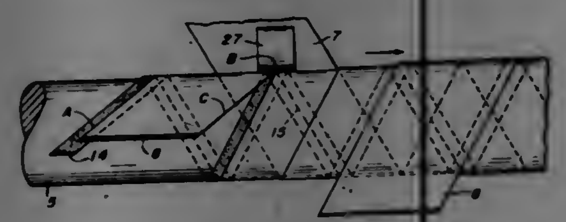
turner rod for turning the outer side panel and flaps into set-up position, means mounted on said mandrel for moving said second turner means out of the way to provide for passage of the top panel thereby, and fourth turner means for turning the bottom flaps into set-up position, all of said turner means being positioned adjacent the path of mandrel travel, cam means connected to said turner means for actuating them to turn said side panels and said flaps into set-up position, and feed means for feeding the blanks one at a time from loading station to glue station to forming station.

3,196,762
METHOD OF MAKING CONTAINERS

Andrew H. Schmeltz, Oakmont, Pa., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 8, 1964, Ser. No. 407,610

3 Claims. (Cl. 93—94)



1. In a method of producing spirally wound tubing from which container bodies are made, wherein a lining strip having a metal foil face is spirally wound on a mandrel under tension to form a continuous tubular liner with said foil defining the inner surface of said liner, the improvement in sealing and seepage-proofing the seam between successive convolutions of said tubular liner which comprises:

(a) providing sealing tape entirely of metal foil having a width materially less than half the width of said lining strip and a thickness such that said tape is not capable as a single web of sustaining the winding tension at said mandrel, and having a heat sealable coating on one side thereof;

(b) progressively heat sealing said tape along the foil face of said lining strip in projecting relation to one edge thereof at a point spaced from said mandrel, whereby the superior strength of said lining strip offsets the inherent weakness of said tape and delivers the tape intact onto said mandrel;

(c) the tape bearing edge of said liner strip being the trailing edge thereof as engaged upon the mandrel thereby causing the projecting portion of said tape at the seam forming point on the mandrel to underlie the free edge margin of the incoming liner strip at said seam forming point, and

(d) applying heat and pressure to said tape and said liner strip while on said mandrel to heat seal each to the other and complete the tape seal along the spiral seam of said tubular liner.

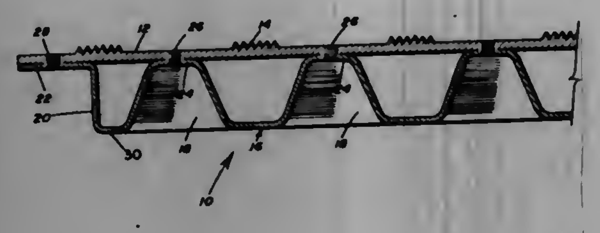
3,196,763
PANEL STRUCTURE

Frederick N. Rushton, Baltimore, Md., assignor to Washington Aluminum Company, Inc., Baltimore, Md., a corporation of Maryland

Filed Oct. 5, 1960, Ser. No. 60,642

2 Claims. (Cl. 94—11)

1. A resilient structural floor panel, comprising a truss pan of substantially rectangular shape having a web, said web including a continuous first flange integral with said pan and positioned substantially vertically around the periphery of said pan and a second flange as a continuation of said first flange extending horizontally therefrom, said pan having parallel spaced rows of right frusto-conical shaped cup pedestals having their bottoms flat and terminating in a common plane with said second horizontal flange, said spaced rows of cup pedestals extending across said pan and being arranged parallel and perpendicular to opposite pairs of sides, respectively, of said truss pan, a tread plate covering said pan and web arranged coextensively with said second flange of said web, said tread plate thereby having a margin around the periphery thereof consisting essentially of the thicknesses of the tread plate and the second flange of said web, said tread plate having spaced rows of serrated areas alternating and being located parallel to said spaced rows of cup pedestals, means integrally joining the periphery of said tread plate and second flange of said web together at spaced intervals, means for integrally joining the bottoms of said cup pedestals to said treadplate, whereby a unitized rigid floor panel with localized resilient foot contact portions at the spaced rows of serrated areas between said spaced rows of pedestals is obtained.

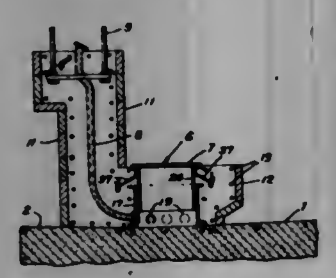


3,196,764
REINFORCED CONCRETE HIGHWAY STRUCTURES

Conrad J. Grieder, 423 Tehama St., San Francisco, Calif.

Filed May 22, 1961, Ser. No. 120,460

1 Claim. (Cl. 94—31)



In the method of erecting a concrete standard including a joint box for a light on the top of the deck of the margin of a roadway, the steps of

(a) building a form on the top of the deck of the road to outline the standard and including a form for a joint box on one side of the standard form,

(b) placing reinforcing elements within said forms,

(c) placing a joint box of vertically telescopic lower and upper sections in the form for the joint box,

(d) fixedly securing the bottom of the lower section of the box to the deck of the road within said form,

(e) adjusting the telescoping top section of the box laterally and longitudinally on the bottom section so as to align the top edges thereof with the level of the top of the form for the joint box and securing said top section to said reinforcing elements,

(f) connecting conduits to knockout holes of said bottom section,

(g) placing a temporary cover on the top of said top section,

(h) pouring concrete into the entire form and allowing it to set,

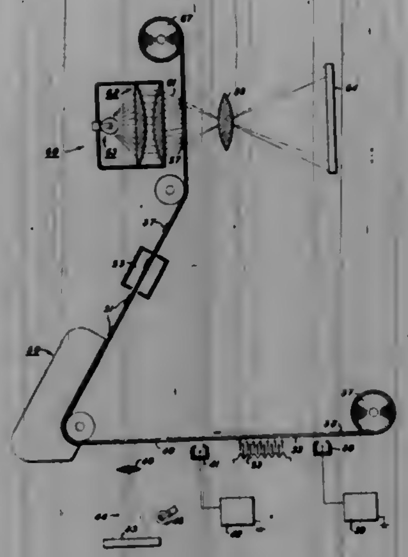
(i) and replacing the temporary lid with a detachable permanent lid on the joint box.

3,196,765
IMAGE DEVELOPMENT AND PROJECTION

Lewis E. Walkup, Columbus, Ohio, assignor, by mesne assignments, to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed June 24, 1963, Ser. No. 289,904

8 Claims. (Cl. 95—1.7)



1. The method of producing an image, comprising:

(a) forming a transparent powder image on a light diffusing surface of a support member comprising normally transparent material;

(b) directing a collimated beam of light toward said member bearing said image; and,

(c) imaging the light transmitted by said member in an image plane.

8. Apparatus for reproducing an optical image comprising:

(a) a first xerographic charging station adapted to apply a uniform electrostatic charge to an image web comprising a photoconductive deformable layer overlying a conductive support layer;

(b) a deformation station including means to soften said deformable layer;

(c) a second xerographic charging station;

(d) a xerographic exposure station including means to expose said web to said optical image, thereby forming a latent electrostatic image conforming to said optical image;

(e) a xerographic developing station comprising means to apply resinous toner to said web whereby said electrostatic image is made visible as a toner image;

(f) a toner image fusing station;

(g) a viewing station, comprising:

  (1) means to direct a collimated beam of light toward said web; and,

  (2) means to image light transmitted thereby;

(h) means for moving successive portions of said web sequentially through said stations.

3,196,766
XEROGRAPHIC APPARATUS

John G. Hansen, Pittsford, and Jack R. Oagley, Rochester, N.Y., assignors to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Sept. 3, 1963, Ser. No. 305,995

6 Claims. (Cl. 95—1.7)

1. In a xerographic reproducing apparatus having a rotatable xerographic drum on which xerographic powder images may be formed,

means for transferring xerographic powder images from the drum surface to a support surface,

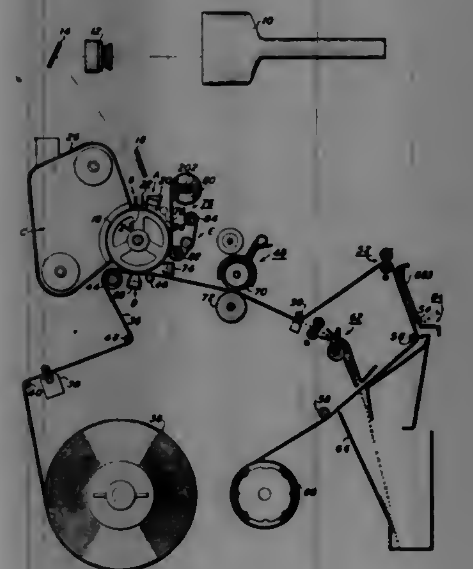
drum cleaning apparatus for applying cleaning material to the drum surface for removing residual powder images from the drum surface after transfer,

means for fusing transferred xerographic powder images to the support surface,

the combination of a movable member in the cleaning apparatus movable to an operative position in which it presses a cleaning material into surface contact with the xerographic drum and to an inoperative position in which the cleaning material is removed from the drum surface,

a movable member in the fusing apparatus movable to an operative position in which it is effective to press the support surface with powder image thereon into surface contact with a fusing roll and to an inoperative position in which the support surface is removed from contact with the fusing roll, and

actuating means operatively connected to both said movable members, said actuating means being movable to a first position in which it is effective to move both said movable members to their respective operative positions and to a second position in which it is effective to move both said movable members to their respective inoperative positions.

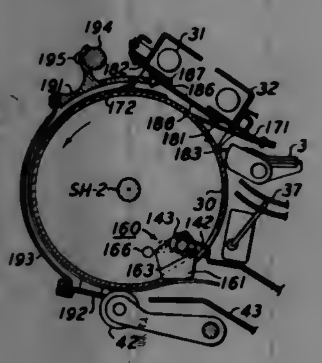


3,196,767
DOCUMENT COPY MECHANISM

Roger H. Eichorn, Webster, N.Y., assignor to Xerox Corporation, Rochester, N.Y., a corporation of New York

Filed Sept. 9, 1963, Ser. No. 307,400

2 Claims. (Cl. 95—1.7)



1. In a document reproducing apparatus wherein a document drum having a gripper mechanism thereon is rotated to convey a document through a copying station for projecting a light image of the document onto a moving photoconductive surface, the improvement comprising,

a support having a slot extending longitudinally thereof, said support being positioned at said copying station adjacent said document drum with said slot extending transversely to the path of movement of the peripheral surface of the document drum,

a first spring support means connected at one end to the forward side of said support in relation to the direction of rotation of the document drum,

a second spring support means connected at one end to the opposite side of said support with the free end of said second spring support means being flared backward in the direction of rotation of the document drum,

said first spring support means and said second spring support means being positioned between said support and the document drum,

spring guides connected at one end to said first spring support means with the free end of said spring guides in contact with the document drum,

a platen frame having a slot extending longitudinally thereof,

a transparent platen secured to said platen frame encircling the slot therein,

said platen frame being movably secured to said support by the free end of said first spring support means and by the free end of said second spring support means and,

a slotted illuminating means sideably supported by said support in position over said transparent platen.

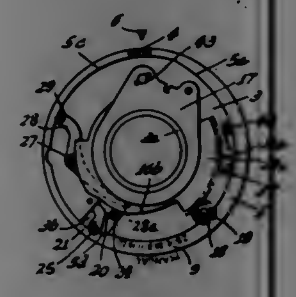
3,196,768
PHOTOGRAPHIC CAMERA HAVING AUTOMATIC EXPOSURE SETTING MECHANISM

Waldemar T. Rentschler, Calmbach (Enz), Germany, assignor to Alfred Gauthier, G.m.b.H., Calmbach (Enz), Germany, a corporation of Germany

Filed Mar. 20, 1961, Ser. No. 96,741

Claims priority, application Germany, Mar. 22, 1960, G 29,280

1 Claim. (Cl. 95—11)



In an automatically settable photographic camera, a manually operable combined selector and setting ring turnable about an axis of rotation concentric with the optical axis of the camera and positionable in either an "automatic" position of another position appreciably different from said "automatic" position, said ring having spaced setting markings on its periphery indicating the said positions; a fixed reference mark on the camera, cooperable with said setting markings and arranged to be fully seen when viewing the camera from the top, said selector and setting ring when positioned to locate one or the other of the setting marking adjacent the reference mark effecting a concealment of the other setting marking when the camera is so viewed, by obstructing the view to said other mark; a setting mechanism on the camera adapted to control an exposure factor of the camera; automatic adjusting means by which said setting mechanism is adapted to be automatically adjusted; cam means carried by said combined selector and setting ring by means of which said automatic adjusting means is rendered inoperative when said combined selector and setting ring is in said another position; other cam means carried by said combined selector and setting ring by means of which said automatic adjusting means is rendered operative when said combined selector and setting ring is turned from said another position to said automatic position; and manually operable means by which said setting mechanism is adapted to be adjusted when said combined selector and setting ring is in said another position.

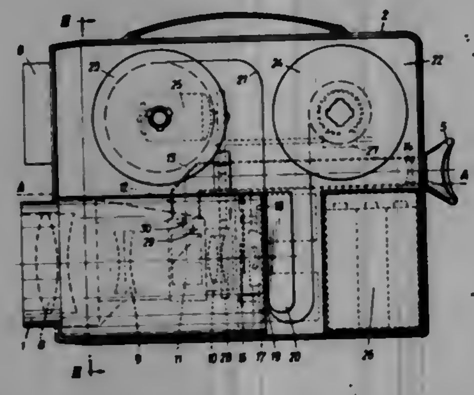
3,196,769
CAMERA HAVING A VARIFOCAL OBJECTIVE

Eduard Keznickl, Vienna, Austria, assignor to Karl Vockenhuber, Vienna, Austria

Filed June 6, 1961, Ser. No. 115,108

Claims priority, application Austria, June 15, 1960, A 4,567/60

3 Claims. (Cl. 95—11)



1. A camera comprising

a camera casing having a back wall, a front wall, and a bottom wall,

a verifocal objective including a plurality of lenses defining an optical axis,

said objective being mounted partly immerged in said camera casing,

two film spools disposed one behind the other in the upper portion of said camera casing,

a viewfinder ocular disposed at about the center of said back wall,

said back wall of said casing being adapted to be engaged by the forehead of a person looking through said viewfinder ocular and to provide a supporting surface for said person's face,

said verifocal objective being disposed adjacent said bottom wall of said camera casing, in order to provide a low center of gravity,

a release key disposed on said front wall of said camera casing,

said release key and said supporting surface being disposed in an imaginary line passing substantially through said center of gravity of said camera, and

the operative movement of said release key being substantially in the direction of a face-contacting point of said back wall and toward said center of gravity.

3,196,770
CAMERA FLASHLAMP

Karl Heinz Lange, Bunde-Ennigloh, Westphalia, Germany, assignor to Balda-Kamerawerk Rudolf Grüter, Kommanditgesellschaft, Bunde, Westphalia, Germany, a German company

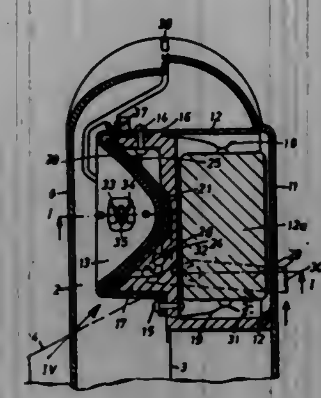
Filed Aug. 22, 1962, Ser. No. 218,604

Claims priority, application Germany, Sept. 1, 1961, B 63,861

1 Claim. (Cl. 95—11)

A camera having a main housing, a compartment in the upper part of said housing; said compartment having a battery container, a flash bulb holder and a reflector, said compartment having a slot through which said reflector

can be extended and retracted, said holder and said battery container defining a guide for said reflector comprising a stiffening member extending from said reflector, a recess in said main housing dimensioned to receive said member and spring means tending to urge said member out of the recess.



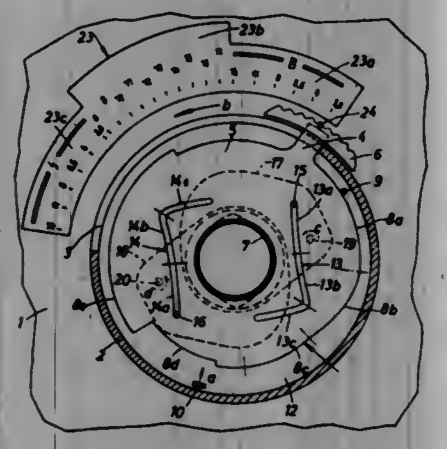
3,196,771
EXPOSURE-CONTROLLING STRUCTURE FOR CAMERAS

Gerd Kiper, Unterhaching, near Munich, Germany, assignor to Agfa Aktiengesellschaft, Leverkusen, Germany

Filed Mar. 25, 1963, Ser. No. 267,433

Claims priority, application Germany, Mar. 23, 1962, A 39,793, A 39,794

14 Claims. (Cl. 95—64)



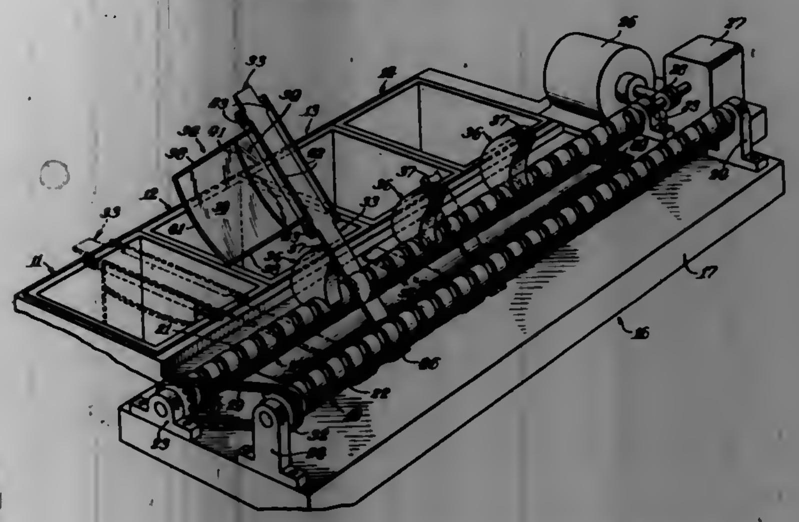
1. In a camera, in combination, support means including a stationary wall located in a plane normal to the optical axis; a movable wall carried by said support means for movement relative to said stationary wall thereof; diaphragm blade means; connecting means connecting said blade means to one of said walls for movement relative thereto, pin-and-slot means connecting said blade means to the other of said walls and including at least one slot of a predetermined curvature which will position said blade means to provide an exposure aperture determined by the position of said movable wall relative to said stationary wall, said slot having different portions each of which provides substantially the same range of exposure apertures; and exposure-time setting means carried by said movable wall for movement therewith and providing for each exposure aperture determined by the position of said movable wall a corresponding exposure time also determined by the position of said movable wall, said exposure-time setting means providing different exposure times for said different slot portions, respectively, so that more than one exposure time can be provided for each of a series of exposure apertures.

3,196,772
APPARATUS FOR INTERMITTENT IMMERSION OF ARTICLES IN LIQUID BATHS

Ralph A. Sickles, 400 W. Culver St., Scottsdale, Ariz.

Filed Aug. 1, 1961, Ser. No. 128,485

20 Claims. (Cl. 95—89)



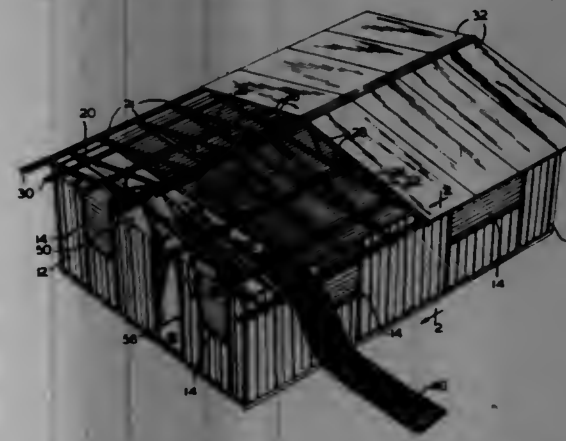
1. Apparatus for intermittently immersing articles in a plurality of successive liquid baths, comprising a pair of parallel, spaced, elongated, rotatable conveyor members each having helical groove means extending therealong, at least one carrier arm disposed transversely with respect to the axes of said conveyor members, means on a portion of said arm adapted to support an article to be immersed, said arm having means extending into operative engagement with the groove means of each of said members, means for rotating said conveyor members continuously and in unison whereby to effect movement of said arm along said conveyor members, and means carried in axially spaced relation at predetermined locations along at least one of said conveyor members for raising and lowering said portion of said arm at predetermined intervals during movement of the arm along said conveyor members.

3,196,773
BUILDING SYSTEM WITH VENTILATING MEANS

Charles A. Lorenz, Chesterfield County, and Corwin G. Hockett, Henrico County, Va., assignors to Reynolds Metals Company, Richmond, Va., a corporation of Delaware

Filed Aug. 6, 1962, Ser. No. 214,908

8 Claims. (Cl. 98—32)



1. A ventilated building comprising walls enclosing a space, a horizontal partition made of corrugated metal and extending across the top of said space, a roof forming an attic space over said partition, and means forming ventilating openings to permit escape of air from said attic space to the outside atmosphere, said walls having openings to admit outside air into the space below said partition, and said partition having multiple air passages therethrough each of the order of magnitude of a fraction of an inch in diameter which permit air to pass directly

from the space below the partition into the attic space, said air passages being distributed substantially uniformly over a major part of the area of the partition and having a total area of approximately 8 to 9 percent of the total area of the partition.

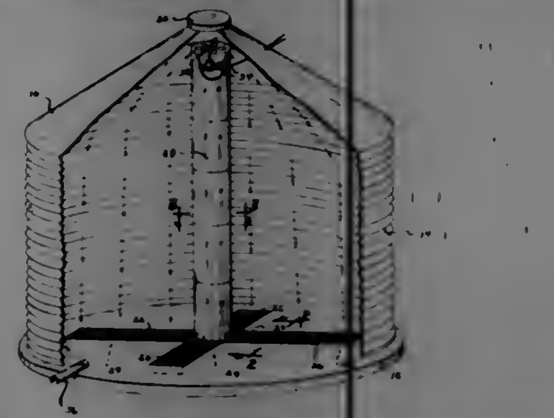
3,196,774

METHOD OF AND MEANS FOR CIRCULATING AIR WITHIN CLOSED BUILDINGS

Henry L. Kripal, Columbus, Nebr., assignor to Behlen Manufacturing Company, Inc., Columbus, Nebr., a corporation of Nebraska

Filed June 27, 1962, Ser. No. 205,676

3 Claims. (Cl. 98—55)



1. A material aerating means for a closable storage bin having walls, floor and roof,
   - a hollow cylinder member disposed within said storage bin,
   - said hollow cylinder member having at least one aperture near one end and open at its other end,
   - said hollow cylinder member being vertically disposed in said storage bin and having its said one end in contact with the floor of said storage bin,
   - at least one radially extending depression in said floor of said storage bin, the interior of said depression being in communiaction with the interior of said hollow cylinder member,
   - and a powered fan means disposed within said hollow cylinder member adapted to circulate air from the interior of said storage bin through said depression and said hollow cylinder member thence back into the interior of said storage bin.

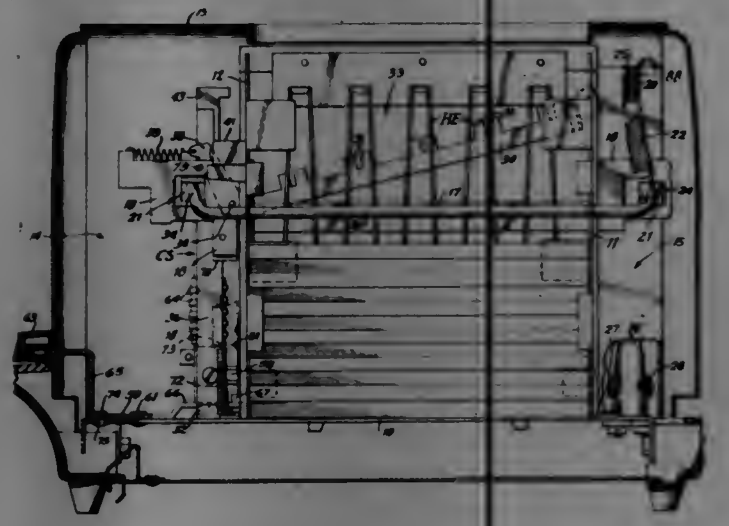
3,196,775

TOASTER

Arthur D. Altemiller, St. Louis, Mo., assignor to Knapp-Monarch Company, a corporation of Delaware

Filed June 13, 1963, Ser. No. 288,070

3 Claims. (Cl. 99—329)



1. An improved automatic toaster of the type that includes wire motor means which expands when electrically energized to permit lowering of a bread carrier and which contracts when deenergized to effect raising of the bread carrier; said improved toaster comprising in combination: a base, housing means on said base defining a first chamber means for toasting bread therein and second chamber means separate from said first chamber means for a bread carrier actuating mechanism therein, there being within said first chamber means a bread carrier having a vertically movable control portion thereon projecting into said second chamber means, and electrically energized toasting means; there being within said second chamber a fulcrum means supported on said base to one side of the path of said vertically movable control portion and providing a fulcrum at a level in a plane spaced above the uppermost range of movement of said movable control portion and distally of the base, an elongated lever pivotally mounted on said fulcrum and defining a short arm disposed to one side of said fulcrum so that the fulcrum is positioned between said short arm and the plane of movement of said control portion, and a long arm extending laterally of said fulcrum and above and distally to the other side of the plane of movement of said control portion, a connecting level pivoted on said housing means and engaging said control portion of said carrier, a spring connected at one end to said long arm and at the other end to the connecting lever offset from the pivot of said connecting lever so that raising movement of the long arm is transmitted directly to the connecting lefer through the spring means, a counter-balance spring anchored to the housing means and engaging the long arm of the elongated lever, and a single-loop motor wire constructed and arranged to provide the force necessary to effect raising of the bread carrier and having its lower end rigidly anchored on the base and with its bight directly operatively engaging the short arm of the elongated lever.

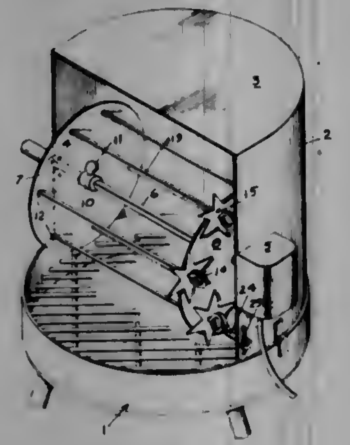
3,196,776

MULTIPLE SPIT WITH INDIVIDUAL SPIT ROTATORS

Dale S. Norton, Danville, Calif., assignor of one-half to Henry Fitzpatrick, Danville, Calif.

Filed Aug. 20, 1962, Ser. No. 217,993

5 Claims. (Cl. 99—421)



1. A multiple spit comprising:
   - (a) a pair of horizontally spaced, opposed spit carriers connected for simultaneous rotation in the same direction about a horizontal axis;
   - (b) spit supporting means on one carrier of said pair for releasably and rotatably supporting one of the ends of a plurality of elongated spits spaced from said axis and from each other around said axis for rotation of each of said one of said ends independently of the other spits;
   - (c) spit holding means on the other carrier of said pair for receiving and releasably holding the other ends of such spits when said one of the ends of said spits are supported by said spit supporting means and when said other ends of said spits are moved from positions spaced outwardly of said other carrier into said spit holding means, and
   - (d) a plurality of spits having one of their ends rotatably supported by said spit supporting means and having their other ends releasably and rotatably held by said spit holding means; and
   - (e) separate means respectively on each of said spits and at a stationary point adjacent to one of said spit carriers engagable with each other only once upon each complete revolution of each spit about said axis upon said rotation of said carriers for rotating each spit a predetermined degree upon each such engagement;
   - (f) said spit holding means including means in direct engagement with each spit for holding each of said spits stationary relative to said carriers during each such revolution of each spit between each said engagement at said stationary point;
   - (g) each of said spits being free from obstruction to manual removal thereof from said spit supporting means and said spit holding means independently of the other spits any time when said spits are manually accessible to a person.

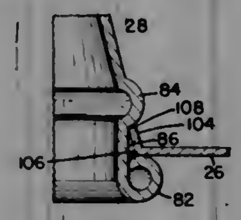
3,196,777

BAKE PAN

Louis A. Luker, Mount Vernon, Iowa, assignor to Jackson M. Luker, Urbana, Ill.

Filed Feb. 6, 1962, Ser. No. 171,454

4 Claims. (Cl. 99—439)



1. A throw-away metal foil pan comprising a bottom and an upwardly extending side wall and a preformed separate heat tube having a peripheral bead of known outside diameter bordering one end and having a height in the longitudinal direction of the tube and further having a second encircling bead of known outside diameter spaced from and lying parallel with said peripheral bead, said pan bottom having a central opening and being flexible and deformable at least around said opening, said opening having a diameter less than the said known outside diameter of said peripheral bead and of said second bead, the outside diameter of said tube in the space between said beads being less than the diameter of said opening, said pan bottom having a portion thereof deformed around and defining said opening and lying in the said space between said beads and engaging the spaced beads on adjacent surfaces thereof whereby the said one end of the tube is secured in the opening and to the pan bottom, said deformed portion comprising an upturned flange having an edge directed toward the underside of the second bead.

3,196,778

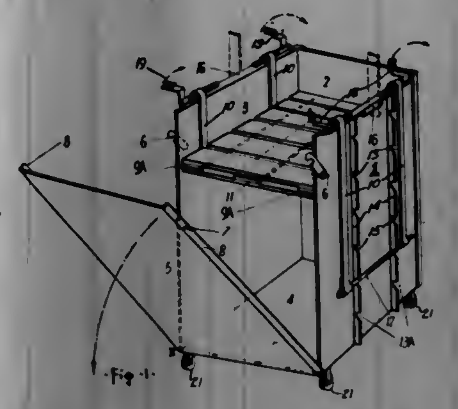
HANDLING OF CURED TOBACCO

Frederick T. Edridge, P.O. Box 293, Marandellas, Southern Rhodesia

Filed July 10, 1963, Ser. No. 294,136

9 Claims. (Cl. 100—3)

1. A tobacco bulking method comprising transferring cured tobacco leaves directly from tobacco sticks, strings or other such supporting means, as a single movement into a baling press having a baling chamber with top and bottom pressure applying members for building up methodically the cured leaves in layers to a suitable bale-able quantity, subjecting such quantity in the chamber to a desired moderate uniformly applied compression and sandwiching said tobacco between a pair of wooden members which have served respectively as the relatively moveable top and bottom members in the baling press and then applying binding around the top and bottom members and the leaves to form a bale.



3,196,779

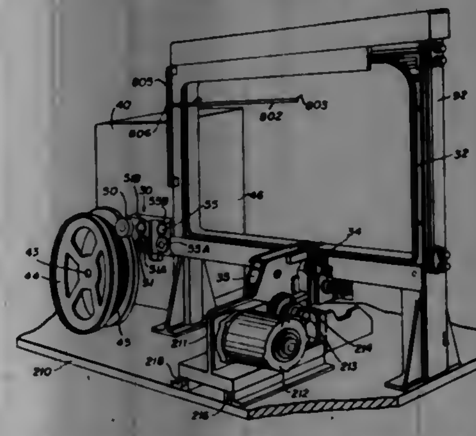
AUTOMATIC STRAPPING MACHINE

Harold K. Embree, Hamilton, Ontario, Canada, assignor to Ovalstrapping Limited, Hamilton, Ontario, Canada

Filed Oct. 2, 1961, Ser. No. 142,040

Claims priority, application Canada, Aug. 28, 1961, 830,647, Patent 690,655

9 Claims. (Cl. 100—4)



2. An automatic wire strapping machine for use with a wire dispensing reel comprising loop-forming means, means for feeding the wire from said dispensing reel to said loop-forming means by threading a free end of the wire from the dispensing means into guideways in said loop-forming means, stop means including a gripper element adapted to engage and grip said free end, switch means operated by movement of the stop means on engagement with said free end to cause a cessation of the threading of the wire, switch means operable to cause the stripping of the formed loop from the loop-forming means, switch means operable by movement of the loop-forming means to initiate means to apply tension to the wire to draw taut about a package, twister means and switch means operable to cause the twister means to engage the wire and knot it, and means to sever the wire from the wire dispensing reel and release the loop from the gripper element.

3,196,780

WIRE MARKING DEVICE

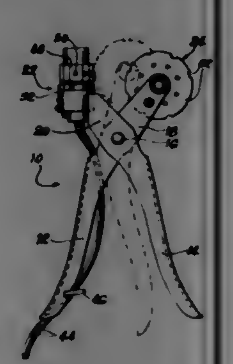
Ernest Imre Ternovits, P.O. Box 112, Wheeling, Ill., and Martin A. Mueller, 6645 N. Fairfield Ave., Chicago, Ill.

Filed Nov. 6, 1963, Ser. No. 321,978

3 Claims. (Cl. 101—10)

1. A wire marking device comprising a pair of pivotally connected arms, head holding portions integral with said arms and extending beyond the pivotal connection where-

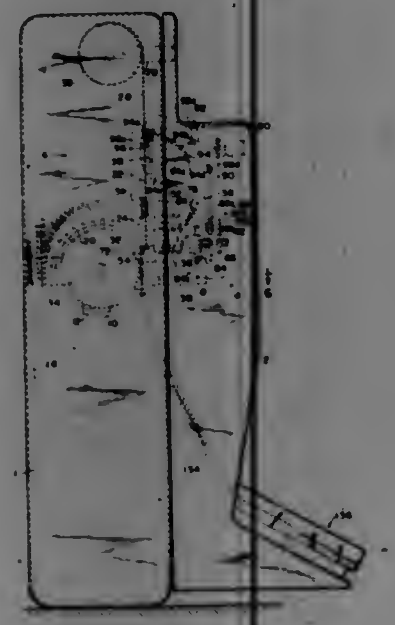
by pivoting of said arms will result in movement of said head holding portions toward and away from each other, heads rotatably mounted on each of said holding portions, a marking means associated with one head, a plurality of identifying symbols defined by said marking means whereby rotation of said one head provides for selective indexing of said symbols to a marking position, heating means associated with said device and adapted to heat said symbols, a plurality of wire holding positions comprising grooves of different sizes and configurations associated with said other head to accommodate wires of different



size and shape, rotation of said other head providing for selective indexing of said wire holding means whereby a wire can be located in said holding means and said heated symbols can be brought into contact with the surface of said wire for marking thereof, and means carried by each of said head holding portions for releasably engaging said heads and for holding each of said heads in position against displacement during a marking operation, the means releasably engaging said heads being located whereby they engage the heads at points remote from the portion of the heads acting on a wire to be marked.

3,196,781
TRAVELLING ROLLER AND CUTTING MEANS IN LABEL-MAKING APPARATUS

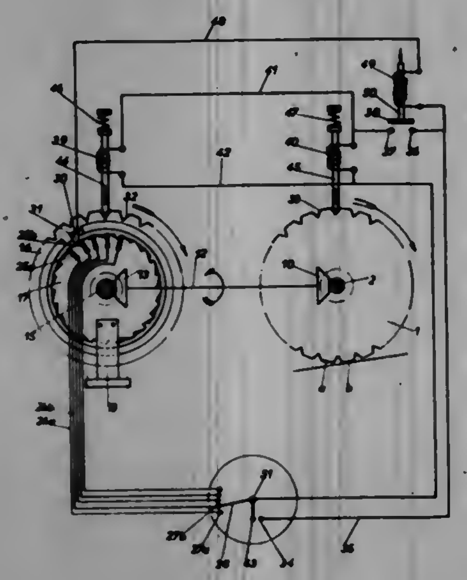
Ernst Kuhnle and Josef Schwarz, Balingen, Wurttemberg, Germany, assignors to Bizerba-Werke Wilhelm Kraut KG, Balingen, Wurttemberg, Germany
Filed Mar. 5, 1962, Ser. No. 177,647
Claims priority, application Germany, Mar. 7, 1961, B 61,554
4 Claims. (Cl. 101—66)



1. A label printing and cutting machine, comprising a supply roll having a strip wound thereon of a material from which the labels are to be made, driving means for indexingly drawing said strip off said supply roll, a support shaft reciprocable by said driving means transversely across said strip, first and second printing pressure rollers mounting for reciprocation from said shaft, a cutting roller mounted for reciprocation from said shaft, stationary cutting counter edge means mounted on the side of said strip substantially opposite said cutting roller, fixed printing means mounted on the side of said strip opposite said first printing roller, variable printing means mounted on the side of said strip opposite said second printing roller, and an inked ribbon disposed between said strip and said fixed and said variable printing means and operatively connected to said driving means for indexing movement past said fixed and said variable printing means.

3,196,782
TYPE WHEEL SETTING AND LOCKING MEANS IN LINE COMPOSITION

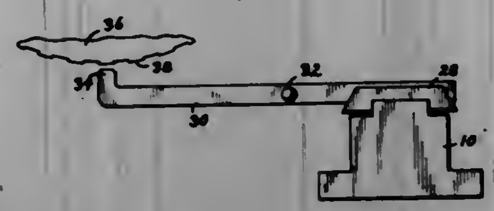
Roger Blanchin, Stains, and Eric Tison, Paris, France, assignors to Seailles & Tison, Paris, France, a company of France
Filed Jan. 22, 1963, Ser. No. 253,092
Claims priority, application France, Jan. 22, 1962, 885,495
10 Claims. (Cl. 101—93)



1. An apparatus for automatically setting at least one line of type for printing documents from data which may be represented by distinctive switching operations, comprising type wheels carrying printing characters, a tracking wheel for each printing wheel, an electrical contact on each tracking wheel forming a rotary contact, a commutator wheel adjacent each tracking wheel and having a plurality of fixed contacts, one for each character on said type wheel, common drive means to rotate said type wheels with the respective tracking wheel in synchronism whereby said tracking wheel contact successively encounters said commutator fixed contacts, locking means for locking said type wheels and tracking wheels in a desired position to suit the line composition, switching means for each commutator having a distinctive switching device for each commutator fixed contact, means to place said switching device in a conductive state corresponding to the data to be printed from the respetcive type wheel while the remaining switching devices are in non-conductive state, a plurality of lines connecting each said commutator fixed contact to a common terminal through its respective switching device, a conductor from said common switch terminal to said tracking wheel electrical contact, means for energizing said common terminal conductor when the electric circuit including said tracking contact and said line from the commutator contact in a conductive state is completed, whereby to cause said type wheel to be locked in the printing position corresponding to the selected data when the said commutator fixed contact in a conductive is encountered by said tracking contact.

3,196,783
PRINTER MAGNET CORE

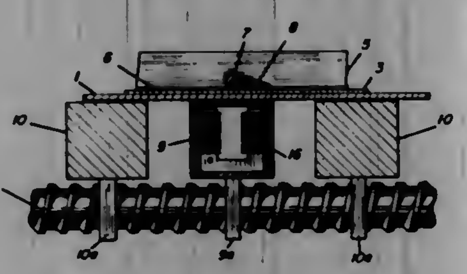
Joseph Gross, Plainview, N.Y., assignor to Potter Instrument Company, Inc., Plainview, N.Y., a corporation of New York
Filed May 10, 1963, Ser. No. 279,454
5 Claims. (Cl. 101—109)



1. A magnetic core for a high speed printing hammer which comprises,
a printing hammer pivotably mounted for rotation about an axis,
said printing hammer having an armature at one end thereof and a printing hammer head at the other end thereof,
an actuating coil assembly positioned adjacent said armature,
said coil assembly comprising
an E-shaped core formed of a magnetizable material and having a central leg positioned between a first and second outer leg,
end surfaces formed on each of said first and second legs and said central leg forming air gaps with said armature of said high speed printing hammer, and
an extension formed of core material extending from the outermost edges of each of the outer legs beyond the termination of said central leg to prevent stray fields from adversely affecting an adjacent, similar magnetic core.

3,196,784
SCREEN PRINTING APPARATUS WITH MAGNETIC SQUEEGEE MOVING MEANS

Rupert Kraft, Kufstein, Austria, assignor to Zimmer's Erben Kommanditgesellschaft, Kufstein, Austria, a trading partnership of Austria
Filed Feb. 15, 1962, Ser. No. 173,422
Claims priority, application Austria, Jan. 9, 1957, A 147/57
1 Claim. (Cl. 101—123)



In an apparatus for treating the surface on one side of a web of non-magnetic textile material by rolling a roller along the one side of the web material, the combination of web holding means for holding the web in a fixed position, a roller of a material capable of being attracted by a magnet and being on one side of the web to be treated, said roller having a large axial dimension relative to its diameter such that when it is supported only at its ends it tends to sag between the ends and it tends to exert non-uniform pressure along its length, and said roller being capable of moving along the said one side of the web to be treated, a magnetized body on the other side of the web to be treated and substantially coextensive with the roller and supporting the roller against sagging and attracting the roller with a substantially uniform force along its length, and body moving means in which said magnetized body is mounted and movable along the said other side of the web to be treated, whereby the elongated roller is moved along the one side of the web to be treated.

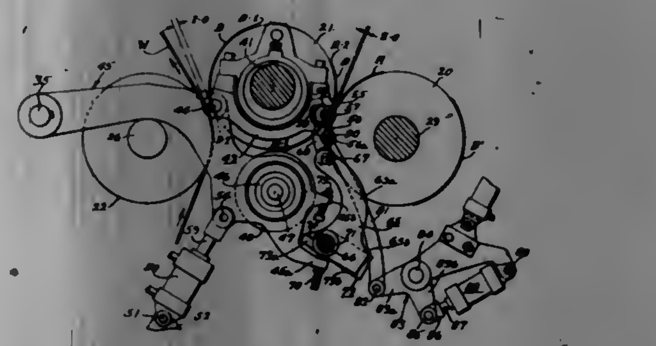
3,196,785
LITHOGRAPHIC PLATE AND METHOD OF MAKING SAME

Robert Louis Eissler, Muncie, Ind., assignor to Ball Brothers Company, Incorporated, Muncie, Ind., a corporation of Indiana
No Drawing. Filed Aug. 12, 1963, Ser. No. 301,664
5 Claims. (Cl. 101—149.2)

3. A method of producing an aluminum lithographic plate having improved press life which comprises subjecting a grained aluminum plate to a mild etching action to remove surface contaminants therefrom; rinsing said plate with water; while the cleaned surface is wet with water, coating it with an aqueous composition comprising between about 0.1% and 5% by weight of titanium tetrachloride; removing the excess composition from said surface; and heating the coated plate to a temperature above about 250° F. to convert the coating to a substantially insoluble form.

3,196,786
ROTARY PRINTING PRESS WITH MOVABLE TRANSFER CYLINDER

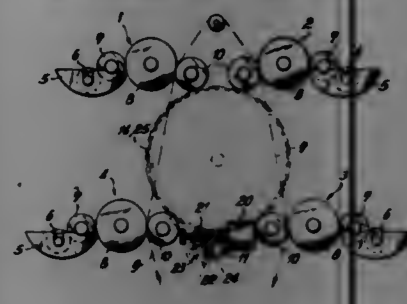
Clarence L. Hornberger and Edward W. Stanley, Lancaster, Pa., assignors to Armstrong Cork Company, Lancaster, Pa., a corporation of Pennsylvania
Filed Apr. 5, 1963, Ser. No. 270,870
10 Claims. (Cl. 101—154)



1. Roll skip printing apparatus, as for printing rug cross borders on a travelling web, by rolls which turn together at all times, comprising in combination: a roll stand having a set of cooperating rolls, including an engraved roll, an impression roll with the web to be imprinted passing thereover, and an offset roll mounted to be articulated from and toward said engraved and impression rolls while turning in continued coordination therewith; and articulating means for moving said offset roll from and toward said engraved and impression rolls; said articulating means including, for each end of the offset roll, a cradle pivoted at two points adjacent the nips between the offset roll and the engraved roll and impression roll respectively and supporting the offset roll between said two pivot points; separate independently controllable power motor means for selectively moving either end of the cradle about the pivot at the other end to separate the offset roll at either nip selectively; and control means for said power motor means operated coordinately with the turning of said rolls for either placing the offset roll in engagement with both the engraved and impression rolls, or separating it from both rolls, or selectively separating it from either roll.

3,196,787
INKING DRIVE AND INTERRUPTER FOR MULTI-COLOR ANILINE PRINTING MACHINE

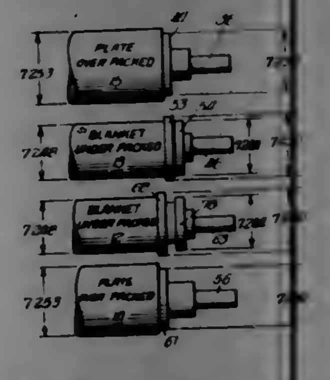
Arno Finke, Lengerich, Westphalia, Germany, assignor to Windmoller & Holscher, Lengerich, Germany
Filed July 16, 1963, Ser. No. 295,368
Claims priority, application Germany, July 18, 1962, W 32,625
6 Claims. (Cl. 101—182)



1. In a multicolor printing machine, a plurality of printing units, each unit comprising a plate cylinder, a dipping roller, and an inking roller in engagement therewith, first gear means connected to said plate cylinders and interconnecting said inking rollers, first freewheel clutch means operatively associated with said first gear means and each of said inking rollers, a main electric motor operatively connected to said first gear means to drive said plate cylinders and said inking rollers at a given speed through said first freewheel clutch means, second gear means interconnecting said dipping rollers, second freewheel clutch means operatively associated with said second gear means and said inking rollers, and an auxiliary electric motor operatively connected to said second gear means to drive said dipping rollers continuously through said second freewheel clutch means at a speed slightly different to that of said main motor and to drive said inking rollers through said second freewheel clutch means upon deenergization of said main motor at a speed corresponding to that of the dipping rollers.

3,196,788
BEARER RING DESIGN FOR FOUR COOPERATING CYLINDERS

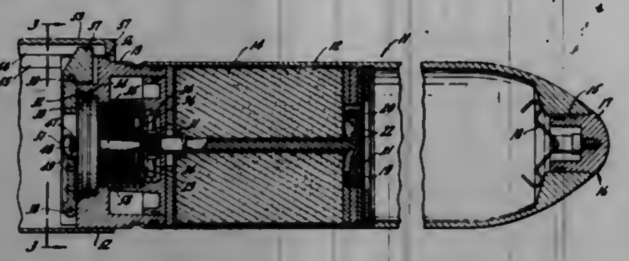
Dennis H. Knowles, Hinsdale, Ill., assignor to Miehle-Goss-Dexter, Incorporated, Chicago, Ill., a corporation of Delaware
Filed Mar. 19, 1962, Ser. No. 180,506
7 Claims. (Cl. 101—217)



1. In a web-fed offset printing press of the perfecting type, in combination, coacting plate and blanket cylinders, said blanket cylinders also having coacting relation to print on both sides of a web passing between the cylinders, each plate and blanket cylinder having a bearer ring at respective ends in peripheral contact, whereby to form plate-blanket cylinder bearer ring combinations and which are disposed in different planes, an additional bearer ring on each end of each blanket cylinder, said last mentioned bearer rings at respective ends of the blanket cylinders having peripheral contact, and said blanket bearer ring combinations being disposed in a plane different from that of the bearer rings for the plate-blanket combinations.

3,196,789
SUBMARINE SIGNAL FUZE

Stanley M. Fasig, Bloomington, Ind., and Glenn C. Johnson, Hyattsville, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed Feb. 10, 1964, Ser. No. 343,903
1 Claim. (Cl. 102—7)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A submarine signaling device adapted to be launched in a body of sea water beneath the surface thereof comprising:

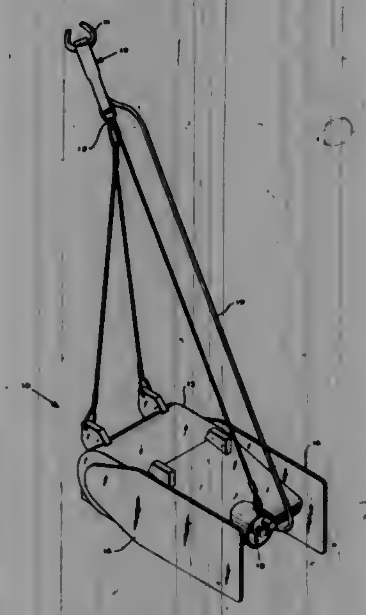
a fuze body having an inner chamber therein,
an opening in one end of said fuze body communicating with said inner chamber,
a valve of insulating material positionable in said opening for sealing said inner chamber from said body of sea water,
a plurality of rods of conducting material extending through said valve,
a projectile shell attached to said fuze body and containing a pyrotechnic composition therein,
at least one squib adjacent said pyrotechnic composition for igniting said pyrotechnic composition,
a sea water battery attached to said valve and positionable within said inner chamber and electrically connected to said squib and said plurality of rods,
a lever pivotally connected on the outside of said fuze body for maintaining said valve means in a closed position until said signaling device is launched in a body of sea water,
spring means of conducting material attached to said lever and engageable with said plurality of rods for shorting said sea water battery until said signaling device is launched,
and spring means within said inner chamber for ejecting said valve means and said battery into said body of water when the pressure applied to said valve means by said body of water has been reduced to a predetermined value.

3,196,790
CONTROL MECHANISM FOR UNDERWATER EXPLOSIVE CHARGE

Harold J. Mack, Allentown, John E. Smith, Hatboro, and Joseph N. Yaccarino and Donald F. Smith, Norristown, Pa., assignors to the United States of America as represented by the Secretary of the Navy
Filed Nov. 30, 1960, Ser. No. 72,806
7 Claims. (Cl. 102—18)
(Granted under Title 35, U.S. Code (1952), sec. 266)

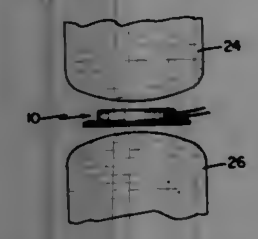
1. In a release, arming and firing control mechanism for an underwater explosive charge of the type depending from a hydrofoil and having a magnet and coil means adapted for attracting the charge to an underwater ferromagnetic object and for generating an electrical signal upon contact with the object, the combination comprising: a bifurcated spring member having opposed jaws formed on its open end to close about a connecting member fixed to the hydrofoil when said spring member is urged to the closed position, a first coupling fixed to the inner face of one leg of said spring member and having a dowel hole extending therethrough, a second coupling fixed to the inner face of the other leg of said spring member and having a closed-end dowel hole extending thereinto, said couplings being offset relative to each

other so that the dowel holes align to form a continuous closed-end hole when said member is urged to the closed position, a dowel pin insertable in the continuous hole for maintaining said spring member in the closed position, an electrically detonated charge embedded in the insertion end of said dowel pin and exposed to the closed end of the continuous hole, a hydrostatic switch and timer housing externally formed to be inserted in the underwater explosive charge with a surface exposed to the surrounding fluid, a piston slidable in said housing movable by the fluid pressure, force means disposed between said housing and said piston opposing the fluid pressure and normally maintaining said piston at one end of its travel, a shaft fixed to said piston and axially extending therefrom through said exposed surface of said housing, a ball movable within a radial hole in said shaft, said shaft including an axial hole open at the exposed end thereof and communicating with said radial hole, a safety pin insertable the full length of the axial hole thereby urging said ball means to the outer end of the radial hole, said radial hole being of reduced size at its outer end whereby a portion of said ball protrudes to prevent movement of said piston when at said one end of travel, a first chamber in said piston having an opening at the side of said piston but sealed by the wall through which said piston slides, an opening in the wall positioned so as to provide communication between said first chamber and the underwater explosive charge when said piston is at the other end of its travel and said openings are aligned, an electrically-detonated charge contained in said first chamber, a second chamber in said housing communicating externally to the surrounding fluid by an ejectable plug, an electrically-detonated cartridge fixed between said housing and said plug tor producing an ejection force, two movable electrical contacts resiliently connected to said piston and formed to engage the underwater explosive charge coil means when said piston is at said other end of its travel, first conductor means electrically connecting said dowel pin charge and said plug-ejecting cartridge in series whereby said dowel pin and said plug are simultaneously ejected when the magnet of said underwater explosive charge contacts a ferromagnetic object, a water-soluble element contained within said second chamber and disposed between two electrical contacts, at least one of said contacts having resilient means for biasing the contacts toward each other, an electrical supply contained within said housing, a slidable contact connected to said charge of said first chamber and a stationary contact fixed to said housing, said slidable contact completing a circuit with said stationary contact when said piston is at said other end of its travel, and second conductor means electrically connecting said contacts of said element, said battery, and said charge in said first chamber in series whereby said charge in said first chamber is detonated when said element dissolves and said piston is at said other end of its travel.



3,196,791
METHOD OF RUPTURING WALLS

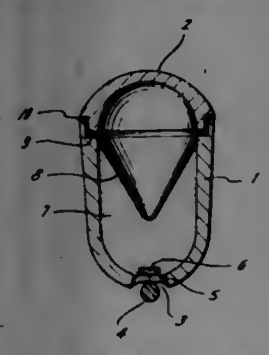
Gus Francis, 1480 S. Josephine, Denver 10, Colo., and James A. Dunn, Lakewood, Colo.; said Dunn assignor to said Francis
Filed June 6, 1962, Ser. No. 200,379
5 Claims. (Cl. 102—23)



1. The method of substantially simultaneously rupturing a plurality of walls which comprises positioning a flat plate of a material from the class consisting of lead and alloys containing at least ten percent lead in front of each wall with one face of each plate facing a wall and the other face of said plate contiguous to and conforming to a face of an explosive charge, and detonating said explosive charge to simultaneously and directionally propel said plates flat-wise against said walls to rupture them.

3,196,792
EXPLOSIVE CHARGES USED IN PETROLEUM BOREHOLES

Denis Charrin, Paris, France, assignor to Societe de Prospection Electrique Schlumberger, S.A., Paris, France, a corporation of France
Filed Oct. 1, 1962, Ser. No. 227,381
Claims priority, application France, Oct. 10, 1961, 875,593
4 Claims. (Cl. 102—24)



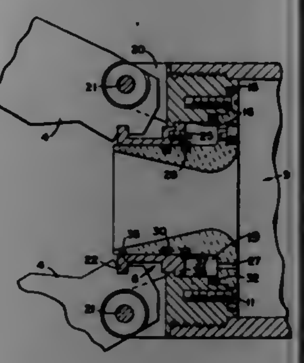
1. In a method for producing an explosive shaped charge device for use in a fluid-filled well bore where said device includes a metal case and cover elements constructed from compressed and sintered iron powder and where said elements are normally sealed relative to one another and enclose an explosive with a shaped lined portion for producing a penetrating jet, the improvement comprising the step of heating at least one of said elements while in a compressed and sintered form to a temperature of 500° C. in an atmosphere of oxygen for about one hour.

3,196,793
FOLDED FIN ROCKET

Veljko Milenkovic, Norridge, Philip A. Saigh, Morton Grove, and Earl K. Takata, Arlington Heights, Ill., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Jan. 16, 1963, Ser. No. 251,991
8 Claims. (Cl. 102—49)

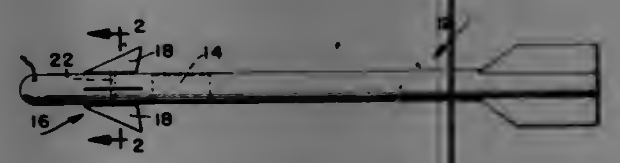
1. A folded fin rocket comprising: a rocket body, said body containing a propulsion system; a backing plate affixed to the rear of said body and having a central

opening therethrough; a plurality of spaced stabilizing fins pivotally fastened to said backing plate and arranged in a folded position; a nozzle mounted to said backing plate and extending through said opening; a one piece sleeve-like piston slidably disposed between said nozzle and said backing plate; a release screw holding said piston in a fin folded position; means for establishing a pressure differential across said piston, said pressure differential causing shearing of said release screw and driving the piston to pivot said fins into an extended stabilizing position; and means disposed about said nozzle and engaging said piston for preventing the return of said piston to a fin folded position.



3,196,794
PIEZO-ELECTRIC FUSE DEVICE

Robert C. Meade, China Lake, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed June 18, 1959, Ser. No. 821,334
3 Claims. (Cl. 102—7[illegible].2)
(Granted under Title 35, U.S. Code (1952), sec. 266)



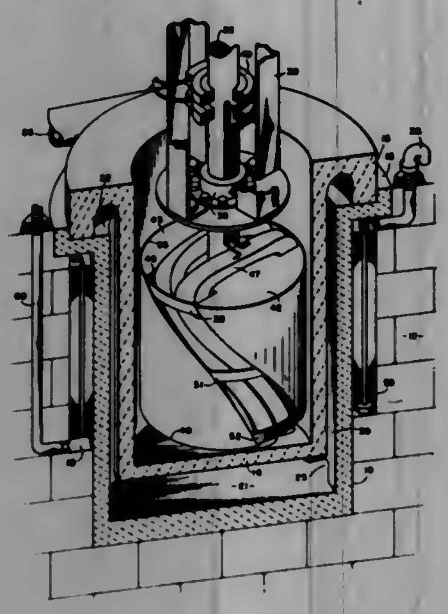
1. An impact type fuse for a missile warhead comprising: a structural element of the missile exposed to direct impact with a target, a piezo-electric device mechanically coupled to said structural element and adapted to generate an electrical signal in response to vibrations which accompany the impact of said structural element with a target, an electric circuit within said missile adapted to detonate the warhead in response to said electric signal, and an outer missile casing forming an enclosed space within said missile and wherein said structural element extends through said casing, being disposed in part outside of the missile where it is exposed to direct impact with a target and disposed in part within said enclosed space and wherein said piezo-electric device is disposed within said enclosed space.

3,196,795
ELECTROMAGNETIC PUMP SYSTEM

Richard S. Baker, Northridge, Calif., assignor to North American Aviation, Inc.
Filed Jan. 2, 1963, Ser. No. 248,935
7 Claims. (Cl. 103—1)

1. An electromagnetic pump system for pumping electrically coductive liquids comprising:

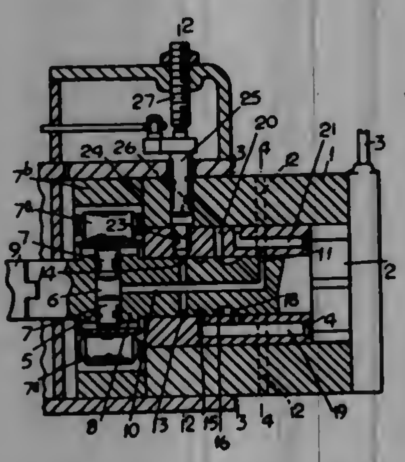
(a) first and second generally cup-shaped members,
(b) a rim portion on said first cup-shaped member cooperating with a rim portion on said second cup-shaped member to nest said first member within said second member in a spaced apart relationship to each other,
(c) a pump region developed between said first and second members,
(d) at least one inlet port to said pump region in said second member,
(e) at least one outlet port form said pump region,
(f) a field wound belical rotor rotatably positioned within said first cup-shaped member and spaced therefrom to define a coolant flow path,
(g) support means for said helical rotor including a bearing arrangement removed from said first cup-shaped member,



(h) flux return path means circumjacent to said pump region,
(i) cooling means for said flux return path,
(j) means electrically connecting said field wound rotor to a power source to set up a substantially radial magnetic flux field across said pump region distributed in at least one helical curve about said rotor, and
(k) drive means to rotate said helical rotor so that the magnetic field induces eddy-currents in a conductive liquid in said region which flow in paths that conform with the helical geometry of said rotor means and interact with the magnetic field to impart pumping forces on the liquid.

3,196,796
LIQUID FUEL PUMPS

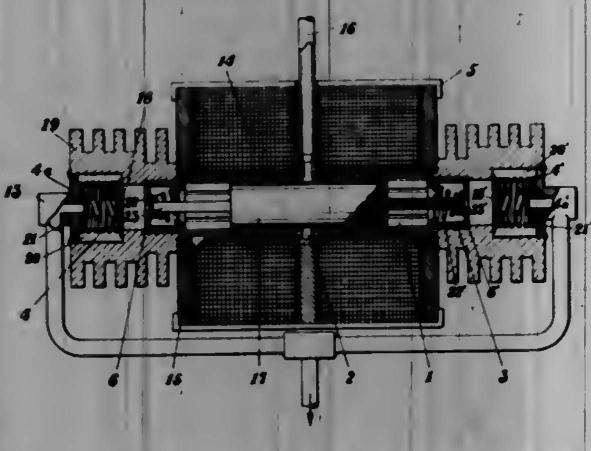
Derek Albert Channing, Shepherds Bush, London, and Kenneth Albert Walters Kemp, Ealing, London, England, assignors to C.A.V. Limited, Acton, London, England
Filed Apr. 2, 1963, Ser. No. 270,018
3 Claims. (Cl. 103—2)



1. Liquid fuel pumping apparatus comprising, in combination a stationary hollow body, a feed pump at one end of the body and having a fuel inlet and a fuel outlet therein, a rotary head at the other end of the body part, said head having formed in it a bore, a reciprocable plunger within the bore, a cam mounted in the body and arranged to move the plunger inwardly as the head rotates, a rotary distributor within the body, said distributor connecting the feed pump and the head, a longitudinal passage within the distributor in communication with the bore in the head, a plurality of equi-angularly spaced inlet passages in the distributor extending outwardly from said longitudinal passage, an inlet port in the body with which said inlet passages are arranged to communicate, in turn, as the distributor rotates, a delivery passage in the distributor extending outwardly from said longitudinal passage, a plurality of equi-angularly spaced delivery ports in the body and with which the delivery passage is in communication, in turn, as the distributor rotates during the time when the plunger is moved inwardly by the cam, a cylinder within the body, one end of said cylinder being in communication with said inlet port, a shuttle axially movable within the cylinder, a first series of equi-angularly spaced longitudinal grooves in the periphery of the distributor, said first series of grooves being in communication at all times with the outlet of the feed pump and arranged to register, in turn, as the distributor rotates with said inlet port to allow fuel from the outlet of the feed pump to move the shuttle axially away from said one end of the cylinder, a further port in the body in communication with said other end of the cylinder, a second series of equi-angularly spaced longitudinal grooves in the periphery of the distributor in communication at all times with said further port and arranged to be placed in communication alternately, and in turn, with the feed pump outlet and the feed pump inlet to move the shuttle towards said one end of the cylinder during the time when the inlet port is in register with one of the inlet passages so as to displace fuel to the bore in the head, and whereby when the inlet port is in register with one of said first series of grooves fuel from said other end of the cylinder will be displaced to the feed pump inlet, a valve member axially slidable in the other end of said cylinder and angularly movable relative to the body, a helical groove formed on the periphery of said valve member for co-operation with said further port to control the rate at which fuel flows therethrough, said valve member also serving as a stop to control the permitted axial movement of the shuttle.

3,196,797
DYNAMIC THRUST ELECTROMAGNETIC COMPRESSOR, PARTICULARLY SUITABLE FOR COMPRESSING LIQUID OR GASEOUS SUBSTANCES

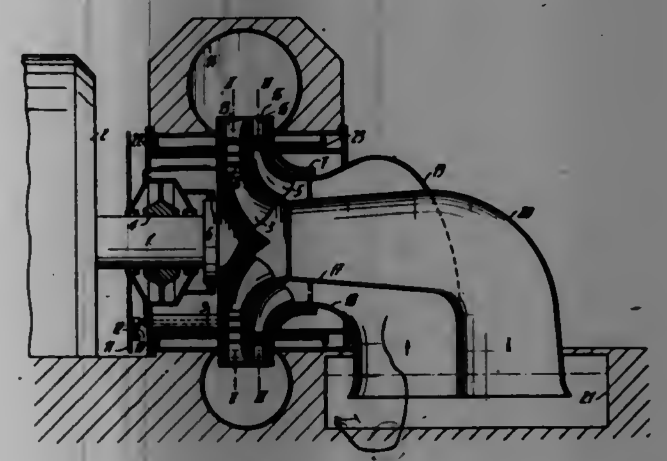
Aldo Marini, Rome, Italy, assignor to Mario Pagano S.p.A. Gelbyson, Rome, Italy
Filed Mar. 19, 1962, Ser. No. 180,766
Claims priority, application Italy, Sept. 18, 1961, 16,827/61
3 Claims. (Cl. 103—53)



1. An electromagnetic compressor comprising a cylinder having two counterposed compression chambers, a passage from each end of said cylinder to its associated compression chamber, a core slidably mounted in said cylinder, a piston mounted at each end of said core also slidable in said cylinder cooperating with said compression chambers, a valve controlling each of said passages, a pair of solenoids mounted upon said cylinder to reciprocate said core and said pistons by means of alternating current fed through two unidirectional rectifiers, channels in said cylinder to allow the passage of the fluid to be compressed up to a point where each piston has moved through a certain stroke, a central manifold, and an admission duct connecting said manifold to said channels.

3,196,798
HYDRAULIC INSTALLATIONS

Pierre Coucet and André Culaud, Geneva, Switzerland, assignors to Ateliers des Charmilles S.A., Geneva, Switzerland, a corporation of Switzerland
Filed Oct. 4, 1963, Ser. No. 313,831
Claims priority, application Switzerland, Oct. 17, 1962, 12,145/62; July 19, 1963, 9,037/63
9 Claims. (Cl. 103—87)



1. A turbine and a pump for a hydraulic installation, comprising a first wheel acting only as a turbine rotatable in a chamber and a second wheel acting only as a turbine likewise rotatable in said chamber, both said wheels being mounted in juxtaposition on a rotatable common shaft, a casing having an internal fluid reception cavity adapted to deliver fluid to said turbine wheel and to receive fluid delivered by said pump wheel, valve means in said internal cavity for permitting the separation of said cavity from the chamber in which the turbine wheel rotates and the chamber in which the pump wheel rotates, a first suction pipe communicating with the discharge side of said turbine wheel and a second suction pipe communicating with the intake side of said pump wheel, said two suction pipes being disposed coaxially on the same side of the wheels with at least a part of their length contiguous to said wheels.

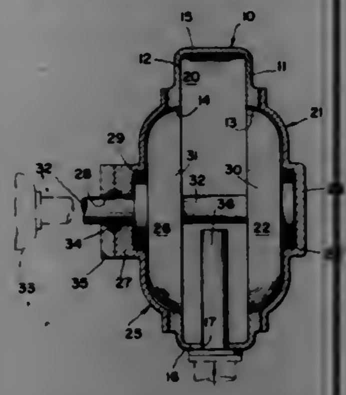
3,196,799
LIQUIDS-SOLIDS PUMP

Isidor R. Loss, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 27, 1963, Ser. No. 312,064
8 Claims. (Cl. 103—107)

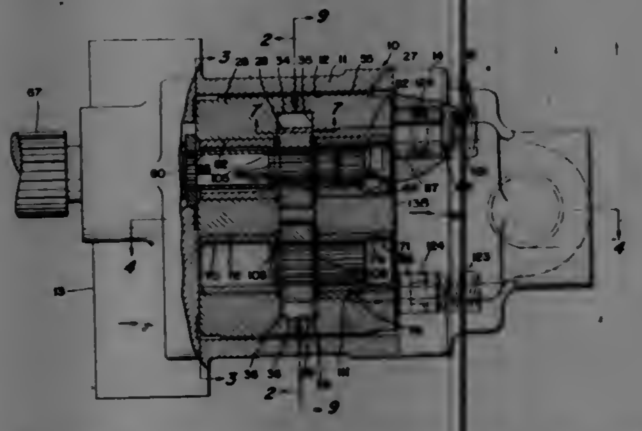
1. A rotary pump for handling solids entrained in liquids, comprising:

a pump casing having a pair of axially spaced end walls and a peripheral wall joined to the end walls to define a pump chamber with tangential discharge means at its outer periphery for pumped fluid;
the end walls each having a circular recess of smaller

diameter than the pump chamber and in communication with the pump chamber;
shaft means extending into the pump casing and into the end wall recesses;
a pair of open faced impellers disposed in spaced face-to-face relationship each in one of the end wall recesses with its open face in unrestricted communication with the pump chamber and being mounted on the shaft means for rotation thereby to impel fluid in the chamber for pumping; and
inlet means extending through the peripheral wall into the pump chamber between the impellers and terminating adjacent the shaft means for supplying fluid thereto to be pumped.



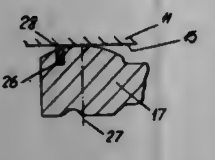
3,196,800
GEAR PUMP
James F. Hoffer, Redondo Beach, Calif., assignor to Parker-Hannifin Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Dec. 13, 1962, Ser. No. 244,317
25 Claims. (Cl. 103—1[illegible]6)



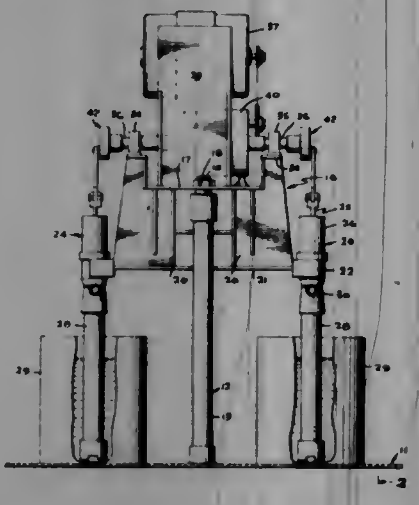
1. A pump comprising a housing, first and second plates within said housing and having opposed recesses therein forming a pumping chamber, means supporting said plates in said housing, at least one of said plates being axially movable relative to the other, inlet and outlet passages in communication with said pumping chamber, rotary pumping means in said pumping chamber operative when rotated for forcing fluid from said inlet passage to said outlet passage, and fluid pressure means forcing said one of said plates axially toward the other.

3,196,801
FLUID PUMPS OR MOTORS
Richard Joseph Ifield, Beecroft, New South Wales, Australia, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Sept. 25, 1963, Ser. No. 311,358
Claims priority, application Great Britain, Oct. 11, 1962, 38,602/62
1 Claim. (Cl. 103—1[illegible]2)

Hydraulic apparatus comprising in combination a hollow body, a cylinder barrel rotatably mounted within the body, a rotatable carrier mounted within the body, means for varying the angle between the axis of the barrel and carrier respectively, a plurality of longitudinal cylinders formed in the barrel, a plurality of spherical beaded pistons occupying the cylinders respectively, means connecting the piston to the carrier at angularly spaced points respectively, a plurality of grooves formed in the periphery of the pistons respectively at points removed from the lines of contact of the pistons and the cylinders and a plurality of resilient sealing rings occupying the grooves respectively.



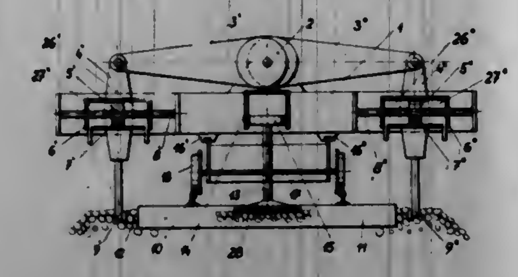
3,196,802
PROPORTIONING PUMP
Francis M. Matheny, Lynwood, Calif., assignor to Pipe Linings, Inc., Wilmington, Calif., a corporation of California
Filed May 21, 1963, Ser. No. 282,037
2 Claims. (Cl. 103—218)



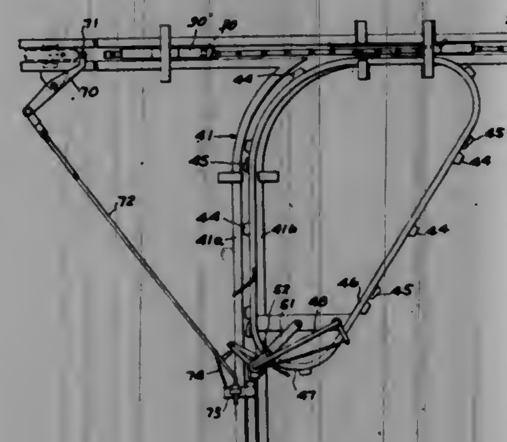
1. A proportioning pump unit, comprising a base plate adapted to provide a supporting surface for a pair of supply containers, an upright fluid jack mounted on said plate, a frame carried on said jack and extending laterally thereof to provide two end portions, a pump mounted on each end portion of said frame and having a depending inlet pipe to extend into a container, said jack being expansible to raise said frame and the pumps and permit removal and replacement of the containers, a shaft journaled in the frame above said pumps, means operatively connecting each pump to the shaft, a motor carried by the frame on a portion thereof above said shaft, and a driving connection between the motor and the shaft.

3,196,803
MOBILE TRACK ALIGNING MACHINE AND METHOD
Franz Plasser and Josef Theurer, both of Johannesgasse 3, Vienna I, Austria
Filed May 20, 1963, Ser. No. 281,651
3 Claims. (Cl. 104—8)

1. A mobile track aligning machine adapted to travel on the rails of the track, the rails being mounted on ties and the ties being embedded in ballast, the machine comprising a support extending in the direction of the rails, a carrier movably mounted on the support for adjustment in relation to a respective one of said ties, at least one impact tool mounted on the carrier laterally outside one end of the respective one of said ties, the impact tool having a lower end immersed in the ballast to a level in horizontal alignment with the said tie and spaced therefrom whereby ballast is interposed between the tie end and the impact tool end, and a mechanism operatively connected to the impact tool for imparting to the impact tool end a forceful motion directed towards the tie end whereby an indirect pressure impact is transmittable from the impact tool end through the interposed ballast to the tie end.

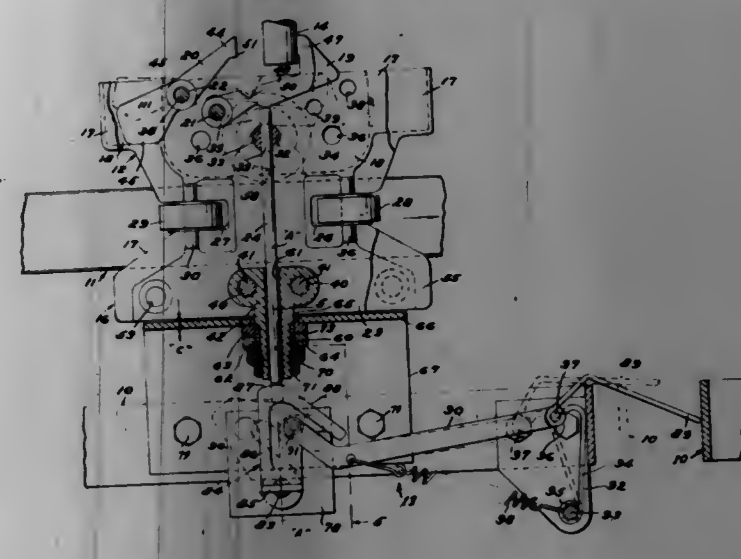


3,196,804
ENTRANCE SWITCH FOR CONVEYORS
Homer S. Harrison, Detroit, Mich., assignor to Mechanical Handling Systems, Inc., Detroit, Mich., a corporation of Michigan
Filed Sept. 3, 1963, Ser. No. 305,985
33 Claims. (Cl. 104—96)



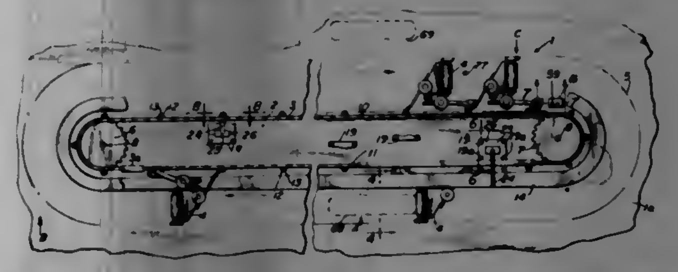
1. In a conveyor system, the combination comprising a main track,
a plurality of trolley units adapted to be moved along the main track,
a main conveyor adapted to engage said trolley units and move them along the main track,.
a branch track for guiding similar trolley units,
said main track and branch track having portions thereof converging to guide the trolley units from the branch track to the main track,
an endless transfer conveyor positioned adjacent said main track and deriving power directly therefrom,
said transfer conveyor having portions thereof positioned and traveling adjacent the converging portion of said branch track,
means on said transfer conveyor for engaging a trolley unit on the branch track,
and an entrance switch for controlling the movement of the trolley units into position for engagement by said transfer conveyor,
said entrance switch comprising a pusher dog adapted to engage a trolley unit and move it in the direction of the branch track toward the main track,
and means responsive to the movement of said means on the transfer conveyor into position for engagement with a trolley unit on the branch track for moving and accelerating the pusher dog to thereby move the trolley unit positively in position for engagement by said means on the transfer conveyor.

3,196,805
LOAD BEARING TROLLEY AND TROLLEY ACCUMULATION MECHANISM
Leonard J. Bishop, Birmingham, and Paul Klamp, St. Clair Shores, Mich., assignors to Mechanical Handling Systems, Inc., Detroit, Mich., a corporation of Michigan
Filed Oct. 28, 1960, Ser. No. 65,674
60 Claims. (Cl. 104—172)



1. A traveling load supporting trolley, comprising a trolley body having transverse wheel axle journaling openings on opposite sides of the longitudinal center of said body and a further transverse wheel axle journaling opening between said first named wheel axle journaling openings, a pair of trolley dogs pivotally mounted on and projecting upwardly of said body carried on axles thereof, said body having means for the selective pivotal mounting of said dogs differently as a pair in relation to the body center, track wheels for said trolley, and means for selectively mounting said axles in certain of said openings to permit the support of the trolley by a wheel pair coaxial with said further opening, or by wheel pairs respectively coaxial with said first named openings.

3,196,806
DRIVE MECHANISMS
Ernest C. Brunder, 411 Pine Manor Drive, Wilmette, Ill.
Filed July 18, 1963, Ser. No. 295,916
15 Claims. (Cl. 104—172)

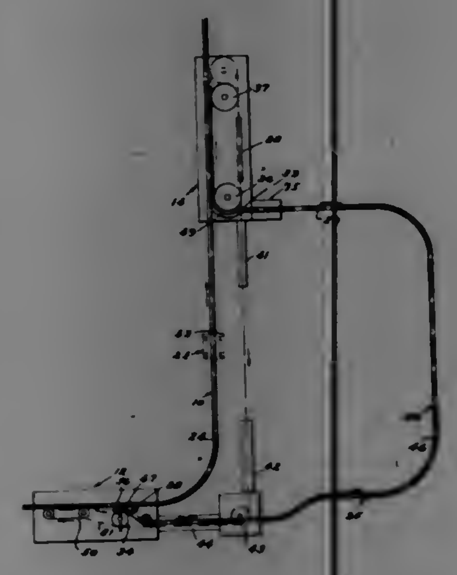


1. A drive mechanism for so moving an automobile, and the like, across a floor that during said movement the wheels on one side of said automobile move in one direction along a predetermined path of travel, and wheels on the other side of said vehicle move in said one direction along another predetermined path of travel, said drive mechanism comprising
(a) pusher means for abuttingly engaging one of said wheels one said one side,
(b) means, including a drive chain mounted on said floor between said paths of travel, for driving said pusher means along said path of travel in an automobile moving operation,
(c) said drive chain having two horizontally spaced passes between said paths of travel,
  (1) one pass being adjacent to said one path of travel for moving said pusher means in said one direction, and

(2) the other pass being on the side of said one pass remote from said one path of travel for moving said pusher means in the direction opposite to said one direction in a return movement to said path of travel for another movement in said one direction, and
(d) means on said floor between said paths of travel and engageable with said pusher means for bracing said pusher means against horizontal swinging movement during said movement of said pusher means in said one direction.

3,196,807
CARRIER TRANSFER BETWEEN CONVEYOR POWER LINES

Walter Clayton Etheridge, 6730 Indianwood Trail, Birmingham, Mich.
Filed June 1, 1964, Ser. No. 377,449
15 Claims. (Cl. 104—172)

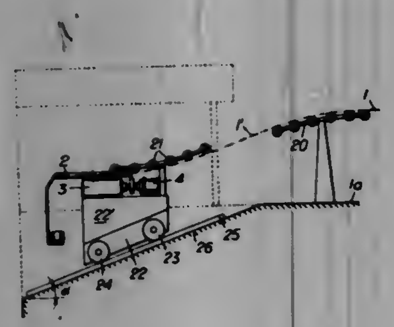


1. A conveyor including main and branch lines each having an endless propelling member supported by trolleys on a trackway and pushers for engaging a driven member of a carrier travelling on a support adjacent the trackway and means for transferring a carrier between the main and branch lines at a transfer zone, characterized by a transfer arm mounted for rotation on a vertical axis at the transfer zone, means for continuously driving the transfer arm from the propelling member of one of the main and branch lines with the outer end of the transfer arm following a horizontal circular path which is tangent to the path of travel of the main propelling member and which overlaps a portion of the path of travel of the branch propelling member, and guide members defining a connecting path of travel of the carrier driven member through the transfer zone from one line to the other, the end portions of this connecting path of travel overlapping the path of travel of pushers on the main and branch lines and the remaining portion of the connecting path of travel lying within the circular path of the transfer arm.

3,196,808
CABLE-LIFTING DEVICE, PARTICULARLY CHAIR-LIFT OR TOW-LIFT

Eduard Senn, Hungerburg 46g, Innsbruck, Austria
Filed Aug. 6, 1963, Ser. No. 300,390
1 Claim. (Cl. 104—173)

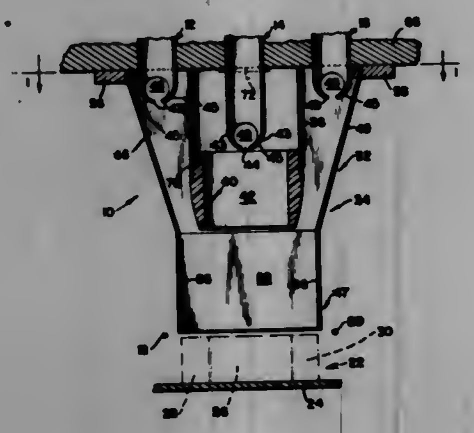
In a cable-lifting device, particularly chair-lifts or tow-lifts,
two cable lifting stations,
a rope extending between said stations,
each of said cable lifting stations including a rope pulley,
a frame having an inclined rolling gear included in one of said stations,
said frame constituting a tensioning weight for said rope and adapted to roll on an inclined track,
said rope pulley coordinated to said one of said stations and mounted on said frame for rotation about a substantially vertical axis,
said rope being continuous, and leading over said respective rope pulleys,
a plurality of clamping members secured to said rope,
a plurality of suspensions secured to said clamping members for permitting an oscillating movement within a vertical plane extending through and disposed parallel to said rope,



means preventing an oscillating movement of said suspensions in longitudinal direction prior to leaving said rope pulley mounted on said frame, and
guide rollers for said rope mounted on said frame for directing a portion of said rope approaching the corresponding of said rope pulley into substantially horizontal position and for directing a portion of said rope emerging from said rope pulley from a substantially horizontal position into an inclined position.

3,196,809
EXTRUSION NOZZLE

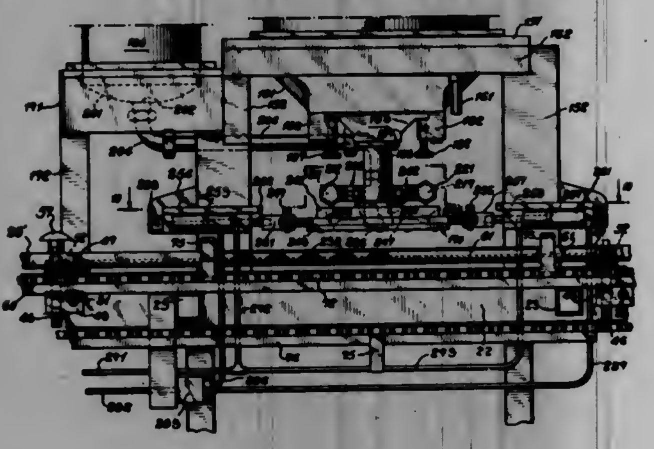
Christian K. Nelson, Los Angeles, Calif., and Charles W. Melton and Thomas L. Jernigan, Henrico County, Va., assignors to Eskimo Pie Corporation, Richmond, Va., a corporation of Delaware
Filed May 4, 1962, Ser. No. 192,505
17 Claims. (Cl. 107—1)



14. In a nozzle extruder assembly having means for supplying extrudable material into an open ended, vertical hollow outer housing having means for being suspended beneath said supply means and through which housing the extruded material flows to form an extrusion product, the improvement comprising a die member releasably positioned within said housing and having a body portion extending centrally of said housing, said body portion having a cross sectional configuration corresponding to that desired in the central portion of the extrusion product and having arms extending outwardly from its upper end, and said housing suspending means having means for releasably supporting the extremities of said arms to detachably support said die member within said housing.

3,196,810
AUTOMATIC MACHINE FOR FORMING, CUTTING AND DEPOSITING FILLED BAKED GOODS

Ernest J. Roth, Englewood, N.J., assignor to Joe Lowe Corporation, New York, N.Y., a corporation of Delaware
Filed July 26, 1963, Ser. No. 297,840
5 Claims. (Cl. 107—1)

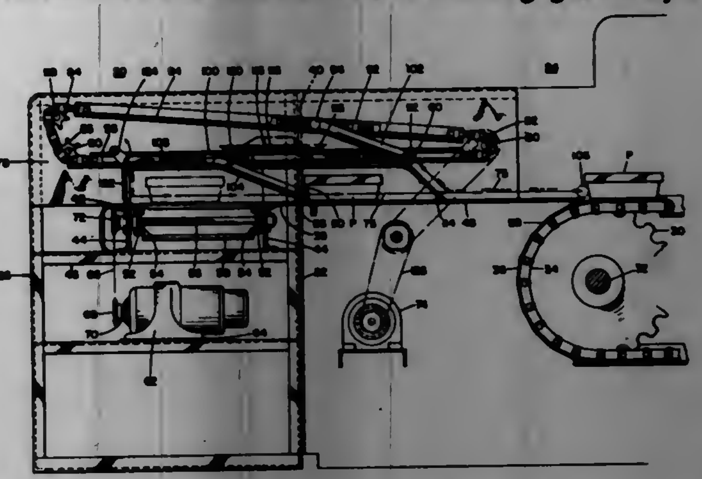


1. In a machine of the class described having
(a) a dough tank connected with a dough extrusion die,
(b) a flavor tank connected with a flavor extrusion die,
(c) means for continuously forcing dough from said dough tank to said dough extrusion die,
(d) means for continuously forcing flavor from said flavor tank to said flavor extrusion die,
(e) said flavor die being mounted in spaced relation within said dough die so that a composite extrusion will be formed and discharged having the flavor surrounded with the dough,
(f) cutting means mounted adjacent the discharge end of said dough die for normally closing the same,
(g) means for intermittently opening said cutting means for permitting a composite extrusion to be discharged therefrom and then severing the same to form an individual piece for baking into a finished product,
(h) a conveyor operating continuously below said cutting means for conveying along spaced rails a series of baking pans to receive the severed individual pieces of dough from said cutting means, and
(i) means including a visual selector and a series of different cams for synchronizing the intermittent operation of said cutting means with the continuous movement along said rails of said baking pans whereby different sizes of baking pans may be filled with properly spaced severed dough pieces.

3,196,811
OVEN LOADER

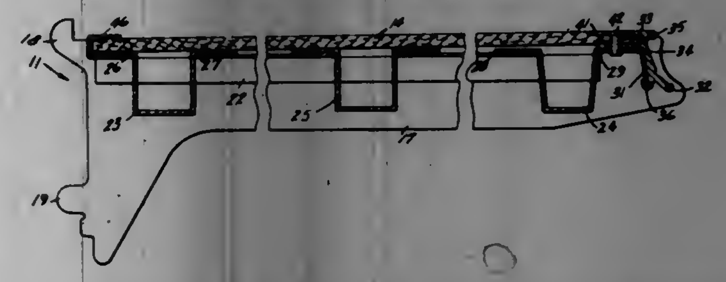
Richard M. Lefever, York, Pa., assignor, by mesne assignments, to Baker Perkins, Inc., New York, N.Y., a corporation of New York
Filed July 26, 1962, Ser. No. 212,562
11 Claims. (Cl. 107—57)

7. Loading apparatus for moving articles such as pans along a path to an oven or the like, said apparatus comprising a pair of pusher members; driving means connected to said members for reciprocating them simultaneously in mutually opposite directions; track means supported at a level for engaging and guiding said pusher members in their movements; and switching means associated with said track means and engageable by each of said pusher members upon movement thereof in one of said directions for shifting the latter out of the path of the other pusher member.



3,196,812
REMOVABLE SHELF PANEL

Leo G. Jacques, Kalamazoo, Mich., assignor to Borroughs Manufacturing Company, Kalamazoo, Mich.
Filed Nov. 4, 1963, Ser. No. 321,238
2 Claims. (Cl. 108—152)



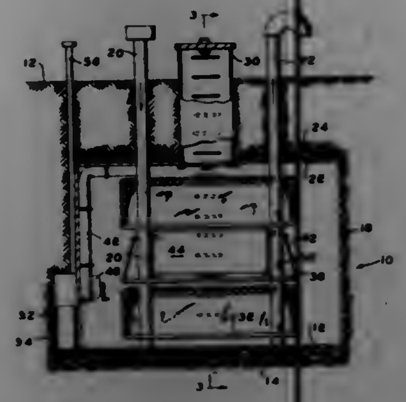
1. In a shelf construction, the combination comprising:
a frame;
a shelf panel supported on said frame;
pin means securing said shelf panel to said frame for preventing sliding movement of said shelf panel along said frame but allowing expansion of said shelf panel, said pin means being located adjacent the front edge of the panel;
said frame and said shelf panel having adjacent rear edges; and
connecting means connecting said shelf panel to said frame for preventing movement of said panel away from said frame but allowing movement of said shelf panel along said frame whereby said shelf panel is mounted on said frame, said connecting means comprising a plurality of generally U-shaped clips each having an upper arm in slideable contact with the top surface of said shelf panel and a lower arm in slideable contact with the bottom surface of said frame and a bight portion adjacent said rear edges of said shelf panel and said frame whereby said rear end of said shelf panel is held against movement away from said frame, said connecting means also including means constraining the front edge of said shelf panel from movement away from said frame.

3,196,813
BOMB SHELTER

Thomas A. McHugh, Jr., Cooper St., East of Delsea Drive, Woodbury, N.J.
Filed Mar. 29, 1962, Ser. No. 183,501
3 Claims. (Cl. 109—1)

1. A bomb shelter comprising a floor, an upright annular wall consisting of a thin shell on said floor, a roof extending across said annular wall at a point remote from

said floor, first and second pipes supported by said floor, the weight of said roof being supported by said pipes, each pipe providing communication between the atmosphere and the space within said annular wall, means for providing selective access to said space, and a plurality of beds supported by said pipes.



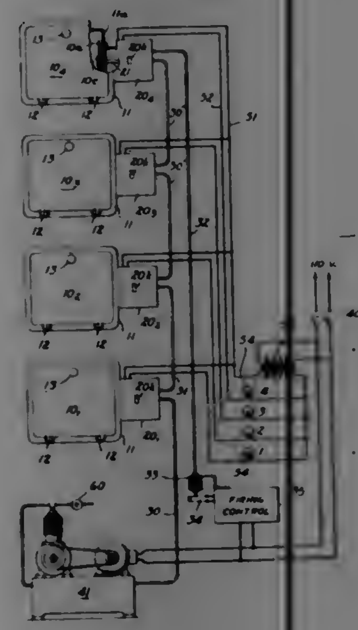
3,196,814

INCINERATOR DOOR INTERLOCK SYSTEM

Norman F. Hahn, Cleveland, and Milton F. Pravda, Solon, Ohio, assignors to Cleveland Controls, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Dec. 19, 1962, Ser. No. 245,876

9 Claims. (Cl. 110—18)



1. An incinerator control system in combination with a central incinerator system having a plurality of openings for the deposit of refuse and a series of discrete closure means closing said openings including a separate lock means for each of said closure means, means connected to said lock means for energizing the same, said lock means and said energizing means being sequentially connected to provide sequential operation of said lock means, each of said lock means in the preceding sequence of the lock means being connected to the succeeding lock means to control the locking of the next succeeding lock means after locking of the preceding lock means, a burner means for said incinerator and burner control means for energizing said burner, the last lock means of said series of lock means connected to said burner control means and arranged to energize said burner control means after the last in said series of lock means is locked.

3,196,815

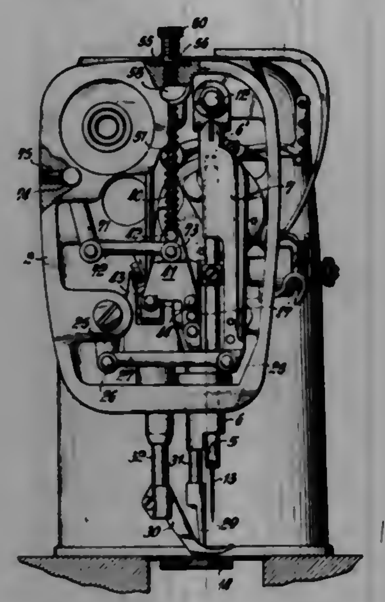
SEWING MACHINE HAVING LOWER AND UPPER WORK-FEEDING MEMBERS

Wolf-Rüdiger Von Hagen, Bielefeld, Germany, assignor to Durkoppwerke Aktiengesellschaft, a corporation of Germany

Filed Dec. 31, 1962, Ser. No. 248,429

Claims priority, application Germany, Jan. 5, 1962, D 37,852

4 Claims. (Cl. 112—207)



1. A sewing machine having a feed device with lower and upper feed members, a presser member having a presser foot at one end thereof, the upper feed member of said device comprising a feeder foot, toggle means having a centered position and being positionable on either side of center for alternately raising said presser foot and upper feed foot and for alternately lowering said presser foot and said feed foot, operating means connected to said toggle means, said toggle means comprising a double toggle formed from a triangular lever having three articulation points, and a compression spring and spring guide member, which serve as the one common arm of the double toggle and are articulated on one of the three articulation points of the triangular lever, a portion of the triangular lever connecting the one of the three articulation points to a second of the three articulation points and constituting the second arm of one toggle of the double toggle and a portion of the triangular lever connecting the one of the three articulation points to the third of said three articulation points constituting the second arm of the second toggle of said double toggle, means connecting the presser member to the lever at the second articulation point, means connecting the upper feed member to the lever at the third articulation point, and means connected to said upper feed member to impart feeding motion to said feeder foot.

3,196,816

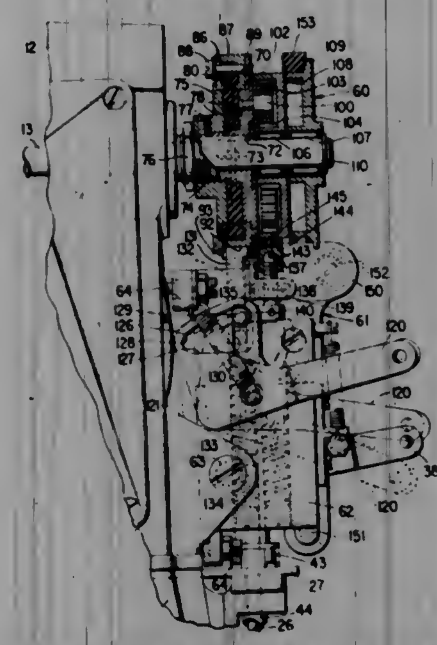
STOP MOTION MECHANISM FOR SEWING MACHINES

Stanley J. Ketterer, Morris Plains, Robert W. Busch, Jr., Boonton, and Michael F. Ivanko, Rockaway, N.J., assignors to The Singer Company, New York, N.Y., a corporation of New Jersey

Filed Aug. 7, 1963, Ser. No. 300,562

6 Claims. (Cl. 112—219)

1. A stop motion mechanism for a cyclic sewing machine having a frame, a main drive shaft operatively connected to stitch forming mechanism in said frame, and a cam member drivingly connected with said main drive shaft, said stop motion mechanism comprising a planetary gear system carried on said main drive shaft and including a plurality of planet gears, means for journaling said planet gears on parallel axes secured for rotation with said main drive shaft, a pulley ring embracing said planet gears and formed with internal gear teeth meshing with said planet gears, a sun gear meshing with said planet gears and secured to a pulley of equal diameter and adjacent to said pulley ring, and an idler pulley of equal diameter and adjacent to said sun gear pulley, a control unit carried by said sewing machine frame and including a belt shifter effective to sustain a belt in one of three positions; a first position engaging said idler pulley, a second position engaging said sun gear pulley and a third position engaging both said sun gear pulley and said pulley ring, a brake shoe on said control unit engageable with said pulley ring, means associated with said belt shifter for carrying said brake shoe out of engagement with said pulley ring while said belt shifter occupies said third position, positive interengaging stop means carried on said control unit and on said main drive shaft, means associated with said belt shifter for rendering said interengaging stop means ineffective while said belt shifter occupies said second and said third positions, operator influenced means for moving said belt shifter in seriatim from said first to said third position, said means influenced by said sewing machine cam means for influencing movement of said belt shifter in seriatim from said third to said first positions.



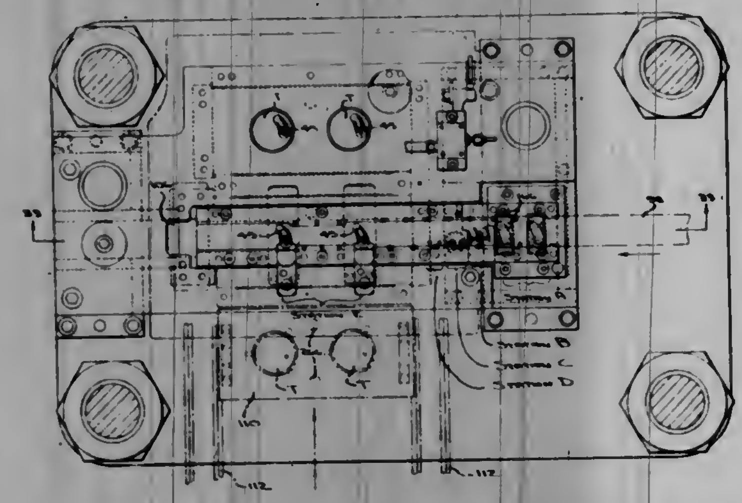
3,196,817

APPARATUS FOR FABRICATING SHEET METAL JOINTS

Ermal Cleon Fraze, 355 W. Stroop Road, Dayton, Ohio

Filed Oct. 30, 1962, Ser. No. 234,107

10 Claims. (Cl. 113—1)



1. In an apparatus of the character described for forming a hollow rivet in a sheet-like member to serve as means for attaching the sheet-like member to an aperture object, the combination of:

means to advance the member through a sequence of operating stations;

a first forming means at one of said stations to form a dimple in said member;

a first holding means at said one station to hold the member during the dimple-forming operation and to permit slippage of the material of the member radially inwardly toward the dimple area to minimize thinning of the material in the dimple-forming area;

a second forming means at a subsequent station to shrink said dimple into a hollow rivet having a transverse wall of substantially smaller area than the dimple without pressure on the area of the transverse wall; and

a second holding means at said subsequent station to surround the dimple area to clamp the member under pressure during the shrinking operation to prevent slippage of the material radially outward away from the dimple area to promote thickening of the material of the hollow rivet in the area of said transverse wall.

3,196,818

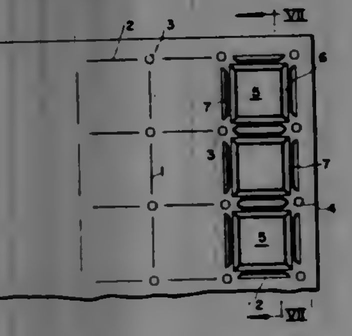
PROCESS FOR THE MANUFACTURE OF STAMPED PLATES

Juan Esteve Suñé, Paseo Bonanova 110, and Manuel Celaya Bordas and Enrique Celaya Bordas, Calle Urgel 55, all of Barcelona, Spain

Filed Jan. 23, 1961, Ser. No. 84,344

Claims priority, application Spain, Jan. 27, 1960, 255,602; May 28, 1960, 258,667; June 13, 1960, 259,149; June 13, 1960, 259,150

12 Claims. (Cl. 113—116)



1. A process for preparing decorative liners comprising the steps of forming a sheet of material to produce a plurality of weakened lines defining a plurality of contiguous polygonal configurations; stamping said sheet of material along said lines to form said plurality of contiguous polygonal configurations into a plurality of contiguous embossed polygons with grooves each having sides spaced from each other at one edge thereof to form the width of the groove formed between said embossed polygons, defining each of said embossed polygons, and spacing adjacent ones of said embossed polygons from each other by the width of said grooves; and urging the sides of each of said grooves together to narrow the width of each of said grooves and to bring adjacent ones of said embossed polygons closer to each other than the first-mentioned width of said grooves.

3,196,819

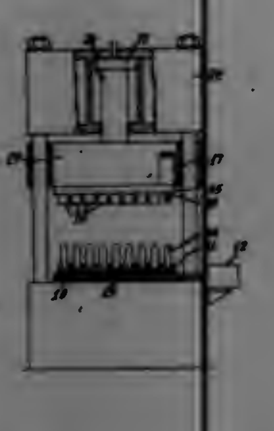
METHOD OF PRODUCING SEAMLESS METAL BOTTLES AND AN APPARATUS FOR CARRYING THE METHOD

Rudolf Lechner, Singen, Hohentwiel, Germany, and Eugen Nussbaum, Frauenfeld, Thurgau, Switzerland, assignors to Rudolf Lechner Kommanditgesellschaft, Singen, Hohentwiel, Germany, a corporation of Germany

Filed Feb. 28, 1962, Ser. No. 176,368

10 Claims. (Cl. 113—120)

1. A method of making a seamless container having a body portion of uniform diameter and a neck portion of substantially reduced diameter comprising the steps of:



(a) forming by extrusion a seamless uniform diameter tubular member open at one end thereof and closed at the other end thereof,

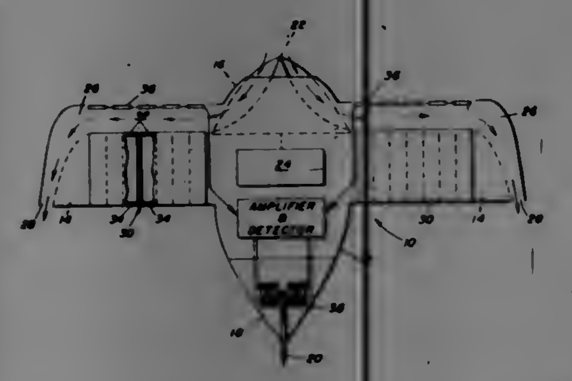
(b) applying a protective coating to the tubular member, said coating being applied at least to the outer surface of said tubular member,

(c) placing the coated tubular member in a holder in axial alignment with the axis of shaping tools to be applied to said member, with said open end facing the shaping tools,

(d) moving shaping tools solely in a direction parallel to the axis thereof into contact with the open end of the tubular member to substantially reduce the diameter at said open end, said diameter reducing step being performed exclusively by tools moving in said direction parallel to the axis of said tubular member.

3,196,820
TORPEDO CRAFT

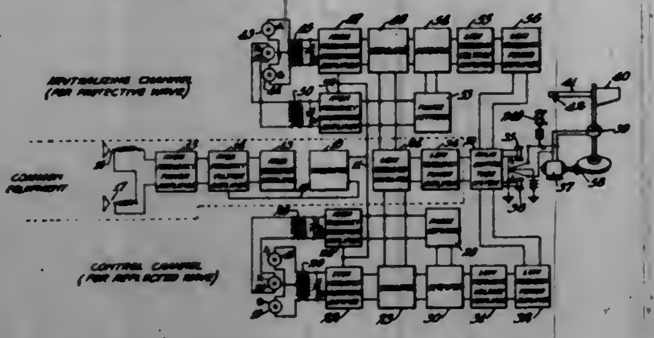
William B. McLean, China Lake, Calif., assignor of fifty percent to Walter G. Finch, Baltimore, Md.
Filed Feb. 19, 1962, Ser. No. 174,194
10 Claims. (Cl. 114—20)



1. A craft, comprising, a body with a tail cone having a control surface movably mounted thereon for steering said craft, said body being rotatably adjustable in position with respect to the axis of rotation of said tail cone and thereafter lockable together therewith to prevent further relative rotation between said body and said tail cone, with said control surface remaining free to effect guidance of said craft, a fluid impeller positioned in the nose of said body and arranged to receive a fluid, diametrically and oppositely pitched wings mounted on said body, said wings having rearwardly directed orifices at the tips thereof with passages communicating between said fluid impeller and said orifices, a motive power source to drive said fluid impeller, and means in each said wing for sensing a source, and means for controlling said control surface of said tail cone as defined by the output of said sensing means so as to home said craft on said source.

3,196,821
ELECTRONIC CONTROL SYSTEM FOR DIRECTING A TORPEDO AT A TARGET

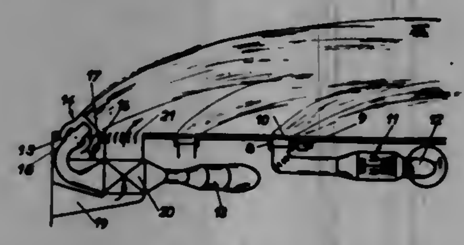
Donald B. Harris, Los Altos, Calif.; Leon A. Carley, executor of said Donald B. Harris, deceased
Continuation of application Ser. No. 491,616, June 21, 1943. This application Mar. 21, 1963, Ser. No. 267,397
5 Claims. (Cl. 114—23)



1. An automatic control system for marine torpedoes, comprising a directional microphone system and a non-directional microphone system combining in response to a sound signal proceeding from the target, to produce an electrical signal the phase and amplitude of which is dependent on the direction of approach of said sound signal, an electronic control system for converting said electrical signal into a control signal having related phase and amplitude characteristics, and an electro-magnetic rudder control system responsive to the phase and amplitude characteristics of said control signal for operating the rudders of said torpedo reversibly.

3,196,822
DEVICE FOR PERMITTING DECK LANDINGS ON AN AIRCRAFT-CARRIER IN MISTY OR FOGGY WEATHER

Jean Henri Bertin, Neuilly-sur-Seine, and Ernest Dubois, Fontenay-aux-Roses, France, assignors to Societe Bertin & Cie, Paris, France, a company of France
Filed May 21, 1963, Ser. No. 281,901
Claims priority, application France, May 24, 1962, 898,628
4 Claims. (Cl. 114—43.5)

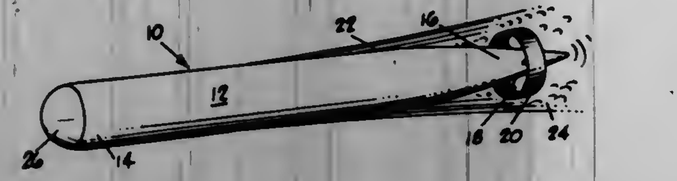


1. In combination with an aircraft-carrier ship having a landing deck, a device for providing cleared volume of air in foggy weather of appropriate slope in which aircraft visual control can be achieved during final approach and landing on the deck of said ship, said device comprising means for generating by combustion a large volume of hot gas on board of said ship, and means for discharging said hot gas in a continuous transverse layer at the front end of said landing deck with respect to the ship motion, said generating means comprising a plurality of turbojets and ejector nozzles attached to said turbojets to draw in and mix ambient air with hot gas for supplying said cleared volume.

3,196,823
DRAG REDUCING MEANS

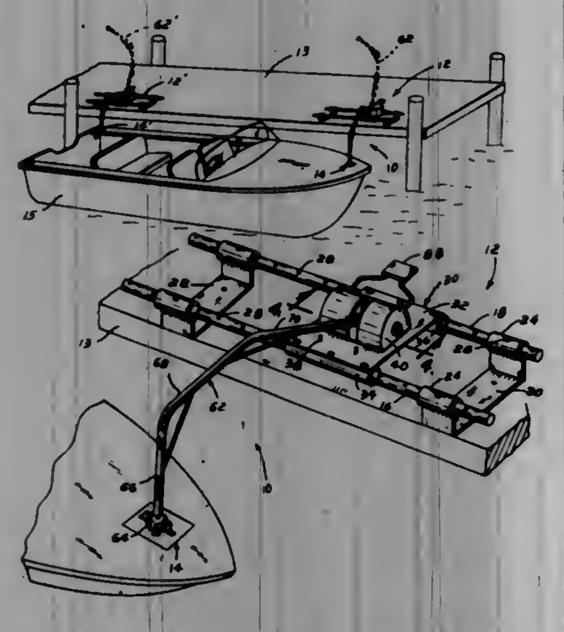
Sidney Thurston, Santa Ana, Calif., assignor, by mesne assignments, to Douglas Aircraft Company, Inc., Santa Monica, Calif.
Filed Mar. 19, 1963, Ser. No. 266,393
18 Claims. (Cl. 114—67)

1. A water borne vehicle having a fore end and an aft end; and a water drag reducing agent located exteriorly of said vehicle and mounted adjacent the fore end thereof in a position to be subjected to contract by water flowing relatively rearward along the surface of said vehicle; said agent being adapted to dissolve in and change the basic characteristics of said water to reduce the shear-force in the boundary layer of the vehicle.



3,196,824
BOAT MOORING APPARATUS

Donald D. Howard, 309 19th St., Spirit Lake, Iowa
Filed Aug. 15, 1963, Ser. No. 302,307
16 Claims. (Cl. 114—230)



1. A boat mooring apparatus, comprising, in combination,

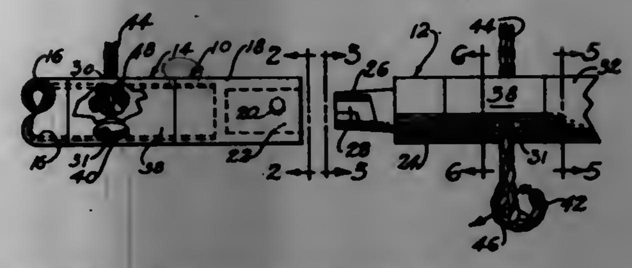
a pair of anchor assemblies adapted to be secured along the edge of a dock in spaced relationship to each other, a carriage assembly rotatably connected to each anchor assembly and adapted to be selectively moved along said dock, a rigid anchor arm pivoted at one end to said carriage assembly, a spring means in engagement with said arm for biasing said arm towards an upwardly extending position, and said arm being adapted to be pivoted against the action of said spring to a substantially outwardly and downwardly extending position;

a pair of socket assemblies adapted to be mounted on a boat in spaced relationship to each other, said carriage assemblies adapted to be moved along said dock to be adjacent one of said socket assemblies, and each of said socket assemblies having jaw means to detachably receive the other end of said adjacent anchor arm against the action of said spring means, a latch means for locking said jaw means in engagement with said other end of said anchor arm whereby upon actuation of said latch means to an open position out of engagement with said jaw means, said spring means will return said anchor arm to its upwardly extending position; and

stop means for limiting rotation of said carriage assembly relative to said dock whereby a boat connected to said arms will be limited in movement towards said dock.

3,196,825
WATER SKI HANDLE

A. D. Spurlock, Dawson, Ga.
Filed July 9, 1962, Ser. No. 208,400
4 Claims. (Cl. 115—6.1)



1. In a water ski handle construction:

(a) an elongated hnadle member having transverse openings on the opposite ends in alignment therethrough and a space inside the handle large enough to accommodate a knot therein,

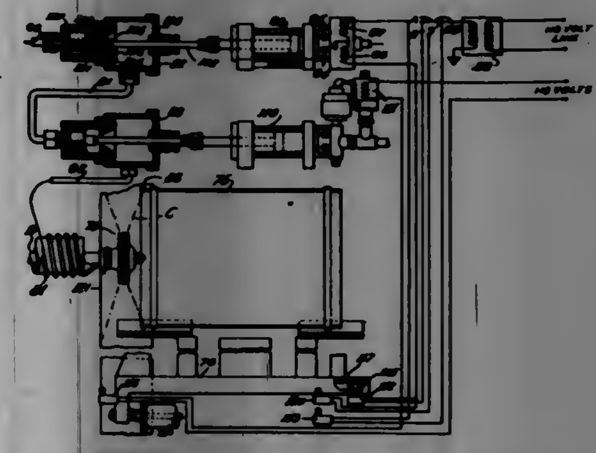
(b) ski ropes on said handle connected at at least two points thereon, each of said ropes having the bare terminal end thereof inserted through the respective openings in a respective end of said handle,

(c) said opening in the handle at each respective end on the rope side being too small to permit a knot in the rope to pass therethrough but the opening at the respective end on the other side of the handle being large enough for said knot to recess into the space in said handle,

(d) and a knot formed on said respective ski ropes outside of said handle and pulled into said handle through said opening on one side thereof.

3,196,826
APPARATUS FOR SPRAYING THE INTERIORS OF DRUM SHELLS

Edward O. Norris, Ledgemoor Lane, Westport, Conn.
Original application July 23, 1958, Ser. No. 750,471, now Patent No. 3,017,116, dated Jan. 16, 1962. Divided and this application Oct. 26, 1960, Ser. No. 65,149
8 Claims. (Cl. 118—7)

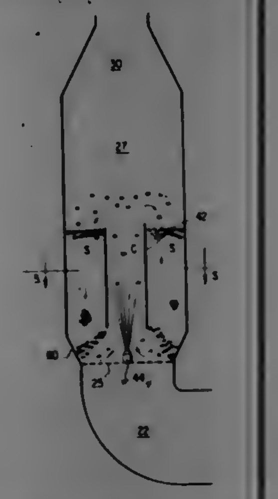


1. A system of spraying open-ended tubular shells having curled rims at one end, comprising a rotary spray head composed of a plurality of discs arranged to project centrifugally an axially diverging annular spray radially outward therefrom, means for moving the tubular shell and the spray head relatively coaxially to cause the shell to travel relatively over the spray head, means for creating an electrostatic field between the spray head and the shell, means for feeding liquid material to said spray head, valve means for controlling the rate of feed through said feeding means, means automatically operable while the shell surrounds the spray head for opening said valve means to a substantial extent to allow feed of material to the spray head at a rate which will coat the interior of said shell, and means automatically operable when the spray head and shell are in predetermined relative position in which the spray from the spray head passes axially beyond

the open end of said shell and the spray therefrom is projected over the curled rim for opening the valve means to a less extent to produce a spray light enough to be electrostatically deflected around said rim to the exterior thereof.

3,196,827
APPARATUS FOR THE ENCAPSULATION OF DISCRETE PARTICLES

Dale E. Wurster, Madison, Wis., and James A. Lindlof, White Bear Lake, Minn., assignors to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin
Filed Nov. 19, 1962, Ser. No. 238,422
3 Claims. (Cl. 118—24)

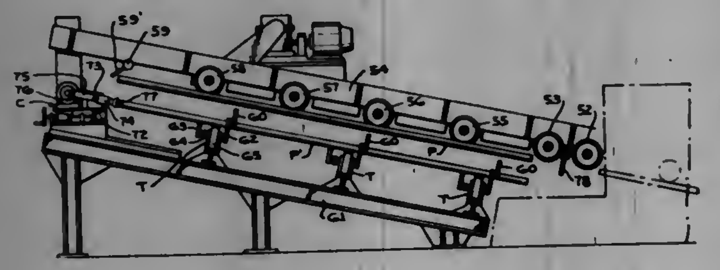


1. An apparatus for the encapsulation of discrete particles comprising a vertically disposed coating chamber, said chamber being divided by partition means into a vertically disposed coating zone and a vertically disposed subsidence zone, said zones being in open communication at their upper ends above said partition means and at their lower ends below said partition means, said chamber having porous closure means located below said partition means whereby gas may be passed into said chamber, said porous closure means being characterized by areas of differing porosity, the porosity of each of said areas being a measure of the amount of each area which is open to the passage of gas therethrough, said areas of differing porosity comprising an area of high porosity located beneath the said coating zone comprising from about 5% to about 15% of the cross sectional area of the coating chamber, an area of medium porosity, comprising from about 10% to about 40% of the cross-sectional area of the coating chamber located beneath the said subsidence zone and being separated from the said area of high porosity by an area of low porosity comprising the remainder of the cross-sectional area of said porous closure means, the amount of the high porosity area and the medium porosity area open to the flow of gas therethrough being respectively from about 3 to 4 times and from about 1.5 to 3.5 times the amount of the low porosity area open to the flow of gas therethrough, the amount of the medium porosity area open to the flow of gas in no event being greater than the amount of the high porosity area open to the flow of gas, and atomizing means located to direct an atomized encapsulating material into the said coating zone.

3,196,828
APPARATUS FOR CONTINUOUS COATING OF ELONGATED ARTICLES

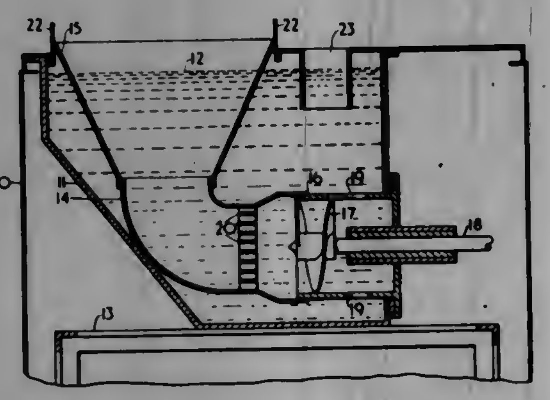
Frank E. Turner, Pittsburgh, Pa., assignor to Blaw-Knox Company, Pittsburgh, Pa., a corporation of Delaware
Filed Sept. 27, 1962, Ser. No. 226,695
7 Claims. (Cl. 118—63)

2. In continuous pipe galvanizing apparatus having electromagnetic rollers for moving a pipe longitudinally out of a galvanizing bath, said rollers supporting said pipe on the undersides of said rollers whereby, when said rollers are de-energized, a pipe supported thereby will drop off said rollers; a series of indexing transfer units disposed below said rollers in the path of fall of a pipe dropped therefrom, said units each including a pair of movable pipe carrying racks supported for movement in orbital paths the centers of which are offset from each other; a stationary rack supported between said offset centers, interconnected driving means for said movable racks whereby a constant angular displacement of about 90° is maintained between said movable racks during movement thereof in said orbital paths, one of said movable racks being disposed below said rollers when in an at-rest position at the top of its orbital path and being adapted to receive a pipe dropped from said rollers, said stationary rack being disposed to receive a pipe from said one of said movable racks after about 90° rotation thereof, the path of movement of the other of said movable racks being such that a pipe deposited on said stationary rack by said one of said movable racks will be lifted from said stationary rack by said other of said movable racks after movement of about 180° from its at-rest position, and means effective on a pipe on said other movable rack when in said at-rest position for blowing excess zinc from the inside of said pipe.



3,196,829
SOLDERING MACHINES

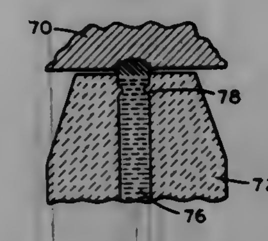
Victor Bernard Elliott, Wallington, and Reginald John Winslade, Catford, London, England, assignors to Fry's Metal Foundries Limited, London, England
Filed Feb. 21, 1963, Ser. No. 260,133
4 Claims. (Cl. 118—300)



1. A soldering or tinning apparatus for use in soldering or tinning operations, comprising a tank to contain molten metal, a nozzle having a narrow, elongated rectangular mouth disposed horizontally above the normal level of the metal in the tank, a pipe in the tank communicating at one end with the lower end of the nozzle, an impeller which is rotatable with small clearance in a cylindrical housing connected to the other end of the pipe, and which has a helical blade with at least one turn and a maximum of three turns, and means for rotating the impeller and thereby pumping metal through the pipe and discharging it upwardly from the mouth of the nozzle in a smooth, non-turbulent, gently-overflowing wave having a level crest.

3,196,830
CAPILLARY APPLICATOR FOR SEMICONDUCTOR ALLOYING APPARATUS

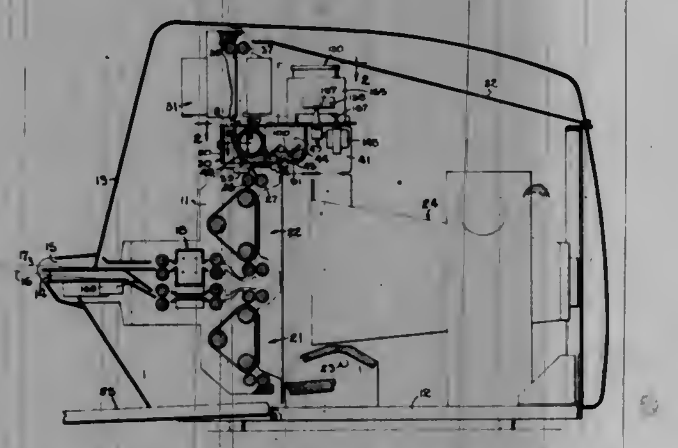
Kurt Lehovec, Williamstown, Mass., assignor to Sprague Electric Company, North Adams, Mass., a corporation of Massachusetts
Original application July 6, 1959, Ser. No. 825,181, now Patent No. 3,097,976, dated July 16, 1963. Divided and this application May 18, 1962, Ser. No. 204,025
3 Claims. (Cl. 118—401)



1. In an apparatus for producing an alloy junction in a semiconductor body, the improvement comprising means to meter a controlled amount of liquid alloying material from a liquid column that is in contact with a semiconductor body, said means including a capillary through which said liquid column passes to said semiconductor body, break-off means having a small radius of curvature in said capillary whereby a high surface tension is obtained to promote breaking of the liquid column within said capillary.

3,196,831
DEVELOPING UNIT FOR PHOTOCOPY MACHINE

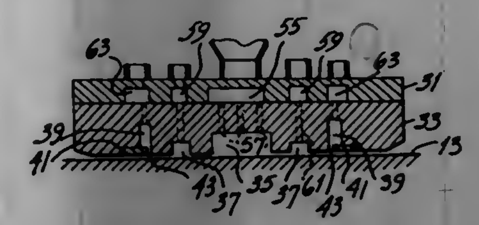
Meyer L. Sugarman, Jr., Glencoe, Ill., assignor to American Photocopy Equipment Company, Evanston, Ill., a corporation of Illinois
Filed July 23, 1962, Ser. No. 211,779
2 Claims. (Cl. 118—637)



1. In a developing unit for a photocopy machine capable of developing a copy sheet having an electrostatic latent image thereon, the combination comprising a toner bin for containing a quantity of toner mix including toner powder and magnetic carrier particles therefor, a magnetic developing cylinder rotatably mounted in said bin, means for transporting the copy sheet through the bin, said toner bin having a side wall in the form of a sheet of non-magnetic material of curved contour to conform to the shape of the cylinder and spaced therefrom to define a passage of uniform width for admission of the copy sheet, a longitudinally extending magnetic pole arranged on the opposite side of the non-magnetic sheet for establishing lines of flux extending through the non-magnetic sheet and copy sheet, the surface of the cylinder having well defined helical ridges thereon for concentrating the magnetic flux and for forming helical tufts of toner mix which are swept laterally across the surface of the sheet as the developing cylinder is rotated thereby to deposit toner powder in the charged areas and for sweeping toner powder clear of the non-charged areas.

3,196,832
FLUID APPLICATOR APPARATUS

Gary Kenneth Zin, Philadelphia, Pa., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 20, 1963, Ser. No. 260,022
15 Claims. (Cl. 118—637)

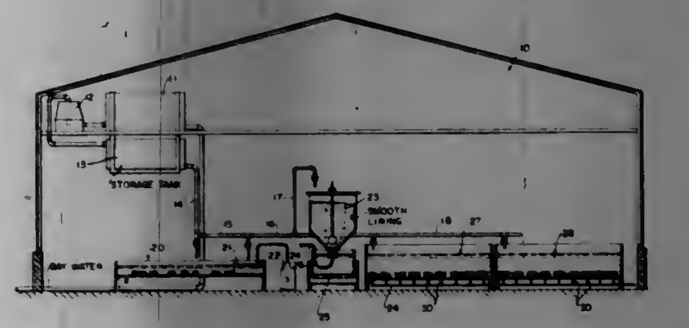


4. Apparatus for developing electrostatic images on an insulating surface with a liquid developer composition, said apparatus comprising:

means for supporting said surface for development;
first conduit means having an elongated opening adjacent said supported surface for applying said liquid developer composition thereto;
second conduit means having an elongated opening adjacent to the opening of said first conduit means for conducting liquid developer composition away from said supported surface;
third conduit means having an opening surrounding both said elongated openings providing for the ejection of a gas under pressure to impinge upon said supported surface and provide an air curtain for the containment of developer composition.

3,196,833
METHOD OF RAISING SHELLFISH SEED IN A SIMULATED HABITAT

Joseph B. Glancy, Northport, N.Y., assignor to Sun-Lab Shellfish, Inc., West Sayville, N.Y., a corporation of New York
Filed June 12, 1961, Ser. No. 116,245
12 Claims. (Cl. 119—4)



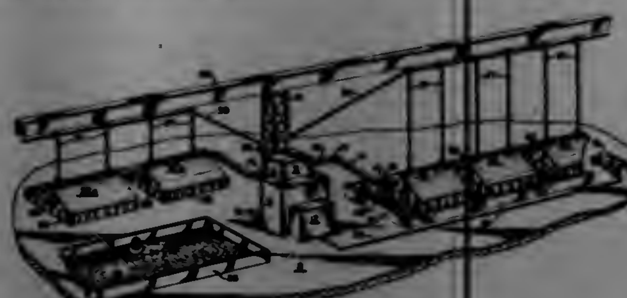
1. The method of producing shellfish seed in a favorable habitat which comprises placing shellfish larvae in a contaminant free and nutrient including environment and exposing the larvae and environment to periods of direct solar radiation.

3,196,834
BROODER SYSTEM

Natt A. Hall, % Hall Coal Co., P.O, Box 1622, Asheville, N.C.
Original application Oct. 16, 1957, Ser. No. 690,542, now Patent No. 3,039,378, dated June 19, 1962. Divided and this application July 18, 1961, Ser. No. 130,717
6 Claims. (Cl. 119—34)

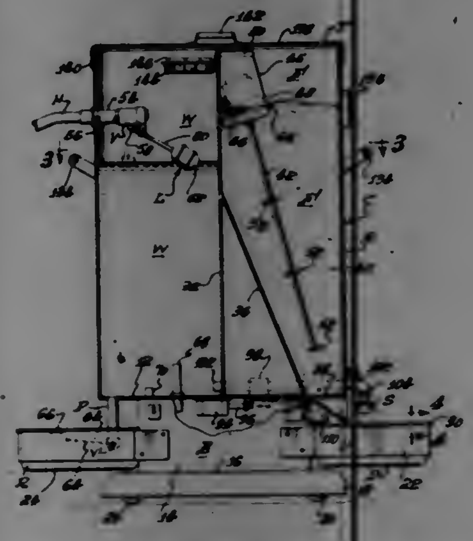
1. A brooder system comprising: a plurality of movable hovers in a row, each of said hovers having a gabled roof with the ridges of all of the roofs aligned end to end; a central forced-air supply source; an air supply pipe extending substantially parallel to the ridge of each of said roofs in the space immediately thereunder in each of said hovers, said pipe being rigidly attached to each of said hovers to form a unitary structure therewith to permit

said hovers and said pipe to be moved together to clean underneath said hovers; a movable pipe flexibly connected to said source and to said air supply pipe to conduct air to the latter; a plurality of openings in the lower side of said air supply pipe within each of said hovers; an air turn means within said pipe at each of said openings to direct air from said source throughout the space under said hovers; cables supporting each of said hovers; elevated structural means supporting said cables; and winch means attached to all of said cables to raise, simultaneously, all of said hovers and the air supply pipe attached thereto.



3,196,835
ANIMAL WATER AND FEED MIXING AND DISPENSING DEVICE

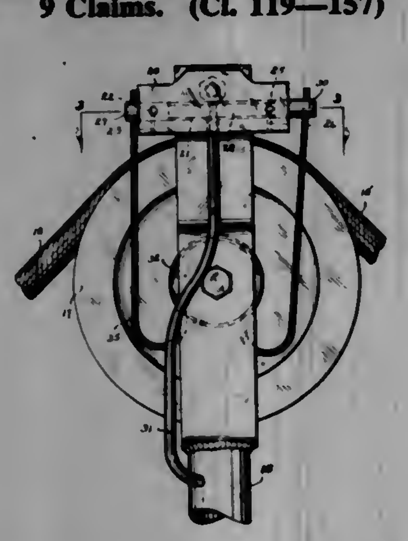
Bernie B. Bergevin, 2626 Palos Verdes Drive N., Rolling Hills, Calif.
Filed Sept. 11, 1963, Ser. No. 309,590
6 Claims. (Cl. 119—51.11)



1. A device for automatically dispensing particled animal food at predetermined time intervals and for maintaining a constant supply of drinking water, comprising:
(a) an open-topped container;
(b) means for supporting said container at an elevated position;
(c) a vertically extending partition in which a dispensing opening is formed, which partition divides the interior of said container into first and second compartments, which hold said food, and said water respectively;
(d) first and second dishes below said container for holding portions of said food and water respectively;
(e) automatically controlled gate means which when in a first position obstruct said opening in the lower portion of said container through which said food can flow from said first compartment by gravity to said first dish;
(f) first electrical means for moving said gate means from said first to a second position which permits discharge of said food from said first compartment to said first dish;
(g) an agitator and second electrical means for agitating said food in said first compartment when said second means is electrically energized;
(h) first float valve-controlled means for introducing water into said second compartment and maintaining the same at a fixed elevation therein;
(i) second float valve-controlled means for discharging water by gravity from said second compartment into said second dish and maintaining the level of said water at a fixed elevation therein;
(j) a conduit extending from said second compartment to said first dish;
(k) a normally closed electrically operated valve in said conduit;
(l) a clock-operated timer for periodically opening and closing an electric circuit; and
(m) a plurality of electrical conductors connected to said first means, second means, normally closed electrically operated valve, with said timer being connected to a source of domestic electric power, with said timer when in a closed position completing a circuit through said conductors to energize said first means to move said gate means to a position where said food can flow by gravity from said first compartment to said first dish, which second means comprises an agitator for said food in said first compartment to facilitate the flow thereof therefrom, and means for opening said normally closed electrically operated valve to permit water to flow from said conduit into said first dish to mix with said food therein.

3,196,836
LIVESTOCK MEDICINAL APPLICATOR MEANS

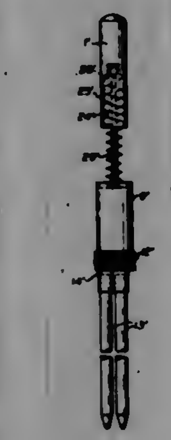
Alfred J. Piel, Hubbard, Iowa
Filed Aug. 29, 1963, Ser. No. 305,399
9 Claims. (Cl. 119—157)



1. In an animal liquid applicator,
a tank container adapted to hold the liquid to be dispensed,
a vertically movable member,
a pump means actuated by said vertically movable member and communicating with the inside of said tank container,
a wheel rotatably mounted on said vertically movable member,
an elongated flexible member having its center area extending over and engaging said wheel,
means for securing one end of said flexible member against movement to provide a first length flexible member at one side of said wheel,
a means for securing the other end of said flexible member against movement to provide a second length flexible member at the other side of said wheel;
said first and second lengths extending downwardly and outwardly away from each other,
and a valve means mounted on said vertically movable member operatively connected to said wheel in communication with said pump means adapted to deposit liquid only on said first length flexible member when said wheel is rotated in one direction and adapted to deposit liquid only on said second length flexible member when said wheel is rotated in the other direction.

3,196,837
MULTICOLOR BALL-POINT WRITER

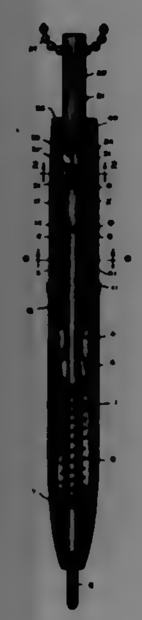
Ulrich Hofmann, Goethestr. 99, Ebingen, Wurttemberg, Germany
Original application July 21, 1961, Ser. No. 127,165, now Patent No. 3,152,578, dated Oct. 13, 1964. Divided and this application Aug. 27, 1964, Ser. No. 392,656
Claims priority, application Germany, Aug. 2, 1960, H 40,094
4 Claims. (Cl. 120—14.5)



1. A multicolor ball-point writer, comprising
a longitudinal housing including an upper part and a lower part,
said upper part being removably secured to said lower part,
said upper part and said lower part having equal outer diameter,
a bushing disposed in the upper portion of said upper part of said housing,
a push-button received in and guided in said bushing,
said bush putton defining a substantially cylindrical chamber and having a substantially cylindrical outer face,
a helical spring received in and extending to the upper end of said chamber and tending to urge said push-button to its outermost position,
a pin pivotally mounted in the upper end of said chamber and moving axially jointly with said push-button, as well as surrounded by said spring over its entire length,
a cage having a lower threaded portion received in said lower part of said housing and having a smooth walled upper portion,
inserted from below in the and secured to said upper part of said housing, such that said lower threaded portion extends from the lower end of said upper part of said housing,
a plurality of guide members axially displaceable in said cage upon inclination of said pin into any selected inclined position for engagement with one of said guide members and axial movement of said pin,
a lead holder receiving a lead and disposed coaxially in axial alignment with and secured to the corresponding of said guide members,
a ball operating arresting mechanism disposed jointly in said push-button and said bushing, in order to retain said pin and, thereby, selectively said guide members and said lead holders in their advanced operative positions,
said cage having a plurality of channels equal in number with that of said guide members,
said channels having a narrow opening at their bottom, and
said cage having a lowermost outer diameter determined by the diameter of said guide members and of said channels.

3,196,838
WRITING INSTRUMENT

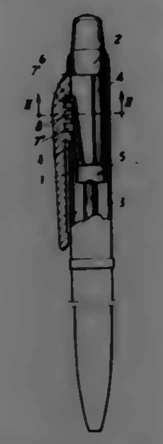
Karl Weisser, deceased, late of Cresskill, N.J., by Helen E. Weisser, executrix, Cresskill, N.J., assignor to David Kahn, Inc., North Bergen, N.J., a corporation of New Jersey
Filed Apr. 3, 1958, Ser. No. 726,285
8 Claims. (Cl. 120—42.03)



8. A writing instrument comprising a tubular barrel open at its opposite ends, said barrel having a longitudinal opening therethrough, a writing unit slidably mounted in said barrel and having a writing point at its forward end adapted to be projected and retracted through the forward end of the barrel on successive depression and release of a push means, spring means constantly urging said unit toward a retracted position wherein said writing point is concealed within the barrel, and push means slidably mounted in said barrel, said push means having a first portion projecting through an end of said barrel, and a second portion mounted in a non-rotatable fashion with respect to said barrel, a plurality of circumferentially spaced inclined teeth in said barrel, said longitudinal opening receiving the lower end of said push means, said opening being radially enlarged at spaced circumferential locations to define longitudinally extending channels, the cross-sectional shape of said longitudinal opening, exclusive of said channels, being generally a polygon having substantially straight sides, said second portion of said push means having a cross-sectional polygonal shape to cooperate with the polygonal shape of the longitudinal opening to maintain said second portion non-rotatable, the second portion of said push means, at circumferentially spaced locations, being radially larger than the first portion of the push means in longitudinal alignment with said locations to provide radially extending circumferentially spaced shoulders between said first portion and second portion so that during assembly of the push means into said opening, in the event said shoulders are longitudinally aligned with the inclined surface of said teeth, the inclination of said teeth will cause rotation of the push means until the second portion of said push means is rotationally aligned with the opening to be received therein.

3,196,839
OPERATING MECHANISM FOR BALL POINT PENS AND THE LIKE WHICH MAY BE PRESSED IN A SINGLE PIECE WITH THE SNAP MEMBERS

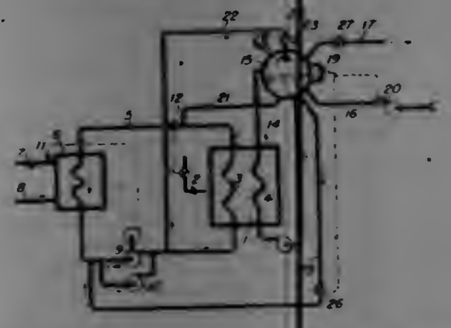
Guido Bertoglio and Sauro Albertini, Viganello, Switzerland, assignors to Real Patentauswertungs Anstalt, Vaduz, Liechtenstein
Filed June 4, 1963, Ser. No. 285,355
Claims priority, application Switzerland, June 7, 1962, 6,868/62
6 Claims. (Cl. 120—[illegible]2.03)



1. In a writing implement, in combination:
(a) a barrel member having an axis and an axial bore adapted to receive an ink container; and
(b) an operating member axially movable and rotatable in said bore, said operating member including a push portion axially projecting from said bore, and engaging means for engaging an ink container received in said bore,
  (1) one of said members having an axial wall in said bore and being formed with two recesses in said wall, a separating portion of said wall free from recesses being interposed between said two recesses and separating the same,
  (2) one of said recesses being elongated and having two longitudinal end portions, the other recess being axially spacedly interposed in axial alignment between said two end portions,
  (3) the other member having a resilient arm portion having a free end radially projecting from said other member when in the relaxed condition, said free end normally engaging one of said recesses and being adapted to move axially from one recess to the other over said separating wall portion when said push button portion is axially moved.

3,196,840
COMBINED HOT WATER AND STEAM BOILER

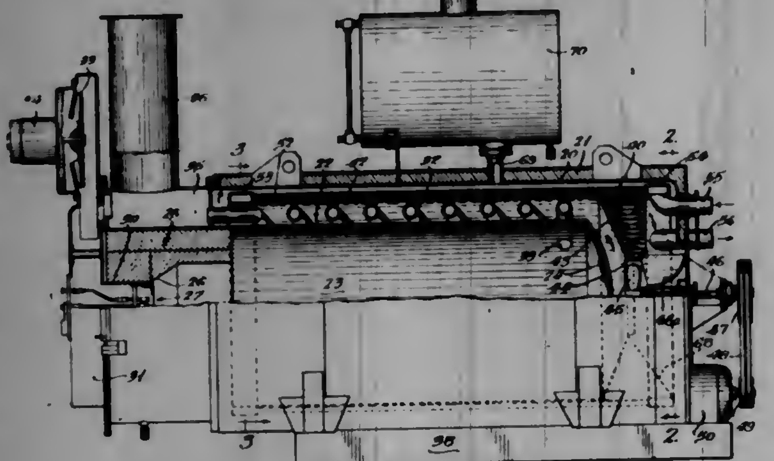
Enrique Manuel Alvarez-Cabrera, Goteburg, Sweden, assignor to Aktiebolaget Gotaverken, Goteburg, Sweden, a corporation of the Kingdom of Sweden
Filed Dec. 3, 1962, Ser. No. 241,698
Claims priority, application Sweden, Dec. 13, 1961, 12,437/61
2 Claims. (Cl. 122—1)



1. In a combined hot water and steam boiler having a furnace and means for automatically regulating combustion therein;
a first circuit having heat absorption portions in said furnace for generating hot water;
a second circuit having a steam dome and heat absorption portions parallel to those of the first circuit in said furnace for generating steam;
a first, constantly open connection conduit between said first and said second circuits;
a second connection conduit between a point in said hot water circuit ahead of its heat absorption portions and the steam dome of said steam generation circuit;
and means temporarily to open said second connection conduit in response to an unpermissible high pressure in the steam generation circuit for transferring water from the cooler part of the first circuit to the steam dome.

3,196,841
HEATER

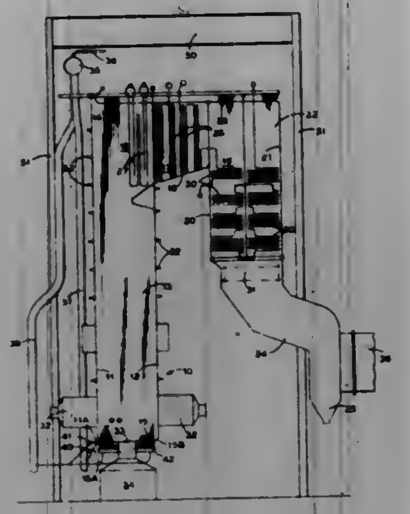
Frederick A. Loebel, Milwaukee, Wis., assignor to Cleaver-Brooks Company, a corporation of Wisconsin
Original application Oct. 13, 1960, Ser. No. 62,486, now Patent No. 3,111,935, dated Nov. 26, 1963. Divided and this application Apr. 10, 1963, Ser. No. 276,685
1 Claim. (Cl. 122—33)



In a compact heater for viscous fluids which tend to decompose when heated in direct fired heaters, a generally cylindrical outer shell of relatively large diameter, a generally cylindrical furnace tube of relatively large diameter centrally disposed in the outer shell and spaced therefrom thereby providing a relatively thin annular space around the furnace in the shell for heat transfer liquid, a hot gas flue connected to the furnace tube adjacent one end thereof and closely spirally encircling the furnace tube to the other end thereof, conduit means encircling the furnace tube and spaced from the outer shell, said conduit means defining a substantially cylindrical baffle closely encircling the flue and extending substantially from end to end of the shell, passage means at opposed ends of the conduit means for providing a closed circulation path for the heat transfer liquid extending longitudinally substantially the entire length of the shell in one direction inside the baffle and in the opposite direction outside the baffle, a plurality of tubes positioned between the outside of the baffle and the outer shell, said tubes extending from substantially one end to the other of said baffle and being immersed throughout their length in the heat exchange fluid passing in said opposite direction, means for passing the fluid to be heated through said tubes, and means for circulating heat transfer liquid through one of said passage means for flow inside said baffle means and through the other passage means for circulation outside the baffle means and return to said one passage means to pass said heat transfer liquid in heat exchange relationship with the furnace tube, the flue, and said tubes, at a velocity sufficient to prevent decomposition of the fluid being heated.

3,196,842
FURNACE

Ernest C. Huge and Paul M. Brister, Akron, Ohio, assignors to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed June 27, 1963, Ser. No. 291,154
5 Claims. (Cl. 122—235)

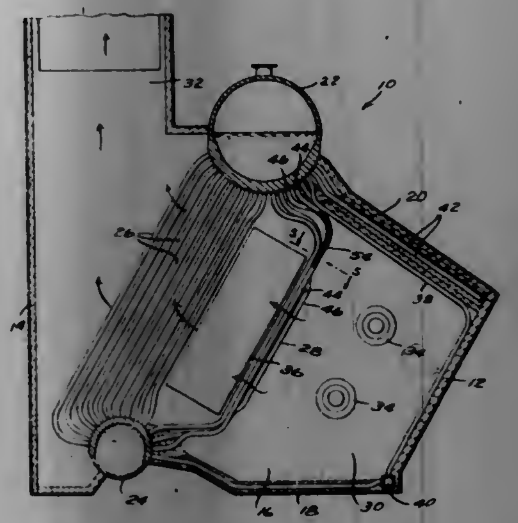


1. In a furnace wherein the molten residue of a combustion process is deposited in the lower portion thereof, pairs of opposed end walls and side walls and a substantially horizontal floor arranged to define an upright furnace chamber of rectangular horizontal cross-section at its lower end, said walls and floor being formed of impervious metal panels having a plurality of rigidly interconnected parallel tubes, one of said end walls and said side walls extending downwardly past and being transversely spaced from said floor, said floor including means forming a first substantially flush continuous surface adjacent said side walls and said one end wall, and sealing means rigidly connecting said side walls and said one end wall to said floor to prevent the escape of molten residue therebetween and to afford structural rigidity to said furnace, said sealing means comprising a plurality of filler blocks welded to said side walls and said one end wall and being constructed and arranged to form a second substantially flush continuous surface adjacent said first surface, said first and second surfaces cooperating to form therebetween a space of V-shaped cross-section, said first and second surfaces being rigidly interconnected along their entire adjacent length by welding.

3,196,843
BAFFLE ARRANGEMENT FOR VAPOR GENERATOR

Anthony C. Li Causi, East Brunswick, N.J., assignor to Foster Wheeler Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 137,154, Sept. 11, 1961. This application Sept. 21, 1964, Ser. No. 397,855
4 Claims. (Cl. 122—478)

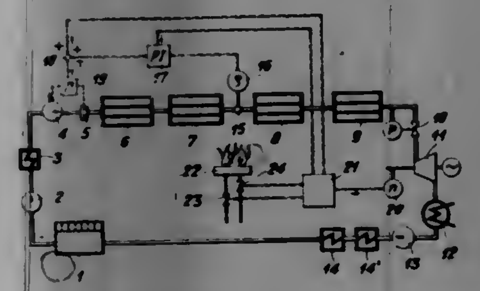
1. A vapor generator comprising a combustion chamber, an upper steam drum, a bank of roof tubes and at least one bank of steam generating screen tubes entering said steam drum, a superheater co-extensive with at least a portion of said bank of screen tubes, said superheater and screen tubes being arranged such that the screen tubes shield said superheater from said combustion chamber, said roof and screen tubes being disposed whereby tubes of said bank of roof tubes are in tangent contiguous offset relationship and on a triangular pitch with tubes of said bank of screen tubes and nested into the spacing between the latter at a point of tangency removed from said steam drum, the screen tubes being contiguous to each other at said point of tangency, the roof tubes and screen tubes tangent thereto being in grouped and triangular relationship between the point of tangency and the steam drum, a castable refractory poured into the spacing around the roof tubes and between the roof and screen tubes at the point of tangency to the steam drum sealing the area around said bank of roof tubes and the screen tubes



against the flow of combustion gases between said point of tangency and the steam drum, said screen tubes which are tangent to said roof tubes also being tangent to each other from said point of tangency to a second point adjacent said superheater to provide a baffle surface whereby hot furnace gases from said combustion chamber are constrained to flow past portions of said screen tubes coextensive with said superheater.

3,196,844
METHOD AND APPARATUS FOR CONTROLLING A FORCED FLOW STEAM GENERATOR

Jean-Th. Sulzer, Windsor Locks, Conn., assignor to Sulzer Freres, S.A., Winterthur, Switzerland, a corporation of Switzerland
Filed Mar. 27, 1961, Ser. No. 115,834
Claims priority, application Switzerland, Mar. 30, 1960, 3,590
6 Claims. (Cl. 122—448)



5. A method of controlling the operation of a forced flow steam generator operating at least at the critical pressure of water and under variable load conditions and having a tubular heat transfer system including an evaporating section followed by a superheating section and means for supplying feedwater and heat at variable rates to said heat transfer system, the method comprising the steps:
  of adjusting one of said supply means to correspond to the desired steam output,
  of directly measuring the absolute density of the steam at a single location between said evaporating and superheating sections, and
  of controlling the second supply means in response to the measured absolute steam density.

3,196,845

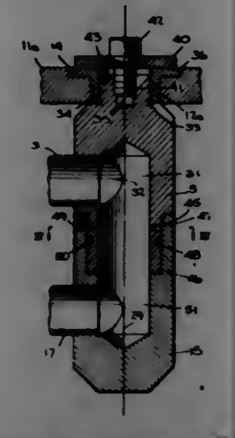
FLUID CONDUCTING HINGE DEVICE

Felix Ganz and Lothar Brenner, Lucerne, Switzerland, assignors to Ygnis, A.G., Fribourg, Switzerland, a stock company of Switzerland

Filed Feb. 25, 1963, Ser. No. 260,490

Claims priority, application Switzerland Feb. 26, 1962

8 Claims. (Cl. 122—498)



1. A furnace device for hinging first and second members together and conducting fluid under high pressure and temperature therebetween, said device including an assembly of first and second mutually superimposed parts, means for connecting said parts together to prevent them from axially separating while permitting their rotation relative to each other on a common axis and including portions of said parts which are telescoped together and have interfacing cylindrical faces concentric with said axis, one of said faces having an annular recess formed therein and retaining means extending radially into said recess from the other of said faces to positively lock said portions against axially separating, said parts internally forming a common chamber located on said axis and extending into both of these parts and each of the latter having a port for the portion of this chamber therein, means for connecting said first part to said first member for rotation relative thereto on said axis and means for connecting said second member to this same first part so that this second member swings on said axis, whereby mechanical stress from one of said members to the other is transmitted through said first part, means for forming a fluid conduit connecting with the port of said first part and extending to said second member and means for forming a fluid conduit connecting with the port of said second part and extending to said first member.

3,196,846

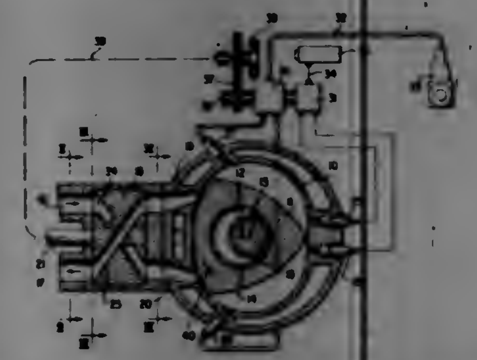
ROTARY PISTON ENGINE

Rolf Ohlendorf, Stuttgart-Wangen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed May 1, 1961, Ser. No. 106,636

Claims priority, application Germany, May 5, 1960, D 33,267

1 Claim. (Cl. 123—8)



A rotary piston internal combustion engine comprising engine housing means, polygonal rotary piston means within said engine housing means, said engine housing means and rotary piston means effectively defining therebetween a plurality of combustion space means, two sets of spark plug means and two sets of injection means for said combustion space means, inlet means for supplying combustion air to said combustion space means, outlet means for exhausting exhaust gases from said combustion space means, means for controlling the rotary movements of said piston means in such a manner that said piston means periodically completely closes a respective inlet and outlet means with respect to the combustion chamber means, ignition means including ignition control means for selectively rendering operative one or the other set of said spark plug means, fuel supply means for said injection means including injection control means for selectively rendering operative one or the other set of said injection means, switching means within said inlet and outlet means for selectively changing the interconnection between inner and outer sections of said inlet and outlet means depending on the direction of rotation of the engine including a rotary slide valve member provided with two pairs of interconnecting passages, the terminal apertures of a respective pair being disposed diametrically opposite one another with respect to the axis of rotation of the slide valve member and the plane passing through the terminal apertures of one pair being disposed at an angle of about 90° to the plane passing through the terminal apertures of the other pair of interconnecting passages, the pair of interconnecting passages providing a communication between respective inner and outer sections of the inlet and outlet means being substantially straight with the slide valve member in the position corresponding to the preferred direction of rotation of the engine, and means operatively connecting said switching means with said ignition and said injection control means for selectively enabling and disabling corresponding means of said two sets.

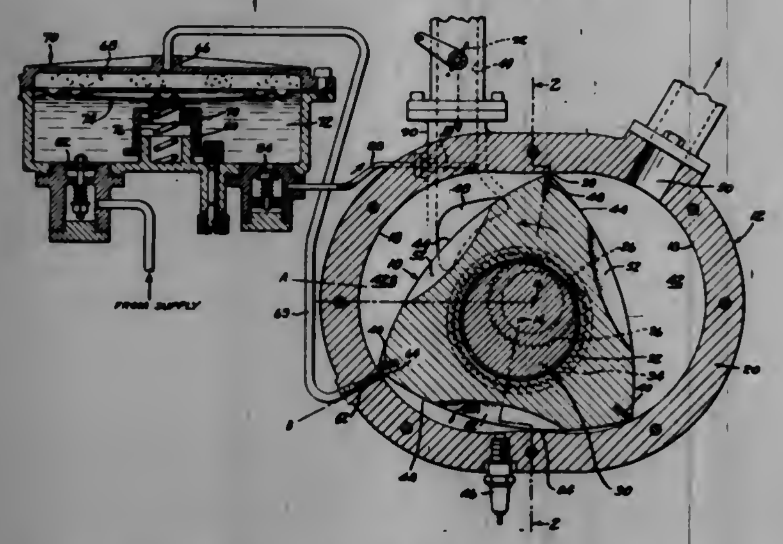
3,196,847

FUEL PUMP FOR ROTARY COMBUSTION ENGINES

John A. Kimberley, Wayne, and Robert H. Penner, Cedar Grove, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware

Filed July 31, 1961, Ser. No. 128,193

9 Claims. (Cl. 123—8)



1. A rotary combustion engine having a hollow outer body and an inner body rotatable relative to the outer body cooperating with the outer body to form a plurality of working chambers therebetween that rotate about the axis of the outer body and cyclically vary in volume as the inner body rotates relative to the outer body to alternately undergo intake and expansion when the volume of said chambers is increasing, and to alternately undergo compression and exhaust when the volume of said chambers is decreasing, and ignition occurring substantially between compression and expansion; air intake passage means communicating successively with each of the chambers during intake; and fuel supply means for supplying an amount of fuel for the combustible mixture in one chamber in accordance with the compression pressure in the preceding chamber comprising pump means containing resilient means, means for directing fluid under pressure communicating between said pump means and said preceding chamber as it undergoes compression, said preceding chamber ceasing to be in communication with said fluid directing means before ignition occurs in said preceding chamber, said fluid under pressure from said directing means being directed to operate said pump means and acting against said resilient means to determine the stroke and hence the output of said pump means, and fuel passage means to transmit the output of said pump means to said one chamber, whereby said fluid under pressure is indicative of and proportional to the mass of air in said preceding chamber such that the quantity of fuel supplied to each chamber during each cycle increases and decreases with increase and decrease in the mass of air supplied to the preceding chamber.

3,196,848

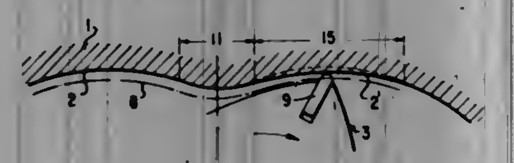
ROTARY PISTON ENGINE

Wolf-Dieter Bensinger, Stuttgart-Unterturkheim, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Jan. 24, 1962, Ser. No. 168,877

Claims priority, application Germany, Jan. 27, 1961, D 35,274

6 Claims. (Cl. 123—8)



1. In a rotary piston internal combustion engine of the type including an engine housing having a longitudinal axis and in which there is arranged within the housing a piston provided with sealing members arranged at the piston parallelly to the piston axis, said longitudinal axis and said piston axis extending substantially parallel to one another, said piston sliding with the sealing members thereof along the internal boundary of the housing, the internal boundary of said housing being disposed at a substantially equidistant distance with respect to the contour of the outer envelope of all positions of said piston to the housing, and in which the internal boundary of the housing is provided with at least one zone approaching said longitudinal axis, the improvement essentially consisting of reducing the distance between said internal boundary and the contour representing the outer envelope of all positions of the piston during rotation thereof within an area of the internal boundary of the housing following the said zone in proximity to the axis, as viewed in the direction of rotation of the piston.

3,196,849

APEX SEAL CONSTRUCTION FOR ROTARY COMBUSTION ENGINE

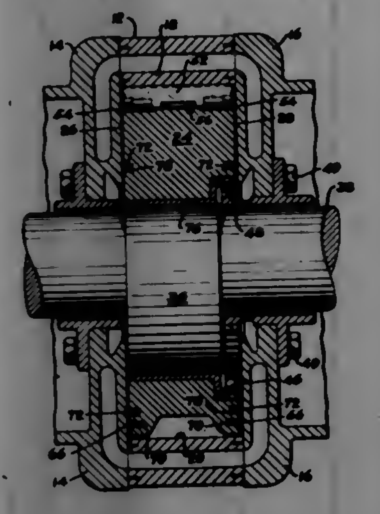
Hanns-Dieter Paschke, Neckarsulm, Germany, assignor to NSU Motorenwerke Aktiengesellschaft, Neckarsulm, Germany, and Wankel G.m.b.H., Lindau (Bodensee), Germany, both corporations of Germany

Filed Mar. 1, 1962, Ser. No. 176,590

Claims priority, application Germany, Mar. 25, 1961, N 19,790

2 Claims. (Cl. 123—8)

1. A sealing arrangement for the working chambers of a rotary combustion engine comprising an outer body having axially-spaced end walls and a peripheral wall interconnecting said end walls to form a cavity therebetween; an inner rotor received within said cavity and having axially-spaced end faces adjacent to said end walls and also having a plurality of circumferentially-spaced apex portions each including a groove which extends axially across the entire breadth of the rotor; said sealing arrangement comprising a radially movable seal strip in each groove in sealing engagement with the peripheral wall, shorter in length than the axial distance between the end walls of the outer body and out of contact with each end wall; and a pair of spacer elements in each rotor groove with each spacer element underlying an end portion of the seal strip, each of said spacer elements having one end in contact with the adjacent end wall of the outer body and the opposite end in contact with the seal strip to thereby maintain the seal strips spaced from each of the outer body end walls.



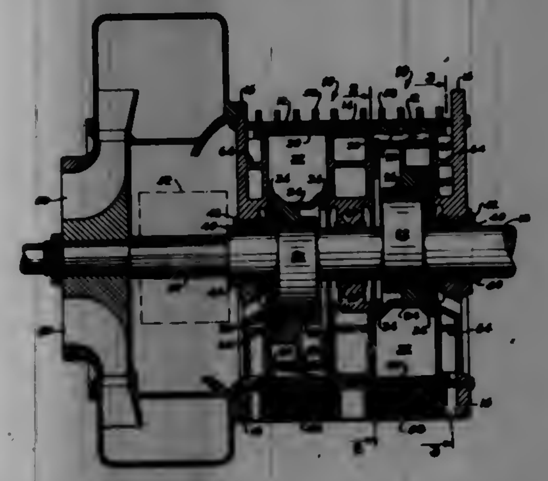
3,196,850

AIR COOLING SYSTEM FOR ROTARY COMBUSTION ENGINE

Charles Jones, Paramus, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware

Filed Sept. 21, 1962, Ser. No. 225,316

6 Claims. (Cl. 123—8)



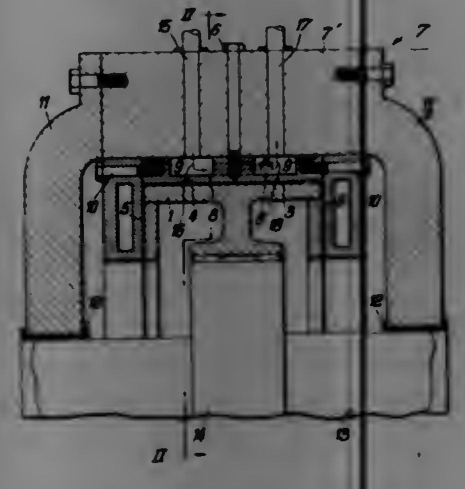
1. In a rotary combustion engine, an outer body having a peripheral wall interconnected with a pair of end walls the radially inner surface of said peripheral wall and the axially confronting faces of said end walls forming a cavity disposed about an axis, intake means in one region of said outer body communicating with the inner surface of said peripheral wall, a combustion zone in another region of said outer body and exhaust means for discharging the gases produced in said combustion zone through said outer body whereby to define a sector in said outer body from said combustion zone to said exhaust means which is relatively hotter than the remaining portions of said outer body, a plurality of cooling fins projecting from the outer periphery of said peripheral wall, said fins being normal to and closely spaced along

an axis parallel to said outer body axis, said cooling fins having a circumferential extent equal to said relatively hotter sector, baffle means covering and sealing the radially outer ends of said cooling fins to form a plurality of closed individual cooling passages having open ends at each end of said relatively hotter sector, each of said end walls being formed by a pair of spaced end walls, a plurality of cooling fins extending from one to the other of said spaced end walls and parallel to said outer body axis thereby forming passages for said cooling air, said passages extending arcuately about said outer body axis in said relatively hotter sector, one end of each of said passages communicating with the radially outer surface of said end walls at the end of said combustion zone remote from said exhaust means, and the other end of each of said passages being adjacent the exhaust means, said baffle means extending axially to cover both spaced walls of both end walls, duct means forming a passageway for cooling air extending substantially in the direction of said outer body axis and overlying said baffle means, opening means through said baffle means communicating said duct means to said individual cooling passages surrounding said peripheral wall intermediate the ends of said individual cooling passages, said cooling air upon passing from said duct means through said baffle opening being directed in two opposite circumferential cooling paths around said portion of said peripheral wall and said baffle opening being disposed relative to the ends of said circumferentially extending fins so as to provide an equal pressure drop in each of said cooling paths and further opening means through said baffle means communicating said duct means to said one end of said end wall cooling passages.

3,196,851

ROTARY PISTON INTERNAL COMBUSTION ENGINE

Georg Jungbluth, Cologne-Deutz, Germany, assignor to Klöckner - Humboldt - Deutz Aktiengesellschaft, Cologne-Deutz, Germany
Filed Sept. 24, 1962, Ser. No. 225,500
Claims priority, application Germany, Nov. 2, 1961, K 45,097
5 Claims. (Cl. 123—8)

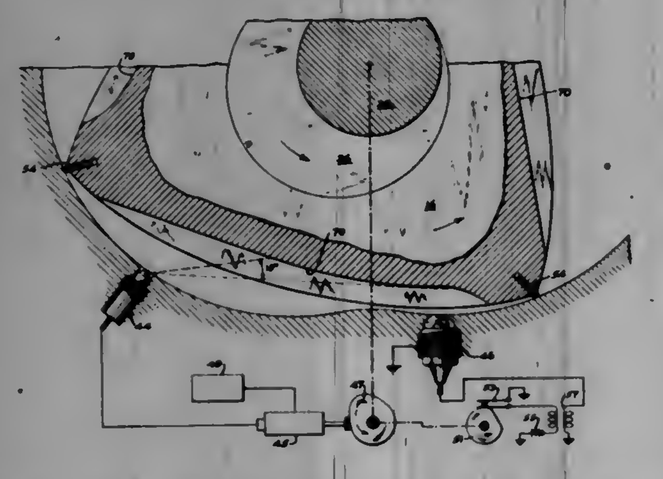


1. A rotary piston internal combustion engine which comprises: a first engine member forming a supporting housing including a main peripheral wall member disposed about an axis and also including outer side wall members respectively connected to the axially opposite sides of said main peripheral wall member, a crankshaft rotatably journalled in said outer side wall members and having an eccentric, a second engine member rotatably mounted on said eccentric and rotatable relative to said first engine member, and a relatively thin annular insert member fitted into said housing and surrounding said second engine member and having an inner running surface slidably engaged by portions of said second engine member, said insert member and said second engine member cooperating to form working chambers, said insert member being connected to said main wall member in a single axially short annular region only so as to be freely expandable in the direction of the longitudinal axis of said crankshaft, and side wall means independent of and axially spaced from said outer side wall members, said side wall means being respectively in face to face contact with and connected to the axial end faces of said insert member only, said side wall means confining therebetween the axial end face portions of said second engine member and forming the axial ends of said working chambers.

3,196,852

ROTATING COMBUSTION ENGINE WITH DIRECT FUEL INJECTION

Max Bentele, Ridgewood, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Nov. 2, 1962, Ser. No. 235,061
11 Claims. (Cl. 123—8)



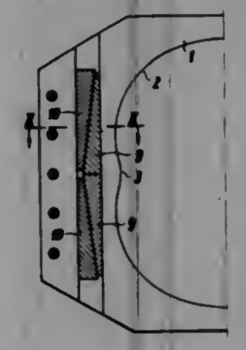
1. A rotary combustion engine comprising an outer body having a pair of spaced end walls and a peripheral wall disposed between the end walls to form a cavity therebetween having an axis along which the end walls are spaced, the inner surface of said peripheral wall having a multi-lobed profile; a shaft co-axial with the outer body cavity and having an eccentric portion; a rotor disposed within the cavity and journaled on the shaft eccentric portion, said rotor having a plurality of apex portions forming a rotor working face between each adjacent pair of apex portions with said apex portions having sealing cooperation with said peripheral wall inner surface to form a working chamber between each adjacent pair of apex portions such that each such chamber is formed by the adjacent wall portions of the outer body and the associated working face of the rotor each said working face having a trough-like recess formed therein with the bottom of each said recess having a greater angle with the working face to form a deeper portion in a radially inward direction at one end than at its other end; intake means for admitting air into said working chambers for combustion therein adjacent one junction of the lobes of said peripheral wall inner surface, said intake means being free of any variable throttle means and exhaust means for expelling the burnt gases from said engine; fuel nozzle means for injecting fuel into said working chambers for combustion therein adjacent said one junction of the lobes of said peripheral wall inner surface, said fuel nozzle means being carried by said outer body to one side of said lobe junction and having its fuel spray directed into the outer body cavity toward said lobe junction; means for initiating injection of fuel from said nozzle means into a working chamber before the top dead center position of its working face and continuing said fuel injection until said working face has reached a position adjacent said lobe junction, the orientation of the fuel spray and the

profile of the working face being such that said fuel spray is directed onto a working face at an angle of less than 30° with said working face throughout the fuel injection period.

3,196,853

CIRCULAR PISTON MACHINE, ESPECIALLY CIRCULAR PISTON INTERNAL COMBUSTION ENGINE

Georg Jungbluth, Cologne-Deutz, Germany, assignor to Klöckner - Humboldt - Deutz Aktiengesellschaft, Cologne, Germany
Filed Mar. 4, 1963, Ser. No. 263,095
Claims priority, application Germany, Mar. 3, 1962, K 46,068
3 Claims. (Cl. 123—8)



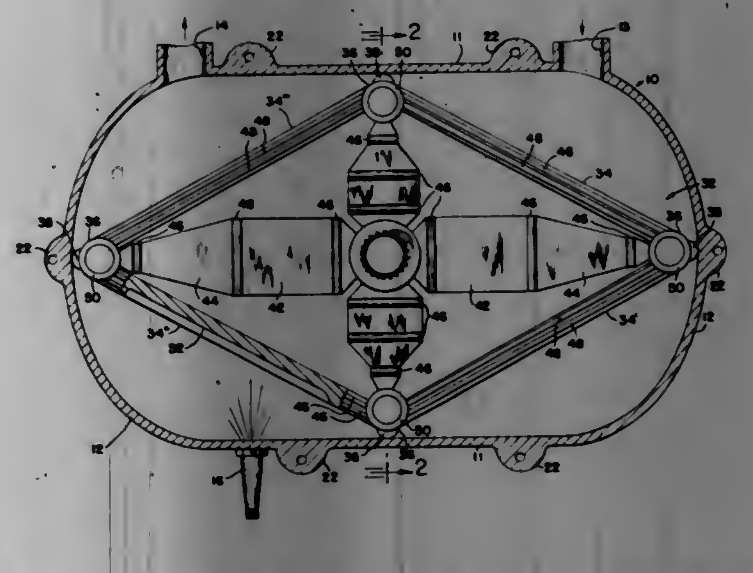
1. A circular piston machine, especially circular piston internal combustion engine, having a rotary piston, which comprises: an outer body having a central section provided with an inner substantially epitrochoidal surface for cooperation with said piston and also provided with planar end faces, said surface including regions nearer to the axis of the body than other regions of the surface, said outer body also including end members provided with planar end faces respectively engaging the said end faces of said central section, the end faces of said central section and the respective end faces of said end members in engagement therewith being provided with registering parallel walled grooves rectangular in cross section and extending substantially perpendicular to a line passing through the axis of said body and also through said regions nearer to the axis of said body, said grooves being open at the ends, and overlapping wedge means located in and substantially filling the cross section of said grooves and adjustable relative to each other, said wedge means being so arranged as to exert a clamping force in the direction of the plane in which the respective said end faces engage each other.

3,196,854

ROTARY ENGINE

Andrew Novak, 3030 W. Ridgeway, Flint, Mich.
Filed Apr. 8, 1963, Ser. No. 271,306
1 Claim. (Cl. 123—8)

A rotary engine comprising, a stationary cylinder member having a pair of spaced, parallel, opposing flat sides and a pair of opposing, curved ends; an intake port in a first quadrant of said cylinder to introduce a combustible fuel mixture therein; an exhaust port in the second quadrant of said cylinder; means in the third quadrant of said cylinder to ignite said mixture; a cylinder head adapted to close said cylinder; a shaft, having a boss thereon, rotatably journaled within said cylinder and cylinder head at the centers thereof and normal thereto and extending outwardly therefrom; an articulated piston member centrally located within said cylinder and having four elongated, flat, slide elements of equal length, each having a recess in the outer surface thereof, and hingeably interconnected by hinge elements rigidly connected to said slide elements at their remote ends to form a rotatable, collapsible, rhombus-like structure surrounding said shaft; a spider arm radially connecting each hinge member with said boss and having a pair of extension members foldably interconnected by hinges to each other and to said hinge element and to said boss; a pair of spring-loaded seal strips borne by each side edge of each slide element; a spring loaded annular sealing ring borne by each end of each hinge element; a seal strip borne by the outer cylindrical surface of each hinge element; said parallel sides of said cylinder member being spaced a distance

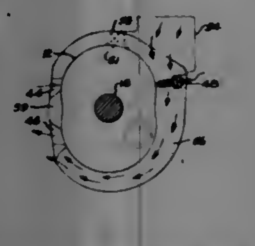


apart such as to snugly and slidingly embrace each pair of opposing slide elements when the opposite pair are disposed at a right angle thereto; the length of said parallel sides of said cylinder member and the form of the curved ends thereof being selected to be such that said parallel sides and curved ends are constantly contacted by all of said seal strips borne by the outer cylindrical surfaces of said hinge elements as said piston member rotates about said shaft and within said cylinder, to form four separate combustion chambers.

3,196,855

AIR COOLING SYSTEM FOR ROTARY COMBUSTION ENGINE

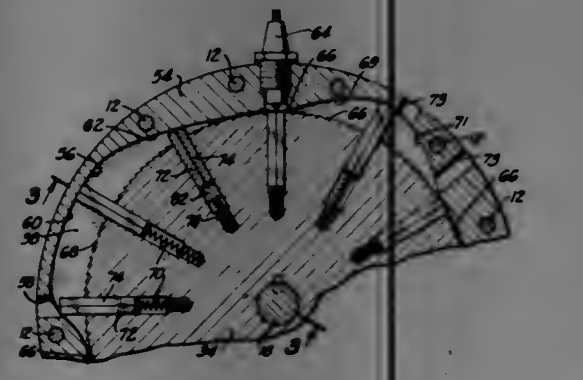
Charles Jones, Paramus, N.J., assignor to Curtiss-Wright Corporation, a corporation of Delaware
Filed Dec. 9, 1964, Ser. No. 417,106
2 Claims. (Cl. 123—8)



1. In a rotary combustion engine, an outer body having a peripheral wall interconnected with a pair of end walls the radially inner surface of said peripheral wall and the axially confronting faces of said end walls forming a cavity disposed about an axis, intake means in one region of said outer body communicating with the inner surface of said peripheral wall, a combustion zone in another region of said outer body and exhaust means for discharging the gases produced in said combustion zone through said outer body, said outer body having a relatively hot sector in one region and a relatively cool sector in another region with said regions being circumferentially spaced such that said outer body is subjected to nonuniform thermal stresses around its periphery, a plurality of fine fins projecting from the outer periphery of said pe-

ripheral wall, said fine fins being normal to and closely spaced along an axis parallel to said outer body axis and extending circumferentially around the relatively hot sector of said peripheral wall, a plurality of supporting ribs projecting from the outer periphery of said peripheral wall, said supporting ribs being disposed normal to and spaced substantially wider than said fine fins along an axis parallel to said outer body axis and extending circumferentially around the relatively cool sector of said peripheral wall, baffle means covering and sealing only said fine fins to form a plurality of closed individual cooling passages between said fine fins with said cooling passages having open ends at each end of said relatively hot sector, said baffle means having an opening at one circumferential end of said fine fins for supplying cooling air to said cooling passages and an opening at the other circumferential end of said cooling fins for discharging the cooling air from said cooling passages, and interconnecting body wall portions projecting from the outer periphery of said peripheral wall to a radial distance substantially equal to the radial projection of said ribs and fins, said interconnecting body wall portions joining the circumferential ends of said fine fins and supporting ribs thereby forming a substantially rigid hoop-like supporting structure around said peripheral wall for preventing distortion of said peripheral wall in the circumferential direction from the nonuniform thermal stresses generated during engine operation.

3,196,856
COMBUSTION ENGINE
Walter Ward, 640 Carleton St., Anaheim, Calif.
Filed Apr. 29, 1963, Ser. No. 276,532
1 Claim. (Cl. 123—[illegible]6)

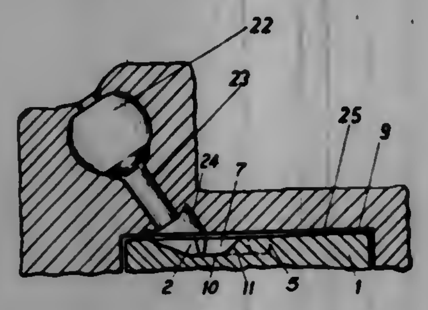


A rotary internal combustion engine, said rotary internal combustion engine having rotor means and a stator;

said stator including a shaft end plate and a rear plate, bearing means in each of each shaft end plate and said rear plate, said bearing means defining the rotary axis of said rotary internal combustion engine, first and second seal rings positioned between said plates and a main ring positioned between said first and second seal rings, screws passing through said plates, said seal rings and said main ring to secure them with respect to each other, said seal rings each having a lip extending toward said axis and concentric with said axis, said main ring having surfaces concentric about said axis and surfaces other than concentric about said axis, said surfaces concentric about said axis being provided with serrations extending thereacross parallel to said axis and extending from one seal ring to the other seal ring, said surfaces which are other than concentric about said axis being relatively smooth and defining at least one compression section and at least one expansion section, one of said concentric sections provided with serrations being positioned between said compression section and said expansion section, and igniter means positioned in said stator and in open communication to said concentric section between said compression section and said expansion section;

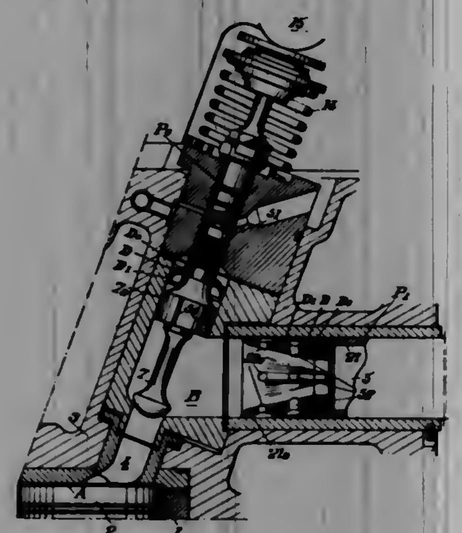
said rotor means comprising a shaft rotatably mounted in said bearing means in said stator so that said shaft rotates about said axis, a rotor mounted on said shaft for rotation about said axis, said rotor having a plurality of radial slots, first and second vanes mounted in each of said radial slots, each of said vanes having an outer edge and end edges, spring means between said rotor and said vanes urging said vanes against said concentric and said other than concentric surfaces of said stator and urging each of said vanes so that one of said end edges of each of said vanes is urged against one of said seal rings, said spring means including a spring in each of said radial slots, a wedge having inclined surfaces, said wedge being in engagement with said spring so that said wedge is urged radially outwardly, an inclined surface on each of said vanes, said wedge engaging with said inclined surfaces on said first and second vanes in the same slot with said wedge so that said wedge urges each of said vanes both axially and radially, further spring means including first and second additional springs positioned in each of said slots and in engagement with said rotor and with said vanes in each of said slots to urge said vanes radially, said rotor having an outer surface substantially concentric about said axis, said outer surface having serrations extending parallel to said axis from one end of said rotor to the other, said outer surface of said rotor being in close proximity to said concentric serrated surfaces of said stator, front and rear cover plates on said rotor means and positioned against said rotor and mounted on said shaft for rotation with said rotor, each of said cover plates extending radially outwardly and terminating in a hook concentric with said axis, each of said hooks being positioned adjacent one of said seal ring lips, a sealing ring positioned under each of said hooks and in engagement with its cover plate and with said adjacent seal ring lip so that said stator and said rotor means are sealed with respect to each other.

3,196,857
COMPRESSION-IGNITION INTERNAL COMBUSTION ENGINES
Klaus Dieter Zimmermann, Heidelberg, Germany, assignor to Motoren-Werke Mannheim A.G. vorm. Benz Abt. Stat. Motorenbau, Mannheim, Germany, a German company
Filed June 5, 1963, Ser. No. 285,703
Claims priority, application Germany, June 22, 1962, M 53,287
5 Claims. (Cl. 123—32)



1. A compression-ignition internal combustion engine comprising a pre-combustion chamber into which fuel is injected towards the end of the compression stroke of each operative cycle of the engine, a cylinder, a valve controlled outlet and a valve controlled inlet at one end of said cylinder, a duct connecting said pre-combustion chamber to said cylinder, said duct being arranged obliquely to and offset with respect to the longitudinal centre line of the cylinder, and a piston slidable within said cylinder and having an operative face formed with a channel arranged to communicate with said duct and to direct combustion gases flowing therefrom towards the centre of said operative face of said piston and with two depressions of annular form for receiving gases from said channel such depressions being disposed one adjacent a valve controlled inlet and the other adjacent a valve controlled outlet from the cylinder.

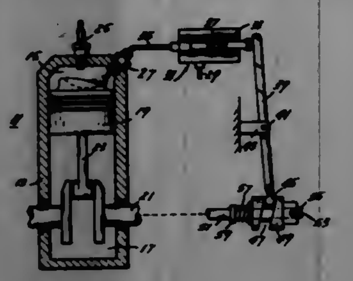
3,196,858
INTERNAL COMBUSTION ENGINES
Raymond Georges, 65 Ave. Foch, Paris, France
Filed Sept. 18, 1963, Ser. No. 309,683
Claims priority, application France, Sept. 21, 1962, 910,160; Nov. 10, 1962, 915,013
27 Claims. (Cl. 123—32)



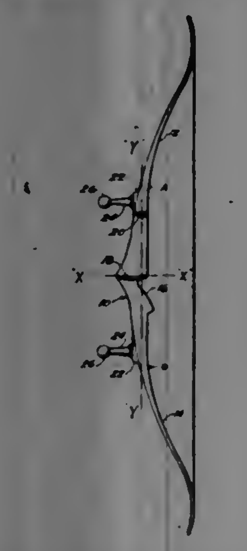
1. An internal combustion engine comprising walls defining a combustion chamber and a displaceable element communicating with the interior of the combustion chamber through one of the said walls, the displaceable element comprising a main guide journal and a complementary guide journal for controlling the displacement of the element relative to the said wall of the combustion chamber, the complementary guide journal being positioned nearer to the interior of the combustion chamber than the main guide journal and defining a cavity therewith, a flexible annular seal positioned between the main and complementary guide journals and presenting a concave surface to the interior of the combustion chamber, the seal having one circumferential edge fixed and the other in rubbing contact with the surface with which it is in relative movement, and means of communication between the combustion chamber and the cavity between said main and complementary guide journals for permitting the passage of gas under pressure against the concave surface of the seal to ensure the sealing of the rubbing lip against the surface with which it is in relative movement.

3,196,859
ENGINE
Kurt F. Ziegler, Zion, Ill., assignor to Outboard Marine Corporation, Waukegan, Ill., a corporation of Delaware
Filed Aug. 24, 1962, Ser. No. 219,294
16 Claims. (Cl. 123—139)

1. A spark ignition, internal combustion engine including a cylinder, a piston reciprocably movable in said cylinder, a crankshaft connected to said piston, and means for selectively injecting fuel into said cylinder when said piston is in either of a first position or a second position displaced from said first position by an amount corresponding to about 180 degrees of crankshaft rotation and including a fuel injection pump and means for effecting fuel injection operation of said pump when said piston is in one of said first and second positions, said means for effecting fuel injecting operation of said pump including an actuating cam shiftable between two positions displaced from each other so as to effect pumping operation at time intervals displaced from each other by an amount corresponding to about 180 degrees of crankshaft rotation.



3,196,860
ARCHERY BOW
Earl H. Hoyt, Jr., 11510 Natural Bridge Road, Bridgeton, Mo.
Filed July 3, 1961, Ser. No. 121,709
10 Claims. (Cl. 124—24)

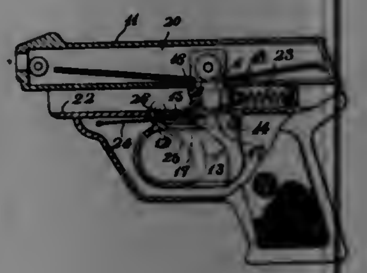


1. In an archery bow having upper and lower flexible limbs and an elongated non-flexing handle section therebetween on which an intermediately positioned hand-gripping portion is formed; the improvemnt which comprises at least one integrally formed weighting portion projecting laterally from said handle section, said projecting weighting portion being disposed so as to be entirely free of contact with any part of an archer's body and in a position removed from the path of movement of the bow string under shooting conditions, and said projecting weighting portion having sufficient lateral projection from said handle section to substantially increase the mass moment of inertia resisting rotation of the bow about a longitudinal axis through said handle section over a bow of similar design and similar total weight without such laterally projecting portion thereof.

3,196,861
TOY GUN
Hiroshi Yano, 3 1-chome, Takase-cho, Moriguchi, Osaka, Japan
Filed May 14, 1962, Ser. No. 194,619
Claims priority, application Japan, May 15, 1961, 36/17,383
3 Claims. (Cl. 124—27)

1. A toy gun comprising:
a barrel through which a projectile may be ejected,
a trigger,
said trigger having a first pin and a second pin,

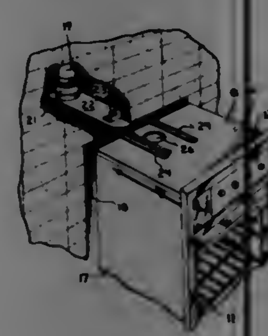
a groove formed parallel to said barrel and having a release opening,
  said first and second pins cooperating with said groove to restrain said trigger for movement along a line parallel to said barrel between two extreme positions,
a striker which engages a projectile,
a striker spring engaging said striker for ejecting a projectile,
  said trigger engaging said striker and compressing said striker spring when moved along a line



parallel to said barrel toward a first extreme position,
  said first pin moving through said release opening when said trigger reaches the first extreme position of its motion along a line,
  said trigger pivoting about said second pin to release said striker and permit ejection of a projectile by the force of the compressed striker spring.

3,196,862
OVEN EXHAUST STRUCTURE

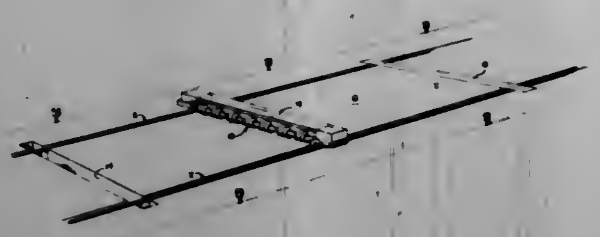
Louis J. Jenn and Ellsworth W. Simms, Indianapolis, Ind., assignors to Jenn-Air Products Company, Inc., Indianapolis, Ind., a corporation of Indiana
Original application Feb. 26, 1962, Ser. No. 175,398. Divided and this application Oct. 25, 1962, Ser. No. 233,019
1 Claim. (Cl. 126—21)



A structure adapted for utilization in installing wall-mounted domestic ovens in a wall opening to assure that the oven exhaust aperture registers with the vertical exterior exhaust flue when the oven is inserted horizontally in to the wall opening, said structure comprising an elongated locator member, an L-shaped bracket carried by said member adjacent one of its ends, said bracket being adapted to be secured to the wall adjacent the wall opening, a flue-accomodating fitting mounted on the opposite end of the member adapted to register with the external flue and with the oven exhaust aperture, and elongated abutment guide means adapted to be carried by the oven surface adjacent the exhaust aperture and to extend in the direction of movement of the oven as it is inserted in the wall opening, said abutment guide means slidably engaging the margins of said locator member to guide the oven into exhaust aperture registering relation with said fitting as the oven is inserted into the wall opening.

3,196,863
RUNWAY CLEARING APPARATUS FOR SNOW AND ICE

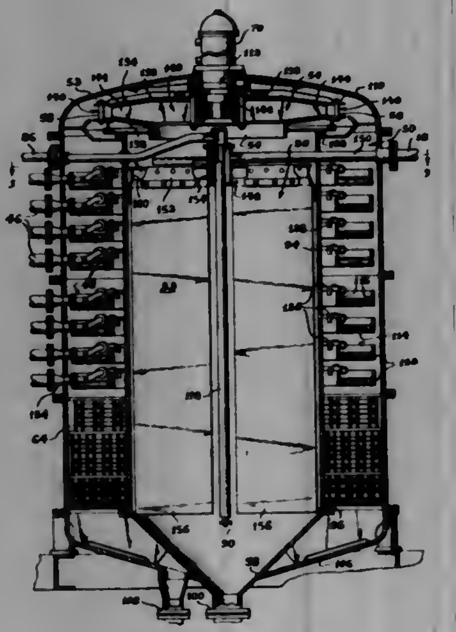
James J. Fayed, 7001 40th Ave., Hyattsville, Md.
Filed July 23, 1962, Ser. No. 211,590
15 Claims. (Cl. 126—271.2)



1. In combination with a runway provided with a plurality of transverse recesses therein, snow and ice removal equipment comprising a heating assembly housed within each recess in an inoperative position thereof, each assembly including frame means having an upper surface essentially flush with adjacent surfaces of the runway when in said inoperative position, a plurality of heating means spaced along said frame means, means operative to raise said assemblies from said recesses and to lower said assemblies into said recesses, guide means extending longitudinally alongside the runway and supporting thereon said assemblies, and means including control means to move said assemblies along said guide means over respective portions of said runway.

3,196,864
CONDENSING CHAMBER APPARATUS

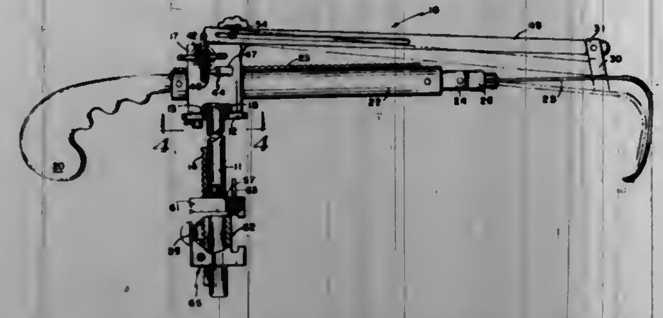
Wallace E. Johnson, Beloit, Wis., assignor to Desalination Plants Limited, Tel Aviv, Israel, a limited company of Israel
Original application Apr. 14, 1961, Ser. No. 103,112. Divided and this application Apr. 29, 1963, Ser. No. 276,508
16 Claims. (Cl. 126—343.5)



13. Apparatus for condensing vapor on ice comprising a vapor condensing chamber having a fluid discharge outlet, a plurality of spaced open top trays supported in said chamber for receiving and distributing a slurry of ice in said chamber, conduit means for supplying a slurry of ice individually to each of said trays, means for flowing vapor in contact with the slurry of ice carried by said trays to condense the vapor and melt ice, and means for removing fluid from said trays for discharge through said outlet.

3,196,865
SELF-RETAINING RETRACTOR

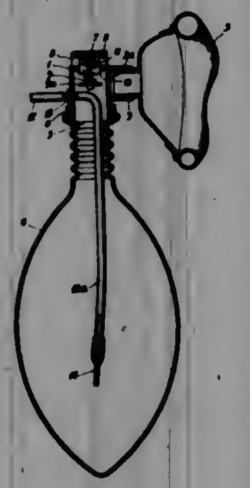
Frank L. Rose, Andover, Mass., assignor to Avco Corporation, Cincinnati, Ohio, a corporation of Delaware
Filed Feb. 6, 1963, Ser. No. 256,636
10 Claims. (Cl. 128—20)



1. A self-retaining retractor assembly comprising:
(a) a longitudinally extendable and retractable arm terminated at one end in a pivot means;
(b) a retractor joined to said arm by said pivot means;
(c) support means movably supporting said arm, including means for adjusting the elevation and the horizontal position of said arm;
(d) means joined to both said retractor and support means responsive to the axial movement of said arm for pivoting said retractor;
(e) means for adjusting the longitudinal position of said arm; and
(f) means on said support means adapted to secure said support means to a surgical table.

3,196,866
RESUSCITATOR

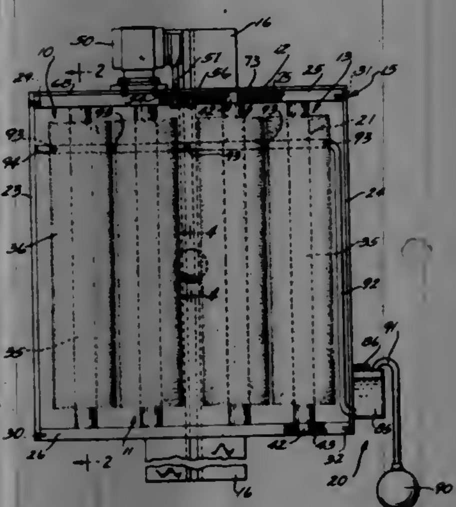
Henry James Adams, Sylvania, New South Wales, Australia, assignor to The Commonwealth Industrial Gases Limited, Alexandria, New South Wales, Australia, a corporation of New South Wales
Filed Oct. 31, 1962, Ser. No. 234,499
3 Claims. (Cl. 128—29)



1. A resuscitator comprising a compressible, self-distending reservoir having an opening which constitutes an air inlet to and an air outlet from the reservoir; a hollow head member connected to said opening, said head member having an inlet passage communicating with the reservoir, an outlet passage for connection to a face mask, and at least one aperture communicating with the atmosphere; and a resiliently biased valve movable between inlet and outlet controlling positions in the head member, said valve including a valve stem which projects into the interior of the head member and extends past said outlet passage from the head member in a direction toward said inlet passage, a transversely disposed disc on said valve stem, said disc being adapted to slide along said valve stem, a valve seat for the disc in the vicinity of said aperture in the head member, and a spring which extends along said valve stem, said spring being normally operative to maintain the disc away from said valve seat at the inner end of the valve stem; said valve being directly operative by air pressure to close said aperture in the head member whenever the reservoir is compressed, and is adapted to remain in the closed position as long as the pressure within the reservoir and head member exceeds normal human exhalation pressure.

3,196,867
BODY MASSAGING AND SCRUBBING APPLIANCE

Walter J. Perry, Brookfield, Wis.
(1315 S. 124th St., West Allis 14, Wis.)
Filed Mar. 25, 1963, Ser. No. 267,483
5 Claims. (Cl. 128—56)



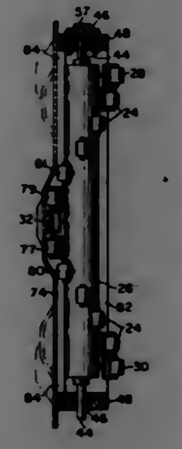
2. In an appliance for massaging the body of a person; a bracket; at least three cylindrical brushes rotatably supported by said bracket with each brush being adjacent to the succeeding brush and their axes being parallel to each other and disposed so that the cylindrical surfaces of said several brushes can simultaneously engage the back of the torso of a human body; a source of power; and transmission means connected to transmit the power from said source for rotating said brushes in unison with each brush being rotated about its axis in a direction opposite to the direction of rotation of the brushes adjacent to it; whereby the cylindrical surfaces of two of said brushes in contact with the back of the person are moving away from each other in alternate elongated areas to tend to spread the skin, while in the other alternate elongated areas the cylindrical surfaces of two brushes in contact with the back of the person are moving toward each other to tend to draw the skin together for producing a pleasant and relaxing sensation to the person using the appliance.

3,196,868
ROLLING BODY MASSAGER

Ervin F. Johnston, 3033 S. "N" St., Oxnard, Calif.
Filed June 15, 1962, Ser. No. 202,813
18 Claims. (Cl. 128—57)

14. A massager for massaging a person's body comprising:
  means for supporting at least a portion of the person's body;
  at least three rollers;
  means mounting each roller for rolling action about a respective roller axis which passes through the roller;
  means positioning the mounting means so that the rollers are positioned along a path which dimensionally extends both progressively about and progressively along a common axis with that portion of

each roller axis which passes through a respective roller being spaced from said common axis;
the positioning means further positioning the mounting means so that at least said three rollers are positioned with their centers angularly displaced from one another about said common axis as seen when said centers are projected in a like manner to a plane normal to the common axis;
means attached to the support means and rotatably mounting the rollers about the common axis so that upon rotating the rollers about the common axis they

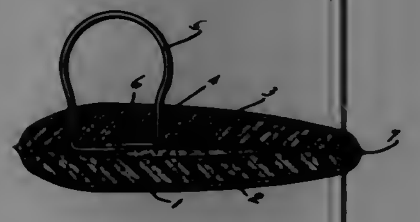


will each progressively roll about their individual roller axis across the body portion when the body portion is supported by said support means; and
means for rotating the rollers as positioned about the common axis;
whereby upon rotating the rollers about the axis they will roll about the roller axes across the body to massage both thereacross and progressively therealong.

3,196,869

BUTTRESS PAD AND METHOD OF MAKING THE SAME

William M. Scholl, 211–213 W. Schiller St., Chicago, Ill.
Filed June 13, 1962, Ser. No. 202,135
4 Claims. (Cl. 128—[illegible]1)

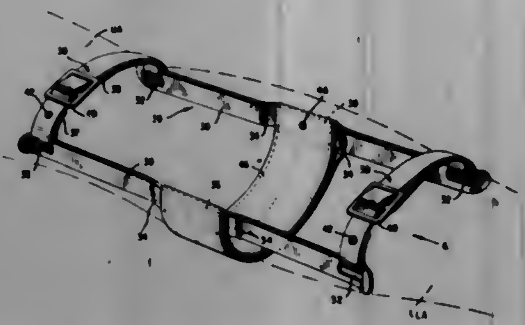


1. A buttress pad comprising
upper and lower cover layers of plastic film,
a plurality of layers of plastic foam superposed between said cover layers,
the upper cover layer having a pair of spaced slits therein in an intermediate location,
the upper of said foam layers having slits therein aligned with those in the upper cover layer,
a digit loop having portions thereof threaded through said aligned slits and its ends secured together beneath said upper foam layer, and
a fine line heat seal seam joining said cover layers and defining the bounding edge of the pad and confining said foam layers curving toward said seam and held against lateral migration under pressure.

3,196,870

LIMB IMMOBILIZER FOR INTRAVENOUS FEEDING OR THE LIKE

Carl A. Sprecher, Kerry H. Gingrich, and George J. Pence, Lebanon, Pa., assignors to Lebanon Machine & Manufacturing Co. Inc., Lebanon, Pa., a corporation of Pennsylvania
Filed May 8, 1962, Ser. No. 193,258
12 Claims. (Cl. 128—133)

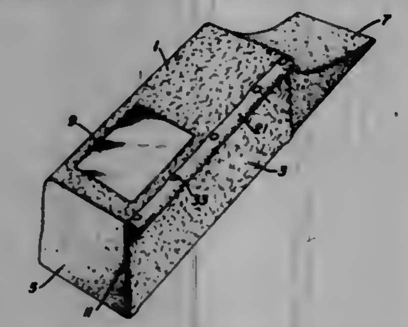


1. A device for immobilizing a limb of a human being which is bendable at a joint comprising: a pair of relatively elongated and relatively rigid members; first and second strap means of pliable non-metallic material attached to at least one of said elongated members and connecting said elongated members at spaced locations for spanning the human limb with which it is adapted to be used on the joint closing side of the human limb at locations spaced from the joint; third strap means of flexible material intermediate said first and second strap means adapted to span the side of the human limb opposite said joint closing side in engagement with the joint, said third strap means being attached to at least one of said elongated members and including means adapted to effectively secure said pair of elongated members in lateral relation to each other; each of said first and second strap means being spaced a sufficient axial distance from said third intermediate strap means so that the human limb with which said device is adapted to be associated cannot be freely bent by muscular power when the intermediate third strap means is disposed at the joint; each of said first and second strap means including means adapted to adjust the length thereof to vary the lateral distance between the parts of said pair of elongated members connected by said first and second straps, thereby adapting said device for use on different size limbs.

3,196,871

DIFFUSION TYPE PROTECTIVE ENCLOSURE

Saul Hormats, Pikesville, Eugene Sovinsky, Baltimore, and Ella B. Dwaayer, Magnolia, Md., assignors to the United States of America as represented by the Secretary of the Army
Filed Feb. 4, 1958, Ser. No. 713,273
6 Claims. (Cl. 128—140)
(Granted under Title 35, U.S. Code (1952), sec. 266)



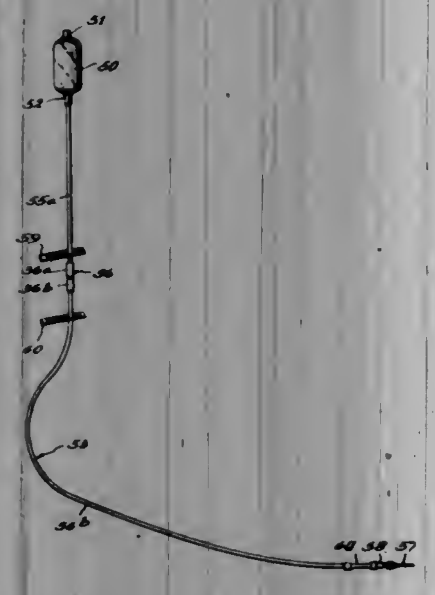
1. A protective enclosure comprising a wall completely enveloping said enclosure, a portion of said wall being a sheet of porous fibrous material impregnated with activated charcoal, said charcoal constituting at least 15 percent by weight of said material, said material having a carbon dioxide diffusivity falling in the range 1.5×10^{-2}

to 7.0×10^{-2}, sq. cm./sec., and a thickness of at least about 2.5 mm., the area of said material being sufficiently great to dispsel substantially solely by diffusion the carbon dioxide produced by any mammals that may occupy said enclosure, the remainder of said wall being impervious to gas.

3,196,872

PARENTERAL INFUSION APPARATUS HAVING A SEPARABLE, COUPLING MEANS

David Katz, 1417 Dundee Road, Northbrook, Ill.
Filed Nov. 15, 1963, Ser. No. 323,981
5 Claims. (Cl. 128—214)

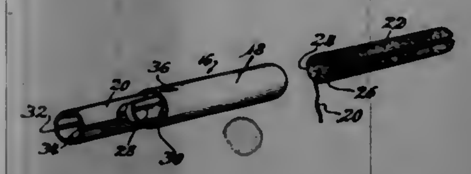


1. Parenteral infusion apparatus which comprises: a drip chamber, said chamber being formed of shape retaining material and having an inlet at its top through which the liquid to be administered with the infusion apparatus may be introduced at a variable rate, said chamber having an outlet at its bottom, at least a portion of the walls of said chamber being formed of light transmitting material through which said liquid can be observed; a flexible tubing, one end of said tubing being attached to the drip chamber at said outlet, said tubing being at least about five feet in length; an adapter for an injection needle attached to the distal end of said flexible tubing; a secure but readily separable junction in said flexible tubing, said junction communicating directly with the portions of said flexible tubing on either side of the junction, said junction being spaced from said drip chamber outlet at a distance less than about two and a half feet, so that said junction is located in an exposed and easily accessible portion of said flexible tubing between the drip chamber and the portion of the tubing that, when the tubing is in use, lies under any draping cloths employed to cover the patient; first flow control means, operatively associated with said drip chamber and the portion of said flexible tubing positioned between said drip chamber and said junction, for selectively stopping the flow of liquid from said drip chamber outlet through said flexible tube; and second flow control means positioned on the portion of said flexible tubing lying between said junction and said distal adapter, for selectively stopping the flow of liquid therethrough, whereby said infusion apparatus may be used for a patient requiring a routine parenteral infusion, and if other needs arise another component may be quickly subsituted at said junction for the component of the apparatus extending above said junction, or another component may be quickly inserted at said junction between the two components of said apparatus which are joined by said junction.

3,196,873

TAMPON AND APPLICATOR

John C. Bletzinger, Neenah, and Howard A. Whitehead, Appleton, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Aug. 27, 1962, Ser. No. 219,384
3 Claims. (Cl. 128—263)

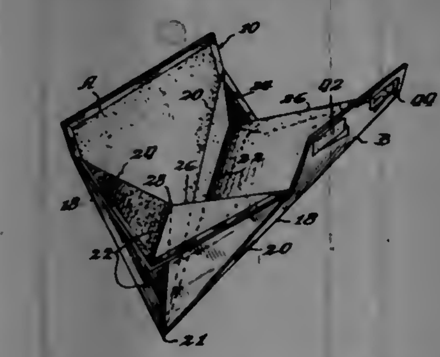


1. In a device for the directional placement of a tube-enclosed preshaped tampon in the vaginal canal including a cylindrical tubular applicator, a plunger element and a compressed batt of preshaped fluid absorbent material disposed in predetermined orientation within said applicator, the improvement comprising means associated with said applicator to prevent relative rotation of said batt within said applicator while permitting axial ejection therefrom whereby said tampon may be directionally positioned in the vaginal canal, said means consisting of an axially extending rib on the interior wall of said applicator tube and a complemental axially extending groove on the exterior of said batt for registered complemental engagement with said rib, said tube also including exterior indicator means for positioning thereof during batt ejection.

3,196,874

DISPOSABLE PREFOLDED DIAPER

Frederick J. Hrubecky, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed July 25, 1962, Ser. No. 212,206
1 Claim. (Cl. 128—287)

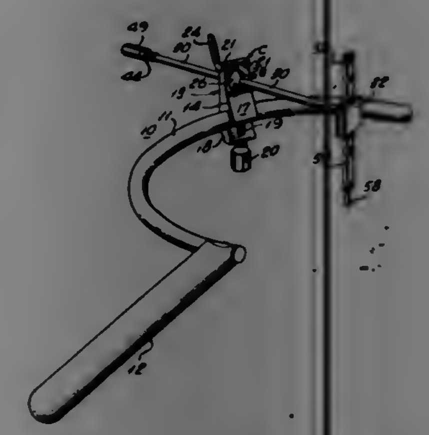


A prefolded disposable diaper folded into a configuration suitable for easy attachment to an infant to provide overfolded leg engagement portions and a depending excrement trapping pocket centrally disposed in the crotch area, said diaper comprising a rectangular pad of disposable absorbent material and a backing sheet of fluid impervious material, said diaper being symmetrically folded about its medial axis, with said impervious material on the outside, in a manner to provide flat end portions for encircling the body, inpleated leg receiving marginal areas on each side, and an intermediate depending pocket-like portion, said folds and pleats being defined by a plurality of crease line which include one pair of crease lines extending obliquely between opposite margins of said pads and crossing in X-configuration centrally of said pad at said medial axis to divide a major central pad portion into two pairs of opposed triangular areas, one of said pairs being vertically disposed and the second of said pairs being horizontally disposed, a transverse crease line positioned to bisect each of said horizontally disposed pair of triangular areas into a pair of centrally disposed substantially right triangular side-by-side areas, and a pair of crease lines disposed in each of said right-triangular areas to extend from a common point located on said transverse line inwardly of the pad margin and diverging outwardly to substantially the marginally spaced acute angle of said bisected triangular areas whereby each of said bisected triangular areas are further divided into two equal marginally positioned smaller right-triangular areas and two equal triangular areas disposed inwardly and contiguously of said marginally positioned right-triangular areas.

3,196,875

MANIPULATING DEVICE

Andrew Pfeiffer, Box 450, R.F.D. 1, Old Lyme, Conn.
Filed Dec. 10, 1962, Ser. No. 243,482
3 Claims. (Cl. 128—3[illegible]3)

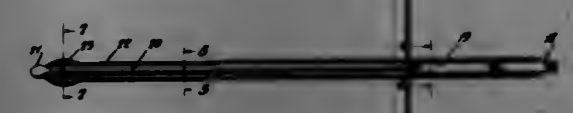


1. An implement-manipulating device comprising a compressible ball member having an axial bore formed therein, an implement supporting tubular member independently slidably and rotatably registering with said axial bore an implement-control rod rotatably registering with and extending axially through said tubular member, a compressible socket member having a surface complementing and engaging said ball member, and means for selectively compressing and releasing said socket member respectively to compress and lock said ball member and lock said tubular member in a preselected position and orientation and to release said ball for universal movement in said socket and said tubular member for rotation and axial movement in said bore, and including a bracket member mounted on the inner end of said tubular member, a rack extending at an angle to said tubular member and slidably supported by said bracket member, a gear affixed to the inner end of said control rod and engaging said rack, and a knob affixed to the outer end of said control rod.

3,196,876

DILATOR

Maurice M. Miller, 207 Medical Towers, Norfolk, Va.
Filed May 10, 1961, Ser. No. 109,075
1 Claim. (Cl. 128—343)

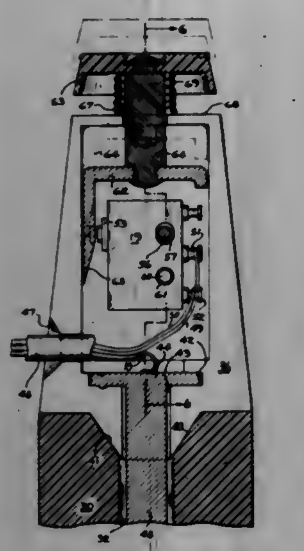


A dilator comprising an elongated rod having a handle portion and a malleable probe portion of substantially constant diameter throughout, said probe portion having an enlarged tip portion at its end opposite the handle portion, and a removable malleable sleeve slidably mounted on said rod, said sleeve having an internal diameter slightly larger than the diameter of the rod but smaller than the tip portion whereby said tip portion forms a stop for said sleeve, said sleeve having an enlarged portion on the end thereof adjacent the enlarged tip portion.

3,196,877

DEFIBRILLATION ELECTRODE DEVICE

Thomas H. Corbin, Palo Alto, Calif., assignor, by mesne assignments, to Corbin-Farnsworth, Inc., Palo Alto, Calif., a corporation of Delaware
Filed Nov. 14, 1962, Ser. No. 237,529
4 Claims. (Cl. 128—406)



1. An electrode assembly for a cardiac resuscitation device adapted to be energized from a source of electric power to produce an electrical shock through the human body to cause defibrillation of the heart muscles, said assembly comprising a circular metal disc forming an electrode plate, an upper layer of non-conductive plastic material forming an insulation disc and overlying and fixed to said electrode plate, an elongated handle of non-conductive plastic material having an outer portion formed to be gripped by the four fingers and palm of one hand, said handle having an interior cavity, said upper layer being removably connected to one end of the handle in fixed axial relation to the outer portion of the handle, a switch rigidly mounted within the cavity of said handle and having a control button extending outwardly from the side of the switch, electrical conduit means adapted to extend from the source of power, and extending through said handle and connected to said electrode plate and to said switch means, a spring-loaded thumb-actuated member on the other end of the handle and movable between advanced and retracted positions axially with respect to the outer grippable portion of the handle, said member including an exposed end surface adapted to be operable by the thumb of a hand gripping the electrode assembly when the handle is gripped and positioned for use, an arm in the handle operatively coupled to the thumb-actuated member and movable therewith axially of the handle, said arm extending axially of the handle and including a contacting face portion spaced from the control button when said thumb-actuated member is in one of said positions and contacting and moving the control button when moving to the other of said positions.

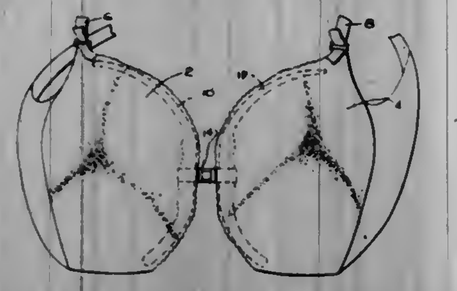
3,196,878

BRASSIERE WITH ADJUSTABLE CONNECTOR

Jon Hedu, 65 Atwood St., Watertown, Conn.
Filed Sept. 28, 1962, Ser. No. 226,828
10 Claims. (Cl. 128—470)

4. A brassiere comprising two breast cups, a torso-encircling band attached to the outer edges of said cups, vertically disposed elongated stay members mounted along the inner edges of said cups, a cup joining member having two interconnected sleeve members, each of said sleeve members encircling and being longitudinally slidable along only one of said stay members, each of said

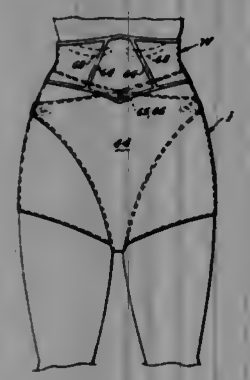
stay members having a series of vertically arranged depressions on one side thereof, said depressions adapted to accommodate said sleeve members, an undulating resilient portion on the opposite side of said stay member, said resilient portion acting to bias said sleeve member into one of said depressions.



3,196,879

PANTY-GIRDLE COMBINATION

Mona H. Leese, 11626 Blix St., North Hollywood, Calif.
Filed Nov. 5, 1962, Ser. No. 235,400
13 Claims. (Cl. 128—528)



1. A panty-girdle garment to be worn by a human being such as a woman or child, preferably of the feminine sex, wherein the garment has a crotch portion and a front and a back to conform to corresponding portions of the human being wearing the garment, including:

a first piece of elastic fabric and a second piece of elastic fabric overlapping the first piece along the crotch portion, the first and second pieces being attached to each other at the crotch portion along a line extending from the front to the back of the garment to form a composite fabric member, said composite member having a generally hourglass configuration in the region of the crotch portion, the hourglass configuration of the composite member being defined by first and second enlargements at opposite ends of the composite member, the first enlargement of the hourglass configuration forming the front of the garment and the second enlargement forming the back of the composite member;

said first piece forming the left side of the back of the garment and the right side of the front of the garment,

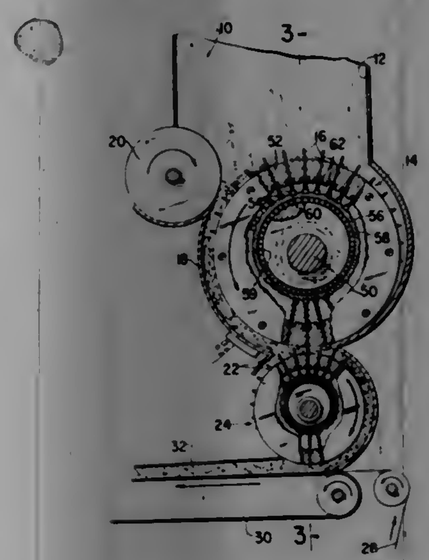
said second piece forming the right side of the back of the garment and the left side of the front of the garment.

3,196,880

CIGARETTE MAKING MACHINE

Jesse R. Pinkham, Richmond, Va., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed Oct. 5, 1961, Ser. No. 143,161
4 Claims. (Cl. 131—84)

2. A tobacco feed mechanism having an input station for feeding a tobacco stream to a cigarette rod former, said mechanism comprising a first and a second tobacco conveying wheel, a first and a second rim on said first and said second wheel, respectively, means for driving said first rim at a faster rate than and in a direction opposite from that of said second rim, means for supplying tobacco to the rim of said first wheel, means defining a distorted S shaped passage for said stream, said means comprising a first and a second concave each having an inner wall spaced from said first and said second rims, respectively, to form a first and a second arcuate passage portion, respectively, said wheels so spaced as to define a transfer space portion of said passage there between, said transfer space portion interconnecting said first and said second portions to form thereby said S shaped passage, a first and a second set of retractable pins on said first and said second wheel, respectively, means responsive to each rotation of said first and said second wheel for cyclically actuating said first and said second pins radially outwardly and inwardly with respect to their respective rims, so that they are progressively projected both substantially beyond and are withdrawn within said rims, means for controlling the cycle of operation of said first set of pins so that they are extended their maximum distance and pass completely through the layer of tobacco being formed on the rim of said first wheel when the first pins are in the region of said input station, and so that said first pins are substantially in their retracted position when in said transfer region, means for controlling the cycle of operation of said second pins so that they are substantially in their fully extended position when in said transfer region, in which region each successively engages the opposed rim of said first wheel, to promote the complete transfer of said stream to said second wheel, and so that said second pins are substantially in their retracted position near the end extremity of said second channel, said first rim, first pins, first concave element, and the effect of said faster rate of motion of said first rim coacting to compress the tobacco stream both radially and in the direction of its motion, said first and said second rims being so spaced in said transfer region as to constrict and thereby compress said stream transversely between them, said second pins operating to maintain the compressed condition of said stream in said second channel.



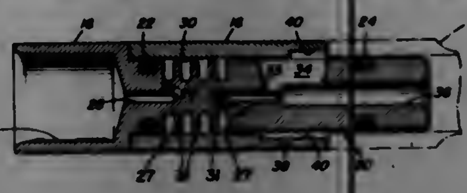
3,196,881

CIGARETTE HOLDER

Harry E. Walters, 2312 Boone St., Baltimore 18, Md.
Continuation of application Ser. No. 217,307, Aug. 16, 1962. This application May 11, 1964, Ser. No. 368,445
3 Claims. (Cl. 131—198)

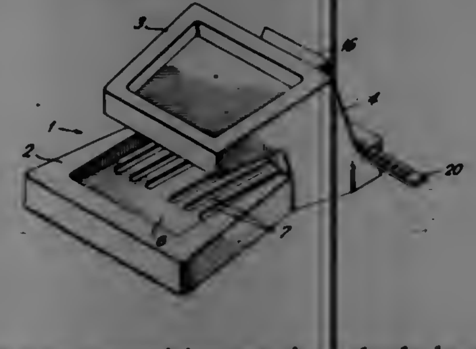
3. In a holder, a mouthpiece, a valve shank, and a valve sleeve all positioned in tandem, said valve shank being formed with a recess at one end for engaging an article to be smoked and a plurality of spaced grooves at its opposite end defining a baffle, said valve shank having a first passage therein for communicating with the first of said spaced grooves and with said recess therein and a second

passage therein communicating with the last of said spaced grooves in said valve shank and with said mouthpiece, said valve sleeve being formed with a counterbored spiral portion in one end thereof and a breather hole communicating said counterbored spiral to the exterior of said valve sleeve, said valve shank having a longitudinal slot



therein extending into said second passage, and means to rotatably engage said valve sleeve over said baffle and said slot, whereby said counterbored portion valves external air from the atmosphere into said second passage to mingle with filtered smoke from said baffle before it enters said mouthpiece.

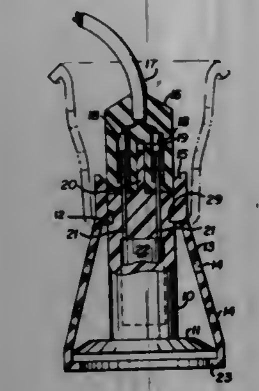
3,196,882
EXTINGUISHING ASH TRAY
Einar S. Brink, 934 Roscoe St., Chicago, Ill.
Filed Mar. 22, 1962, Ser. No. 181,729
3 Claims. (Cl. 131—236)



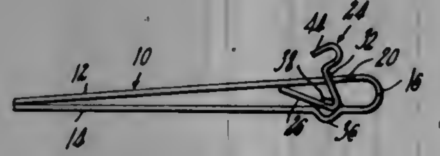
1. An ash tray comprising a unitary body having a relatively long substantially rectangular lower shallow tray portion adapted to contain water, a shorter substantially rectangular upper tray portion adapted to serve as a smoker's ash receptacle, said lower tray portion extending rearwardly beyond the plane of the rear end of the upper tray portion, and relatively narrow upright standards connecting the rear portions only of the sides of the two tray portions and vertically spacing the upper tray portion above the rear and intermediate portions only of the lower tray portion, leaving the forward portions of the lower tray portion uncovered and exposed, and being connected at their rear ends by a rear wall spaced forwardly from the rear end of the lower tray portion, the lower tray portion having its under surface beveled upwardly and forwardly from a transverse line in front of the center of gravity of the body, whereby a quantity of water in the lower tray portion will normally be confined in the rear thereof, beneath the upper tray portion and will be visible in the portion of the lower tray behind said rear wall and will flow forwardly to the uncovered portion of the lower tray when the body is tipped about said transverse line.

3,196,883
HAIR CURLING DEVICE
Joseph R. Zentko, 3407 South Ave., Youngstown, Ohio
Filed Nov. 5, 1962, Ser. No. 235,350
3 Claims. (Cl. 132—33)

1. A hair curling device comprising a cylindrical body member having an annular flange about one end thereof, a heating element embedded in said cylindrical body member and connection pins extending outwardly of the opposite end thereof, a connection plug having sockets therein for registry with said connection pins, and a conical sleeve-like resilient member having a collar at its open upper end positioned about said opposite end of said cylindrical body member with said collar extending beyond the end thereof and engaging said connection plug in moisture-tight sealing relation, an annular rib on the inner surface of said collar engaged in an annular groove on the outer surface of said body member in moisture-tight sealing relation, an annular inturned flange on the other end of said conical sleeve and overlying and engaging said annular flange on said cylindrical body member, said conical resilient sleeve-like member having a plurality of apertures therein.



3,196,884
RESILIENT PIN CURL CLIP WITH A PIVOTED SPREADER
Albert Safianoff, Palos Verdes Estates, Calif., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Nov. 23, 1962, Ser. No. 239,428
11 Claims. (Cl. 132—46)

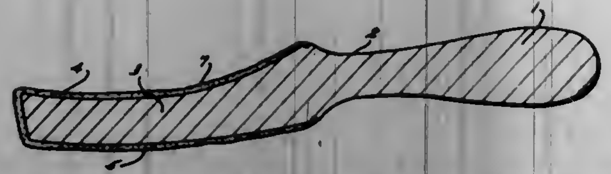


1. A hair fastener comprising a clip member having a pair of resilient legs connected together adjacent one end and extending generally in the same direction and closely opposed to each other adjacent their free ends, said legs being arranged to clamp a tress of hair between them by their inherent resiliency, and means for spreading apart the free ends of said legs comprising a spreader member having a pair of divergent legs connected together at one end to form an apex and means for pivotally securing the apex of said spreader to one of the legs of said clip member spaced from the free end thereof with the free end of one of the legs of the spreader member slidingly engaging the inner face of the other leg of said clip member and the free end of the other leg of the spreader extending outwardly and transversely across said other leg of said clip member in position to be engaged by the fingers of the user to pivot said spreader about its apex and force said legs apart.

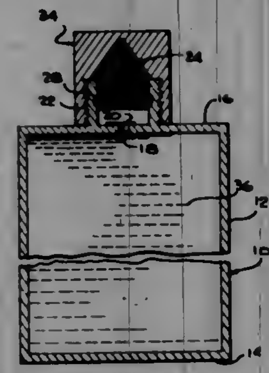
3,196,885
CORN AND CALLOUS FILE
William D. Emerson, Canoga Park, Calif., assignor to The Scholl Mfg. Co., Inc., Chicago, Ill., a corporation of New York
Filed Feb. 16, 1962, Ser. No. 173,632
1 Claim. (Cl. 132—76.4)

A corn and callous file comprising
(a) a handle,
(b) a working element connected to said handle,

(c) a coating of abrasive material of substantially uniform thickness on said working element, and
(d) said element being longitudinally convex and transversely convex at a sharper curvature on one side, and longitudinally concave and transversely straight on the other side, and
(e) said element having a square cut end of the thickness of the element also coated with abrasive.

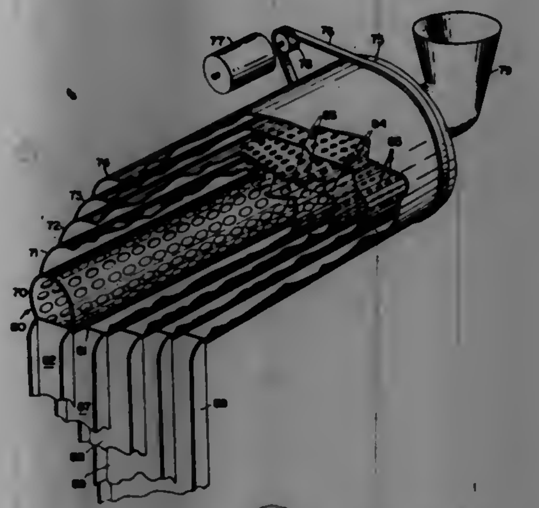


3,196,886
NON-SPILLABLE NAIL POLISH APPLICATOR
David C. Brown, 30 Smith St., Babylon, Suffolk County, N.Y.
Filed July 25, 1962, Ser. No. 212,329
2 Claims. (Cl. 132—79)



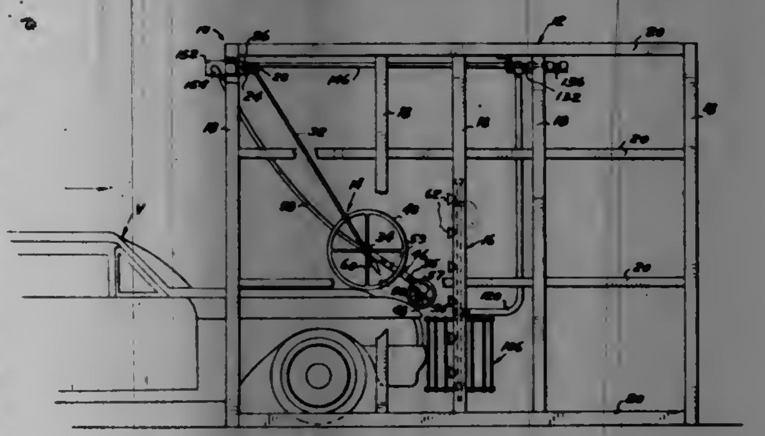
2. A nail polish applicator comprising a container composed of a flexible plastic material, said container including a thin and flexible side wall means and axially spaced end walls integrally secured to opposite ends of said side wall means so as to define a chamber and seal the same, a quantity of liquid fingernail polish in said chamber, a tubular neck integrally secured to one of said side walls so as to project outwardly from said chamber, an applicator brush comprising a plurality of plastic bristles each of substantially circular cross section, said brush having a cylindrical inner portion telescopically and snugly fitting within a cylindrical passage through said neck, an annular band encircling said cylindrical inner portion and compressing said bristles together, an annular recess formed in the inner surface of said neck and containing said band, said recess and band having substantially the same cross sectional size and shape so that substantially the entire outer surface of the cylindrical inner surface of said neck, said one end wall having an aperture therethrough connecting said chamber with the passage through said neck, a flexible flap extending over the axially outer end of said aperture and having an edge portion secured to said one end wall so that said flap functions as a check valve to normally seal said chamber and yet permit flow of the nail polish therefrom, said brush including a conical end projecting axially from said neck, a cylindrical cap threaded onto said neck and having a conical recess receiving said conical end portion of said brush, said conical recess being substantially completely filled with said conical end portion of said brush so that said cap contains a minimum of air, and a silicone compound coating said plastic bristles, flat valve and interior of said cap to prevent adhesion of the nail polish thereto.

3,196,887
COIN SORTER
Roby B. White, Jr., Cumberland, R.I., assignor, by mesne assignments, to Electronic Coil Processing Corp., New York, N.Y., a corporation of Delaware
Original application Mar. 9, 1959, Ser. No. 798,264, now Patent No. 3,147,839. Divided and this application June 10, 1964, Ser. No. 384,275
7 Claims. (Cl. 133—3)



5. In a coin sorting machine, a drum having a cylindrical wall covered with circumferential and longitudinal rows of perforations, said wall being bent along longitudinal lines which intersect the longitudinal rows of perforations, and ribs secured to the inside of the drum and extending circumferentially about the drum immediately adjacent one side of the circumferential rows of perforations.

3,196,888
AUTOMATIC VEHICLE WASHING MACHINE
Leo J. Rousseau, 431 Calvin St., Grosse Pointe Farms, Mich.
Filed May 6, 1963, Ser. No. 278,171
5 Claims. (Cl. 134—45)

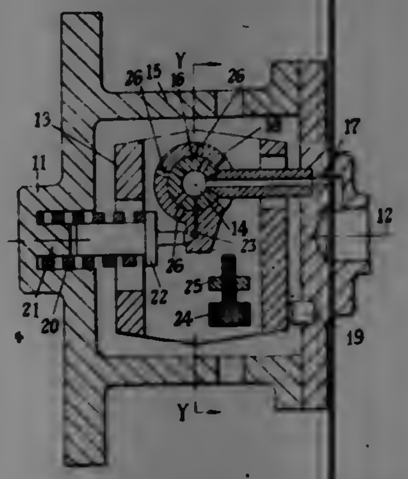


1. An automatic vehicle washing machine comprising
a supporting framework having laterally-spaced side portions providing a vehicle pathway therebetween,
a pair of side-washing nozzle supports movably mounted on said side portions on opposite sides of said pathway for motion toward and away from said pathway,
multiple side-washing nozzles mounted on said side-washing nozzle supports and directed laterally toward said pathway in vertically-spaced relationship,
a top-washing nozzle support movably mounted on said framework above said pathway for up-and-down motion toward and away from said pathway,
multiple top-washing nozzles mounted on said top-washing nozzle support in downwardly-directed laterally-spaced relationship, and means for supplying pressurized hot water to said nozzles,

said side-washing nozzle supports being pivotally mounted on said side portions on vertical pivot axes,
each of said side-washing nozzle supports including a nozzle carrier movably mounted thereon for pivoting relatively thereto,
said side-washing nozzles being mounted on said carriers,
and means for rotating said nozzle carriers relatively to said nozzle supports for directing said nozzles at approximately constant angles of aim relatively to said pathway.

3,196,889
OVERSPEED GOVERNORS

Herbert C. Hims, Northumberland, England, assignor to The Parsons and Marine Engineering Turbine Research and Development Association, Northumberland, England
Filed Apr. 19, 1962, Ser. No. 188,722
Claims priority application Great Britain, Apr. 21, 1961, 14,562
11 Claims. (Cl. 137—[illegible]6)

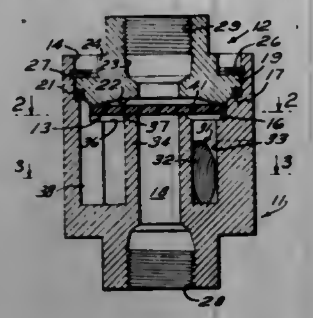


1. A rotary member including an overspeed governor for limiting the maximum rotational speed of said rotary member, said governor comprising a rocking member pivoted to said rotary member for a small rocking movement about an axis spaced from the longitudinal axis of the rotary member in a plane at right angles to the longitudinal axis of said rotary member, the centrifugal forces acting on said rocking member being out of equilibrium about said pivot axis when said rotary member rotates, at least one spring being provided to bias said rocking member against said rocking movement, a pressure fluid duct being provided for connection to a relay, and rotary valve means being defined by a part of said rotary member and a part of said rocking member, said pressure fluid duct having an exit controlled by said rotary valve means, and said exit being closed when said rocking member is in its unrocked position and said exit being open when said rocking member is in its rocked position, whereby, in operation, said relay can be arranged to be actuated by the rocking of said rocking member on said rotary member attaining a rotational speed equal to or greater than said maximum speed.

3,196,890
DOUBLE ACTING CHECK VALVE

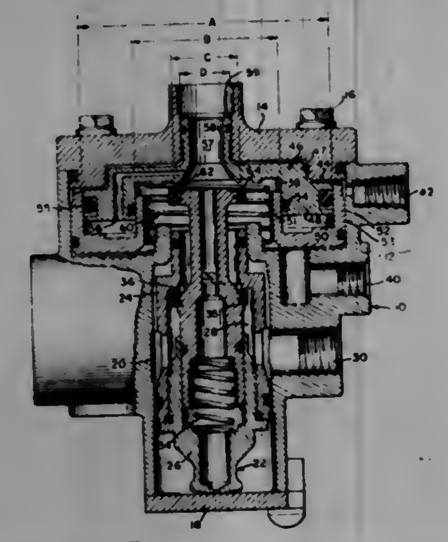
Karl A. Brandenberg, San Leandro, Calif., assignor to Modernair Corporation, San Leandro, Calif., a corporation of California
Filed Nov. 28, 1961, Ser. No. 155,319
7 Claims. (Cl. 137—[illegible]02)

6. A valve comprising a valve element having opposed sides, means defining a first passage terminating in a first valve seat disposed adjacent a first portion of one side of said element and adapted for engagement therewith, means defining a second passage terminating in a second valve seat disposed adjacent a second portion of said one side of said element and adapted for engagement therewith, said second valve seat being spaced axially from said first seat in a direction away from said element, means defining a third passage terminating in a third valve seat disposed adjacent a portion of the opposite side of said element and adapted for engagement therewith, and means defining a path between said second and third passages when said element is engaged with said first and second seats.



3,196,891
STEP-UP RELAY VALVE

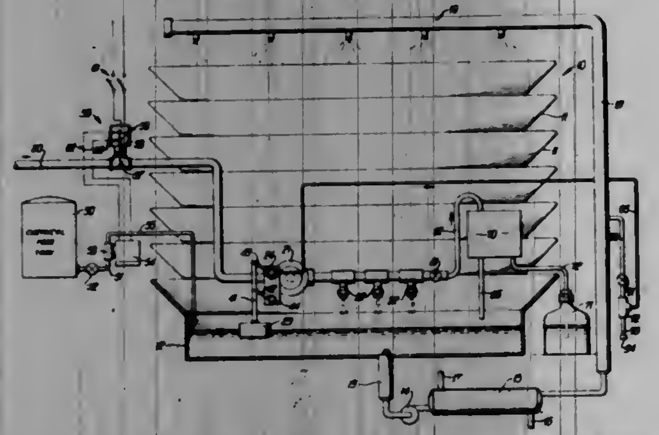
Harry M. Valentine, Elyria, Ohio, assignor to Bendix-Westinghouse Automotive Air Brake Company, Elyria, Ohio, a corporation of Delaware
Filed Jan. 28, 1963, Ser. No. 254,377
3 Claims. (Cl. 137—102)



1. In a relay valve of the step-up type which includes a casing having a pressure supply port, a pressure delivery port, a pressure control port and an exhaust port, delivery and exhaust valves constructed and arranged to control communication between said supply and delivery ports and between the delivery and exhaust ports, respectively, and means for biasing the delivery and exhaust valves toward closed position, the improvement which comprises an annular ratio ring and a cooperating piston, means for biasing said piston in opposition to the control pressure, the delivery and exhaust valves being related with each other and with the piston so that they may either both be closed or alternately open, the exhaust valve being closed and the delivery valve opened by an increase in control pressure acting on one side of the piston sufficient to overcome the effect of both said biasing means and the force of the delivery pressure acting on the reverse side of the piston, said ring and piston coacting to separate the casing into control and delivery chambers respectively communicating with the control port and the delivery port, said ratio ring having inner and outer spaced-apart walls defining an open channel, said outer wall sealingly engaging the wall of the casing surrounding the control chamber and said inner wall having the side thereof opposite said channel exposed to the interior of said delivery chamber, said piston having a depending skirt provided with an annular flange positioned within said channel and slidingly and sealingly engaging confrontng surfaces of said walls whereby the area of the piston exposed to pressure in said delivery chamber is less than the area of the piston exposed to pressure in said control chamber by an amount equal to the annular area of said channel between said walls.

3,196,892
WATER CONDITIONING AND PROPORTIONING SYSTEM

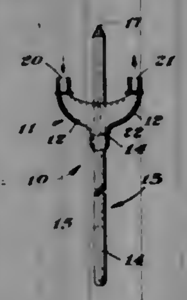
Robert H. Savage, Downey, and Walter M. Kofford, Fullerton, Calif., assignors to Water Chemists, Inc., Los Angeles, Calif., a corporation of California
Filed Dec. 9, 1960, Ser. No. 74,988
14 Claims. (Cl. 137—114)



1. In a water conditioning system: an apparatus for recirculating water; means for feeding make-up water to said apparatus at a substantially constant rate; bleed-off means for removing water from said apparatus; means for feeding a chemical to said apparatus; and means operating simultaneously with flow of water in said make-up water means for operating said bleed-off means and said chemical feeding means to bleed off water at a predetermined ratio to the quantity of make-up water fed to the apparatus and to feed chemical at a predetermined ratio to the quantity of make-up water fed to the apparatus.

3,196,893
AUTOMATICALLY DISCHARGING CONDENSATE TRAP

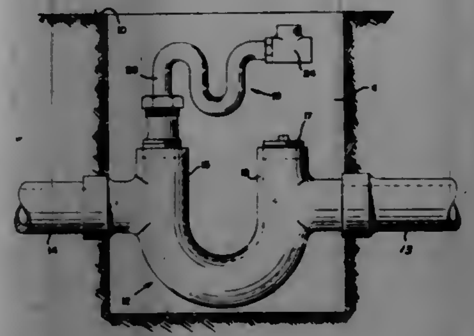
Vernon A. Stenger and Clayton E. Van Hall, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed June 14, 1963, Ser. No. 287,858
2 Claims. (Cl. 137—204)



1. An apparatus for separating liquid condensate from a gas train comprising an enclosed vessel with upper and lower portions. the latter being termed a trap hereinafter. the upper portion having at least one inlet and at least one outlet for gaseous fluid flow, the trap having a designed liquid level and communicating with a capillary passage in a discharge conduit, said conduit extending from the trap and terminating at its discharge end at an operating elevation above the designed liquid level of the trap, said operating elevation corresponding to the sum of (1) the height to which the liquid condensate rises in the capillary passage and (2) the static condensate head which equals the pressure within the gas train.

3,196,894
SANITARY ATTACHMENTS FOR SEWER DRAIN TRAPS

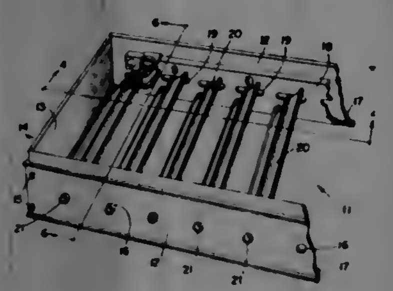
Louis M. Bodi, 53 Dale Ave., Staten Island 6, N.Y.
Filed May 29, 1963, Ser. No. 284,169
3 Claims. (Cl. 137—247.27)



1. In combination with a sewer drain trap mounted in a pit sunk in the floor of a cellar, the trap having at least one vertical clean-out extension rising therefrom to a level substantially below said floor, an attachment wholly positioned below said floor consisting of a length of pipe having a U-shaped bend approximately intermediate its length and having one end thereof positioned above and in alignment with said extension, means for connecting said one end of the pipe to the upper end of said extension, the other end of said pipe having a housing thereon provided with a passage therethrough, one end of said passage communicating with said pipe, and a normally closed check valve positioned in said passage, said U-shaped bend providing a water seal.

3,196,895
AIR CONDITIONING DAMPER

Lloyd G. Dayus, 7 Hunthill Court, Islington, Ontario, Canada
Filed Nov. 29, 1962, Ser. No. 240,900
Claims priority, application Canada, Jan. 11, 1962, 839,731
3 Claims. (Cl. 137—270)



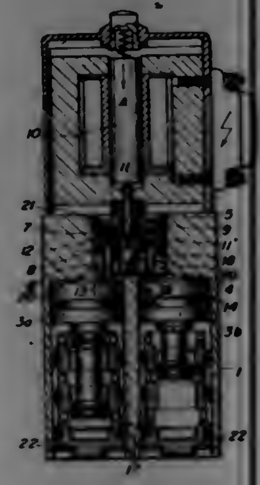
1. In an air flow controller having a plurality of articulated damper vanes parallely positioned and rotatably supported within a frame at a predetermined distance from each other and where simultaneous movement of said damper vanes occludes the opening of said frame the combination of:
four side members forming said frame, opposite members being identical;
an operating member supported within said frame adjacent one said side members for reciprocal movement therealong, said operating member being positioned normal to said axes of rotation and adjacent said common ends of said damper vanes and having clearance slots therein through which said damper vanes are rotatably supported by said one side member;
crank bearings in said operating member, at least some of said crank bearings arranged alternately in pairs, one each said bearing of said pairs disposed to either side of said clearance slots, the spacing of said

pairs being substantially equal to said predetermined distance;

crank arms formed on said damper vanes at common ends thereof and positioned eccentric to the axis of rotation thereof, said crank arms adapted to be movably secured in said bearings positioned to one side of said axes of rotation and, alternatively, in said bearings to either side of said axes of rotation, in an alternative manner whereby reciprocal movement of said operating member will rotate said damper vanes to progressively open and close said air flow controller.

3,196,896
CONTROL-VALVE ASSEMBLY

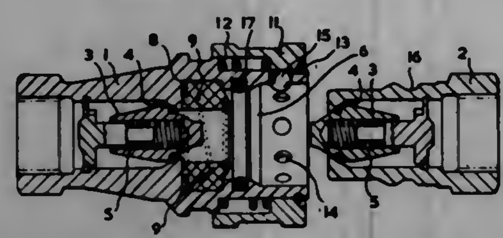
Bernhard Leutenegger, Allschwiler Strasse 18, Munchenstein, Switzerland
Filed Aug. 10, 1962, Ser. No. 216,217
Claims priority, application Switzerland, Aug. 11, 1961, 9,484/61
2 Claims. (Cl. 137—2[illegible]1)



1. A control-valve assembly comprising a housing formed with at least two cylindrical bores; at least two generally cylindical integral sleeves respectively received in said bores and forming therewith a respective annular fluid passage surrounding said sleeves, said housing being provided with fluid ports communicating with said passages respectively; a pair of reciprocable valve members slidable respectively within said sleeves, said valve members each being provided with at least one annular groove receiving a respective first sealing ring surrounding the valve member and projecting outwardly therebeyond, each of said sleeves having at least two oppositely converging frustoconical annular sealing surfaces engageable with the respective first rings in extreme axial positions of the corresponding valve member for con trolling the flow of fluid between the passages of the respective sleeve, each of said sleeves being formed with at least one opening axially adjacent a respective sealing surface and communicating between the interior of each sleeve and the respective passage, said sleeves and valve members being interchangeably disposed in said bores, each of said sleeves being provided with a pair of outwardly open axially spaced circumferential channels flanking the respective opening; and a further sealing ring in each of said channels bearing upon the wall of the respective bore for defining said passages, said sleeves being of axially stepped internal diameters, each having a relatively large internal diameter in the region of the respective openings and a relatively small internal diameter in respective regions separated from said openings by said frustoconical sealing surfaces, said first rings having an external diameter greater than said relatively small internal diameter.

3,196,897
PIPE COUPLING WITH COMPRESSIBLE PACKING

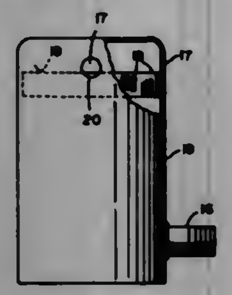
Frederick Hodson, Douglas, Isle of Man, England, assignor, by mesne assignments, to Mannin Engineering Limited, Douglas, Isle of Man, England, a company
Filed Oct. 15, 1962, Ser. No. 230,618
Claims priority, application Great Britain, Nov. 2, 1961, 39,210/61
4 Claims. (Cl. 137—312)



1. A self-sealing pipe coupling comprising a socket terminal and a complemental spigot terminal each formed with a valve seat, a valve in each terminal resiliently urged towards its seat, and seating thereon when the terminals are not coupled together, to prevent loss of fluid, and being relatively of such length as to mutually engage and be forced off their respective seats when the terminals are coupled together, and a member of resilient fluid-absorbing material carried by the socket terminal intermediate the two valve seats, said member being of a thickness to be compressed between the terminals when they are coupled together, and to expand into the space between the valves as the terminals are being separated, prior to seating of the valves, and to complete its expansion after the valves have seated to absorb any fluid which may have escaped past the valve seats as the valves approach their seats.

3,196,898
LOW PRESSURE STEAM RADIATOR AIR VENT VALVES

Otto C. Semonsen, 71 Superior Road, Bellerose 26, N.Y.
Filed Sept. 26, 1962, Ser. No. 226,430
9 Claims. (Cl. 137—314)



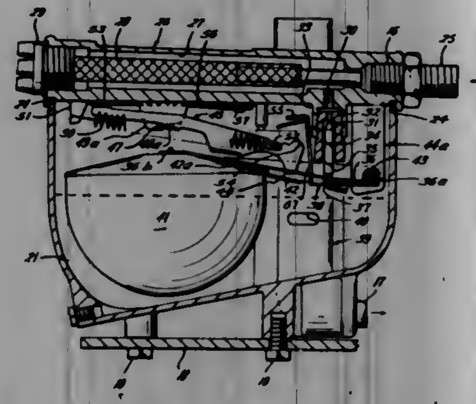
1. A radiator valve including a shell, a nipple for connecting the valve to a radiator, an air escape orifice through which air may escape from the shell, and a wick for extracting condensate from said air escape orifice, a portion of said wick being positioned within the circumference of said air escape orifice, the area of said portion being less than the area of said air escape orifice thereby leaving a portion of the air escape orifice unobstructed by said wick, said unobstructed portion providing for free movement of air out of said valve.

3,196,899
FEED CONTROL DEVICES

Willi Lattemann, Darmstadt, Germany, assignor to Mission Manufacturing Company, Houston, Tex., a corporation of Texas
Filed Jan. 19, 1962, Ser. No. 167,309
8 Claims. (Cl. 137—389)

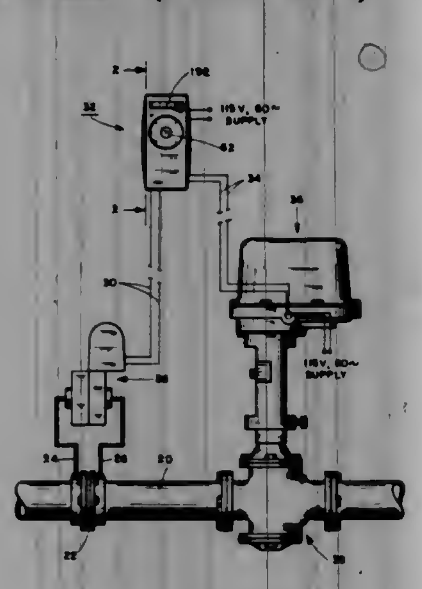
1. A feed control device comprising,
a housing having a chamber therein,
an inlet passage having communication with said chamber for supplying liquid to said chamber,

an inlet valve coacting with said inlet passage for controlling flow through said inlet passage,
an outlet passage having communication with said chamber for conveying liquid from said chamber,
an outlet valve coacting with said outlet passage for controlling flow through such passage,
outlet valve closing means for closing said outlet valve to stop flow through said outlet passage,
operating means for closing said inlet valve to stop flow through said inlet passage,
float means having operative connection with said operating means for actuating such means to close said inlet valve in response to the liquid level within said chamber,
temperature responsive means having operative connection with said operating means for actuating said means to close said inlet valve in response to temperature conditions,
and a second operating means coacting with said inlet valve and said outlet valve closing means for closing said inlet valve substantially simultaneously as said outlet valve is closed by said outlet valve closing means.



3,196,900
ELECTRONIC CONTROL APPARATUS

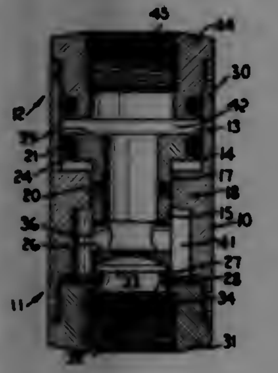
Allan R. Catheron, Concord, Leon G. S. Wood, Wollaston, and Wilfred H. Howe, Sharon, Mass., assignors to The Foxboro Company, Foxboro, Mass.
Filed Apr. 26, 1961, Ser. No. 105,751
16 Claims. (Cl. 137—487.5)



16. Process control apparatus comprising, in combination, means for developing a measurement signal representing the actual value of the controlled process condition with a rapidly fluctuating signal superimposed thereon, an instrumentality responsive to said measurement signal and including means for production and output signal corresponding to the average duration of time that the value of said measurement signal deviates beyond a selected value, means responsive to said rapidly fluctuating signal for adjusting said selected value in accordance with changes in the amplitude of said fluctuating signal, and means responsive to said output signal for effecting changes in said process condition.

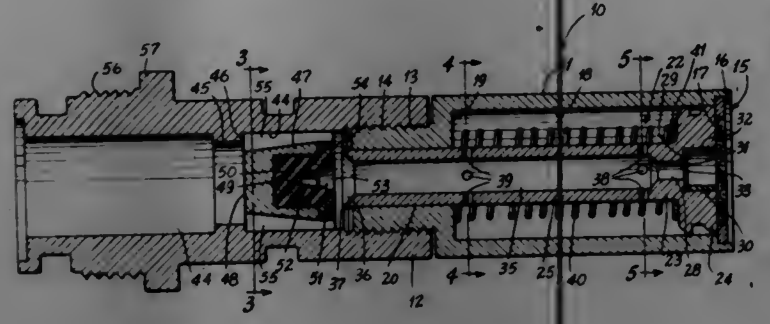
3,196,901
RATIO PRESSURE REDUCING VALVE

Malcolm T. Phillipps, Hilton, South Australia, Australia, assignor to Philmac Limited, Hilton, South Australia, Australia
Filed Sept. 14, 1962, Ser. No. 223,656
Claims priority, application Australia, Sept. 18, 1961, 9,268/61
2 Claims. (Cl. 137—494)



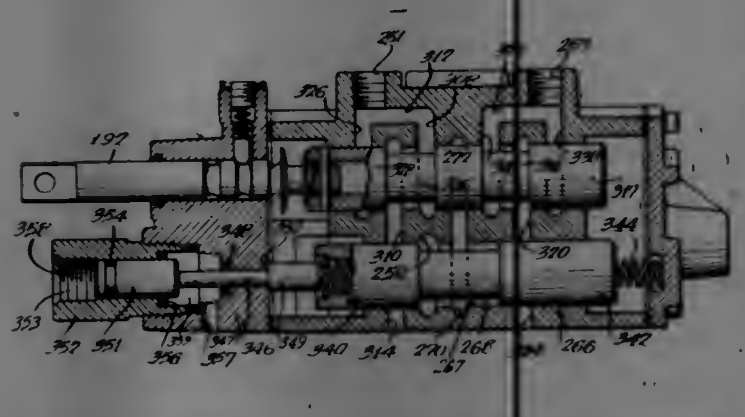
1. A ratio pressure reducing valve comprising a hollow cylindrical valve body having opposite ends, said body having an inlet means and an outlet means at said opposite ends, said inlet means and outlet means being coaxial, said body having an inner annular surface intermediate said ends of reduced diameter and a larger diameter inner annular surface at the outlet end, an annular valve seat at the inlet end encircling the inlet means in proximate relation, a valve member slidably arranged in said hollow body, said valve member including a larger diameter piston slidably and sealably engaged with the inner annular surface at the outlet end, and a smaller diameter piston slidably and sealably engaged with the inner annular surface which is intermediate said ends, said valve member defining with said valve body a low pressure space adjacent the end of the larger diameter piston and a pressure release space adjacent the valve seat, said valve member having an axial passage which opens at one end into the low pressure space and a transverse opening in said smaller diameter piston in communication with said axial passage and opening into the pressure release space, said smaller diameter piston having a closed end facing said inlet means in coaxial relation and an axially depending annular rim on the closed end of the piston extending towards the annular valve seat to selectively contact the same and close communication between the inlet means and the pressure release space, whereby upon axial movement of the valve member the valve will be selectively opened and closed, said inlet means having an aperture with a diameter only slightly less than the diameter of the smaller diameter piston and adapted for supplying fluid at a substantially constant pressure for open and closed positions of the valve, said rim being relatively narrow and being peripherally on the closed end of the piston to thereby have a diameter only slightly greater than the diameter of the aperture of the inlet means such that the effective thrust on the end of the smaller diameter piston due to pressure fluid acting thereon is only slightly increased when the rim moves out of contact with the valve seat and the valve is open.

3,196,902
FLOW CONTROL DEVICE
Charles C. Richmond, St. Louis, Mo., assignor to Multiplex Company, St. Louis, Mo., a corporation of Missouri
Filed Sept. 27, 1962, Ser. No. 22[illegible],560
5 Claims. (Cl. 137—504)



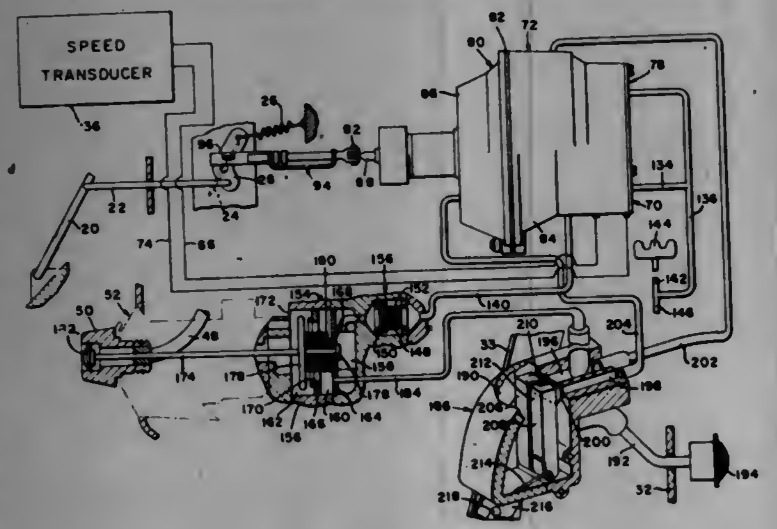
1. A flow control device for regulating the flow of a liquid of variable viscosity and variable pressure comprising a housing having an inlet, an outlet, and a fluid chamber therebetween, a valve opening defined by a valve seat between the fluid chamber and the outlet, a slide movable toward and away from the valve seat to throttle the flow of liquid from the chamber to the outlet, means for biasing the slide member away from the valve seat, a passage through the slide member having an inlet end for receiving liquid introduced into the control, the end of the slide adjacent the valve seat being formed with an annular knife edge surrounding the passage, and means in the passage adjacent the inlet including an individual thin plate having an orifice through it for restricting the flow of liquid introduced into the inlet, means to position the thin plate within the passage, the wall defining the orifice being less than a few thousandths inch thick, the combination providing a substantially constant rate of fluid flow regardless of changes in viscosity and pressure of the fluid.

3,196,903
FLUID PRESSURE OPERATED SPOOL VALVE
Malvern S. Baker, Fort Wayne, Ind., assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin
Original application Feb. 27, 1958, Ser. No. 718,075, now Patent No. 3,017,941, dated Jan. 23, 1962. Divided and this application Jan. 22, 1962, Ser. No. 173,606
1 Claim. (Cl. 137—625.[illegible]8)



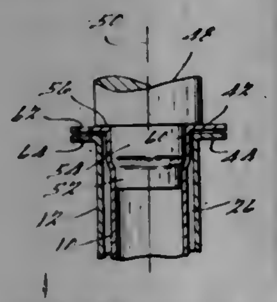
In a fluid pressure operated unit of the type including a fluid control valve assembly comprising a housing including an intake port and a plurality of discharge ports, a plurality of passages affording fluid communication between said intake port and each of said discharge ports, means defining a cylindrical valve chamber in said housing intersecting said passages, a cylindrical control valve axially slidably disposed within said chamber and including means for controlling the flow of fluid through related ones of said passages and biasing means in said chamber disposed to urge said control valve toward a predetermined position with respect to said passages, the combination of means for effecting axial movement of said control valve in opposition to said biasing means comprising a push rod slidably disposed in a wall of said housing, said rod having an enlarged inner end, said enlarged end portion of said push rod providing a shoulder for engagement with the wall of said housing to limit the movement of said push rod in one direction, and means comprising a brake fluid actuated cylinder having means to supply brake fluid thereto, externally of said housing operable to effect axial inward movement of said push rod.

3,196,904
FLUID PRESSURE SYSTEM AND VALVE CONTROL ASSEMBLY THEREFOR
Robert C. Schnlers, Flint, Mich., assignor to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed July 23, 1962, Ser. No. 211,490
13 Claims. (Cl. 137—628)



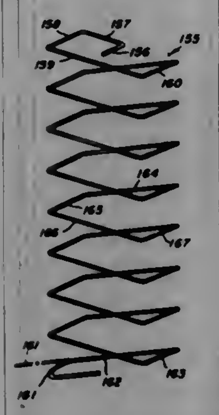
1. A fluid pressure system having a fluid pressure circuit including; a fluid pressure source; a control valve; a servo interconnected in series with said source and said control valve; and a valve assembly having a first section in fluid connection in said circuit intermediate said control valve and said servo, a second section in selective fluid connection with said first section and fluid connected with said servo, exhaust vent means, and valve means for selectively fluid connecting and disconnecting said first section and said second section to said exhaust vent means.

3,196,905
EXHAUST SYSTEM
Bert Atley Hills, Jackson, Mich., assignor to Walker Manufacturing Company, a corporation of Delaware
Filed Nov. 6, 1962, Ser. No. 235,715
6 Claims. (Cl. 138—148)



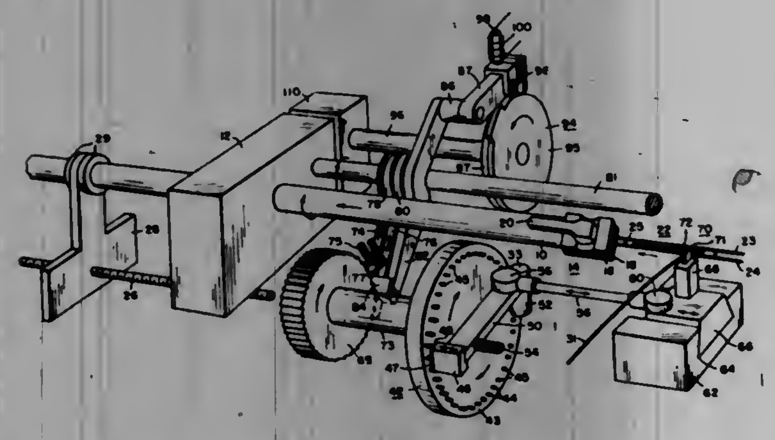
1. A laminated pipe assembly for automobile exhaust systems subject to high temperature conditions and having oil films thereon susceptible to vaporization at the high temperature conditions to form gases, said pipe assembly being formed from telescoped pipe members and having common flange means formed at one end, said flange means being formed by radially extending portions of each pipe lying substantially back-to-back in closely spaced relationship, and breathing passage means extending from the interiorly located space between said telescoped pipe members around the bend forming said flange means and radially outwardly to the atmosphere.

3,196,906
APPARATUS FOR MAKING SPRINGS
Curt H. K. Sjobohm and Frank W. Zukowski, Worcester, Mass., assignors to United States Steel Corporation, a corporation of New Jersey
Filed Oct. 19, 1961, Ser. No. 146,185
6 Claims. (Cl. 140—71)



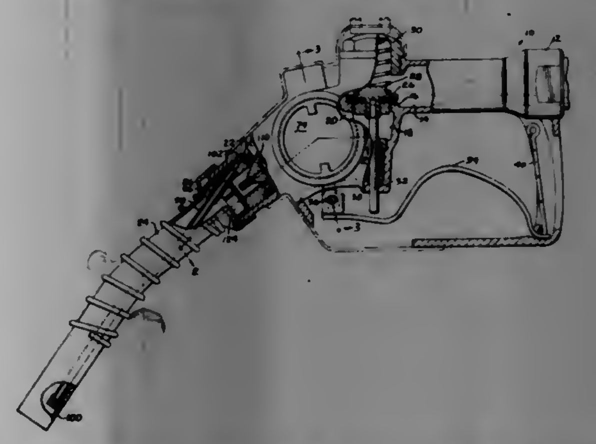
1. Apparatus for making springs having intermediate generally rectangular convolutions and a first end having a shape other than said rectangular convolutions connected to the first of said rectangular convolutions, which apparatus comprises an arbor having means for receiving a length of spring wire, means for oscillating said arbor, about a stationary axis, means for feeding said wire to said arbor in timed relationship with the oscillations of said arbor, said feeding means including jaws movable with respect to one another for gripping said wires and a slide carrying said jaws for movement toward and away from said arbor, means operable in timed relationship with the oscillations of said arbor for automatically varying the distance said slide can move away from said arbor whereby the length of wire fed is varied to vary the length of a formed leg of the spring, means for opening and closing said jaws in timed relationship with the oscillations of said arbor, and means actuated in timed relationship with the oscillations of said arbor for giving a pitch to at least some of the sides of said intermediate convolutions.

3,196,907
GRID WINDING MACHINE
Douglas G. Nolles, Bath, and Donald A. Boylan, Erwin Township, Steuben County, N.Y., assignors to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 23, 1962, Ser. No. 197,031
12 Claims. (Cl. 140—71.5)



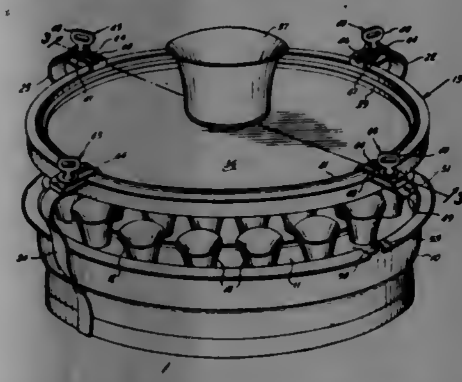
1. A grid winding machine of the lathe type in which grid wire is wound about spaced support rods comprising means for rotating said support rods, means for advancing said support rods in the direction of their rotational axis at a uniform rate, guide means for directing said grid wire onto said rotating support rods, said guide means displaceable in a direction substantially parallel to the direction of advancement of said support rods, and means responsive to the motion of said support rods for moving said guide means.

3,196,908
NOZZLE WITH VACUUM OPERATED VALVE TRIPPING MEANS
Donald L. Billian, Dayton, Ohio, assignor, by mesne assignments, to Emco Wheaton, Inc., Dayton, Ohio
Filed Mar. 11, 1963, Ser. No. 264,179
10 Claims. (Cl. 141—209)



1. In an automatic nozzle; a body having a flow passage therethrough, a main valve member in the flow passage, means for latching the valve member in open position including suction operated tripping means for tripping the valve member closed upon the development of a predetermined degree of suction in the tripping means, a venturi in the flow passage downstream of the valve member, said venturi having a throat wherein suction is established by fluid flow through said passage, a channel leading from the venturi throat to said tripping means, a restrictor plug on the upstream side of said venturi separate from said valve member and extending into said venturi, said plug tapering inwardly in the downstream direction, and means resiliently biasing said plug in the downstream direction.

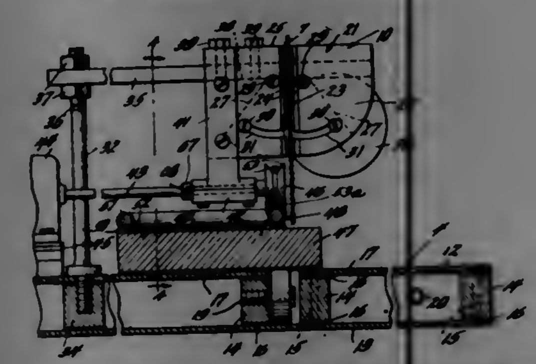
3,196,909
COMMUNION GLASS FILLER
Ellis E. Monk, 2540 E. University, Des Moines, Iowa
Filed Mar. 21, 1963, Ser. No. 267,029
6 Claims. (Cl. 141—237)



6. In an apparatus for distributing liquid to a plurality of liquid receptacles positioned on a tray,
(a) a liquid distributing pan having an upwardly extended peripheral side wall and a bottom wall, said bottom wall having at least one circular groove and at least one radial groove opening into the circular groove whereby liquid flows from the radial groove to the circular groove, said circular groove having at least one downwardly extended concave pocket having a hole in the bottom thereof, and

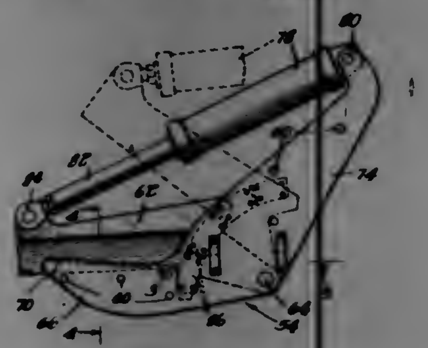
(b) cover means within said pan in engagement with said bottom wall for confining the liquid to said radial and concentric grooves, said cover means having a hole above the radial groove in the bottom wall of said pan thereby enabling liquid to be placed in said pan.

3,196,910
WORK FEED FOR SAWS
Havilah S. Hawkins, Sedgwick, Maine
Filed Mar. 30, 1962, Ser. No. 183,829
8 Claims. (Cl. 143—26)



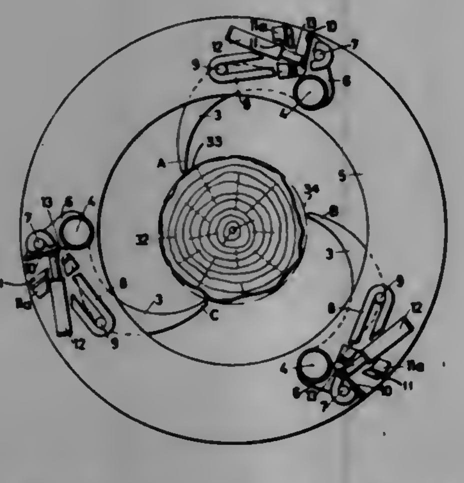
1. In combination, a saw machine including a work supporting table having a saw blade receiving opening therein and means for driving a saw blade downwardly through said opening, a work-unit driving and guiding roller carried by the machine for rotation about an axis passing through the cutting edge of the saw above and generally parallel to the plane of the work supporting table and substantially perpendicular to the plane of the saw, the periphery of said roller having a circumferential groove generally concave in cross section and disposed in a plane substantially parallel to the plane of the saw, and a work unit including a workpiece and a pattern piece secured to the upper surface thereof, said work unit being slidably supported upon the work table, said pattern piece including an upwardly directed contoured peripheral rib member having a free upper edge portion received within the groove in said roller and positioned to be operatively engaged by said grooved roller, said rib member having a cross sectional configuration defining plural roller engaging areas lying respectively on opposite sides of a vertical plane passing centrally through said rib perpendicular to the axis of the roller whereby to shift the work unit on the work table about an axis parallel to the cutting edge of the saw.

3,196,911
SHEARING HEAD
Thomas N. Busch, Daphne, Ala., and David W. Jasper, Chicago, and Benjamin E. Jasper, Kankakee, Ill., assignors to Timberline Equipment Company, Bradley, Ill., a corporation of Illinois
Filed Aug. 6, 1962, Ser. No. 215,056
2 Claims. (Cl. 144—34)



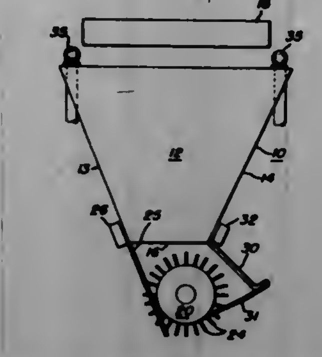
1. In a tree harvesting apparatus including a vehicle,
a shearing head supported on said vehicle comprising,
  a first jaw provided by a pair of plates,
  bearing block means supported at an intermediate position on each of the confronting surfaces of said plates.
  a second jaw pivoted to said first jaw on one side of said bearing block means and movable between and supported by said bearing block means,
  a cutting blade on said second jaw on the other side of said bearing block means and pivotable between a position removed from and a position between said plates on the other side of said bearing block means,
  a plurality of spacers positioned between said plates on said other side of said bearing block means and spaced from each other and from the edge of said plates confronting said cutting blade and providing unobstructed passageways between said plates to permit scrap material from a cut to pass between said plates,
  and fluid operated cylinder and piston means extending between and pivotally connected to said first jaw and to said cutting blade portion of said second jaw for actuating said jaws.

3,196,912
CONTROLLING MECHANISMS FOR THE TOOLS IN A LOG DEBARKING MACHINE
Per Gunnar Brundell, Tolffors, Gavle, and Karl-Erik Arnold Jonsson, Gavle, Sweden, assignors to Soderhamns Verkstäder AB, Soderhamn, Sweden, a corporation of Sweden
Filed Apr. 23, 1962, Ser. No. 189,467
Claims priority, application Sweden, May 10, 1961, 4,941/61
3 Claims. (Cl. 144—208)



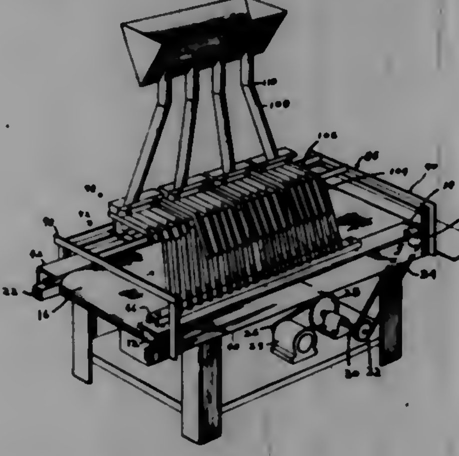
1. A debarking machine of the hollow-head type including a stator, a rotor journalled in the stator having a central opening through which logs to be debarked are passed, a plurality of shafts journalled axially in said rotor, a bark-removing tool carried by the rotor and mounted for movement toward and away from the axis of the opening, a crank fixed to each shaft, fixed members on the rotor respectively spaced from each crank in the direction of movement thereof, resilient means connected between each crank and associated fixed member to cause the associated tool to swing inwardly to resiliently engage the surface of a log fed through the rotor, hydraulic pressure operated cylinders mounted on the rotor and a movable piston in each cylinder adapted, when moved, to engage one crank in opposition to the action of said resilient means, a hydraulic pressure accumulator, a supply conduit from the accumulator to the cylinder including a normally-closed solenoid operated valve and a non-return valve opening towards the cylinder, a return conduit from the cylinder to the accumulator including a normally-open solenoid operated valve and a non-return valve opening towards the accumulator and a stationary switch connected in the circuit with the solenoids and adapted, when operated, to reverse said solenoid valves, whereby the pistons of the cylinders are operated to serve as blocking members.

3,196,913
MACHINE FOR PIERCING RAW POTATO CHIPS
Bernhardt Stahmer, 1509 Chicago St., Omaha, Nebr.
Filed Sept. 25, 1962, Ser. No. 226,071
4 Claims. (Cl. 146—1)



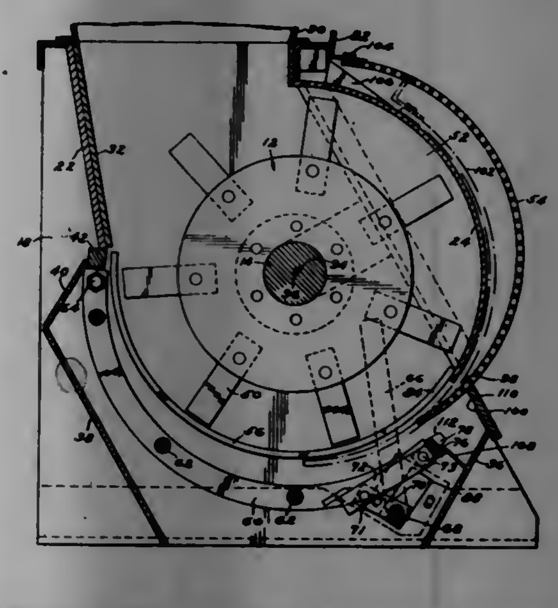
1. A machine for piercing raw potato chips from one side of the chip towards the other side thereof comprising, a hopper to receive sliced raw potato chips, said hopper having an exit opening and vertically extending sides converging towards said exit opening, a rotating shaft mounted under said exit opening, said shaft having a plurality of punching means spaced apart both in a circumferential direction and in an axial direction to form circumferential rows with axial intervals therebetween, said punching means projecting outwardly from said shaft, support surface means comprising a support plate having a plurality of support fingers with slots therebetween, said support fingers respectively fitting in said axial intervals between said rows of said punching means, said punching means piercing said raw chips supported on said support fingers and projecting into said slots, scraper means to remove the pierced raw potato chips from said punching means, and water supply means to wash the sliced raw potato chips down the inside of the hopper to the rotating shaft and the punching means.

3,196,914
APPARATUS FOR BLANCHING NUTS
James W. Gardner, Tyrone, Pa., assignor to Seabrook Blanching Corporation, Edenton, N.C., a corporation of North Carolina
Filed Aug. 6, 1962, Ser. No. 215,005
3 Claims. (Cl. 146—32)



1. Apparatus for blanching peanuts and the like comprising an endless belt conveyor having a substantially flat horizontal upper surface, means for driving the conveyor in a direction moving its upper surface forwardly, a plurality of relatively long and substantially straight abutments all disposed in parallel spaced relation adjacent to and inclined transversely across and above the upper surface of the conveyor with one end of each abutment terminating within the path of the conveyor and forwardly of the other end, said conveyor in cooperation with said abutments being adapted to remove the skins from said nuts by carrying nuts forwardly to engage and roll along the abutments and around said one end thereof, said abutments being mounted for simultaneously angular adjustment about an axis normal to the plane of the upper surface of the conveyor for increasing or decreasing the angle at which said nuts are moved along said abutment toward one end and means for dispensing a separate stream of peanuts rearwardly of each of said abutments.

3,196,915
HAMMER MILL HAVING A RIGID, REMOVABLE ECCENTRICALLY DISPOSED SCREEN
James G. Bryant, % Bryant Engineering Company, 1504 10th Ave., Port Huron, Mich.
Filed Oct. 29, 1962, Ser. No. 233,634
12 Claims. (Cl. 146—79)

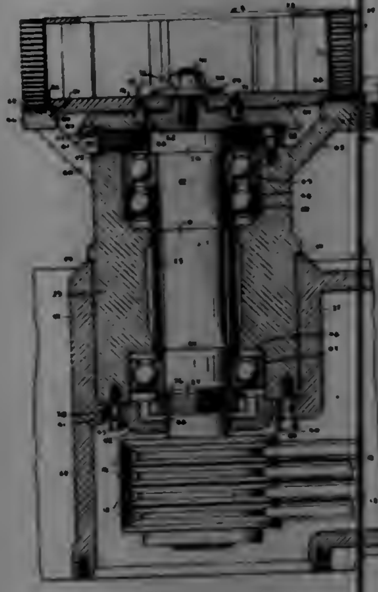


1. A hammer mill comprising a housing having a hammer mill rotor journalled for rotation therein on a horizontal axis, said housing being divided generally into three portions around the periphery of said rotor, namely, an inlet portion through which the material to be processed is directed to the rotor, an outlet portion through which the process material is discharged and a peripherally closed portion, said peripherally closed portion comprising a generally cylindrical cover portion extending around and closely adjacent the outer periphery of the rotor, a generally rigid cylindrically shaped screen covering said outlet portion, said screen at one end being circumferentially contiguous to one end of said cover portion of the housing and having a radius slightly greater than the radius of said cylindrical cover portion, said screen extending across said outlet opening closely adjacent the periphery of the rotor and being eccentric with respect to the axis of rotation of the rotor when in operative position, said housing having a narrow, horizontally extending opening therein adjacent the circumferentially contiguous ends of said screen and said cover portion, said screen having a handle portion projecting through said opening and the opening enabling the screen to be withdrawn therethrough in an arcuate path overlying the outer arcuate surface of the cylindrical portion of the housing and having a width only substantially sufficient to permit such withdrawal of the screen.

3,196,916
COMMINUTING MACHINE
Joe R. Urschel, 202 Michigan Ave., Valparaiso, Ind.
Filed Aug. 4, 1961, Ser. No. 129,442
27 Claims. (Cl. 146—165)

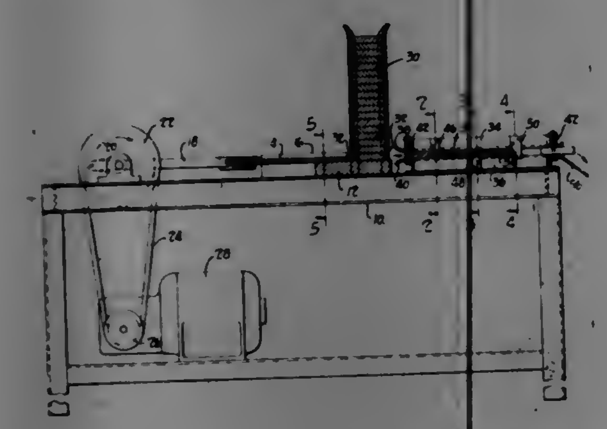
1. An assembly constituting a component of a machine adapted for reducing the size of a product, said assembly comprising a tubular cylindrical wall structure, said wall

structure comprising superimposed engaged layers of circumferentially spaced segments which are overlapped so that certain portions thereof define sides of openings extending generally tangentially through said structure in the direction that a reduced product is adapted to flow and other portions between said certain portions define axially spaced ends of said openings, the arrangement being such that said segments serve to reduce the size of a product when forcibly directed thereagainst.



3,196,917
FROZEN-FOOD CUTTER

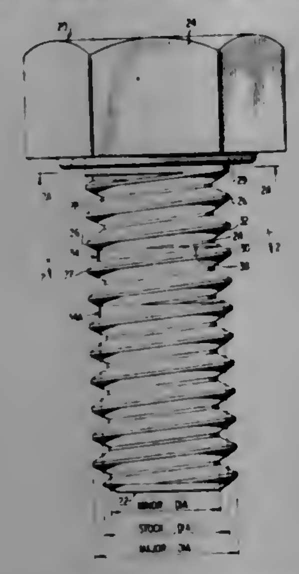
Charles J. Frank, Walton Hills, Ohio, assignor to Dolphin Seafoods, Inc., Cleveland, Ohio, a corporation of Ohio
Filed May 16, 1963, Ser. No. 280,960
3 Claims. (Cl. 146—169)



1. An apparatus for cutting frozen slabs of fish into portion size pieces comprising a pair of knife holders adjustably spaced for receiving said slabs of fish therebetween, a plurality of knives carried by the holders, one of said holders carrying a knife projecting into the space between the holders approximately one-third of the distance therebetween, a second knife carried by the other holder, said second knife being laterally disposed relative to the first knife and projecting into the space between the two holders approximately one-third of the distance therebetween, a third knife carried by said one holder having a length sufficient to span the space between the two holders and being disposed to pass through the kerf made by the said two knives and to finish cut the uncut part of the slab remaining between the two kerfs, thus separating the slab into pieces, and power actuated pusher means for urging the slab of fish against said knives and beyond said third knife.

3,196,918
SELF-LOCKING THREADED FASTENER

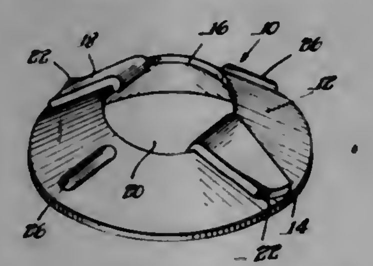
Lynn F. Hampton, Columbus, Ohio, assignor to Columbus Bolt & Forging Company, a division of Colorado Oil and Gas Corporation, Denver, Colo., a corporation of Delaware
Filed July 16, 1964, Ser. No. 383,114
4 Claims. (Cl. 151—22)



1. A self-locking threaded fastener comprising: a plurality of thread convolutions forming longitudinally spaced crest portions and root portions; a protruding portion between two adjacent thread crest portions and extending circumferentially along an intermediate root portion, said protruding portion including a first arcuate portion extending from only one of two confronting sides of two adjacent thread crest portions, a second arcuate portion extending from flank to flank of adjacent threads intermediate the root and crest thereof, and a third arcuate portion extending from only the other of said confronting sides of said two adjacent thread crest portions; said first arcuate portion extending from one end of the second arcuate portion and the third arcuate portion extending from the other end of said second arcuate portion; said protruding portion having a substantially uniform maximum radial extent; said first, second and third arcuate portions together extending circumferentially at least in the order of 90 degrees; said first and third arcuate portions each having a radially extending surface facing the confronting thread flank which surface extends transverse to the axis of the fastener.

3,196,919
LOCKWASHER

Ougljesa Jules Poupitch, Itasca, Ill., assignor to Illinois Tool Works Inc., Chicago, Ill., a corporation of Delaware
Filed Feb. 11, 1963, Ser. No. 257,551
3 Claims. (Cl. 151—38)

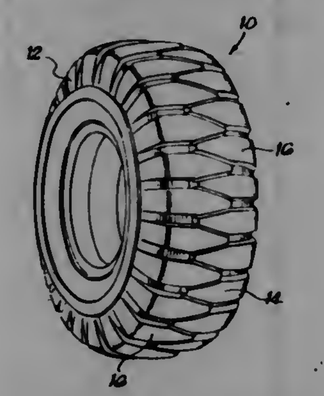


1. A sheet metal lockwasher adapted to be utilized with the shank of a fastener, said lockwasher including an annular body portion of frusto-conical shape, a central opening in the body portion having a diameter substantially equal to that of the fastener shank with which the washer is adapted to be used, prongs formed integral with and extending from the margin of said body portion defining said central opening, said prongs being folded along

a line adjacent and substantially parallel to said margin and traversing and adjacently superimposing the outer surface of said body portion, the corresponding extremity at the free end of each prong being deflected to project axially above the opposite extremity of said free ends so as to present locking teeth adapted to lockingly engage a clamping surface tightened thereagainst when the washer body is flattened, abutment means formed integral with and extending axially outwardly from the surface of the frusto-conical washer body superimposed by the prongs by an amount sufficient to counteract the tendency for said locking teeth to become flattened when the washer is finally tightened against a workpiece.

3,196,920
TIRE CONSTRUCTION

Jordan S. Fishman, Chicago, Ill., assignor to Louis Fishman & Co., Inc., Chicago, Ill., a corporation of Illinois
Filed Mar. 16, 1964, Ser. No. 352,262
4 Claims. (Cl. 152—209)

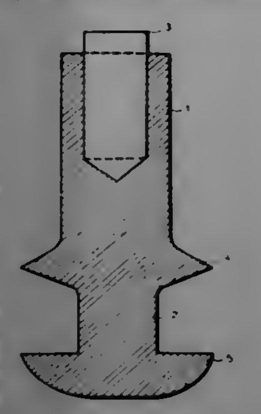


1. In a tire construction, the improvement in a tread design comprising a plurality of strip sections formed on the tread wearing surface, said sections incuding a straight portion and inwardly tapering end portions, said straight portions being longer than said tapered end portions, said sections extending at right angles from the side walls of said tire toward the center of said wearing surface with said end portions overlapping, and including recesses defined between the adjacent sections comprising wide recesses defined between the straight portions of adjacent sections and narrow recesses defined between adjacent overlapping ends of said sections, said tapered end portions being truncated and said wide recesses extending to each truncated end, a pair of narrow recesses communicating with each wide recess and extending along either side of each tapered end, said wide recesses being deeper than said narrow recesses.

3,196,921
ANTI-SKID MEANS FOR VEHICLE TIRE AND THE LIKE

Lennart Häkkä, Lauttasaari, Finland, assignor to Oy Kovametalli AB, Helsinki, Finland
Filed Nov. 25, 1963, Ser. No. 325,818
Claims priority, application Finland, Feb. 20, 1963, 326/63
9 Claims. (Cl. 152—210)

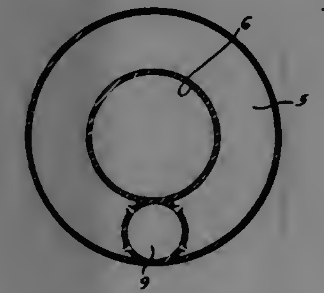
1. Anti-skid means adapted to be inserted into the thread surface of a ready made tire, preferably into a tight bore-hole made in said tread surface, and comprising an elongated, substantially plug-like body member having a middle, an inner end and an outer end and provided at the outer end with a wear-resistant tip piece disposed within a hole made in the outer end of said body member, the said tip piece projecting from said body member and extending outwardly from the thread surface of said tire, said body member having at least two annular flange-like projections extending transversely of the direction of elongation of the body member separate from each other and integral with said body member, said projections being respectively located longitudinally of said body at points appreciably inwards of



the body middle, and said projections having respective cross sections tapering in thickness toward the outer edges of the projections.

3,196,922
INNER-TIRE SAFETY AND SPARE TIRE

Herbert John Lundberg, 175 Van Nostrand Ave., Jersey City, N.J.
Filed Apr. 14, 1964, Ser. No. 360,179
8 Claims. (Cl. 152—340)



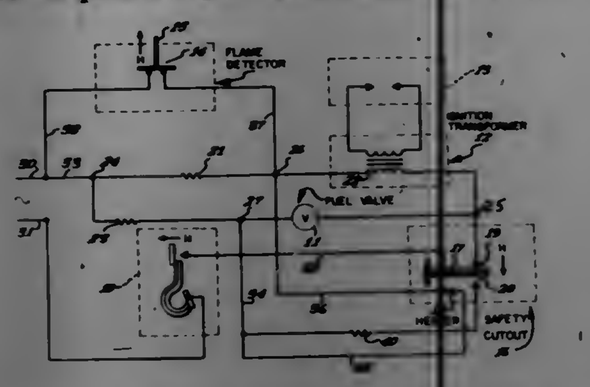
1. A pneumatic tire comprising a tire mounted on a wheel rim, the tire being normally air-inflated when in use on a vehicle wheel, a rubber tube disposed intermediate the rim and the tire and extending about the rim, the rubber tube being normally in a non-inflated, collapsed condition and attached at at least two places to a normally air-inflated rubber envelope reservoir, and the envelope reservoir containing sufficient compressed air therewithin to inflate the tube and hence retain the normal, in use air-inflated condition of the tire, the rubber envelope reservoir having at least one weak wall portion of relatively small area and of lesser thickness than the remainder of the wall thereof, said weak wall portion being enclosed by the tube attached to the envelope reservoir and adapted to break and allow passage of air from the envelope reservoir into the tube thereby to inflate the tube substantially immediately after application of a pressure to the envelope reservoir above the pressure of the compressed air within the reservoir.

3,196,923
BURNER CONTROL SYSTEM

Eric P. Selinder, Palos Verdes Estates, Calif., assignor to Honeywell Inc., a corporation of Delaware
Filed June 17, 1963, Ser. No. 288,275
4 Claims. (Cl. 158—28)

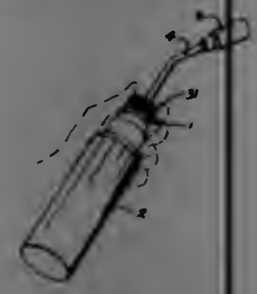
1. Burner control apparatus in the form of a bridge circuit having first, second, third and fourth legs, and having input and output means, comprising; a pair of input terminals; a first resistor and ignition means connected in series between said input terminals to form the first and second legs of the bridge circuit with the interconnection point being a first output terminal, a closed flame switch connected in parallel with said first resistor and movable to an open position in the presence of flame; a second resistor and a fuel valve connected in series between said input terminals to form the third and fourth

legs of the bridge circuit with the interconnection point being a second output terminal; time delayed safety cutout means having a closed switch and a time delayed actuator adapted to open said switch after a time period of energization of said actuator; circuit means connecting said safety cutout means actuator between said first and second output terminals; and circuit means including said safety cutout means switch connecting said pair of input terminals to a source of voltage.



3,196,924
STEM FLOW VALVE AND HAND TORCH

Sylvan J. Kaminga, 2445 Fletcher Drive, Grand Rapids, Mich.
Filed Sept. 5, 1961, Ser. No. 136,058
8 Claims. (Cl. 158—33)

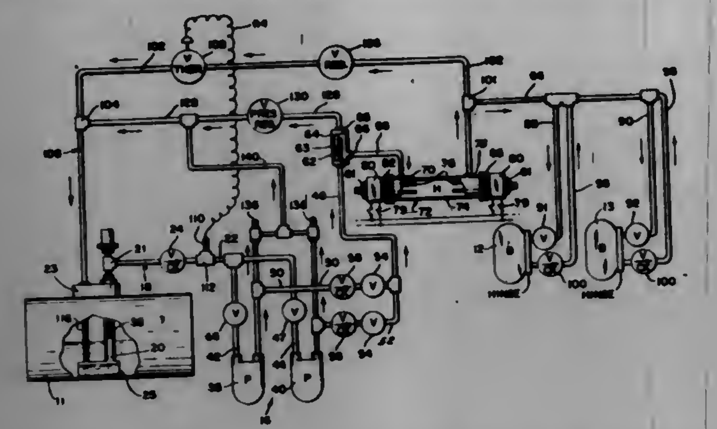


1. A valve structure, comprising: a valve housing; an inlet passageway positioned at one end of said housing; a valve body slidably positioned within said housing, in one position said valve body closing said inlet passageway and in another position opening said inlet passageway; said valve body including an intermediate passageway extending therethrough; means for preventing rotation of said valve body with respect to said housing; a hollow valve stem threaded in the opposite end of said housing and aligned with said inlet passageway; said valve stem engaging said valve body, whereby movement of said valve stem determines the limit of movement of said valve body; and means secured to said valve body defining an outlet passageway extending through said hollow valve stem and communicating with said intermediate passageway.

3,196,925
TWO-TEMPERATURE FUEL OIL BURNER SUPPLY SYSTEMS

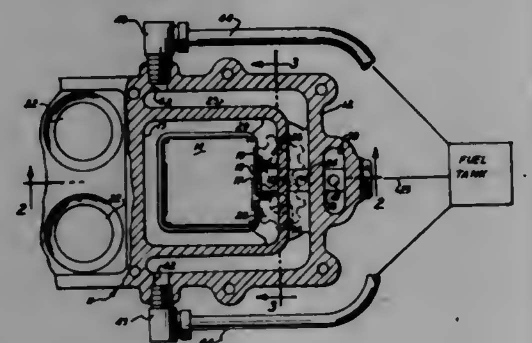
William J. Trabilcy, 280 Prospect Ave., Hackensack, N.J.
Filed Feb. 3, 1964, Ser. No. 341,935
14 Claims. (Cl. 158—36)

1. In a preheating system for heating and transporting viscous liquid fuel from a storage tank to a burner, a supply pipeline extending between said tank and said burner, a pump in said line for withdrawing fuel from said tank and supplying it to said burner in predetermined excess of the maximum firing rate of said burner, heating means in said line between said pump and said burner for materially raising the temperature of pumped fuel flowing through said line to effect efficient combustion thereof at said burner, a return pipeline connected to said supply line downstream from said heating means for returning heated fuel to said tank, means including temperature responsive valve means connected to control fuel flow through said return pipeline inversely with respect to the temperature of supply line fuel upstream from said heating means to prevent the temperature of oil in said supply line between said pump and said tank from exceeding a predetermined maximum, and bypass pipeline means connected to said supply line between the discharge of said pump and said heating means for returning unconsumed fuel to said tank that is diverted from said return pipeline by said valve means.



3,196,926
FUEL SUPPLY SYSTEMS

William A. Gartland, Dearborn, Mich., assignor to Ford Motor Company, Dearborn, Mich., a corporation of Delaware
Filed May 28, 1962, Ser. No. 198,180
4 Claims. (Cl. 158—36.3)



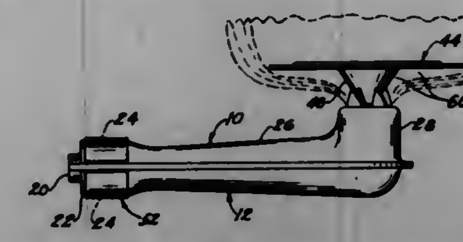
1. A fuel supply system for an internal combustion engine comprising a fuel tank, a charge forming device having a fuel bowl, means for maintaining a uniform fuel level in said fuel bowl, a cooling fuel jacket around said fuel bowl in contact with a substantial area of the wall defining said fuel bowl, a fuel pump adapted to pump a quantity of fuel in excess of the requirements of the engine for its normal operation, first conduit means connecting the input side of said fuel pump with said fuel tank, means delivering fuel from the output side of said fuel pump to said fuel bowl and said cooling fuel jacket, and second conduit means for returning to said fuel tank the excess fuel pumped.

3,196,927
GAS BURNER AND FLAME DEFLECTOR

Jerry T. Alger, Sunset Hills, Mo., assignor to White-Rodgers Company, St. Louis, Mo., a corporation of Missouri
Filed Mar. 25, 1963, Ser. No. 267,639
3 Claims. (Cl. 158—113)

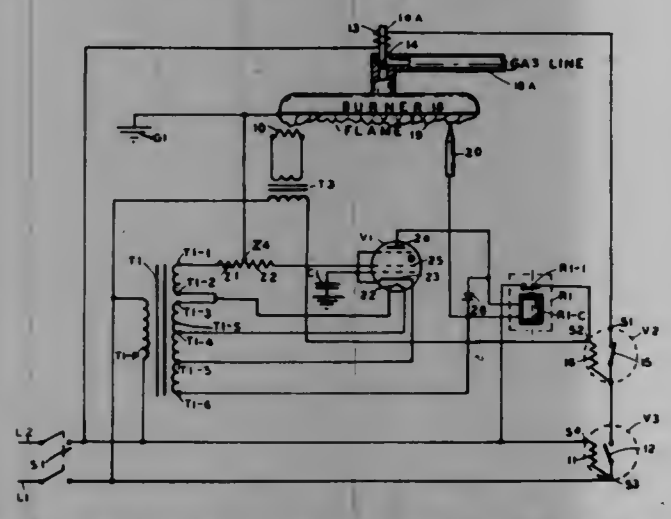
1. A gas burner having a mixing tube portion, fuel and air inlets at one end thereof and a sheet metal end wall at the outlet end thereof, a plurality of circularly arranged burner ports in said end wall surrounding a central imperforate portion of said end wall, and a plurality of circularly arranged and outwardly projecting

support tabs each adjacent a burner port, said support tabs being partially detached portions of said end wall formed outwardly thereof along the undetached portions of their peripheries, a flame shaping disc mounted in outward spaced relationship with said end wall, said disc having considerably larger diameter than that of a circle circumscribing the outer edges of said circularly arranged ports and being arranged substantially parallel with said end wall and thereby substantially perpendicular to the walls of said ports, said disc having a central hollow conical hub portion extending from one side thereof to a truncated end, which end abuts and is rigidly connected to said central imperforate portion of said end wall, and said circularly arranged support tabs engaging the wall of said hollow hub portion between said disc and said end wall thereby to provide additional support means for said flame shaping disc.



3,196,928
IGNITION SYSTEM AND CONTROL FOR FUEL BURNER

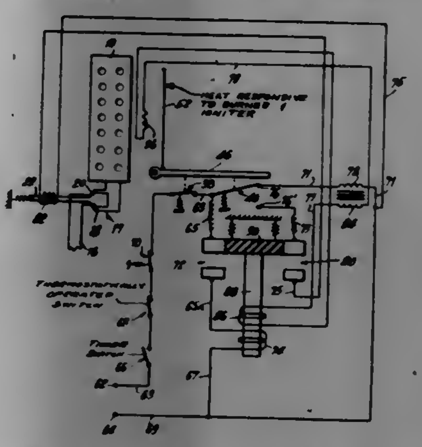
Joseph Leo La Pointe, Detroit, and John J. Fannon, Jr., Grosse Pointe Park, Mich., assignors to Hupp Corporation, Cleveland, Ohio, a corporation of Virginia
Filed Sept. 28, 1961, Ser. No. 141,479
6 Claims. (Cl. 158—122)



6. An ignition and control apparatus for a burner producing a flame, comprising a transformer having a primary coil and a secondary coil, an ignitor positioned adjacent to said burner and adapted to be supplied with current to ignite said burner, a thyratron supplied with power by a circuit means from said secondary coil, a fuel control means for controlling flow of fuel to said burner, fuel control means energizing circuit in parallel with said primary coil electrically connected to and controlling the fuel control means, a flame probe adjacent to but separated from said burner and positioned to contact said flame when said burner is in operation, said probe being electrically connected to the grid of said thyratron for controlling the conduction of said thyratron, a relay, circuit means for first energizing said relay by said thyratron after flame at the burner completes a circuit through said probe to cause said thyratron to conduct, switch means in said ignitor circuit first opened by said relay when the relay is energized, a manually-operated switch in said circuit through said fuel control means, a pilot lamp, and means energizing said pilot lamp with said ignitor.

3,196,929
IGNITION AND CONTROL SYSTEM FOR GAS-FUELED HEATING DEVICES

Charles Miller and Pat Romanelli, Bronx, N.Y., assignors to Ram Domestic Products Company, Englewood, N.J., a partnership
Filed Apr. 25, 1960, Ser. No. 24,290
4 Claims. (Cl. 158—124)



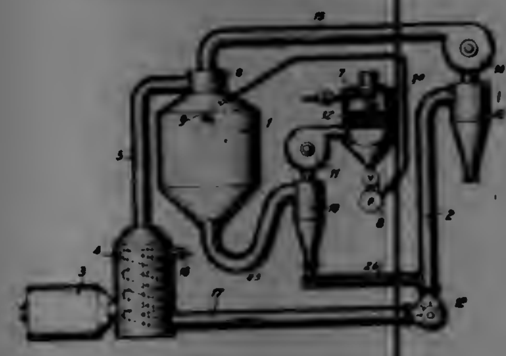
1. In combination with a heating device having a burner fed through a fuel line governed by a fuel valve having means biasing it closed and electrically actuated opening means, a direct ignition system comprising an electrically energized ignition device, means for mounting said ignition device in directly igniting proximity to said burner, an electrical operating circuit, means for preventing spillage of unburned fuel including operating switch means connectable for fuel feeding and igniting, a safety relay including a cut-off switch, said operating circuit being connected to energize said valve-opening means only when said cut-off switch is closed, means biasing said cut-off switch open to prevent opening of said fuel valve, and a switch-actuating solenoid operable upon energization to close said cut-off switch to permit opening of said fuel valve, said operating circuit connecting said ignition device and said switch-actuating solenoid in series whereby to prevent energization of said switch-actuating solenoid for opening said fuel valve unless said ignition device is energized concurrently therewith, said operating circuit being connected to energize said switch-actuating solenoid for opening said fuel valve only when said operating switch means is connected for fuel feeding, means for preventing said operating switch means from being connected for fuel feeding unless the fuel will encounter a fuel-ignition temperature including thermally responsive means, means for mounting said thermally responsive means in temperature-sensing proximity to both said burner and said ignition device, and switching arm means operatively connected to prevent said operating switch means from being connected for fuel feeding and to connect said operating switch means for igniting in response to contraction of said thermally responsive means upon the sensing thereby of the absence of a fuel-ignition temperature, said operating circuit being connected to energize said ignition device to heat the same to a fuel-ignition temperature to light said burner only when said operating switch means is connected for igniting, said operating switch means being biased to be connected for fuel feeding and to be prevented from being connected for igniting in response to expansion of said thermally responsive means upon the sensing thereby of a fuel-ignition temperature, a holding relay including a holding solenoid operable during energization to keep said cut-off switch closed to permit a continued flow of fuel when said operating switch means is not connected for igniting, and a holding switch, said operating circuit being connected to energize said holding solenoid when said holding switch is closed, means ganging said cut-off switch and said holding switch for concurrent closing and opening whereby initial closing of said cut-off switch is effective to permit a continued flow of fuel as

long as said operating circuit remains continuously energized and whereby de-energization of said operating circuit de-energizes said holding solenoid and thereby terminates the flow of fuel until re-ignition occurs, a pair of power supply terminals for said operating circuit, a fail safe switch in series with said terminals and said operating circuit and biased open whereby to interrupt the power supply of said operating circuit to close said fuel valve, and means arranged to close said fail safe switch when said thermally responsive means is capable of exerting an operating force on said switching arm.

3,196,930
PROCESS FOR PRODUCING DRY MAGNESIUM CHLORIDE FROM SOLUTIONS CONTAINING IT

Hans Ebert, Knapsack, near Cologne, Kurt Giesswein, Krefeld-Bockum, Ernst Harmsen, Bruhl, near Cologne, and Heinz Vomberg, Kottingen, near Cologne, Germany, assignors to Knapsack-Griesheim Aktiengesellschaft, Knapsack, near Cologne, Germany, a corporation of Germany

Filed Sept. 27, 1960, Ser. No. 58,816
Claims priority, application Germany, Oct. 2, 1959, K 38,820
5 Claims. (Cl. 159—48)

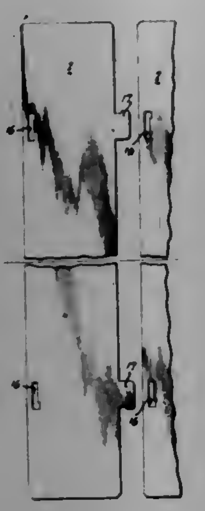


1. A process for the production of a magnesium chloride-containing salt mixture substantially free of water and oxide from an aqueous magnesium chloride-containing solution which comprises a first evaporating step of evaporating substantially all water from the magnesium chloride-containing solution to form a substantially dry, fine-grained product by direct contact heating the solution with a substance selected from the group consisting of heated air and gas, flash flow-drying the substantially dry, fine-grained product to remove the remaining water by contacting said product with heated air in such a manner that not more than a 40 percent temperature decrease in degrees centigrade occurs in the heated air during such contact and not more than a low degree of moisture saturation remains in said heated air to avoid noteworthy hydrolysis of the magnesium chloride and passing the heated air after contact to first evaporating step.

3,196,931
EXPANSIBLE AND RETRACTABLE PANEL STRUCTURE

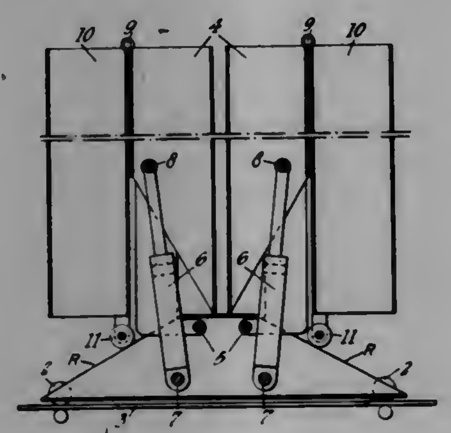
Andrew J. Toti, 319 McHenry Ave., Modesto, Calif.
Filed Oct. 23, 1962, Ser. No. 232,526
10 Claims. (Cl. 160—183)

9. A series of interconnected panels which together define an accordion foldable expansible and retractable panel structure, each of said panels being substantially identical in construction and having a curved configuration in transverse cross section, each of said panels having at least two spaced tongues integral therewith and projecting from one edge thereof and a corresponding number of spaced slots a'ong another edge thereof, each of said slots being enclosed by such panel and spaced slightly inwardly from said another edge thereof, adjacent panels of said structure being oppositely oriented with their curvatures facing generally in opposite directions when said structure is expanded and generally in the same direction when said structure is retracted, the curvatures of said panels snugly nesting with each other when said structure is retracted so that said panels define a compact pack, the tongues on said panels being aligned with and received in the slots of adjacent panels, each said tongue including an enlarged portion thereon which normally precludes inadvertent separation of such tongue from its associated slot, each said slot including means which permits such slot to accommodate selective insertion of its associated tongue therethrough, said thus interengaged tongues and slots thereby defining integral hinges, said panels being hingedly interconnected directly by such interengaged tongues and slots so that separate hinge connections therebetween are not required.



3,196,932
HATCHES FOR SHIPS' HOLDS

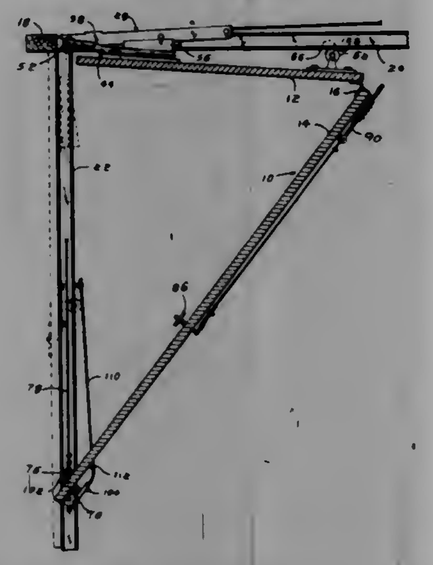
Arvid Victor Rosendahl, Murgatan 2, Skanninge, Sweden
Filed Nov. 26, 1962, Ser. No. 240,043
Claims priority, application Sweden, Nov. 27, 1961, 11,782/61
2 Claims. (Cl. 160—188)



2. In a hatch cover construction for use on a hatch having a track means along each side of the hatch opening, a rolling, folding cover arrangement comprising a wheeled carriage having opposite wheeled sides and a top adapted to extend across the hatch opening to be supported on said track means, at least two first hatch cover sections, means pivotally connecting one end of each of said first sections to said carriage for swinging movement about an axis transverse of the hatch opening, hydraulic motor actuator means connected between the carriage and the respective first sections for folding the same into upright position whereby said carriage and first sections can be rolled relative to the opening to expose the same, said wheeled sides of said carriage including ramp means and a second pair of hatch cover sections pivoted to said first hatch cover sections and support wheel means on the edges of said second sections to support said second sections on said track means, said wheel means being adapted to engage and roll up on said ramp means when said first sections are folded upwardly.

3,196,933
DOOR ASSEMBLY

Oakley A. Schneider, Blockton, Iowa
Filed Mar. 4, 1963, Ser. No. 262,585
6 Claims. (Cl. 160—207)

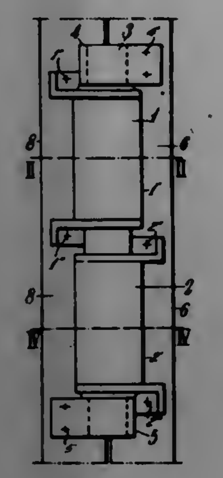


1. In an overhead door assembly;
a foldable door having a top section and a bottom section, said top section and said bottom section each having portions hingedly connected together;
a header having side members extending downwardly from each end;
support means extending rearwardly of said header;
means on said top door section adapted to pivot it to said support means adjacent said header;
latch means adapted to releasably secure said means on said top door section against movement along said support means until said top door section has been pivoted upwardly to a predetermined position;
release means adapted to release said latch means upon said top door section being pivoted to said predetermined position and thereby permitting said means on said top door section to move rearwardly along said support means carrying said top door section therewith, said top door section adapted to move rearwardly along said support means until the bottom section has pivoted on its hinge connection to said top door section to a position adjacent said header;
means on said bottom door section in engagement with one of said side members for limiting movement of said bottom door section in a horizontal plane, and means on said door for supporting the portions hingedly connected together in a horizontal plane when said door is moved to its open position.

3,196,934
HYDRAULIC ROTARY PISTON MOTOR SYSTEM

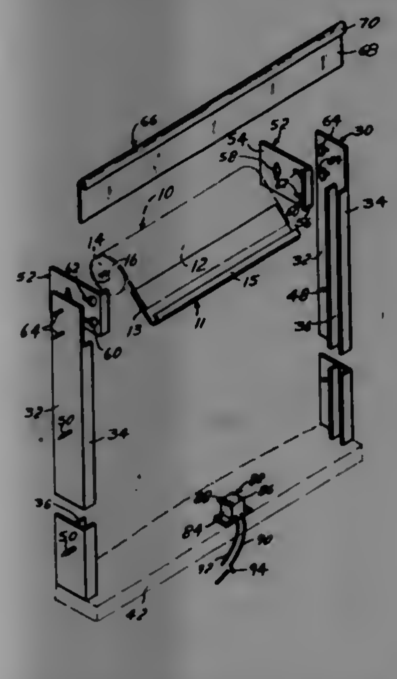
Franz Sneen, Skanninge, Sweden, assignor to Konstruktioner & Experiment A.B., Skanninge, Sweden
Filed July 28, 1961, Ser. No. 127,736
Claims priority, application Sweden, Aug. 3, 1960, 7,473/60
3 Claims. (Cl. 160—229)

1. The combination of two pivotally connected elements, two hydraulic oscillating vane motors, each having a housing, said housings being mounted one on each element, the housings being coaxial and operably connected to said motors and adapted to be acted upon in opposite directions by said motors, and means for supporting each end of the shaft on a respective one of the elements, the shaft being freely rotatable in the supporting means.



3,196,935
DRAW CLOSURE

Andrew B. Christensen, 1221 N. Percival, Olympia, Wash.
Filed Jan. 4, 1963, Ser. No. 249,452
2 Claims. (Cl. 160—267)



1. A draw closure comprising a pair of spaced, parallel members of generally F-shaped cross sectional shape defining the sides of a rectangular opening, each member comprising a base portion and a pair of spaced apart ribs, said ribs extending from the bottom of said opening to a level spaced from the top of said base portion, said ribs extending toward each other across said opening and defining a pair of guiding channels, a pair of headed pins extending from each base portion toward the other base portion, said pair of headed pins being in vertical array above said level and spaced from said ribs, a roll support plate having a base portion with a pair of bayonet slots therein engaging said headed pins and a roller pin receiving slot, a front portion on said base portion at right angles thereto and lying in the plane of and above a said rib remote from said headed pins, a spring urged roller having axially extending pins in said roller pin receiving slots, a flexible sheet secured at one end to said roller and extending between said pairs of ribs, and means for holding said sheet in extended position across said opening.

3,196,936

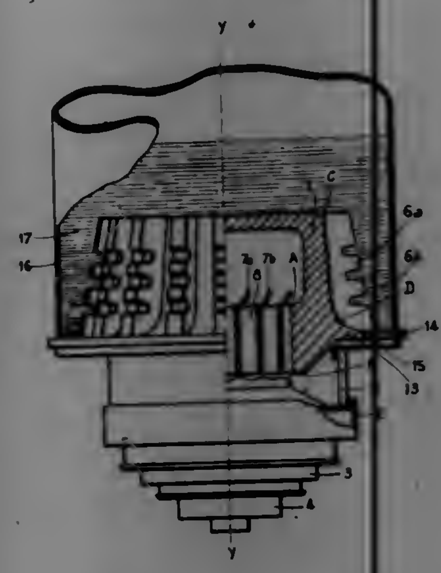
HEAT DISSIPATING STRUCTURE

Charles Alphonse Emile Beurtheret, Saint Germain en Laye, France, assignor to Compagnie Francaise Thomson-Houston, Paris, France, a French body corporate

Filed Apr. 23, 1963, Ser. No. 2[illegible]5,126

Claims priority, application France, Apr. 27, 1962, 1,334,976

13 Claims. (Cl. 165—4[illegible])



1. An evaporation cooling structure comprising a source of heat to be dissipated, a partition wall having on one side a heat-input surface exposed to said source of heat and having on its opposite side a heat-output surface provided with heat-dissipating formations, and means for retaining a body of vaporizable liquid in contact with said heat-output surface and formations thereon, and wherein said heat-output surface has at least one of its ends displaced a substantial distance with respect to the corresponding end of the heat-input surface in a direction generally parallel to both surfaces whereby to establish along the length of said heat-output surface a substantial temperature gradient which will effectively stabilize the vaporization conditions of said fluid over the extent of said heat-output surface.

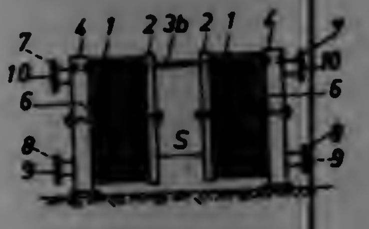
3,196,937

TWO UNIT PLATE HEAT EXCHANGER WITH END SUPPORTS

Sverre K. Jenssen, Saltsjobaden, Sweden, assignor to Aktiebolaget Rosenblads Patenter, Stockholm, Sweden, a corporation of Sweden

Filed Sept. 24, 1963, Ser. No. 311,171

2 Claims. (Cl. 165—[illegible]8)



1. A plate heat exchanger comprising at least two separate heat exchanging sections, each section including a group of generally vertically disposed heat exchanging plates assembled in a stack and disposed between an end plate at one end of the stack and a cover plate at the other end of the stack, the sections being disposed in alignment with the cover plates confronting and spaced a substantial distance from each other and with the end plates remote from each other, each end plate of each section having inlet means and outlet means for the heat exchanging fluids, and means for supporting the heat exchanger comprising means detachably connecting the end plates together in at least generally vertical parallel relationship, separate means on each of the heat exchanging sections for detachably securing the heat exchanging plates and cover plate of each section together and to their end plate, and means on each of the end plates serving to support the heat exchanger, the space between the cover plates of the two assembled plate stacks being great enough to permit either of the plate stacks to be disassembled between its end plate and the other assembled plate stack for the purpose of facilitating inspection, cleaning, and removal of the individual heat exchanging plates.

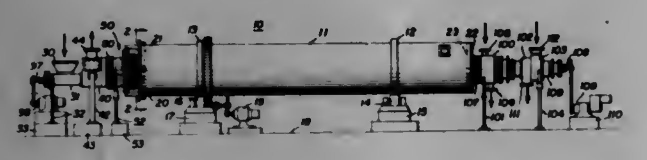
3,196,938

MATERIAL PROCESSING VESSELS OF THE ROTARY TYPE

Earl D. Grange, Evergreen Park, Ill., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York

Filed Nov. 6, 1961, Ser. No. 150,400

7 Claims. (Cl. 165—88)



1. A material processing vessel comprising a rigid support, an elongated tubular rigid shell, a first rigid end wall rigidly secured in place in one end of said shell and closing the same and having a substantially centrally disposed material inlet opening therein, a second rigid end wall rigidly secured in place in the other end of said shell and closing the same and having a material outlet opening therein, first means for mounting said shell upon said support and for roation about its longitudinal axis and in a position disposed slightly inclined to the horizontal and with said first end wall slightly elevated with respect to said second end wall, said first means accommodating limiting movements of said shell relative to said support incident to rotation of said shell, means for rotating said shell in its mounted position, whereby said end walls are rotated therewith, an elongated heat-exchange conduit arranged within said shell and adapted to contact the material being processed therein, a tubular rigid sleeve, second means for mounting said sleeve upon said support and adjacent to said first end wall and slightly inclined with respect to the horizontal and with the outer end thereof slightly elevated with respect to the innet end thereof and with the longitudinal axis of said sleeve substantially coincident with the longitudinal axis of said shell, the inner end of said sleeve projecting into said material inlet opening provided in said first end wall and the outer end of said sleeve extending longitudinally outwardly with respect to said first end wall, annular sealing structure carried by said first end wall and rotatable therewith and arranged in surrounding and sealing engagement with the adjacent exterior surface of said sleeve, said second mounting means restraining said sleeve against rotation about its longitudinal axis and accommodating limited movements thereof relative to said support incident to rotation of said shell, a first rigid bearing support carried by said first end wall and rotatable therewith and positioned longitudinally outwardly with respect to said sealing structure, a second rigid bearing support carried by said sleeve adjacent to the outer end thereof and positioned radially inwardly with respect to said first bearing support, and bearing structure including a pair of cooperating rigid bearing members respectively carried by said first and second bearing supports for guiding the rotation of said first end wall in a path disposed about said sleeve and substantially concentric therewith and for preventing relative radial movements between said first end wall and said sleeve.

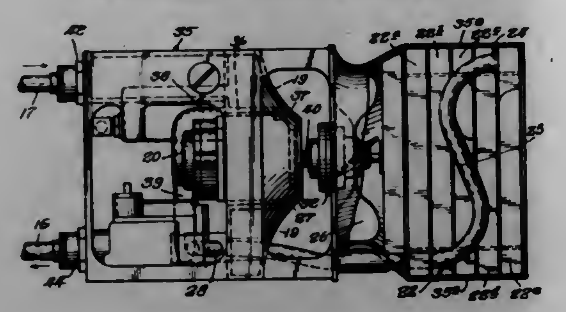
3,196,939

HEAT EXCHANGER, RESERVOIR, FAN AND PUMP ASSEMBLY

Alfred Roscoe Erbe, Oak Park, and Douglas E. Moeller, Elgin, Ill., assignors to The Hallicrafters Co., a corporation of Delaware

Filed Dec. 14, 1959, Ser. No. 859,214

2 Claims. (Cl. 165—107)



1. A heat exchanger of the character described, comprising: an elongated frame of rectangular cross-section, said frame having an axis; walls defining a reservoir extending transversely of said frame and having an axial opening therethrough; a multiple section heat transfer structure mounted on said frame, each section of said structure extending transversely across said frame and having a plurality of tubular elements with an inlet manifold at one side and an outlet manifold at the other; means interconnecting said outlet and inlet manifolds serially interconnecting the tubular elements of said sections for flow of heat transfer medium therethrough, each section extending across said frame and the successive sections being aligned along the axis of the frame; a quantity of heat transfer medium for flow from said reservoir through the tubular elements of said structure; a motor mounted in the opening of said reservoir; a pump driven by said motor and connected with said reservoir and heat transfer structure to circulate the heat transfer medium therethrough; a fan driven by said motor and causing an axial flow of air across the successive sections of said heat transfer structure in a direction opposite to the general flow of heat transfer medium therethrough.

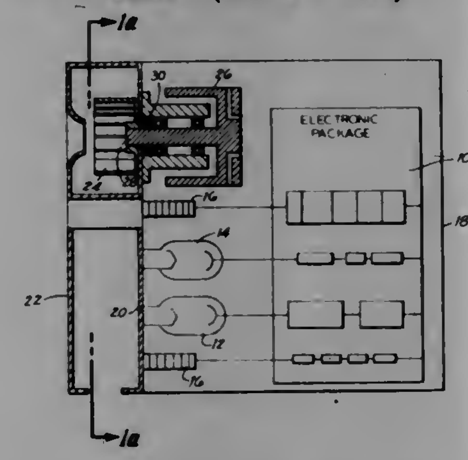
3,196,940

COOLING OF SEALED ENCLOSURE

Seymour Saslow, Saratoga Springs, and Johannes Peter Knauth, Hurley, N.Y., assignors to Espey Mfg. & Electronics Corp., Saratoga Springs, N.Y., a corporation of New York

Filed Sept. 3, 1963, Ser. No. 305,953

5 Claims. (Cl. 165—108)



1. In a heat exchanger system wherein equipment in a substantially sealed enclosure located in a confined area is to be cooled by cooling one wall of the enclosure, in combination,

- a wall to act as a heat exchanger;
- a hollow cylindrical stator mounted within said enclosure on said wall around a small aperture therein;

impeller means on the outer side of said wall opposite said stator,

- a drive shaft connected to said impeller means journaled in said stator cylinder passing through said small aperture in the wall and,

means for bringing gases within the enclosure to said wall where said gases are cooled and for circulating the cooled gases within the enclosure, said means comprising:

- a cup-shaped squirrel cage rotor around said stator with a radial end wall coupled at its center to said drive shaft, the outer surface of said rotor being smooth.

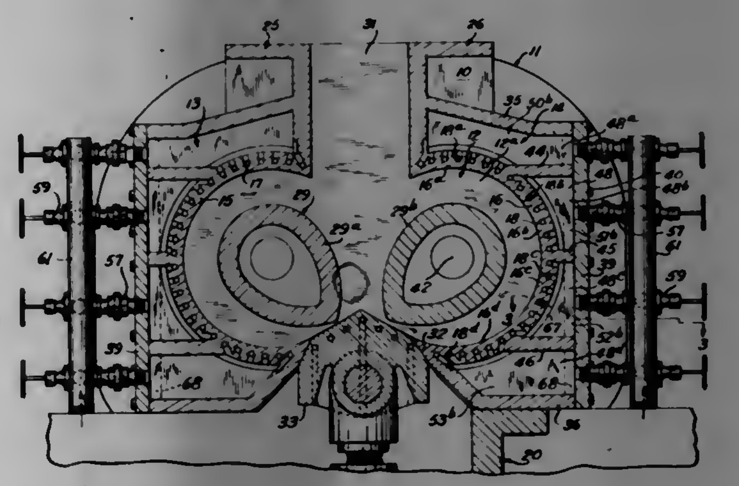
3,196,941

TEMPERATURE-CONTROLLED MIXING MACHINE

James T. Matsuoka, Brecksville, Ohio, assignor to Stewart Bolling & Company, Inc., Cleveland, Ohio, a corporation of Ohio

Filed Sept. 18, 1961, Ser. No. 138,830

5 Claims. (Cl. 165—109)



1. In a mixing machine having a mixing chamber and a control chamber separated by an intervening wall common to both chambers, mixing means operable in said mixing chamber, other wall means closing said control chamber on the outer side thereof, said intervening wall having smooth parallel passages lying within the same, a partition wall extending transverse to said passages and disposed between said intervening wall and said other wall means and dividing said control chamber into compartments lying on opposite sides of said partition wall, said passages being connected adjacent their opposite ends with the respective compartments at points of the latter relatively remote from said partition wall, and means for connecting a heat-exchange fluid delivery and exhaust means with the respective compartments at points adjacent said partition wall whereby heat exchange fluid delivered to one compartment flows therethrough in contact with a portion of the outer surface of said common wall, through said passages and then through another compartment in contact with another portion of said common wall.

3,196,942

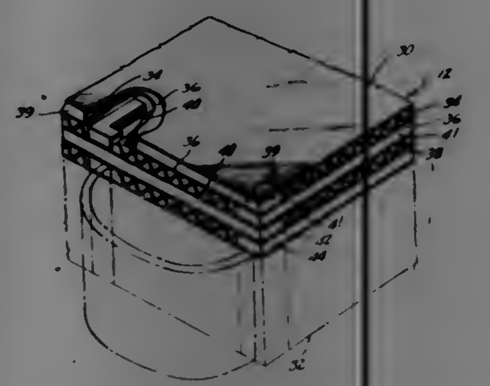
HEAT EXCHANGER CONSTRUCTION INCLUDING TUBULAR CLOSURE PLATES

Kenneth R. Prentiss, West Hartford, Conn., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware

Filed July 5, 1963, Ser. No. 292,892

1 Claim. (Cl. 165—166)

A cross-flow heat exchanger comprising a plurality of corrugated fine elements, flat parallel spaced plates sandwiching said corrugated fin elements and defining therewith a series of separate parallel open ended channels terminating at opposite edges of the elements, the corrugations of the fin element in each channel being at substantially 90° to the corrugations of the fin element in the next adjacent channel, means for spacing said flat plates and for minimizing the temperature gradient at the corners of the heat exchanger occasioned by the starting-up or shutting-down of the heat exchanger, said means including a plurality of spaced parallel hollow tubes of rectangular cross section adjacent the sides of said corrugated fin elements and disposed substantially parallel with the corrugations, each tube having an end portion on each end lying at substantially 90° to the corrugations extending a relatively short distance toward the

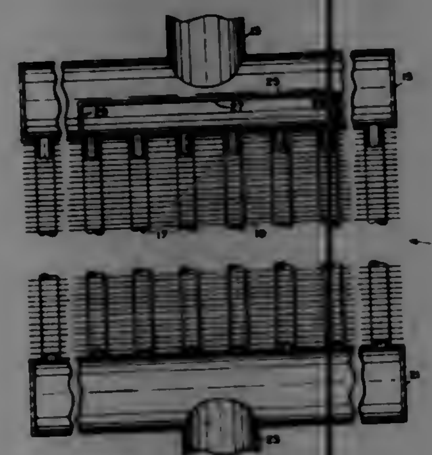


fin element and adjacent the ends of the adjacent corrugated fin element, the ends of the tubes overlying a portion of a tube in a next adjacent channel thereby defining a continuous rigid corner surface at each end of each tube, headers mounted on said surfaces forming inlets and outlets for providing communication with the channels at opposite ends of the fin elements and said parallel hollow tubes, so that fluids passing through adjacent hollow tubes adjacent said corner surfaces are in indirect heat exchange relationship with each other for reducing the thermal gradient across said corner surface.

3,196,943

DISTRIBUTOR FOR HEAT EXCHANGE APPARATUS

Alex A. Haerter, Syracuse, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware
Filed July 18, 1963, Ser. No. 295,933
3 Claims. (Cl. 165—174)



3. In a distributor for a heat exchanger, the combination of a horizontal casing having an inlet connection therein through which a fluid enters and a plurality of openings opposite to said inlet connection adapted to receive heat exchange tubes, and a horizontally extending baffle plate having depending ends secured within said casing longitudinally thereof between said inlet connection and a group only of those openings generally opposite said inlet connection, the depending ends of said plate being secured to the lower portion of said casing the number of said openings in said group being substantially less than the total number of the openings in said casing, said baffle plate with said depending ends defining an interior zone encompassing said group of said openings, said baffle plate having a aperture therein substantially less in area than the area of the plate situated between two of the openings to permit flow of fluid through the plate while preventing direct discharge of fluid into any of the openings in the lower portion of the casing.

3,196,944

MISCIBLE-DISPLACEMENT PROCESS

George G. Bernard and Orrin C. Holbrook, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Dec. 11, 1961, Ser. No. 158,575
7 Claims. (Cl. 166—9)

1. The method for recovering petroleum from underground reservoirs penetrated by an injection well and a producing well comprising injecting through said injection well and into said formation 0.03 to 0.20 reservoir pore volume of a low-molecular-weight liquid hydrocarbon, at least the last-injected 0.03 reservoir pore volume of which contains in solution a high-foaming, oil-soluble surfactant in an amount sufficient to produce a foam on contact in the reservoir with a hydrocarbon gas, then injecting hydrocarbon gas, substantially free of a surfactant, to form a foam bank at least between said injected liquid hydrocarbon and said hydrocarbon gas and to drive said injected liquid hydrocarbon toward said producing well, and recovering petroleum therefrom.

3,196,945

METHOD OF FORWARD IN SITU COMBUSTION WITH WATER INJECTION

Forrest F. Craig, Jr., Karol L. Hujsak, and David R. Parrish, Tulsa, Okla., assignors to Pan American Petroleum Company, Tulsa, Okla., a corporation of Delaware
No Drawing. Filed Oct. 8, 1962, Ser. No. 229,193
13 Claims. (Cl. 166—11)

10. In a process for the recovery of valuable products from a carbonaceous deposit in which forward combustion can be effected without further treatment, said deposit being penetrated at spaced points by an injection well and a producing well, the improvement which comprises igniting said deposit adjacent the face of said injection well to form a combustion front, thereafter propagating the resulting combustion front through said deposit by injecting therein via said injection well air and water in a ratio of from about 500 to about 3000 s.c.f. of air per barrel of water, and recovering valuable products from said producing well.

3,196,946

AIR METHOD OF CEMENTING WELLS

James B. Lauffer, Paintsville, Ky., assignor to United Fuel Gas Company, Charleston, W. Va., a corporation of West Virginia
Filed Nov. 5, 1962, Ser. No. 235,334
9 Claims. (Cl. 166—21)

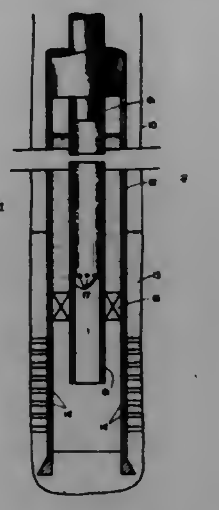
1. A gas method of cementing wells of the type wherein a production casing is suspended within a gas producing formation so as to define an annulus between said formation and the casing comprising:

(A) Pressurizing said casing and said annulus exclusively with a gas in a pressure range greater than the pressure of the gas producing formation and less than the formation breakdown pressure;
(B) Charging cement down through and into the bottom of said casing and up said annulus, while;
(C) Maintaining a constant pressure within said pressure range in said annulus during said charging and until said cement has set.

3,196,947

METHOD FOR FACILITATING THE PRODUCTION OF VISCOUS PETROLEUM THROUGH A WELL

Hendrik K. Van Poollen, Littleton, Colo., assignor to Marathon Oil Company, a corporation of Ohio
Filed June 14, 1962, Ser. No. 202,574
4 Claims. (Cl. 166—45)

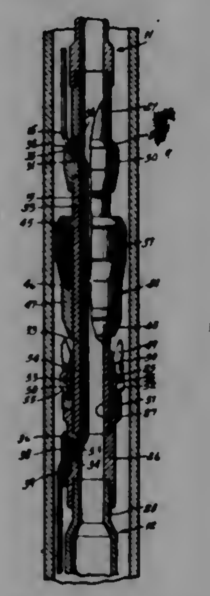


1. The method for facilitating the production of viscous petroleum from the production zone of a well which comprises providing a production tubing in the well, introducing to the well adjacent the production zone thereof a low viscosity lubricating fluid not miscible with the petroleum, and admitting the lubricating fluid to the inner periphery of the tubing about the viscous petroleum to maintain a layer of fluid about the petroleum flowing upwardly in the tubing to reduce wall friction and facilitate the flow of petroleum through the tubing.

3,196,948

ISOLATION PACKER FOR WELL PUMP

Herbert G. Dye, Tulsa, Okla., assignor to American Metal Climax, Inc., New York, N.Y., a corporation of New York
Filed Apr. 10, 1962, Ser. No. 186,549
6 Claims. (Cl. 166—65)

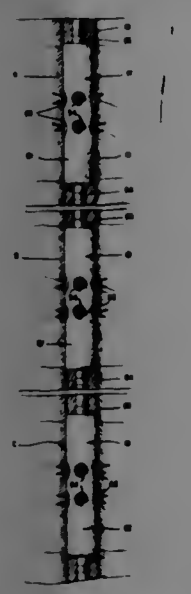


1. A packer for isolating the portion of an electric cable extending upwardly from an operating unit in a well casing past the packer and beyond the latter toward the surface in the space between the well casing and the tubing string, from the well fluid in said casing below the packer, said packer comprising a tubular mandrel having a fluid bore for connecting the bore of the tubing string with the bore of an operating unit located below said packer, a cable conduit located in said mandrel bore and extending lengthwise thereof, the ends of said cable conduit extending into transverse passageways provided through the wall of said mandrel adjacent to the upper and lower ends of the latter, whereby there is provided in said mandrel bore a longitudinally extending cable conduit which is isolated from such bore and which is in communication at its upper and lower ends with the space between the well casing and the tubing string and packer, means sealing said upper and lower cable conduit ends in said passageways against the well fluid in said mandrel bore, means sealing the lower end of said cable conduit against entry into said cable conduit of the well fluid in said casing below the packer, a packing element mounted on said mandrel between the upper and lower ends of said cable conduit, and packer setting means operatively associated with said packing element and located on said mandrel between said upper and lower ends of said cable conduit.

3,196,949

APPARATUS FOR COMPLETING WELLS

George A. Thomas, Abilene, Tex., assignor, by direct and mesne assignments, of one-third to John R. Hatch, Big Spring, Tex., and two-thirds to David Craven, Philadelphia, Pa.
Filed May 8, 1962, Ser. No. 193,107
8 Claims. (Cl. 166—100)



1. Apparatus for use in completing wells comprising a tube adapted to form an integral section of a casing string, a unitary open ended flexible sleeve surrounding said tube, pivotal arm means interconnecting the ends of the flexible sleeve and said tube, fluid pressure operated expansion ring units on the ends of said sleeve to expand such ends into contact with the bore hole of the well adjacent a producing formation of the well, pressure responsive valve means communicating with the interior of said tube and connected with the expansion ring units to control the passage of fluid under pressure thereto, radial port tubes interconnecting the side wall of said sleeve and said tube and opening through said sleeve and tube, and a movable closure element for said valve means and port tubes within said tube and operable to selectively cover or uncover the valve means and port tubes.

3,196,950

WELL TOOL

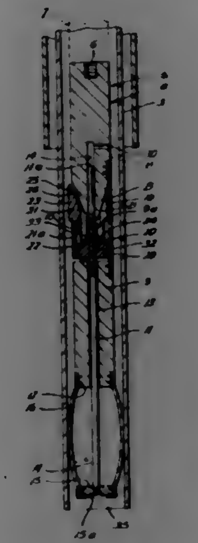
Malvern M. Hasha, Lake Charles, La.
(414 South Coast Bldg., Houston, Tex.)
Filed May 13, 1963, Ser. No. 280,039
6 Claims. (Cl. 166—132)

1. An arrangement for preventing the ejection of a device from a tubular member comprising,

(a) a body adapted for movement through a tubular member,
(b) a mandrel movable longitudinally relative to said body,

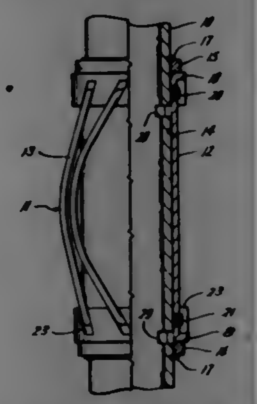
(c) collapsible spring means secured to said body and to said mandrel, said spring means engaging the wall of the tubular member to restrain said spring means against collapsing and thereby retain said mandrel in predetermined longitudinal relationship with respect to said body,

(d) engaging means connected to said mandrel and adapted on longitudinal relative movement between said mandrel and body to engage said body to be urged outwardly to engage the tubular member and prevent further movement of said body therethrough, and



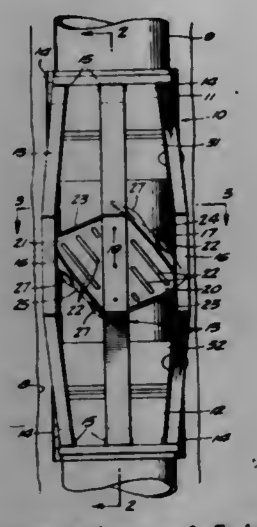
(e) said spring means adapted to collapse radially upon moving out of the tubular member whereupon said mandrel is moved longitudinally with respect to said body whereby said engaging means locks said body against ejection from the tubular member.

3,196,951
CENTRALIZERS
Dean F. Saurenman, Houston, Tex., assignor to Schlumberger Well Surveying Corporation, Houston, Tex., a corporation of Texas
Filed Apr. 30, 1962, Ser. No. 191,016
8 Claims. (Cl. 166—241)



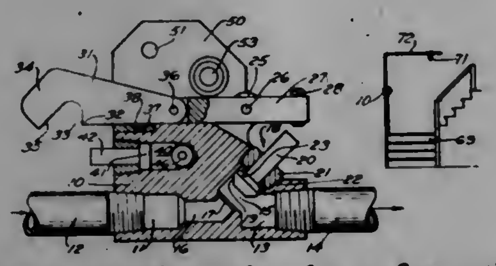
1. A centralizer for use in a well bore comprising a cylindrical support member, spring members individually having a configuration which lies in a single plane and having attaching portions for positioning said spring members about the periphery of said support member, said attaching portions being integrally formed on said spring members for normally extending the planes of said spring members tangentially to said support member to achieve centralizing forces by a combination of bending and torsion of said spring members, and means spaced from said support member for loosely holding said attaching portions between said spaced means and said support members with said spring members tangential to said support member.

3,196,952
WELL PIPE CENTERING AND FLUID FLOW-COURSE CONTROLLING DEVICE
James R. Solum, Los Angeles, Calif., assignor to B & W Incorporated, Torrance, Calif., a corporation of California
Filed June 20, 1962, Ser. No. 203,762
12 Claims. (Cl. 166—241)



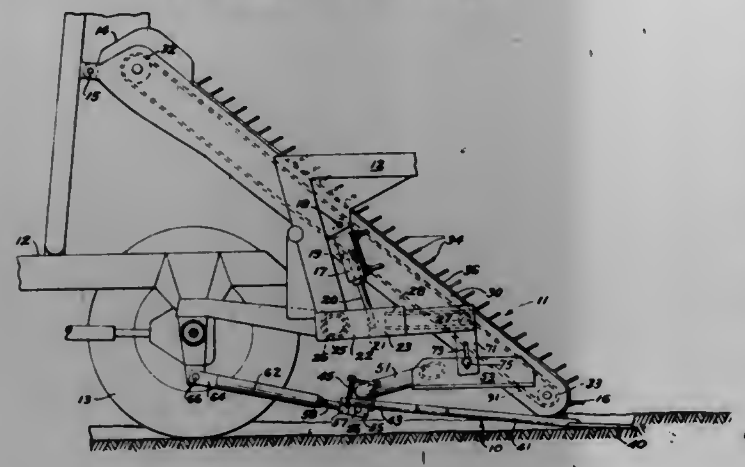
1. In a well pipe centering and fluid flow-course controlling device the combination of: a plurality of axially spaced collars adapted to be mounted on the well pipe, a plurality of outwardly bowed spring means extending between and secured to said collars, plate means mounted on said spring means and extending circumferentially in both directions from that spring means to locations beneath each of the circumferentially adjacent spring means for confining the circumferential extremities of said plate means between said adjacent spring means and the well pipe, said plate means having at least one vane projecting inwardly from said spring means toward the well pipe, each said vane extending diagonally and circumferentially relative to the well pipe for diverting fluid flowing past the device, and each said vane being resilient for flexing upon flexing of said spring means.

3,196,953
VALVE FOR FIRE EXTINGUISHING SYSTEM
David A. Young, 22 Berwick Ave., Centerdale 11, R.I.
Filed Nov. 7, 1962, Ser. No. 236,034
6 Claims. (Cl. 169—19)



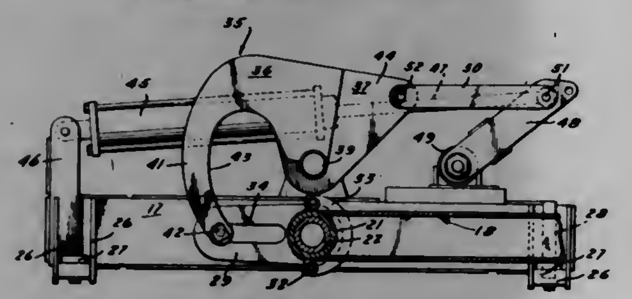
1. A quick operating valve for a fire extinguishing system comprising a valve body having a wall providing a through passage with a valve seat along said passage, a valve plug movable in said body to engage said seat and close said passage and with a stem extending outwardly through a wall thereof, a lever pivoted on said body externally of said wall and engaging said plug stem on one side of the pivot to hold it on its seat against the pressure of fluid in the passage tending to dislodge it from its seat, an abutment external of said wall and fixed relative to said body, an arm pivoted to said lever and extending generally at right angles to the lever and seating on said abutment for holding the lever in a position to hold the plug on its seat, and means to move said arm from said holding position to permit said lever to move and said plug to be dislodged from its seat.

3,196,954
TOMATO HARVESTER
Fredrick L. Hill and Lauren W. Gates, Rio Vista, Calif., assignors to The Regents of The University of California, Berkeley, Calif.
Filed July 1, 1963, Ser. No. 291,672
18 Claims. (Cl. 171—62)



1. In a tomato harvester, the combination of:
a wheel-supported main frame,
an elevator having a rear and upper end pivoted to said main frame, having a forward end close to the ground, and having an endless conveyor for moving tomato plants up from ground level to said rear and upper end,
power lift means mounted on said main frame,
a lifting assembly pivoted to said main frame and pivotally connected to said power lift means and having a connection to said elevator, so as to raise and lower the front end of said elevator by said power lift means,
a lengthwise-extending support structure below said elevator, pivoted to said main frame and having a forward end,
a support assembly comprising a transverse shaft and side arms, said shaft being pivotally connected to said support structure, and said arms being pivotally connected to said lifting assembly, and
a knife assembly, comprising a blade and a shank, said blade being mounted on one end of said shank forward of the forward end of said elevator, said shank being secured to said shaft.

3,196,955
ROLL-OVER MECHANISM
Claude B. Ogle, Jr., 2495 E. Orange Grove Ave., Pasadena, Calif.
Filed Feb. 18, 1963, Ser. No. 259,214
4 Claims. (Cl. 172—225)



1. In earth working equipment including a mobile frame having a tool carrier supported thereon for turning movement about a rearwardly extending pivot member to selectively position right-hand and left-hand plow gangs in an operative position:

(a) power means carried by said mobile frame and having a movable power delivering element;

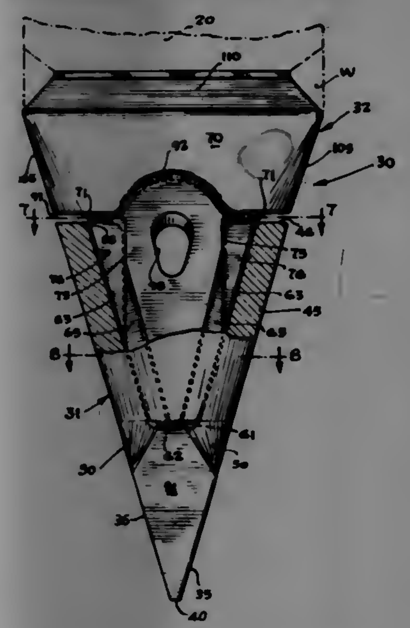
(b) motion transmission means between said element and said tool carrier for moving it to said operative positions, said transmission means including

(c) driving means including a first lever positioned rearwardly of the mobile frame and supported at its inner end above said pivot member for swinging movements of its outer end below said pivot member between positions respectively on opposite sides thereof, said lever being curved to extend around said pivot member in one of said positions;

(d) driven means including a second lever connected to said carrier and having an axis of rotation coincident with the turning axis of the carrier, said first lever having a substantially coplanar connection at its outer end with said second lever for rotational movements in the same direction during forward and reverse actuations thereof; and

(e) means operatively connecting the driving means with said element.

3,196,956
DIGGER TOOTH
Thomas A. Ratkowski, Chicago Heights, Ill., assignor to American Brake Shoe Company, New York, N.Y., a corporation of Delaware
Filed Dec. 21, 1962, Ser. No. 246,634
5 Claims. (Cl. 172—713)

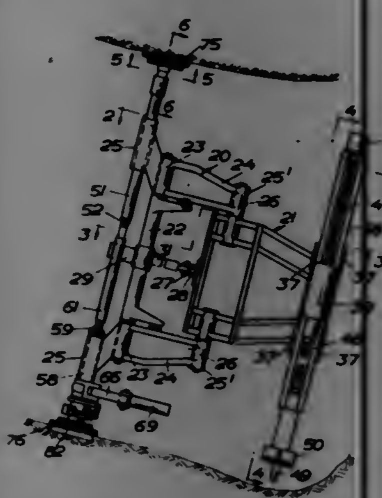


1. In a digger tooth, a point having a blade end and a socket end, said socket end having a hollow interior and a rounded exterior, the interior of the socket including a plurality of opposed flat walls the planes of which when projected intersect at right angles, said intersections being occupied and said walls being separated by inwardly directed substantially right angled shoulders each presenting a pair of surfaces substantially at right angles to the adjacent ones of said walls and adapted to engage complemental surfaces of an adapter and which afford increased wall thickness of said intersections, said opposed flat surfaces being inwardly converging to maintain the wall thickness with said rounded exterior.

3,196,957
DRILL RIGS
Carl Otto Lennart Ottosson, Farsta, Karl-Erik Ovarnström, Vendelso, and Karl Magnus Hällberg, Nacka, Sweden, assignors to Atlas Copco Aktiebolag, Nacka, Sweden, a corporation of Sweden
Filed May 3, 1962, Ser. No. 192,186
11 Claims. (Cl. 173—34)

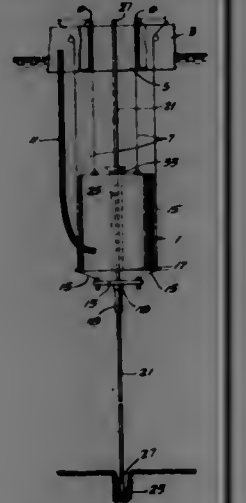
4. In apparatus of the character described for positioning and supporting a drilling apparatus in a plurality of drilling positions all parallel to each other and having a ground supported mounting means, the combination which comprises coaxial spaced apart pivot providing elements disposed on the said mounting means and defining a first axis, an articulated frame including a first and second

section with the inner end portion of said first section disposed on said pivot-providing elements for providing swinging movement of said frame on the said first axis, spaced apart pivotally connected means between the outer end portion of said first and the inner end portion of said second frame section for swinging movement therebetween on a second axis parallel with said first axis, elongated feeding means slidably disposed on said second frame section at the end thereof opposite said second axis, the axis thereof being parallel to said first and second axes, a first hydraulic power jack between said frame sections for swinging and angularly positioning said second frame section with respect to said first frame section, a second hydraulic power jack between said mounting means and said first frame section for swinging and angularly positioning said articulated frame with respect to said mounting means, and a third hydraulic jack between said second frame section and said feeding means for the movement thereof along said second frame section in a direction parallel to said first and second axes.



3,196,958
OFFSHORE DRILLING METHOD AND APPARATUS

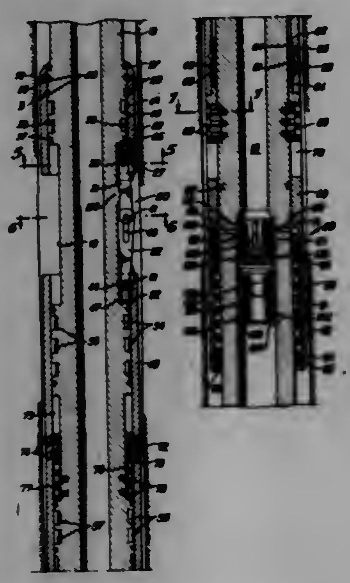
William J. Travers, Pasadena, and William D. Leake, Long Beach, Calif., assignors to Richfield Oil Corporation, Los Angeles, Calif., a corporation of Delaware
Filed Apr. 4, 1960, Ser. No. 19,720
4 Claims. (Cl. 175—7)



1. Apparatus for use with a floating vessel for drilling a well in the formation underlying a body of water, comprising in combination: a bottom structure fixed on the formation, and underwater float of controllable buoyancy, a tubular member fixed to said structure and extending upward to said float, said tubular member having longitudinally spaced laterally flexible joints therein, tubular apparatus secured relative to the float and resting thereon and including a blowout prevention device; said tubular apparatus extending upward above said float and being fixed at its upper end to said floating vessel and having a telescopic joint therein, the buoyancy of the float serving to maintain said tubular member in sufficient tension to retain said float in substantial alignment with said vessel and said bottom structure and serving to support the weight of said tubular apparatus and means for operating drilling tools from the floating vessel through the interior of the tubular apparatus, underwater float and tubular member and said bottom structure.

3,196,959
DIRECTIONAL DRILLING APPARATUS

Archer W. Kammerer, Fullerton, Calif., assignor of one-fifth to Jean K. Lamphere, Fullerton, Calif., and one-fifth to Archer W. Kammerer, Jr., Houston, Tex.
Filed Aug. 14, 1961, Ser. No. 131,279
24 Claims. (Cl. 175—73)

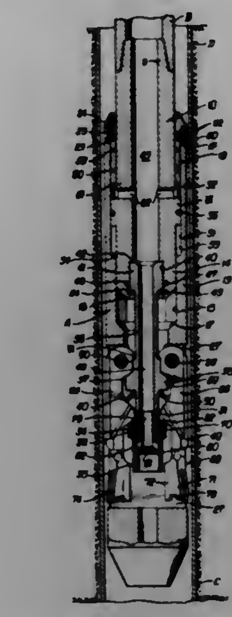


11. In directional drilling apparatus: a tubular member adapted to be incorporated in a drilling string to be disposed in a bore hole; an upper sleeve rotatable on said member; a lower sleeve rotatable on said member; said sleeves being movable axially relative to each other; a link connected to said lower sleeve; a link connected to said upper sleeve; a lost-motion connection connecting said links to each other; clutch means connecting one of said sleeves to said tubular member; and means for shifting said one sleeve toward said other sleeve and along said tubular member to disengage said clutch means and shift said links toward the wall of the bore hole to engage at least one of said links with the bore hole and offset the tubular member relative to the axis of the bore hole.

3,196,960
FLUID PRESSURE EXPANSIBLE DRILL BITS

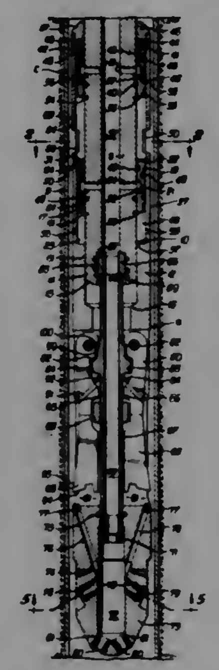
Archer W. Kammerer, Fullerton, Calif., assignor of one-fifth to Jean K. Lamphere, Fullerton, Calif., and one-fifth to Archer W. Kammerer, Jr., Houston, Tex.
Filed Mar, 19, 1963, Ser. No. 266,261
6 Claims. (Cl. 175—267)

1. In a rotary drill bit to be lowered in a well bore on a rotary drill string: a body having a slot; cutter means in said slot carried by said body for expansion from a retracted position laterally outwardly of said body; means for expanding said cutter means laterally outwardly of said body, including a tubular member movable relatively longitudinally in said body; said tubular member having a fluid passage adapted to receive fluid from the drill string and also having first passage means and second passage means communicating with said passage and through which fluid is adapted to discharge from the tubular member; means on said body closing said second passage means when said tubular member occupies one position in said body with said cutter means retracted and with said first passage means open, relative longitudinal movement of said tubular member in said body from said one position upon expansion of said cutter means shifting said second passage means to open condition in alignment with said slot; said second passage means directing fluid through said slot toward said cutter means when in open condition.



3,196,961
FLUID PRESSURE EXPANSIBLE ROTARY DRILL BITS

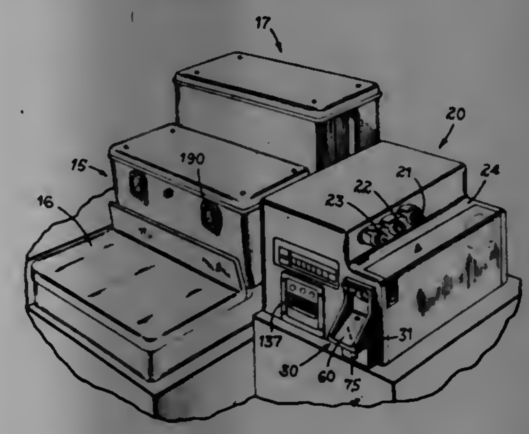
Archer W. Kammerer, Fullerton, Calif., assignor of one-fifth to Jean K. Lamphere, Fullerton, Calif., and one-fifth to Archer W. Kammerer, Jr., Houston, Tex.
Filed Apr. 22, 1963, Ser. No. 274,515
9 Claims. (Cl. 175—267)



1. In a rotary drill bit to be lowered in a well bore on a rotary drill string: a body; cutter means mounted on said body for expansion laterally of said body; a mandrel longitudinally movable relative to and in said body; co-engageable expander means on said mandrel and cutter means; upper and lower cylinders on said body; upper and lower pistons on said mandrel movable in said upper and lower cylinders, respectively; said upper cylinder including a cylinder wall; said lower cylinder including a cylinder wall integral with said upper cylinder wall and an annular cylinder head separate from said lower cylinder wall and surrounding said mandrel between said pistons; means detachably securing one of said pistons to said mandrel to permit disposition of said cylinder head on said mandrel between said pistons; means detachably securing said cylinder head to said lower cylinder wall; and means for directing fluid under pressure into said upper and lower cylinder above said upper and lower pistons, respectively, for simultaneous action on said pistons and cylinders to relatively shift said mandrel downwardly in said body and expand said cutter means outwardly.

3,196,962
SCALES

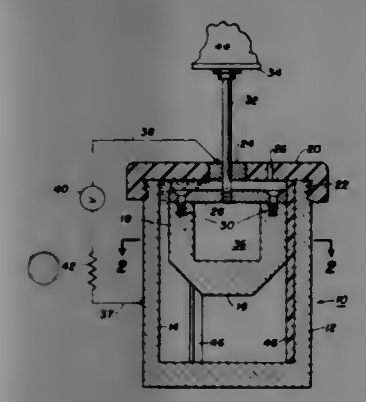
Kenneth C. Allen, Dayton, and David A. Meeker, Troy, Ohio, assignors to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio
Application Aug. 1, 1960, Ser. No. 46,408, now Patent No. 3,141,514, which is a division of application Ser. No. 561,336, Jan. 25, 1956, now Patent No. 2,948,466, dated Aug. 9, 1960. Divided and this application Nov. 1, 1963, Ser. No. 320,771
2 Claims. (Cl. 177—1)



1. The method of weighing packages and marking the same with a printed record of the weight and value thereof, which comprises the steps of weighing a package, computing the value of said package, temporarily storing the weight and value data for said package, printing said temporarily stored weight and value data on one side of a ticket having a heat sensitive adhesive on the other side thereof, delivering said printed ticket to a delivery station with said adhesive coating thereon uppermost, heating said coating while said ticket is at said delivery station, pressing said package into adhesive contact with said coating while said ticket is at said delivery station to effect adhesion of said ticket to said package, removing said ticket from said station with said package, and repeating said steps sequentially in connection with each of a plurality of successive packages.

3,196,963
ELECTROKINETIC WEIGHING APPARATUS

Donald L. Klass, Barrington, Robert M. Haines, Crystal Lake, Robert B. McEuen, Barrington, and Thomas W. Martinek, Crystal Lake, Ill., assignors to The Pure Oil Company, Palatine, Ill., a corporation of Ohio
Filed Dec. 23, 1963, Ser. No. 332,484
17 Claims. (Cl. 177—1)



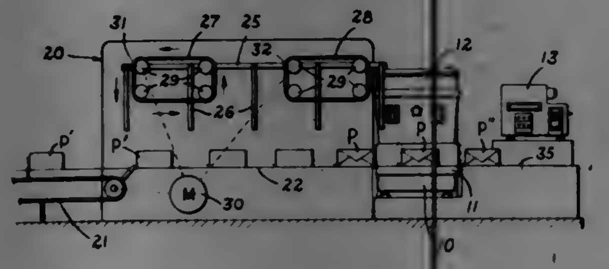
1. A weighing device comprising two spaced members having electrically conductive opposing surfaces, one of said members being mounted for relative movement with

respect to the other member with said electrically conductive surfaces maintained spaced from each other, means for confining a shear-responsive liquid exhibiting electrokinetic properties upon shear between said electrically conductive surfaces, movable support means for supporting an object to be weighed, said support means being operatively connected to the movable member so as to cause movement of said movable member at a speed proportional to the weight of an object supported thereby, and electrical circuit means including indicating means responsive to an electrokinetic property of said shear-responsive liquid connected to said surfaces.

3,196,964
AUTOMATIC CONVEYOR AND WEIGHING SYSTEM

Kenneth C. Allen, Dayton, Ohio, assignor to The Hobart Manufacturing Company, Troy, Ohio, a corporation of Ohio

Filed June 4, 1963, Ser. No. 85,502
2 Claims. (Cl. 177—3)



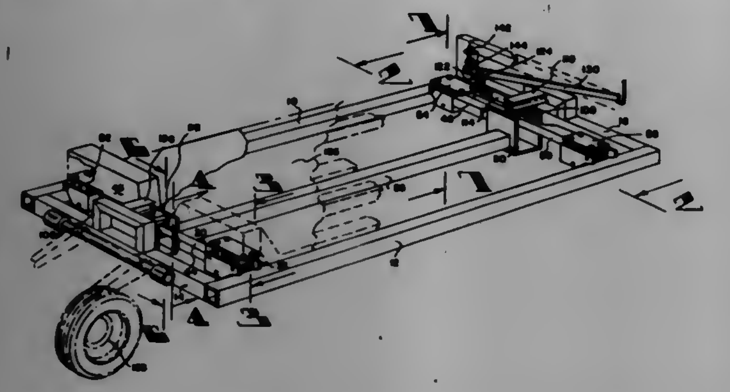
1. A conveyor and automatic weighing scale computer system for weighing a plurality of articles in succession on the platform of an automatic scale including a cyclically operable conveyor having article handling means arranged to move a succession of said articles onto the scale platform and means for recording the weight of each said article and printing a record thereof, the improvement comprising normally continuously running conveyor drive means for operating said conveyor, sensing means responsive to said scale in balance with a load thereon or, alternatively, to an unbalanced condition of said scale indicative of the presence of an unweighed load on said platform, cycling control switch means for said drive means operable in synchronism with said conveyor for energizing said drive means and operable to deenergize said drive means prior to the end of its cycle, second switch means connected in parallel with said cycling control switch means operated by said sensing means to energize said conveyor drive means and maintaining said conveyor drive means in said continuously running condition independently of said cycling control switch means, means for automatically initiating the operation of the computer system when said scale has come to balance with a weight thereon, and switch means driven by a cam operating in synchronism with said conveyor drive means for preventing the operation of said initiating means when said conveyor article handling means is in contact with an article on said weighing platform.

3,196,965
PORTABLE WEIGHING SCALE STRUCTURE

Arthur G. Schramm, 215 N. 28th St., Phoenix, Ariz.

Filed Feb. 26, 1964, Ser. No. 347,408
10 Claims. (Cl. 177—33)

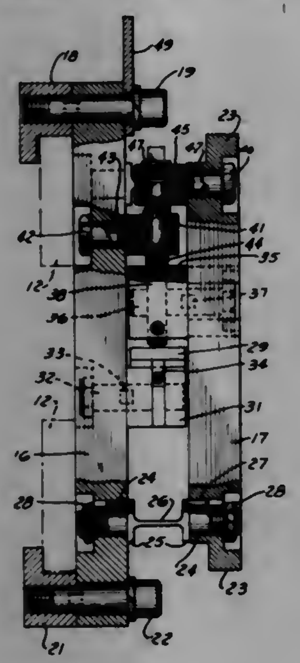
1. In a portable weighing scale structure the combination of: a frame having opposite ends and sides; first and second bearing means each supported by one respective side of said frame near each one of its said ends: first and second levers pivotally supported on respective first and second bearing means; a free end of each lever extending toward an area intermediately disposed between said sides: first and second weigh bridge mounts pivotally supported on said first and second levers at locations spaced from said first and second bearing means; a torsion bar disposed in said intermediate area between opposite sides of said frame; torsion bar suspension means; opposite ends of said torsion bar pivotally suspended from respective ends of said frame by said torsion bar suspension means to permit said torsion bar to rotate about its longitudinal axis; lever bearing means coupled to said torsion bar and disposed laterally of the pivotal axis of said torsion bar suspension means; said free ends of said first and second levers engaged with said lever bearing means; and a force transmitting lever coupled to one end of said torsion bar and adapted to transmit force to a weight measuring instrument, said frame adapted to rest on the ground; a weigh bridge suspended from said weigh bridge mounts and having an upper surface disposed on a level below said levers, said levers being located on said frame at positions outwardly beyond said weigh bridge to thereby permit said frame to support said weigh bridge at a low elevation relative to the ground.



3,196,966
WEIGHING APPARATUS

Verne C. Kennedy, Bannockburn, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois

Filed Jan. 13, 1964, Ser. No. 337,220
6 Claims. (Cl. 177—139)

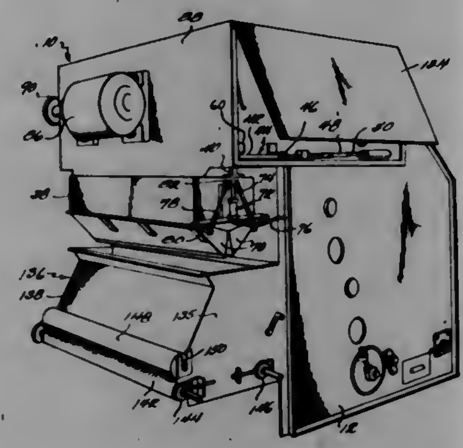


1. Weighing apparatus for use on a fork lift truck or the like comprising horizontally spaced vertical back and front plates, means on the back plate for mounting it on a support, a horizontal elongated load receiving member connected to the front plate to receive a load to be weighed, a plurality of vertically spaced flexure elements connecting the plates, and means separate from the flexure elements connecting the plates to measure the vertical force therebetween, each of the flexure elements comprising an elongated unitary member having cylindrical ends fitting into and rigidly secured in complementary openings in the plates respectively and the central part of the member being in the form of a horizontally extending flat strip which is adapted to flex to accommodate relative vertical movement of the plates.

3,196,967
WEIGHING MECHANISM

Kenneth G. Lytton, P.O. Box 1358, Gastonia, N.C.

Original application July 5, 1961, Ser. No. 136,966, now Patent No. 3,132,709, dated May 12, 1964. Divided and this application May 11, 1964, Ser. No. 366,529
1 Claim. (Cl. 177—157)

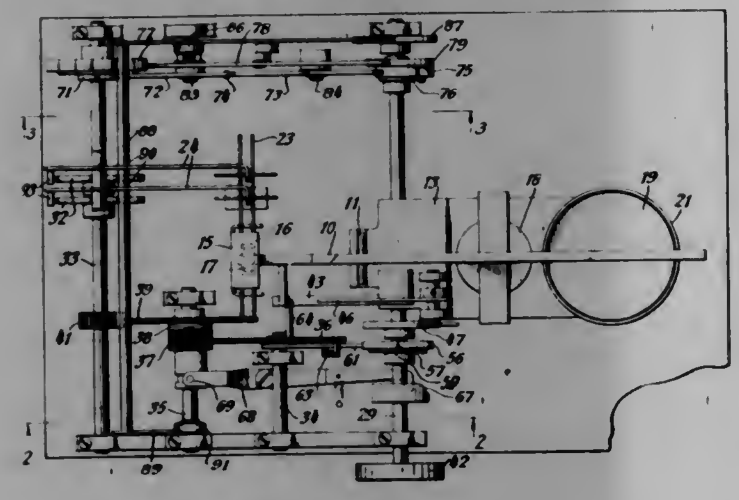


Weighing mechanism comprising: a scale beam; a load holder therefor and movable therewith from an upper position to a lower position on the receipt of a predetermined weight of material in said holder; a counterweight mounted for adjustment along said beam; magnetic means exerting a predetermined uni-directional substantially constant attractive force on said beam when said load holder is in said upper position for urging said beam to move in the same direction in which it is urged by said counterweight, said magnetic means including a magnet and a member of magnetic material, one fixed and one mounted on said beam; and an adjustable stop engageable by said beam for defining said upper position and for varying the permissible spacing between said magnet and said member to adjust said attractive force when said load holder is in said upper position.

3,196,968
BALANCES PROVIDED WITH APPROXIMATE WEIGHING DEVICES

Frank A. Chappell, Petts Wood, Kent, England, assignor to L. Oertling Limited, Orpington, Kent, England, a British company

Filed Jan. 29, 1964, Ser. No. 341,018
5 Claims. (Cl. 177—248)

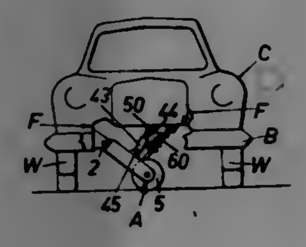


1. In a weighing balance the combination with a balance beam, a sample pan, means for weighing a sample in said pan by the removal of counterweights, a weight selecting mechanism, means for counter-balancing a sample placed in said pan, including a blade spring operatively connected to the balance beam wherein the deflection of the spring and beam increases until the said beam reaches a position at which the weight of said sample is balanced by the load of said spring which is then deflected to a degree proportional to the weight of said sample, the angle of said deflection of said beam determining the position of a control means, said last-named means controlling the weight selecting mechanism for selecting the appropriate weights whereby the balance beam is substantially balanced.

3,196,969
MOTOR CAR PARKING APPARATUS

Iro Senzani, 13–15 Viale Risorgimento, Faenza, Italy

Filed Dec. 13, 1963, Ser. No. 330,502
Claims priority, application Italy, Dec. 14, 1962, 25,006/62
8 Claims. (Cl. 180—1)

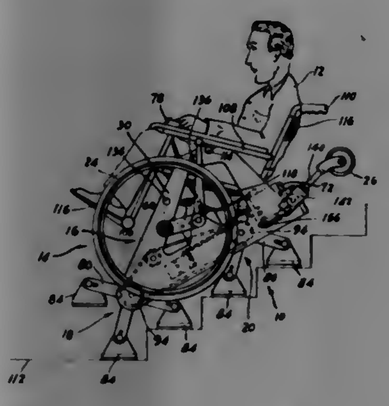


1. A parking apparatus composed of a hollow lifting arm hinged at one end and provided at its opposite end with a parking wheel and provided with a reversible electric motor, a hydraulic power piston for swinging said arm downwardly and a transmission for driving said parking wheel from said motor and means for clutching automatically the transmission of the power to the parking wheel when the lifting arm has reached a certain angular position and means for pulling said arm to rest position when the motor is stopped and the hydraulic means are rendered inoperative.

3,196,970
STAIR-CLIMBING WHEEL CHAIR

Dale E. Brenner, 2012 Pine View Drive, York, Pa.

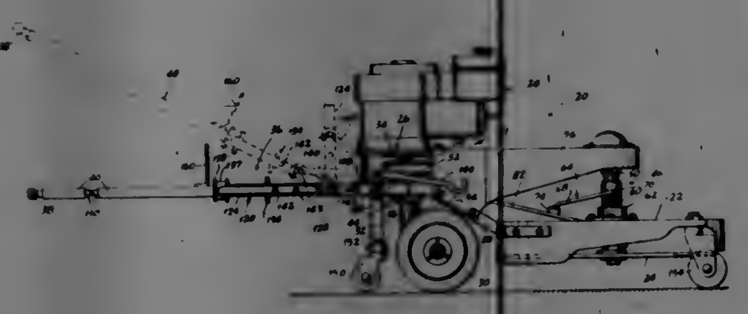
Filed May 17, 1963, Ser. No. 281,163
10 Claims. (Cl. 180—8)



1. A stair-climbing wheel chair comprising in combination, a frame substantially A-shaped in side elevation and having similar opposite sides, seat means pivotally supported adjacent the apex of said frame and between said sides thereof for movement between a plurality of operative positions, propelling means rotatably supported by the lower portion of said frame and comprising a

plurality of units respectively spaced longitudinally of said frame fore and aft of the center of gravity of said seat means thereon, a plurality of stair step-enageable members pivotally supported in pendant manner by said propelling means and having flat surfaces engageable with the treads of spaced stair steps, means adjustably connecting said members to said propelling means to adapt said members for engagement with stair treads of different heights and widths, and means to actuate said propelling means and members supported thereby.

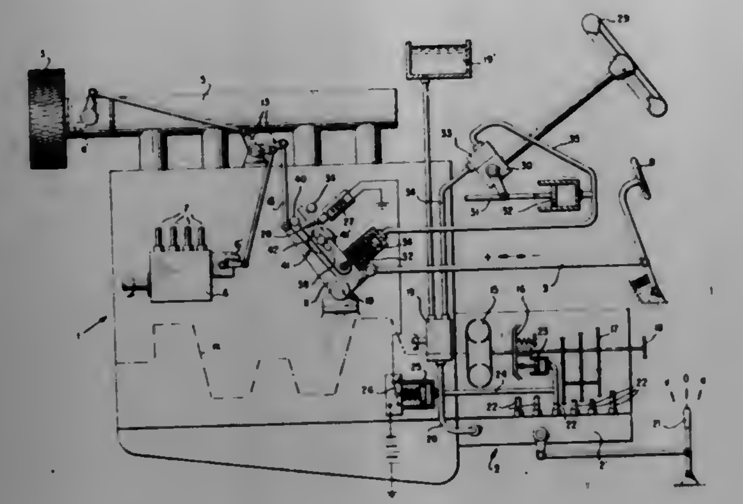
3,196,971
POWER MOWER WITH GEAR DRIVEN STEERING MECHANISM
Socrates J. Schantz, Box 134, Marine, Ill.
Filed May 31, 1961, Ser. No. 113,889
5 Claims. (Cl. 180—1[illegible])



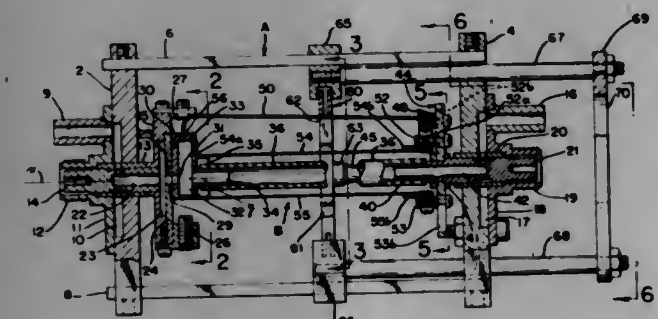
1. A power mower having a body, a pair of wheels driven by a power shaft, a housing for drive means for said wheels and shaft, said housing being rotatably mounted with respect to said body, and means for steering said driven wheels comprising a cylindrical extension of said housing coaxial with and enclosing a portion of said power shaft, a steering handle and steering shaft and steering gear means engaging the end of the steering shaft with an end of said cylindrical extension of the housing, said steering shaft being loosely journaled at its forward end within said steering gear means, and means for supporting said shaft in four selected rotation positions comprising a yoke pivotally connected to the body of the power mower and consisting of a pair of oppositely disposed yoke arms terminating in shoes engageable in biased and loosely mating relation with a squared section of said shaft.

3,196,972
IDLING SPEED CONTROL ARRANGEMENT
Günter Perrin, Stuttgart-Hedelfingen, Germany, assignor to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed Oct. 25, 1962, Ser. No. 233,115
Claims priority, application Germany, Nov. 4, 1961, D 37,385
6 Claims. (Cl. 180—77)

1. A control installation for adjusting the idling-speed torque of internal combustion engines in motor vehicles having power steering means adapted to be actuated by the driver to a force-transmitting position in which the auxiliary force thereof is rendered effective, comprising control means including a gas pedal operatively connected with control linkage means for selectively controlling the torque produced by the engine and primary idling abutment means for maintaining said control means at least at a minimum idling position, secondary idling abutment means in the form of a lever pivotable against said control linkage means for establishing an instantaneous idling-speed position different from said minimum idling position of said control means, and further means operatively connected with said secondary idling abutment means at one free end of said lever for adjustment thereof to a position of larger idling-speed torque of the engine upon actuation of said power steering means to a force-transmitting position thereof, the other free end of said lever being movable between first and second fixed positions.

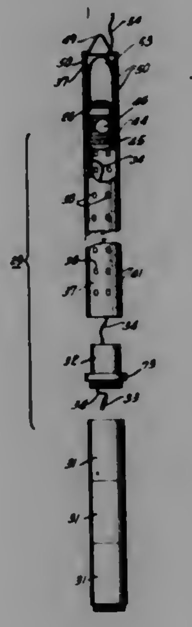


3,196,973
SPEED CONTROL MECHANISM
John L. Fuller, 802 St. Clair Ave., Shaker Heights, Ohio
Continuation of application Ser. No. 142,265, Oct. 2, 1961. This application May 4, 1964, Ser. No. 365,855
15 Claims. (Cl. 180—82.1)



1. In a speed control mechanism for controlling the speed of a vehicle having a throttle controlled driving engine comprising a source of pressurized fluid, a fluid operated throttle control device, and a pressure modulating means responsive to the speed of a vehicle to modulate the pressure of the fluid as it passes from the fluid source to the throttle control device to control the throttle setting according to the speed of the vehicle, the improvement comprising: said pressure modulating means comprising a radially fixed base member connected to said fluid source and having a first control port, and a valve member movably mounted on a frame rotatable about an axis at a speed proportional to the vehicle speed and said valve member having a second control port and an outlet passage, means connecting said outlet passage of said valve member to said throttle control device, said valve member having a center of gravity offset from said axis, resilient means connecting said valve member to said frame so said valve member is radially displaced against the resiliency of said resilient means in accordance with the vehicle speed, said first control port substantially aligned with said second control port when the rotational speed of said valve member is at a first speed and said first control port and said second control port being shifted radially from alignment as said valve member shifts radially in accordance with the vehicle speed and support means to maintain said valve member and said base member in close spaced relationship at all times, said resilient support means comprising a cantilever spring having a radially fixed end connected to said frame and a radially movable end connected to said valve member so that the centrifugal force exerted on said spring by the valve member as the speed of said vehicle incresaes causes said movable end to move radially outwardly a distance corresponding to the speed of the vehicle.

3,196,974
FAST ACTING SENSITIVE PRESSURE SWITCH
Vernon M. Barnes, Jr., Richmond, Va., assignor to Texaco Experiment Incorporated, Richmond, Va., a corporation of Virginia
Filed Aug. 14, 1961, Ser. No. 131,324
7 Claims. (Cl. 181—.5)

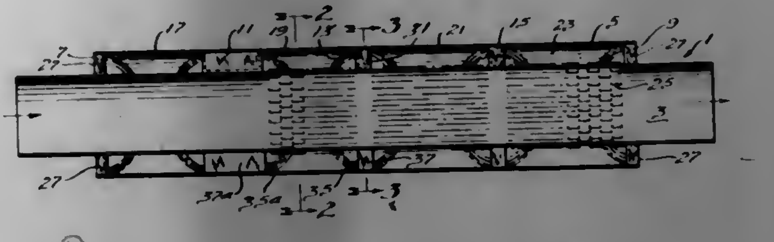


4. A fast acting sensitive pressure switch for use in seismic shooting and the like comprising a flat thin at least partially conductive material diaphragm, said diaphragm being adapted to respond to seismic waves, means for electrically connecting said diaphragm solely to act as one contact of said switch, a centrally located conductive material member located very close to but not in contact with said diaphragm in the absence of any seismic wave actuation of the diaphragm, and an elongated support structure spacing the foregoing pressure responsive switch elements a predetermined distance from an explosive charge that is to be detonated under control of the closing of said switch which distance is determined by the inherent switch delay time and the seismic velocity of the formation between said switch and explosive.

3,196,975
ACOUSTIC FOAM
Walter D. Voelker, Philadelphia, Pa., assignor, by mesne assignments, to Allied Chemical Corporation, New York, N.Y., a corporation of New York
No Drawing. Filed Dec. 13, 1962, Ser. No. 244,267
4 Claims. (Cl. 181—33)

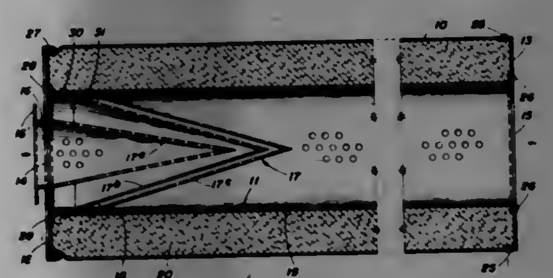
1. A polyurethane foam panel having both thermal insulation and acoustical insulation properties and having a facing readily washable and repellent to the adherence of dirt thereon comprising a single layer body portion of flexible polyurethane foam and a preformed plastic facing sheet securely bonded thereto, said plastic facing sheet having a thickness of less than 100 microns and said polyurethane foam body portion comprising both open cell and closed cell pores, each in significant proportion, with a major portion of the pore volume being of open cell structure.

3,196,976
MUFFLER HAVING OUTER SHELL DEFORMED TO DEFINE CHAMBERS AROUND CENTER TUBE
Walter H. Powers, Racine, Wis., and Robert A. Heath, Jackson, Mich., assignors to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed June 27, 1963, Ser. No. 291,172
10 Claims. (Cl. 181—48)



1. A small diameter bendable multi-chamber silencing device for automotive exhaust systems comprising a center tube and an outer shell around the center tube, said outer shell having radial sections reduced in diameter to contact and fit around the center tube and form a plurality of longitudinally separated chambers around the center tube, each of said sections comprising a plurality of V-shaped folds and passage means in the shell provided by one of said folds and serving to intercommunicate at least an adjacent pair of said chambers.

3,196,977
SOUND ATTENUATION CONTROL MEANS INCLUDING DIFFUSER FOR HIGH VELOCITY STREAMS
Guy J. Sanders, Wyckoff, N.J., assignor to Industrial Acoustics Company, Inc., New York, N.Y., a corporation of New York
Filed Apr. 27, 1960, Ser. No. 25,087
11 Claims. (Cl. 181—50)

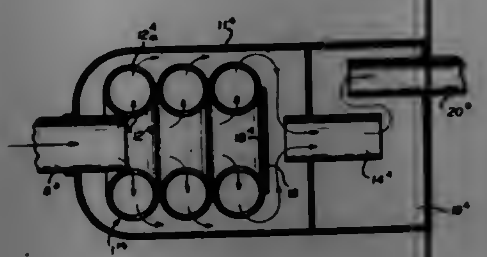


1. In apparatus for controlling the effluence of a high-velocity stream at 0.4 Mach or greater from discharge means, means for diffusing said stream, for preventing the generation of noise and for attenuating noise associated with said stream, particularly low-frequency components thereof, comprising a casing lined with acoustic absorbent material and having an inlet section adapted to enclose said discharge means, and a plurality of nested perforated conical members the apexes of which point in the direction of movement of said stream, said members being mounted in said inlet section in a position to be directly and successively impacted by said stream.

3,196,978
GAS SILENCER HAVING GAS FLOW DUCTS DEFINED BY TUBULAR RINGS WITHIN A CASING
Hans Karl Leistritz, Usingerstr. 10,
Frankfurt am Main, Germany
Filed Mar. 29, 1961, Ser. No. 99,136
6 Claims. (Cl. 181—56)

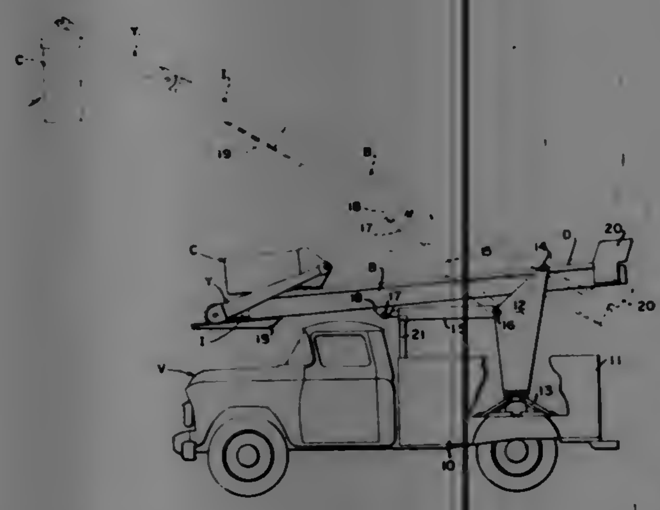
2. A gas silencer, comprising
a plurality of contiguous tubular rings enclosed within the walls of a casing and defining a central duct

through said rings and an outer annular duct between
at least all less one of said rings and the casing,
the hollow interior of each ring communicating through
openings in its opposite side walls with the central
duct and the outer annular duct,



one end of the central duct and one end of the outer
annular duct being closed, and
the other ends of said ducts communicating with the
outside of said casing.

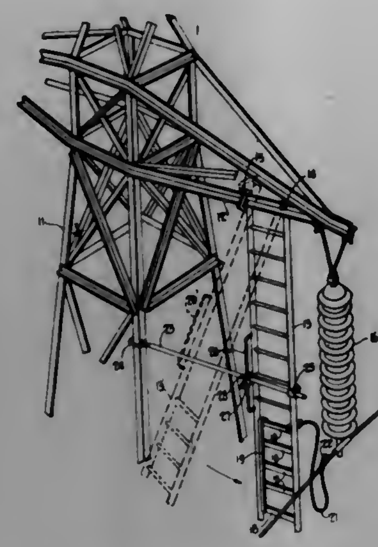
3,196,979
WORKMAN'S CAGE OR AERIAL BASKET
Edward V. Garnett, Denver, Colo., assignor to Eaton Metal Products Company, a corporation of Nebraska
Filed Aug. 22, 1961, Ser. No. 133,116
25 Claims. (Cl. 182—2)



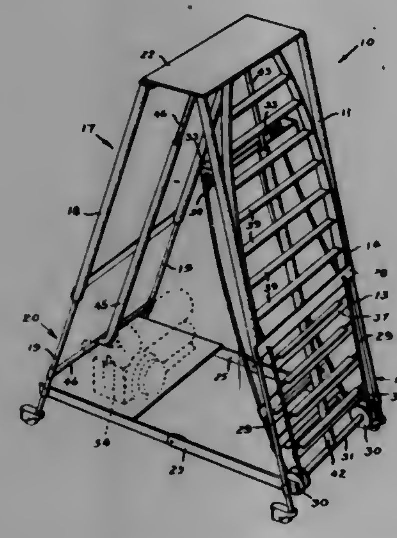
1. An extensible boom assembly adapted to be mounted on a vehicle and including an outer boom; an inner boom telescopically received in said outer boom; a pair of arms, each having one end pivotally connected to said inner boom adjacent the outer end thereof; and a workman's basket pivotally mounted on the other end of the said arms for movement between a use position outwardly of said inner boom and a storage position above said inner boom.

3,196,980
INSULATED PERSONNEL CARRIER
Harold L. Rorden, 117 Whitford Ave., Nutley, N.J.
Filed Oct. 27, 1961, Ser. No. 148,191
10 Claims. (Cl. 182—46)

1. Apparatus for working an energized conductor which is supported in space and insulated relative to the earth, said apparatus comprising a ladder of insulating structural material, means for supporting the ladder with a portion thereof in proximity to an energized conductor to be worked upon, means comprising an electrically conducting surface on said portion of the ladder to enable a workman to stand at said portion of the ladder in insulated relation to the earth, and flexible electrically conducting means for connecting the electrically conducting surface portion of the ladder to the energized conductor for energizing a workman standing on the said electrically conducting surface to the potential of said conductor.

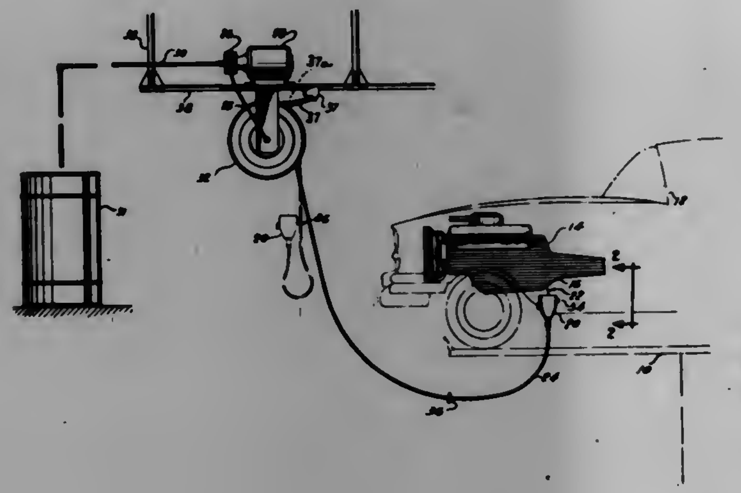


3,196,981
ADJUSTABLE LADDER
Whitford Winnall, 38 Alpha Road, Prospect, South Australia, Australia
Filed Mar. 8, 1963, Ser. No. 263,849
Claims priority, application Australia, Mar. 9, 1962, 15,222
3 Claims. (Cl. 182—116)



1. An adjustable ladder comprising an upper section and a lower section, front stiles and rear stiles on each said section, the front stiles on the upper section slidably engaging the front stiles on the lower section, the rear stiles of the upper section slidably engaging the rear stiles of the lower section, a first hydraulic ram between the upper and lower front sections, a second hydraulic ram between the upper and lower rear sections, hydraulic pump means on the ladder, valve means between the pump means and the rams, valve control means at the upper end of the front ladder section, a series of rungs between said front stiles of said upper section, a pair of lower pulleys one on each of the lower ends of said front stiles on the lower section, a pair of upper pulleys attached to the upper end of said first hydraulic ram and a flexible ladder comprising flexible side members and rigid rungs, each flexible side member being secured at both its ends to the lower end of said upper section but passing over an upper and a lower said pulley.

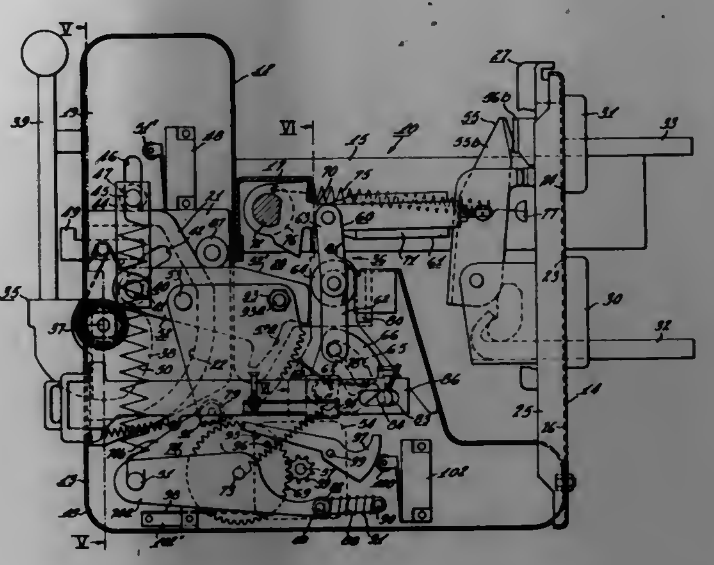
3,196,982
PUMP CONTROL ARRANGEMENT FOR A DRAINAGE APPARATUS
Henry T. Dinkelkamp, Mount Prospect, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia
Original application Sept. 25, 1961, Ser. No. 140,559, now Patent No. 3,140,756, dated July 14, 1964. Divided and this application June 2, 1964, Ser. No. 372,055
The portion of the term of the patent subsequent to July 14, 1981, has been disclaimed
4 Claims. (Cl. 184—1.5)



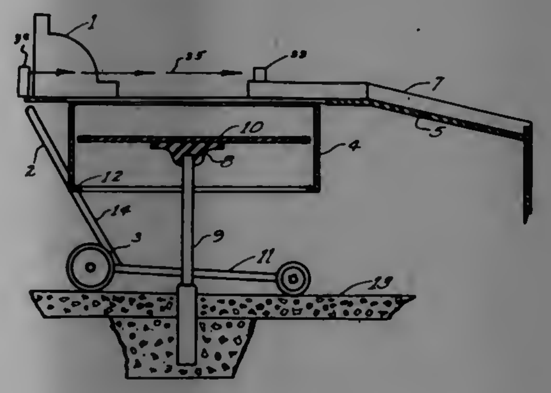
1. Drainage apparatus of the type wherein a motor driven suction pump is carried on a support structure for pumping fluid from a fluid-receiving funnel either detachably suspended in a position beneath a fluid drain opening for receiving a fluid flowing through said opening or retracted from said position, and wherein conveying means are provided for passing fluid from the outlet of said pump to a remotely located waste drum, the improvement comprising a reel carried by said support structure, a hose connected between said funnel and the inlet of said pump and either reeled in successive convolutions upon said reel while retracting said connected funnel toward said reel or unreeled from said reel to permit said funnel to be detachably suspended beneath said opening, a lever arm engaged by one of said hose convolutions in response to the reeling of said one hose convolution on said reel and disengaged therefrom in response to the unreeling of said one hose convolution from said reel, and an electrical switch closed in response to the disengagement of said lever arm from said one convolution for operating said motor driven pump to pump fluid from said funnel through said hose and inlet for passage to said waste drum and opened by said lever arm to prevent operation of said motor driven pump in response to the engagement of said lever arm with said one convolution.

3,196,983
MEANS FOR CHARGING CIRCUIT BREAKER CONTACT OPERATING SPRINGS
Ira W. Paterson, Milton, Mass., assignor to Allis-Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Jan. 3, 1963, Ser. No. 249,269
6 Claims. (Cl. 185—40)

1. In a circuit breaker operating mechanism, in combination, a contact operating spring, a gear segment linked to said spring and movable to effect charging of said spring, a rotatable gear for moving said gear segment, said rotatable gear being movable toward and into and away from and out of engagement with said gear segment, means cooperating with said gear and responsive to predetermined rotation thereof to effect movement of said gear into engagement with said gear segment, and means cooperating with said gear segment and responsive to predetermined movement thereof to effect movement of said gear out of engagement with said gear segment.



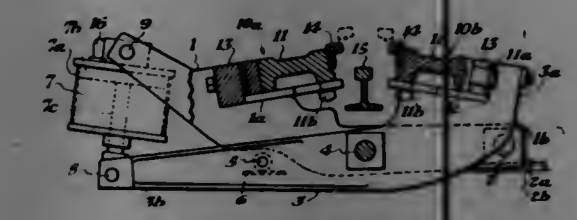
3,196,984
METHOD OF CONVEYING ARTICLES AND CONSTRUCTION OF CHECKOUT EQUIPMENT
Raymond K. Stout, 101 Coronado Drive, Clearwater Beach, Fla.
Filed Aug. 26, 1963, Ser. No. 304,592
7 Claims. (Cl. 186—1)



1. In a merchandise or article handling and checkout system involving the unloading of a portable marketing cart for transport of merchandise, a checkout operator's station including a table or counter, an elevating mechanism adjacent the table, said marketing cart being adapted to be moved into an area adjacent the table and positioned over the elevating mechanism, said marketing cart having a container thereon with side walls and a load supporting bottom adapted to be elevated upward relative to the side walls of the container, reversible power means for actuating the elevating means from a retracted position to engage the load supporting bottom of the container on said marketing cart and to elevate the same thereby raising the articles in the container to a level, for ease of unloading onto said table at the operator's table or station, control means for said power means whereby said power means may be actuated in one sense under control of the operator to elevate the bottom of the marketing cart to facilitate unloading and operable in the reverse sense to retract the elevating means to an initial inactive position thereby permitting the cart to be removed.

3,196,985
RAILWAY BRAKING APPARATUS

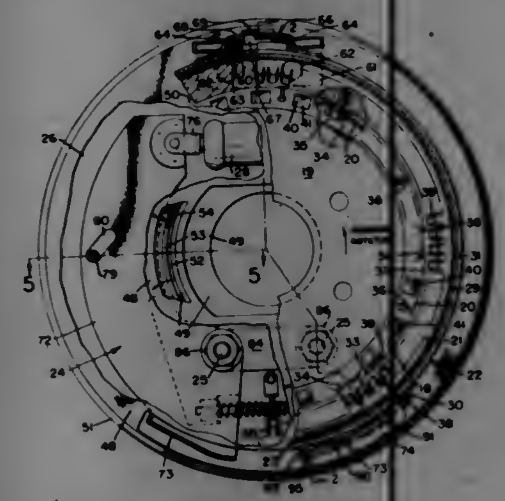
Gerwyn Trevelyan Rowe, Gerald Albert Whittard, and Arthur William Melhuish, London, England, assignors to Westinghouse Brake and Signal Company, Limited, London, England
Filed Jan. 16, 1963, Ser. No. [illegible]51,818
Claims priority, application Great Britain, Jan. 24, 1962, 2,644/62
10 Claims. (Cl. 188—6[illegible])



1. Railway braking apparatus comprising two levers pivoted about a first fulcrum located beneath a track rail, a second fixed fulcrum securely fastened relative to and on one side of said rail for pivotally supporting one of said levers, a third fulcrum located on the other side of said rail for pivotally supporting the other of said levers, a braking bar located on each side of said rail and supported by said levers, and a motor connected to and supported by said levers for forcing each braking bar upwardly and toward said rail.

3,196,986
VEHICLE BRAKE

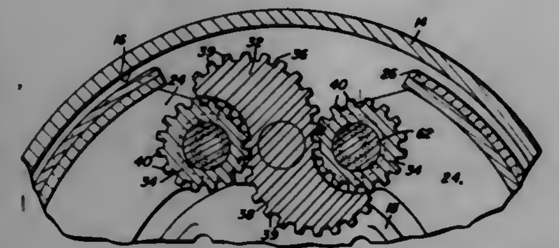
Francis J. Lowey, 1979 Wynwood Drive, Cleveland, Ohio
Filed Sept. 4, 1962, Ser. No. [illegible]21,218
13 Claims. (Cl. 188—[illegible]7)



1. In an externally contracting brake, a brake drum having an outwardly facing, cylindrical braking surface, a circumferentially extending brake band surrounding said drum and having a pair of spaced ends movable toward and away from each other to engage and disengage respectively said band with said braking surface, means spaced from said ends holding said band against circumferential movement, and actuation means for moving said ends toward and away from each other, said means having a path of movement such that the entire length of said band will simultaneously engage said braking surface, said actuation means pivotally engage the ends of said brake band and said means have a line of movement defined by the formula $A=B(1-R)/(R+r)$ where B equals the angle between the radial line through the pivot point when the band first engages the braking surface and the line through the center of the means preventing the band from moving circumferentially, the angle A equals the angle between the pivot point when the band first engages the surface and the pivot point when the band is retracted, R equals the diameter of the braking surface, and r equals the radial movement of the pivot point as the brake band is retracted or advanced.

3,196,987
ADJUSTABLE GEARED CAM AND ROLLER BRAKE SHOE ACTUATOR

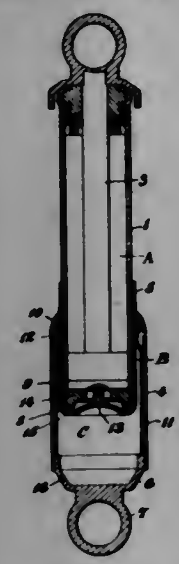
Monte N. Moore, Flushing, Athol M. Moore, Clio, and Daniel James Menter, Saginaw, Mich., assignors to Power Cam Corporation, Flint, Mich., a corporation of Delaware
Filed Mar. 19, 1964, Ser. No. 353,179
15 Claims. (Cl. 188—79.5)



1. A brake assembly including a stationary brake shoe carrier and a rotatable brake drum, a pair of arcuate brake shoes each having a fixed pivotal mounting at one end upon said carrier and being movable about said pivoted end for movement towards and from said brake drum, actuating means connected to the other end of each brake shoe and operable for urging said shoes toward said drum into brake engaged position, means for moving said shoes away from said drum into brake released position, said actuating means including an S-shaped actuating cam pivoted upon said carrier and having toothed surfaces, cam followers each having a toothed surface engaging one of said actuating cam surfaces, mounting means adjustably pivoting each cam follower upon said other end of one of said brake shoes, said mounting means including a pair of spaced bearing supports, axles each mounted in and extending between said bearing supports on one of said brake shoes, an eccentric fixed on each axle, each cam follower being journaled upon an eccentric, means for locking at least one of said axles in a rotationally adjusted position in its bearing supports whereby to adjustably vary the spacing of said axles from each other.

3,196,988
SINGLE TUBE TYPE SHOCK ABSORBERS

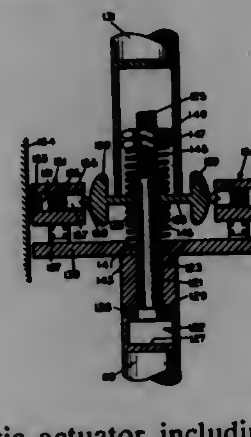
William Kenneth Wasdell, Thimble End Farm, Oxleys Road, Wishaw, Sutton Coldfield, England
Filed Oct. 2, 1963, Ser. No. 313,257
8 Claims. (Cl. 188—100)



1. A shock absorber comprising a tube defining a working chamber, a piston mounted in said tube for axial movement against the resistance of fluid filling the working chamber, a piston rod extending from the piston and projecting through one end of said tube for connection to a first moving part, a foot valve closing the other end of said tube to control flow of fluid displaced from the working chamber by the piston rod, a second tube secured to the exterior of the first tube to project beyond the foot valve end of the first tube and to define a recuperation chamber including an annular gap between the cylindrical walls of the tubes, a flexible elastic sack having a skirt disposed in said gap to enclose a space on the opposite side of the foot valve to said working chamber to receive said displaced fluid, a cap secured to the free end of the second tube and adapted for connection to a second moving part and a sleeve having one end serving to wedge the rim of the sack between said tube walls with the other end of the sleeve abutting said cap.

3,196,989
SPEED CONTROL DEVICE

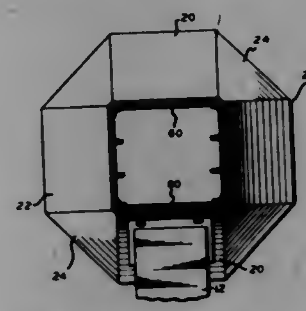
Robert M. Conklin, Muskegon, Mich., assignor, by mesne assignments, to The Battelle Development Corporation, Columbus, Ohio, a corporation of Delaware
Filed Nov. 6, 1961, Ser. No. 150,309
8 Claims. (Cl. 188—134)



8. In a pneumatic actuator including a piston rod attached to a piston slidably mounted in a cylinder, a load-responsive apparatus, comprising: a load rod; resilient means between the load rod and the piston rod, said resilient means allowing the distance between said load rod and said piston rod to vary; at least one guide wall; braking means connected to said piston rod and being preloaded to act against said at least one guide wall to apply a braking force; and adjustment means connected to said load rod and engaging said braking means, said adjustment means responsive to changes in the distance between said load rod and said piston rod for changing the braking force.

3,196,990
TAPERED STRUCTURAL MEMBER AND METHOD OF MAKING THE SAME

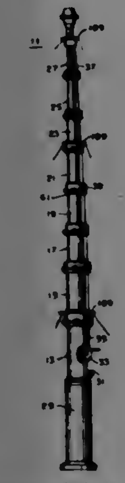
Harold E. Handley, Jackson, Mich., assignor to McGraw-Edison Company, Elgin, Ill., a corporation of Delaware
Filed Mar. 23, 1961, Ser. No. 97,868
8 Claims. (Cl. 189—23)



1. A hollow, elongated, tapered, structural member having a base and top portions, said member consisting of at least six longitudinally extending peripheral portions having longitudinal edges, means interconnecting adjacent peripheral portions along their longitudinal edges, half of said peripheral portions being of substantially uniform width throughout their entire length, the other half of said peripheral portions constituting isosceles triangles having a base included in said base portion of said structural member, said triangular peripheral portions being interposed between said substantially uniform width peripheral portions, said structural member top portion being formed by said substantially uniform width peripheral portions.

3,196,991
MAST

Richard L. Johnson, Red Bank, N.J., and Henry L. Schiff, deceased, late of Wall Township, Monmouth County, N.J., by Marion H. Schiff, administratrix, Freehold, N.J., assignors to the United States of America as represented by the Secretary of the Army
Filed May 4, 1962, Ser. No. 192,611
1 Claim. (Cl. 189—26)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A mast structure comprising a base section and a plurality of telescopic mast sections of successively smaller diameters slideably engageable in said base section, a valve fixed to each of said slideable mast sections at the ends adjacent said base section, each valve being operable by a pressure medium used for raising the discrete successive mast sections to their fully extended position, a locking collar on each of said mast sections, said locking collar including a pair of opposed spring loaded arms pivotally secured to each section at the end thereof opposite the first mentioned end, said arms engirdling and securing the next mast section of smaller diameter as said mast structure is being raised, means for unlocking said collars to release the secured mast section therein, said means comprising a cable spaced from the mast sections and having one end secured within a reel on the base section and its other end secured within the topmost mast section, a weight fixed to said cable intermediate its ends, said weight being adapted to engage contiguous ends of said arms to open same into unlocking relationship with said sections as said mast sections and weight are being raised and lowered.

3,196,992
BUILDING STRUCTURE CORNER UNIT

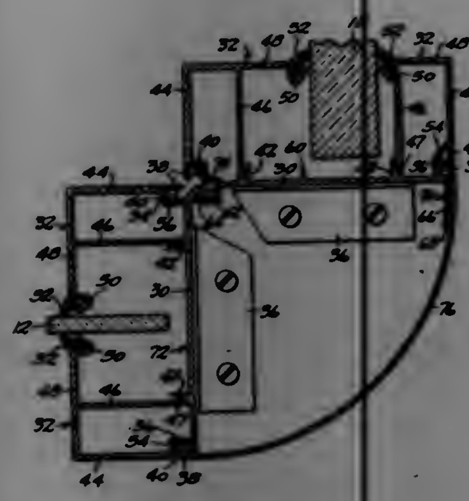
Harry L. Owen, 907 Cedar St., Niles, Mich.
Filed July 12, 1962, Ser. No. 209,422
2 Claims. (Cl. 189—36)

1. A building construction for mounting a building panel in an opening, comprising
- a multiple-part corner member outlining part of said opening,

means carried by a part of said corner member and embracing the marginal part of said panel adjacent to said corner member, one part of said corner member constituting
- an elongated plate,
- a longitudinal knuckle carried by and offset from said plate at one margin of said plate in a direction opposite said panel embracing means and
- a narrow longitudinal flange extending laterally from the opposite margin of said plate,

the other part of said corner member constituting an elongated plate,

a longitudinal knuckle socket offset laterally at one margin of said last named plate and receiving said knuckle and

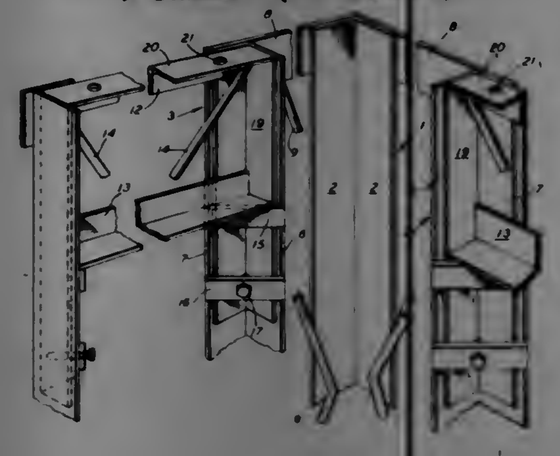


a longitudinal corner wall of arcuate cross-section fixedly projecting from the other margin of said last named plate and overlying and engaging said flange at its free margin, a portion of the panel embracing means extending adjacent to and partially enclosing said knuckle and socket.

3,196,993

RELEASABLE CONNECTOR FOR CONNECTING STRUCTURAL ELEMENTS IN BUILDINGS, FURNITURE AND OTHER ARTICLES

William H. Holloman, 4843 Geneva Ave.,
Concord, Calif.
Filed Nov. 20, 1962, Ser. No. 238,940
9 Claims. (Cl. 189—36)



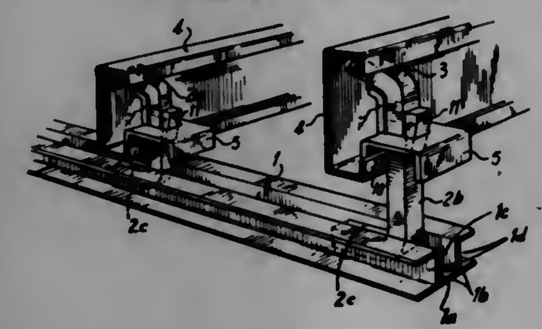
1. In combination with a vertical post that includes a first vertically extending, rigid, straight, right angle strip having a pair of adjoining sides at a right angle to each other having longitudinally extending free edges remote from their juncture and which strip terminates at the upper end of said post in a free upper end edge, the side of said strip between said longitudinally extending edges being open:

(a) a plate integral with said strip extending at least partially across the open side of said strip at a point spaced below the upper free end edge of said strip;
(b) a second straight, vertical, right angle strip in a position within said first right angle strip between said plate and the sides of said first right angle strip;
(c) said second strip being vertically movable upwardly from said position and out of said first strip;
(d) rigid means on said second strip in engagement with said plate supporting said second strip and said rigid means in a predetermined stationary position relative to said first strip;
(e) said rigid means on said second strip being an elongated structural member extending generally horizontally relative to said first strip.

3,196,994

APPARATUS FOR KEYING PURLINS

Maurice Piget, 9 Rue du Faubourg St. Honore,
Paris, France
Filed Jan. 15, 1963, Ser. No. 251,584
Claims priority, application France, Jan. 26, 1962,
886,015, Patent 1,320,196
3 Claims. (Cl. 189—36)

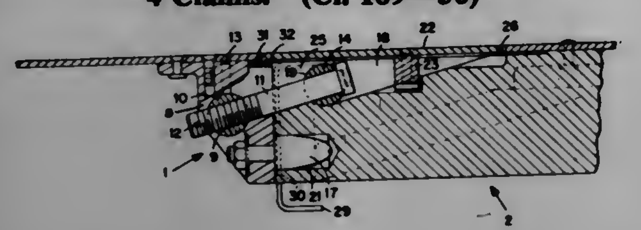


1. In combination: a beam having a longitudinally extending cavity, a bracket having a heel portion at one end secured in said cavity, and a bent portion at its other end, a purlin of C-shaped cross-section to define a pair of inwardly extending flanges on the open side thereof, the bent portion of said bracket extending through the open side of said purlin and under one of said inwardly extending flanges, and means for connecting the other of said flanges to said bracket, said means comprising a coupling having an opening for receiving said bracket, a flange portion adjacent said opening and wedge means for clamping the other of said inwardly extending flanges between said coupling flange portion and said bracket.

3,196,995

FASTENING DEVICE FOR MISSILE COMPONENTS

James N. Wilson, Pasadena, and Edwin Y. Chow, Los Angeles, Calif., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Army
Filed Jan. 16, 1963, Ser. No. 251,990
4 Claims. (Cl. 189—36)

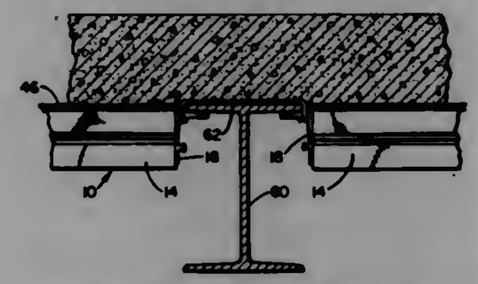


1. A fastening device including: a pair of connector blocks; one of said connector blocks including a base plate with means for securing said base plate to an outer missile skin, a brace plate integral with said base plate and extending radially inwardly and perpendicular to said base plate, said brace plate having a surface for making contact with the other block, a body portion between the brace plate and the base plate and integral with the base plate and the brace plate, a transverse cylindrical cavity in said one of said blocks, a diagonal slot in said one of said blocks extending longitudinally thereof across said transverse cylindrical cavity and from said surface through said block; the other of said blocks including a diagonal sloping groove that extends from one end thereof toward the other end with a maximum depth at said one end and opening through a surface of said other block, which surface is normal to a surface at said one end, said sloping groove having a portion that is narrower in width near said one end and defining a semi-cylindrical hook shaped cavity where said narrower one end portion joins with another wider portion of the diagonal sloping groove; and means securing said blocks together including a cylindrical crosshead having an internally threaded transverse aperture rotatably mounted in said cylindrical cavity, an apertured cylindrical crosshead engaged in said hook shaped cavity, and a bolt extending through the aperture in said apertured crosshead, said narrower portion of said groove, a portion of said slot to said internally threaded crosshead, threaded into the internally threaded crosshead, and clamping said blocks together, said diagonal slot having a depth such that said apertured cylindrical crosshead and bolt are adapted to be moved laterally as said threaded crosshead is rotated so that said one of said blocks may be cleared by said other block when said bolt is loosened relative to said threaded crosshead.

3,196,996

FORM SUPPORTING GIRDER CONSTRUCTION

Henry A. de la Rambelje, Richmond Hill, N.Y., assignor to Hico Corporation of America, New York, N.Y., a corporation of New York
Filed May 7, 1963, Ser. No. 278,583
3 Claims. (Cl. 189—36)

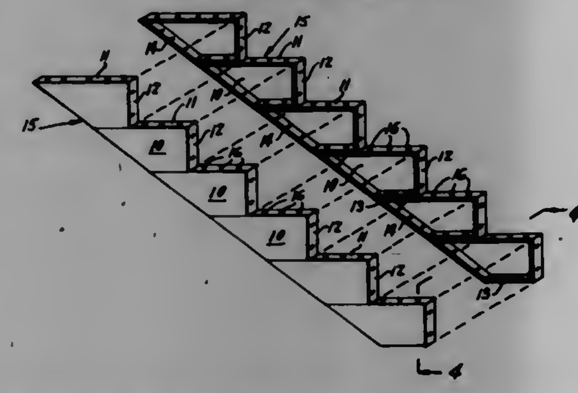


3. In combination, a structural I-beam, form supporting girders the ends of which transversely abut said beam on opposite sides thereof, end support pieces disposed on the ends of said girders and having load supporting support flanges extending longitudinally from the main body of each of said ends at the uppermost point thereof, the invention comprising a bearing ridge downwardly extending from the bottom of each of said flanges and transversely thereof, said ridge forming in conjunction with said body a groove, and a saddle shaped endless looped wire hanger lying across the top flange of said I-beam and sitting in said groove of the oppositely disposed end support pieces.

3,196,997

STEP FORMING UNIT

Elmer M. Hager, 5024 Berwyn Road, College Park, Md.
Filed Oct. 19, 1961, Ser. No. 146,173
1 Claim. (Cl. 189—43)

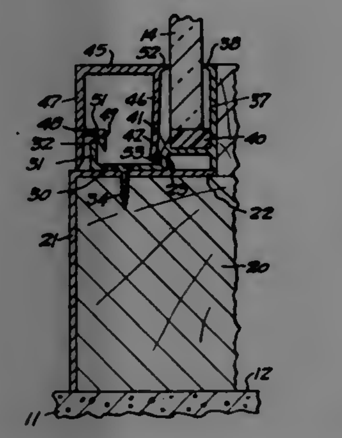


A flight of steps comprising, in combination, an inclined support, a pair of oppositely disposed stringers, each formed of a plurality of identical preformed quadrilateral units, each unit having a perimetric flange extending completely thereabout and forming a horizontal top, a horizontal bottom, a vertical front and an inclined rear side, said inclined rear sides being aligned to form a straight inclined bottom for said stringers, the flanges of the opposed stringers extending inwardly relative to the flight of steps, each flange having bolt holes therein for securing the component units in related assembly, certain of said bolt holes in said horizontal top flange receiving bolts for securing steps thereto and bolt holes in said inclined rear side receiving bolts securing the stringers to said support.

3,196,998

PANEL MOUNTING STRUCTURE

Harry L. Owen, 907 Cedar St., Niles, Mich.
Filed July 31, 1961, Ser. No. 128,196
3 Claims. (Cl. 189—88)



1. Panel mounting means comprising fixed and releasable elongated interlocking members, each of said members having a web portion and a pair of substantially parallel longitudinal spaced flanges projecting therefrom, a hook carried by one flange of one member projecting toward the other flange of said members and interfitting with a socket member carried by one flange of the other member in predetermined spaced relation to the webs of the respective members, said socket being located between the planes of the inner faces of the flanges of said other member, the other flanges of said interlocking members having linear transversely slidable engagement with each other in spaced relation to the webs of said respective members different from the first named spaced relation at an over-center location on a surface of said fixed member and rocking about a fulcrum axis defined by said hook and socket, and a panel-engaging part on said releasable member spaced from said fulcrum, axis and said linear engagement whereby it swings toward and is urged into engagement with a panel as the line of engagement of said other flanges moves over center, said releasable member being flexed transversely thereof in the over-center panel-engaging interlocked position of said parts.

ERRATUM

For Class 191—12.4 see:
Patent No. 3,197,578

3,196,999

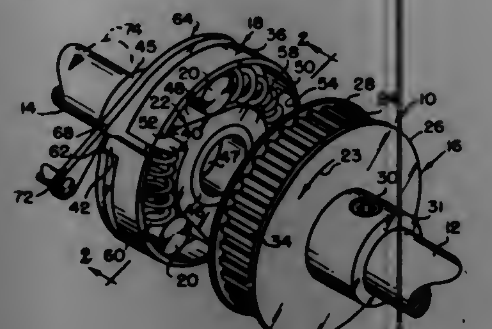
INTERMITTENT CLUTCH WITH FRICTION BAND OPERATED BY ROLLING MEANS AND CAM

Wilburn F. Bradbury, Northbrook, Ill., assignor to SCM Corporation, New York, N.Y., a corporation of New York
Filed Jan. 22, 1963, Ser. No. 253,135
10 Claims. (Cl. 192—27)

1. A stop-start clutch comprising:

(a) a rotatable driving drum;
(b) a driven sprocket within said drum having tangential cam surfaces;
(c) a band positioned within said drum for frictional contact with the interior surface thereof;

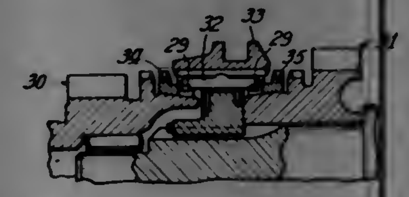
(d) wedging means positioned between said band and said cam surfaces to intermittently urge said band into driving contact with said drum and to rotate said drive member therewith; and



(e) means to selectively prevent rotation of said band while said drum is rotating in frictional contact therewith to effect disengagement of said clutch.

3,197,000
SYNCHRONIZER ASSEMBLY

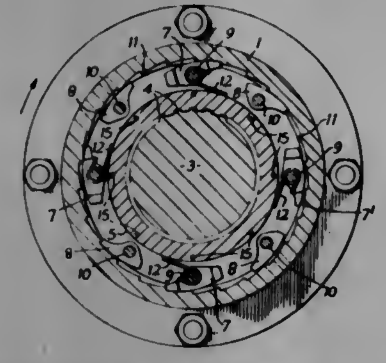
Carl J. Conkle, Muncie, Ind., assignor to Borg-Warner Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 6, 1962, Ser. No. 221,702
2 Claims. (Cl. 192—53)



1. In a synchronizer mechanism;
a torque transmitting member;
a rotatable part
adjacent said torque transmitting member;
a synchronizer element
drivingly connected to said torque transmitting member;
a clutch surface
on said rotatable part;
a clutch surface
on said synchronizer element, said surfaces being engageable to establish a frictional driving connection between said member and said rotatable part, said synchronizer element being shiftable axially to engage said surfaces;
a sleeve
encircling said member and drivingly connected thereto;
engageable means
on said rotatable part;
engageable means
on said sleeve, said sleeve being shiftable axially to engage said engageable means and establish a positive driving connection between said member and said rotatable part;
a plurality of thrust elements
interposed between said sleeve and said member and in engagement with said synchronizer element;
means
fixed to said thrust elements engaged by said sleeve to provide an axial thrust transmitting association between said thrust elements and said sleeve;
means
urging said thrust elements radially outwardly to yieldingly establish said thrust transmitting association; and
retaining means
on said thrust elements extending therefrom and engaging with said member to limit radial outward movement of said thrust elements and said means fixed thereto to thereby retain said thrust elements in operative association with said member.

3,197,001
ROTARY SYNCHRONOUS CLUTCHES

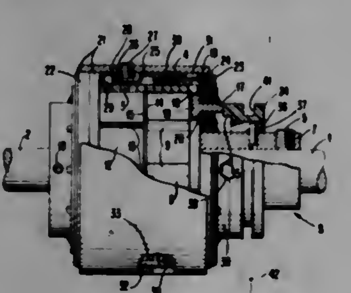
Herbert Arthur Clements, Weybridge, England, assignor to S.S.S. Patents Limited, Richmond, Surrey, England, a British company
Filed Mar. 22, 1963, Ser. No. 267,078
Claims priority, application Great Britain, Mar. 26, 1962, 11,523/62
3 Claims. (Cl. 192—67)



1. A synchronous self-shifting clutch comprising a first rotary clutch member, clutch teeth, carried by said first clutch member, a second rotary clutch member, an intermediate member, clutch teeth, carried by said intermediate member, means constraining said intermediate member for helical movement relative to said second clutch member to bring its clutch teeth into and out of engagement with the clutch teeth of said first clutch member, the clutch also comprising pawl and ratchet mechanism for initiating precise inter-engagement of the clutch teeth of said first and intermediate clutch members, said mechanism comprising ratchet teeth carried by one of said first and intermediate clutch members, and at least one primary pawl and at least one secondary pawl carried by the other of said intermediate and first clutch members, and means urging said primary pawl in the sense for ratchetting engagement with said ratchet teeth, said primary pawl having a weight distribution such that above a predetermined angular speed of the clutch member by which it is carried centrifugal force renders it incapable of ratchetting, and said secondary pawl having a weight distribution such that above a predetermined angular speed of the clutch member by which it is carried, centrifugal force urges it into a position in which it is capable of ratchetting.

3,197,002
TWO TORQUE CLUTCH

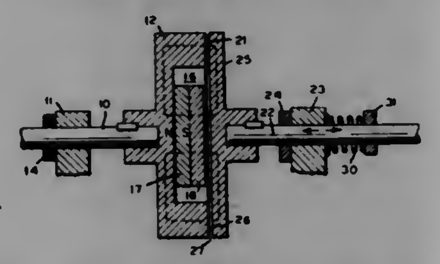
Leon M. Cooper, Lexington, Ky., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Sept. 14, 1962, Ser. No. 223,657
8 Claims. (Cl. 192—81)



1. A clutch mechanism, comprising:
a coupling spring;
a driving member, said member being positioned in frictional engagement with said spring;
a driven member, said member being positioned in frictional engagement with said spring;
means for rotating said driving member to thereby effect rotation of said driven member through said spring at a particular torque level;
auxiliary means, said auxiliary means assuming either an inactive free running relationship or an active force transmitting relationship with respect to said spring;
and selectively operable engaging means for directly coupling said auxiliary means between one of said members and said spring so that a direct drive is established between said one member and said spring, and a torque level is thereby established which is different from said particular torque level.

3,197,003
TEMPERATURE-RESPONSIVE CLUTCH OR BRAKE

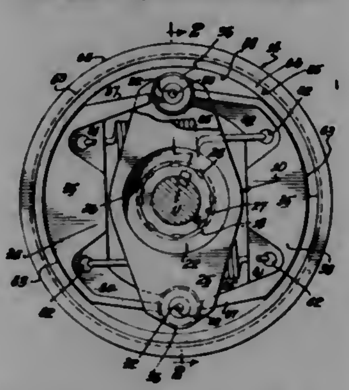
Edward W. Yetter, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
Filed Oct. 13, 1960, Ser. No. 62,488
6 Claims. (Cl. 192—84)



1. A rotary force coupling comprising in combination a pair of relatively rotatable elements to be coupled carried by supports spaced a fixed distance apart, said pair of relatively rotatable elements being disposed adjacent one another in a common magnetic flux path, a permanent magnet and a substance having a Curie point which displays, at temperatures below said Curie point, a change in permeability accompanying a first-order transition from a first solid state phase to a second solid state phase at a given temperature, both said permanent magnet and said substance being permanently disposed in said common magnetic flux path, said permanent magnet and said substance together completing a magnetic flux circuit between said elements of said pair coupling one of said elements with the other of said elements during the time that said substance exists in said first solid state phase and uncoupling said elements of said pair when said substance exists in said second solid state phase.

3,197,004
CENTRIFUGAL CLUTCH

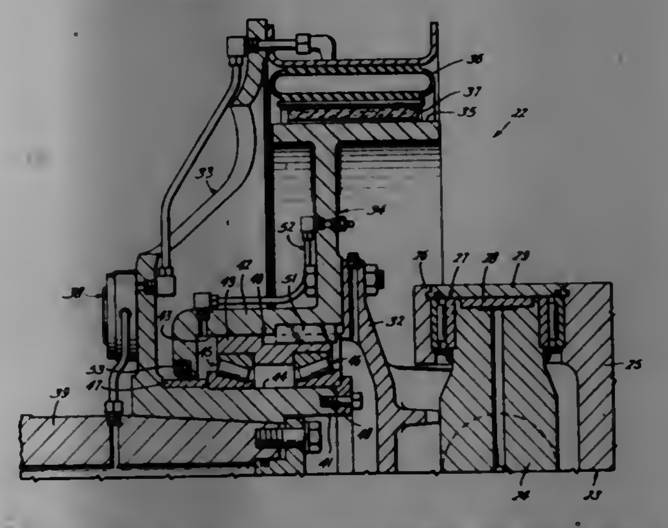
Esley F. Salsbury, Los Angeles, Calif., assignor, by mesne assignments, to Clarence E. Fleming, Jr., and Clifford R. Anderson, Jr., both of Pasadena, Calif.
Filed Jan. 30, 1961, Ser. No. 85,670
1 Claim. (Cl. 192—105)



In a centrifugal clutch, the combination of:
(a) a housing having a power take-off and means for mounting same to turn about an axis;
(b) said housing having an inner cylindrical surface and a friction lining extending completely around said inner cylindrical surface and secured thereto;
(c) a power driven rotor in said housing and mounted to turn about said axis;
(d) said rotor including two diametrically opposed pivot pins paralleling said axis;
(e) two arcuate shoes each having at one end a pivot boss pivoted to one of said pivot pins;
(f) each shoe having an axially-thick central weight portion intermediate its ends, and having on its inner side axially-thin first and second web portions respectively located at circumferentially opposite ends of said central weight portion thereof, said first web portion of each shoe joining said central weight portion thereof, to said pivot boss thereof;
(g) said shoes having on their outer sides outwardly arcuate surfaces within and facing said friction lining;
(h) tension springs each having opposite ends connected to different shoes to draw said shoes inward away from said friction lining except at speeds of the rotor where centrifugal force overcomes the action of said springs and forces said shoes outwardly into frictional engagement with said friction lining; and
(i) each spring having one end connected to said first web portion of one shoe at a first point outwardly of the inner surface of such shoe and adjacent said outwardly arcuate surface thereof, and having its other end connected to said second web portion of the other shoe at a second point outwardly of the inner surface of such other shoe and adjacent said outwardly arcuate surface thereof, the distance between said first and second points of connection of each spring being a major portion of the inner diameter of said friction lining.

3,197,005
CLUTCH AND UNIVERSAL DRIVE ASSEMBLY

Albert A. Ashton, Dallas, and Norbert O. Brehm, Houston, Tex., assignors to The Youngstown Sheet and Tube Company, Youngstown, Ohio, a corporation of Ohio
Filed July 18 1962, Ser. No. 210,626
1 Claim. (Cl. 192—110)



Assembly for releasably connecting the output shaft of a prime mover to a driven shaft comprising;
a universal joint having an input part and an output part universally pivoted to one another; said universal joint having means holding said input and output part against axial movement relative to each other; means rigidly connecting one of said parts to one of said shafts;
a clutch assembly including a clutch drum and a clutch housing;
one of said clutch drum and said clutch housing connected to the other of said parts and the other of said clutch drum and said clutch housing rigidly connected to the other of said shafts;

clutch means between said clutch drum and clutch housing movable radially to prevent and permit relative rotation therebetween;

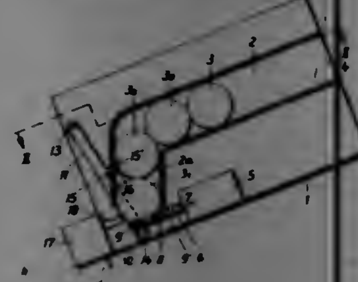
remote control means connected to said clutch means and operable to selectively move said clutch means radially;

one of said clutch housing and clutch drum journaled about the other by means comprising,

concentric annular surfaces on said clutch housing and clutch drum, an idler bearing mounted between said surfaces and having a contact face in axial sliding engagement with one of said surfaces, said contact face being of a lesser axial dimension than said one surface and permitting axial movement of said clutch housing and clutch drum to provide for misalignment and tolerance in distance between said output and driven shafts.

3,197,006
COIN SLOT MACHINE

Jakob Rub and Eugen Baumgartner, both of Wolfhausen-Bubikon, Zurich, Switzerland, assignors to Maschinenfabrik Ad. Schulthess & Co., AG, Zurich, Switzerland
Filed Apr. 30, 1964, Ser. No. 363,905
Claims priority, application Switzerland, Nov. 25, 1963, 14,394/63
4 Claims. (Cl. 194—[illegible])



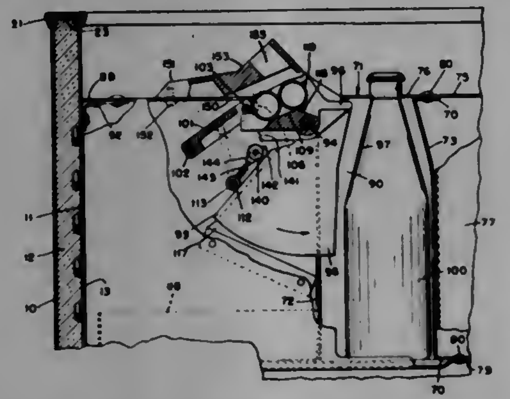
1. In a coin operated machine, a coin chute providing a coin passageway having a discharge end, a spring projected electromagnetically actuated plunger mounted adjacent said discharge end of said chute, a detent pin on said plunger normally projecting into the passageway to arrest movement of a coin in the discharge end thereof, a pivoted lever, a pin on said lever projecting into said passageway in advance of said discharge end to arrest movement of a coin next to the coin retained by said first named pin, said lever being provided with a slotted end portion receiving said detent pin so that actuation of said plunger will retract the detent pin to permit the passage of the lowermost coin and simultaneously will actuate the lever and move said second mentioned pin into the path of said second mentioned coin to retain the same as well as further coins in said chute, and an electric switch adjacent the discharge end of said chute adapted to be engaged by the lowermost coin in said passageway during its movement through the discharge end of said chute.

3,197,007
COIN CONTROLLED MECHANISM

Richard T. Cornelius, Minneapolis, Minn., assignor to The Cornelius Company, Anoka, Minn., a corporation of Minnesota
Filed July 16, 1962, Ser. No. 210,103
1 Claim. (Cl. 194—63)

In a coin controlled article release mechanism having a cabinet, a case within said cabinet, a reciprocating arm pivoted to said case, said case normally receiving the article from a magazine in said cabinet when said arm is in a first position, said arm having restraining means restraining movement of the article out of the case when in such position, said reciprocating arm being adapted upon movement thereof to a second position to shift said restraining means to release the article for removal from said case and means on said reciprocating arm to prevent entry of a second article into said case while the first article is being released, the combination of:

(a) said reciprocating arm being provided with a pocket forming a coin passageway open at one end,
(b) means on said case having a coin receiving slot of dimensions to receive coins of a certain diameter and communicating with said passageway,
(c) a single latch lever pivoted to said case about an axis parallel to the axis of said arm and having a single latch fixed relative thereto,
(d) a single abutment on said arm engageable with said latch to restrain swinging of said arm to article releasing position,
(e) said passageway being of a length to receive two coins of proper diameter,
(f) a cam follower on said lever engageable with the edges of both coins in the passageway and upon movement of said arm sliding successively on the edges of both coins which serve as cams to shift said latch to a path of movement free of said abutment to release the article for removal,

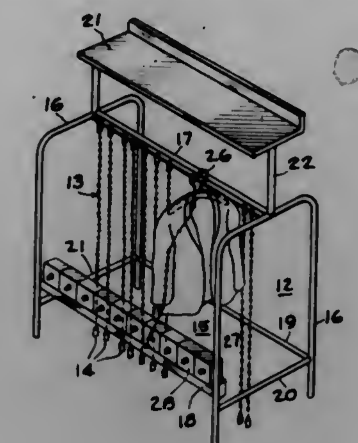


(g) said abutment being disposed at a locality in advance of the normal position of said latch a distance sufficient to bring the latch into the path of movement in which it would encounter said abutment in the event of absence of a second coin in the passageway,
(h) said reciprocating arm having a second coin passageway open at one end,
(i) a second coin receiving slot in said arm of dimensions to receive coins of a different diameter and communicating with said passageway,
(j) said second passageway being of a length to receive a single coin of proper diameter,
(k) a second cam follower on said lever engageable with the edge of the coin in the second passageway and upon movement of said arm sliding on the edge of the coin in the second slot which serves as a cam to shift said latch to a path of movement free of said abutment to release the article for removal.

3,197,008
COIN-CONTROLLED ARTICLE-CHECKING RACK

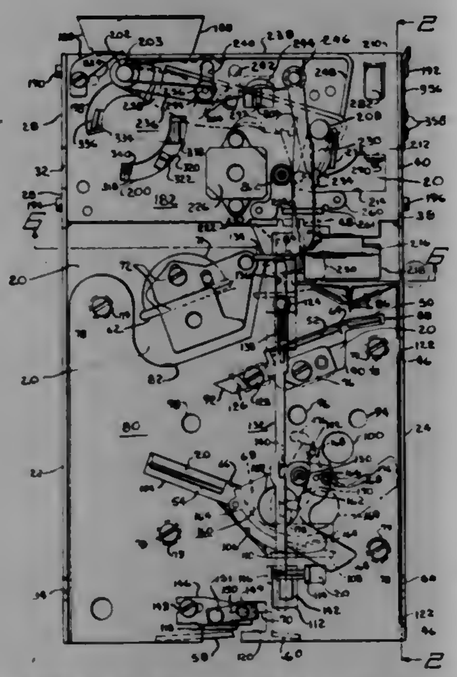
Carl N. Moore, Chicago, Ill., assignor to Pines Engineering Co., Inc., Aurora, Ill., a corporation of Illinois
Filed Sept. 4, 1963, Ser. No. 306,425
13 Claims. (Cl. 194—64)

1. A coin-controlled article-checking rack comprising, a supporting framework, a coin-device supporting-bar on the framework, a plurality of flexible elements attached to a cross-bar associated with said framework and each terminating in a specially-formed latch-member, a series of coin-devices arranged on the supporting-bar, each coin device having a pair of slots one for the insertion of a coin and the other for the insertion of a latch-member, a key-retaining and key reversible component rotatably arranged in each device to allow the insertion of a coin through said slot and into said component and to allow the discharge of said coin from said component upon rotation of said component, means to retain said component in its coin accepting position until said latch-member has been fully inserted into its slot and latch means adapted to permit continuous clockwise rotation of said component to the key release position by passing over said coin in said component and adapted to engage a shoulder on the periphery of said component and arrest the rotation when no coin is in said component.



3,197,009
COIN SEPARATORS

Anton Okolischan, St. Louis, Mo., assignor to National Rejectors, Inc., St. Louis, Mo., a corporation of Missouri
Filed Oct. 19, 1961, Ser. No. 146,138
33 Claims. (Cl. 194—97)

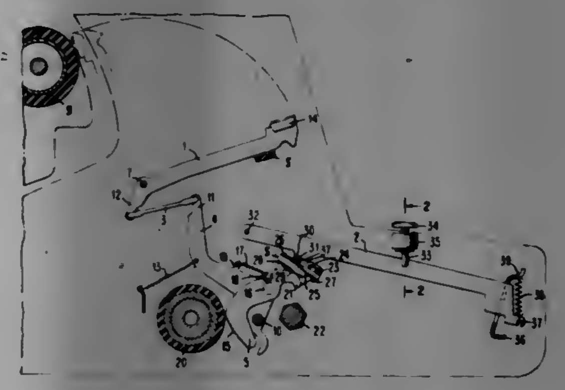


4. A coin separator which has a coin passageway and which comprises:

(a) a pivot adjacent said passageway,
(b) a cradle that is rotatably mounted on said pivot and that has coin-receiving fingers in said passageway,
(c) a runway in said coin passageway adjacent said cradle onto which coins or slugs can be transferred by said cradle,
(d) a tester that is adjacent said runway,
(e) a second pivot adjacent said passageway,
(f) and a lever that is rotatably mounted on said second pivot and that has a portion thereof selectively movable into and out of said coin passageway adjacent said tester and that has a second portion thereof selectively movable into and out of position adjacent said cradle to keep said cradle from transferring, or to permit said cradle to transfer, a slug or coin to said runway,
(g) said one portion of said lever responding to engagement with a slug or coin, passing said tester, to move out of said coin passageway and to cause said other portion thereof to move into said position adjacent said cradle and thereby keep said cradle from transferring a slug or coin to said runway.

3,197,010
MACHINE CONTROL DEVICES

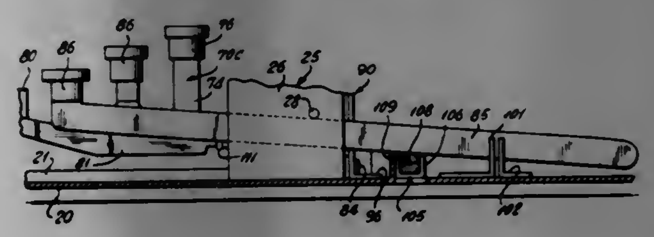
Robert Seibel, Putnam Valley, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 26, 1960, Ser. No. 52,307
5 Claims. (Cl. 197—17)



1. An apparatus comprising, in combination: a manually-operable actuator for providing a mechanical output displacement; a mechanical differentiator having its input connected to the actuator for generating an output displacement dependent upon the velocity of movement of the actuator; control means for controlling the effectiveness of differentiation of said mechanical differentiator dependent upon said velocity; means for controlling the effectiveness of said first-named control means by relative positioning thereof; and output means responsive to the actuator output displacement and the differentiator output displacement, when a function of these displacements exceeds a predetermined amount for generating a fixed output force.

3,197,011
SPONGE RUBBER TYPEWRITER KEY BIASING MEANS

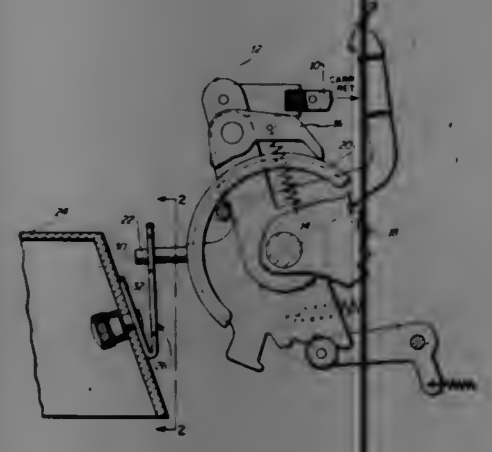
Shigeaki Kuramochi, Bunkyo-ku, Tokyo, Japan, assignor to Louis Marx & Co., Inc., New York, N.Y., a corporation of New York
Filed Mar. 13, 1963, Ser. No. 264,937
2 Claims. (Cl. 197—17)



1. In a typewriter, a plurality of typing key levers arranged beside each other at a predetermined normal elevation and adapted, when used, to be depressed downwardly from said normal elevation thereof, an elongated rigid channel extending beneath and located adjacent said levers, said channel having a bottom wall distant from said levers and a pair of side walls extending upwardly toward said levers and said channel having an open top, said side walls of said channel being formed with notches

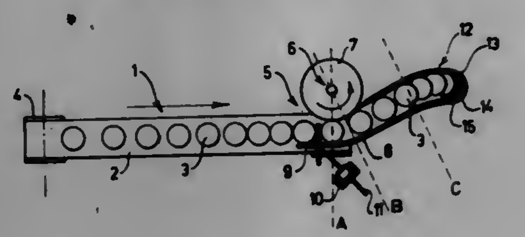
extending downwardly from upper edges of said side walls and aligned with said levers, an elongated body of resilient compressible springy material located in and filling said channel and having an upper face engaging said levers when the latter are at their normal elevation, said levers when depressed below their normal elevation compressing said body into said channel with said bottom and side walls of said channel confining said body so that when a depressed lever is released said body will spring back to its initial configuration and will return a depressed lever to its normal elevation so that said body in combination with said channel acts as a spring-return for said levers, an elongated guide extending parallel to said channel at one side thereof and formed with a plurality of slots through which said levers respectively extend, said levers having upper edges in engagement with upper ends of said slots, respectively, so that said guide at said upper ends of said slots acts as a fulcrum for said levers, an elongated shaft located on the side of said channel opposite from said guide and also extending parallel to said channel, a plurality of second levers pivotally carried by said shaft and having distant from said shaft free ends which are pivotally connected to said key levers so that when the latter are depressed said second levers will turn about said shaft while said key levers will move longitudinally along said body of resilient material while being depressed downwardly from and returning to their normal elevation.

3,197,012
AUTOMATIC CARRIAGE CONTROLLED LINE SPACE SETTING DEVICE FOR TYPEWRITERS
Harry L. Lambert, Hendersonville, N.C., assignor to Royal McBee Corporation, New York, N.Y., a corporation of New York
Filed June 28, 1963, Ser. No. 291,463
3 Claims. (Cl. 197—114)



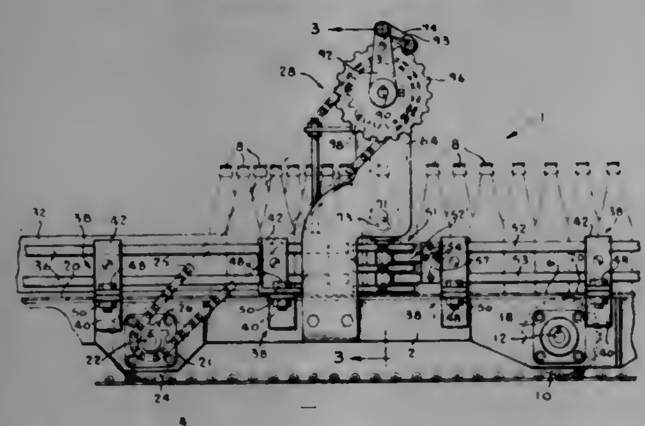
1. Typewriter apparatus having a frame,
a carriage mounted for movement relative to said frame between left and right limits,
a platen rotatably mounted on said carriage,
a ratchet secured to said platen,
pawl means operable through a predetermined stroke upon initiation of a carriage return movement adapted to engage and rotate said ratchet,
adjustable means normally enabling engagement of said pawl means with said ratchet over a portion only of its operative stroke whereby a single incremental movement is effected,
and frame mounted means positioned in the path of said carriage operative on said adjustable means upon movement of the carriage to its left limit whereby said pawl means is enabled to engage said ratchet over a greater portion of its operative stroke whereby multiple incremental movement is effected in response to carriage return operations initiated while said carriage is at its left limit position.

3,197,013
METHOD AND APPARATUS FOR CHANGING THE ORIENTATION OF CONTAINERS WHICH ADVANCE IN A ROW
Johannes Bernardus van der Winden, Amstelveen, Netherlands, assignor to Gebr. Stork & Co's Apparatenfabriek N.V., a limited-liability company, Amsterdam, Netherlands
Filed Jan. 30, 1963, Ser. No. 255,730
Claims priority, application Netherlands, Jan 31, 1962, 274,188
16 Claims. (Cl. 198—20)



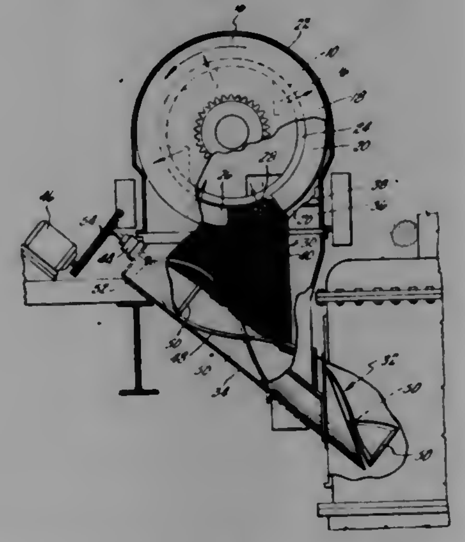
1. A method of changing the relative orientation of a succession of containers, said method comprising advancing the containers in a row in a particular attitude along a given path in a given direction and at a particular speed, engaging the containers at the end of the path to transfer the same in supported relation therefrom while retaining the containers in their original attitude, releasing the containers with a component of speed in the original direction thereof and with an acceleration in a direction having a component perpendicular to the original direction of travel while retaining the original attitude of the containers, allowing the containers to accelerate until successive containers are spaced apart in the direction of acceleration a distance at least equal to the extent of a container and then engaging the containers to terminate the speed thereof in the original direction and feeding the containers still in said fixed attitude along the direction of acceleration but now arranged one behind the other in the latter direction.

3,197,014
ARTICLE HANDLING APPARATUS
George L. N. Meyer, Milwaukee, Wis., assignor to Geo. J. Meyer Manufacturing Co., Cudahy, Wis., a corporation of Wisconsin
Filed Mar. 14, 1963, Ser. No. 265,101
9 Claims. (Cl. 198—32)



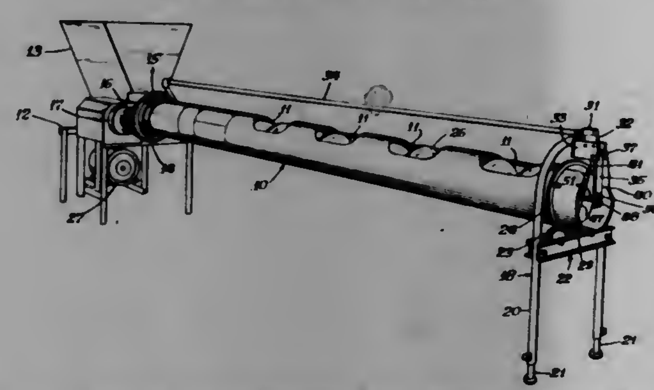
1. A device for transferring containers in an upright position from separate conveyors onto a single conveyor including:
a pair of infeed conveyors providing a supply of oncoming containers;
a discharge conveyor intermediate said infeed conveyors;
separate means to drive said conveyors;
container actuated combiner means including a pair of container actuated starwheel assemblies, one positioned on each side of said discharge conveyor, means connecting said assemblies in phased relationship, said assemblies adapted to be actuated by oncoming containers and to transfer the same alternately from said infeed conveyors onto said discharge conveyor; and
limiting means modulated by said discharge conveyor, said limiting means allowing only a maximum predetermined quantity of containers to be transferred to said discharge conveyor.

3,197,015
SCREW CONVEYOR
Everett C. Lewis, Avon, George L. Oswell, Somers, and James Jonakin, Simsbury, Conn., assignors to Combustion Engineering, Inc., Windsor, Conn., a corporation of Delaware
Filed May 9, 1963, Ser. No. 279,252
8 Claims. (Cl. 198—43)



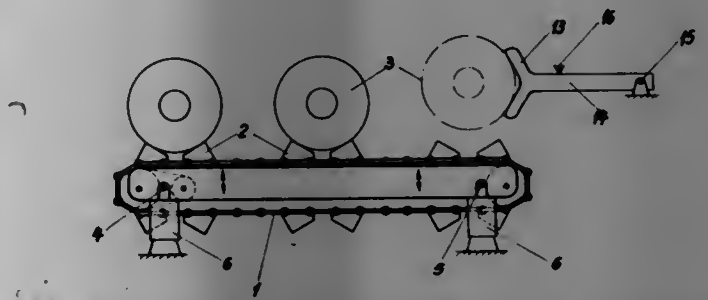
1. In combination a semi-circular conveyor trough terminating at an axially open discharge end, a rotatable conveyor screw rotatable about an axis having an axially open end loosely fitting said trough and terminating at said axially open end of the trough so as to discharge conveyed material out of said trough open end, said screw comprising a rod extending in a spiral around the axis of rotation of said conveyor and spaced from said axis, a plurality of closely spaced flexible elements suspended from one end above said trough and screw and out of contact with conveyed material in said trough and means for agitating said elements.

3,197,016
TUBE FEEDER WITH FEED RESPONSIVE CONTROL MEANS
Charles Ken Jones, Joliet, Ill., assignor to P & D Sales & Mfg. Co., a division of The Neff and Fry Company, a corporation of Ohio
Filed Oct. 30, 1963, Ser. No. 320,093
18 Claims. (Cl. 198—64)



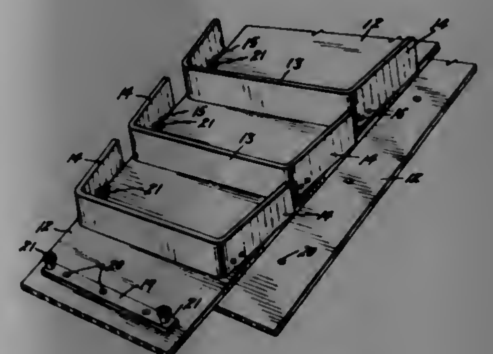
1. In a tube feeder having a feed carrying tube with an open remote end, feed responsive means comprising a plate having an area substantially less than the cross sectional area of said open remote end of said tube, and adjusting means for adjustably carrying said plate substantially perpendicular to the axis of said tube in said open remote end of said tube and in a particular selected area of the cross sectional area of said open remote end of said tube for intercepting feed delivered to said particular selected area and for avoiding feed delivered to other areas of the cross sectional area of said open remote end of said tube.

3,197,017
APPARATUS FOR FEEDING COILS OF MATERIAL TO AN UNCOILER
Fritz Ungerer, Arlingerstrasse 6, Pforzheim, Germany
Filed Sept. 3, 1963, Ser. No. 306,158
15 Claims. (Cl. 198—126)



1. Apparatus for feeding a coil along a predetermined path to a predetermined position, in which the axis of said coil coincides with a predetermined horizontal axis, said apparatus comprising a support adapted to engage the underside of said coil at two horizontally spaced points with said coil in a position in which said axis of said coil is horizontally spaced from said predetermined axis, feeding means energizable to move said support with said coil substantially horizontally to a position, in which the axis of said coil is at least approximately vertically aligned with and spaced below said predetermined axis, lifting means energizable to lift said support to move said coil to said predetermined position, engaging means arranged to engage said coil at two vertically spaced points of its outside periphery during the lifting of said support and to follow said coil in engagement therewith during said lifting of said support and lift control means arranged to cooperate with said engaging means and to deenergize said lifting means when said engaging means has reached a predetermined level associated with said axis of said coil reaching the level of said predetermined axis.

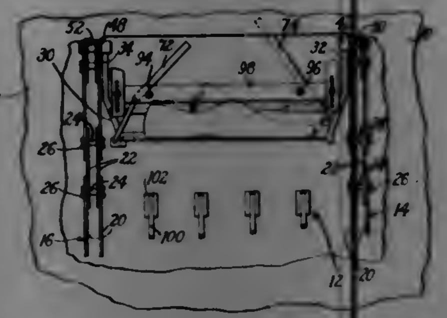
3,197,018
BELT CONVEYORS
Allan J. Kayser, 712 S. Gilpin St., Denver, Colo.
Filed Oct. 28, 1963, Ser. No. 319,427
5 Claims. (Cl. 198—151)



1. A material conveyor comprising:
(a) an endless belt;
(b) attachment bars secured transversally of said belt in longitudinally spaced relation;
(c) a material carrying flight positioned rearwardly of each attachment bar; and
(d) spring clips mounted on each flight and releasably engaging said spool-like elements.

3,197,019
HEAT SETTING CABINETS

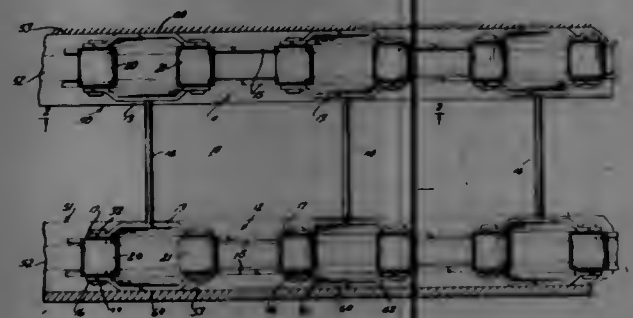
Arthur Bradshaw and Brian M. Woollatt, Leicester, England, assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Nov. 6, 1962, Ser. No. 235,771
Claims priority, application Great Britain, Jan. 13, 1962, 1,328
4 Claims. (Cl. 198—156)



1. In a heat setting cabinet of the type having a loading station and an unloading station, transport means operative between said loading station and said unloading station through the heating area of said heat setting cabinet, a plurality of holders mounted on said transport means and conveyed thereby during the operation of said cabinet, each of said holders comprising a support member for holding an article, means for mounting said holder on said transport means, and means for retaining an article in position on said support member and permitting automated removal thereof at the unloading station, said retaining means comprising a first member mounted on the rearward portion of said holder and two overlapping members pivotally mounted on the opposite end portions thereof and extending across the forward portion thereof, cam means positioned on said cabinet for pivoting said overlapping members out of operative position at said unloading station thereby to permit removal of an article, and removal means cooperative with said support member automatically to remove an article from said heat setting cabinet.

3,197,020
CONVEYOR CHAIN LINK

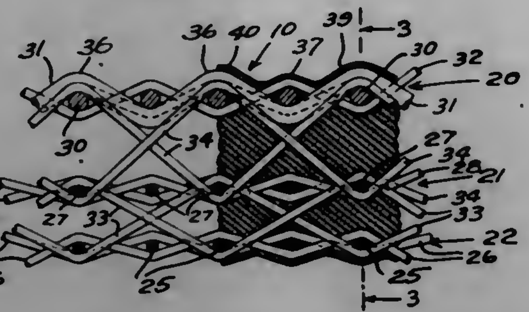
Dewey M. Evans, Pinckney, and Peter Kosar, Garden City, Mich., assignors to Ajem Laboratories, Inc., Livonia, Mich., a corporation of Michigan
Filed Apr. 16, 1962, Ser. No. 187,716
7 Claims. (Cl. 198—183)



1. An endless conveyor of the type having a succession of pivotally connected links movable in a continuous path in tracks with bottom and opposed side plates, the combination in such a conveyor of pins extending through the ends of adjacent links to pivotally connect the links, alternate links having lower and upper rollers mounted thereon to rotate on axes extending laterally of the links, the lower rollers projecting below the links and adapted to roll along the bottom of the tracks, the upper rollers projecting upwardly above the links to support articles to be conveyed, and said alternate links having bosses projecting outwardly beyond the ends of the pins to provide bearing surfaces extending longitudinally of the links for sliding engagement with the side plates of the track.

3,197,021
RIBBED CONVEYOR BELT

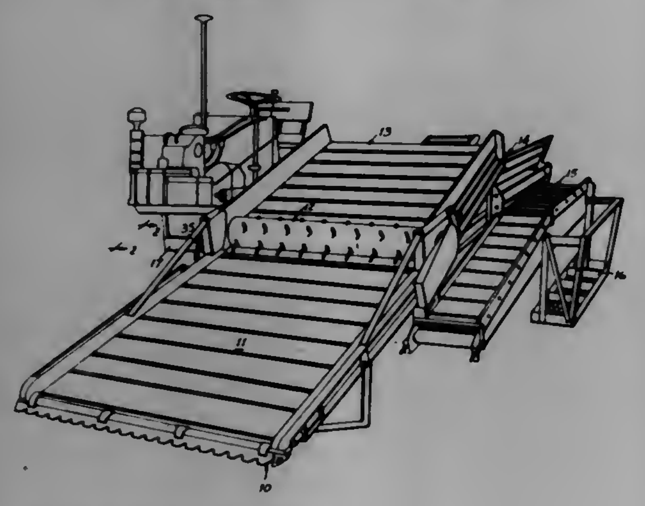
Robert B. Williams, Wethersfield, Conn., assignor to The Russell Manufacturing Company, Middletown, Conn., a corporation of Connecticut
Filed Nov. 28, 1962, Ser. No. 240,678
1 Claim. (Cl. 198—193)



A conveyor belt comprising a woven web having top, intermediate and lower plies, each ply comprising filler yarns and warp yarns woven together, a set of binder chain yarns binding each pair of adjacent plies together, the top ply having two sets of warp yarns, one of said sets being composed of yarns which are substantially thicker than the yarns of the other of said sets, said thicker yarns being woven over and under successive filler yarns of said ply, said other set of warp yarns being woven under and over said successive filler yarns to form with said first set a double warp chain and constituting a weave wherein the warp yarns which are woven over one set of alternate filler yarns of said top ply are substantially thicker than the warp yarns which are woven over the other set of alternate filler yarns and thereby form raised transverse ridges separated by intervening valleys on the surface of said top ply, the weave being sufficiently loose to permit the web to flex freely around a roller, said web being impregnated with a bonding resin and having a surface layer of such resin bonded thereto and conforming to the ridges and valleys of said top ply.

3,197,022
CONVEYOR

Earl L. Scheidenhelm, Mendota, Ill., assignor, by mesne assignments, to Hart-Carter Company, Chicago, Ill., a corporation of Delaware
Filed July 26, 1963, Ser. No. 297,750
6 Claims. (Cl. 198—195)

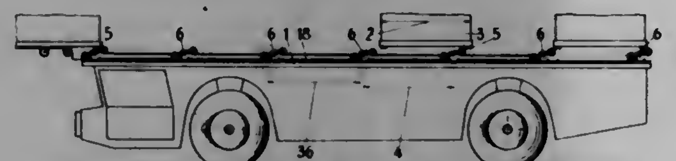


1. A conveyor comprising:
a rigid rectangular framework;
a pair of identical endless chains mounted on coaxial pairs of sprockets located respectively at each side and at each longitudinal end of said framework, the chains being extended in aligned upper and lower longitudinal flights;
a plurality of bars fixed across said chains in longitudinally spaced position oriented perpendicularly relative to said chains;

a plurality of spaced parallel rods mounted in longitudinal positions on said framework directly adjacent the upper surface of said bars along the upper chain flights;
article engaging means mounted on the individual bars, said article engaging means protruding outwardly from said bars beyond said rods along the upper longitudinal flights of said chains;
and drive means operatively connected to said sprockets to drive said chains in unison.

3,197,023
SHIFTING DEVICE ON TRANSPORT VEHICLES

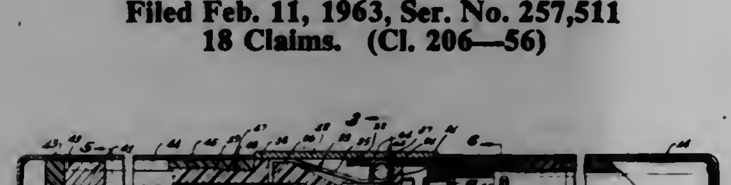
Alfred Achammer, 106 Schneeburggasse, Innsbruck, Austria
Filed Apr. 9, 1963, Ser. No. 271,786
Claims priority, application Austria, Apr. 28, 1962, A 3,495/62
12 Claims. (Cl. 198—221)



1. Apparatus for displacing containers of standardized size, each container having a lower surface and including spaced stops on said lower surface, the apparatus comprising: a plurality of transport slides having a spacing substantially equal to the length of each container such that each slide is adapted for cooperating with a separate container, carrier means connected to each of said slides for displacing the slides together, means connected to the carrier means for displacing the same and the slides therewith in opposite directions a distance at least equal to the distance between slides, guide means slidably supporting the carrier means, each slide including means for engaging a stop of a container to displace the container as the slide is displaced such that a container may be advanced over a distance covered by a number of slides by advancing the container with a first slide, then reversing the movement of the slides and then engaging the stop of the container with a successive slide for further advancement, and means supporting each slide from the carrier means for movement between first and second end positions in which such slide is operative for engaging a respective stop of the container to move the container in respective opposite directions.

3,197,024
COSMETIC STORING AND DISPENSING DEVICE

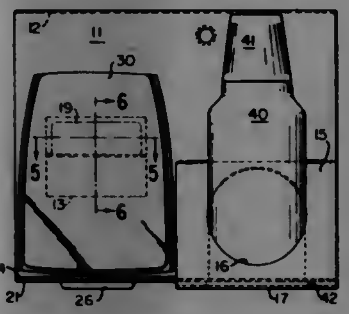
Robert G. Bau, 3271 Laurel Canyon Blvd., North Hollywood, Calif.
Filed Feb. 11, 1963, Ser. No. 257,511
18 Claims. (Cl. 206—56)



1. A dispensing device comprising: an elongated main body; an elongated actuator disposed in said body; rotatable means for effecting extension and retraction movements of the actuator relative to the main body; an elongated material cartridge removably mounted at its rear portion on said main body, the material in said cartridge being movable longitudinally thereof upon movement of said actuator; and interlock means operable when the actuator is forward of its fully retracted position for interlocking the material cartridge to the main body to prevent its removal therefrom except when the actuator is substantially in fully retracted position.

3,197,025
FOLDING DISPLAY PACKAGE

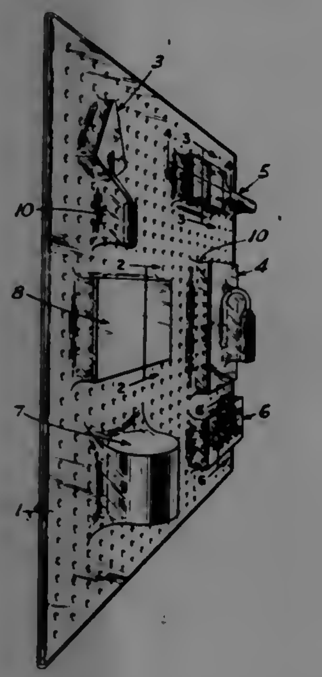
Rolf A. Samsing, Braintree, Mass., assignor to The Gillette Company, Boston, Mass., a corporation of Delaware
Filed Oct. 31, 1962, Ser. No. 234,371
4 Claims. (Cl. 206—78)



1. A display package comprising an upright ply having a forwardly extending base flange with a circular aperture and a rearwardly and uprightly inclined section with an oval aperture therein, in combination with a can having a bottom flange larger than the circular aperture, the can extending upwardly through the circular aperature of said base flange and the oval aperture of the said inclined section and so retained in position before said upright ply, and supporting means extending beneath said can and connected to said ply.

3,197,026
DISPLAY

Herman J. Gabryel, 89 Hunters Lane, Amherst, N.Y.
Filed May 27, 1963, Ser. No. 283,501
4 Claims. (Cl. 206—80)



1. A display comprising a mounting panel, an object on display, and a film of transparent material wrapped around the display side of said object in substantially surface-conforming relation thereto and slightly therebehind, said film extending from said object to said panel and across the display side of said panel, said film being adhered to said panel, and the portion of said film extending from said object to said panel being at least partially inwardly offset and comprising a tubular sleeve spacing said object from said panel a substantial distance several times the thickness of said film, said sleeve being the sole spacing support for said displayed object.

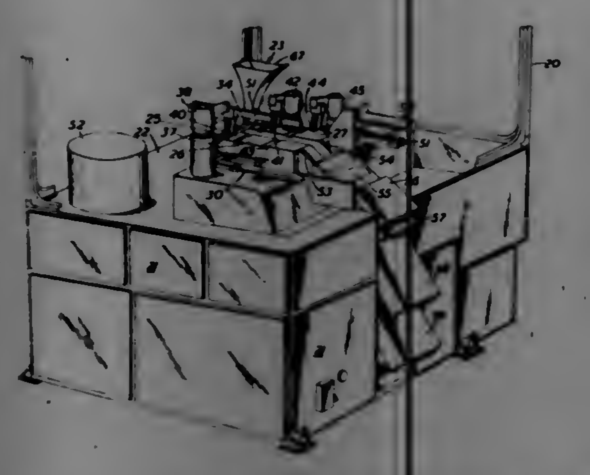
3,197,027
TAPER GAUGING AND SORTING APPARATUS

John Adolph Sargrove, Chertsey, Surrey, England, assignor to The Sheffield Twist Drill & Steel Company Limited

Filed Apr. 13, 1962, Ser. No. 187,399

Claims priority, application Great Britain, Apr. 25, 1961, 14,898/61

21 Claims. (Cl. 209—88)



5. An apparatus for automatically gauging the diameter of an elongated tool bit having a cross-sectional outline which is approximately but not precisely circular, said apparatus comprising first gauging means including first yieldingly spaced apart gauging surfaces, first means for rotating a bit to be engaged between said gauging surfaces in contact therewith at a first point of its length, second gauging means including second yieldingly spaced apart gauging surfaces, second means for rotating the bit to be gauged between said second gauging surfaces in contact therewith at a second point of its length, first detecting means coacting with said first gauging means for generating a first electric signal which is indicative of the maximum separation of the first gauging surfaces and hence of the maximum diameter of the tool bit at said first point, second detecting means coacting with said second gauging means for generating a second electric signal which is indicative of the maximum separation of the second gauging surfaces and hence of the maximum diameter of the tool bit at said second point, first signal comparing means comparing said first signal with a reference signal to establish the acceptability of the maximum diameter of the tool bit at said first point, and second signal comparing means comparing said first signal with said second signal to establish the acceptability of the maximum diameter of the tool bit at the second point in reference to the maximum diameter at the first point.

20. An apparatus in accordance with claim 5, and comprising tool bit sorting means operated in accordance with the results of gauging the bits, for directing to a first destination bits of which the diameter lies within acceptable limits and to a second destination bits of which the dimension is falling outside of said limits.

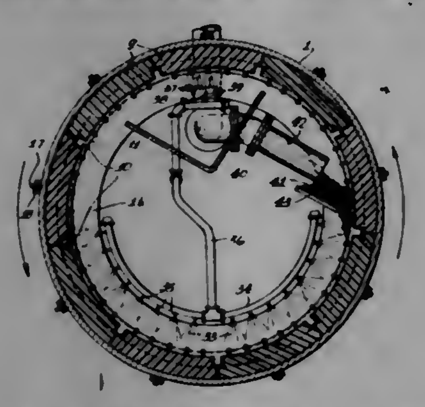
3,197,028
APPARATUS FOR SEPARATION OF ORES

Alexander S. Watson, P.O. Box 34, and Frederick B. Watson, both of Dunham, Quebec, Canada; said Frederick B. Watson assignor to Alexander S. Watson, Maniwaki, Quebec, Canada

Filed Dec. 28, 1961, Ser. No. 162,691

1 Claim. (Cl. 209—221)

An apparatus for separating non-magnetic material from magnetic material in ores containing said materials which comprises an inclined open-ended revolvably mounted drum, said drum having an interior liner comprising a plurality of blocks of plastic composition, a plurality of rows of longitudinally aligned horseshoe electromagnets embedded in each said block, each said magnet having projections extending radially inwardly of said block and drum, means for energizing and deenergizing said magnets comprising an annular frame surrounding said drum adjacent one end thereof, a pair of rings of electrically conducting material mounted to the interior surface of said annular frame, each said ring having an upper section, a lower section, and minor sections of insulating material separating said upper and lower sections, means connecting said upper sections to a source of alternating current, means connecting said lower sections to a source of direct current, a plurality of electrically conducting members carried by said drum and engaging each of said rings, and means electrically connecting said magnets and said electrically conducting members, said drum having an upper section disposed above its longitudinal axis and a lower section disposed below its longitudinal axis, a water sprayer mounted



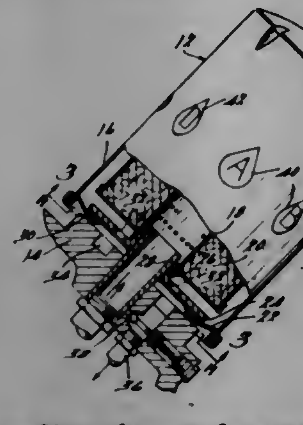
within said drum having a plurality of nozzles directed upon said magnet projections in said lower section, a material receiving trough for receipt of the supported magnetic material mounted within said upper section and extending longitudinally thereof, and a water sprayer mounted within said drum and having a plurality of nozzles directed upon said magnet projections in said upper section above said trough, each said block being of quadrilateral outline, said blocks being arranged in longitudinally aligned rows, a plurality of longitudinally extending troughs each arranged between adjacent longitudinal edges of said blocks, and a plurality of circumferentially extending troughs each arranged between adjacent lateral edges of said blocks, all of said circumferentially extending troughs being in communication with said longitudinally extending troughs.

3,197,029
FILTER

Gustav H. Yelinek, Racine, Wis., and Jack R. Giles, Hollins, Va., assignors to Walker Manufacturing Company, a corporation of Delaware

Filed Mar. 23, 1962, Ser. No. 181,937

1 Claim. (Cl. 210—91)



A screw-on filter element for attachment to a base, said element comprising a cylindrical shell containing a filter and having a closure plate at one end, an annular gasket attached to said plate to be compressed against and form a fluid tight seal with the base, said element including threaded means for engagement with threaded means on said base whereby rotation of the element will screw on

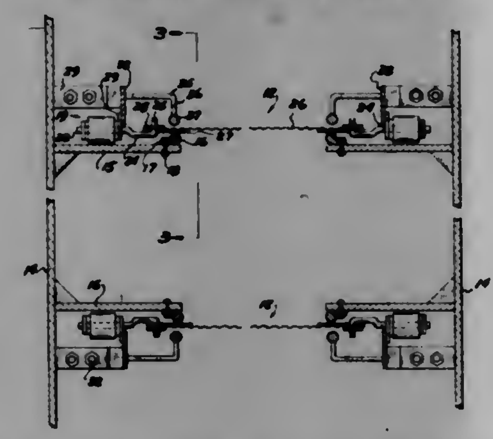
and attach the element to the base, said gasket being of a thickness and resilience such and the lead of said threaded means being such that substantially one half turn of said filter element after said gasket first touches said base compresses said gasket to a degree to provide the optimum seal between the gasket and base, and indicia means on said shell comprising at least one pair of indicia located 180 degrees apart for indicating when said shell has been rotated one half turn.

3,197,030
FILTER APPARATUS

Hugh R. Black, Birmingham, Mich., assignor to H. R. Black Company, Detroit, Mich., a co-partnership of Michigan

Filed Dec. 27, 1962, Ser. No. 247,685

2 Claims. (Cl. 210—400)



1. In an automatic filter for removing impurities from liquids, a filter housing including opposed upright side walls, oppositely arranged continuous guide flanges mounted on and projecting inwardly from each side wall defining opposed looped guides, a power driven means within said housing, a continuous sprocket chain movably mounted on and around each flange and said drive means, a continuous sealing bar of plastic material on and projecting radially outward from the inner edge of each flange throughout its length, a continuous filter screen in the form of a loop corresponding to said guides with its edges overlapping said flanges respectively and removably mounted on and connected to corresponding portions of said chains for movement therewith, continuous plastic sealing and wear strips secured upon the undersurface of said screen adjacent and along its edges throughout its length cooperatively engaging said sealing bars respectively; each chain including a series of aligned pivotally interconnected segments, some of said pivotal connections including pins extending laterally inward of said chain, an elongated upright guard rail spaced inwardly from and parallel to and mounted on each side wall including a continuous bottom edge radially spaced from a flange respectively, said pins retainingly and slidably engaged by said guard rail for holding said chains respectively on said flanges, said pins having outturned ends mounting said screen, and an elongated hold-down bar spaced inwardly from and parallel to and mounted on said guard rail above said screen loosely engaging and retaining the screen upon said sealing bar.

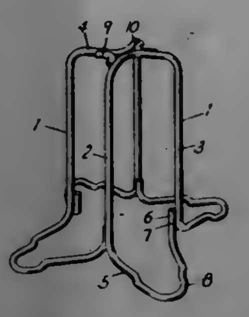
3,197,031
TRANSPORTABLE RACKS

Henry F. Loetz, Sturgis, Mich., assignor to Formed Tubes, Inc., Sturgis, Mich.

Filed Mar. 30, 1964, Ser. No. 355,581

10 Claims. (Cl. 211—49)

1. A rack adapted to receive a plurality of coils of wire or the like comprising two substantially duplicate body members, each of the body members including a pair of laterally spaced upright standards having inwardly bowed top members integral with and extending inwardly from their upper ends, each standard having an outwardly bowed outwardly tapering base member integral therewith, the base members terminating at their ends in upwardly projecting lugs disposed against the inner sides of the standards and fixedly secured thereto, the bight portions of said base members being downwardly offset and



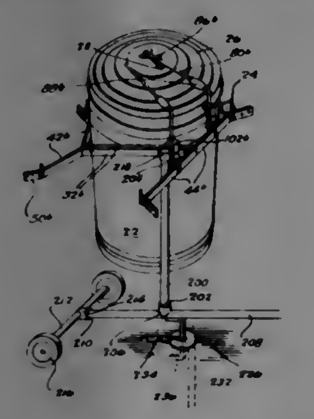
constituting foot portions, and angled coupling members formed of stock corresponding to the stock of said body members and being disposed with their arms on the outer sides of the inwardly bowed top members of said body members and fixedly secured thereto, said angled coupling members substantially corresponding to the bight portions of said inwardly bowed top members.

3,197,032
TRASH CAN SUPPORT

Everett N. Stanley, P.O. Box 1148, Casper, Wyo.

Filed Apr. 10, 1964, Ser. No. 358,800

10 Claims. (Cl. 211—83)



1. A support for a trash can or the like having handle means on opposite sides thereof, and having a cover with an upwardly projecting cover handle, the support comprising:

an upstanding support element;

a back member secured to the support element, the back member having outer ends;

a side arm projecting outwardly from each of the ends of the back member including a substantially perpendicularly related side member and an outwardly angled side member, each side member having a distal end;

an end plate fixed to each of the distal ends and projecting outwardly therefrom, the end plates having a series of longitudinally spaced apertures formed therein;

handle engagement means, including a pair of L-shaped clips, each having a leg portion and a foot portion, the foot portions being extended through selected openings in the respective end plates with the leg portions extended upwardly therefrom and engaged with the handle means of the cans;

a lug member having an opening formed therein with at least one wall, projecting outwardly from the back member, adjacent the substantially perpendicular side arm;

a rod member, the opening in said lug member appreciably exceeding said rod member in cross-section, said rod member being slidably mounted in the lug opening when vertically disposed and having stop means thereon to limit withdrawal from the lug opening; and

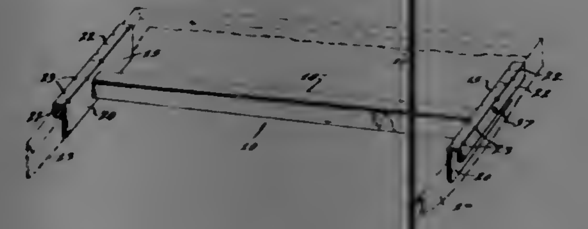
an elongated lift arm connected to the rod member, having an outer end portion secured to the cover, and lift means thereabout.

3,197,033
HANGER BAR

Francis P. Brennan, Oak Lawn, Ill., assignor to Brennan Engineering Corporation, Downers Grove, Ill., a corporation of Illinois

Filed June 13, 1962, Ser. No. 202,123

1 Claim. (Cl. 211—1[illegible]3)



A wardrobe hanger bar made of thin sheet material and comprising,

a main body channel and

two end channels at opposite ends of said main body channel to fit over a corresponding side wall of a cardboard shipping carton,

said main body channel consisting of two spaced apart parallel vertical legs joined together by a top leg,

said top leg being arched through a curvature sufficient to afford greater contact with the curved hooks of wire coat hangers placed thereon and operating to strengthen the main body channel against vertical displacement forces,

each said end channel consisting of a pair of spaced parallel vertical legs joined by a horizontal top leg,

and a plurality of spaced apart gussets formed in the respective corners of each said end channel to prevent the vertical legs of said end channel from turning under vertical loads,

each said gusset consisting of a bottom wall offset angularly with respect to said horizontal top leg and a corresponding adjoining vertical leg and tapered side walls which converge towards said bottom wall,

thereby to form V-shaped recesses in the outside corners prescribed by the horizontal and vertical legs,

said gussets each having a depth such that the respective bottom walls of the gussets formed in the corners of each end channel do not overlap horizontally but leave an unobstructed portion on said horizontal top leg forming a support surface to promote full engagement of the end channel with the adjoining support edge of the carton,

whereby thinner metal may be used in said hanger bar without loss of function or operating efficiency.

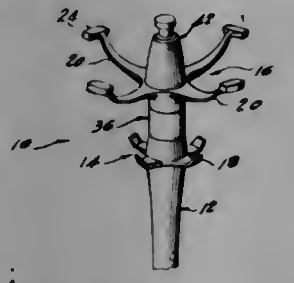
3,197,034
CUSTOMER HOOK

James R. Deadrick, Winston-Salem, N.C., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Apr. 14, 1964, Ser. No. 359,599

4 Claims. (Cl. 211—177)

1. A customer hook, comprising the combination of a pole having at the upper end thereof an upstanding projection of smaller cross dimension, a coat hook portion supported on the upper end of the pole, said coat hook portion having an annular body defining a central opening of inner dimension at its lower end to fit snugly over the projection of the pole and having an open upper end, said coat hook portion further having a plurality of hooks projecting from the body portion at spaced angular alignments for supporting a customer's coat, an annular spacer defining a central opening and positioned on the coat hook portion, said spacer having a lower exterior dimension sized similarly to the open upper end of the coat hook portion to be received snugly therein and having an upper exterior dimension of comparable size, a hat hook portion supported on the spacer, said hat hook portion having an annular body defining a central opening and having its lower end sized similar to the upper end of the spacer to be received snugly thereon and having an open upper end, said hat hook portion further having a plurality of hooks projecting from the body portion from different spaced angular alignments for supporting a customer's hat, a top piece on the hat hook portion having its lower end portion received within the open upper end of the hat hook portion, a lag bolt extending through the central openings of the annular spacer and hook portions and having threaded opposite ends respectively threaded into the upper end of the pole and the lower end of the top piece for securing them together securely with the separate hook portions and spacer confined snugly therebetween, and the top piece, spacer and pole being of similar exterior dimensions at least adjacent the hook portions to blend together in appearance as if they were one pole.

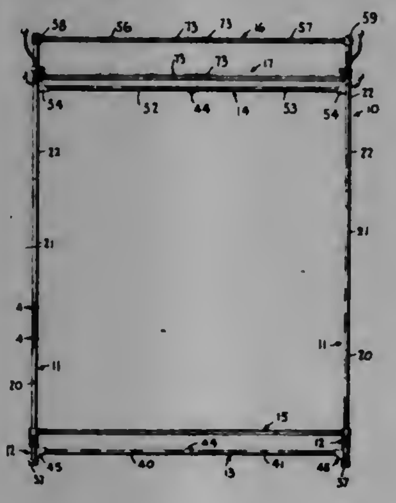


3,197,035
COLLAPSIBLE GARMENT RACK

Joseph Fay Wolf, Baldwin, N.Y., assignor to Combined Industries Inc., Far Rockaway, N.Y., a corporation of New York

Filed Mar. 3, 1964, Ser. No. 349,098

3 Claims. (Cl. 211—178)



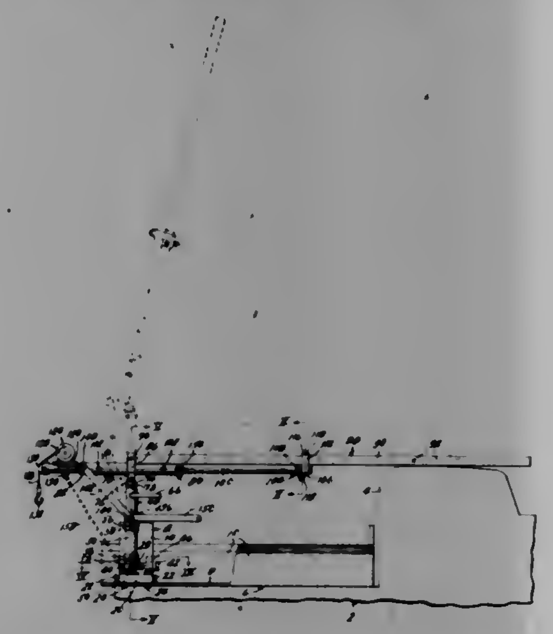
1. A rack construction comprising a pair of spaced standards, a pair of legs connected to each standard and engageable with a supporting floor, a bottom rail extending between and connected to lower regions of said standards, and a shelf extending between and connected to upper regions of said standards, said shelf having a first section comprising a pair of U-shaped side members connected by cross-pieces, the U-shaped members each providing a slot, and a second section having parallel spaced members connected by cross-pieces with the ends thereof engageable in the slots, said shelf sections being of open wirework construction, said first section side members being parallel and having outwardly offset portions adapted to receive the ends of the cross-pieces of the second section, and said second section cross-piece ends extending beyond the sides of the section and engaged in the slot in the U-shaped members.

3,197,036
POWERED COMBINATION ELEVATING LADDER AND CRANE HOIST

Paul A. Mason, Phillipsburg, Kans.

Filed Jan. 13, 1964, Ser. No. 337,486

14 Claims. (Cl. 212—8)



1. A combination elevating load arm and crane hoist comprising:

(a) a vertical standard having a lower section and an upper section vertically movable with respect to said lower section,

(b) power means for elevating said upper standard section with respect to said lower section,

(c) means for rigidly supporting said lower standard section,

(d) a boom carrier pivoted to the upper end of said upper standard section on a horizontal axis,

(e) an elongated boom mounted in said carrier transversely to the pivotal axis thereof and being longitudinally adjustable therein whereby either end thereof may be extended to a greater distance from said standard than the other end thereof,

(f) links, each pivoted at one end to said lower standard section,

(g) means for pivoting the opposite ends of said links to said boom carrier selectively at either of a pair of points spaced apart oppositely from the pivotal axis of said carrier in a direction parallel to said boom, whereby elevation of said upper standard section will cause elevation of one or the other end of said boom, depending on the point of connection of said links to said carrier,

(h) a hoist device mounted at one end of said boom,

(i) a load arm support mounted at the opposite end of said boom, and

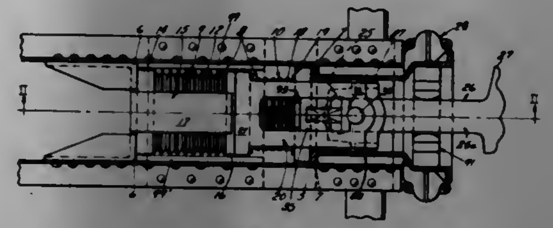
(j) an elongated load arm attached at one end to said boom carrier and supported by said load arm support at a point spaced apart from said boom carrier, said load arm extending from said boom carrier a distance greater than the maximum spacing of said load arm support from said boom carrier.

3,197,037
RAILWAY COUPLER ALIGNING APPARATUS

Donald Willison, Lyndhurst, Ohio, assignor to National Castings Company, Cleveland, Ohio, a corporation of Ohio

Filed Dec. 28, 1962, Ser. No. 248,095

20 Claims. (Cl. 213—21)



1. A draft rigging for a railway car comprising:

(A) a draft gear pocket having front and rear stops;

(B) a draft gear contained in said pocket comprising:

(1) a front unit having

(a) a first front follower normally in engagement with said front stops,

(b) a cushion rearwardly juxtaposed to said follower,

(c) a front yoke encircling said cushion and follower and having a head disposed frontwardly of said follower, and

(2) a rear unit having

(a) a rear follower normally in engagement with said rear stops,

(b) a second cushion frontwardly juxtaposed to the rear follower, and

(c) a rear yoke encircling the rear follower and the second cushion in engageable relation with said rear follower and the rear surface of the front yoke;

(C) a coupler comprising a head and a shank rearwardly having an end surface defining rearward-facing shoulders spaced at opposite sides of a longitudinal axis of the coupler;

said coupler shank extending into said yoke head and into adjacent relation with opposed front-facing areas of the front follower;

(D) pivot means extending along a substantially vertrical axis through the shank and the yoke head pivotally connecting the coupler and yoke; and

said pivot means and said shank being movable relative to said yoke head in the longitudinal direction of the yoke to an extent providing a predetermined clearance between said shoulders and said areas at the fully extended condition of the draft gear within said pocket.

3,197,038
TURNTABLE MOUNTING FOR EXCAVATORS OR THE LIKE

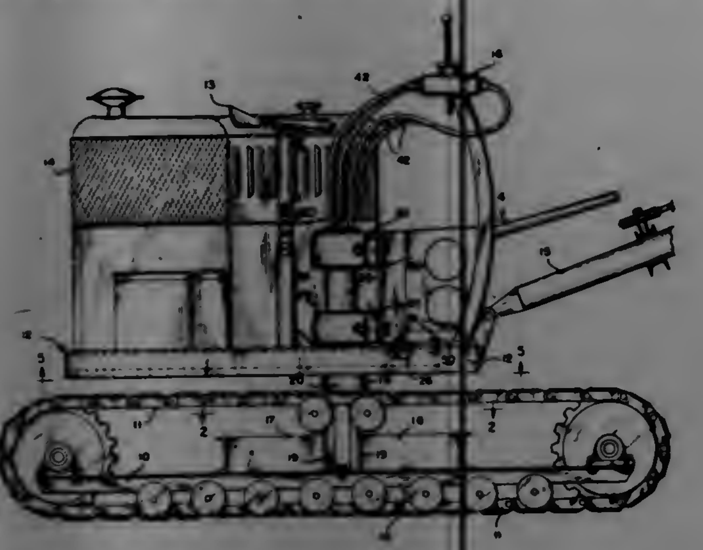
Roy O. Billings, Box 2611, Milwaukee 14, Wis.

Filed Jan. 4, 1963, Ser. No. 249,364

7 Claims. (Cl. 212—69)

1. In a load-handling machine having a frame and having a turntable with an opening, a turntable mounting assemblage comprising a center post rigidly supported by said frame and projecting upwardly through said opening in the turntable, a sprocket wheel rigidly connected to said center post below the turntable, an upright bearing support projecting upwardly from said turntable, a plurality of bearings through which said center post projects supported in vertically-spaced position above the turntable by said upright bearing support, hydraulic rams mounted on the underside of said turntable on opposite sides of said sprocket and having extensible members with outer end sprocket wheels, and a sprocket chain deadened at both ends on the turntable and having its in-

termediate portion coacting with the sprocket wheel on the center post and having loops which are engaged by the sprocket wheels on the extensible members of the



ram for causing rotation of said turntable about said center post when the rams are operated reversely to one another.

ERRATUM

For Class 213—21 see:
Patent No. 3,197,037

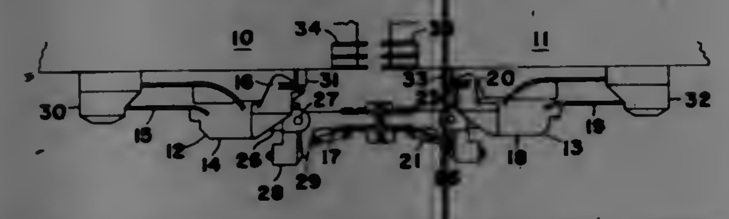
3,197,039

COUPLERS WITH EXTENDED EMERGENCY RELEASE

Donald L. Herbert, Mansfield, Ohio, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey

Filed May 13, 1963, Ser. No. 280,002

9 Claims. (Cl. 213—74)



5. In a railway train comprising two cars, coupler means extending between the two cars and an anchor on each of the cars with connection thereto by a drawbar of the coupler means, the combination which comprises an elongate U-shaped drawbar having two spaced side parts and an end part associated with an anchor on one car, a slide received in the space between the side parts and the end part and having a vertical through opening, and a pivot pin on the anchor extending vertically through the slide, a shear pin extending transversely through the side parts and the slide in the direction of the remaining car from the pivot pin of the one car, all for transmitting draft forces from the coupler means directly to the slide and thence to the anchor and the said one car and for transmitting buffing forces from the coupler means through the shear pin to the slide and thence to the anchor and car for releasing the slide upon the application of excessive buffing forces to permit the drawbar to travel through the anchor.

3,197,040

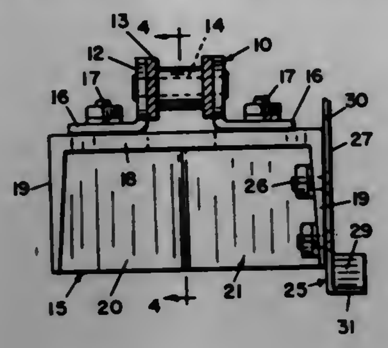
SILAGE HANDLING MACHINES

George Roland Chapman, Stafford Road, Palmyra, N.Y.

Filed Aug. 22, 1963, Ser. No. 303,883

11 Claims. (Cl. 214—17)

1. In a silage handling machine, the combination of a conveyor chain, a silage scoop secured to said chain, said scoop having a pair of side walls and an open front facing the direction of travel of the chain, and a silage cutter secured exteriorly to one of the side walls of said scoop, said cutter including a vertical knife portion contiguous with the outer surface of said one side wall and a transverse wing projecting laterally outwardly from said vertical portion.



3,197,041

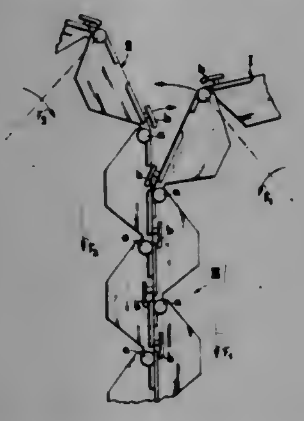
MANIPULATOR APPARATUS

Horst Hermann, Leopoldsburg, Belgium, assignor to European Atomic Energy Community, Brussels, Belgium

Filed Jan. 22, 1963, Ser. No. 253,190

Claims priority, application France, Jan. 23, 1962, 885,571

13 Claims. (Cl. 214—1)



1. Manipulator apparatus comprising a pair of chain-like assemblies each consisting of a series of interpivoted link members whereby said assemblies are flexibly coilable when separate from each other; means for coiling said assemblies in respective coils; means for synchronously feeding out both assemblies from said coils over respective paths converging to a straight stretch common to both paths over which the link members of both assemblies are substantially coincident; means for releasably interlocking the link members of both assemblies as they reach their coincident condition at said common stretch whereby to provide a rigid undeformable manipulator arm; and mounting structure supporting said assemblies, said coiling means and said feeding means for bodily universal rotation in a conical path whereby to wield said arm.

3,197,042

PICKER STATION FOR A TOBACCO HARVESTER

Joseph J. Harrington, Lewiston, N.C.

Filed Nov. 29, 1962, Ser. No. 240,993

7 Claims. (Cl. 214—5.5)

7. A picker station for a tobacco harvester which comprises in combination:

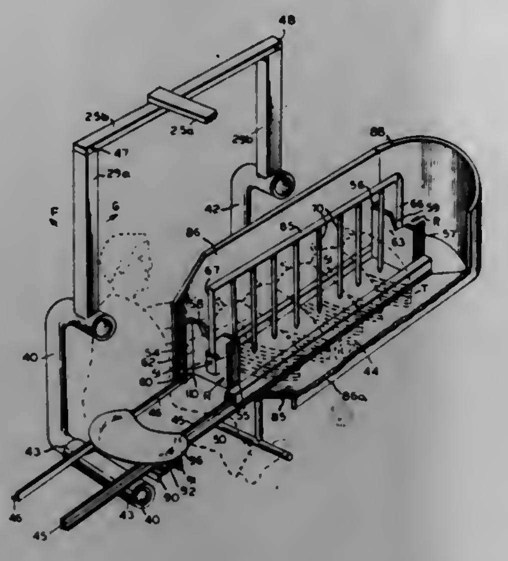
(a) a seat for the picker,

(b) a trackway for supporting at least one tobacco rack thereon extending under and forwardly of said seat,

(c) a supporting framework for both said seat and said trackway,

(d) a tobacco butt backstop offset to the side of the trackway and parallel thereto,

(e) a leaf supporting table on the opposite side of the trackway to support the tails of tobacco leaves,



(f) a fender means in front of and parallel to said trackway.

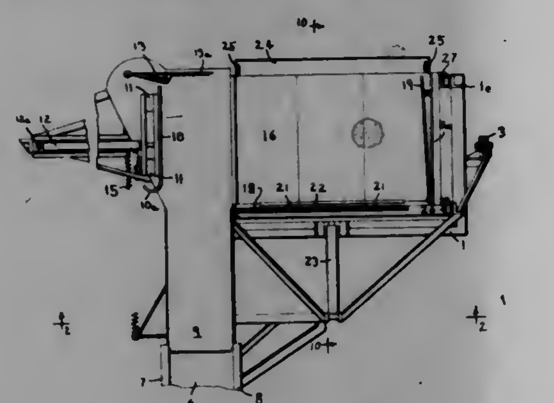
3,197,043

BALE BUNCHER ATTACHMENT FOR HAY BALERS

Clayton W. Unger, % Brewster Machine Co., Box 215, Brewster, Wash.

Filed Mar. 15, 1962, Ser. No. 179,974

2 Claims. (Cl. 214—6)



1. A bale buncher for attachment to a hay baler, comprising:

a wheeled vehicle framework;

a horizontal receiving platform fixed upon said framework and adapted to carry a longitudinally aligned row of incoming bales;

first stop means on said framework at one end of said receiving platform adapted to limit motion of incoming bales relative to said receiving platform;

a storage platform movably mounted on said framework directly adjacent to said receiving platform, said storage platform being vertically shiftable between a first location level with said receiving platform and a second location one bale height lower and positioned directly below said first location to thereby enable bales to be stacked on said storage platform as they are received from said receiving platform;

means on said framework operatively connected to said storage platform adapted to selectively position said storage platform at said first or second locations;

first pusher means on said framework mounted for motion relative thereto across the upper surface of said receiving platform adjacent said first stop means adapted to selectively push individual bales from said receiving platform to said storage platform;

and second pusher means on said framework mounted for motion relative thereto across the upper surface of said storage platform adapted to selectively push bales from said storage platform;

first control means on said first stop means operatively connected to said first pusher means adapted to selectively actuate said first pusher means when said first stop means is contacted by an incoming bale on said receiving platform to thereby cause said first pusher means to shift the contacting bale onto the storage platform;

second control means on said storage platform within the elevation of a first layer of bales thereon and located at the side thereof directly opposite said receiving platform, said second control means being operatively connected to said means to selectively position said storage platform and adapted, when contacted by a bale, to cause said last named means to shift said storage platform from said first location to said second location for reception thereon of a second layer of bales;

and third control means on said storage platform within the elevation of a second layer of bales thereon and located directly above said second control means, said third control means being operatively connected to said second pusher means and adapted, when contacted by a bale, to cause said second pusher to push bales from said storage platform.

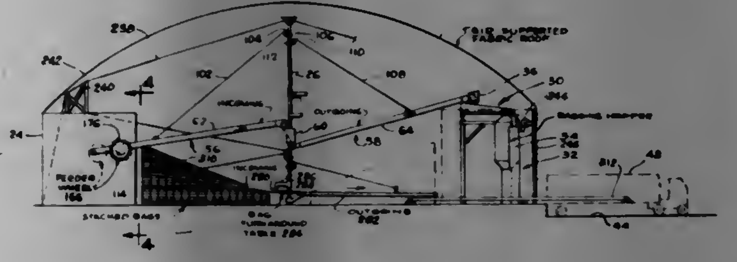
3,197,044

BULK MATERIALS HANDLING PLANT

Robert F. Hozak, Chicago, Ill., assignor to Dial-A-Bin Bulk Handling Corp., Chicago, Ill., a corporation of Illinois

Filed June 21, 1962, Ser. No. 204,293

10 Claims. (Cl. 214—16)

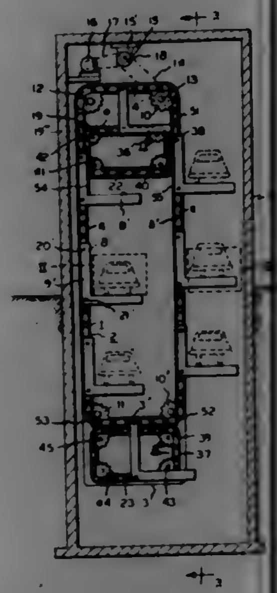


5. In a bulk materials handling plant, the combination comprising a plurality of storage bins having open tops and disposed generally in a circle, a substantially vertical mast disposed centrally within the circle of said bins, first and second booms extending radially from said mast, means mounting each of said booms on said mast for swinging movement in a horizontal direction around said mast and also for swinging movement in a generally vertical plane, said booms being movable over any of said bins, a rotary feeder wheel mounted on the outer end of said first boom and movable into the open top of any of said bins for removing materials therefrom, a first continuously moving conveyor extending along the length of said first boom for receiving materials from said feeder wheel and carrying the materials along said first boom to said mast, said second boom comprising a second continuously moving conveyor extending along the length of said second boom for carrying materials away from said mast, and means for transferring the materials between said first and second conveyors at said mast, each of said bins being formed with a continuous vertical slot in the wall portion of the bin facing toward the mast, said first boom being movable downwardly along said slot whereby said rotary feeder wheel is movable into the lower portion of each bin.

3,197,045

CONVEYOR ELEVATOR APPARATUS

Jacob I. Nevo-Hacohen, Boston, Mass., assignor, by direct and mesne assignments, of one-twelfth to Robert H. Rines, Belmont, Mass., three-eighths to Alan S. Axelrod, Newton, Mass., and three-eighths to Theodore J. Shoalman, Boston, Mass.
Filed Sept. 12, 1962, Ser. No. 223,009
10 Claims. (Cl. 214—16.1)



7. A parking garage for automobiles and the like comprising a building having entrance and exit means, and a conveyor elevator disposed to receive the automobiles at the entrance means, store the same and deliver the said automobiles to the exit means, the conveyor elevator having, in combination, a pair of similar closed-loop main channels disposed in a pair of spaced substantially parallel planes, a further pair of similar closed loop auxiliary channels disposed in a pair of substantially parallel planes one adjacently displaced from each of the main channels in the space therebetween, a pair of synchronously driven main conveyors disposed to travel along the pair of main channels, follower means disposed to travel along the auxiliary channels, a plurality of successively disposed carrier platforms each having a substantially horizontally disposed carrier surface disposed between the auxiliary channels, first attaching means connecting each carrier platform to the main conveyors, second attaching means at regions displaced from the first attaching means connecting each carrier platform to the follower means, and auxiliary conveyor means of effective length substantially less than the length of the main conveyors located adjacent to the said main conveyors only where the main conveyors and main channels change direction and for engaging and driving the follower means only at such locations, the main channels and the auxiliary channels at such locations being substantially parallel, whereby the said carrier platform surface of each successive carrier platform is maintained in substantially the same horizontal orientation throughout travel.

3,197,046

BULK MATERIALS HANDLING PLANT

Robert F. Hozak, Chicago, and Tony Nagin, Riverdale, Ill., assignors to Dial-A-Bin Bulk Handling Corp., Chicago, Ill., a corporation of Illinois
Filed June 27, 1962, Ser. No. 205,761
8 Claims. (Cl. 214—17)

1. In a bulk materials handling plant,

the combination comprising a plurality of substantially cylindrical bins disposed along a circular path,

a conveyor having an elongated boom,

means supporting said conveyor for swinging movement about a vertical axis at the center of said circular path,

said conveyor boom thereby being movable over each of said bins,

means supporting said conveyor boom for swinging movement in a vertical plane,

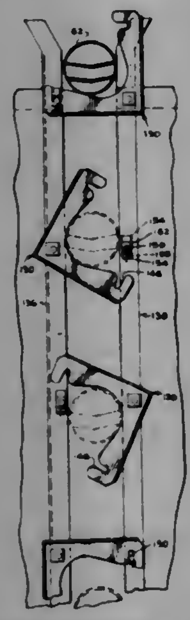
each of said bins having an open top,

each bin having a substantially cylindrical wall formed with a substantially vertical slot therein facing toward the vertical axis of said conveyor,

said conveyor boom being movable downwardly and upwardly through said slot to afford access for said conveyor to the material in the bin,

movable panel means closing said slot in each bin below the conveyor boom for retaining materials in said bin,

and a plurality of locking devices spaced vertically on each bin and extending across said slot therein for transmitting tension across said slot so as to withstand the weight of the material in the bin,



each locking device comprising an L-shaped lever having first and second arms extending generally at right angles to each other,

means supporting each lever on said bin adjacent said slot for swinging movement through generally 90 degrees to move said arms alternately across said slot,

latching means mounted on each bin across said slot from each lever,

each of said arms having means for disengageably interlocking with said latching means,

said levers being swingable by the downward and upward movement of said conveyor boom along said slot,

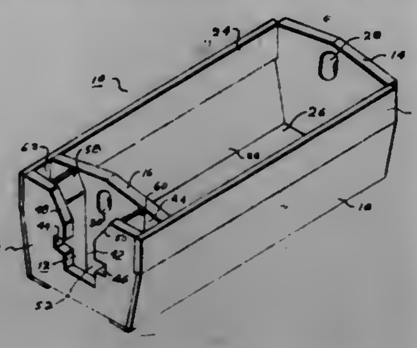
and detent means for holding said levers in their locking positions against the action of gravity.

3,197,047

FURNACE CHARGING APPARATUS

Wade H. Leslie, Detroit, Mich.
16734 Kentfield Wayne Company, Detroit, Mich.
Filed June 24, 1963, Ser. No. 289,910
4 Claims. (Cl. 214—26)

1. A furnace charging box of the type adapted to be mounted on a peel head comprising a bottom wall, a pair of side walls, a pair of end walls connected along their side and bottom edges with the side and bottom walls, respectively, to form a generally rectangularly shaped receptacle, said side walls at one end thereof extending outwardly beyond one of said end walls and an auxiliary end wall secured to said end of side walls in spaced relation to said one end wall to form a socket therebetween for accommodating the peel head, said socket being open at the bottom thereof, said auxiliary end wall being apertured for interengagement with the peel head within the socket, said one end wall comprising a plate one side of which defines one side of said socket and the other side of which defines one end face of said receptacle, said plate being inclined in a downward direction from its vertical central portion first toward said one end wall and then

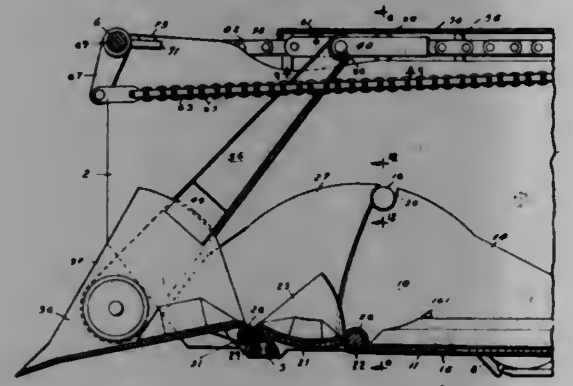


in a direction away from one end wall, so that the lower half of the socket is of diminishing dimension in a downward direction for a major portion of its height and then of increasing dimension to said open bottom end thereof.

3,197,048

SELF LOADING TRANSPORT

Dale I. Hayes, deceased, late of Salt Lake City, Utah, by Edna Caswell Hayes, executrix, Spokane, Wash., assignor to American Zinc, Lead and Smelting Company, St. Louis, Mo., a corporation of Maine
Filed Dec. 26, 1962, Ser. No. 247,402
8 Claims. (Cl. 214—78)



1. A self loading transport comprising:

a pair of upstanding elongated transversely spaced side walls;

an upright transverse partition wall intermediate the ends of said side walls and fixed thereto dividing the space between said side walls into a forward load receiving space and a rear power equipment receiving space;

a cross tie means connected to said side walls at their forward ends near the top thereof;

a second cross tie means connected to said side walls at their lower edges and spaced forwardly from said partition wall to provide a bottom discharge opening between the partition wall and said second cross tie means;

a closure for said discharge opening mounted on the side walls for movement lengthwise of the transport between a position closing said opening and a position rearwardly of said partition;

an intermediate fold back trough pivoted to the side walls at the front of the discharge opening to swing up into the space between said side walls;

a digging bucket carried by the front lower edge of the trough and swingable upwardly over the trough to load it;

means to swing said bucket upwardly and rearwardly over the trough and operable to pull the bucket rearwardly over the trough to swing the trough upwardly;

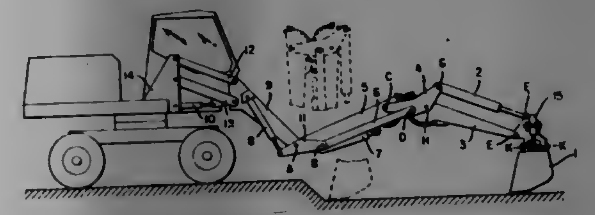
the trough and the bucket being spaced apart by a short link plate that is pivoted to both of them and that extends transversely from one side wall to the other; and

a third cross tie means beneath said link plate to keep it from swinging below the side walls.

3,197,049

UNIVERSAL EXCAVATOR

Friedrich Schwing, Dorstenerstrasse 441,
Wanne-Eickel, Germany
Filed Apr. 30, 1964, Ser. No. 363,797
Claims priority, application Germany, May 2, 1963,
Sch 33,222
3 Claims. (Cl. 214—138)



1. In an excavating apparatus, the combination with a movable support of:

a front dipper stick;

a bucket pivotally connected at its open end to said dipper stick at one end thereof;

first hydraulic means pivotally connected adjacent one end to said bucket at a point spaced from the end of said dipper stick;

a first crank arm, the other end of said dipper stick pivotally connected to said arm intermediate the ends thereof, the opposite end of said first hydraulic means pivotally connected to one end of said arm, the distance between the pivotal connections of the one end of said front dipper stick and said first hydraulic means to said bucket being substantially equal to the distance between the pivotal connections between the other ends of said front dipper stick and said first hydraulic means to said first crank arm;

a rear arm pivotally connected adjacent one end to the other end of said first crank arm;

linkage means pivotally connected adjacent one end to said first crank arm at a point between the pivotal connections of said front dipper stick and said rear arm thereto;

a second crank arm, the other end of said rear arm pivotally connected to the second crank arm intermediate the ends thereof, the opposite end of said linkage means pivotally connected to one end of said second crank arm, the distance between the pivotal connections of the one end of said rear arm and said linkage means to said first crank arm being substantially equal to the distance between the pivotal connection between the other ends of said rear arm and said linkage means to said second crank arm;

a hydraulic work cylinder pivotally connected between the one end of said second crank arm and a point intermediate the ends of said rear arm;

an auxiliary boom having one end mounted for selected vertical movement on said movable support, the other end of said boom pivotally connected to said second crank arm at a point intermediate the ends thereof; and

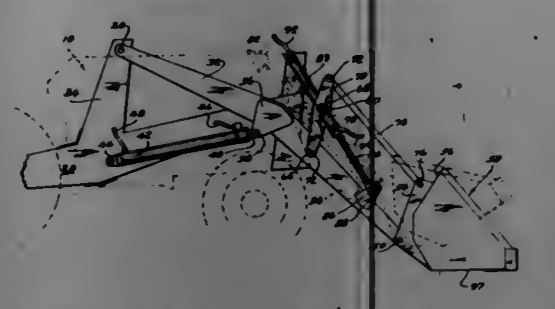
second hydraulic means pivotally connected adjacent one end to the other end of said second crank arm and the other end to a point on said boom.

3,197,050
MATERIAL HANDLING EQUIPMENT

John F. Shumaker, Mount Pleasant, Iowa, assignor to J. I. Case Company, Racine, Wis., a corporation of Wisconsin

Filed Feb. 11, 1963, Ser. No. 257,391

12 Claims. (Cl. 214—140)



1. In a loader of the type having a boom movable up and down and a bucket mounted on the boom for swinging movement into and out of a dumping position, means for effecting such swinging including the combination of a

first pivotal connection on the boom and connected in supporting relation with the bucket, a

second pivotal connection on the boom spaced backwardly from the first pivotal connection, an

upwardly directed lever supported on the second pivotal connection, an

anchorage on said boom spaced between the second pivotal connection and the bucket, a

third pivotal connection on the lever spaced upwardly from the second pivotal connection, a

fluid cylinder supported on said third pivotal connection, a

piston slidable in the cylinder and having a

piston rod extending through a wall of said cylinder and connected to said anchorage, a

link pivotally connected to the lever at a point spaced upwardly from the second pivotal connection, a

pivot mounted on said bucket at a point spaced from the first pivotal connection on the same side of said boom as said third pivotal connection, said link being pivotally secured to said pivot, and

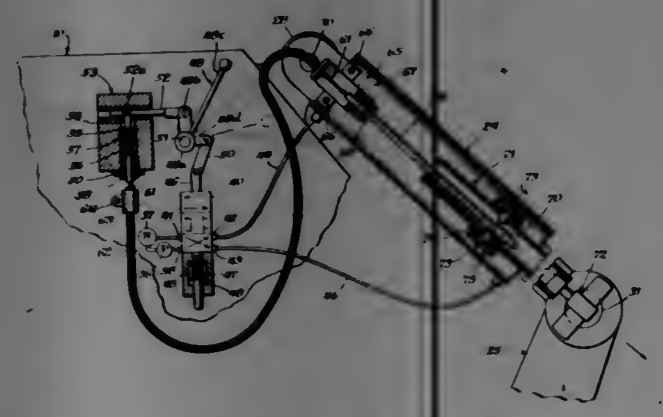
means for supplying pressure fluid to said fluid cylinder.

3,197,051
BUCKET INDEXING MECHANISM FOR TRACTOR LOADERS

Robert C. Thickpenny, Libertyville, Ill., assignor to The Frank G. Hough Co., a corporation of Illinois

Filed Apr. 30, 1963, Ser. No. 276,882

5 Claims. (Cl. 214—140)



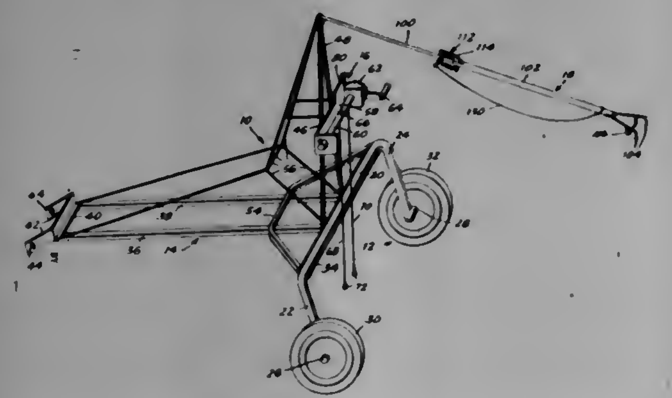
1. In a tractor loader having a pivotally carried bucket, a reciprocating hydraulic cylinder connected to said bucket for pivoting said bucket, a hydraulic valve having a valve spool carried in said valve for longitudinal reciprocating movement from a restored position, means for restoring said valve spool, hydraulic circuit means connecting said valve to said hydraulic cylinder for operation of said hydraulic cylinder responsive to longitudinal reciprocating movement of said valve spool, linkage and leverage means connected to said valve spool and manually operable to longitudinally reciprocate said valve spool, a detent rod connected to said linkage and leverage means to move responsive to operations of said linkage and leverage means, spring biased pawl means positioned to engage said detent rod responsive to movement of said detent rod to a particular position by a particular operation of said linkage and leverage means to hold said linkage and leverage means operated, and cable actuated means operated responsive to a particular operation of said hydraulic cylinder for disengaging said pawl from said detent rod to permit said valve spool to restore.

3,197,052
LIFTING AND TRANSPORTING DEVICE

Harold A. Nelson, Nicollet, Minn.

Filed Apr. 27, 1962, Ser. No. 190,533

6 Claims. (Cl. 214—394)



1. A truck for lifting and transporting an elongate load comprising a cross member, leg members connected to each end of said cross member and extending downward therefrom, axle means secured to the end of said leg members, a wheel mounted upon each axle means, a pair of horizontal supporting members secured at one end to said cross member, a tie plate secured to the other end of said pair of horizontal supporting members, parallel plates attached to and extending from said tie plate for connecting said horizontal supporting members to said load, a pair of vertical mounting members secured at one end to said cross member, bolt means secured to the other ends of said vertical mounting members, a winch secured to said vertical mounting members, cable means secured to said winch for lifting said load into a transporting position, an adjustable arm detachably secured at one end to said bolt means, attaching means mounted on the other end of said adjustable arm for holding one end of said load in a raised position, and releasable catch means connected intermediate the ends of said adjustable arm for adjusting the length of said arm thereby adjusting the position of said one end of said load.

3,197,053
ARTICLE-HANDLING APPARATUS WITH PUSHER AND ANCHOR MEANS MOUNTED ON A VERTICALLY MOVABLE SUBFRAME

Donald M. Faust, Estacada, Oreg., assignor, by mesne assignments, to Cascade Corporation, a corporation of Oregon

Filed Aug. 23, 1962, Ser. No. 218,890

6 Claims. (Cl. 214—514)

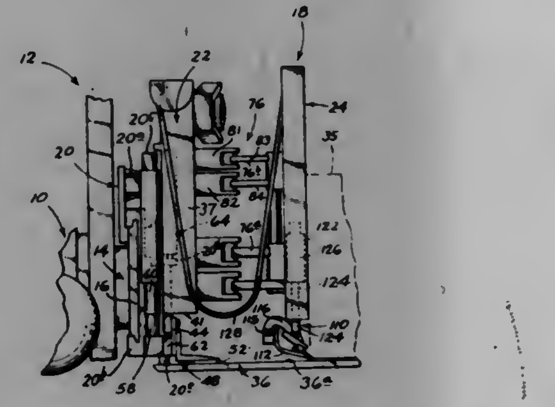
4. Article-handling mechanism for an industrial truck having an upright mast section with a carriage movable therealong, said mechanism comprising

a frame section adapted to be mounted on said carriage,

support means providing a platform for supporting a load secured to said frame section and extending forwardly thereof,

a vertically movable subframe mounted on said frame section above said support means, and power-operated means operatively interposed between the frame section and subframe for producing vertical movement in the subframe,

jaw mechanism for clamping onto a pallet, including a pair of cooperating jaw members, relatively adjustable between clamping and release positions, operatively mounted on said subframe through an extensible member in a position above and adjacent said support means, said jaw mechanism, including its pair of jaw members, being movable upwardly with upward movement of the subframe, whereby with the jaw members in their release position and released of a pallet the jaw members may both be moved above the pallet to clear the pallet, and



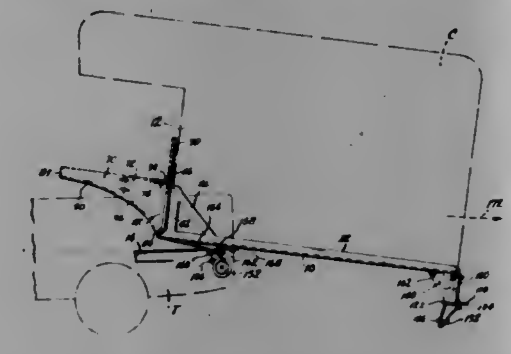
jaw means mounted on said subframe for vertical movement with the subframe, and operable upon movement of said subframe and when shifted downwardly against said support means to clamp a pallet released by said jaw members of the jaw mechanism against said support means.

3,197,054
TRANSFER MECHANISM FOR CAMPERS AND LIKE FRAMED UNITS

Mahlon E. Settem, P.O. Box 16, Issaquah, Wash.

Filed Sept. 28, 1962, Ser. No. 226,991

23 Claims. (Cl. 214—517)



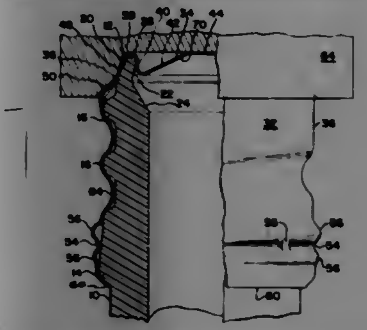
15. In combination with a vehicle equipped with an open bed, a framed unit adapted to be carried on the bed of the vehicle and to be off-loaded from the vehicle and supported on self-contained support means, and a framed unit transfer means aiding in loading and unloading the framed unit from the bed of the vehicle, said transfer means comprising skid means extensible forwardly of the framed unit and configured to present inclined lower surface means engageable with the rear edge of said vehicle bed to gradually lift the front end of said framed unit in the progress of the framed unit from a ground supported position to a fully loaded position on the bed of the vehicle, means movably mounting said skid means on said framed unit in a manner enabling movement thereof into a retracted position substantially coextensive with the forward portion of and entirely above the lower forward edge of said framed unit, such combination further comprising a winch assembly and hauling line arranged to act between said vehicle and said transfer means for the loading of the framed unit on the bed of the vehicle.

3,197,055
PLASTIC CONTAINER, METALLIC CLOSURE PACKAGING

Frank M. Kelly, Richmond, Ind., assignor to Aluminum Company of America, Pittsburgh, Pa., a corporation of Pennsylvania

Filed July 9, 1963, Ser. No. 293,637

8 Claims. (Cl. 215—43)



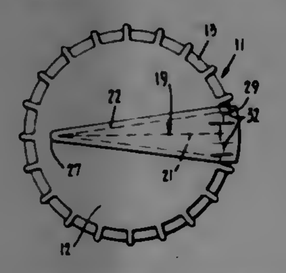
1. A substantially rigid closure shell for application on and combination with a container to provide a sealed package; said container having a mouth entrance defined by a flexibly resilient plastic upstanding circumferential substantially vertical lip of substantially thinner transverse thickness than the container neck immediately adjacent and contiguously below the lip, said lip being defined between outer and inner surfaces substantially parallel to the vertical longitudinal axis of the container; said closure shell being preformed to provide a downwardly and outwardly inclined depending circumferential skirt portion in contiguous curvilinear connection to a top panel thereof; said preformed substantially rigid closure shell being receivable over the upstanding flexibly resilient plastic lip of the container; and said closure shell under relative axial translation in respect of the container effecting inward resilient and confining angular deflection of the lip into substantial complementary outer surface conformity to the overlying interior inclined circumferential skirt portion and contiguous interior adjacent peripheral curvilinear connection thereof to the top panel of the closure shell.

3,197,056
LEVER RELEASABLE CLOSURE FOR BOTTLES OR THE LIKE

Donald J. Brockhage, 820 Everitt St., El Cerrito, Calif.

Filed Feb. 17, 1964, Ser. No. 345,345

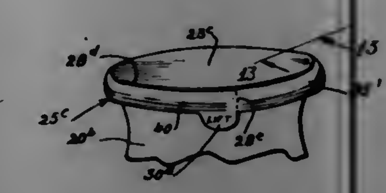
6 Claims. (Cl. 215—46)



1. A manually removable closure comprising a top wall and depending peripheral flange, said top wall having a pleated section integrally formed therein, said pleated section including a top portion and side wall structure integrally connecting said top portion to said top wall of said closure, said side wall structure including opposed reentrant pleat portions, said pleat portions having weakened lines extending substantially the length thereof in parallel relation to the side edges of said top portion, said top portion having an integral lever tab depending from one end thereof, said lever tab being selectively bendable at a position adjacent the juncture of the tab with said top portion.

3,197,057
CAPPED DRINKING CONTAINERS

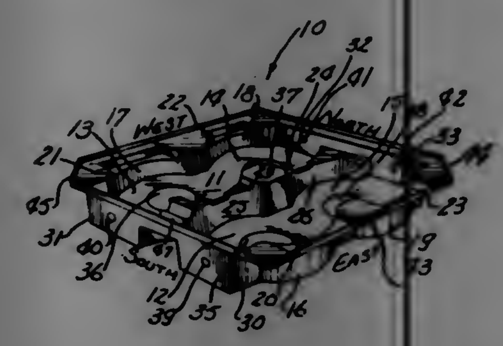
Dorothea M. Weitzner, 8 E. 62nd St., New York 21, N.Y.
Filed Sept. 3, 1963, Ser. No. 306,105
4 Claims. (Cl. 215—100)



1. A closure cap for a food or beverage container having a rim, said skirt comprising a body having a flat circular top, an annular skirt depending from the periphery of said top for engaging on the rim of the container, a tearing tab integral with said skirt, said skirt having a transverse score line at said tab for releasing the skirt from the rim of the container, a tube integral with said skirt and separable from the skirt by another score line extending circumferentially of the skirt, said tab being located at one end of said tube, whereby the cap is released from the container when the skirt is torn along said transverse score line, and the tube is released from the skirt when the skirt is torn along said other score line to serve as a drinking straw.

3,197,058
TRAY

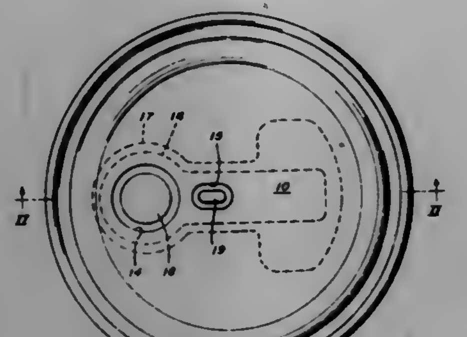
Raymond D. Hale, Basking Ridge, N.J., assignor to The Quaker Oats Company, Chicago, Ill., a corporation of New Jersey
Filed Apr. 24, 1964, Ser. No. 362,308
5 Claims. (Cl. 220—23.6)



1. A tray adapted for preparing and storing frozen confections of the ice cream sandwich type comprising a bottom wall, upwardly extending side walls, a border flange extending horizontally from the upper edge of said side walls, recessed seat portions in said border flange on the east and west sides of said tray, an upwardly projecting partition extending between opposite side walls and dividing said tray in a north-south direction, the east and west walls of said tray having at spaced intervals a plurality of shaped portions, said partition having a plurality of shaped portions which are so spaced to complement and form with the shaped portions in said east and west walls of the tray a plurality of compartments adapted to receive and maintain frozen confections, the bottom of said tray being formed with offset portions from said frozen confection compartments in north and south directions, the said offset portions being of a size and shape to be snugly received in said recessed portions in said border flange when identical trays are stacked in superposed relationship by orienting the superposed trays at 90° angles relative to each other, each of said frozen confection compartments being formed with an aperture in the bottom wall thereof to facilitate removal of frozen confections from the compartment.

3,197,059
METAL CAN END

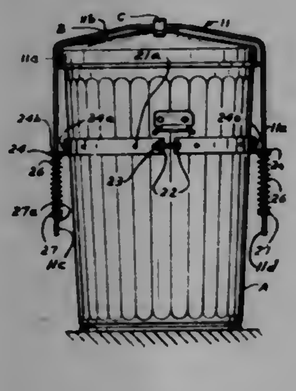
Howard A. Anderson, Franklin Park Borough, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed June 19, 1963, Ser. No. 289,008
4 Claims. (Cl. 220—24)



1. A can end comprising a dished sheet-metal piece which has an outwardly directed convex face and an inwardly directed concave face, said piece having a pouring opening near one edge and a vent opening nearer the middle, a sheet-metal closure lying against a portion of the concave face of said piece and covering said openings, and flexible adhesive means holding said closure in place but permitting it to be displaced inwardly to uncover both said openings in one motion by manual pressure applied through said pouring opening, said piece being actuable by manual pressure to reverse the dish thereof for moving said closure free of said openings to allow the contents of the can to be removed through said pouring opening.

3,197,060
GARBAGE PAIL COVER HOLDER

Richard M. Farniok, Delano, Albert W. Hammerlund, Sr., Excelsior, and Albert W. Hammerlund, Jr., Hopkins, Minn., assignors to Hammerlund Sheet Metal, Inc., Hopkins, Minn., a corporation of Minnesota
Filed Aug. 1, 1963, Ser. No. 299,252
6 Claims. (Cl. 220—38)



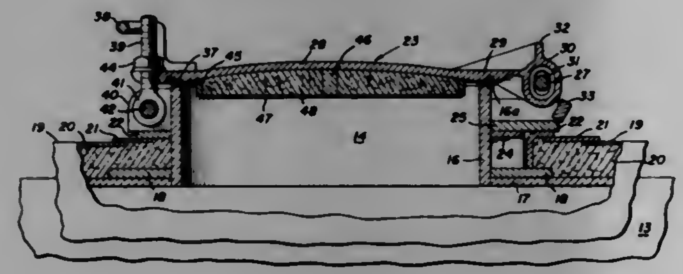
1. Apparatus for use with a garbage can of conventional construction including

(a) a pair of generally horizontally disposed pivots,
(b) means for readily attaching said pivots in diametrically opposed relation to the side wall of a garbage can,
(c) a pair of apertured flanges mounted for pivotal movement on the axis of said pivots,
(d) a pair of elongated hold down elements disposed in generally upstanding relation and respectively slidably mounted through the apertures of said flanges,
(e) positive stop means mounted on said elements in spaced relation below said flanges,

(f) means for attaching said elements to the cover of the garbage can, and
(g) a pair of spring members normally urging said elements downwardly into normal hold down position but yielding in response to upwardly directed pulling force applied to said elements to permit said elements to be shifted upwardly in said flanges to permit removal of the cover from the top of the garbage can.

3,197,061
COVERS AND SEALS FOR MANWAY STRUCTURES FOR TANKS

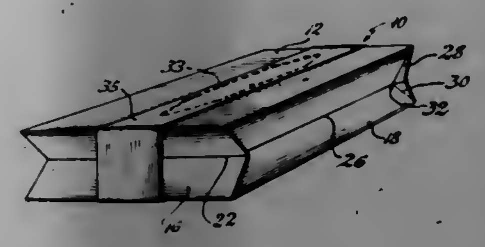
Charles T. Graves, Sharon, Pa., assignor to General American Transportation Corporation, Chicago, Ill., a corporation of New York
Filed Sept. 10, 1963, Ser. No. 308,015
6 Claims. (Cl. 220—46)



1. In a tank including a hollow body, tubular manway structure carried by said body and projecting outwardly therefrom and defining a manway extending therethrough into said body, the outer end of said manway structure terminating in a first flat annular sealing surface surrounding the outer end of the manway extending therethrough, a cover carried by said manway structure and mounted thereon for hinged movements between closed and open positions with respect to the outer end of said manway structure, the inner side of said cover being provided with a second annular sealing surface disposed radially inwardly from the perimeter thereof and arranged in cooperating position with said first sealing surface when said cover occupies its closed position, said second sealing surface being stepped and including concentric and adjacent outer and inner flat annular portions, the outer annular portion of said second sealing surface in its cooperating position being disposed substantially parallel to said first sealing surface and spaced closely adjacent thereto and outwardly a first distance therefrom, the inner annular portion of said second sealing surface in its cooperating position being disposed substantially parallel to said first sealing surface and spaced closely adjacent thereto and outwardly a second distance therefrom, wherein said second distance is greater than said first distance, the inner side of said cover also having a narrow annular slot formed therein and positioned at the boundary between the outer and inner annular portions of said second sealing surface and surrounding the inner portion of said second sealing surface, the axis of said slot being pitched radially outwardly at an acute angle to the inner portion of said second sealing surface, and a narrow annular sealing gasket formed of flexible material and carried by said cover, said sealing gasket including an outer annular portion positioned in said slot and an inner annular portion projecting radially inwardly from said slot and underlying the inner annular portion of said second sealing surface, the inner annular portion of said sealing gasket being clamped between the inner annular portions of said first and second sealing surfaces when said cover occupies its closed position, thereby hermetically to seal the outer end of the manway extending through said manway structure when said cover occupies its closed position.

3,197,062
EXPANDABLE TISSUE DISPENSING PACKAGE

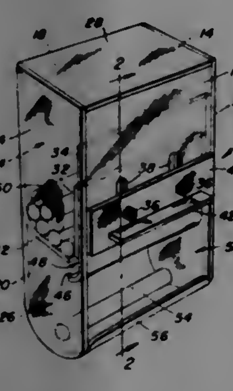
Winterton U. Day and Kenneth M. Enloe, Neenah, Wis., assignors to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed Sept. 27, 1962, Ser. No. 226,528
3 Claims. (Cl. 221—48)



1. In combination, an expandable container, a stack of interleaved and highly compressed tissues housed in said container, and a manually removable band encircling said container; said container comprising a top wall, a bottom wall, two end walls and two side walls; said top wall having an elongate dispensing opening therein and said top wall being of substantially the same dimension as said bottom wall; said side walls and said end walls having means permitting expansion and contraction in a vertical direction; and said manually removable band encircling said container to cover said opening and holding said side and end walls in contracted condition while maintaining said top and bottom walls in snug engagement with the top and bottom of the compressed tissue stack; whereby upon removal of said band said container and stack may freely expand to compensate for humidity induced growth in said stack.

3,197,063
CIGARETTE DISPENSERS

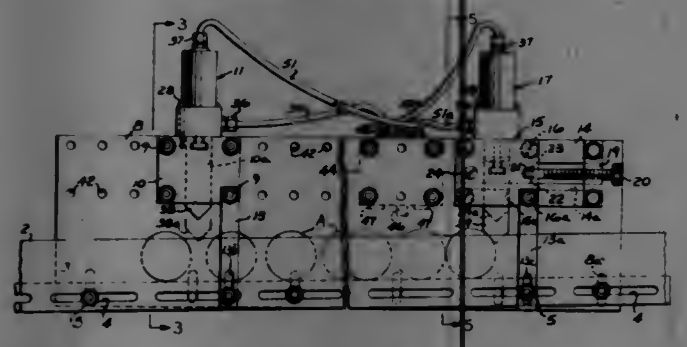
Hubert P. Casey, Marietta, Ga., assignor to Handi-Smoke, Inc., Atlanta, Ga., a corporation of Georgia
Filed May 8, 1963, Ser. No. 281,074
2 Claims. (Cl. 221—195)



1. In a cigarette dispenser, the combination of a housing affording a hopper and a receptacle under the hopper, said receptacle having an open front, said hopper including a front wall operatively joined to side walls and a rear wall and an inclined bottom spaced from the rear of said front wall to afford an elongated outlet opening at this point, a check member slidable upwardly adjacent the inner surface of said front wall from a lowered position wherein it is disposed in said opening to prevent outlet of cigarettes therethrough, a cigarette transferring member provided under and slidable with said check member for delivering cigarettes from said opening into said receptacle, the bottom edge of the transfer member having an inwardly curved segment terminating adjacent

to and below said check member, said front wall being provided with a vertical slot, an outwardly projecting element secured to said check member and transferring member and slidable in said slot, and an actuating piece mounted on said projecting element at the outer surface of the front wall with which it connects, for sliding said check and transfer members.

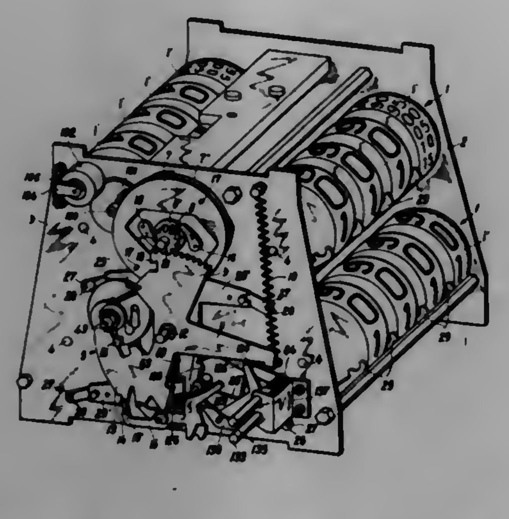
3,197,064
ADJUSTABLE ESCAPEMENT MECHANISM FOR DELIVERING WORKPIECES
Andrew J. Waitkins, East Detroit, and Ralph Beyer, Fraser, Mich., assignors to F. Jos. Lamb Company, Detroit, Mich., a corporation of Michigan
Filed Mar. 8, 1963, Ser. No. 263,909
9 Claims. (Cl. 221—207)



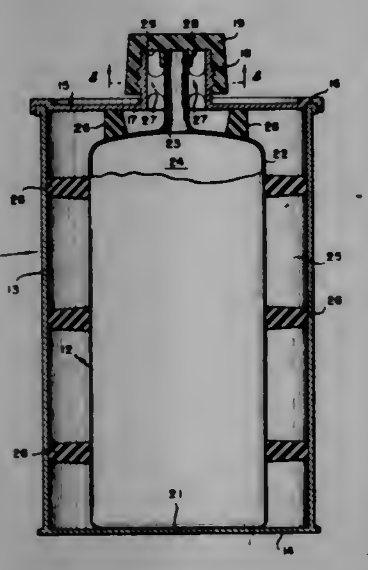
1. A metering escapement including a runway, a support plate adapted to be secured to said runway and held equidistant therefrom throughout its length, cylinder assemblies having pistons therein with piston rods projecting therefrom, a mounting secured to the support plate, one of the cylinder assemblies being fastened to said mounting, a stationary shoe secured to the support plate, said shoe being longitudinally spaced from the mounting, a slide block mounted for movement along the shoe, the other cylinder assembly being secured to said block, means for moving the block along the shoe to adjust the spacing between the cylinder assemblies, both the piston rods being substantially perpendicular to the runway and parallel to one another, a blade projecting from each piston rod, and means for simultaneously reciprocating the pistons in the cylinder assemblies in opposite directions to one another whereby each blade in turn is positioned to obstruct the passage of workpieces along the runway.

3,197,065
CLEARING ARRANGEMENT FOR DISPENSING AND METERING APPARATUS
Werner Pilz, Dietmar Hummel, and Gerhard Steidle, Schwenningen (Neckar), Germany, assignors to Kienzle Apparate G.m.b.H., Villingen, Black Forest, Germany
Filed Apr. 19, 1963, Ser. No. 274,187
Claims priority, application Germany, Apr. 21, 1962, K 46,548
20 Claims. (Cl. 222—33)

1. A clearing arrangement for a liquid dispensing and metering apparatus and comprising, in combination, a pump, a motor for driving said pump to dispense liquid; a meter for measuring the amount of dispensed liquid, a plurality of ordinal sets of number wheels driven from said meter; tens-transfer means connecting number wheels of adjacent orders, said tens-transfer means having an operative tens-transfer position and an inoperative position in which the number wheels of adjacent orders are turnable independently of each other; clearing means including a heart cam connected to each number wheel for rotation therewith, and a clearing member cooperating with each heart cam and having an inoperative position and an operative position engaging the respective heart cam for turning the same to a zero position in which the respective number wheel is cleared; control means for moving said tens-transfer means to said inoperative position and said clearing members to said operative positions; spring-loaded drive means adapted to be wound up from a relieved position to a tensioned position, and operatively connected to said control means to actuate the same when released and returning to said relieved position; a dispensing valve manually movable between an inoperative position suspended on said apparatus and an operative dispensing position; locking means for locking said drive means in said tensioned position and controlled by said dispensing valve to release said drive means when said dispensing valve is moved from said inoperative position to said operative position; and means connecting said drive means with one of said elements so that said drive means is wound up during the dispensing operation.

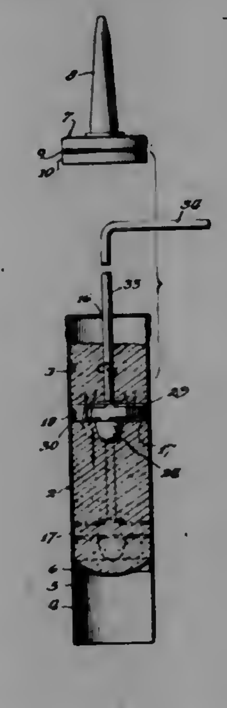


3,197,066
MULTICOMPARTMENT DISPENSING PACKAGE AND METHOD
Rudolph E. Denzler, Bloomfield, and Richard E. Farrar, Morris Plains, N.J., assignors to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware
Filed Sept. 7, 1962, Ser. No. 222,165
6 Claims. (Cl. 222—129)



1. A multicompartment dispensing package comprising an open top outer container having a closed bottom, a top structure having an aperture and extending over said open top, a smaller inner container wholly enclosed by said outer container and having an upstanding discharge spout projecting into said aperture, means comprising the sole support for said inner container attaching said spout to said top structure at said aperture, said support being apertured for providing with said spout adjacent individual fluid discharge openings of predetermined relative size for the respective containers, means comprising a fluid tight peripheral seal joint securing said top structure non-removably to said outer container, and a cap removably secured on said top structure extending over and separately closing both said discharge openings.

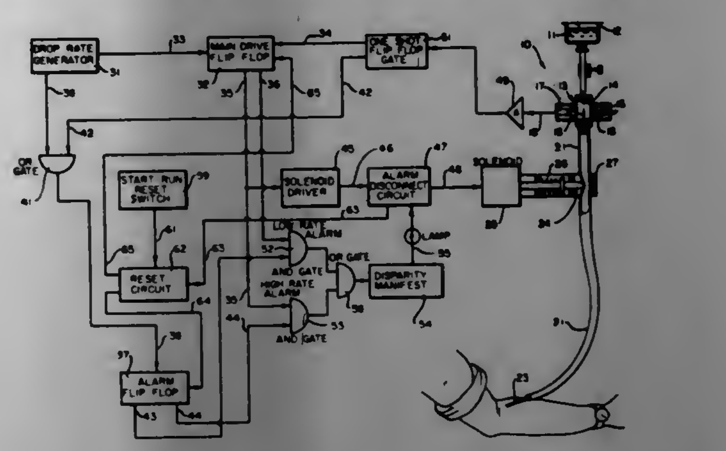
3,197,067
CARTRIDGE ASSEMBLY
Edward L. Rataczak, St. Louis, Mo., assignor, by mesne assignments, to Interchemical Corporation, New York, N.Y., a corporation of Ohio
Filed Feb. 7, 1963, Ser. No. 256,981
14 Claims. (Cl. 222—130)



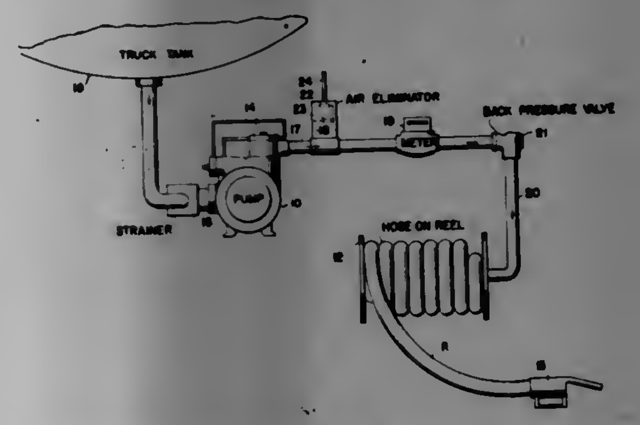
4. A cartridge assembly for mixing two components of a composition, said assembly comprising an open ended cylindrical tube having a compartment closed at one end by a follower plate slidable in said tube, an end cap fitting over one end of the tube forming the other end of said compartment, said end cap having an opening therein, a mixing member insertable into said compartment, and a rod secured at one end to said mixing member, the other end of said rod projecting through said opening, said rod being manually operable to move said mixing member longitudinally and rotationally within said compartment to mix any materials positioned in said compartment, and a combined closure member and nozzle interchangeable with said end cap for closing said one end of said tube, said rod being engageable with said follower plate through the opposite end of said tube to move it longitudinally through said tube toward the first mentioned end of said tube to thereby dispense said composition through said nozzle when said combined closure member and nozzle is on the end of the tube forming the second mentioned end of said compartment.

3,197,068
APPARATUS FOR MONITORING THE DISPENSING OF LIQUID
Thomas H. Corbin, Palo Alto, and John E. Poulsen, Santa Clara, Calif., assignors, by mesne assignments, to Corbin-Farnsworth, Inc., Palo Alto, Calif., a corporation of Delaware
Filed Apr. 27, 1964, Ser. No. 362,832
13 Claims. (Cl. 222—59)

1. In apparatus for delivering a series of drops of liquid, means defining a selected drop rate, means controlling delivery of the drops responsive to the first named means, means serving to sense each drop to be delivered and define the actual drop rate, and means serving to detect disparity between said rates and condition said means controlling delivery of the drops to arrest further delivery of drops.



3,197,069
SYSTEM FOR DISPENSING LIQUID HAVING A METER, AN AIR ELIMINATOR, AND BACK PRESSURE VALVE
Virgil A. Brunson, Grand Rapids, Mich., assignor, by mesne assignments, to Dover Corporaiton, New York, N.Y., a corporation of Delaware
Filed Mar. 16, 1964, Ser. No. 351,946
4 Claims. (Cl. 222—72)



1. A system for dispensing a liquid comprising, in combination, a pump, a line leading from the outlet side of the pump which contains, in succession, (a) an air eliminator, (b) a meter, (c) a back pressure valve and (d) a manually operable dispensing valve, first means actuated by the pressure on the downstream side of the back pressure valve for biasing the valve toward open position, and second means for biasing the back pressure valve toward closed position with a predetermined biasing force which is sufficient to overcome the reduced force exerted by the first means and to close the valve in the event that, when the dispensing valve is open, the pump begins to suck air and causes air to be exhausted through the air eliminator, thereby reducing the flow of liquid so as to reduce the pressure drop in the line between the back pressure valve and the open dispensing valve.

3,197,070
FLUID DISPENSING DEVICE
Curtis F. Pearl, West Englewood, N.J., and Jack W. Kalbfeld, Old Bethpage, N.Y., assignors to Roy M. Bloom, New York, N.Y.
Filed May 6, 1963, Ser. No. 278,109
5 Claims. (Cl. 222—79)

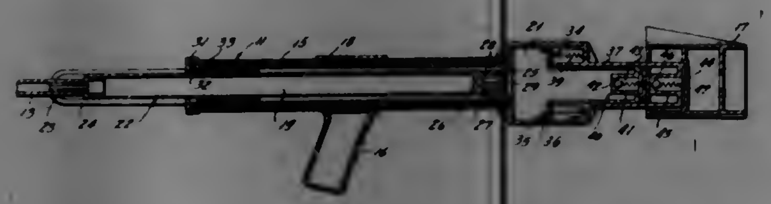
1. A fluid dispensing device comprising a hand-carried pump body containing a pressure chamber including a rear section disposed adjacent the trailing end of the body and extending lengthwise of the major portion thereof, a front section disposed adjacent the leading end of the

pump body and an intermediate section having a greater cross-sectional area then said front and rear sections, the pressure chamber containing:

(a) a hollow plunger mounted for movement longitudinally of the rear seition of the pressure chamber, one end of said plunger extending out of the pump body and the opposite, forward end thereof having an apertured piston face, and an associated valve means opening under differential fluid pressure produced on opposite sides thereof;

(b) a power piston mounted for movement longitud.nally of the intermediate and front sections of the pressure chamber, said power piston having a first portion disposed in said intermediate section and a second, smaller portion including an apertured piston face disposed in said front section, and a valve means associated with the apertured piston face opening under the differential fluid pressure produced on opposite sides thereof; and

(c) means connecting said front section of the pressure chamber with the exterior, leading end of the pump body to facilitate fluid passage under pressure from the body cavity to the atmosphere.

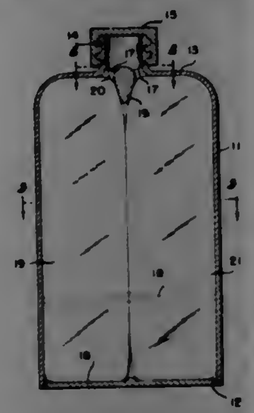


3,197,071
MULTIPLE COMPARTMENT DISPENSER

John J. Kuster, Franklin Park, N.J., assignor to Colgate-Palmolive Company, New York, N.Y., a corporation of Delaware

Filed Dec. 3, 1962, Ser. No. 241,669

8 Claims. (Cl. 222—[illegible]4)



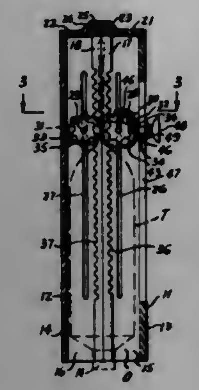
5. A multicompartment dispensing package comprising an outer container the walls of which are sufficiently rigid to be self-supporting but which are constructed and arranged to be relatively flexed by operator pressure to reduce the internal volume of said outer container, a plurality of inner containers occupying the internal volume of said outer container, said inner containers being individually sealed and having highly flexible walls of substantially film thickness so that they conform to the internal shape of said outer container within the package, a transverse relatively stiff wall dividing said outer container into individual compartments for said inner containers so that pressure on one inner container is not transmitted to the other, a neck structure on said outer container formed with means providing passages therethrough to the individual inner containers and so disposed that the respective inner containers may be punctured by means inserted through said passages, and a removable closure member on said neck structure normally closing said passages.

3,197,072
DISPENSING DEVICE FOR COLLAPSIBLE TUBE

Ray A. Dick, 3849 Annadale Lane, Sacramento 21, Calif.

Filed Dec. 26, 1963, Ser. No. 333,590

4 Claims. (Cl. 222—102)



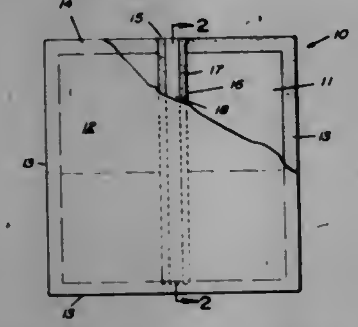
1. A dispensing device for collapsible tubes comprising a two-part casing having an open bottom, said casing comprising two complementary half sections each making a top, side, and end walls, said side walls having inwardly extending longitudinal ribs, means on the marginal edges of said half sections for releasably interlocking the same, teeth on the inner edge of each rib confronting the adjacent side walls and forming a pair of oppositely extending longitudinal racks on each side of said casing, elongated grooves in each side wall of each section parallel to said ribs, an axle extending transversely across each section having its extremities seated in said grooves, a ribbed roller on each axle, each roller being adapted to engage an opposite side of a collapsible tooth, a gear adjacent each end of each axle, each gear being in mesh with its corresponding gear on the opposite axle, a pinion at each end of each axle, each pinion engaging an adjacent rack, a longitudinal slot in one end wall, a plunger extending through said slot, means engaging said plunger with the adjacent roller to rotate the same to cause said adjacent roller to move downwardly in said casing through engagement of the pinions carried by its axle with the adjacent racks, and simultaneously to cause the other roller to move downwardly through the engagement of said meshing gears.

3,197,073
FLEXIBLE CONTAINER FOR LIQUID, PASTY OR GRANULAR PRODUCTS

Enrique Gaona Gondra, Alfredo Sordo Gutiérrez, and Percy Williams Jiskra McBride, all of Avda. Salaverry 2559, Lima, Peru

Filed Aug. 16, 1963, Ser. No. 302,648

1 Claim. (Cl. 222—107)



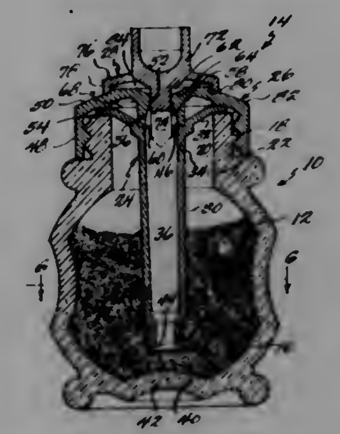
A flexible container for liquid or semi-liquid substances comprising two rectangular sheets of thermoplastic material sealed together completely along three sides and along the fourth side from each edge to a region adjacent its medial portion, each sheet having an extension extending outwardly from said fourth side at said medial portion and of a width slightly less than said unsealed medial portion, said extensions being sealed together along their side edges from said fourth side to their distal ends thereby forming a tube, said tube being retroverted into the container through said unsealed portion with its distal end located adjacent the bottom of the container, so as to constitute an inlet or outlet passage for the container contents.

3,197,074
CONDIMENT DISPENSER

John W. Kuhn, 1101 NE. 23rd St., Pompano Beach, Fla.

Filed Dec. 29, 1964, Ser. No. 421,802

11 Claims. (Cl. 222—131)



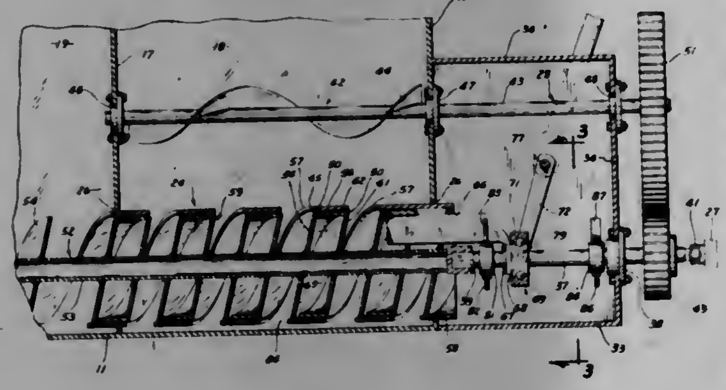
1. A dispensing container for condiments comprising a hollow body provided with a threaded neck having an opening bounded by an annular end wall; a delivery member having at its upper end portion a centrally apertured, annular flange seated on the end wall and a substantially downwardly extending, open-ended, first delivery tube integral with the flange; a screw cap comprising a skirt threaded on the neck, a centrally apertured top overlying the flange and holding it on the end wall, and a second delivery tube integral with and extending from the top and registering at its lower end with and seated upon the upper end of the first delivery tube, the flange of the delivery member and the top of the cap partially defining a dead air insulating space; and a closure for the aperture in the cap comprising a body having a depending plug adapted to enter the aperture in the cap and an outwardly projecting flange having a downwardly projecting skirt seated upon the top of the cap.

3,197,075
VARIABLE VOLUME AUGER ASSEMBLY

Elmer K. Hansen, 126 Cecelia, Sioux City, Iowa

Filed Nov. 16, 1962, Ser. No. 238,135

10 Claims. (Cl. 222—134)



4. An auger assembly comprising:

(a) a first elongated means having a spiral flange means,

(b) elongated spiral means movably mounted for axial movement concentric with said first elongated means to vary the volumetric capacity of the auger assembly on said first means,

(c) means drivably connecting said first means with said spiral means whereby said first and spiral means rotate as a unit, and

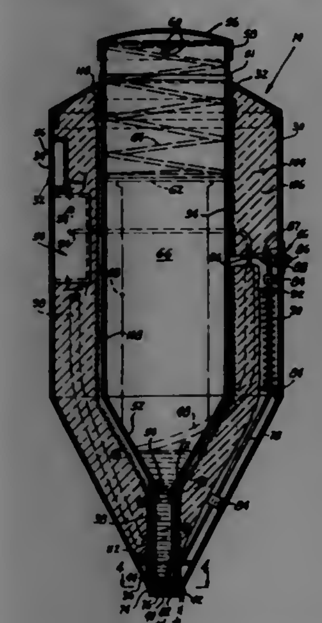
(d) means secured to said spiral means for varying the volumetric capacity of the auger assembly.

3,197,076
DEVICE FOR SOFTENING AND DISPENSING AN EDIBLE SPREAD

Paul G. Chamblee, 708 3rd St., Beaumont, Tex.

Filed Apr. 10, 1963, Ser. No. 272,100

3 Claims. (Cl. 222—146)



1. A device for softening and dispensing an edible spread comprising a container means having an upper end, a lower end, and a peripheral wall connecting said upper and lower ends and defining an interior chamber dimensioned to receive a quantity of spread, reservoir means having an upper end in communication with said chamber for receiving softened spread, and an open lower end, dispensing means including a door member normally biased into a closed position wherein it is in sealing engagement with said open lower end of said reservoir means, an actuating means for moving said door member to an open position wherein softened spread may be dispensed through said open lower end of said reservoir means, heating means thermally engaging at least a lower portion of said container means for softening said spread and substantially all of said reservoir means for maintaining said spread in softened condition, an outer housing having an upper end, a lower end and a peripheral wall connecting said upper and lower ends and defining an upper cavity for removably receiving said container means and a lower cavity for removably receiving said reservoir means, said lower end of said container means tapering to form an externally threaded substantially cylindrical element, said upper end of said reservoir means being threaded to receive said cylindrical element, said upper end of said reservoir having a flared portion to facilitate the threaded engagement of said container means and said reservoir means.

3,197,077
DEVICE FOR KEEPING THE DISPENSING OPENINGS CLEAR ON SALT AND CONDIMENT SHAKERS

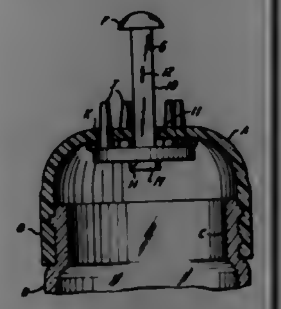
Stanley Amster, 234 W. 52nd St., New York, N.Y.

Filed Apr. 2, 1962, Ser. No. 184,136

12 Claims. (Cl. 222—149)

8. A salt shaker of the type having a container with a vertically elongated base receptacle with a reduced diameter neck to receive salt and the like and a plastic cap therefor having a depending cylindrical skirt to engage said neck and having a flat top and a rounded outer edge

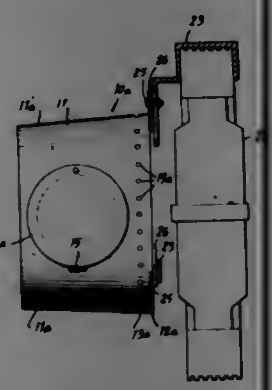
portion connecting the skirt and top, said top having a central opening of non-circular shape and an arrangement of dispensing openings of cylindrical shape positioned between the central opening and the rounded edge; the combination therewith of pronged device including a reciprocating horizontal platform within the cap having a lower position at the lower edge of the skirt and an upper position against the lower face of the flat top, a central shaft of non-circular cross-section passing frictionally through said central opening having an enlarged handle above the flat top and integrally joined to the platform at its lower end and a plurality of conical upwardly extending prongs mounted on said platform and matching said dispensing openings and having a lesser diameter and said openings, said handle and said shaft being attached to the pronged device and said handle being mounted on the top of said shaft and said prongs serving to clear said openings when in their uppermost position and serving to leave said openings and be removed from said openings when the prong device is in its lowermost position and withdrawn into the container and the weight of said prong device serving to swing the prong device slightly off center when the container is turned into horizontal position and away from vertical position.



3,197,078

GUIDE LINE MARKER

David Kuperschmid, 1 Da[illegible]ton St., Huntington Station, N.Y.
Filed Mar. 21, 1963, Ser. No. 266,843
1 Claim. (Cl. 222—[illegible]59)

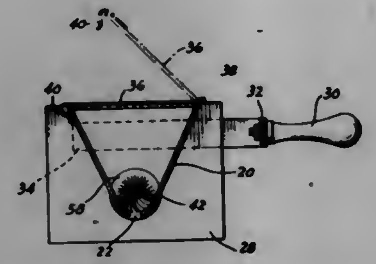


A guide line marker adapted to be utilized with a spreader device having at least one wheel and axis assembly, said marker comprising a hollow enclosure member having a tapered lateral inner surface symmetrically disposed about the longitudinal axis of said hollow member, access means for disposing a marker substance with said hollow member, a plurality of predetermined spaced apertures disposed in and at wide terminus of said tapered surface to provide emanation of said substance from said enclosure member whenever said guide line marker is operative, and a detachable coupling means; said coupling means comprising a plurality of cleat members adjustably coupled to the wide end of said hollow enclosure member and adapted to engage the periphery of said wheel to a predetermined portion of the wheel end at the assembly of said spreader device.

3,197,079

WAX DISTRIBUTOR FOR SHUFFLEBOARD

Wilmer C. Wilt, Sr., Red Lion, and Wilmer C. Wilt, Jr., Seven Valleys, Pa., assignors to Wilt 3, Incorporated, Red Lion, Pa., a corporation of Pennsylvania
Filed June 19, 1963, Ser. No. 289,128
6 Claims. (Cl. 222—177)

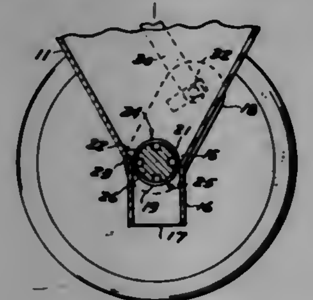


1. A distributor for spreading granular material evenly over a surface such as a shuffleboard and comprising in combination, an elongated hopper substantially V-shaped in cross-section and the apex thereof being lowermost to form a bottom, said bottom having discharge opening means extending longitudinally thereof, an elongated bristled brush extending along and rotatably supported within the lower portion of said hopper adjacent said opening means and serving substantially as closure means therefor, and supporting wheels connected to the opposite ends of said brush means and projecting below the lowermost portion of said hopper for engagement with a surface of the aforesaid type and operable to revolve said brush as said hopper is moved along such surface to receive an even distribution of powdered wax from said hopper, said brush also serving to loosen wax in said hopper and insure an even discharge of wax through said discharge opening means.

3,197,080

HOPPER SHUT-OFF CONTROL FOR SEED SOWING MACHINE

Benedict Stach, 15273 Fordham Ave., East Detroit, Mich.
Filed Oct. 22, 1963, Ser. No. 318,038
2 Claims. (Cl. 222—177)

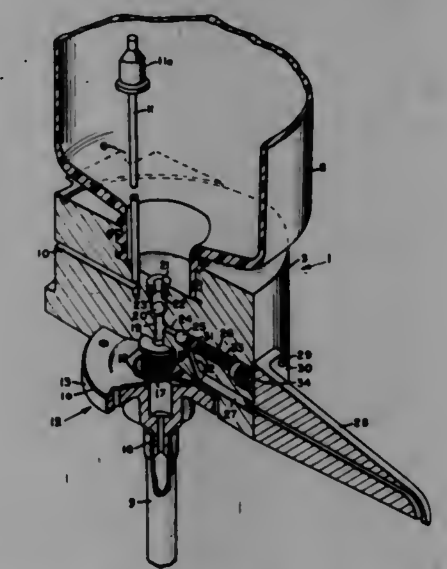


1. In a seed sowing machine, a hopper;
a horizontally disposed casing connected to the underside of the hopper, the casing at its top having an inlet opening communicating with the hopper, and an oulet opening at its bottom;
a cylindrical roller horizontally disposed within the inlet opening journaled upon the hopper and extending at each end outwardly therefrom;
the wall of the roller having along its length confined within the casing a plurality of rows of spaced openings;
a traction wheel upon each end of the roller, at least one of said wheels being keyed to the roller for rotating the same with rotation of said wheel;
an elongated transversely arcuate rotary hopper closure plate extending the length of said hopper on its interior, co-axially of said roller;
said closure plate in one position closing off communication between said hopper and casing, and rotatable to progressively open communication therebetween;
tubular supports on the ends of said closure plate journaled through the walls of the hopper, said roller supported and journaled through said supports;
and a manually operated remote controlled linkage means connected to said closure plate for rotating the same, said means including rockable arms at their one ends secured to end portions of said tubular supports;
levers pivoted upon said hopper and at their one ends flexibly and pivotally connected, respectively, with the other ends of said arms;
an operating handle connected to and projecting rearwardly from said hopper;
a longitudinally reciprocal pull rod slidably mounted on said handle, extending rearwardly of the hopper and at its forward end pivotally connected to the other ends of said levers, respectively.

3,197,081

DISPENSER HAVING A PRESSURE ACTUATED OUTLET MEANS

Graham E. Midworth, Shepperton, Middlesex, England, assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 22, 1963, Ser. No. 274,718
3 Claims. (Cl. 222—179)

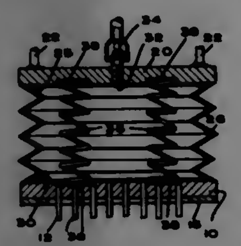


1. A dispenser comprising a support adapted to be mounted in an elevated position with respect to a supporting surface, said support including a block having an upper surface and a lower surface, said block having a recess in its upper surface, a container adapted to be mounted in an inverted position in the recess, said container containing material to be dispensed, the block forming a bottom surface for the recess, a passage leading downwardly from the bottom surface of the recess through a portion of the block, a normally open valve in the passage, means forming a pumping chamber at and communicating with the lower end of said passage, a diaphragm in the block and extendinng across the chamber at the lower portion thereof, a spring in the chamber maintaining said diaphragm normally in lowermost position, means providing pressure to said diaphragm to raise the same relative to the chamber exerting pressure on the contents thereof and at the same time closing the valve, a branch passage extending from said chamber, a valve in said branch passage, a spring normally holding said valve closed but yielding under conditions of pressure in the chamber to open to allow the contents from the pumping chamber to proceed through said branch passage, a spout communicating with said branch passage, pressure on the contents of the pumping chamber raising the valve in the first-named passage to close the same preventing escape of the contents of the pumping chamber upwardly into the reservoir and at the same time impinging on the valve in the branch chamber opening the same and causing material from the pumping chamber to be forced through said branch passage to said spout, release of pressure on the diaphragm allowing the spring in the pumping chamber to return the diaphragm to its downwardmost position and allowing the spring behind the valve in the branch passage to close the same.

3,197,082

APPARATUS FOR IMPREGNATING FOAM MATERIALS

Albert M. Palombo, Arlington, Mass., assignor to American Metaseal of Massachusetts, Inc., a corporation of Massachusetts
Original application June 24, 1959, Ser. No. 822,594, now Patent No. 3,049,444, dated Aug. 14, 1962. Divided and this application Apr. 6, 1962, Ser. No. 185,854
7 Claims. (Cl. 222—207)

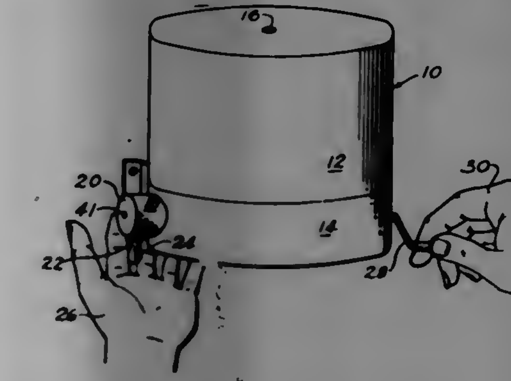


1. Impregnating apparatus comprising a body member carrying a plurality of tubular nozzles, said body member being movable towards and from a work piece in response to a moving force, a pressure applying member defining an expansible chamber with said body member communicating with each of said plurality of nozzles, said pressure applying member being movable towards said body member in response to the same moving force to eject fluid through said nozzles.

3,197,083

DISPENSER HAVING AGITATOR AND MEASURED DELIVERY

Thomas A. Elliott, Decatur, and Harold B. Friedman, Atlanta, Ga., assignors, by mesne assignments, to National Service Industries, Inc.
Filed Jan. 30, 1963, Ser. No. 254,930
12 Claims. (Cl. 222—231)



1. In a dispenser for dispensing paste, thick soaps and the like,
(a) a container body adapted to hold a quantity of the material to be dispensed and having a normally closed bottom,
(b) an outlet element on one side of said container body having an opening from which there is received in one hand a measured quantity of the material dispensed from said outlet,
(c) an operating member spaced on the opposite side of said body from said outlet in (b) and adapted to be held and operated by the other hand from the hand in (b) as the hand in (b) receives the measured quantity,
(d) a screw conveyor means on the inside of said

body in (a) for receiving and conveying material to be dispensed to the opening in (b),

(e) means supported on opposite sides of and extending through said container body and conveyor means in (d) to move same in response to the operation by the hand in (c) thereby to operate said screw conveyor means to move said material to be dispensed toward said opening, and

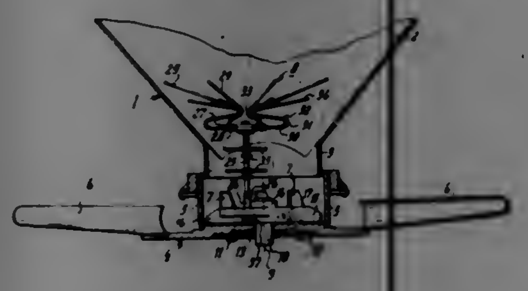
(f) agitator means supported within said container and normally having a quantity of material in contact therewith to be agitated thereby and said agitator normally having a supply of the material to be dispensed between it and said conveyor means in (d),

(g) means supporting said agitator within said container body for movement therein,

(h) and means on said screw conveyor supporting means operable by said operating member in (c) which moves said agitator in (f) as said material is dispensed so that the material to be dispensed is agitated toward said conveyor whereby a more positive delivery is maintained.

3,197,084
DEVICE FOR SPREADING GRANULAR OR POWDERY MATERIAL

Cornelis van der Lely, Zug, Switzerland, and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely N.V., Maasland, Netherlands, a company of the Netherlands
Original application Jan. 26, 1959, Ser. No. 788,884, now Patent No. 3,038,643, dated June 12, 1962. Divided and this application May 31, 1962, Ser. No. 199,021
10 Claims. (Cl. 222—254)

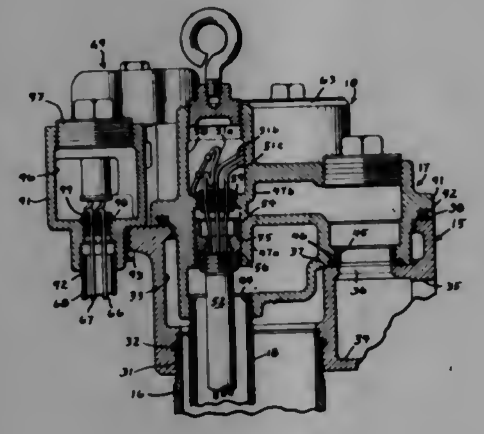


1. A device for spreading material comprising a material container with an outlet part and an agitator member arranged within said container to insure delivery of material from said container, a driving mechanism for moving said member relative to the inner wall of said container, said member having a shaft extending upwardly in said container, at least one extension being coupled to said shaft, said extension having portions projecting laterally with respect to said shaft, one of said portions being positioned below a second portion, a third portion being positioned above said second portion, said third portion having a free end extending towards said inner wall, said portions being coupled with bends and comprising a single piece of material.

3,197,085
HEADER CONSTRUCTION WITH INTERLOCK ELECTRICAL DISCONNECT

Elmer M. Deters and Joseph E. Youth, Davenport, Iowa, assignors to Red Jacket Manufacturing Company, Davenport, Iowa, a corporation of Iowa
Filed Jan. 16, 1963, Ser. No. 251,964
11 Claims. (Cl. 222—333)

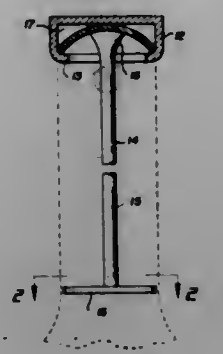
11. A packer-manifold unit for a submerged motor-pump apparatus comprising, a manifold body having an upright passage extending therethrough dimensioned sufficiently larger than the motor-pump apparatus to enable insertion and removal of the motor-pump apparatus therethrough, said manifold body having a discharge passage therein, a packer body removably mounted in said manifold body, said packer body having a downwardly facing inlet opening adapted for connection to a pump delivery pipe; an outlet opening registering with said discharge passage in said manifold body; and transfer passage means in the packer body communicating the inlet opening with the outlet opening for passing fluid from the pump delivery pipe to the discharge passage, said packer having a socket extending into the top thereof, a plug-in type electrical connector including a first connector member mounted in said socket on said packer body and having a first set of plug-in type contacts disposed inwardly of the outer end of the socket and generally paralleling the direction of movement of the packer body into and out of the manifold body, means defining a fitting for receiving power supply conductors disposed in fixed relation to said manifold body, an arm defining a conductor receiving passage, means mounting the arm on the fitting for sliding and swinging movement about an axis laterally offset from said packer and generally parallel to said direction of movement of said packer, a second connector member mounted on said arm and having a second set of plug-in type contacts adapted to interfit with the contacts of said first set, said second connector member being swingable with said arm into and out of axial alignment with said second connector member, said second connector member having an outer wall portion telescopically receivable in said socket to form an explosion-proof enclosure therewith and being movable with said arm in a direction parallel to said axis into interfitting relation with said first connector member, said arm having a portion in overlying relation with said packer body when said connector members are in engagement, said arm being swingable out of overlying relation to the packer body after separation of said connector members to allow removal of the packer body.



3,197,086
COMBINATION BOTTLE AND CAP ATTACHED ELEMENT USABLE AS A DISPENSER

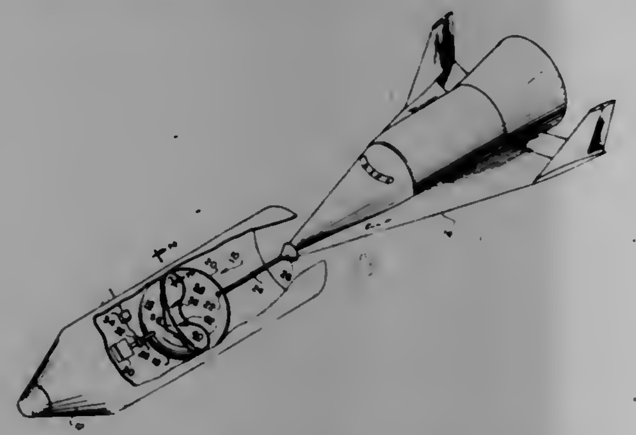
Peter Raddysh, General Delivery, Kamsack, Saskatchewan, Canada
Filed Oct. 1, 1962, Ser. No. 227,607
9 Claims. (Cl. 222—365)

1. A combination bottle and cap attached element for use with ketchup bottles and the like which include a detachable hollow cap having an inturned lip adjacent the open end thereof; said element comprising in combination an elongated rigid stem adapted to be inserted in the associated bottle, dispenser means secured to the lower end of said stem, and means on the upper end of said stem to detachably secure said dispenser to the inside of said bottle cap, said last mentioned means comprising a flexible resilient element centrally secured to said upper end of said stem, the major dimension of said element being slightly greater than the diameter of the inside of said bottle cap, the edges defining the major dimension of said element engaging within said inturned lip and being retained therein by means of the resilient flexing of said disc.



3,197,087
FLUID TRANSPORTING SYSTEM

Dolphus H. Black, Rte. 1, Arab, Ala.
Filed Feb. 27, 1964, Ser. No. 347,959
1 Claim. (Cl. 222—386.5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



A fluid transporting system adapted for use in transferring a fluid from a container to an orbiting spacecraft comprising:

(a) a fluid transporting tank having at least one inlet port at one end thereof and at least one outlet port at the other end thereof,
  said tank being formed of two halves having substantially hemispherical inner surfaces joined together by welding at their edges to form a spherical container;

(b) ring means arranged in said tank and positioned over the weld joint so as to serve as a welding backup bar during the welding operation,
  said ring means consisting of a continuous flat ring having a smoothly curved lip formed on one edge thereof and a gradually tapered trailing edge formed on the other edge thereof;

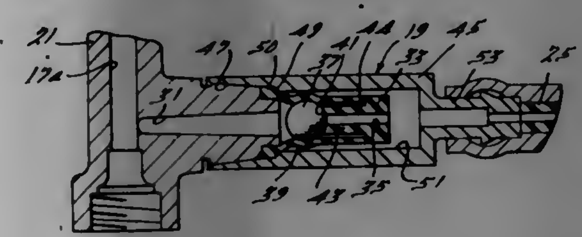
(c) a highly flexible hemispherical shaped metal diaphragm arranged in and secured to said tank by said ring means thereby dividing said spherical container into a first and second fluid chamber,
  (1) the lip of said ring means being adapted to grip and hold the edge of said flexible metal diaphragm while the smooth edge of said ring is adapted to prevent crimping of the peripheral edge of said diaphragm,
  (2) said flexible metal diaphragm being adapted to fit the interior contour of said chambers and to be alternately driven under pressure from engagement with the interior contour of one chamber into engagement with the interior contour of the other chamber,
  (3) said inlet port being located in said first chamber and said outlet port being located in said second chamber,
  (4) said flexible metal diaphragm being normally positioned against the interior contour of said first chamber when said second chamber is filled with the fluid to be transferred to said orbiting spacecraft;

(d) means for conducting a pressure producing medium through said inlet port into said first chamber thereby buckling said flexible metal diaphragm away from the interior contour of said first chamber and toward the interior contour of said second chamber so that said fluid is dispensed from said second chamber through said outlet port,
  said flexible metal diaphragm being adapted to continue toward the interior contour of said chamber through its unbuckling action after said diaphragm has been forced past the equator of said spherical container by said pressure producing medium so that said fluid will continue to be dispensed from said second chamber after said pressure producing medium has been removed from said first chamber; and

(e) means connected to said outlet port of said tank for conducting said fluid being dispensed from said second chamber by the movement of said flexible metal diaphragm to said orbiting spacecraft.

3,197,088
METERING DEVICE

William G. McKenzie, Racine, Wis., assignor to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed July 11, 1962, Ser. No. 209,131
9 Claims. (Cl. 222—453)



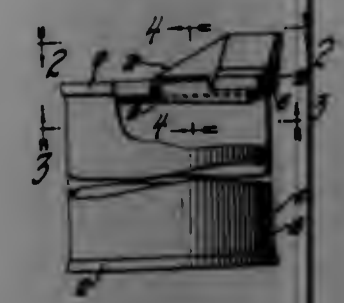
1. In a valve for measuring and delivering predetermined quantities of fluid comprising a housing having an inlet for fluid, an elastic bladder surrounding said inlet and receiving all fluid flowing through it, said housing providing a chamber around the outside of the said bladder, expansion and contraction of said bladder changing the volume of said chamber, said chamber having an outlet for fluid, and valve means inside said bladder acting to block the flow of fluid through the bladder when fluid enters under pressure through said inlet and thereby causing expansion of the bladder to reduce the volume of said chamber.

3,197,089
DRINKING SPOUT

Henry G. Michael, Birmingham, Mich., assignor to Industro-Motive Corporation, Troy, Mich., a corporation of Michigan
Filed Jan. 6, 1964, Ser. No. 335,790
15 Claims. (Cl. 222—479)

1. A drinking spout for a can having an opening in the top thereof and comprising:
  a floor receivable on the top of said can and having an upper surface and a lower surface and an opening therein of substantially the same shape as the opening in said can, said floor being positionable on

the top of said can with said opening therein in registry with the opening in said can;
sealing means on said lower surface and around said opening in said floor and adapted to engage the edge of the opening in said can;
a drinking lip extending from said upper surface of said floor and adjacent said opening in said floor;

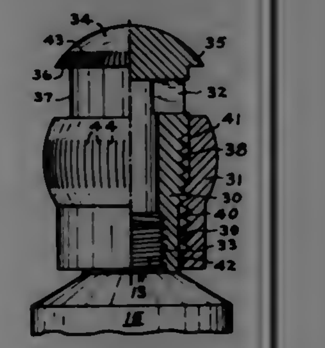


groove means in the lower surface of said floor adapted to receive and sealingly engage a portion of the peripheral edge of said can;
and lip positioning means on the upper surface of said floor and adapted to engage and position the lip of the user of said spout relative to said opening in said floor when the user is drinking from said can.

3,197,090

COLLAPSIBLE TUBE CLOSURE MEANS

James H. Wallace, King County, Wash.
(P.O. Box 326, Puyallup, Wash.)
Filed Oct. 17, 1963, Ser. No. 316,971
3 Claims. (Cl. 222—519)

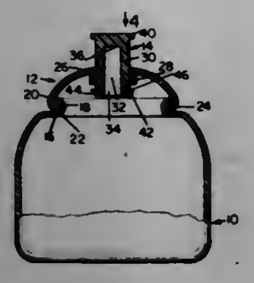


1. A closure device for application to the externally threaded neck of a collapsible tube comprising a tubular cap of inverted cup shape having an internally threaded lower end adapted to be screwed onto the externally threaded neck of a collapsible tube, said cap having a closed upper end provided with an external flange and having an external thread adjacent to said flange and having a lateral discharge opening in the wall thereof inwardly from and adjacent said flange; of a captive sleeve of substantially less length than said cap and having an internal thread interfitted with the thread on said cap, said sleeve being longitudinally movable on said cap between an open position and a closed position relative to the lateral discharge opening in said cap, the spiraling direction of the threads on the exterior of the tubular cap and the interior of the sleeve being opposite from the spiraling direction of the threads in the inner end portion of the cap and on the tube to which the cap is applied, whereby torque applied to the sleeve in a direction tending to screw the cap onto the tube will tend to tighten the sleeve against the external flange on the outer end of the cap, thereby obviating loosening of the sleeve on the cap in applying the cap to the tube and adapting the closure means for use by a cap applying machine.

3,197,091

METERING DEVICE FOR POWDERS AND THE LIKE

Frank W. Millard, Rowayton, Conn., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware
Filed Oct. 15, 1964, Ser. No. 404,142
1 Claim. (Cl. 222—522)

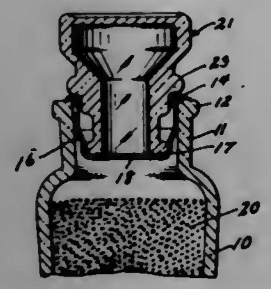


A dispensing container for powdered materials and the like comprising a main container body portion of plastic, said container having an entrance opening for filling it, a one-piece plastic cover for said opening, interengaging means for securing the cover to the container closing the latter, and an elongated one-piece closure cap, said cover having an opening therein slidably receiving said closure cap and conforming to the exterior surface of the cap, fitting the same closely, said closure cap being generally hollow and including a wall forming a chamber therein, said chamber being open in an end portion thereof forming a passage leading to the interior of the container, a slot in a wall of said closure cap, said slot intersecting said chamber and serving to provide for emptying said chamber to a predetermined amount, and an integral lip at each end of said closure cap, both lips defining an area greater than that of the opening, one of said lips being exterior of the cover and the other lip being at the other end of the closure cap and at the interior of the cover, preventing extraction of the closure cap from the cover, the first-named lip serving to substantially seal the opening in the cover about the closure cap to prevent accidental escape of materials from the container and also preventing the cap from being pushed into the container, the interengaging means between the cover and the entrance opening of the container comprising a rim at the periphery of the cover and a cooperative lip at the opening of the container, said rim and said lip being proportioned so that they must snap past each other in assembling the cover to the container.

3,197,092

DISPENSING CONTAINERS FOR GRANULAR PRODUCTS HAVING A RESILIENT PERFORATED PLUG AND CLOSURE CAP THEREFOR

William Stein, 4 Alpine Road, New Rochelle, N.Y.
Filed July 6, 1964, Ser. No. 380,537
4 Claims. (Cl. 222—545)

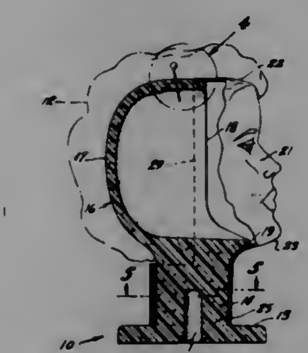


1. A dispensing container comprising a bottle for containing a product to be dispensed, said bottle having a neck, a resilient plug having a perforated floor disposed in said neck, an annular integral shoulder formed around said plug and internally thereof and spaced above said floor, a lowermost hollow section between said floor and said shoulder, a closure cap for said neck, said closure cap having a lowermost bead fitting within said lowermost hollow section and said shoulder partially embracing the top surface of said lowermost bead when said cap is in the closed position, said closure cap being round in transverse cross-section, said cap being formed with a section of reduced diameter directly over said lowermost bead so as to permit said shoulder to partially embrace said top surface of said lowermost bead, said cap being hollow, a central bead formed on said cap of larger diameter than said lowermost bead, a top flange on said plug overlying the top of said bottle neck, and said central bead resting on said flange.

3,197,093

DISPLAY HEAD

Verna H. Doran, 524 Via Almar,
Palos Verdes Estates, Calif.
Filed May 8, 1964, Ser. No. 365,923
8 Claims. (Cl. 223—66)



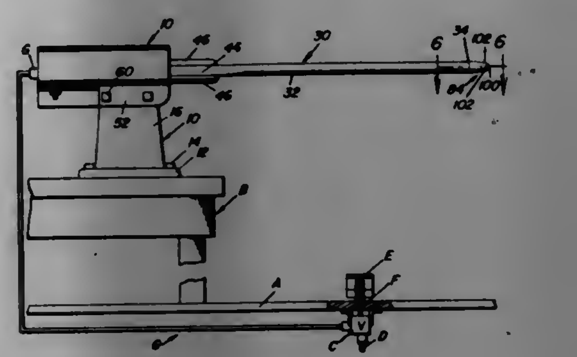
1. A display head comprising
a first member,
and a second member,
  said first member being of relatively thick substantially rigid material,
    said first member having a base, an upstanding support portion extending upwardly from said base,
    and a shell carried by said support portion above said base,
      said shell defining substantially the contour of the rear portion of a human head,
  said second member being of relatively thin material and having a top part defining the forward portion of a human head,
    the edges of said top part of said first member and of said shell of said second member being connected,
      whereby said first and second members define the contour of a head,
  said first member having a bottom part providing flaps, said flaps being extended around said support portion toward the rear of the head defined by said members for providing a neck for said head.

3,197,094

POWER OPERATED HOSIERY EXTENSION MACHINE

Doctor E. Fowler, Rte. 1, Chickamauga, Ga.
Filed Aug. 1, 1962, Ser. No. 214,044
4 Claims. (Cl. 223—77)

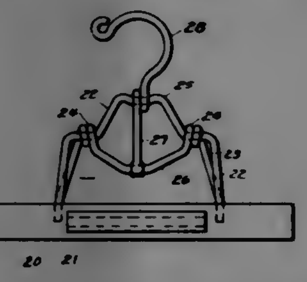
1. A power operated stocking and toe extension machine wherein objectionable irregular puckered portions of a turned-in sewn seam can, where necessary, be straightened, flattened and acceptably smoothed comprising: support means, a two-part horizontally elongated form over which the upper portion, leg portion and sewn seam foot-portion are adapted to be removably slid and temporarily manually held in a predetermined manner, said form embodying a rigid elongated main body portion and a complemental auxiliary head portion, power projected spring retracted means mounted for projectible and retractible reciprocation in said body portion and having an outer end joined to said head portion, said head portion having a rearward end abutting the cooperating forward end of said main body portion, also having horizontal top and bottom surfaces and side marginal surfaces flush with and constituting uninterrupted extensions of conformable and corresponding top, bottom and marginal surfaces of said body portion, said head being incompressibly rigid and being marginally and otherwise delineated to embody an oriented leading edge portion which is adapted to be forcibly pressed against the aforementioned sewn seam.



3,197,095

HANGER TOGGLE MECHANISM

Oscar Alfred Swanson, 550 Almar Ave.,
Pacific Palisades, Calif.
Filed Apr. 5, 1963, Ser. No. 271,022
7 Claims. (Cl. 223—96)

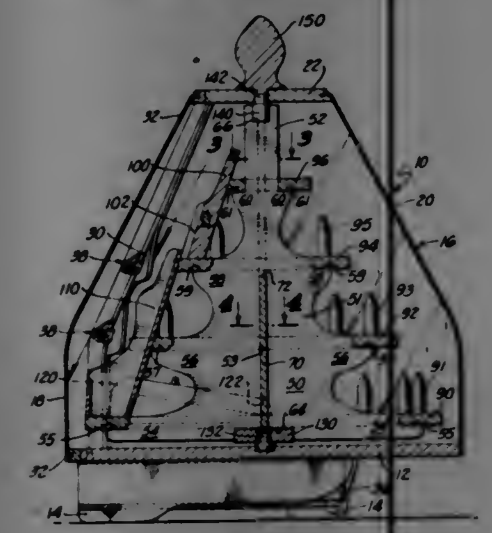


1. A garment hanger toggle mechanism, the combination comprising, two clamp members having integral mechanism actuator hand-grips, first and second support rods, each of which have ends attached to and supporting said clamp members, said first and second support rods hingedly connected to each other at two horizontally aligned portions to provide a fixed axis of rotation about which the second support rod and attached clamp member is swingable between closed and open positions, a stressed toggle spring link having opposite end portions, said rods having central horizontal portions, said opposite end portions rotatably connected to the central horizontal portions of the first and second support rods providing a fixed axis at the first support rod connection and a movable axis at its connection to the second support rod, said two fixed axes and the movable axis being disposed relative to one another at positions in which they define the vertices of a triangle of variable shape, said triangle having the movable axis as its apex and spaced to one side of the base in the clamp's closed position and the other side in the clamp's open position, said triangle base being formed by the two fixed axes, which triangle is swingable about the two fixed axes during operation of the hanger mechanism to positions such that the movable axis crosses a plane extending through the two fixed axes, and so that

a plane passing through the fixed and movable axes of the second support rod and a plane passing through the fixed and movable axes of the toggle spring link move through varying relative angles as the clamp members are actuated effecting movement of the mechanism, said angle between the planes becoming zero at a position intermediate the clamp's closed and open positions at which position the toggle mechanism is on dead-center, said toggle spring link being mounted stressed and exerting biasing force against the two support rods, whereby the two clamp members are biased to the position last actuated, and said toggle spring link having a hook form on the end portion above its fixed axis of rotation.

3,197,096
SPOOL HOLDER

Alphonso E. Marcocchio, 1120 S. Crescent Drive, Los Angeles, Calif.
Filed July 15, 1963, Ser. No. 294,986
7 Claims. (Cl. 223—1 7)



1. A spool holder for maintaining a plurality of spools of thread in rotatable position for selective use, which comprises:

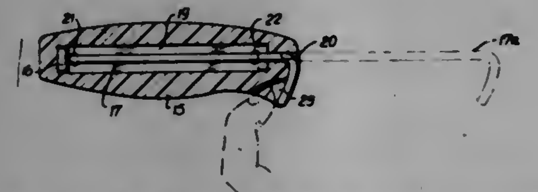
(a) a base;
(b) a transparent enclosure mounted on the base, said transparent enclosure being of substantially frustoconical configuration;
(c) a cap mounted upon the upper extremity of the enclosure;
(d) a door in said enclosure;
(e) a pair of brackets intersecting each other at right angles along their central longitudinal axes to form a bracket assembly, said bracket assembly being rotatably mounted on the base and the cap within the enclosure;
(f) protruding aligned arms formed on the brackets; and
(g) support rings mounted on the arms of the brackets for supporting a plurality of spools of thread,

whereby a selected spool of thread may be moved into juxtaposition to said door and whereby, after the opening of said door, a length of thread may be cut from said selected spool without the removal of said spool.

3,197,097
COLLAPSIBLE LACE HOOK

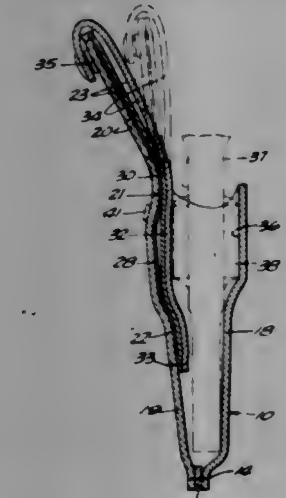
James P. Casner and James B. P siri, both of 325 W. Wells St., Pasadena, Calif.
Filed Feb. 26, 1962, Ser. No. 175,525
1 Claim. (Cl. 223—1 3)

In a lace hook structure: a handle body having an internal cavity opening at the exterior surface of the body; a unitary lace hook member having a shank portion slidably fitting the handle body cavity and movable through said cavity opening; said lace hook member having a blunt hook end movable from a retracted position on the outside of said body adjacent the said exterior opening of said body to a projected position spaced substantially from said body; said body having means encompassing said shank portion in the body cavity when the hook end is in retracted position; said body having a configuration substantially conforming to and substantially fitting said hook end when said hook member is in retracted position; said body having opposed exterior wall means projecting from the body and extending on opposite sides of said hook end to shield the hook end when the lace hook member is in retracted position, said opposed wall means also diverging along the blunt hook end and then extending rearwardly of said blunt hook end to define a finger space in which the blunt hook end is exposed for application of digital pressure to initiate the projection of said lace hook member; said lace hook member having at its other inner end a projection extending laterally of said shank portion; said cavity including an elongated recess of non-circular transverse cross-section receiving said laterally extending projection and confining said hook member against angular movement about the axis of its shank portion throughout the course of longitudinal movement of said lace hook member; said recess having an end wall engaging said projection upon outward movement of said lace hook member for limiting the outward movement thereof; said handle body being made of resilient material capable of flexure; said handle body having a pair of integrally formed projections located at said elongated recess, each projection extending partially into the path of movement of said lateral projection intermediate the length of said path, said projections being spaced from each other and positioned releasably to latch the lace hook member respectively in retracted and projected positions.



3,197,098
REVOLVER HOLSTER AND METHOD OF MAKING THE SAME

Earl J. Clark, Los Angeles, Calif., assignor to Buckheimer-Clark Leather Goods Corp., Los Angeles, Calif., a corporation of California
Filed Sept. 10, 1962, Ser. No. 222,415
7 Claims. (Cl. 224—2)

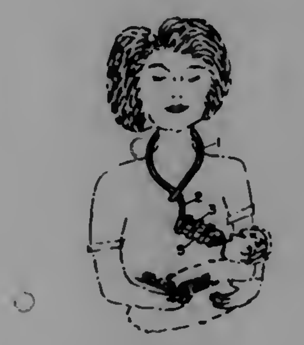


1. A carrying holster for an object, comprising: a body of pliable material formed to provide a tubular structure adapted to receive the object endwise into its upper end, said body including an outer wall, and an inner wall having a belt attaching projecting portion extending beyond the upper end of the outer wall; means including an elongate stiffener plate of rigid material extending into said tubular structure over said inner wall so that the major axis thereof extends in the direction of the length of said inner wall and said projecting portion, said plate having an upper portion overlying said projecting portion; the remainder of said plate being disposed in said tubular structure so as to overlie said inner wall in inwardly spaced relation to said outer wall and having an outwardly opening recessed cavity therein; said outer wall having an inwardly opening recessed cavity positioned generally in confronting relation to the recessed cavity of said stiffener plate to cooperatively provide therewith a seat for an enlarged part of said object, and a pliable liner secured to said inner wall and said projecting portion forming a pocket enclosing said plate and having a portion thereof depressed into said recessed cavity in said plate.

3,197,099
NURSING BOTTLE HOLDERS

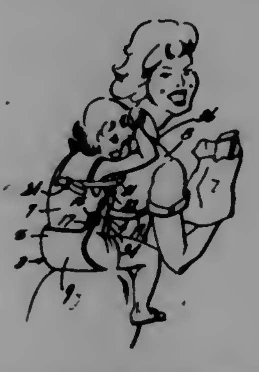
Inez Doba, 2717 Westwood Place, Davenport, Iowa
Filed Oct. 30, 1962, Ser. No. 234,110
3 Claims. (Cl. 224—5)

1. A nursing bottle holder comprising a single elongated strip of plastic, bent at one end into the shape of a series of spirals to wrap around the body of the nursing bottle, the other end portion of said strip being bent to provide a neck loop to encircle the neck of an infant's attendant and having its free end bent backwardly upon itself to provide clamping means to receive the portion of the main body of the metal strip adjacent to said neck loop and retain the neck loop in an adjusted position with respect to the nursing bottle.



3,197,100
BACK-PACK CARRIER

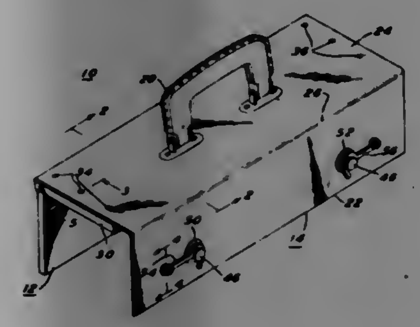
Robert D. Thompson, 842 Bluff St., Beloit, Wis.
Filed Apr. 25, 1963, Ser. No. 275,662
2 Claims. (Cl. 224—6)



1. A back-pack carrier for carrying a child piggy-back fashion comprising, in combination, a unitary flexible body of elongated generally rectangular form defining front and rear end portions at opposite ends, the body being appreciably narrow in at least some of the lower front end portion so as to be adapted to extend through the crotch of the child to be carried, the front end portion extending substantially vertically on the back of the person carrying the child and the rear end portion extending substantially vertically behind the child to a smaller height than the front portion approximately to the child's waistline to form a seat for the child, suspension means extending upwardly and forwardly from the upper corners of the rear end portion and connected with the upper corners of the front end portion to support the child sitting in the carrier but leaving the body of the child free, a pair of shoulder encircling loops connected to opposite sides of the front end portion for application to the shoulders of the person carrying the child so as to support the carrier high enough on the back of the person to permit the person assuming part of the child's weight by holding the child's legs in the crooks of the person's arms, as when carrying a child piggy-back without a carrier, and a flexible adjustable length back rest strap extending rearwardly from the upper portion of the front in vertically spaced relation to the rear end portion around the back of the child under the arm pits, the adjustment in length of said strap enabling giving the body of the child as much or as little freedom as desired, and, in the case of a smaller child, holding the child as close to the person's back as desired.

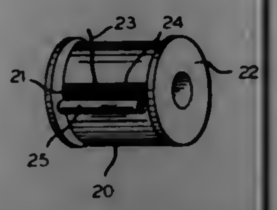
3,197,101
VERSATILE SAMPLE CARRIER

Milton T. Brown, Havertown, Pa., assignor to Display Corporation of America, Philadelphia, Pa., a corporation of Pennsylvania
Filed Feb. 26, 1963, Ser. No. 261,080
8 Claims. (Cl. 224—45)



1. A sample carrier comprising a binder top half and a binder bottom half, said binder top half including a top wall and an upper back wall portion, said bottom half including a bottom wall and a lower back wall portion, guide means on one back wall portion for telescopically connecting said upper and lower back wall portions to form a back wall, said guide means including a pair of open channel members extending along the side edges of one of said upper and lower back wall portions and opening towards each other, the other of said upper and lower back wall portions having a width slightly less than the distance between said guide channels and being adapted to telescope therein, said top and bottom walls being adapted to be placed in parallel relation perpendicular to the same side of said back wall, support posts mounted on and perpendicular to said bottom wall, said support posts including a screw-threaded enlarged head portion for vertically extending said support posts, said top wall having holes therein immediately above said support posts, said top wall holes being adapted to have said enlarged head portions passed therethrough, and pivotally mounted hooks pivotally secured to said top wall adjacent said holes, each of said hooks being adapted to engage a separate one of said support posts under its enlarged head portion to prevent upward movement of said binder top half with respect to said binder bottom half.

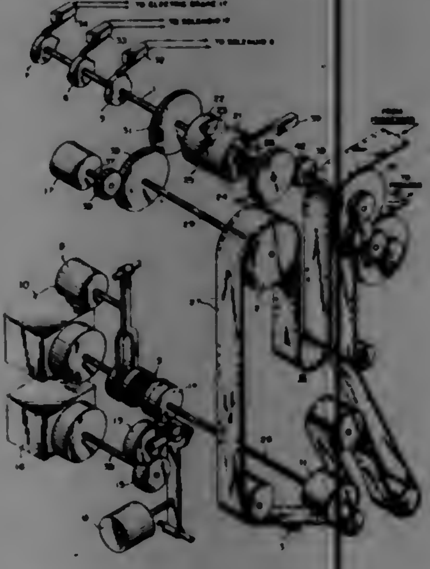
3,197,102
THREAD SUPPORT HAVING A FIXED CUTTER
Bernice Bates, 2287 N. Lake Drive, Milwaukee, Wis., and Cecelia Fox, 112 W. State St., Scottville, Mich.
Filed Sept. 9, 1964, Ser. No. 395,211
1 Claim. (Cl. 225—[illegible]8)



A thread support to retain thread in alignment on a conventional spool comprising:

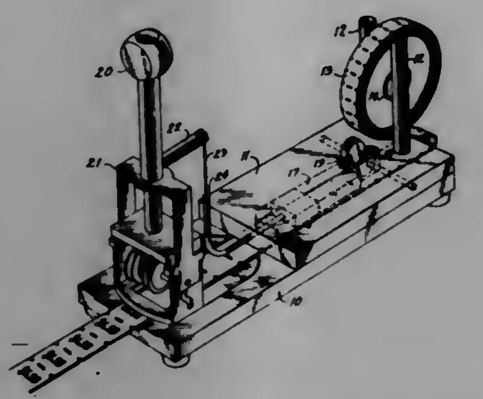
an arcuately formed body made of a pliable resilient material to fit around a spool of thread, said body having ends that are spaced apart a suitable distance for permitting thread to be passed therebetween and become unraveled from said spool when said arcuately formed body is positioned around said spool, said body being suitably sized to enable said spool to be rotated with respect thereto, at least one of said ends having a cutting edge to sever the unraveled thread, at least one of said ends being bent radially from a portion of said body contiguously positioned over said thread, said radially bent end extending away from the opposite end and toward the outside surface of said body, said radially bent end permitting said thread support to easily pass over said thread of said spool and providing a supporting surface for said unraveled thread that extends substantially the full length of said spool to substantially maintain the thread pulling pressure equal at any point along said spool, said thread being unraveled from said spool by pulling said thread and having said spool rotate while said thread support remains stationary to retain the thread intact on said spool.

3,197,103
LOOP SENSING SWITCH
Walter Rayve, deceased, late of East Meadow, N.Y., by Mary C. Rayve, administratrix, East Meadow, N.Y., assignor to the United States of America as represented by the Secretary of the Army
Filed May 20, 1963, Ser. No. 281,849
3 Claims. (Cl. 226—37)



1. In an apparatus for automatically scanning processed film, a loop sensing switch comprising: a scanning slit; a strip of processed film; a first sprocket rotating at a constant speed for feeding film into a loop; a second sprocket; drive means for pulling said film from said loop, over said second sprocket, and over said scanning slit, thereby rotating said second sprocket; a cam shaft; a cylindrical cam fixedly mounted on said shaft and having a cam face on one end thereof; a second shaft; a cylindrical member having a cam follower on one end thereof, said cylindrical member being slidably mounted on said second shaft with its follower end adjacent said cam face; springs mounted on said second shaft for biasing said follower onto said cam face; switch means positioned adjacent the end of said cylindrical member opposite said cam follower end for energizing said drive-means; first gear means connected between said first sprocket and said cylindrical member; and second gear means connected between said second sprocket and said cylindrical cam, so that the relative movement of said first and second sprockets is transmitted to said cam and follower causing said cylindrical member to actuate said switch when said loop reaches a predetermined size.

3,197,104
TAPE DISPENSER
Chester Arthur Brethen, 6916 S. Tamiami Trail, Sarasota, Fla.
Filed Dec. 20, 1962, Ser. No. 246,063
4 Claims. (Cl. 226—67)

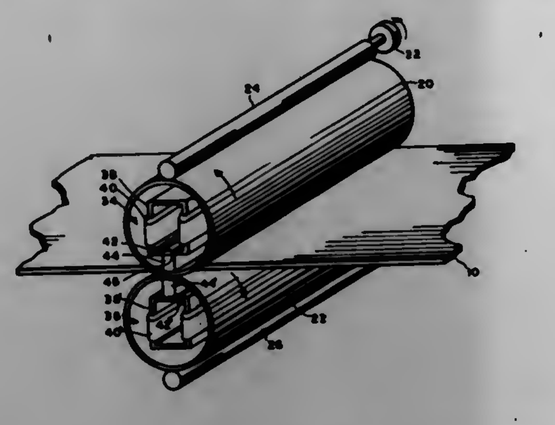


1. A price marker printer and dispenser for use with continuous rolls of indexed marked tape, including a structure defining a passageway, said passageway having at each side a tape printer at one end of said passageway, a pair of recesses defining a central land adapted to slidingly support the marker tape thereon, a marker moving element reciprocable over said passageway, said element having integrally formed therewith side teeth receivable for reciprocative movement in said recesses to laterally deform a marker on said passageway as said element moves over said passageway said teeth each having a substantially perpendicular end portion facing said one end of said passageway and a slanted portion facing the other end of said passageway.

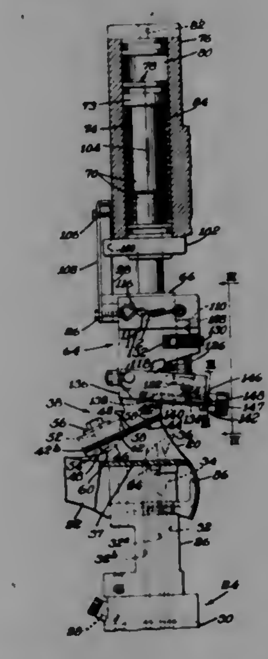
3,197,105
RAPID RESPONSE TAPE TRANSPORT
Charles J. Peters, Wayland, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed June 28, 1961, Ser. No. 123,931
5 Claims. (Cl. 226—176)

1. Tape transport apparatus comprising, in combination, first and second opposed continuously driven counter-rotating cylindrical rollers between which the tape is carried, said rollers having a length at least as great as the width of the tape, a pair of force bars substantially coextensive with said rollers respectively engaging the curved surface of said first and second rollers at points diametrically opposite from the tape, means resiliently supporting said force bars to urge said rollers toward each other to normally continuously contact said tape with a force greater than zero but less than that required to cause a traction between the rollers and the tape sufficient to drive the tape, and means coupled to said force

bars and operative when energized to excite stress waves in each of said force bars which propagate to the line of contact between said rollers and the tape to increase the traction between said rollers and the tape to the finite value required to impart a linear velocity to the tape equal to the peripheral velocity of the driven rollers.

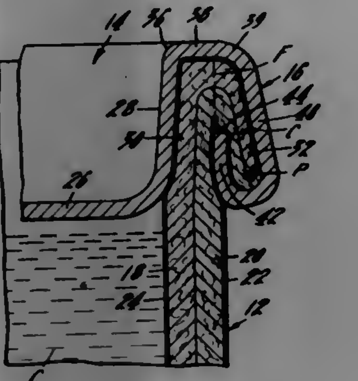


3,197,106
HEEL HOLDDOWNS FOR USE IN HEEL ATTACHING MACHINES
Melvin Clamp, North Andover, and George F. McLean, Jr., Middleton, Mass., assignors to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey
Filed Mar. 25, 1963, Ser. No. 267,736
3 Claims. (Cl. 227—152)



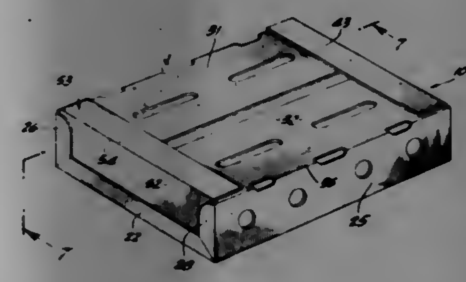
1. In a machine for attaching a scooped wedge heel to a shoe and having a nailing die for supporting the shoe by engagement with the rear portion of an insole of the shoe, a plunger movable toward and away from the nailing die, power means for moving said plunger toward and away from the nailing die, an adaptor initially secured in a predetermined position to the plunger, a carrier journaled upon the adaptor for movement about an axis extending widthwise of the nailing die, and means for initially moving the carrier upon the adaptor into different operating positions about said axis, a holddown mounted on the carrier and initially movable lengthwise of the die into different operative positions with relation to the die and the adaptor, said holddown comprising a tread abutment having a flat face adapted to engage the tread of the scooped wedge heel to be attached to the shoe, a shank abutment attached to said tread abutment, and means for selectively varying the heel-contacting area of the holddown comprising means for adjusting the shank abutment lengthwise of said flat face of the tread abutment.

3,197,107
CONTAINER CLOSURE
William T. Saunders, Weirton, W. Va., assignor to American Can Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 21, 1963, Ser. No. 325,359
6 Claims. (Cl. 229—5.5)



1. A composite container having a fibrous body secured to a metal closure in a double seam, said body extending reversely back on itself to form a flange and said closure being formed with a countersink wall which is set into said fibrous body radially inwardly of said body flange, said closure extending outwardly from said countersink wall over the end of said body in an annular end wall, then downwardly and outwardly in an inclined outer wall which is disposed outwardly of said body flange, and then upwardly in a closure hook which is disposed inwardly of said body flange, said body flange being compressed in a closed pinch pocket formed between said outer closure wall and said closure hook, the terminal edge portion of said closure hook being indented into said body flange to form an area of constriction spaced above the terminal edge of said body flange to increase the resistance of the seam to forces tending to pull said body flange out of said pinch pocket.

3,197,108
CONTAINER WITH GLUED CARDBOARD STACKING CLEATS
Paul D. Northway, Tustin, Calif., assignor to Precision Produce Specialties, Inc., a corporation of California
Filed Jan. 10, 1964, Ser. No. 336,970
4 Claims. (Cl. 229—23)



1. A generally rectangular container comprising, in combination:
- a cardboard bottom wall;
- cardboard side walls having respective side flaps integral therewith;
- cardboard end walls having respective end flaps integral therewith;
- and a pair of rectangular wooden inserts;
- said end walls being higher than said side walls by the thickness of said side flaps;
- said wooden inserts each being substantially the length of said end walls and exactly the height of said side walls, each being secured to the inner surface of an associated end wall and firmly supported by the adjacent end of said bottom wall;
- said side flaps being adapted to fold inward and down-

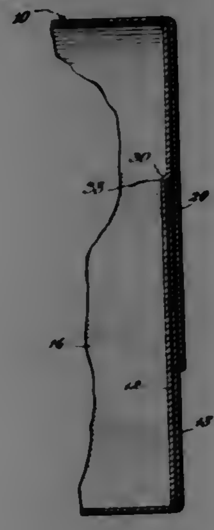
ward with their ends resting upon said wooden inserts, and being of sufficient height to substantially close the top of said container when they are thus folded;

said end flaps being of a height which is of a lesser order of magnitude than the length of said container and being adapted to fold over upon, and be sealed to, said folded side flaps to thereby serve as stacking cleats;

the height of said container at its ends and corners being then precisely established by the height of said wooden inserts and by the thicknesses of said bottom wall, the ends of said side flaps, and said stacking cleats.

3,197,109
CELLULOSIC PRODUCTS

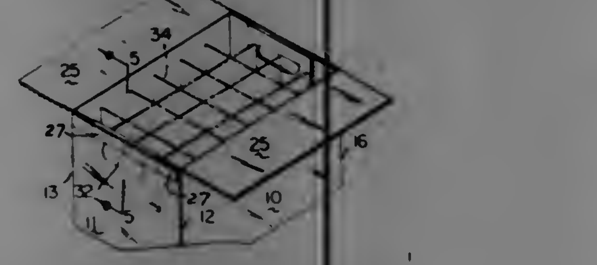
Howard N. Nelson, Neenah, Wis., assignor to Kimberly-Clark Corporation, Neenah, Wis., a corporation of Delaware
Filed July 31, 1962, Ser. No. 214,462
8 Claims. (Cl. 229—[illegible]7)



8. In a carton fabricated of box-board sheet stock, a pair of end flaps comprising integral extensions of opposite carton walls and defined by hinge lines extending transversely of each wall and each including linear segments, portions of which are laterally offset one from the other in non-overlapping relation, one of said segments extending obliquely from a maximum position of offset to a wall side margin, whereby said flaps are inwardly pivotable about a common axis disposed normally of said sidewalls.

3,197,110
BOXES WITH A SINGLE PAIR OF CLOSURE FLAPS

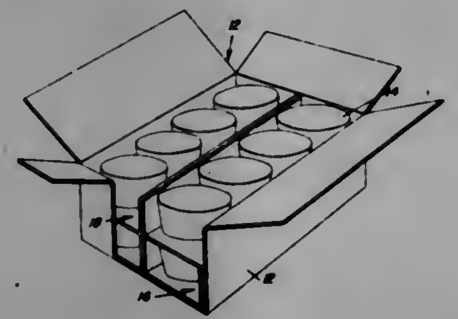
Larry K. Neuman, New Berlin, and Harold J. Melotik, Milwaukee, Wis., assignors to Miller Brewing Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Apr. 16, 1963, Ser. No. 273,424
1 Claim. (Cl. 229—38)



In a closed rectangular box of the type having side and end walls with hand holes in upper portions of said end walls and with a pair of side wall flaps which have free edges which are folded toward one another into closing position over the top of the box, said free edges being located intermediate the width of the box and providing an access line for the hand between said edges, the improvement comprising extension flanges projecting from the ends of said side wall flaps and folded at right angles thereto on fold lines which are so positioned over the upper edges of the end walls that said flanges are located in overlapping relationship against the exterior of the end walls above the hand holes, said flanges being devoid of connection with said free edges of the flaps, means securing said flanges to the upper portions of the exterior of the end walls above the hand holes to reinforce the upper margins of the latter, said flanges having adjacent ends over said hand holes which are devoid of connection with said free edges of said flaps and which meet at a line in alignment with said access line of the free edges of the flaps, said fold lines for the extension flanges being perforated lines to provide for opening of the box by inserting the hand between said free edges of said flaps at said access line and by ripping the side wall flaps on said perforated fold lines to leave the extension flanges in reinforcing position on the end walls above the hand holes.

3,197,111
CARTON DIVIDER FOR BAKED PRODUCTS

Victor J. Kozlowski, 713 8th Ave. SW., and Elden J. Groth, 708 2nd Ave. SW., both of Pipestone, Minn.
Filed June 19, 1962, Ser. No. 203,605
11 Claims. (Cl. 229—42)

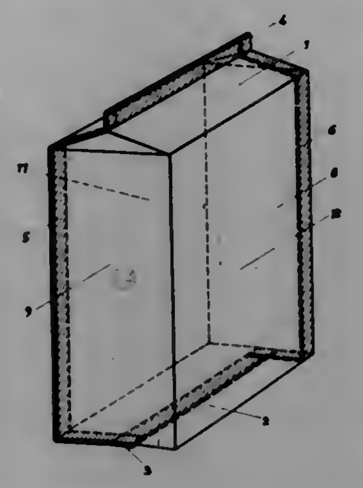


1. A carton divider for baked goods comprising a first partition and a second partition associated therewith, said first partition including a vertically extending center wall, two oppositely extending panels perpendicular to the center wall and extending outwardly from the lower edge thereof, and two upwardly extending edge walls, one on the outer end of each panel, said edge walls terminating at a point below the upper edge of the center wall, said second partition consisting of a vertically extending center wall of less height than said first center wall, two oppositely extending panels perpendicular to the second center and extending outwardly from the lower edge thereof, and two downwardly extending edge walls, one on the outer edge of each of said second panels, said second partition being removably mountable in superimposed relation on said first partition.

3,197,112
LIQUID TIGHT PRISMATIC CONTAINER OF PAPER, CARDBOARD OR THE LIKE

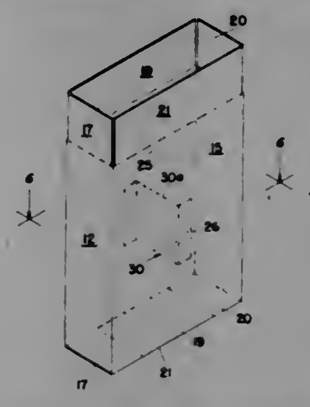
Günther Meyer-Jagenberg, Dusseldorf-Grafenberg, Germany, assignor to Jagenberg Werke Akt.-Ges., Dusseldorf, Germany
Filed Sept. 13, 1963, Ser. No. 308,823
Claims priority, application Germany, Apr. 3, 1963, J 23,485
5 Claims. (Cl. 229—37)

1. A liquid-tight container including a polygonal body having side walls with opposite edges, end walls with opposite edges and closed ends, one edge of one of said side walls having an inturned leg and an outturned leg, one edge of one of said end walls being attached to the outer face of said outturned leg for producing a longitudinally extending reinforcing rib of three layers, the other of said side walls having one edge thereof provided with an inturned leg and an outturned leg diagonally opposite said first named inturned and outturned legs, one edge of the other of said end walls being attached to the outer face of said last mentioned outturned leg for providing a longitudinally extending reinforcing rib of three layers, the opposite edge of each of said side and end walls being directly joined to provide a single layer therealong, and means defining a seam extending axially of each closed end which merge with said diagonally opposite longitudinally extending ribs for producing a stiffening frame enclosing said container.



3,197,113
CARTON

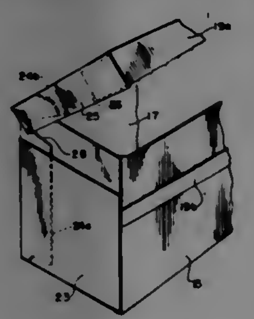
Robert W. Griese, Topeka, Kans., assignor, by mesne assignments, to American Can Company, New York, N.Y., a corporation of New Jersey
Continuation of application Ser. No. 659,918, May 17, 1957. This application Oct. 31, 1962, Ser. No. 234,907
1 Claim. (Cl. 229—49)



A reinforced rectangular collapsible carton formed of paperboard and adapted for packing materials which tend to settle in said carton and to bulge the walls thereof outwardly comprising a pair of opposed flexible side walls, a pair of opposed end walls, top and bottom closures, and an easily foldable flexible substantially rectangular reinforcing strut having surface portions thereof adjacent its ends adhesively connected to opposed medial areas of said side walls, said portions of said strut being adhered over a sufficient area to resist being detached from the adjacent side walls when the carton is set up, the unadhered surface portions of said strut being adapted to be in face-to-face contact with the adjacent collapsed side walls and permitting free erection of the carton from collapsed to rectangular shell form, said strut consisting of a strip of sheet material separate from said walls and of substantially lighter basis weight than the paperboard of the carton, said strut being of length less than the diameter of a circle the circumference of which equals the combined widths of said walls, said strut being substantially spaced from all free edges of all of said walls and in its dimension parallel to the planes of said walls being of relatively small magnitude compared to the length of the walls whereby said strut is spaced from the said top and bottom closures so as to permit the materials packaged in said carton to intermingle freely, said strut serving to prevent outward bulging of the opposed walls connected thereto when the materials packaged in said carton tend to settle therein.

3,197,114
TOP OPENING ICE CREAM CARTON

Raynor M. Holmes, Newark, N.Y., assignor to Riegel Paper Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 27, 1962, Ser. No. 226,627
5 Claims. (Cl. 229—51)



1. A top opening telescopically reclosable, end fillable carton for ice cream and other products, which comprises
- (a) foldably connected front wall, bottom wall, back wall and top wall panels arranged to form a tube,
- (b) a pair of front end wall flaps foldably connected to the opposite end edges of the front wall panel and of a size and shape substantially to close the ends of said tube,
- (c) a pair of back end wall flaps of less than full carton width foldably connected to the opposite end edges of the back wall panel and folded to overlie marginal portions only of said front end wall flaps,,
- (d) a front-closing panel foldably connected to the front edge of said top wall panel and extending downward in overlying relation to said front wall panel,
- (e) said front-closing panel having separable upper and lower portions and being secured to said front wall panel by its lower portion,
- (f) a pair of securing flaps foldably connected to the opposite end edges of the upper portion of said front-closing panel and overlying outer surface portions of said front end flaps,
- (g) a pair of top end-closing flaps foldably connected to and extending downward from the opposite end edges of the top wall panel,
- (h) said top end-closing flaps overlying the outer surfaces of and being attached to said securing flaps and to upper end margins of said back end flaps, and
- (i) a pair of bottom end-closing flaps foldably connected to the opposite end edges of the bottom panel and extending upward therefrom into abutting, non-overlapping relation with the upper end-closing flaps,
- (j) said bottom end-closing flaps overlying and being secured to lower portions of said front and back end flaps,
- (k) said top wall panel, the upper portion of said front-closing panel, said securing flaps, and said top end-closing flaps defining a telescopically reclosable cover connected on a predetermined hinge axis in the back wall panel of the carton,
- (l) said top end-closing panels and said upper marginal portions of said back end flaps being secured by rupturable fastening means disposed interiorly of the normally exposed exterior carton surfaces and

being concealed before opening and after reclosing of said carton,

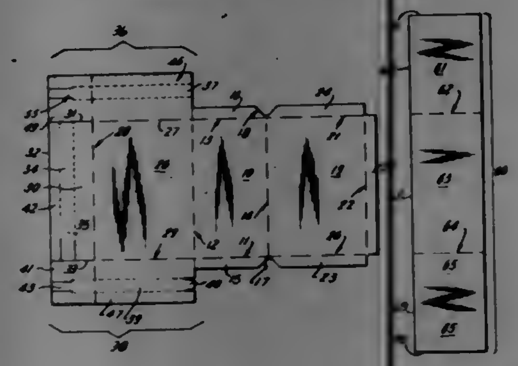
(m) said fastening means being rupturable upon opening movement of said top panel, whereby severance of said upper and lower portions of said front-closing panel and rupture of said fastening means forms a telescopically, reclosable cover.

3,197,115
ICE CREAM CARTON

Fritz Peter, Shrewsbury, Mass., assignor to West Virginia Pulp and Paper Company, New York, N.Y., a corporation of Delaware

Filed Mar. 23, 1964, Ser. No. 353,967

2 Claims. (Cl. 229—51)



1. A blank for an ice cream carton or the like comprising:

(a) a back panel,

(b) a pair of tabs foldably connected along opposite sides of the back panel,

(c) a bottom panel foldably connected to the back panel along another side thereof,

(d) a pair of tabs each foldably connected to the bottom panel along opposite sides thereof,

(e) a tab foldably attached to the bottom panel along another side thereof,

(f) a top panel foldably connected to the back panel,

(g) a pair of side panels foldably connected to the top panel along opposite sides thereof,

(h) a front tab panel foldably connected to each side panel,

(i) a front panel foldably connected along another side of the top panel, the front tab panels being secured to a surface of the front panel when a carton is formed from the blank,

(j) the front panel having a tear strip dividing a portion of the front panel,

(k) each of the side panels having a tear strip dividing them and extending into the front tab panels, and

(l) a separate wall panel for forming front and side walls of the assembled carton fastened to the tabs on the bottom panel and the tabs on the back panel when the blank is formed into a carton,

(m) the tear strip of each side panel being aligned with the tear strip of its respective front panel.

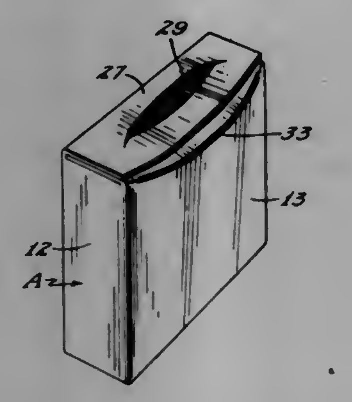
3,197,116
CARRIER CARTONS

Harold G. Zastrow, Minneapolis, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota

Filed Feb. 1, 1963, Ser. No. 255,500

1 Claim. (Cl. 229—52)

A carrier container comprising a generally rectangular container having rectangularly arranged side and end walls, bottom closure flaps on said side and end walls folded into superposed relation and secured together to form a bottom closure, top closure flaps on said side walls, end wall closure flaps secured to said end walls and folded into a common plane, the closure flap on one said side wall being folded down and the other side wall being folded to overlie said one side wall closure flap, both said side wall closure flaps being substantially the full size of the container end, a slit through the intermediate portion of said other side wall closure flap along a line generally parallel to the fold line connecting this other closure flap to its side wall, said slit terminating short of the parallel end edges of said other closure flap, said other closure flap being adhered to said one closure flap only in the area between said line and the free end of said other closure flap, and a fold line in said one side wall terminating at the upper corners thereof where said one side wall joins said end walls and said fold line bowing downwardly intermediate the said corners, the opposite side wall being free of a similar fold line, whereby when downward pressure is exerted upon the portion of said other closure flap above said glued area, the portion of said one side wall above said fold line may fold toward the plane of the closure flap secured thereto and the glued areas of the closure flaps may bow downwardly to open said slit.



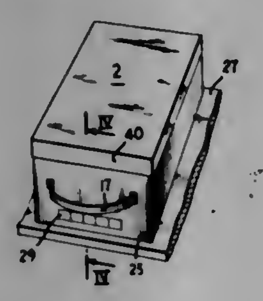
3,197,117
SHOE BOXES

Bertil Vidar Wigemark, Ormgatan 7–9, Goteborg, Sweden, and Evald Henrik Ferkinghoff, Savedalen, Sweden; said Ferkinghoff assignor to said Wigemark

Filed Feb. 5, 1963, Ser. No. 256,463

Claims priority, application Sweden, Feb. 7, 1962, 1,321/62

6 Claims. (Cl. 229—52)



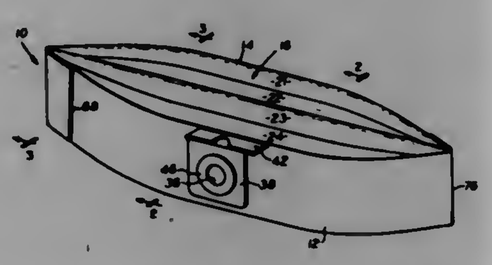
1. In combination with a box having a rectangular bottom, two opposite side panels and two opposite end panels, and a handle of flexible material on one end of said box approximately midway between the upper and lower edges of said one end; a lid comprising a rectangular top panel approximately equal to said bottom, opposite side portions perpendicular to said top panel and extending down part way over the corresponding side panels of the box when the lid is in closed position on the box, said side portions having a depth which is only a fraction of the depth of the side panels of the box, a first end portion perpendicular to said top panel and side side portions and having a depth approximately equal to the depth of said side portions, tab portions securing said first end portion to said side portion at respective corners of the lid, a second end portion having a width approximately equal to the width of said one end of the box and a depth approximately equal to the depth of said one end of the box, a first horizontal fold line extending across said second end portion at a distance from the top panel approximately equal to the depth of said side portions and defining an area of said second end portion below said fold line which is foldable inwardly, a second horizontal fold line extending across said second end portion below said first fold line and at a distance from said first fold line approximately equal to the depth of said side portions and foldable in a direction opposite to that of said first fold line, said fold lines dividing said second end portion into an upper area above said first fold line, an intermediate area between said fold lines and a lower area below said second fold line, tab portions securing opposite sides of said upper area only to said side portions at respective corners of the lid, said intermediate area having formed therein an elongated opening receiving said handle therethrough, said second end portion of the lid having a first condition in which said intermediate area lies inside said upper area and said lower area underlies an adjacent portion of said top panel and a second condition in which said upper, intermediate and lower areas are approximately in the same plane and substantially cover said one end panel of the box, with said handle passing through said opening.

3,197,118
END CONSTRUCTION FOR MULTI-GUSSET BAG

Carl E. Meyerhoefer, 264—30 60th Ave., Little Neck, N.Y.

Filed May 17, 1963, Ser. No. 281,085

3 Claims. (Cl. 229—62.5)



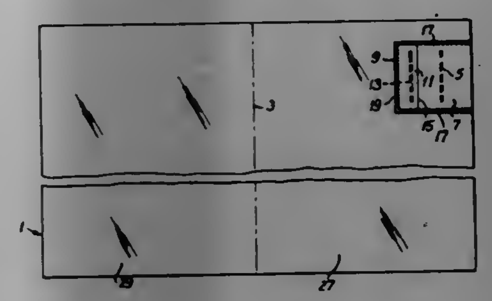
1. A vacuum cleaner bag comprising a sheet of airpervious paper having an edge at one end wth a center portion substantially normal to the longitudinal edges of the sheet and extending for substantially less than one-half of the transverse width of the sheet, said edge having short angularly extending portions at opposite ends of the center portion and diverging angularly from one another in the direction of the longitudinal edges of the sheet, other portions of the edge immediately beyond the short angularly extending portions and of greater length than said short angularly extending portion and diverging from one another along at least a part of their length with the divergence at a much greater angle than that of the short angularly extending portions, a second pair of short angularly extending portions of the edge immediately beyond said other portions, the remainder of the edge extending to the longitudinal edges of the sheet along portions that are substantially normal to the longitudinal edges, a complementary edge at the other end of the sheet, the sheet being folded into a tube having front and back walls and with its longitudinal edges secured together to make a seam, and the sides of the tube being folded along longitudinal lines into multiple gussets across the part of the sheet that is traversed by all of the angularly extending portions of the ends of the sheet, the ends of the bag being folded in opposite directions to close the bag with the fold at least as far from the end of the sheet as is any portion of the end edges of the sheet, and adhesive on the faces of the sheet that confront one another after folding, the bag having an opening through one side thereof for receiving the air pipe of a vacuum cleaner.

3,197,119
BAGS

Richard E. Hartig, Edina, and Harold K. Fox, Minneapolis, Minn., assignors to Bemis Bro. Bag Company, Minneapolis, Minn., a corporation of Missouri

Filed July 2, 1963, Ser. No. 292,318

9 Claims. (Cl. 229—62.5)



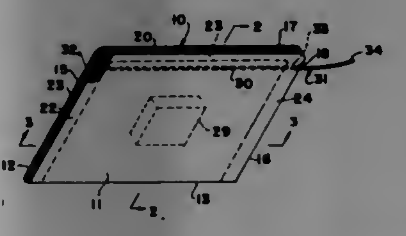
1. A bag having a valve formed by an opening in one wall of the bag, and a patch underlying said opening and secured all around its margin to said one wall, said patch having a slit spaced from the opening in said one wall of the bag located toward one end of the patch constituting its inner end and positioned in relation to the opening in said one wall of the bag for entry of a filling spout first through the opening in said one wall of the bag and then through the slit in the patch, the slit extending transversely of the patch, the bag having means associated with the patch for closing the slit in the patch after the bag has been filled through the spout and the spout withdrawn.

3,197,120
CLAMSHELL ENVELOPE

George C. Sparks, 101 Rorer St., Erdenheim, Pa.

Filed May 14, 1964, Ser. No. 367,382

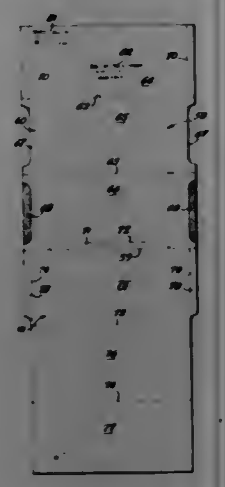
3 Claims. (Cl. 229—86)



1. A container construction comprising a sheet of bendable and severable material folded to define a pair of generally congruent facing panels, said panels each having end margins extending from opposite ends of said fold and a side margin extending between said end margins remote from said fold, heat-sealable material along said margins of said panels, said margins being secured together by adhesion of said heat-sealable material to provide an enclosed space between said panels, an article between said panels spaced within said margins, an elongate flexible tensile member in said enclosed space, spaced portions of said tensile member being anchored in sandwiched relation between spaced regions of said secured end margins intermediate said fold and side margins, the tensile-member region intermediate said spaced portions being unsecured, and an extension on one end of said tensile member extending externally from between said secured margins, said extension providing a finger grip for pulling the adjacent anchored portion of said tensile member out of its anchored relation and severing one of said panels upon continued pulling while the other anchored portion remains anchored there being a line of weakening formed in one of said panels extending between said spaced end-margin regions closely adjacent to said tensile member for localizing said severance to said line of weakening.

3,197,121
LETTER SHEET

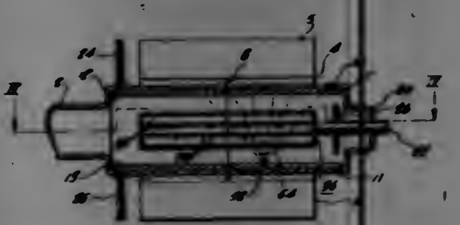
John H. Hayes, Jr., Box 825, Bristol, Va.
Filed June 20, 1963, Ser. No. 289,300
7 Claims. (Cl. 229—92.1)



1. A letter sheet transversely scored to define top, middle and bottom panels adapted to be fan-folded about the score lines to position the top panel overlying one side of the middle panel and the bottom panel overlying the other side of the middle panel, the middle panel having cut-out areas along its side edges to permit surface contact of the side marginal edges of the top and bottom panels through the cut-out areas in the middle panel, and adhesive along selected portions of the side marginal edges of the sheet which will overlie the cutout areas in the middle panel when the sheet is folded, a second sheet joined to the bottom edge of the bottom panel, there being a line of perforations at the line of joinder, the second sheet being of equal length but of less width than the first to lie wholly between the adhesive areas at the side marginal edges of the first sheet, and score lines transversely of the second sheet dividing the second sheet into a plurality of panels of equal depth to the panels of the first sheet, whereby the side marginal edges of the top and bottom panels may be adhered to one another through the cut-out areas of the middle panel when the sheet is folded.

3,197,122
ION PUMP

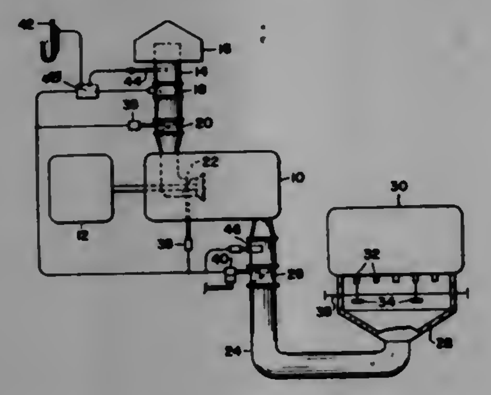
Allen R. Hamilton, Rochester, N.Y., and Harmon G. Redmond, Castro Valley, Calif., assignors to Consolidated Vacuum Corporation, Rochester, N.Y., a corporation of New York
Filed July 1, 1963, Ser. No. 291,649
13 Claims. (Cl. 230—69)



1. An ionic vacuum pump comprising an envelope for confining an evacuated space containing residual gas molecules, means for establishing a magnetic field extending through the space within said envelope in a predetermined direction, a cellular anode structure within said envelope composed of open-ended cellular elements extending with their longitudinal axes in the general direction of said magnetic field and having lateral cell walls, means in said envelope for releasing electrons to said anode structure to cause, with the assistance of said magnetic field, ionization of residual gas molecules in said envelope, and for releasing sputtered particles in said envelope for the entrapment of ionized gas molecules, said lateral cell walls of the cellular anode structure defining a plurality of spaced perforations being larger in area than the cell wall portions between said perforations and being arranged and dimensioned to permit travel of said sputtered particles through the cell walls from one cellular element to another.

3,197,123
AIR PROVIDING SYSTEM FOR METAL CONVERTERS

Isidor R. Loss, Phillipsburg, N.J., assignor to Ingersoll-Rand Company, New York, N.Y., a corporation of New Jersey
Filed Nov. 15, 1961, Ser. No. 152,446
5 Claims. (Cl. 230—114)

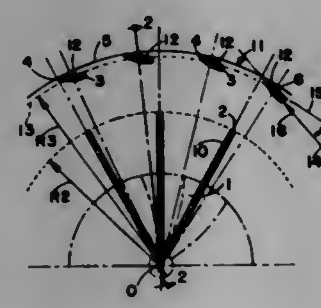


1. A system for providing air in accordance with its weight comprising:

(a) a blower having an inlet to receive air and an outlet to provide delivery of a predetermined amount of air,
(b) means in the blower inlet for sensing and providing signals representing inlet air flow and the temperature thereof,
(c) sensing means for measuring and providing signals representing barometric pressure,
(d) and valve means disposed in series between the sensing means and the blower in the blower inlet and having actuating means connected to the sensing means to receive signals therefrom to control inlet air flow, the actuating means closing the valve means in response to signal change from the sensing means for substantially blocking inlet air flow from the blower when said blower is idling.

3,197,124
CENTRIFUGAL PUMP IMPELLERS

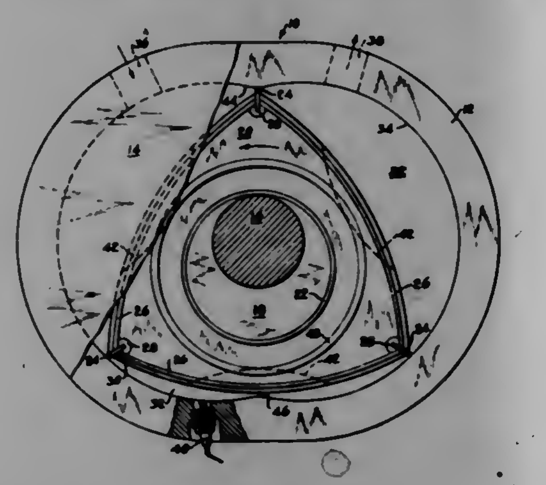
Jean Sallou, 20 Bis, Rui Boissiere, Paris, France
Filed Apr. 3, 1962, Ser. No. 184,763
11 Claims. (Cl. 230—134)



1. In a centrifugal fan, a radial flow impeller including impeller blades adapted for rotation about a predetermined axis, annular plate means secured on opposite sides of the circumferential discharge of said impeller and extending radially thereof for decelerating the fluid passing therethrough, elongated auxiliary blade means having the central longitudinal axes thereof respectively parallel to such predetermined axis, said blade means having the ends thereof secured to said decelerating means and located in the flow path of such fluid radially outwardly from the terminal edge of said impeller blades, the number (N) of said auxiliary blade means and the chordal lengths (L) thereof respectively are related by the following equation: $N \times L = .35 \times C$ wherein the constant .35 is the percent reduction of peripheral flow area due to the blades and permitted to have a maximum value of 0.4; and C is the circumference of the impeller taken along a circle passing through the longitudinal axes of the auxiliary blades.

3,197,125
SEALING SURFACES FOR ROTARY COMBUSTION ENGINES

Harold E. Bachman, New York, N.Y., and Albert J. Mackalonis, Belleville, and John E. Jones, Jr., Englewood, N.J., assignors to Curtiss-Wright Corporation, a corporation of Delaware
Filed May 13, 1963, Ser. No. 280,001
5 Claims. (Cl. 230—145)

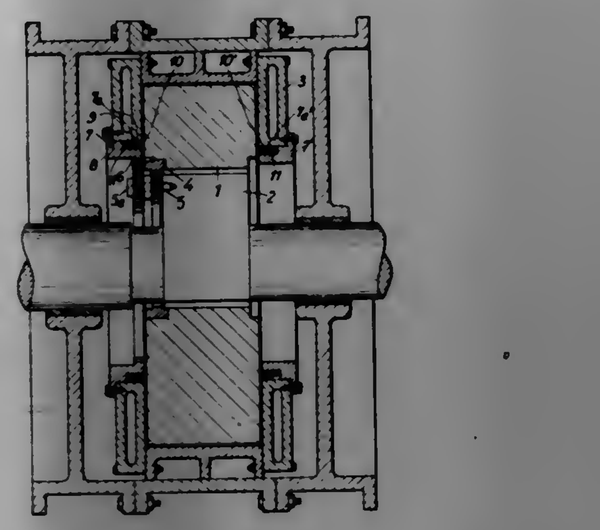


1. In a seal means for use with a rotary combustion engine having relatively rotatable inner and outer bodies and having sliding sealing engagement with one of said bodies for sealing at least a portion of a combustion chamber of said engine, said seal means including a seal strip being composed of a base material comprising metal and having a surface coating comprising a sulphide compound of said base metal material.

3,197,126
ROTARY PISTON MACHINE

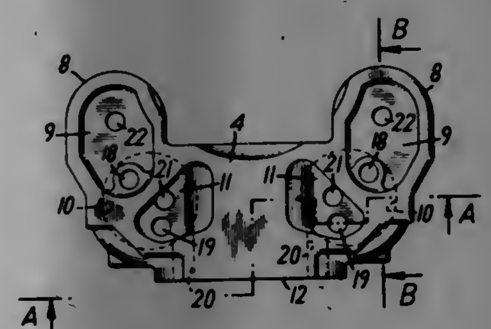
Georg Jungbluth, Cologne-Deutz, Germany, assignor to Klöckner-Humboldt-Deutz Aktiengesellschaft, Cologne, Germany
Filed Mar. 28, 1963, Ser. No. 269,843
Claims priority, application Germany, Mar. 29, 1962, K 46,307
2 Claims. (Cl. 230—145)

1. A rotary piston machine, especially circular piston machine, which comprises: a stationary outer confining body including two lateral confining wall means, eccentric shaft means rotatably journalled in said outer confining body, a rotary piston arranged within said confining body and journalled on said eccentric shaft means, said rotary piston having its axis of rotation substantially perpendicular to said lateral confining wall means, each of said lateral confining wall means comprising a wall member with a bore having its axis extending in the direction of the axis of rotation of said eccentric shaft means, two ring means respectively extending into said bores and connected to said wall members, each of said wall members confining with the ring means connected thereto an annular chamber extending in spaced relationship around the axis of said rotary piston and opening toward the respective adjacent end face of said piston, sealing means respectively mounted within said annular chamber for sealing engagement with the end faces of said rotary piston, and means located in said annular chambers and yieldably pressing said sealing means against the respective adjacent end faces of said piston.



3,197,127
MOLDED STRUCTURAL PARTS FOR COMPRESSORS

Knud V. Valbjørn, Nordborg, Denmark, assignor to Danfoss ved. Ing. M. Clausen, Nordborg, Denmark, a company of Denmark
Filed Aug. 17, 1962, Ser. No. 217,767
Claims priority, application Germany, Aug. 19, 1961, D 36,845
17 Claims. (Cl. 230—232)



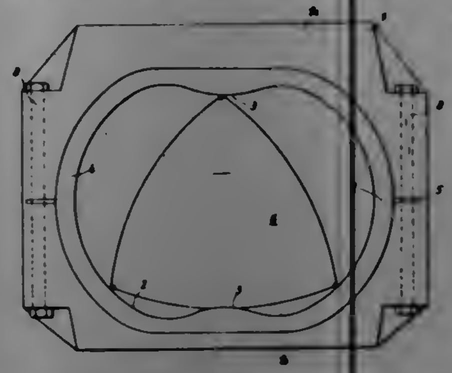
1. A cast structural unit for a compressor, comprising means defining a cylinder and integral silencer chambers disposed laterally thereto, an integral dividing wall extending laterally from said cylinder, said silencer chambers extending in opposite directions from said wall on either side of said wall and opening outwardly in opposite directions therefrom.

3,197,128
ROTARY PISTON MACHINE, ESPECIALLY CIRCULAR PISTON ENGINE

Johann Keylwert, Cologne-Kalk, and Georg Jungbluth, Cologne-Deutz, Germany, assignors to Klöckner-Humbolt-Deutz Aktiengesellschaft, Cologne, Germany
Filed Mar. 11, 1963, Ser. No. 264,459
Claims priority, application Germany, Mar. 13, 1962, K 46,161
8 Claims. (Cl. 230—234)

1. A rotary piston machine having a housing, a bushing inserted in said housing and having an inner surface of the cross-sectional contour of an epitrochoid having a longer axis and a shorter axis transverse thereto, a rotary

piston having a cross section of a spherical triangle and being rotatable within said bushing, said housing being divided into two sections along a plane passing through the longer axis of said epitrochoid and being perpendicular



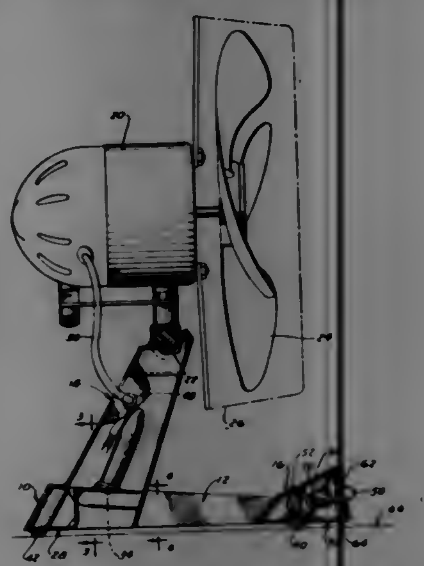
to the smaller axis thereof, and means extending transversely to said dividing plane and firmly interconnecting said housing sections with each other.

3,197,129
ELECTRIC FAN CONSTRUCTION

Robert S. Knapp, St. Louis, Mo., assignor to Knapp-Monarch Company, St. Louis, Mo., a corporation of Delaware

Filed July 23, 1962, Ser. No. 211,721

3 Claims. (Cl. 230—259)



1. In a fan construction of the type having a base frame, a support post extending upwardly from said base frame, a fan-motor assembly carried by said support post, and control means for operating said fan-motor assembly, the improvement comprising hollow members defining said base frame with an open central portion, said support post extending upwardly from one of said hollow members and sloping centrally of said base frame whereby said fan-motor assembly is positioned substantially above said central portion to provide stability for said fan construction, said control means being located within another of said hollow members and including a rheostat, said another hollow member having openings therein, and said fan-motor assembly being constructed to circulate air over said perforations so that air is drawn therethrough and past said rheostat to provide cooling therefor.

3,197,130
TRASH AND ASH RECEPTACLE

Ralph Beach Mott, Jr., and Ralph Beach Mott, Sr., both of 602 Sul Ross, Houston, Tex.

Filed Oct. 24, 1963, Ser. No. 318,729

2 Claims. (Cl. 232—43.1)

1. A trash receiver comprising:

(a) a receptacle for receiving trash, said receptacle including a container having side walls, end walls, and a bottom wall;

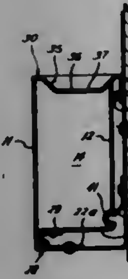
(b) a cover having trash receiving holes therein;

(c) said cover having a downwardly extending projection at its rear edge;

(d) hinge means carried on the back of said container for pivotally engaging said cover projection to open said container to enable trash to be dumped therefrom;

(e) support means for said container adapted to be connected to a surface for supporting said trash receiver;

(f) said support means including a bottom portion which extends outwardly to support said receptacle in its trash receiving position;



(g) pivot means carried at the outer end of said bottom portion for connection to the forward end of the bottom of said container for pivoting said container forwardly and downwardly;

(h) releasable engaging means for maintaining said container in its trash receiving position and releasing on pivoting of said container forwardly and downwardly; and

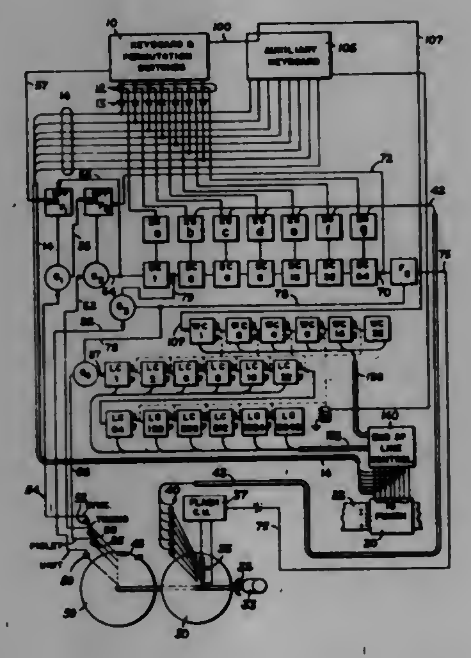
(i) said forward and downward pivoting of said container unlocking said downwardly extending projection on said cover to pivot about said hinge means and rotate said cover from its closed and locked position.

3,197,131
TYPESETTING APPARATUS

Richard C. O'Brien, Huntington, N.Y., assignor to Harris-Intertype Corporation, Cleveland, Ohio, a corporation of Delaware

Filed Oct. 23, 1962, Ser. No. 232,548

3 Claims. (Cl. 234—4)



1. Apparatus for producing a control record for typesetting machines, comprising input means operative to identify in coded form a succession of characters and interword spaces making up lines of composition, recording mechanism connected to and operated by said input means to produce a permanent record of each character identifying code and space code in the order received from said input means to assemble information for a line of composition, computing means responsive to the character identifying code to compute the actual space to be occupied by each selected character and to create a signal which is a digital representation of such actual space in formation, said computing means including a selector counter, means operative from said input means to preset said counter to a code number representing the selected character, means including a unit width memory device operative with said counter to determine from the character selection code a further code number representing the unit width of the selected character relative to other characters of different widths, means connected to reset said counter to said further code number, means connected to supply a variable point set factor by which the unit width of selected characters is to be modified in computing the actual width of each selected character, means operating with said counter and said factor representing means to produce said digital output signals representing the product of the point set factor and the unit width information supplied to the counter for each selected character, accumulator means connected to receive said signals and to maintain a sum thereof, means maintaining a sum of the number of interword spaces in the line of composition, means for dividing the accumulated sum of character spaces by the number of interword spaces and for displaying the resultant quotient as composition of a line proceeds to provide for determination of the number of characters and interword spaces to be used in making up a justifiable line of composition, and means operative upon completion of selection of a line of composition to cause said recording mechanism to produce an end of line signal in the record.

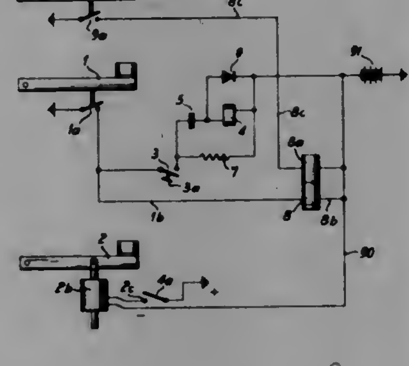
3,197,132
LINE JUSTIFYING APPARATUS

Leon Starck, Fechenheim, Frankfurt am Main, Germany, assignor to Linotype G.m.b.H., Frankfurt am Main, Germany, a corporation of Germany

Filed May 7, 1963, Ser. No. 278,712

Claims priority, application Germany, May 10, 1962, L 41,959

19 Claims. (Cl. 234—10)



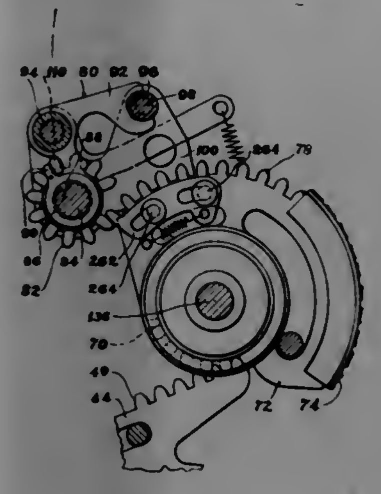
1. An apparatus for recording the program of a line casting machine, comprising, in combination, manually operated means for recording on a record carrier a recording representing a space quoin; a device for providing on said record carrier a blank space; and means for connecting said manually operated means with said device to actuate the same upon operating of said manually operated means so that a blank space adapted to receive a recording representing a justifying em quad or fraction thereof is provided on said record carrier adjacent each recording representing a space quoin.

3,197,133
PRINTING CALCULATING MACHINE OR THE LIKE WITH AMOUNT RECALL MECHANISM

Oscar J. Sundstrand, West Hartford, Conn., assignor to Victor Comptometer Corporation, Chicago, Ill., a corporation of Illinois

Filed Apr. 25, 1962, Ser. No. 190,074

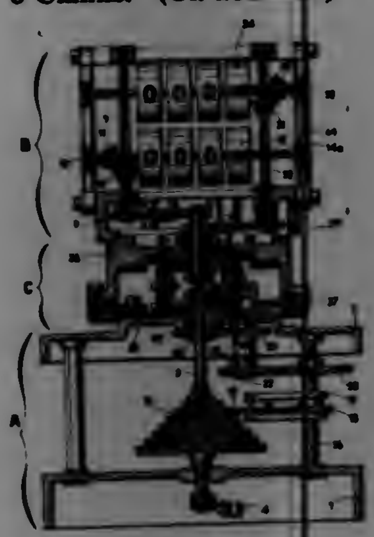
9 Claims. (Cl. 235—60)



9. In a printing calculating machine or the like having amount setup means, toothed actuators movable distances controlled by the amount setup means, segmental gears each carrying a type sector pivotally mounted on a shaft and meshed with the toothed actuators, at least one accumulator for receiving the amounts set up in the setup means and operated by the toothed actuators, and an oscillatable powered main shaft, the combination comprising, a recall register engageable with the segmental gears and movable thereby to set up in said register an amount represented by the extent of movement of the actuators, said recall register including a frame pivotally mounted on the shaft for the segmental gears, a shaft carried by said frame, a plurality of pinions freely mounted on said last named shaft, each pinion having a laterally offset tooth, a restoring arm for each pinion keyed to said last named shaft and adapted to engage said offset tooth, and a stop arm for each pinion carried by said frame and against which said restoring arm is adapted to bring said offset tooth when the recall register is in zero position, a torsion spring having one end anchored and the other end frictionally engaged with said recall register shaft urging said shaft in the direction to bring said restoring arms against said offset teeth and the latter against said frame and adapted to be operated to engage said pinions with the segmental gears, cam means driven by the main stop arms, first linkage means connected to said register shaft and adapted to operate said linkage means slightly before the midpoint in the cycle of the main shaft so that the last amount added, subtracted, or taken as a total or subtotal from the accumulator is entered into the recall register during the last half of the cycle of the main shaft, said linkage means including means locking said recall register in engagement with the segmental gears throughout the last half of the cycle of the main shaft, second linkage means operated by the main shaft at the beginning of the cycle of the main shaft to release said recall register locking means and to disengage said recall register from the segmental gears whereby said torsion spring will restore said pinions to their zero position, a recall key, third linkage means operated by said key and connected to said first linkage means to move the latter so that said locking means is retained in locking position whereby said recall register controls the distances moved by the actuators and the amount entered into the accumulator, and means operated by said third linkage means to initiate cycling of the main shaft and to prevent operation of the amount set up means.

3,197,134
TRANSMISSION MECHANISM AND ITS APPLICATIONS

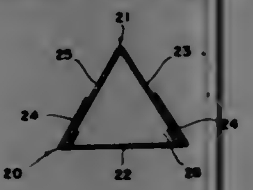
Henri Boutillon, Suresnes, France, assignor to Etablissements Boutillon S.A., Suresnes, Seine, France, a corporation of France
Filed Apr. 24, 1962, Ser. No. 189,792
Claims priority, application France, June 10, 1961, 864,559
6 Claims. (Cl. 235—[illegible]1)



1. A transmission mechanism for operatively connecting a driving shaft to a first driven shaft and to a second driven shaft, the driving shaft being mounted in a support and the driven shafts being mounted in a head, and the three shafts, the head and the support being rotative relative to one another about a single axis, said transmission mechanism comprising: a driving gear coaxial with the driving shaft and rotative relative to the driving shaft, gearing operatively connecting the driving shaft to the driving gear, a first differential operatively connecting the driving shaft to the first driven shaft, a second differential operatively connecting the driving gear to the second driven shaft, and a third differential operatively connecting the head to the support; each differential comprising an input gear and an output gear having the same pitch diameter as the input gear, a member freely rotative about the axis of rotation of the input gear and output gear and two meshed gear pinions of equal pitch diameter rotatively mounted on the member and interconnecting the input gear and output gear; said members of the three differentials being operatively interconnected so that said members rotate together about said single axis, whereby the head can be rotated relative to the support while the driving shaft drives the driven shafts without this affecting the drive ratio between the driving shaft and the driven shafts.

3,197,135
SLIDE RULE

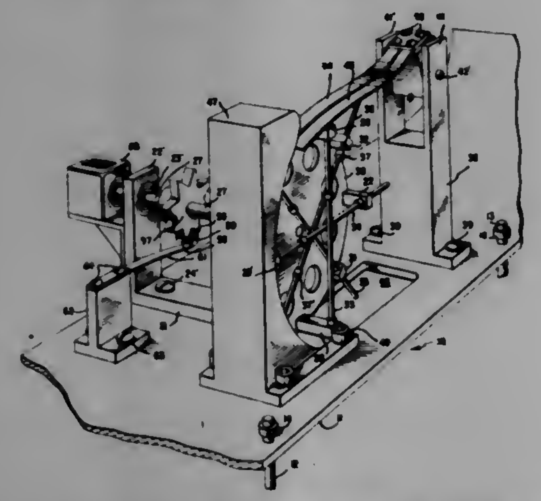
Turner M. Osler, 5007 N. 36th St., Arlington, Va.
Filed July 24, 1963, Ser. No. 297,392
4 Claims. (Cl. 235—70)



1. A slide rule comprising a base having a flat bottom section and two side pieces,
- said side pieces extending angularly from said bottom section toward one another, said pieces each forming an acute inner angle with said bottom section,
- said side pieces extending from said bottom section a distance of approximately one-half of the width of said bottom section such that said side pieces and said bottom section form an open longitudinal guideway,
- and a slide having two side members in the form of an inverted "V,"
- said slide fitting movable into said guideway,
- said guideway allowing longitudinal movement of said slide and
- said guideway preventing lateral movement of said slide.

3,197,136
COUNTER FOR THIN OBJECTS MOVING ON A CONVEYER

Jerrry A. Stegenga, Coral Gables, Fla., assignor to Milgo Electronic Corporation, Dade County, Fla., a corporation of Florida
Filed Oct. 17, 1962, Ser. No. 231,231
9 Claims. (Cl. 235—98)

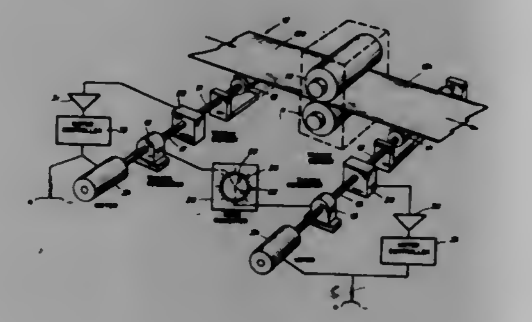


1. A counting device for registering passage of a series of flat products along a conveyer, comprising
- a supporting sled mounted in fixed longitudinal position on the conveyer above said products as they pass therebeneath,
- an elongated aperture in said sled,
- stand members mounted on said sled, rotatively supporting a shaft extending transversely of the conveyer,
- a wheel carried for rotation with said shaft and having a periphery extending to said aperture,
- two pairs of pins extending diametrically across one face of said wheel, the pin ends being at 45° spacings,
- means supporting said pins for limited free longitudinal motion beyond said periphery at each end thereof,
- means retracting each pin end as it is rotated toward said aperture,
- means releasing each pin to enter said aperture as the wheel rotates in one direction,
- means urging each pin downwardly within said aperture when released, thereby to engage said products in succession as they pass thereunder,
- means stopping said wheel after it is rotated by one said pin sufficiently to cause the next said pin to enter said aperture, and
- means counting successive rotational increments of said wheel.

3,197,137
APPARATUS FOR SENSING DISPLACEMENT OF OR DISTANCE ALONG A SURFACE

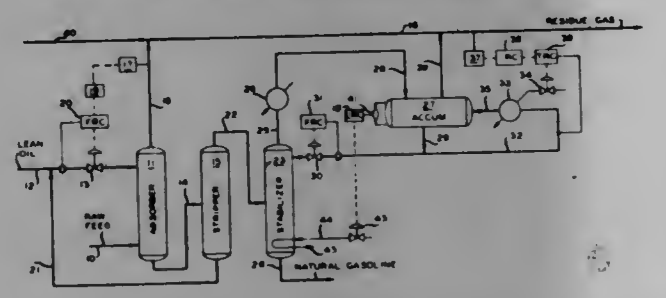
Robert G. Watson, South Euclid, Ohio, assignor to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Filed June 20, 1962, Ser. No. 203,794
20 Claims. (Cl. 235—103.5)

15. A device for measuring the elongation of a traveling strip as it passes a set of mill rolls, comprising a first sensing element in frictional engagement with the strip prior to its passage through the mill rolls, a first tachometer generator, a first coupling means linking the first sensing element with the first tachometer generator, a first tachometer motor for driving the first tachometer generator, a first torque sensor for sensing torque in the first coupling means and for delivering a first output responsive to the sensed torsional condition, and a first means governed by the first torque sensor for controlling the first tachometer motor in speed in response to the said first output, to minimize torque in the first coupling means, a second sensing element in frictional engagement with the strip following its passage through the mill rolls, a second tachometer generator, a second coupling means linking the second sensing element with the second tachometer generator, a second tachometer motor for driving the second tachometer generator, a second torque sensor for sensing torque in the second coupling means and for delivering a second output responsive to the sensed torsional condition, a second means governed by the second torque sensor for controlling the second tachometer motor in speed in response to the said second output, to minimize torque in the second coupling means, and means connected to said first and second tachometer generators and responsive to their generated signals, for indicating the degree of elongation of the traveling strip.



3,197,138
METHOD OF AND APPARATUS FOR IMPROVED PROCESS CONTROL

Dale E. Lupfer, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware
Filed June 12, 1961, Ser. No. 116,580
4 Claims. (Cl. 235—200)



4. Apparatus comprising, in combination, a first pneumatic computing means, first conduit means in communication with said first computing means for transmitting a pneumatic pressure C to said first computing means, a lag means, second conduit means communicating between said first conduit means and said lag means, a second pneumatic computing means, third conduit means communicating between said lag means and said second computing means for transmitting a pneumatic pressure C′ to said second computing means, a restriction means, fourth conduit means communicating between said lag means and said restriction means, fifth conduit means communicating between said restriction means and said second computing means for transmitting a pneumatic pressure B′ to said second computing means, sixth conduit means communicating between said restriction means and said second computing means for transmitting a pneumatic pressure A′ to said second computing means, said second computing means capable of solving the equation

$$\text{Output}'=A'-C'+B'$$

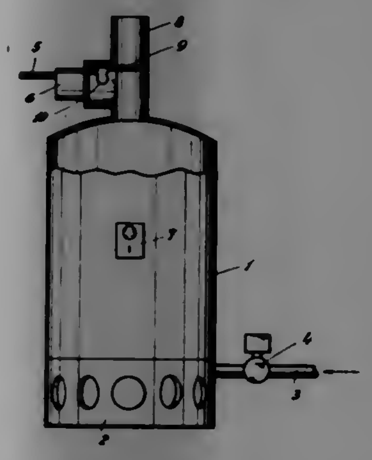
seventh conduit means communicating between said second computing means and said first computing means for transmitting a pneumatic pressure A representative of said Output′ to said first computing means, means for transmitting a bias pressure B to said first computing means, said first computing means solving the equation

$$\text{Output}=g(A-C)+B$$

where g is equal to the adjustable gain of said first computing means, and eighth conduit means in communication with said first computing means for transmitting a pressure representative of said Output from said first computing means.

3,197,139
FLUE DAMPER CONTROL DEVICE FOR FLUID FUEL HEATED APPARATUS

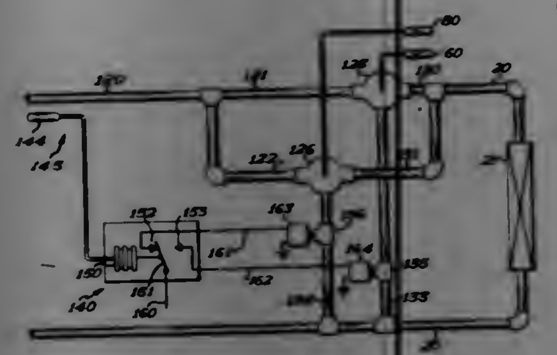
Alphons Diermayer, 6 Baumlstrasse, and Luitpold Kutzner, 100 Furstenriederstrasse, both of Munich, Germany
Filed May 22, 1963, Ser. No. 282,285
Claims priority, application Germany, May 30, 1962, D 39,106
4 Claims. (Cl. 236—1)



1. In a heating arrangement, in combination:
- (a) a source of gaseous fuel;
- (b) burner means for burning said fuel, whereby a hot exhaust gas is generated;
- (c) an electrically operated valve connecting said source and said burner means;
- (d) a conduit for discharging said exhaust gas from said burner means;
- (e) damper means movable in said conduit between a conduit opening position and a conduit closing position;
- (f) actuating means for actuating movement of said damper means between said positions thereof, a portion of said actuating means being arranged in said conduit for thermal contact with said exhaust gas and responsive to the temperature of said gas for actuating said damper means;
- (g) auxiliary heating means for raising the temperature of said actuating means;
- (h) heater control means for selectively energizing said auxiliary heating means; and
- (i) valve control means including a switch in circuit with said valve, said switch being in thermal contact with said actuating means and responsive to the temperature of said actuating means for opening and closing said valve.

3,197,140
UNIT VENTILATOR CONTROL APPARATUS

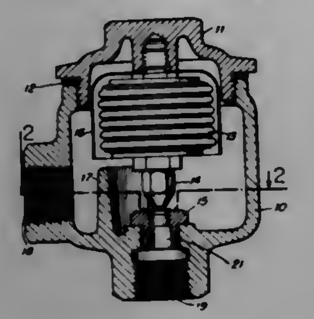
Richard C. Mott, Harwood Heights, Ill., assignor to Honeywell Inc., a corporation of Delaware
Filed Apr. 20, 1962, Ser. No. 189,155
6 Claims. (Cl. 236—1)



4. A unit ventilator control apparatus comprising, a heat exchanger coil, conduit means connected to said heat exchanger coil to permit flow of a temperature changing medium therethrough and adapted to be connected to a source of temperature changing medium with means for circulating said medium continuously from said source through said coil and returning to said source, a pair of valve means included in said conduit means in parallel relationship and being positioned upstream of said heat exchanger coil, each of said valve means being adapted to control the flow of heat exchanging medium through said heat exchanger coil, each of said valve means including pressure regulating means having a pressure responsive and a valve closure section exposed to an inlet pressure to said valve means, a movable adjustment member extending through said valve means, spring means connected between said pressure regulating means and said movable adjustment member extending into said valve means, said spring means and said valve closure section providing a pressure regulator function in which inlet pressure is balanced out against said pressure responsive and said valve closure sections and the valve means is controlled by downstream pressure balanced against the spring means in said valve means, control conduit means for each of said valve means connected to the downstream end of said heat exchanger coil and to the pressure responsive section of said respective pressure regulating means of each of said valve means to provide a reference pressure in opposition to the downstream pressure thereon such that said regulating means controls said valve means to compensate for the drop in pressure in the heat exchanging medium across said heat exchanger coil, a thermal sensitive means for each of said valve means connecting to the respective valve means and adapted to adjust the bias of said spring means thereon to control the operation of said pressure regulator in accordance with temperature of said space, said thermal systems being respectively reverse and direct acting and operative to adjust the bias of said spring means of said pressure regulating means of each of the valve means in opposite directions with a similar change in temperature, additional valve means positioned in each of said control conduit means, leading from the extremity of said heat exchanger coil to the respective pressure regulating means of the respective valve means, thermal sensitive means connected to the upstream side of said conduit means adapted to carry said heat exchanging medium through said valve means and to said coil to respond to the temperature of said temperature changing medium, and control means connected to said thermal means and responsive to the operation thereof to respectively control the additional valve means in said conduit means such that one of said additional valve means is open while the other of said additional valve means is closed.

3,197,141
STEAM TRAP

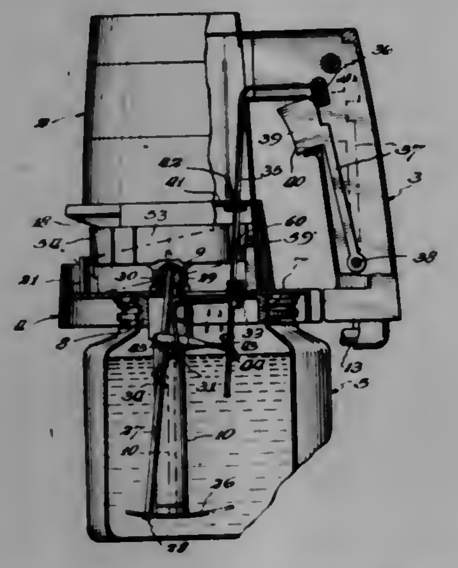
Harold L. Johnson, Dallas Township, Luzerne County, Pa., assignor to W. H. Nicholson and Company, Wilkes-Barre, Pa., a corporation of Pennsylvania
Continuation of application Ser. No. 92,528, Mar. 1, 1961. This application Aug. 19, 1963, Ser. No. 303,726
3 Claims. (Cl. 236—56)



1. A steam trap having a casing, a casing cover, a thermostatic element suspended from the cover, a shield around the sides of the thermostatic element, a discharge valve carried on the lower end of the thermostatic element, a valve seat for said valve in a lower position of the casing, and an inlet in the casing for steam and condensate at a high enough level to provide a straight line gravity flow from the inlet to the seat, in the absence of a baffle, in combination with a solid baffle between the inlet and valve seat, said baffle extending upward to a point spaced below the shield but above the inlet, but only part way around the valve seat so as to deflect all the steam away from the straight line flow upward toward the thermal element and laterally around the inner periphery of the trap body, while permitting condensate to escape; whereby the thermal efficiency of the trap is increased by preventing the escape of live steam before the valve closes, and the ability of the trap to drain itself when the steam is shut off, is improved.

3,197,142
SPRAY MECHANISM CONTROL SYSTEM

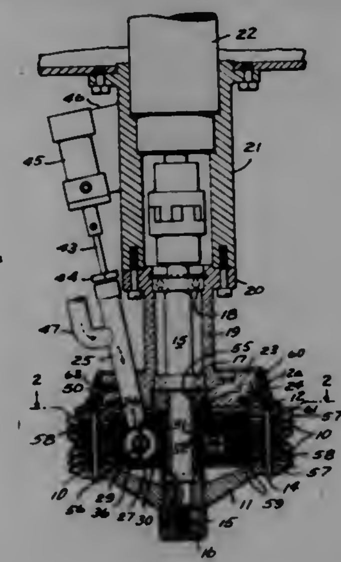
Allan R. Gold, Chicago, and Gilbert M. Baumann, Glen Ellyn, Ill., assignors, by mesne assignments, to Ziff-Davis Publishing Company, New York, N.Y., a corporation of Delaware
Filed Aug. 2, 1962, Ser. No. 214,228
9 Claims. (Cl. 239—215)



1. A spraying mechanism comprising a housing, a discharge outlet in said housing, means for spraying liquids through said outlet, a gate mounted in said housing, said gate being angularly rotatable with respect to a horizontal plane between an outlet closing position and an open position, pivot means mounting said gate to said housing along a line in a substantially horizontal plane off the center of gravity of said housing to permit angular rotation of said gate, said pivot means being constructed and arranged to permit gravity movement of said gate to said open position, spring means normally holding said gate in outlet closing position and a lever mounted to said housing independent of said pivot means for releasing said gate from the spring action of said spring means whereby said gate may move freely into its open position.

3,197,143
CENTRIFUGAL ATOMIZER WITH FIXED FAN JET FEED

Edward O. Norris, Ledgemoor Lane, Westport, Conn.
Filed Oct. 16, 1962, Ser. No. 230,870
4 Claims. (Cl. 239—223)

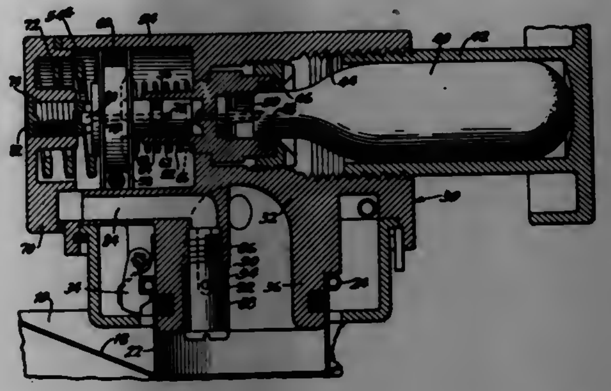


4. A centrifugal atomizer comprising an annular member composed of a plurality of stacked discs having inner peripheral surfaces and spaced apart to provide a plurality of openings therebetween and adapted to discharge a spray material in an annular spray pattern having a substantial axial width means mounting said annular member for rotation about its axis for discharging said spray material centrifugally therefrom, means including end closure members associated with said annular member and adapted to form therewith a substantially closed internal chamber, a fixed spray nozzle disposed in said chamber and spaced from the inner periphery of said annular member and substantially midway between said end closure members, said nozzle having an opening adapted to produce a thin fan-shaped spray which diverges axially of said chamber and becomes coextensive with said inner periphery of said annular member at the point of contact therewith whereby said openings traverse said fan-shaped spray and receive spray material therefrom as they rotate and means supplying material for spraying to said nozzle under a pressure suited to produce said fan-shaped spray and to cause the spray particles to engage the inner peripheral surface of said annular member and to be distributed across the entire axial length thereof.

3,197,144
DISPENSING APPARATUS FOR EBULLIENT LIQUIDS

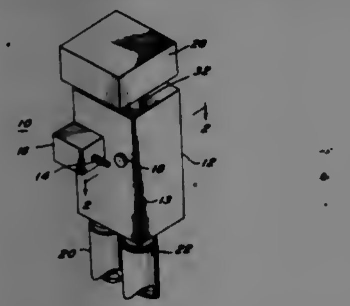
William B. Kochner, deceased, late of St. Louis, Mo., by Regina L. Kochner, administratrix, St. Louis, Mo., assignor to Knapp Monarch Company, a corporation of Delaware
Original application Sept. 28, 1959, Ser. No. 842,730. Divided and this application Oct. 14, 1963, Ser. No. 316,491
5 Claims. (Cl. 239—308)

1. A dispensing device comprising a gas-pressurized, closed container having an ebullient liquid therein, valve means operative to control dispensing flow therethrough for discharge of liquid from said container, and an eduction tube communicating said valve means with the interior of said container, said eduction tube having tortuous flow path-defining means therein adjacent the inlet end and the size of said tortuous flow path gradually increasing in a downstream direction, whereby liquid flow upwardly through said eduction tube for discharge from said valve means is directed in a generally spiral path, said eduction tube being operative to reduce the discharge pressure of said liquid from said valve means and to minimize the inherent tendency of said liquid to foam during discharge flow.



3,197,145
SPRAY MIST DISPENSING APPARATUS

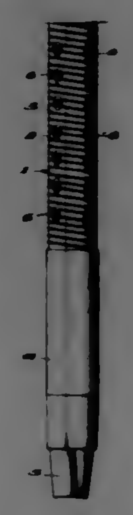
Stanley Kramer, Cherry Hill, N.J., assignor to Salon Spray System, Inc., Philadelphia, Pa., a corporation of Pennsylvania
Filed June 25, 1963, Ser. No. 290,423
8 Claims. (Cl. 239—415)



1. Spray mist dispensing apparatus comprising a main body, a liquid dispensing nozzle projecting outwardly from said main body, a pressurized air dispensing nozzle spaced from said liquid dispensing nozzle and projecting outwardly from said main body, mounting means for mounting said liquid dispensing nozzle on said main body spaced from said air dispensing nozzle with the longitudinal axis of said air dispensing nozzle intersecting the longitudinal axis of said liquid dispensing nozzle, liquid supply means for supplying liquid to said liquid dispensing nozzle, air supply means for supplying air to said air dispensing nozzle, a pair of parallel, longitudinally extending bores through said main body, means communicating said liquid supply means and said air supply means with one end of one of said parallel bores respectively, means communicating said air and liquid dispensing nozzles with one of said parallel bores respectively, air valve means in one of said bores intermediate its ends for controlling the flow of air from said air supply means to said air dispensing nozzle, liquid valve means in the other of said bores intermediate its ends for controlling the flow of liquid from said liquid supply means to said liquid dispensing nozzle, a valve actuator above said main body, said valve actuator being operative to simultaneously control said liquid and air valve means, said valve actuator being integrally coupled to said air valve means, said valve actuator being connected to said liquid valve means through a lost motion device, biasing means in said body

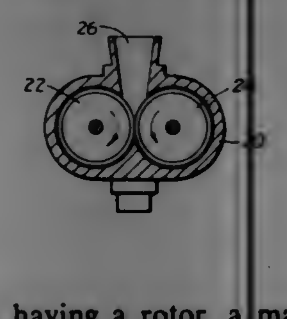
for biasing said liquid and air valve means to a closed position preventing the flow of liquid and air to said liquid dispensing nozzle and said air dispensing nozzle, said actuator being operative upon movement thereof in one direction through said lost motion device to open said air valve means to supply air from said air supply means through said air dispensing nozzle before opening said liquid valve means to supply liquid from said liquid supply means to said liquid dispensing nozzle and operative upon movement in an opposite direction through said lost motion device to close said liquid valve means before closing said air valve means.

3,197,146
APERTURED SUCTION TRUNK FOR TRAVELING CLEANER
James F. King, Jr., Winston-Salem, N.C., assignor to The Bahnson Company, Winston-Salem, N.C., a corporation of North Carolina
Filed Mar. 3, 1964, Ser. No. 349,067
4 Claims. (Cl. 239—547)



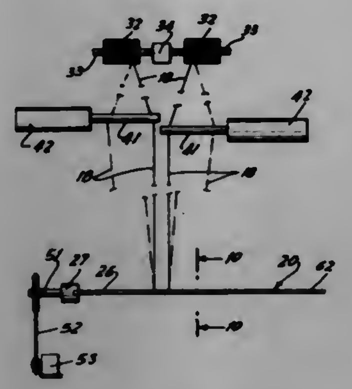
1. In a suction trunk for use on a traveling cleaner for removing lint entrained air from the creel area of a textile working machine such as a spinning frame, the improvement characterized by a plurality of suction inlets located in the upper part of the suction trunk, said trunk being constituted by a wire reinforced fabric tube and said suction inlets being in the form of grommeted holes passing through the fabric, the flanges on said grommets capturing said reinforcing wire.

3,197,147
HIGH SPEED STRESS PLANE MATERIAL PULVERIZER
Hans G. Krohne, Richmond, Va., assignor to American Machine & Foundry Company, a corporation of New Jersey
Filed June 15, 1962, Ser. No. 202,849
17 Claims. (Cl. 241—227)



1. A pulverizer having a rotor, a material pulverizing element on said rotor, said element having a helical, or screw-thread-like, projection formed on the periphery of said rotor, a casing snugly enclosing said projection and means for driving said element at a circumferential speed of more than 300 feet per second to pulverize material.

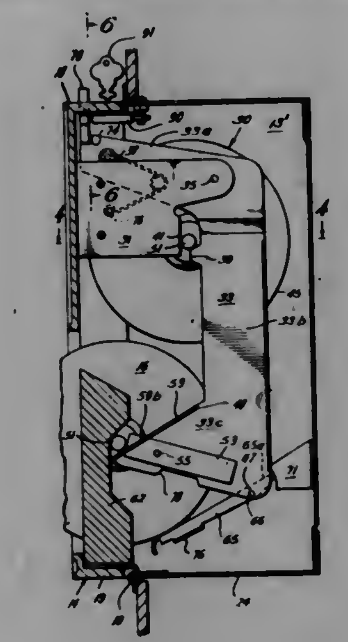
3,197,148
METHOD AND APPARATUS FOR ATTACHING GUIDES TO FISHING RODS
Philip Edick, Beacon, N.Y., assignor to Sportsmen, Inc., Yonkers, N.Y., a corporation of New York
Filed May 13, 1963, Ser. No. 279,728
12 Claims. (Cl. 242—7)



1. An apparatus for securing a guide loop to a fishing rod by means of cord, said loop having oppositely extending attachment feet lying lengthwise on the rod, each foot having an upper surface sloped outwardly and toward the rod and the end of a cord being tied to the inner end of each foot and the rod at the initiation of the securing procedure, comprising means for supporting the rod for rotation on its axis, a spool for supplying cord, a normally stationary cord guide through which the cord is directed from said spool to the rod, said cord guide being located a substantial distance from the rod and so positioned that the cord approaches the rod at the initiation of the securing procedure at substantially right angles to the rod, means for rotating the rod to cause the cord to be wound about the rod and attachment foot, the slope of said foot causing the windings of the cord to form a helix extending outwardly from the inner end of said foot, the distance between said cord guide and the rod being large enough to prevent the cord from winding back upon itself, and means for moving said rod axially after winding of the cord has been completed and rotation of the rod has been discontinued to bring selected regions into alignment with said cord, said last named means comprising a movable carriage for the rod rotating means, rod-supporting guides adapted to engage the rod frictionally to allow axial movement of the rod with respect thereto, and means for moving said carriage.

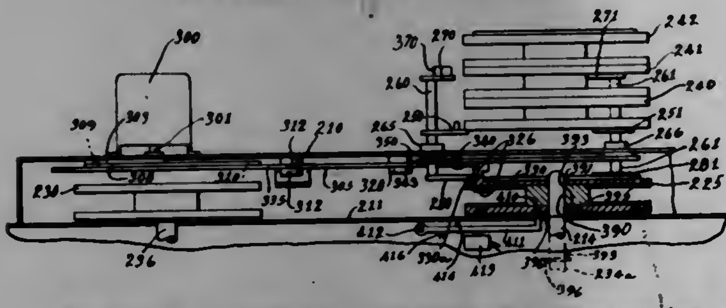
2. An apparatus as defined in claim 1, wherein said rod-supporting guides are mounted for movement transversely toward and away from the rod, and including means for moving said movable guides.

3,197,149
SUPPORT ARRANGEMENT FOR ROLL MATERIAL
Ralph Beach Mott and Ralph Beach Mott, Jr., both of 602 Sul Ross, Houston, Tex.
Filed Oct. 15, 1962, Ser. No. 230,433
5 Claims. (Cl. 242—55.3)



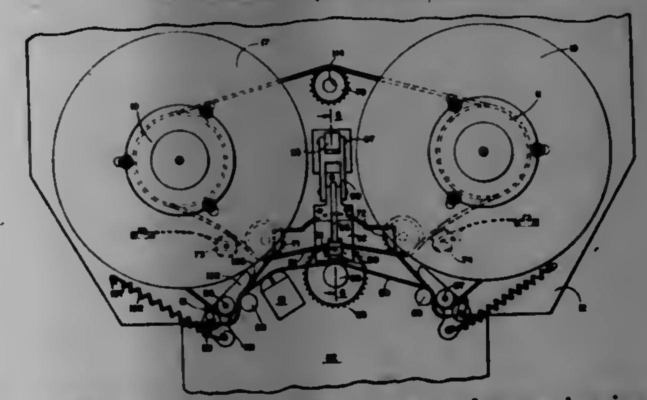
1. A support for roll material adapted to be received within an aperture including a front panel, a support frame carried by said panel for storing and dispensing roll material carried on a spool, an opening in said panel for exposing the roll material for use, means mounting said front panel for movement away from the aperture whereby roll material may be loaded in said frame and said panel thereafter moved to a position to store the roll material in the aperture, said support frame including spaced brackets extending rearwardly from said panel, a member adjacent each of said brackets and extending longitudinally of said panel, means pivotally mounting said members to their adjacent bracket, spring means between said longitudinally extending members and said brackets tending to urge the lower end of each of said longitudinally extending members toward the back of said panel, each of said longitudinally extending members having a portion at their lower ends which extend toward the back of said front panel, means mounted on said panel to engage said longitudinally extending members and overcome said spring means and thereby move said lower end portion of said longitudinally extending members away from the back of said panel, said longitudinally extending members each having a projection extending toward each of said spaced brackets to form a retaining means for roll material stored in support frame, said lower end portions each providing a guide surface for guiding roll material to exposure for use in said opening, a bar member pivotally mounted on each of said lower end portions and projecting at one end above the guide surface on said lower end portion, a shoulder on each side of said panel adjacent said opening and in spaced relation to the projecting end of each of said bar members, said bar member being movable by engagement with said spool on which is mounted the roll material as it moves along said guide surface to exposed position in said panel opening, and said bar members and opposed shoulders thereafter cooperating to lock said roll material and spool against displacement from said panel opening.

3,197,150
TRANSDUCER MACHINE AND SPOOL CONSTRUCTION THEREFOR
Marvin Camras, Glencoe, Ill., assignor to IIT Research Institute, a corporation of Illinois
Filed July 11, 1960, Ser. No. 41,860
48 Claims. (Cl. 242—55.13)



1. A record transducing machine for transducing a signal recorded on a record medium comprising take-up spool means adapted to be power driven to wind a record medium thereon, supply means for rotatably supporting a record medium thereon in a spiral coil for unwinding of the record medium from the coil as it is wound on said take-up spool means and adapted to be power driven for winding the record medium back into a spiral coil thereon as it is unwound from said take-up spool means, said take-up spool means having a slot extending inwardly from the radially outermost margin thereof for accommodating edgewise insertion into said slot of a tape-like end portion of the record medium which is initially wound in a spiral coil on said supply means, and means for retaining said end portion in said slot, said retaining means being operative to automatically release said end portion of said record medium as the record medium is wound back into a spiral coil on said supply means, said supply means comprising a cartridge for receiving said spiral coil of said record medium and having means for holding said tape-like end portion securely therewith, and tuck-in means operatively associated with said cartridge and operative for pressing said end portion into engagement with said holding means of said cartridge as the end portion is wound back into a spiral coil on said cartridge.

3,197,151
TAPE TRANSPORT
Thomas Sparks, Fullerton, and Malcolm F. Thompson, Santa Ana, Calif., assignors to North American Aviation, Inc.
Filed Mar. 6, 1963, Ser. No. 263,272
10 Claims. (Cl. 242—55.13)

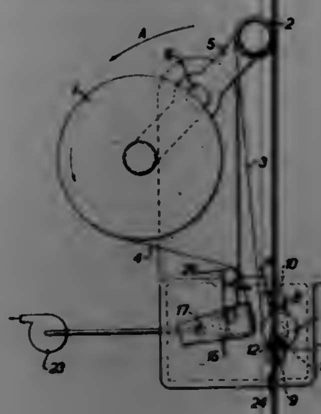


1. Apparatus for handling a record tape having tape drive means for reversibly transporting said tape from a first reel to a second reel by driving said tape at a given point between said first and second reels, comprising
- first and second support members fixedly connected to a base,
- first and second sleeves rotatably coupled to said first and second support members, respectively,
- first and second drive means associated with said tape drive means,
- first clutch means coupled to said first and second drive means for engaging said first sleeve for clockwise rotation of said first drive means and second clutch means for engaging said second sleeve for counterclockwise rotation of said second drive means, said first and second clutch means being adapted for automatically disengaging said first and second sleeves for counterclockwise and clockwise rotation of said first and second drive means, respectively, and
- first and second slip clutches coupling said first and second reels to said first and second sleeves, respectively, thereby allowing one sleeve to be locked in position while its associated reel rotates against the restraining force of the associated slip clutch to provide tension in the tape being supplied to the other reel and allowing the other reel to rotate to take up tape for a given tape transporting direction and maintain tension in the tape.

3,197,152
DEVICE FOR JOINING PAPER OR LIKE WEBS
Jan Antoni Rakowicz, London, and David John Jackson, Chingford, England, assignors to Molins Machine Company Limited
Filed Mar. 9, 1964, Ser. No. 350,465
Claims priority, application Great Britain, Mar. 14, 1963, 10,155/63
3 Claims. (Cl. 242—58.3)

1. A device for joining continuous webs of paper and the like, such as are used in a continuous-rod cigarette-making machine, comprising a rotatable arm carrying supports for reels of web, a rotatable roller around which

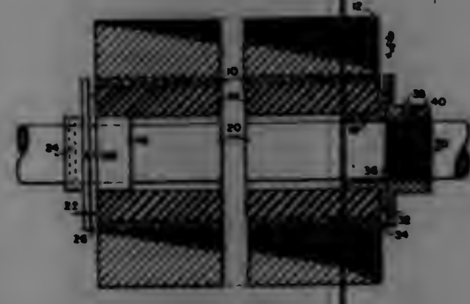
a web from one reel is led to provide a running web, a pivoted lever supporting said roller, a suction head to which the leading end of a web from another reel is attached by suction, adhesive material attached to and extending beyond said web end and positioned to lie in contact with the surface of the suction head, means for controlling the swinging of said lever on its pivot, and a knife on the lever arranged to cut the running web when



the lever is moved, the lever movement serving also to cause the roller to press the resulting end of the running web into contact with the adhesive material held on the suction head and to adhere thereto, and the head, through friction, to pivot drawing the joined webs in the general direction of web movement, whereby said second reel is rotated and web feeding continues without adverse effects due to the inertia of the second reel.

3,197,153
MOUNTING DEVICE FOR PAPER ROLLS

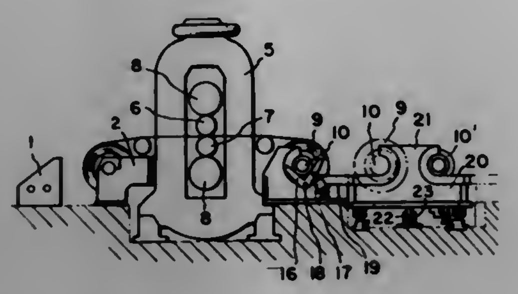
Alfred B. Davidson, Tarentum, Pa., assignor to Allegheny Ludlum Steel Corporation, Brackenridge, Pa., a corporation of Pennsylvania
Filed Aug. 13, 1963, Ser. No. 301,751
1 Claim. (Cl. 242—72)



Apparatus for rotatably mounting a tubular member on a stationary shaft comprising, an annular elastomer drum adapted to be inserted into said tubular member and to expand radially to engage the inner surface of said tubular member, a pair of sleeves adapted to be inserted in the opposite ends of the elastomer drum and journal the drum for rotation on said shaft, each of said sleeves having a thrust bearing face, a first collar non-rotatably carried by said shaft having a bearing surface coactable with the bearing face of one of said sleeves, and a second collar threadably engageable on said shaft, said second collar having a face coactable with the bearing face of the other of said sleeves, whereby, when the second collar is loosened away from its associated sleeve the tubular member can be facilely removed from the drum and when the second collar is tightened against the associated sleeve the axial compressive forces caused by the coaction of the collars and sleeves will cause the drum to expand radially to engage the inner surfaces of the drum and will control the back tension on the drum, by providing a frictional force to resist rotation of the sleeves on the shaft.

3,197,154
STEEL BAND SHIFTING DEVICE

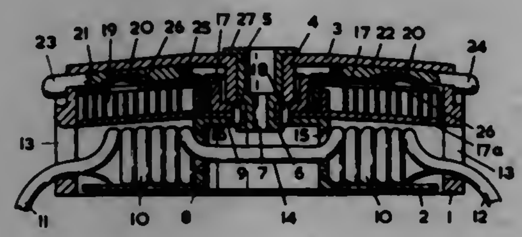
Yasuki Koreishi, Hitachi, Japan, assignor to Hitachi Limited, Tokyo, Japan, a corporation of Japan
Filed Nov. 26, 1962, Ser. No. 240,046
Claims priority, application Japan, Nov. 27, 1961, 36/42,126
3 Claims. (Cl. 242—79)



1. Apparatus for transferring loaded spools of steel strip which comprises a winding frame, a pair of pawls rotatably mounted in said frame, a spool rotatably mounted in said frame and restrainedly positioned within said frame by said pawls, means for rotatably driving said spool to load said steel strip on said spool, a turn table provided with a turn table frame, said turn table being mounted adjacent said winding frame with said turn table frame positioned to receive spools rolled from said winding frame, means for rotatably deflecting said pawls in said winding machine to transfer said loaded spool to said turn table, means including a second pair of pawls for holding said loaded spool on said turn table and for transferring said loaded spool from said turntable, means for rotating said turn table, and means including a third pair of pawls for transferring an empty spool on said turn table to said winding machine.

3,197,155
DEVICE FOR TIGHTENING SHOE LACES

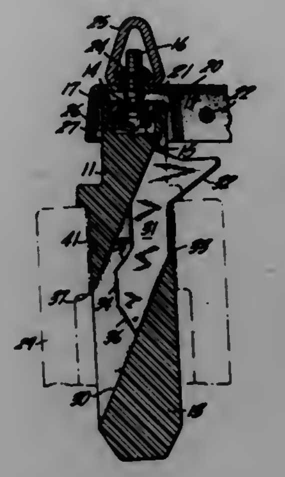
Yut Chow, % Rev. Andrew Song, P.O. Box 5260, Kowloon, Hong Kong
Filed Sept. 25, 1963, Ser. No. 311,551
1 Claim. (Cl. 242—107.1)



A device for tightening shoe laces comprising a housing having a plurality of apertures at spaced positions, a drum assembly including an axial braking rim rotatably mounted in the housing, a shoe lace coiled concentrically on the drum assembly, said shoe lace being passed out through an aperture of the housing, a coiled spring coupled to the housing and to the drum assembly for rotation of the drum assembly with respect to the housing, diametrically-opposed radially-shiftable braking rods disposed in the housing and projecting at their outer end from said housing, a shoe on the inner end of each braking rod to abut against the braking rim of the drum assembly, and a C-spring disposed in the housing concentrically with the drum assembly and abutting at its ends respectively against the inner end of the braking rods to urge said rods into braking engagement with the braking rim of the drum assembly.

3,197,156
HOLDER

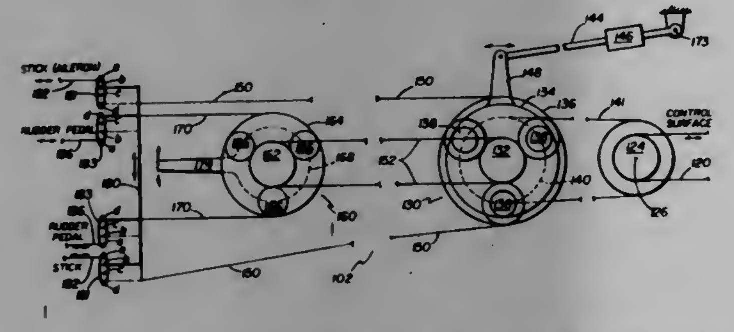
William A. Warnock, Spartanburg, S.C., assignor to Whitin Machine Works, Whitinsville, Mass., a corporation of Massachusetts
Filed Oct. 5, 1962, Ser. No. 228,663
9 Claims. (Cl. 242—130.2)



3. A bobbin holder comprising
supporting means,
body means mounted upon said supporting means for substantially vertical rotation, said body means having a channel passing therethrough that is inclined with respect to the longitudinal axis of said body means, and
movable means within said channel which falls by its own weight to its lowest position for engaging and supporting a bobbin.

3,197,157
CONTROL SYSTEM FOR USE ON V/STOL AIRCRAFT

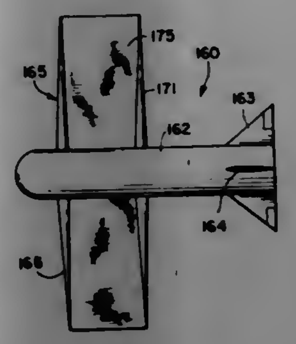
Gary E. King, Wichita, Kans., assignor to Boeing Airplane Company, Wichita, Kans., a corporation of Delaware
Filed Mar. 6, 1961, Ser. No. 93,686
16 Claims. (Cl. 244—7)



14. An aircraft control system for a controllable member on a body which is pivotally mounted relative to other aircraft structure, said controllable member being operated by mechanical motion transmitting means from a control unit in the aircraft fuselage, comprising: a three-gear epicyclic train interposed in said transmitting means having three pivotal input-output elements A, B and C, element A being connected to said control unit by said transmitting means to be pivoted thereby and element B being connected to said controllable member by said transmitting means to impart motion thereto, pivoting compensating means having an output motion responsive to pivoting of said body relative to said other aircraft structure, and said compensating means being connected to element C providing an input of motion to said train compensating for the tendency of said motion transmitting means to relatively move said control unit and controllable member responsive to pivoting of said body.

3,197,158
FLEXIBLE WING VEHICLE CONFIGURATIONS

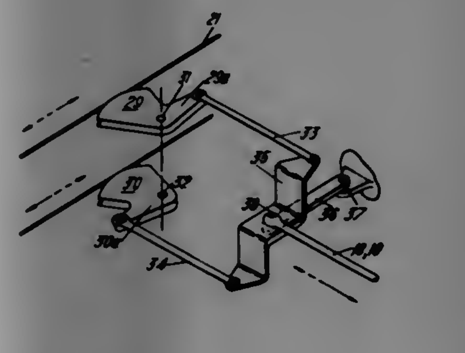
Francis M. Rogallo, 17 Milford Road, Newport News, Va.
Original application Apr. 29, 1963, Ser. No. 276,664. Divided and this application Dec. 11, 1964, Ser. No. 429,695
9 Claims. (Cl. 244—49)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A vehicle capable of being launched from a planetary surface into an extraplanetary spatial vacuum and to reenter an atmosphere comprising: vehicle body means; power means associated with said body means for placing said vehicle in an extraplanetary spatial vacuum; means forming a part of said body being deployable from remaining body means to form wing support structure; said wing support structure including leading edge members and trailing edge members positioned at spaced intervals along said body means, and flexible material means being connected between said leading and trailing edge members and said body means.

3,197,159
CABLE CONTROL SYSTEMS

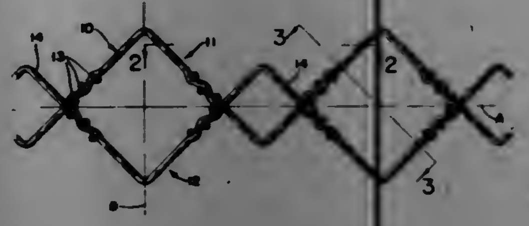
Francis Ronald Crowfoot, Downend, Bristol, England, assignor to British Aircraft Corporation (Operating) Limited, London, England, a British company
Filed June 19, 1964, Ser. No. 376,353
Claims priority, application Great Britain, June 20, 1963, 24,605/63
5 Claims. (Cl. 244—83)



1. A control system comprising two cables running alongside one another from an input unit to a series of output units spaced along the length of the cable, the input unit including a pivoted member arranged to impart opposite movements to the cables, and at least one of the output units including an output member pivoted to a mid-point of a compensating beam, the ends of which are linked to the cables via at least one rocking lever in such a way that equal movements of the cables in the same direction cause the beam to turn about its pivot, thus leaving the output member stationary, whereas equal movements of the cables in opposite directions cause the whole beam to move bodily and thereby move the output member.

3,197,160
METHOD OF MAKING SCREEN

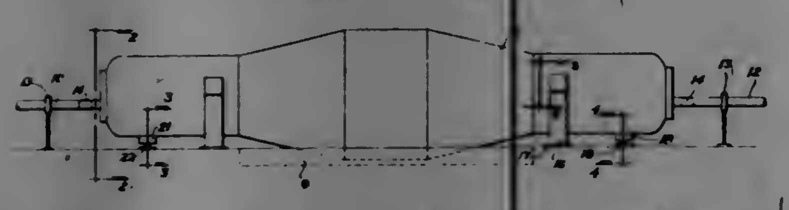
Francis A. Murphy, Rocky River, Ohio, assignor to W. S. Tyler, Incorporated, a corporation of Ohio
Filed Sept. 6, 1961, Ser. No. 136,344
4 Claims. (Cl. 245—2)



1. A screen device having a first screen involving a surface having a multiplicity of individual longitudinal wire strands intersected at extended intervals by a plurality of cross strands, the latter being closely adjacent to one another, forming a multiplicity of long slots of uniform width between the longitudinal strands, said first screen being undulated in an alternating pattern with said long slots being bowed outwardly on the sides of the screen, a second screen formed in substantially the same manner, the transverse spacing of said longitudinal wires corresponding with that of the first screen, said screens being formed in an intersecting manner with the long slots of the other screen and the cross strands being substantially in contact with one another.

3,197,161
MOUNTING APPARATUS FOR LARGE EQUIPMENT

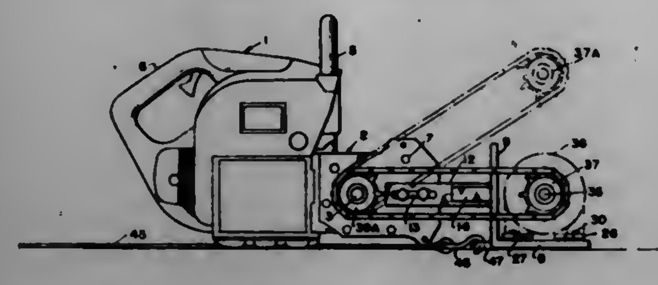
James Christofferson, West Newbury, Mass., assignor to High Voltage Engineering Corporation, Burlington, Mass., a corporation of Massachusetts
Filed Jan. 2, 1963, Ser. No. 249,067
1 Claim. (Cl. 248—2)



In combination, a large horizontally disposed machine having a metal casing, said metal casing being circular in section normal to the major axis thereof, and a mounting arrangement adapted to compensate for expansion and contraction dislocation of said machine due to temperature changes, said mounting arrangement comprising a plurality of flange members fixedly attached to the sides of said metal casing, a plurality of support columns fixedly attached to a foundation and cooperating with said flange members to support said machine in free space, said flange members and said support columns interacting in approximately the horizontal plane which passes through the major axis of said metal casing, friction reducing means disposed between said columns and flange members adapted to facilitate horizontal expansive and contractive movement of said machine, a first vertically disposed annular member fixedly attached to the bottom of one end of said machine, a first vertical connecting member having one end thereof slideably engaged in the aperture of said annular member and the other end in fixed relationship to said support columns, a second vertically disposed annular member fixedly attached to the bottom of the other end of said machine, longitudinally disposed guide means associated therewith in fixed relationship to said support columns and a second vertical connecting member, said member having one end thereof slideably engaged in the aperture of said second annular member and the other end thereof in slideable relationship with said guide means.

3,197,162
CHAIN SAW ADAPTER AND ATTACHMENT FOR OPERATING POWER DRIVEN MECHANISMS

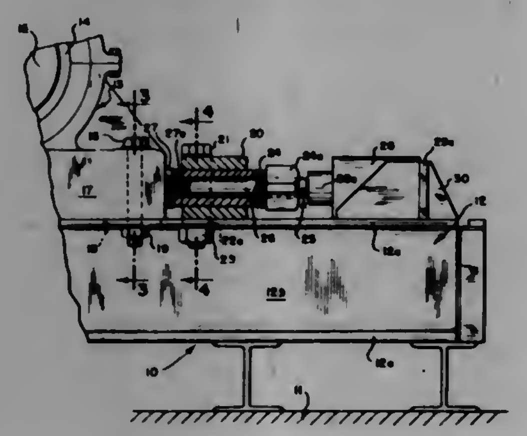
Herbert W. Johanson, 420 W. Scenic Drive, The Dalles, Oreg., and Calvin W. Johanson, 8403 NE. St. Johns Road, Vancouver, Wash.
Filed May 16, 1962, Ser. No. 195,077
1 Claim. (Cl. 248—23)



A support for a power driven instrumentality,
said support comprising an angle section having a forwardly extending horizontal bottom flange and a rearwardly disposed vertical flange,
a rearwardly extending horizontal arm secured to said vertical flange at the center thereof,
means carried by the outer end of said arm adapted for adjustable securement to a power transmission casing of an internal combustion engine,
said bottom flange of the support having forwardly extending slots therein paralleling said arm,
a pair of elongated flat bars each having a slot therein extending substantially throughout the length thereof,
locking bolts extending through said slotted bars and through said parallel slots in the horizontal bottom flange and thereby adapted to secure a power driven instrumentality in any forwardly or rearwardly adjusted position relative to said bottom flange to accommodate various lengths of driving connections between said power driven instrumentality and a gear casing of an internal combustion engine, and
said vertical flange having a pair of vertically disposed parallel slots therein to selectively accommodate said bars and said locking bolts for adjustably mounting a power driven instrumentality to the vertical flange.

3,197,163
SUPPORTING STRUCTURE INCLUDING AN ADJUSTABLE SUPPORT

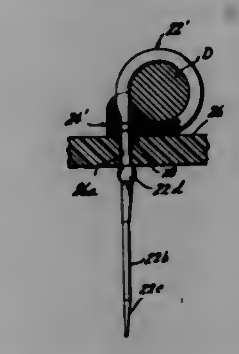
Eugen Litosch, Bronx, N.Y., assignor to F. L. Smidth & Co., New York, N.Y., a corporation of Delaware
Filed Mar. 17, 1964, Ser. No. 352,439
5 Claims. (Cl. 248—23)



1. A structure for supporting a heavy load, which comprises a base, a support movably mounted on the base, a block fixedly mounted on the base adjacent to the support and having a bore in alignment with the path of movement of the support, a screw threaded in the bore and having an end exposed beyond the block and adjacent to the support, the screw having an axial passage through it, a plunger in the passage having an end engageable with the support, and hydraulic means on the base for moving the plunger endwise through the passage in the direction of the support to move the support along the base.

3,197,164
ELECTRICAL COMPONENT SECURING MEANS

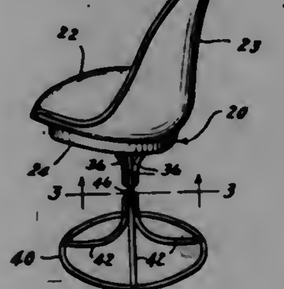
Claude A. Hansen, Federal Way, Wash.
Continuation of application Ser. No. 764,190, Sept. 29, 1958. This application July 16, 1964, Ser. No. 384,576
6 Claims. (Cl. 248—73)



2. An electrical component banding device comprising an elongated flexibly elastic strap-like member having a predetermined cross section intermediate its ends, in its relaxed condition, said member being tapered gradually from said major cross section substantially to a point at one end, and carrying an enlargement on said member remote from said tapered end, said enlargement having an aperture therein of a size materially less than said predetermined cross section, permitting insertion of said tapered end point through such aperture to form an encircling band, whereupon said member may be stretched and drawn through said aperture, thereby to produce tension in the member encircling an electrical component, and, upon release of such end portion, retention of such tension by bulging of the member immediately against the aperture rim to prevent its withdrawal back through the aperture, said enlargement being formed integrally with the strap-like member, and a metal grommet-like aperture reinforcing element retained in such enlargement to form an aperture of rigid form and size.

3,197,165
MOLDED ARTICLES AND METHODS OF MAKING SAME

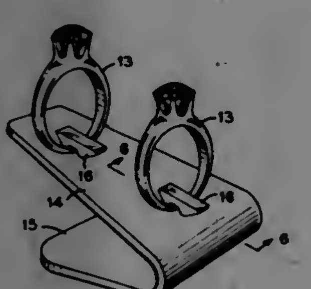
Jules C. Gits, 702 Kenilworth, Glen Ellyn, Ill.
Filed Nov. 22, 1961, Ser. No. 154,303
10 Claims. (Cl. 248—187)



1. In a chair which has a molded combined seat and back and wherein said seat has an under surface and has a plurality of bosses projecting downwardly from said under surface, said bosses being frusto-conical in configuration, four of said bosses being grouped to define a space, four more of said bosses being grouped to define a second space, four further bosses being grouped to define a third space, four additional bosses being grouped to define a fourth space, an inverted generally U-shaped member having the closed end thereof extending into the first said and said third spaces and having the arms thereof extending downwardly from said under surface of said seat to constitute two of the legs for said chair, a second inverted generally U-shaped member having the closed end thereof extending into said second and said fourth spaces and having the arms thereof extending downwardly from said under surface of said seat to constitute the other two legs for said chair, said closed ends of said inverted generally U-shaped members crossing each other, a fastener extending through the crossed portions of said closed ends of said inverted generally U-shaped members to fixedly secure said closed ends of said inverted generally U-shaped members together, webs that extend between adjacent bosses and that are parallel to said closed ends of said inverted generally U-shaped members, said webs stiffening and reinforcing said bosses, the bosses in each group of bosses having confronting faces that define planes which are spaced apart and which incline downwardly from said under surface of said seat and which incline away from each other to make said spaces defined by said groups of bosses have the shape of a parallelogram with frusto-conical forms at the four corners thereof, said inverted generally U-shaped members being tubular and having diameters which are larger than the innermost dimensions of said spaces but are smaller than the outermost dimensions of said spaces defined by said groups of bosses, whereby said closed ends of said inverted generally U-shaped members can coact with said confronting faces of said bosses to provide a wedging action for said closed ends of said inverted generally U-shaped members, and straps that extend transversely of, and in engagement with, said closed ends of said inverted generally U-shaped members and that have the ends thereof secured to said bosses, said straps bowing around said closed ends of said inverted generally U-shaped members to provide substantial areas of engagement between said straps and said closed ends of said inverted generally U-shaped members and to apply forces urging said closed ends of said inverted generally U-shaped members into wedged position within said spaces defined by said groups of bosses, said fastener coacting with said four bosses and said four further bosses to provide three-point support for the first said inverted generally U-shaped member, said fastener coacting with said four more bosses and said four additional bosses to provide three-point support for said second inverted generally U-shaped member.

3,197,166
JEWELRY DISPLAY APPARATUS HAVING MAGNETIC RETAINERS

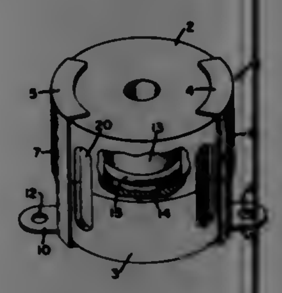
Henry R. Sandler, 202 Stewart Bldg., Houston, Tex.
Filed Apr. 27, 1964, Ser. No. 362,586
10 Claims. (Cl. 248—206)



1. An apparatus for supporting and displaying a ring or the like in a predetermined position enabling ease of attachment and detachment of the ring, the display of large portions of its surfaces, and flexibility in its positioning, said apparatus comprising:
(a) a base member having a composition which includes a magnetic material;

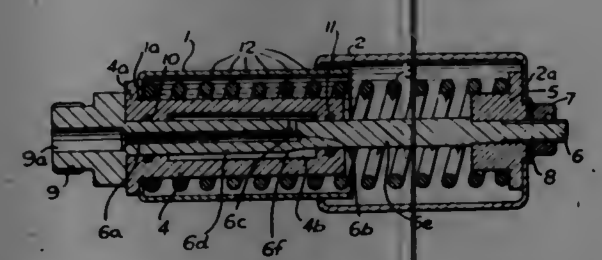
(b) a retainer member having a composition which also includes a magnetic material;
(c) means operatively associated with at least one of said members for supplying a magnetic field to magnetize said members and thus attract them to one another;
(d) said retainer member including means for engaging a lower portion of the ring to support said ring.

3,197,167
MOUNTING CLIP FOR POT CORE
Andrew C. Sturgis, Lynchburg, Va., assignor to General Electric Company, a corporation of New York
Filed Apr. 1, 1963, Ser. No. 269,584
3 Claims. (Cl. 248—314)



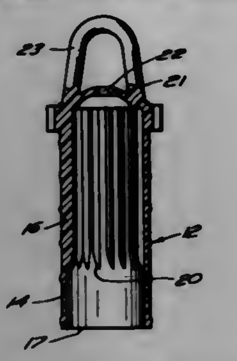
1. In a clip assembly for fixedly retaining two cylindrical cup-core halves in abutting relationship the combination comprising a deformable base having a substantially arcuate shape, a pair of resilient curved side members extending vertically from said base, said side members and said base defining a generally cylindrical space for receiving both of the cup-core halves in their entirety, coplanar flange members extending laterally from said side members, said flanges and said base cooperating to exert axial pressure on said cup-core halves to retain them in abutting relationship and to prevent relative rotation of the halves, the distance from the crown of said arcuate base in the undeformed state to said flange designed to be less than the height of the two cup-core halves whereby said flange members extend completely over said cup-core halves to exert pressure on the cup-core halves only when said base is deformed.

3,197,168
HYDRAULIC ROOF SUPPORTS
Frank Cowlishaw, Linby, England, assignor to W. E. & F. Dobson Limited
Filed Mar. 19, 1963, Ser. No. 266,280
Claims priority, application Great Britain, Mar. 24, 1962, 11,333
11 Claims. (Cl. 248—354)



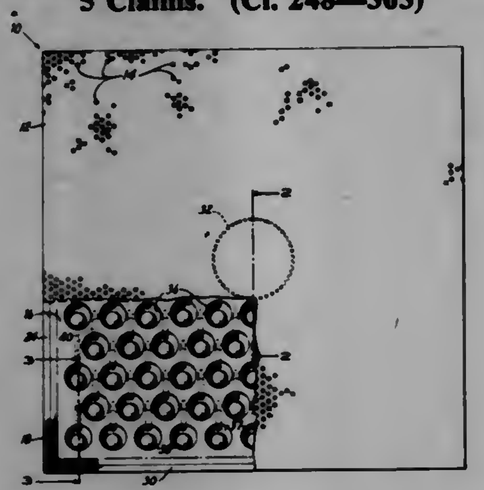
1. Fluid pressure responsive means comprising, in combination, a fluid inlet member having a passageway therethrough for the fluid, a chamber-forming member in communication with said fluid inlet member, and means adapting said fluid inlet and chamber-forming members to provide opposed walls of different cross sectional areas, between which the fluid is directed from said passageway, to cause relatively variable movements between said fluid inlet and chamber-forming members according to variable pressures of the fluid.

3,197,169
BROOM HANGER AND GUARD
Allen Burrows, 38 James St., Providence, R.I.
Filed Oct. 9, 1963, Ser. No. 314,995
1 Claim. (Cl. 248—359)



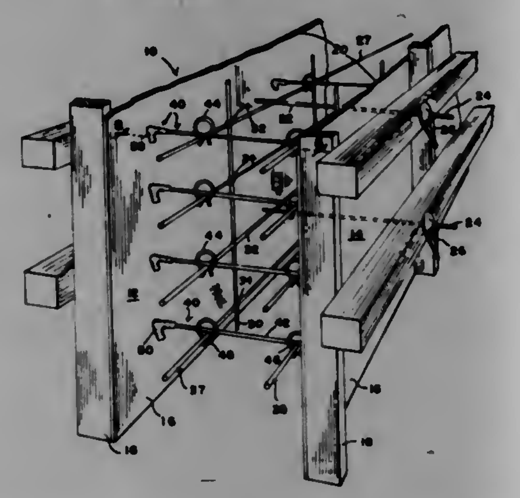
A broom handle attachment comprising an elongated sleeve of elastomeric material having an open bottom the internal diameter of said sleeve being loosely equal to the diameter of a conventional broom handle, an integral top closure on said sleeve having a central opening, an integral loop extending upwardly from the top edge of said sleeve for hanging said attachment and broom, and a plurality of spaced integral ribs extending vertically on the inside surface of said sleeve from the upper end to a point spaced from the bottom edge, said ribs having tapered bottom ends for leading onto the end of a broom handle, said ribs having a triangular cross-section with the apices extending toward the center to form a restricted diameter smaller than the diameter of a broom handle, one side of each of said ribs being flat and in alignment with a radius of said attachment whereby said ribs will bend laterally to increase the diameter of the opening when said attachment is pushed over a broom handle with a twisting action, said ribs bearing resiliently against said broom handle to frictionally retain said broom handle in said attachment.

3,197,170
VACUUM FILM SUPPORT
Norman C. Schutt and Floyd W. Flynn, Glen Cove, N.Y., assignors to Powers Chemco, Inc., Glen Cove, N.Y., a corporation of New York
Filed Apr. 10, 1963, Ser. No. 272,148
5 Claims. (Cl. 248—363)



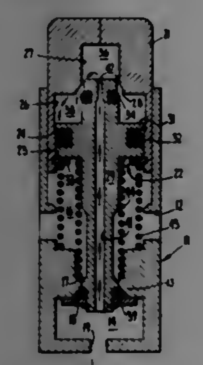
1. In a photomechanical camera, the combination of a support for a sheet of photosensitive material, means mounting said support for movement to and from a generally horizontal sheet-loading position to a generally vertical sheet-exposure position, said support including a foraminous flat face plate against which a sheet to be exposed is positioned, a plurality of valve seats, each individually communicating with a group of openings in said face plate, a suction manifold chamber, means selectively connecting said chamber to a source of suction, an individual passageway for each valve seat forming a restricted communication between said chamber and valve seat, and its associated opening to retain said sheet in contact with said face plate by suction applied to said openings, each of said passageways being constructed and arranged at an acute angle to the plane of said face plate, a ball valve member freely disposed in each of said seats for controlling the flow of suction through its associated passageway, said ball valve member being of a diameter and said acute angle being of such size that the ball valve member in its equilibrium position, in the absence of applied suction, will not block its associated passageway when the support is disposed in any disposition from said horizontal loading position to said vertical exposure position, said ball valve member being adapted to move into closed valving engagement with its related passageway when, upon application of suction to said chamber, its related openings are unrestricted by a sheet of material thereagainst.

3,197,171
COMBINED CONCRETE WALL FORM SPREADERS AND REINFORCING ROD SPACER DEVICES
Hillard Michalak, Cary, Ill., assignor to Superior Concrete Accessories, Inc., Franklin Park, Ill., a corporation of Delaware
Filed Dec. 26, 1963, Ser. No. 333,581
5 Claims. (Cl. 249—40)



2. In a concrete wall form installation, the combination with a pair of spaced parallel vertically disposed form sides presenting opposed planar panel facings between which wet concrete is adapted to be poured for wall-forming purposes, and a pair of reinforcing rod frames positioned within the confines of the form installation in spaced parallel relationship, each reinforcing rod frame being spaced from an adjacent panel facing by a predetermined fixed distance and including vertical and horizontal frame rods, of a combined form spreader and reinforcing rod spacer device for preventing inward movement of the form sides and for maintaining the frames accurately spaced from the adjacent panel facings, said device comprising an elongated member formed of rod stock disposed within the confines of the form installation, extending transversely and horizontally thereacross, spanning the distance between the opposed panel facings, having its opposite ends effectively bearing against the inside surfaces of said panel facings respectively, and having its medial region extending across and contacting corresponding horizontal frame rods of the two reinforcing rod frames, elastomeric tips completely covering the end regions of said elongated member and bearing against the inside surfaces of the panel facings and serving the place the length of rod stock under compression, and a pair of spring clips fixedly secured to said member at its region of contact with the horizontal frame rods and serving releasably to maintain the member in contact with said horizontal frame rods, each of said said spring clips being in the form of a short length of resilient steel rod stock bent to U-shape configuration and presenting converging side legs and a connection bight portion, one of said side legs being welded to the straight length of rod stock and the other side leg being free for movement toward and away from said one side leg under the yielding influence of flexing of said bight portion, said side legs crossing said straight length of rod stock at spaced points and the distal end regions thereof, in combination with the intervening portion of the rod stock between said spaced points, defining a snap-in pocket for releasably confining said adjacent horizontal reinforcing rod.

3,197,172
BUTTON BLEEDER VALVE
Karl A. Brandenberg, San Leandro, and Loren R. Bart, Hayward, Calif., assignors to Modernair Corporation, San Leandro, Calif., a corporation of Ohio
Filed May 2, 1962, Ser. No. 191,902
6 Claims. (Cl. 251—23)

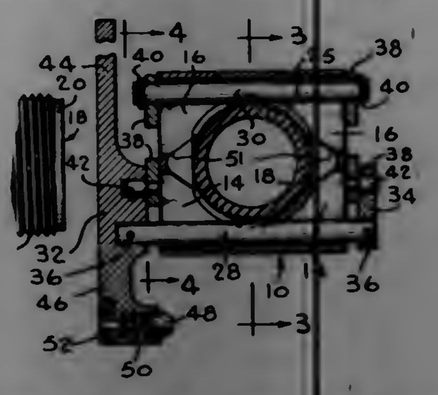


6. A button bleeder valve comprising a hollow body, a button slidably disposed within a first end of said body, said button having a recess in its inner end, means normally urging said button to an extended position from said first end, means defining an inlet chamber in a second end of said body adapted for connection to a pressurized air source, means defining an exhaust chamber in said body intermediate said first and second ends and in coaxial communication with said inlet chamber through a passage including a valve seat, said exhaust chamber being ported to atmosphere, a plunger slidably disposed within said recess of said button and defining a sensing chamber therewith, said plunger projecting from said recess coaxially through said exhaust chamber and passage into said inlet chamber, passage means extending from said inlet chamber to said sensing chamber including a passage in said plunger, seal means carried by said plunger for engaging said seat and blocking communication between said inlet and exhaust chambers in a first position of movement of said plunger towards said button and disengaged from said seat and establishing communication between said inlet and exhaust chambers in a second position of movement of said plunger towards said inlet chamber, means normally urging said plunger to said first position, and means blocking communication through said passage means and establishing communication between said sensing and exhaust chambers when said button is depressed and said plunger is returned to said first position.

3,197,173
PINCH VALVE
Roy A. Taubenheim, Milwaukee, Wis., assignor, by mesne assignments, to John H. Van Dyke, Milwaukee, Wis.
Filed July 12, 1960, Ser. No. 42,399
7 Claims. (Cl. 251—6)

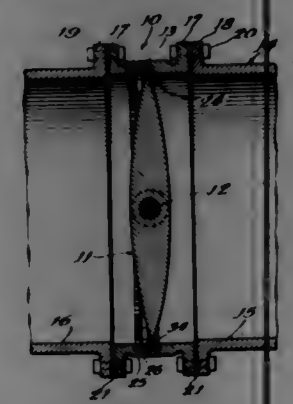
1. A valve to regulate the flow of fluid through a tube comprising, a cylindrical housing including a pair of slots lying in a plane transverse to the axis of the housing, a flexible liner positioned within the housing, a pair of rollers positioned in the slots on opposite sides of the liner, said rollers being movable in the slots from an outer to an inner position, a handle rigidly secured to one of the

rollers, and a link secured to the other roller and pivoted on the handle, the pivot on the handle lying between the rollers on a line connecting the axes of the rollers when the rollers are in the outer position, and said pivot lying on an extension of the line connecting the axes of the rollers when the rollers are moved to the inner position compressing the lining therebetween.



3,197,174
RESILIENT ADJUSTABLE VALVE SEAT FOR BUTTERFLY VALVES

Henry R. Killian, Chicago, Ill., assignor to Henry Pratt Company, a corporation of Illinois
Filed Dec. 4, 1961, Ser. No. 156,717
8 Claims. (Cl. 251—307)

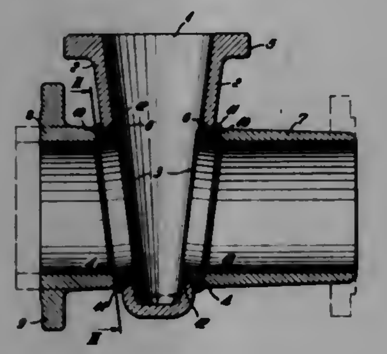


1. A butterfly valve comprising a body having a groove therein, a valve seat disposed in said groove, a valve disc pivotally mounted in said body, said seat including a ring being entirely of rubber-like material and having an outer portion of relatively hard material and an inner portion of relatively soft material, said outer portion being shaped to be disposed in said groove and said inner portion being carried by said outer portion to have sealing engagement with said valve disc having a periphery selectively engaged therewith, said soft material being indented by the valve disc for sealing purposes in the closed position of said disc while being held in position by said hard material, and adjustable means for retaining the ring in said groove including a member carried by the valve body and engaging the hard portion of said ring member.

3,197,175
SLUICE VALVE HOUSING CONSISTING OF SEVERAL SHAPED PARTS WELDED TOGETHER

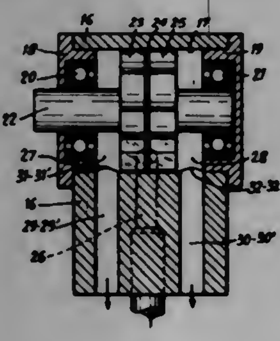
Walter Siepmann, Belecke (Mohne), Germany, assignor to Stahl-Armaturen Siepmann G.m.b.H., KG, Belecke (Mohne), Germany
Filed Mar. 29, 1963, Ser. No. 269,080
Claims priority, application Germany, Apr. 4, 1962, St 19,048
6 Claims. (Cl. 251—328)

1. A sluice valve housing comprising, in combination, a cup-shaped central housing part having substantially flat opposite side walls inclined at an acute angle with respect to each other, each of said side walls having an opening therethrough defining an annular surface having an axis normal to the plane of the respective side wall; a slide guide ring coaxially arranged in each of said openings and having a peripheral surface in tight engagement with said annular surface of the opening in the respective side walls, each of said slide guide rings having parallel end faces, the inner end faces of the rings in the openings in the opposite side walls being located inwardly of the inner surfaces of said side walls and forming a valve seat; a tubular connecting member at each opening and forming a continuation of the responsive slide guide ring, said tubular connecting member having an annular end face facing an annular outer surface portion about the opening in the respective side wall and forming therewith an annular groove of substantially V-shaped cross section extending at least up to the opening in the respective side wall and substantially parallel to the plane thereof; and welding material filling said groove and forming a substantially V-shaped weld seam connecting said tubular connecting member to the respective side wall, each weld seam having a smooth annular face in sealing engagement with a corresponding annular face portion of the respective slide guide ring.



3,197,176
HIGH SPEED AIR TURBINES

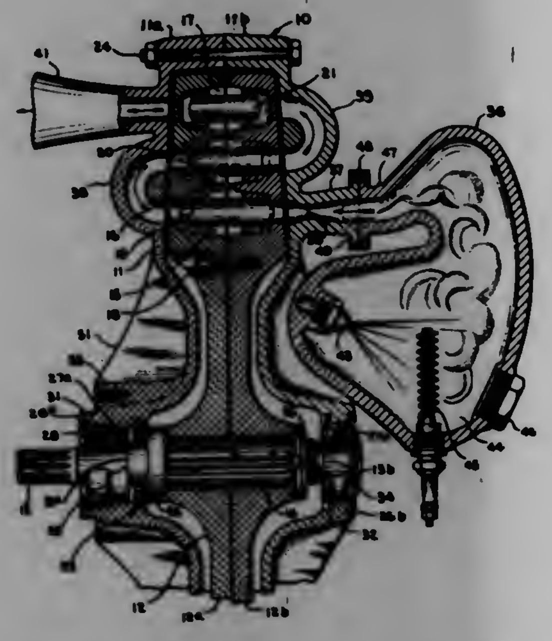
André Lucien Laurent Brunel, 182 Rue de Rivoli, and Robert Maurice Mercier, 172 Blvd. du Montparnasse, both of Paris, France
Filed Jan. 21, 1963, Ser. No. 252,691
Claims priority, application France, Jan. 29, 1962, 886,220, Patent 1,320,802
2 Claims. (Cl. 253—2)



1. A substantially silent high speed turbine comprising a stator having a smooth axially extending cylindrical bore of uniform diameter and including removable terminal walls closing transversely the opposite ends of said axially extending cylindrical bore, a shaft coaxially revolvably carried in the cylindrical bore of the stator, a rotor having peripherally offset blades on opposite axial ends of the rotor and rigid with said shaft, the opposite ends of said rotor terminating a distance axially spaced from said terminal walls of said cylindrical bore to define an empty annular end chamber between each end of the rotor and the adjacent terminal wall, aperture means in the peripheral wall of said cylindrical bore for introducing a jet of compressed fluid into the cylindrical bore in a plane perpendicular to the axis of said bore into the rotor blades and into each of said end chambers, and means only in the peripheral walls of said cylindrical bore and chambers communicating with each of said end chambers and having a cross-sectional area substantially greater than the cross-sectional area of said aperture means whereby fluid received in said end chambers from said blades is discharged without howl.

3,197,177
INEXPENSIVE MULTIPLE RE-ENTRY TURBINE

Clarence E. Middlebrooks, Jr., 3807 Venice Drive, Orlando, Fla.
Filed June 9, 1961, Ser. No. 115,992
6 Claims. (Cl. 253—71)

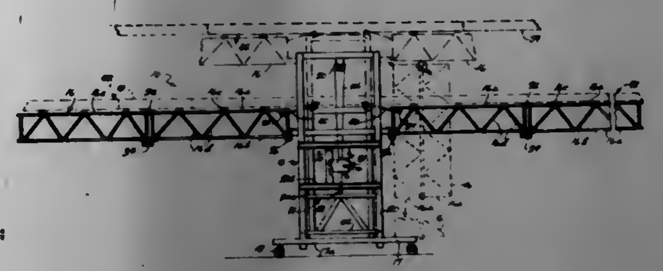


1. A turbine arrangement comprising a housing, a turbine wheel rotatably disposed in said housing, said wheel being constructed in two halves capable of being secured together to form the turbine wheel, the inner part of each wheel half having a plurality of radially-spaced circumferentially-extending recesses each containing a number of circumferentially-spaced bucket-supporting means, the spacing of said bucket-supporting means being substantially identical so that when said wheel halves are secured together so that said recesses form cavities, said bucket-supporting means will be substantially aligned, buckets in the form of one-piece hollow curved tubes through which gas may flow, being disposed in said cavities between respective pairs of bucket-supporting means, said tubes being related to the size of their respective cavities such that each tube is restrained by the outermost wall of its cavity against undesired outward movement resulting from the centrifugal force developed during high-speed rotation, and injection means in said housing for injecting high-energy gas to impinge upon said buckets, thereby to propulsively drive said wheel in rotation, said cavities being substantially filled with metallic fluid, said fluid serving to provide additional support for said buckets at high rotative speeds of said wheel thus enabling said buckets to resist radial displacement of said buckets.

3,197,178
APPARATUS FOR INSTALLING CONTINUOUS ROWS OF FLUORESCENT LIGHTING FIXTURES

Donald H. Nietz, 30 7th Ave. NE., Rochester, Minn.
Filed Jan. 8, 1964, Ser. No. 336,491
7 Claims. (Cl. 254—4)

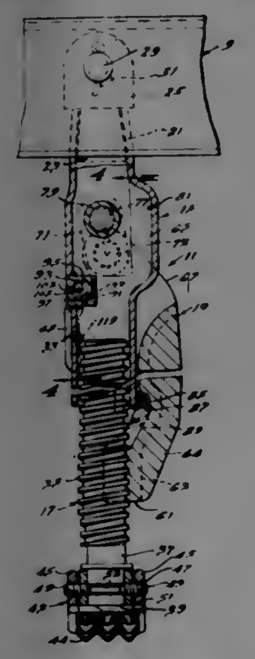
1. In a light fixture installing apparatus the combination including, a portable elevator platform, a fixture support wing hinged to and moveably mounted on said platform and means cooperating with said platform and said wing for causing movement of said wing between a first position in which a fixture is received on said wing



and a second position in which said wing and said fixture are moved to a fixture installing position, and means for retaining said wing in said positions.

3,197,179
COLLAPSIBLE JACK

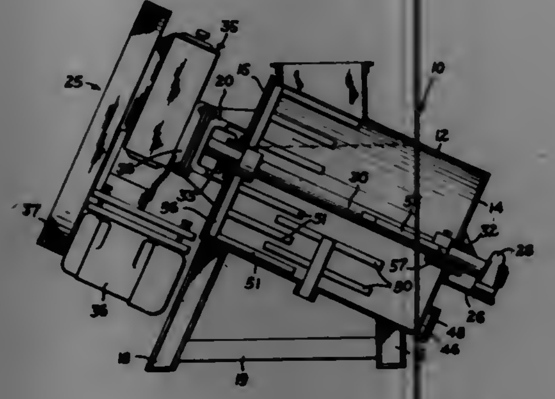
Lyle L. Arnes and Charles L. Buhro, Racine, Wis., assignors to Walker Manufacturing Company, Racine, Wis., a corporation of Delaware
Filed May 15, 1962, Ser. No. 194,883
11 Claims. (Cl. 254—101)



1. In a collapsible jack, an upper member, a lower screw shaft movable lengthwise relative to the upper member during jacking movement and during collapsing movement, a coupling member connecting said upper member to said screw shaft and having a half nut portion threadably engageable with the screw shaft to prevent collapse of said jack, a link connected to the coupling member and to the upper member and pivotally connecting the coupling member to the upper member and providing for movement of said coupling member relative to said upper member during collapsing movement, said link being connected to said members on axes transverse to the length of the upper member and screw shaft and pivotally connected therebetween, means selectively operable to prevent movement of said coupling member and collapsing movement of said jack and being operable so that a load on the jack renders it movable and causes movement of the coupling member with the motion of the coupling member having components parallel to and transverse to the length of the upper member and screw shaft, and cam means on said members operating between the upper member and coupling member upon relative movement between the coupling member and upper member in an axial direction and acting to move said coupling member on said link in said transverse direction to disconnect the half nut from the threads of the screw shaft.

3,197,180
MIXING DEVICE

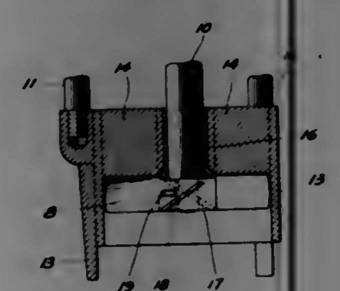
Robert L. Bates, Dayton, Ohio, assignor to Chemineer, Inc., Dayton, Ohio, a corporation of Ohio
Filed Oct. 11, 1963, Ser. No. 315,528
4 Claims. (Cl. 259—7)



1. A paste mixer of the type described comprising means defining a fluid tight generally cylindrical container, a plurality of spaced stationary baffies mounted in said container in parallel relation to the cylindrical wall thereof, a plurality of movable baffles mounted in parallel relation to the cylindrical wall of said container for non-interfering movement between said stationary baffles, means cooperating with said container and driving said movable baffles, said container including means defining a hopper for introduction of material to be mixed into said container, discharge means in said container disposed generally diagonally with respect to said hopper means for removal of the material being mixed within said container, means supporting said container at an angle of between about 20° to 40° from the horizontal, and said stationary baffles cooperating with said movable baffles to produce shear with respect to the material being mixed.

3,197,181
BLENDER

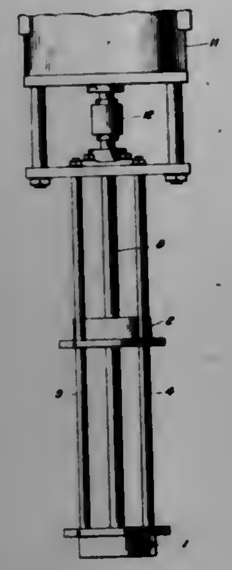
Edward F. Hill, 97 Winthrop Road, Hillsdale, N.J.
Filed Nov. 15, 1960, Ser. No. 69,417
5 Claims. (Cl. 259—95)



1. A device for mixing a viscous liquid comprising a chamber divided transversely into upper and lower portions, the upper portions constituting a stator and comprising a plurality of radial vanes having open spaces therebetween, said lower portion housing a propeller means and said lower portion being otherwise unobstructed, said propeller means comprising a plurality of blades and an upwardly extending drive shaft mounting said blades on its lower end for rotation therewith, said blades extending parallel to the lower surface of said stator and closely contiguous thereto throughout the entire extent of the upper edge of said blades, whereby the liquid is sheared and forced through said stator to homogenize the same.

3,197,182
DUAL HOMOGENIZER

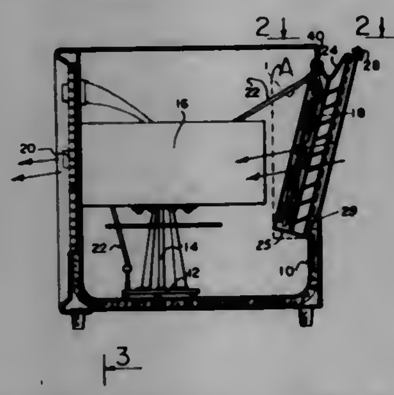
Edward F. Hill, 97 Winthrop Road, Hillsdale, N.J.
Filed Dec. 16, 1963, Ser. No. 330,902
1 Claim. (Cl. 259—135)



A mixing device comprising first and second mixing heads, each of said mixing heads comprising a first tubular member, a second tubular member within and coaxial with said first tubular member, said second tubular member extending from one end partially within said first tubular member, a plurality of radial vanes extending between said first and second tubular members dividing the space between the first and second tubular members into a plurality of channels, said first and second tubular members and said radial vanes constituting a stator portion for each mixing head and dividing each of said mixing heads transversely into two sections, a propeller in the other section of each of said heads, said propeller comprising a plurality of blades extending substantially parallel to the adjoining surface of said stator and being spaced therefrom by a distance of about 0.005 inch throughout the entire surface thereof, the blades of each of said propellers forming an angle with an axis perpendicular to its axis of rotation which is less than about 30°, said other section being otherwise completely unobstructed, support means for positioning both of said mixing heads in spaced relationship with their stator portions opposing one another, and means for driving said propellers simultaneously whereby the portion of the mixture moving from one of said mixing heads to the other of said mixing heads is reversed in the direction of its movement by the latter mixing head.

3,197,183
EVAPORATIVE COOLER CONSTRUCTION

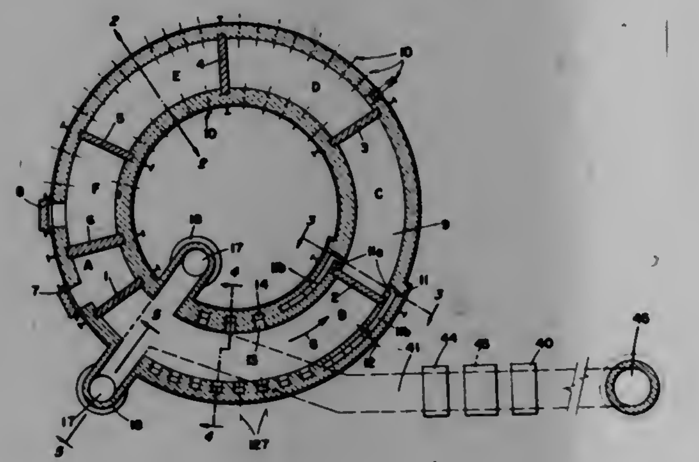
Robert L. Koble, Jr., Phoenix, Ariz., assignor to McGraw-Edison Company, Milwaukee, Wis., a corporation of Delaware
Filed Aug. 11, 1960, Ser. No. 48,887
4 Claims. (Cl. 261—36)



1. In a portable evaporative cooler the combination of: a housing having a water sump therein; an evaporative cooler pad and trough assembly pivotally mounted in one side of said housing, said assembly pivoted at a location near a lower portion and outer side thereof; a lower portion of said pad and trough assembly; a portion of said housing above said sump including means to tiltably and pivotally support said lower portion of said pad and trough assembly, said assembly having a trough at the top portion of said pad, said trough open at its upper portion and having water outlet openings in the lower portion thereof; and a lower portion of said assembly disposed inwardly of said housing above said sump when said upper portion is pivoted outwardly relative to a side of said housing whereby water may be poured into said trough to supply said sump; said assembly including means disposed to conduct water from said trough to said sump.

3,197,184
APPARATUS FOR HEATING METALS TO HIGH TEMPERATURES

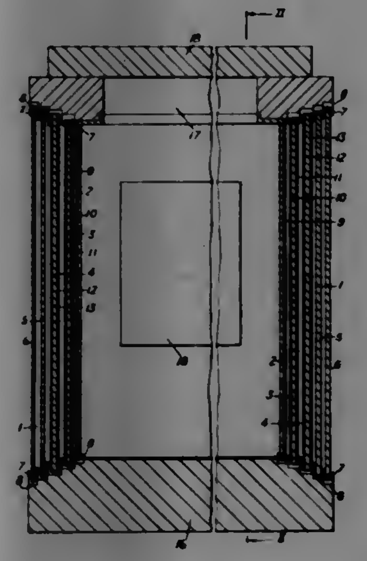
Emile Navez and Camille Demoulin, Paris, France, assignors to Stein & Roubaix, Paris, France, a company of France
Filed July 25, 1962, Ser. No. 212,279
Claims priority, application France, Nov. 13, 1961, 878,707
6 Claims. (Cl. 263—7)



1. A continuously operating furnace installation for heating metallic work on a hearth to high temperatures without oxidation of the work, comprising:
- a hearth;
- a first heating zone having
  - an outlet opening for the discharge of work, and
  - burner means directed toward the work;
- means providing said burner means with
  - preheated rich gaseous fuel and preheated primary air in such ratio as to produce incomplete combustion products establishing a reducing atmosphere in the first heating zone;
- at least one other heating zone separated from the first heating zone by barrier means located at such a distance above the hearth as to allow the passage of work and of part of said incomplete combustion products, said other heating zone being provided with
  - inlet means for the admission of work,
    - afterburner means in the atmosphere thereof;
- means for feeding some of said incomplete combustion products to said afterburner means;
- means for providing said afterburner means with preheated secondary air in such ratio with the incomplete combustion products supplied thereto as to produce partial afterburning of said incomplete combustion products, giving thereby reducing smoke in said other heating zone;
- flue means leading from the other zone providing a draught of the incomplete combustion products from the first-named heating zone through the other heating zone and out of said other heating zone,
- the first zone and said other heating zone thereby providing counter-current heating of the work without oxidation thereof; and outside the furnace proper
- a tertiary afterburning chamber connected to said flue means and provided with teritary afterburner means;
- means for providing said tertiary afterburner means with teritary preheated air in such a ratio as to cause a complete combustion of said reducing smoke into burnt smoke;
- conduit means connecting said tertiary afterburning chamber to a chimney;
- means for delivering cold diluting air into said conduit means;
- a gas recuperator mounted on said conduit means in heat-exchange relationship with said burnt smoke for preheating said gaseous fuel;
- and at least one air recuperator arranged on said conduit means in heat-exchange relationship with said burnt smoke for preheating said primary combustion air and said secondary and teritary afterburning air.

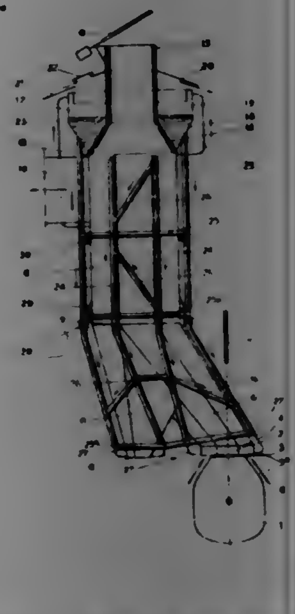
3,197,185
FURNACE AND FURNACE WALL

John Reginald Beattie, Maghull, near Liverpool, England, assignor to Pilkington Brothers Limited, Liverpool, England, a corporation of Great Britain
Filed Apr. 30, 1963, Ser. No. 276,833
Claims priority, application Great Britain, May 3, 1962, 17,082/62
6 Claims. (Cl. 263—40)



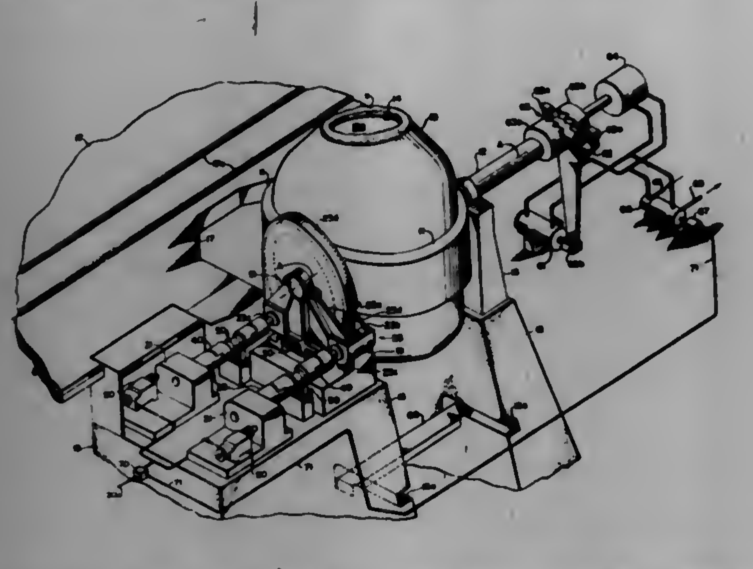
1. A heat treatment furnace having a low thermal capacity and high speed of response to local applications of heat and exhibiting good thermal insulation at temperatures in the range of 800° to 1000° C., the furnace comprising side furnace walls defining a furnace interior, heating devices capable of heating said furnace to said temperature range and of maintaining said furnace at said temperature range and so positioned within the furnace interior as to direct radiant heat to the interior of said furnace, each of said furnace walls consisting of a plurality of spaced metal partitions forming a cavity wall structure, at least one of the spaced partitions having a coating of refractory material forming a reflecting surface, said refractory material being such, that in the temsurface reflectivity greater than its surface absorptivity at perature range of 800° C. to 1000° C., said material has a surface reflectivity greater than its surface absorptivity at a substantial proportion of wavelengths between 1 and 6 microns for inhibiting the transmission of heat through the cavity wall structure from the interior of the furnace.

3,197,186
DUST-COLLECTING HOPPER AND COOLING HOOD FOR CONVERTERS
René Francis Mirigay, Ville d'Avray, France, assignor to Stein & Roubaix, Société Anonyme, Paris, France, a company of France
Filed Apr. 3, 1962, Ser. No. 184,844
Claims priority, application France, Apr. 11, 1961, 858,465
2 Claims. (Cl. 266—15)



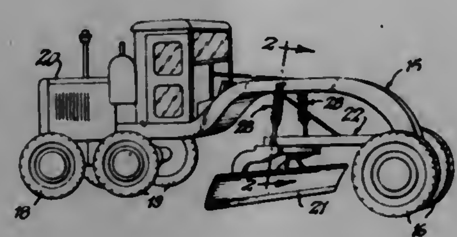
1. A hood for cooling waste gases from a converter, comprising an inclined spout portion of generally frusto-pyramidal shape; a substantially vertical chimney portion of polygonal cross-section surmounting said inclined spout portion; a polyhedron-shaped hopper portion for collecting dust carried by said waste gases and disposed beneath and substantially aligned with said chimney portion, said portions being formed from flat panels constituted by double walls through which cooling water may be circulated; an emergency chimney mounted atop said chimney portion and having a lined, uncooled wall; a clapper portion in said emergency chimney normally closing the same against passage of said waste gases therethrough; a shell surrounding said emergency chimney spaced therefrom and forming with the wall thereof a tank of substantially toroidal shape; a plurality of downwardly extending pipes for conveying water from said tank toward the lower part of said hood, connecting means for placing said pipes in communication with the space comprised between the double walls of said panels, cross-bracing first tubes interconnecting said pipes, and second tubes extending transversely of said pipes and interconnecting the same in such manner that said pipes form in conjunction with said cross-bracing first tubes and said second tubes the supporting structure for said hood.

3,197,187
CONVERTER TILTING DRIVE AND TORQUE ASSIST
Ira W. Lakin, Volant, and Richard P. Krause, Butler, Pa., assignors to Pennsylvania Engineering Corporation, New Castle, Pa., a corporation of Pennsylvania
Filed Nov. 7, 1962, Ser. No. 235,964
16 Claims. (Cl. 266—36)



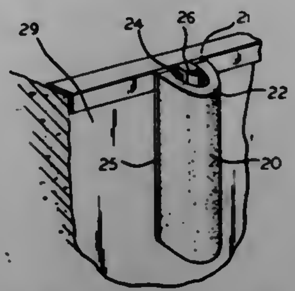
15. In a metal refining apparatus employing a furnace vessel that has a pair of trunnion shafts turnably mounting it on stands and that has a lip portion that accumulates skull, and wherein a deskulling tool is positioned for engaging the skull during a portion of the movement of the vessel, an improved vessel tilting mechanism comprising, main driving motor means providing a source of rotative power, means for operatively connecting said main drive motor means with one of the trunnion shafts for transmitting rotative power to the vessel for a major portion of its turnable operation, torque assist means for connection with the other trunnion shaft for turning the lip portion of the vessel past the tool, means for moving said torque assist means into and out of operative connection with the other trunnion shaft, and torque responsive means co-operating with said torque assist means and said means for moving said torque assist means to turn the other trunnion shaft and the lip portion past the tool for effecting a deskulling operation.

3,197,188
HOLDDOWN SHOCK ABSORBERS FOR THE MOLD BOARD OF AN EARTH GRADER
Burdette E. Moore, Williamsville, N.Y., assignor to Shocks, Incorporated, Buffalo, N.Y., a corporation of New York
Filed Aug. 2, 1963, Ser. No. 299,548
2 Claims. (Cl. 267—1)



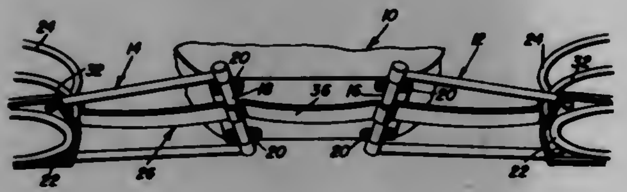
1. A holddown shock absorber for use between the mold board supporting arm structure and chassis structure of a grader, comprising a tube open at one end, means movably connecting the opposite end of said tube to one of said structures, said opposite end of said tube being externally threaded, a rod having one end slidingly fitted in said tube, means movably connecting the opposite end of said rod with the other of said structures, said tube being provided with slots in its opposite side walls in diametral register with each other and of substantially the same effective length, said rod being provided with a series of transverse through bores spaced longitudinally along said, rod and arranged to register selectively with said slots, a pin inserted through said slots and the through bore registering therewith with its ends protruding beyond said slots, a ring surrounding said tube between its threaded end and said pin and seated against the protruding ends of said pin, a helical compression spring coaxially surrounding said rod and tube having one end compressively seated against said ring, and a nut screwed on the threads of said tube and against which the other end of said helical compression spring is compressively seated whereby adjustment of said nut adjusts the preload of said helical compression spring.

3,197,189
DOCK FENDERS
Stephan J. Pemper, West Allis, and James J. Pemper, Milwaukee, Wis. (both of 1638 W. Pierce St., Milwaukee, Wis.)
Filed Oct. 15, 1963, Ser. No. 316,319
6 Claims. (Cl. 267—1)



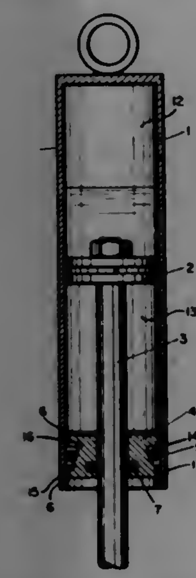
2. A fender for docks and the like including a generally elongated support, said support including a base plate, means formed and adapted for fastening said base plate to a further support positioned laterally to one side of said base plate, clamping means fixed to the other side of said base plate, said other side being flat, and an elongated, hollow, bumper element of resilient material having one side wall presenting a flat surface in abutting contact with said other side of said base plate, said element having an outwardly extended curvilinear wall joined to the opposite sides of said first named wall and being integral therewith, said curvilinear wall being tapered when viewed in cross section so that the width of said element, taken parallel with said flat surface, diminishes from said flat surface to said outer portion of said curvilinear wall, said clamping means including portions integrally connected thereto and extended outwardly from said other side of said base plate adjacent the opposite ends thereof and overlying opposite edges of said one side wall so as to confine said one side wall therebetween, said clamping means including means extending within the hollow interior of said element from said first named portions and positioned against the surface of said side wall opposite to said flat surface to thereby confine said bumper element between said other side of said base plate and said means.

3,197,190
VEHICLE COIL SPRING STIFFENER
Richard T. Miyashiro, 613 S. Queen St., Honolulu, Hawaii
Filed Apr. 30, 1964, Ser. No. 366,683
6 Claims. (Cl. 267—11)



1. A vehicle coil spring stiffener for boosting the coil springs of a vehicle having a pair of spaced wheel assemblies individually sprung by means of a pair of coil springs and including a frame portion disposed between said coil springs, said coil spring stiffener including elongated leaf spring means having opposite end portions each adapted to engage a convolution of the corresponding one of said springs and a generally horizontally disposed portion intermediate the opposite end portions adapted to bear against said frame portion, and defining a pair of upwardly opening channels extending transversely of said leaf spring means adapted to snugly and embracingly receive the inner pivot shafts of A-frames with which said springs are operatively associated and which extend beneath portions of said frame portion.

3,197,191
PRESSURE APPARATUS AND MEANS FOR CHARGING THE SAME WITH A PRESSURE FLUID
Ludwig Axthammer, Schweinfurt (Main), Germany, assignor to Fichtel & Sachs Aktiengesellschaft, Schweinfurt (Main), Germany
Filed Nov. 2, 1962, Ser. No. 234,920
Claims priority, application Germany, Nov. 29, 1961, F 35,427
5 Claims. (Cl. 267—64)

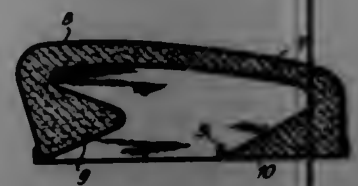


1. Apparatus comprising a cylinder defining an enclosure with an opening to ambient atmosphere, a piston in said cylinder dividing said enclosure into two chambers one of which is provided with said opening, the other of said chambers containing a fluid, a cylindrical closure in fixedly secured relation in said opening and substantially obturating said opening but defining with said cylinder a passage connecting said one chamber with ambient atmosphere, said closure being provided with an annular groove coaxial with said cylinder, said groove deepening towards the interior of the cylinder and having a shallow portion and a deep portion, and an elastic packing ring encircling said closure in said groove and having a diameter which is no greater than that of the closure at the deep portion of the groove, said groove having an axial extent greater than that of the ring to accommodate axial movement of the ring, said ring being displaceable from a first position at the shallow portion of the groove whereat said ring is sandwiched against said cylinder to seal said passage, to a second position at the deep portion of the groove whereat said ring is spaced from said cylinder and said passage is opened, said ring being displaceable from said first position to said second position by the directing of a pressure medium through said passage toward said enclosure and being displaceable by the pressure medium in the enclosure from the second position to the first position to seal the pressure medium in the enclosure.

3,197,192
UPHOLSTERING SPRING, ESPECIALLY FOR MOTOR VEHICLE SEATS AND BACKS
Herbert A. Burgert, Porza, Switzerland, assignor, by mesne assignments, to Unitechnic AG, Chur, Switzerland
Filed Dec. 21, 1961, Ser. No. 161,145
Claims proirity, application Germany, Dec. 23, 1960, J 19,211
5 Claims. (Cl. 267—107)

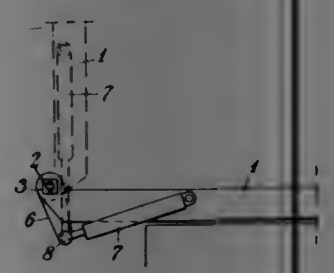
1. An upholstering spring system for a motor vehicle seat, which comprises: a frame, and a plurality of one-piece band-shaped and self-supporting individual spring elements each having a central portion with the major surface thereof shaped in conformity with the upholstering for which the spring system is intended, each of said

spring elements including a first leg connected to that end of said central portion which points toward the back portion of the upholstering for which the spring system is intended and merging with said central portion along a first radius, each of said spring elements also having a second leg connected to the other end of said central portion and merging therewith along a second radius considerably greater than said first radius, the free ends of both legs pointing toward each other and being located below and in spaced relationship to said central portion and being connected to said frame, said first leg extending substantially along a straight line from its merging area with said central portion directly downwardly to said frame while forming an acute angle therewith, the said first leg having such a length that the connection of its free end with the frame is located substantially below the central area of said central portion, whereby said first leg can flex downwardly substantially into the neighborhood of said frame.



3,197,193
HATCH COVER OPERATING MEANS

Arvid Viktor Rosendahl, Skanninge, Sweden, assignor to Konstruktioner & Experiment A.B., Skanninge, Sweden
Filed Aug. 15, 1962, Ser. No. 217,156
Claims priority, application Sweden, Aug. 21, 1961, 8,387/61
5 Claims. (Cl. 268—75)



1. Operating means for a movable cover member of a hatchway or the like in a deck of a ship, including: a spindle member mounted in non-rotatable and vertically slidable manner to one side of and beyond the area of said opening, said cover member being pivoted on said spindle for pivoting between a closed position in which it closes said opening and an open position in which it is tilted away from said opening; an arm member fixedly secured to said non-rotatable spindle member and extending at an angle to said closed position of said cover member; and an extensible member having a first end pivotally coupled to said arm member and having its other end pivotally coupled to said cover member at points spaced from said spindle whereby, upon extending said extensible member, said cover will be raised.

3,197,194
CLAMPING DEVICE FOR BROACHING MACHINE

George J. Novak, Riverside, Ill., assignor to Western Electric Company, Incorporated, New York, N.Y., a corporation of New York
Original application Feb. 26, 1960, Ser. No. 11,199, now Patent No. 3,083,843, dated Apr. 2, 1963. Divided and this application Oct. 24, 1962, Ser. No. 232,683
6 Claims. (Cl. 269—32)

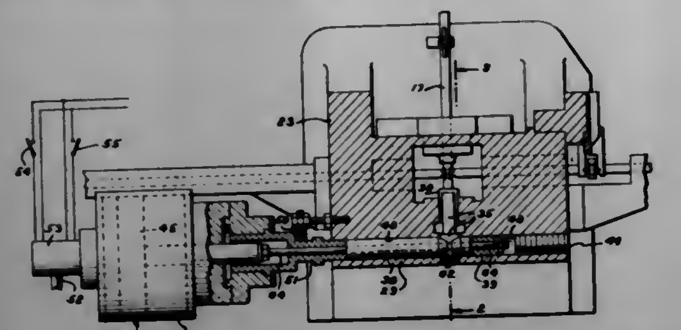
1. A clamping mechanism comprising:

mounting means for supporting an article;

clamping means supported on said mounting means for movement along a predetermined first path for effecting the clamping of the article;

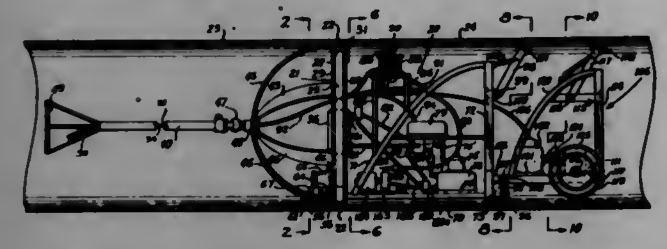
a pair of opposed actuating elements supported on said mounting means on opposite sides of said clamping means for movement relative to one another and to said clamping means along a second path transversely of the first path, said actuating elements having opposing beveled surfaces for imparting movement to said clamping means along said first path; and

means interconnecting said actuating elements and supported thereby for moving said elements toward each other and imparting movement to said clamping means.



3,197,195
INTERNAL EXPANDING LINE-UP PIPE CLAMP

John Scott Work and Ervan H. Work, both of 3404 E. 33rd St., Tulsa, Okla.
Filed May 25, 1961, Ser. No. 112,553
6 Claims. (Cl. 269—34)

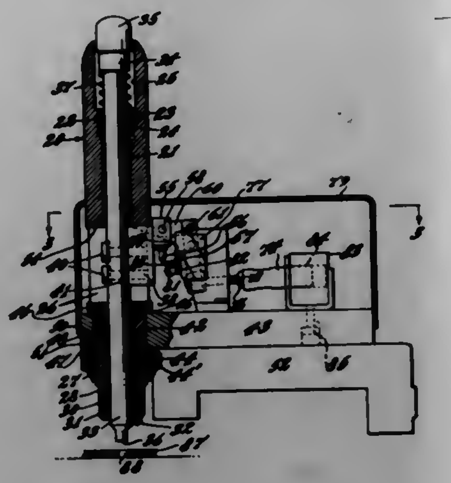


1. An internally expanding line-up clamping assembly for holding in alignment adjacent pipe sections to be welded together comprised by a first frame and a second frame detachably secured together for travel through the aligned pipe sections, arcuate pipe engaging elements mounted at the end of the first frame opposite the juncture with the second frame and radially movable into and out of engagement with the aligned pipe sections, a servocylinder mounted on the first frame and operatively connected to said arcuate pipe engaging elements for forcing same radially outwardly into and withdrawing same inwardly from engagement with the aligned pipe sections, and a fluid pressure system mounted on the first frame and connected to said servocylinder for operating the latter in its inward and outward movements, rollers at the front and rear ends of the first frame for facilitating the travel of the assembly through the aligned pipe sections, drive wheels on the end of the second frame opposite the juncture with the first frame, a motor mounted on the second frame and a transmission between the motor and the drive wheels.

3,197,196
STYLUS ASSEMBLY

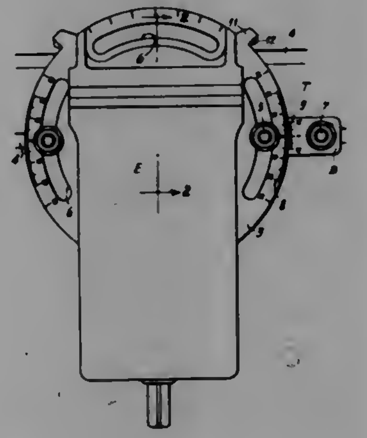
Lucius Earl Thomas, Norristown, and Walton Rainey, Ardmore, Pa., assignors, by mesne assignments, to The Warner & Swasey Company, Cleveland, Ohio, a corporation of Ohio
Filed Apr. 26, 1963, Ser. No. 275,868
7 Claims. (Cl. 269—74)

4. A stylus assembly comprising a stylus adapted to slide vertically within a stylus sleeve, means for biasing said stylus upward in said sleeve, an armature, a solenoid coil, linkage means for translating the armature within the solenoid coil, and electrical means including switch means adapted to be closed when the stylus is in a down position whereby current passes to the coil and energizes the coil whereby the armature is held within the coil and the stylus is held in a down position.



3,197,197
DEVICE FOR HOLDING WORKPIECES ON A MACHINE-TOOL TABLE

Henri Butin, 10 Blvd. Pierre Joannon, Izieux, Loire, France, and Roger Delesmontey, 25 Rue de l'Avenir, Geneva, Switzerland
Filed Dec. 11, 1961, Ser. No. 158,276
Claims priority, application Switzerland, Dec. 14, 1960, 13,988/60
3 Claims. (Cl. 269—81)

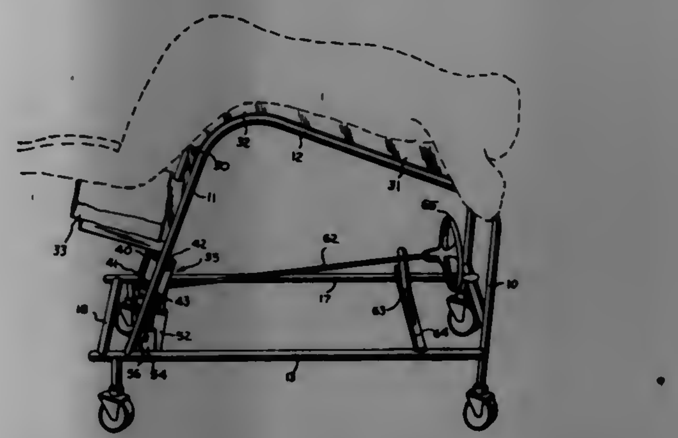


1. A clamping device for holding a workpiece on a machine-tool table which has at least one groove therein, said device comprising a horizontally pivoted vise having a base, pivot means rigid with said base and engaged within said groove for pivotably mounting said vise on the table, a removable element attached to the table, means carried by said base and cooperating with said removable element for adjusting the angular position of the vise in relation to said groove, and means for locking the vise upon said table in its adjusted position.

3,197,198
SURGICAL TABLE

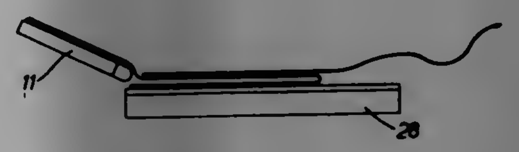
John S. Collis, Honolulu, Hawaii, assignor to John V. Levas, Lexington, Ky.
Filed Feb. 18, 1963, Ser. No. 259,169
7 Claims. (Cl. 269—322)

1. In a surgical table for use in treating the spinal column of a patient, a framework comprising a pair of side frame members, each member including a forward leg, a forwardly inclined rearward leg longer than said forward leg, an upper side rail joining the upper ends of said legs, and a lower side rail joining said legs adjacent the lower ends thereof, spacers attached to and extending between said side frame members for holding said members laterally spaced from each other and forming a reinforced rigid framework; a table top extending between and attached to said upper rails and providing a support for the prone body of a patient, said table top having a convex surface adjacent the junctions of said rearward legs and said upper rails for supporting the pelvic region of said patient in elevated position, an elevator including a platform for supporting the knees of the patient, carriage means attached to said platform and movable along said rearward legs of said framework, and means for actuating said carriage means and for effecting selective raising and lowering movements of said platform.



3,197,199
METHOD FOR INTERLOCKING AND OVERLAPPING LAUNDRY ARTICLES IN S-SHAPED FORM

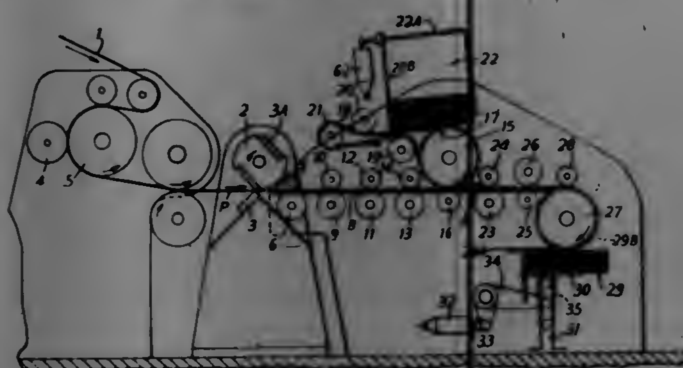
Henry John Weir, The Yetts, Sedbury, Chepstow, England
Filed Feb. 7, 1962, Ser. No. 172,067
Claims priority, application Great Britain, Feb. 10, 1961, 5,036/61
2 Claims. (Cl. 270—39)



1. A method of preparing and stacking work to be ironed using a relatively stationary stack board and a flap shiftably mounted adjacent said stack board for movement between a position where it overlies an edge area of said stack board and a released position where it does not overlie the stack board and forms an effective extension of said stack board, said method comprising the steps of laying part of a first article on the stack board while the flap is in its released position, operating the flap to its overlying position to clamp the adjacent edge of the article, straightening the remainder of the article by stretching, shifting the flap to said released position, folding the article back on itself so that the upper part of the article overlaps the lower part and extends over the released flap, laying part of a second article on the part of the first article remaining on the stack board and operating the flap to its overlying position to fold said extended part of the first article over into overlapping interlock with the laid part of the second article.

3,197,200
SHEET STACKING APPARATUS

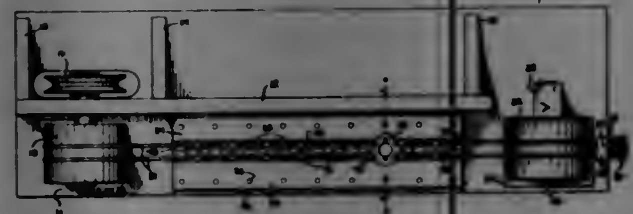
Graham Archie Bruce Byrt, Bristol, England, assignor to The Thrissell Engineering Company Limited, a British company
Filed Jan. 21, 1963, Ser. No. 252,810
Claims priority, application Great Britain, Jan. 26, 1962, 3,098
4 Claims. (Cl. 271—3)



1. In apparatus for stacking sheets of the kind comprising means for feeding sheets in succession along a path, a rotatable suction roller mounted adjacent said path and arranged to remove the sheets in succession therefrom, a source of suction for said roller, stripping means associated with the roller to remove each sheet therefrom and a stacker adapted to receive the stripped sheets and stack them, means for counting the sheets forming into a stack comprising a cam driven in synchronism with the suction roller, a ratchet wheel intermittently rotatable by said cam and a rotatable valve interposed between said source of suction and the roller and rotated by the ratchet wheel, whereby said ratchet wheel will close said valve after said roller has made a predetermined number of revolutions from the commencement of the stack in operation, shutting off said roller from said source of suction and preventing said roller from removing further sheets from said path.

3,197,201
CARD TRANSPORT SYSTEM

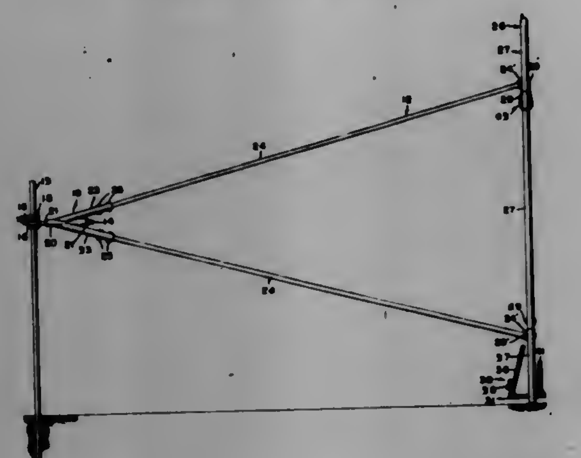
Donald E. Craig, Pinecastle, Fla., assignor to The Magnavox Company, Fort Wayne, Ind., a corporation of Delaware
Filed Nov. 7, 1960, Ser. No. 67,825
8 Claims. (Cl. 271—74)



1. A card transport system comprising: parallel movable belt strands driven between a pair of sheaves, said strands having cross sections with a small ratio of maximum to minimum dimension and said sheaves having grooves in their outside diameter; a driving means coupled to said sheaves; tracks disposed between said sheaves and having grooves therein to maintain the parallel relation of said strands in a plane on one side of the axes of said sheaves and said tracks being formed to provide an opening between said strands; idler rollers located in confining relation to said strands on another side of the axes of said sheaves; card guides disposed laterally from the track grooves for defining the path of cards conveyed by said strands; a series of retaining rollers having axes perpendicular to the direction of grooves in said tracks and spaced along said card guides, said rollers having their peripheries disposed in close proximity to said strands on a side of said strands opposite the grooves in said tracks; and a bed portion supporting said tracks and having a port therein coupled to said opening providing for communication of the region about said tracks between said strands with a source of vacuum to secure cards to said strands.

3,197,202
ROUNDABOUT AMUSEMENT DEVICE

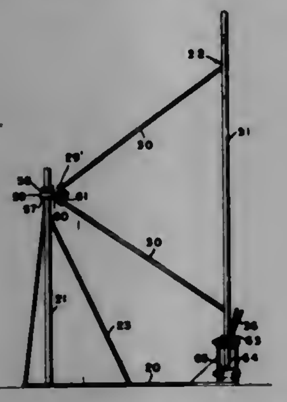
James E. Tieman, 548 S. Horne St., Mesa, Ariz.
Filed Nov. 21, 1962, Ser. No. 239,246
3 Claims. (Cl. 272—33)



1. A roundabout amusement device comprising a skeleton passenger-carrying body, including a hoop positioned to operate in a vertical plane, the outer periphery of the hoop being engageable with a supporting surface, foot and hand supporting means fixed to the inner periphery of said hoop, an anchoring element secured in spaced relation, to said hoop, swivel means engaged with said anchoring element and rotatable about the latter, a yoke pivotally engaged with said swivel means, and connecting members extending from said yoke engageable with said hoop, to permit a rolling movement of the hoop around said anchoring element.

3,197,203
ROUNDABOUT AMUSEMENT DEVICE

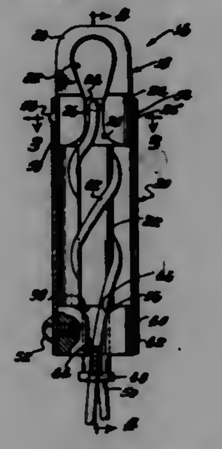
James E. Tieman, 548 S. Horne St., Mesa, Ariz.
Filed Feb. 26, 1963, Ser. No. 260,979
1 Claim. (Cl. 272—33)



A roundabout amusement device including a platform, a stanchion carried by the platform, an axle extending horizontally from the stanchion, a passenger-carrying means including a wheel with a hub sleeved over the axle, passenger-engaging elements on the wheel to permit the passenger to be supported in a vertical position while the wheel rotates on said axle, the said elements including a pair of spaced hand holds on one part of the wheel and a pair of feet-engaging members on the wheel, remote from the hand holds, a pair of rollers mounted on the platform and elevated above the latter adjacent the lateral margins of the platform, and a second pair of rollers mounted on the platform midway between the elevated rollers and in a plane below the latter, the passenger-carrying wheel being in contact with all of said rollers to permit facile rotation of the wheel under movement of the passenger while the hands are engaged with the hand holds and the feet secured in said feet-engaging members.

3,197,204
EXERCISING DEVICE

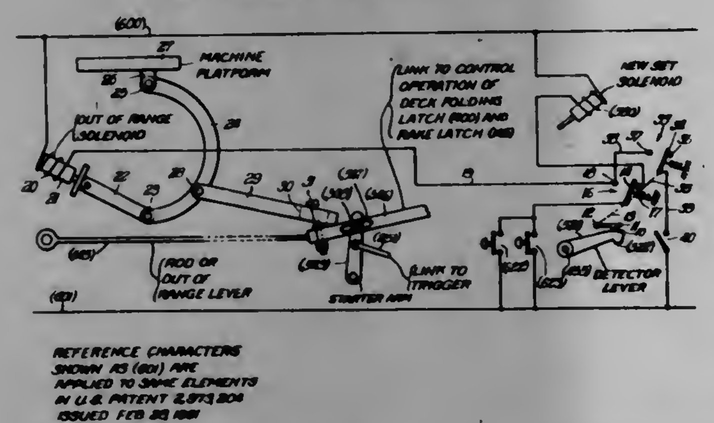
Edgar E. Holkesvick, Fullerton, and John Hudnall and Robert W. Adams, Los Angeles, Calif., assignors, by direct and mesne assignments, to Edgar E. Holkesvick, Fullerton, Calif.
Filed June 12, 1961, Ser. No. 116,393
12 Claims. (Cl. 272—79)



1. An exercising device for use with a length of rope, comprising: a body member including a shaft with opposed ends and a hub portion at each end, one of said hub portions being fixed relative to the shaft and the other hub portion being rotatable relative thereto; two axially extending diametrically opposed passageways in each of said hub portions of a size to slidably receive said rope; detent means on one of said hub portions; a sleeve member removably mounted on the other hub portion and extending to adjacent said one hub portion; retaining means on the sleeve for engagement with the detent means to releasably maintain the sleeve member in selected rotated position; and means fastened adjacent one end of the body member for suspending the device from a support.

3,197,205
SWITCH CONTROL SYSTEM FOR OUT-OF-RANGE PIN AND NEW SET SOLENOIDS

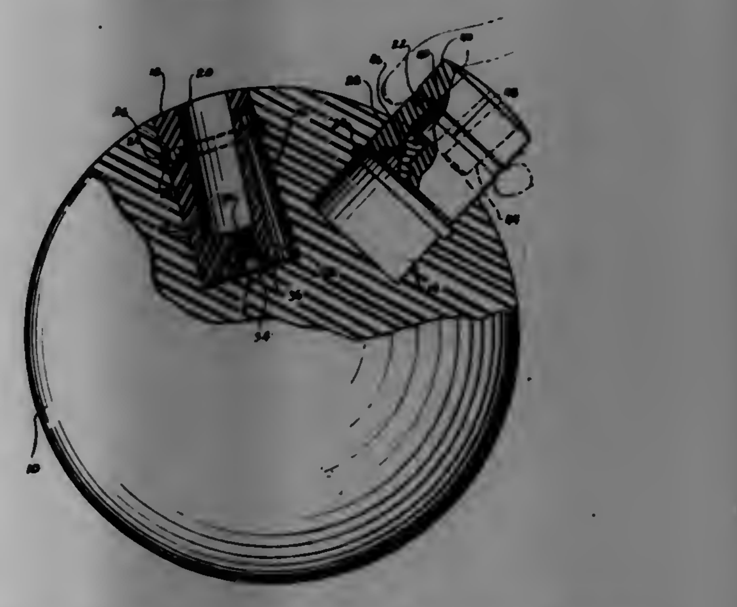
Cyril B. Shelton, 1825 35th St., and Alois R. Weiser, 515 Sheridan Road, both of Kenosha, Wis.
Filed Jan. 28, 1963, Ser. No. 254,259
6 Claims. (Cl. 273—43)


(600)
27
MACHINE PLATFORM
OUT OF RANGE SOLENOID
LINK TO CONTROL OPERATION OF DECK FOLDING LATCH (800) AND RAKE LATCH (918)
NEW SET SOLENOID
20
21
22
23
28
29
30
(ROD OR OUT OF RANGE LEVER
(601)
STARTER ARM
LINK TO TRIGGER
DETECTOR LEVER
40
REFERENCE CHARACTERS SHOWN AS (601) ARE APPLIED TO SAME ELEMENTS IN U.S. PATENT 2,973,204 ISSUED FEB 28 1961

6. In an automatic pinsetter out-of-range reset actuating device for reactuating a pinsetter machine after the same has been stopped by an out-of-range pin; said pinsetter machine having out-of-range pin sensing means, an out-of-range reset lever, new set solenoid means, and a manually operable first switch means; said actuating device comprising a second switch means for controlling said new set solenoid means, out-of-range solenoid means operable in response to said sensing means on manual closure of said first switch means to operate said reset lever, a third switch means for controlling said out-of-range solenoid means, switch actuating means movable in response to said sensing means to open said second switch means and to close said third switch means, and means connecting said out-of-range solenoid means and said reset lever.

3,197,206
BOWLING BALL WITH NONREMOVABLE ROTATABLE FINGER PLUGS

Vincent Yettito, 32 S. Main St., Port Chester, N.Y.
Filed Apr. 3, 1963, Ser. No. 270,352
1 Claim. (Cl. 273—63)



A bowling ball comprising a cylindrical cavity extending radially inwardly from the surface thereof, an annular groove formed in the wall of said cavity, a cylindrical plug dimensioned to fit snugly within the cavity, said plug having an annular groove in the outer surface thereof aligned with the groove in the wall of the cavity when the plug is in the inserted position, a ring extending into the groove in both plug and the cavity thereby to mount the plug within the cavity for rotation therein, but preventing removal thereof, and means to frictionally lock the plug in any desired position of rotation, said last named means comprising a finger hole extending inwardly from the outer end of said plug, a threaded bore communicating between the bottom of the finger hole and said cavity, said bore being provided with an annular recess at the end of said bore adjacent the bottom of said cavity, a screw threadably engaged within said bore, said screw being provided at one end thereof with a head adapted to frictionally engage the bottom of said cavity and to be received within said annular recess when said screw is backed off from engagement with the bottom of said cavity, said screw also being provided with a driver receiving means at the other end thereof, said driver receiver means being reachable through said bore to enable controlled advancement of said screw into frictional engagement with the bottom of said cavity and retraction therefrom to enable rotation of said cylindrical plug.

3,197,207
ARCHERY RANGE BACKSTOP

Charles P. Sanzare, Philadelphia, Pa., assignor to Archery Lanes, Inc., Conshohocken, Pa., a corporation of Pennsylvania
Filed Apr. 14, 1964, Ser. No. 359,713
11 Claims. (Cl. 273—102.4)

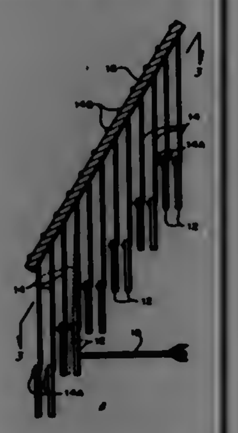
1. An archery backstop to smoothly remove the kinetic energy from an arrow impacting thereon and cause a reliable, short, controlled rebound thereof, comprising an array of a plurality of flat hard pads, each said pad having

a top and a bottom, each said pad having a frontal area of minor dimensions compared to the frontal area of said array, each said pad suspended by suspension means, said suspension means permitting a pendulum motion of said pad when impacted by an arrow, said plurality of pads including,

(a) a first set of pads, said first set comprising

  (1) a front row of pads, arranged in side-by-side relationship at the same height, and

  (2) an offset row of pads, behind said front row and at the same height thereof, arranged in side-by-side relationship but offset laterally with respect to the pads of said front row, and



(b) a second set of pads, said second set positioned behind said first set and at a lower height, with the top of each pad of said second set higher than the bottom of each pad of said first set, said second set comprising

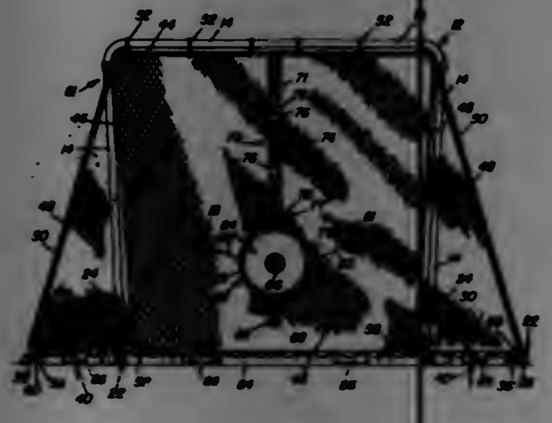
  (1) a front row of pads, arranged in side-by-side relationship at the same height, and

  (2) an offset row of pads, behind said front row and at the same height thereof, arranged in side-by-side relationship but offset laterally with respect to the pads of said front row.

3,197,208

GOLF BALL FLIGHT ARRESTING DEVICE INCLUDING A VERTICALLY ADJUSTABLE AIMING TARGET

John Makar, 1 E. 26th Place, Tulsa, Okla.
Filed Aug. 13, 1962, Ser. No. 216,500
7 Claims. (Cl. 273—1[illegible]1)

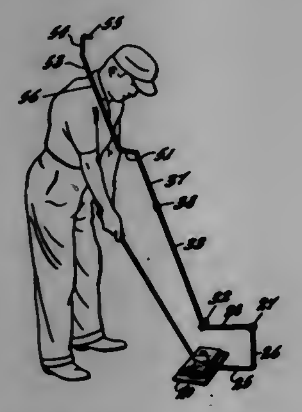


3. A golf practicing apparatus which permits short range indoor or outdoor safe driving of regulation golf balls with standard golf clubs comprising, in combination, a substantially planar rectangular upwardly forwardly inclined self-standing frame, a ball intercepting, force dissipating and flight arresting net loosely spanning and covering the opening encompassed by said frame and having marginal portions thereof yieldingly connected with predetermined marginal members of said frame, a single target adapted to be aimed at and struck by a driven golf ball, flexible self-adapting target supporting and height adjusting means attached at an upper end to a median part of the upper marginal portion of said net and depending and loosely and suspended in front of coacting median upper and lower portions of said net, and quickly separable fastening and adjusting means for said target carried by (1) said target and (2) said supporting means respectively, whereby said target can be manually adjusted and positioned up or down on said supporting means contingent on the golf club which is selected for use.

3,197,209

GOLF FORM SIGHTING AND GUIDING DEVICE

Joseph C. Arena, 541 Astor St., Norristown, Pa.
Filed May 29, 1962, Ser. No. 198,549
3 Claims. (Cl. 273—183)



1. In a golf form device:

(a) a base;

(b) tee means on the base for supporting a golf ball;

(c) a first straight tubular segment;

(d) adjustable support means on the base for adjustably supporting the straight tubular segment in an inclined direction and spaced from the tee means so that the prolongation of the longitudinal axis of the straight tubular segment passes generally through the tee means;

(e) said support means providing clearance for the head of a golf club during a swing by a golfer to strike a golf ball supported on the tee means;

(f) and guide means on the upper end of said straight tubular segment for establishing a generally rectangular frame of reference for quiding the upper portion of the body of a golfer,

said guide means comprising a first segment fixed to and extending laterally from the first straight tubular segment for establishing the lower limit of said frame of reference,

a second straight segment extending upward from said horizontal segment and generally parallel to said first straight tubular segment for establishing a side limit for said frame of reference,

and an upper segment connected to said second segment and terminating generally in the area of the prolongation of the longitudinal axis of the said first segment,

wherein said horizontal, second straight, and upper segments are adapted to be positioned in a single inclined plane and guide the golfer in his swing.

3,197,210

RECORDING AND BIASING HEAD ASSEMBLY FOR MAGNETIC TAPE RECORDERS

Katsuya Atsumi, Tokyo, Japan, assignor to Akai Electric Company Limited, Tokyo, Japan, a corporation of Japan
Filed Dec. 17, 1962, Ser. No. 245,246
4 Claims. (Cl. 274—4)

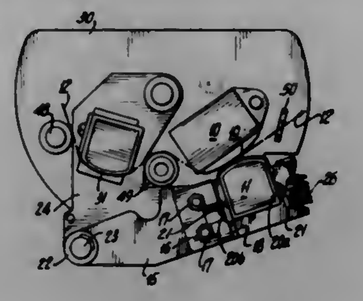
1. In a magnetic tape recorder comprising in combination:

(1) a recording head including a recording gap,

(2) a magnetic recording tape having a base and a magnetic layer carried by said base, said tape arranged to move across said gap with said layer in surface contact with said head,

(3) a separate biasing head including a biasing gap, and

(4) means to maintain said biasing gap at a predetermined fixed and spaced relation to said recording gap comprising



  (a) a first stationary support carrying one of said heads,

  (b) a second support relatively movably mounted upon said first support and carrying the other of said heads,

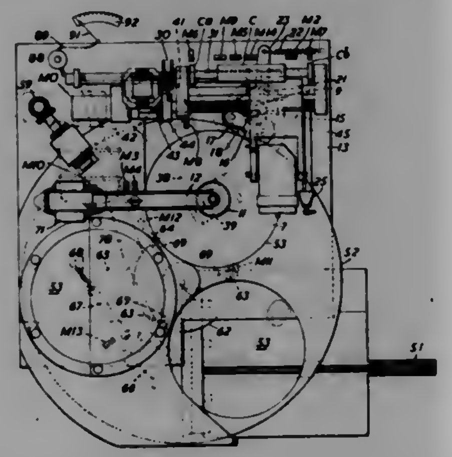
  (c) a wear-resistant member of predetermined thickness secured to and projecting from said biasing head, and

  (d) resilient means intervening between said first and said second support, to urge said biasing head and said member into continuous contact with said tape and said recording head.

3,197,211

SOUND RECORDING AND REPRODUCING APPARATUS

Charles William Clark, 24 Manchester Square, London, England
Filed Mar. 26, 1962, Ser. No. 182,264
7 Claims. (Cl. 274—10)

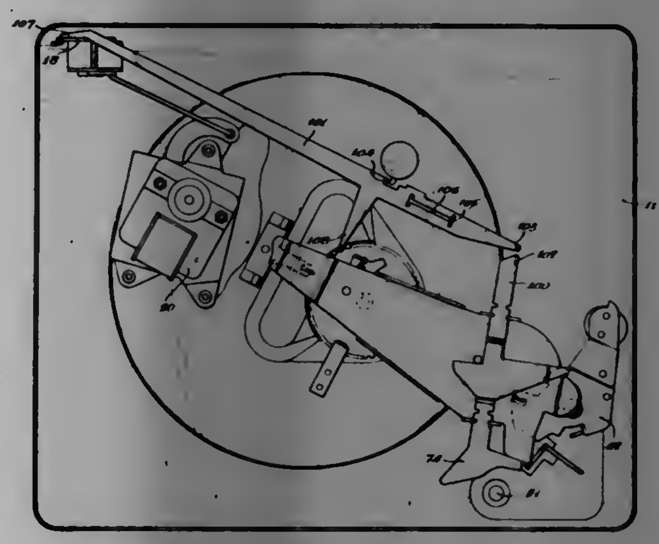


1. Sound recording and reproducing apparatus including a base structure, a turn-table constituting a disc support rotatably mounted on said base, a first motor, means operatively connecting the motor and turn-table to rotate said turn-table about its axis, a carriage slidably mounted on said base structure for movement along a path above and substantially parallel to the plane of said turn-table, said carriage being pivotal about an axis substantially parallel to the plane of said turn-table, traversing means driven by said first motor and operatively connected to said carriage to control the movement of said carriage towards said axis of rotation along said path, a recording head including a recording stylus mounted on said carriage, an arm pivotally mounted at one end to said carriage, a pick-up head including a pick-up stylus secured to the end of said arm opposite said pivotal mounting, said recording head being situated nearer than said pick-up head to the axis of rotation of said turn-table, first transducer means connected to said recording head for converting sound waves into electrical pulses and transmitting them to said recording head, second transducer means connected to said pick-up head for receiving electrical pulses from said pick-up head and converting them to sound waves, a second motor, means operatively connected to said carriage and driven by said second motor for rotating said carriage about its pivot, switch means connected to said second motor located at a plurality of positions along the path of said carriage and responsive to the movement of said carriage along said path to control the operation of said second motor whereby said recording stylus engages said disc only during the movement of said carriage along a first portion of said path, an elongated stationary stop means secured to said base parallel to said path and extending along only said first portion of said path, means secured to said pivoted arm for slidable engagement with said stop means whereby said pick-up stylus is retained out of engagement with said disc during the movement of said carriage along said first portion of said path, said pivoted arm being released to permit said pick-up stylus to engage said disc during the movement of said carriage along a subsequent portion of said path.

3,197,212

RECORD CHANGER

Ralph M. De Weese, Antioch, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware
Filed Mar. 4, 1963, Ser. No. 262,432
16 Claims. (Cl. 274—10)



1. In a record changer, a motorboard, a tone arm movably mounted on said motorboard, a record spindle mechanism supported by said motorboard, and means for operating said tone arm and spindle mechanism through a record change cycle including a member movably mounted on the motorboard, and means for moving said member in a cycle along a closed circuit including an outward path and an inward path different from said outward path.

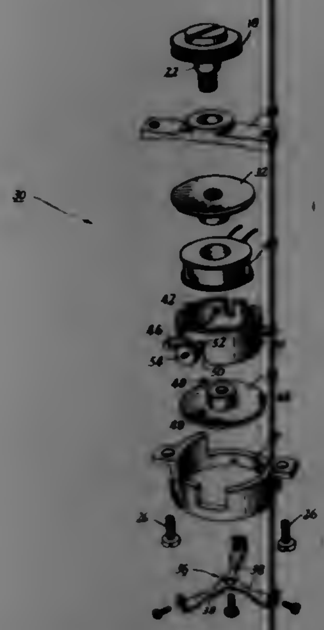
3,197,213

BACKSPACING APPARATUS FOR DICTATING MACHINES

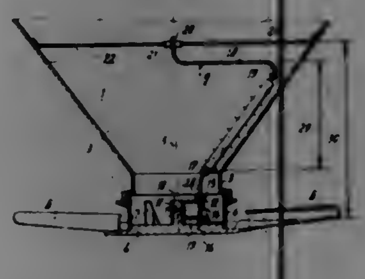
Abraham Taylor, Woodford Green, England, assignor to Dictaphone Corporation, Bridgeport, Conn.
Filed Mar. 29, 1963, Ser. No. 268,878
Claims priority, application Great Britain, Apr. 5, 1962, 13,176/62
13 Claims. (Cl. 274—22)

2. For use with a sound reproducing machine having a carriage for effecting advancing movement between a rotatable sound record and a transducing head cooperable with said record, and wherein said carriage includes a normally stationary feed nut engageable with a rotatable feed screw for producing the advancing movement there-

of; backspacing apparatus comprising bearing means for accommodating rotational movement of said feed nut, electromagnetic means including a remotely energizable coil mounted on said carriage, rotating means movable by said coil from an initial position to a second position so as to rotate said feed nut an incremental step when said coil is energized, locking means arranged to magnetically grip said feed nut when said coil is energized and to keep said feed nut stationary in the position to which it has been rotated, and means effective when said coil is deenergized to return said rotating means to its initial position without producing any rotary movement of said feed nut, whereby said carriage may be backspaced in successive increments by successive energizations of said coil.

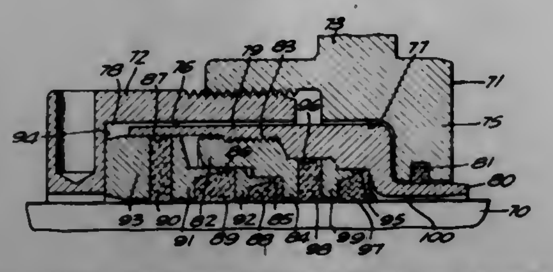


3,197,214
DEVICE FOR SPREADING GRANULAR OR POWDERY MATERIAL
Cornelis van der Lely, Zug, Switzerland, and Ary van der Lely, Maasland, Netherlands, assignors to C. van der Lely N.V., Maasland, Netherlands, a Dutch limited-liability company
Original application Jan 26, 1959, Ser. No. 788,884, now Patent No. 3,038,643, dated June 12, 1962. Divided and this application May 31, 1962, Ser. No. 199,019
10 Claims. (Cl. 275—15)



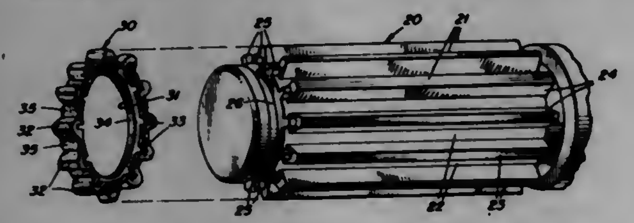
1. A device for spreading material comprising a material holding hopper, an ejector disc arranged below said hopper, said hopper having at least one outlet port for delivering material, a shaft extending upwardly in the lower part of said hopper, an arm extending obliquely and upwardly in said hopper, the lower end of said arm being connected to said shaft, and said arm being movable about a horizontal axis relative to said shaft, eccentric driving means being provided to move said arm in a circular direction entirely around the inner wall of said hopper and said arm extending substantially along the wall of said hopper.

3,197,215
MULTIPLE-STAGE SEALING ASSEMBLY
Arthur O. A. Hodge, 2526 Hermosa Ave., Hermosa Beach, Calif.
Filed Oct. 24, 1962, Ser. No. 232,812
15 Claims. (Cl. 277—64)



10. A packing assembly for sealing the annular space between two relatively movable members, comprising: a pair of axially spaced annular resilient sealing rings each having a sealing surface and a cylindrical supporting surface, the sealing surfaces of the rings having the same diameter and the supporting surfaces thereof having different diameters, and an annular differential piston element interposed between said rings, said element having end surfaces defining generally radially extending lateral extremities contacting said rings, said element also having a pair of concentric cylindrical surfaces, each corresponding to the diameter of one of said supporting surfaces, respectively.

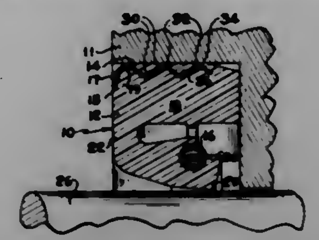
3,197,216
ALIGNMENT CONTROL AND SEAL FOR SPLINE DRIVES
Homer E. Jackson, 3903 Mackall Ave., McLean, Va.
Filed July 31, 1962, Ser. No. 213,834
4 Claims. (Cl. 277—137)
(Granted under Title 35, U.S. Code (1952), sec. 266)



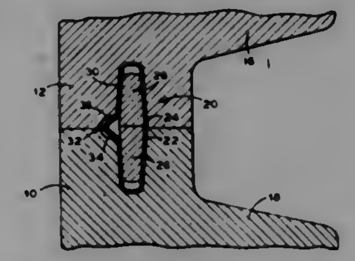
1. A sealing device for a spline coupling of the type having a spline shaft and spline fitting comprising an annular body, said body having an orifice therethrough to receive the shaft, means on said body extending axially therefrom for protruding between and engaging the surfaces of said shaft and fitting along only a portion of their common axial length thereby sealing the spaces between said shaft and fitting and providing an enclosed cavity therebetween defined by the shaft, fitting and seal so that lubricant between said shaft and fitting surfaces is retained, said means being compressible protrusions, said protrusions having a shape corresponding to the spline configuration of one of said shaft and fitting, and each protrusion having a recess to receive a portion of the other of said shaft and fitting spline whereby said seal is positionable around said shaft and over portions of the spline of the other of said shaft and fitting thereby preventing misalignment of said shaft and fitting.

3,197,217
REINFORCED FLUID SEAL
Alex A. Mastrobattista, Greenbrook Township, and Howard J. Bieling, Harrington Park, N.J., assignors, by direct and mesne assignments, to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Filed Aug. 5, 1960, Ser. No. 100,771
6 Claims. (Cl. 277—153)

1. A seal adapted for use with a shaft which is subjected to elevated temperatures comprising: a generally cylindrical reinforcing ring having an extended axial position corrugated to present an undulated surface and having an edge rolled and terminating in a radial flange projection, and an annular body of elastomeric molding material covering said reinforcing ring, said body defining a peripheral thickened portion, a radially extending lip portion, and a web portion connecting said peripheral and said lip portions, said ring being molded within said thickened portion with the peak portions of said undulated surface being covered only by .005–.010 inch of flash as the molding material flows and forms said body in a unitary shape around said ring and provides said seal with an uninterrupted bearing surface said cylindrical ring having an external diameter of at least 30 inches.



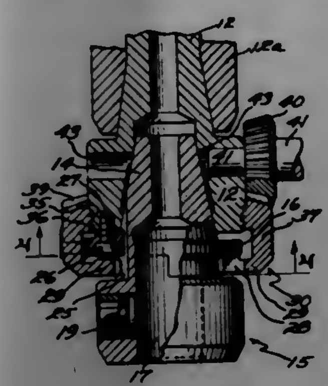
3,197,218
SEALING MEANS FOR A PRESSURE VESSEL
Earl E. Coulter, Akron, Ohio, assignor to The Babcock & Wilcox Company, New York, N.Y., a corporation of New Jersey
Filed Sept. 30, 1963, Ser. No. 312,618
5 Claims. (Cl. 277—171)



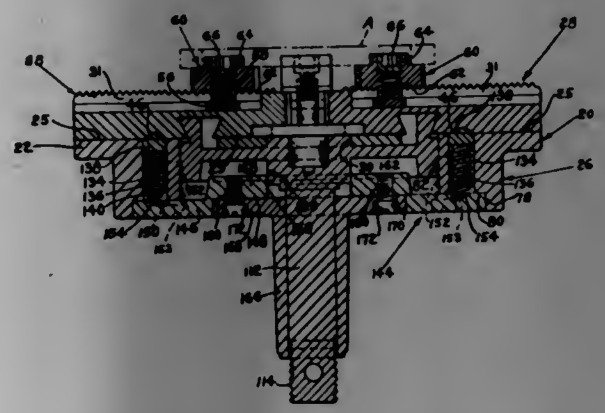
1. A sealing assembly arranged to form a high pressure seal between two opposed parts having mating surfaces, each of said mating surfaces having inwardly facing grooves which are aligned when the two opposed parts are in operative position, said grooves having an inwardly tapering side wall, a pair of wedge members constructed and arranged to fit one within each of said tapering grooves, and a flexible membrane extending between said tapering grooves and held in place by said wedges, said membrane having a loop formed substantially in the center thereof and corresponding to the joint between the opposed parts when in operative position, said membrane having a soft metallic coating on the outer surface thereof.

3,197,219
GEARED-KEY SUPPORTED JAWLESS QUICK RELEASE CHUCK
Magnus Wahlstrom, Easton, and William M. Hoddinott, Milford, Conn., assignors to The Bridgeport Machines Inc., Bridgeport, Conn., a corporation of Connecticut
Filed Jan. 6, 1964, Ser. No. 335,816
4 Claims. (Cl. 279—91)

1. A turn key operated quick release jawless chuck comprising in combination, a chuck body having a downward opening tapered socket, a hand ferrule surrounding said body, a tool holder having an upward tapering shank adapted for mounting in said socket, axial thrust transmission devices including axially abutting relatively rotatable members on said ferrule and on said holder respectively, intermeshed screw threads carried respectively by said ferrule and by said body operative to impart said axial thrust when said ferrule is turned relatively to said body, circumferential gear teeth presented upwardly on said ferrule, a turn key having a stem and pinion teeth drivingly meshable with said gear teeth, and a rotor bearing in the side of said chuck body receptive to the end of said key stem located above and on the axially opposite side of said gear teeth from said ferrule carried screw threads, whereby the weight of said key can at least in part be supported by said gear teeth while said key stem occupies said bearing.



3,197,220
CHUCK APPARATUS
Victor H. Peterson, Watertown, Mass. (183 High St., Boston, Mass.)
Filed July 10, 1963, Ser. No. 293,968
9 Claims. (Cl. 279—121)

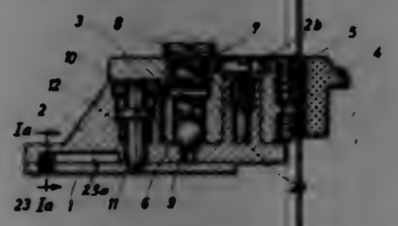


8. Chuck apparatus comprising a work-engaging device embodying a face plate portion having a collar portion, said face plate portion having slots therein, jaw members slidable in said slots embodying a front cam receiving portion having a rear sliding cam surface and embodying a rear cam receiving portion spaced from said front cam receiving portion and having a front sliding cam surface, work grippers carried by said jaw members, and a cam device embodying a main body and an outer rim portion adapted to slidably extend into said collar portion, a cam rim portion having a group of outer cam surfaces spaced apart and a group of inner cam surfaces spaced apart and spaced peripherally from said outer cam surfaces, both said outer cam surfaces and said inner cam surfaces being adapted to enter the spaces between said jaw member cam receiving front and rear portions, one group at a time and slide on said jaw member sliding surfaces.

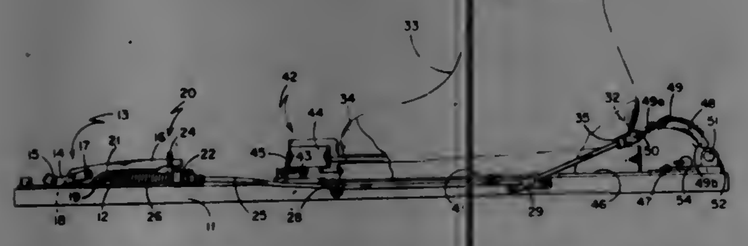
3,197,221
RELEASE DEVICE FOR THE TILTING JAW OF A SAFETY SKI BINDING
Alfred Gembruch, Jr., Ludenscheid, and Paul Schmale, Ludenscheid-Heerwiese, Germany, assignors to Alfred Gembruch KG., Ludenscheid, Westphalia, Germany
Filed Dec. 3, 1962, Ser. No. 241,582
Claims priority, application Germany, Feb. 3, 1962, G 34,181
5 Claims. (Cl. 280—11.35)

1. A release device for use in connection with a ski binding, which includes: plate means for mounting on the top surface of a ski, said plate means being provided with

guiding means, a slide slidably supported by said plate means and guided by said guiding means, said slide comprising pivot means having its axis substantially normal to the major surfaces of said plate means, clamping means pivotally supported by said slide and movable about the axis of said pivot means from a normal position to a lateral position and vice versa, said guiding means extending in the longitudinal direction of said clamping means when the latter occupies its normal position, first locking means carried by said clamping means for engagement with said slide for normally holding said clamping means in its normal position, said first locking means being operable in response to a certain minimum torque exerted upon said clamping means to move into unlocking position to thereby permit said clamping means to turn from its normal position relative to said slide about said axis, and spring biased second locking means for normally locking said slide to said plate means, said clamping means being provided with an extension for holding said second locking means in its locking position when said clamping means occupies its normal position and adapted to release said second locking means for unlocking said slide from said plate means in response to a certain turning movement of said clamping means about said axis to thereby permit said slide to move relative to said plate means.



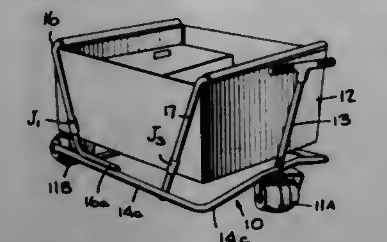
3,197,222
SKI BINDING
Louis Gerald Marcus, 5 George Aggott Road,
Needham, Mass.
Filed Aug. 16, 1963, Ser. No. 302,598
2 Claims. (Cl. 280—11.35)



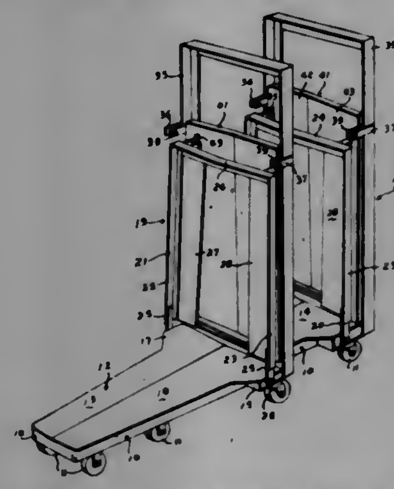
1. In a ski binding comprising a toe clamp mounted on the ski, a tensioning and locking clamp mounted on the ski forward of the toe clamp, a flexible cable attached to the locking clamp and adapted to engage the heel groove of a ski boot and cable guide means attached to the sides of the ski; resilient means connected to the heel portion of the cable, and supporting means attached to the ski rearward of the boot, extending to a location rearward and above the level of the heel groove and connected to said resilient means.

3,197,223
COLLAPSIBLE MULTI-PURPOSE CART
James A. Dickerson, Dogwood Lane, Pomona, N.Y., and
Thomas P. Rock, 199 Park St., East Orange, N.J.
Filed Feb. 7, 1963, Ser. No. 256,911
3 Claims. (Cl. 280—36)

1. A multi-purpose cart ridable on both soft and hard ground comprising a bed frame having rearwardly-extending side pieces and a connecting front piece, a front arched frame section secured between said side pieces adjacent said front piece, a rear arched frame section secured between said side pieces adjacent the rear end thereof, a flexible basket suspended between said front and rear sections, said sections being articulated whereby they may be folded down over the bed frame to collapse said basket, a pair of rear rollers mounted on an axle extending between said side pieces, a single front roller mounted centrally on a swival below said front piece, a handle pivotally coupled to said swivel to turn said front roller to pull and steer said cart, said handle when said basket is collapsed folding over the folded down sections said rollers being constituted by resilient bodies having a relatively narrow central cylindrical portion and a pair of conical portions on either side thereof, whereby the effective tread surface of each roller on soft ground is the combined surfaces of the three portions to provide efficient traction thereover, the effective surface on hard ground being solely the central wheel portion.



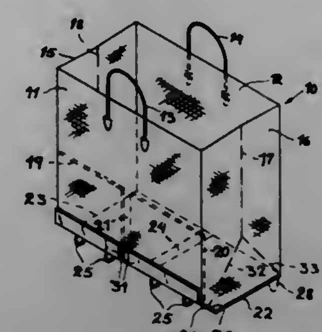
3,197,224
PLATFORM TRUCK
John W. Kappen, 243 Kenwood Ave., Dayton, Ohio;
Frieda E. Kappen, administratrix of the estate of said
John W. Kappen, deceased
Filed June 11, 1963, Ser. No. 287,052
13 Claims. (Cl. 280—36)



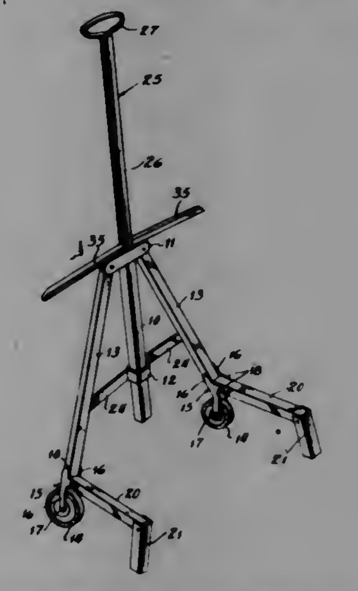
1. A hand truck, including a generally rectangular bed portion adapted for nesting, an upright handle attached to said bed portion at one end thereof, a platform hinged to occupy alternatively an upright position adjacent to said handle and a lowered position of rest on said bed portion extending the dimensions thereof, said platform having an outer end which in the lowered position thereof is remote from said handle, and a member hinged to said platform at said outer end and adjustable to occupy an upright position relative thereto in opposing spaced relation to said handle.

3,197,225
COLLAPSIBLE SHOPPING CART
Joseph J. Powell, 87—50 Kingston Place, Jamaica,
Long Island, N.Y.
Filed Aug. 13, 1963, Ser. No. 301,779
13 Claims. (Cl. 280—36)

1. A foldable shopping cart, comprising receptacle-forming means of flexible material having a bottom portion and at least one wall portion connected with said bottom portion; a generally planar bottom-support member of relatively rigid material secured to said flexible material along said bottom portion; a generally planar wall-support member of relatively rigid material secured to said flexible material along said wall portion, said member being hingedly interconnected along said edge for relative displacement into a position wherein one of said members overlies the other of said members; and roller means affixed to one of said members and lying substantially along said edge outwardly of said receptacle-forming means, each of said members being subdivided perpendicularly of said edge into at least two hingedly interconnected support portions foldable into superposed relationship.

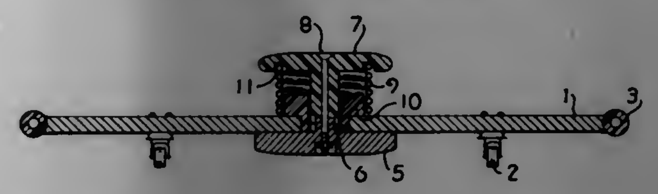


3,197,226
FOLDING LUGGAGE CARRIER
Atwood E. Erlinder, 9118 S. Loomis, Chicago, Ill.
Filed Dec. 17, 1963, Ser. No. 331,142
9 Claims. (Cl. 280—36)



2. A collapsible, wheeled truck which comprises a tubular rod-like standard, a handle means slidably inserted within said standard and constructed to be extended from or retracted into said standard, thereof and a retractable wheel assembly mounted on said standard said assembly comprising a first bracket slidably mounted on said standard, a second bracket means rigidly affixed to said standard intermediate said first bracket and said handle means, a pair of leg elements pivotally mounted on said second bracket, each of said leg elements being pivotally mounted at one end thereof to and on opposite sides of said second bracket and immediately adjacent said standard, the other end of each of said leg elements being fitted with wheel means for rolling engagement with a surface and a load support bar mounted to be moved into a position perpendicular to said leg elements, a pair of link elements pivotally attached to said first bracket, each of said link elements being pivotally mounted at one end thereof to and on opposite sides of said first bracket and being pivotally attached at the other end thereof to a leg element, stop means on said standard adjacent the other end thereof to bring said first bracket to rest when said link elements have pivotally moved into a position normal to standard, and said handle means is provided with a pair of opposed recesses, each of said recesses having pivotally mounted therein an auxiliary support bar constructed to rest in a position substantially perpendicular to said handle means, said retractable assembly being constructed to be retracted into a position such that said leg elements depend from said second bracket to lay close to said standard.

3,197,227
SIDEWALK SKIMMER
Gene Anselmo, 5402 Cloud Way, San Diego, Calif.
Filed Mar. 2, 1964, Ser. No. 348,586
1 Claim. (Cl. 280—87.01)



In a child's play vehicle, comprising in combination, a generally flat platform having a plurality of caster-like supporting wheels located about the outer edge and having a braking device located at or near the center of said platform, the improved braking device comprising:

a friction disc disposed under an opening in the said platform, said friction disc having a center hub in said opening and a bore in the center of said center hub;

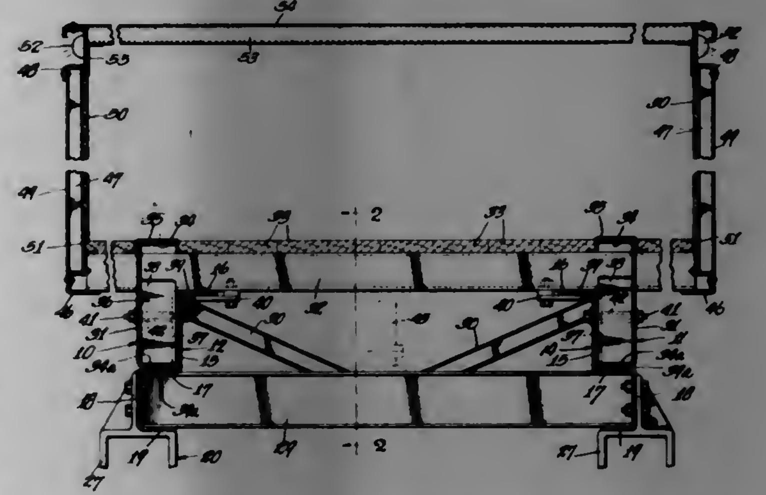
a circular brake handle disposed over said opening and said friction disc center hub, said circular brake handle having a center hub and bore in the center of said center hub, said friction disc center hub bore and said brake handle center hub bore being in axial alignment;

a bushing carried by said circular brake handle center hub and abutting said brake disc through said opening;

a coil spring carried by said bushing and being compressed between said platform and said circular brake handle; and

a bolt inserted through said friction disc center hub bore and said circular brake handle hub bore for holding together the braking device.

3,197,228
VEHICLE FRAMES
John Phil Felburn, 4160 W. Broad St., Columbus, Ohio
Filed Feb. 27, 1963, Ser. No. 261,421
2 Claims. (Cl. 280—81)



1. A frame for a vehicle, comprising a wheel unit underneath said vehicle frame, a pair of channel members spaced-apart laterally and extending lengthwise of said vehicle, a plurality of cross-sills extending cross-wise of said channel members, the latter having openings in their vertically extending webs for closely receiving said cross-sills and the latter being welded to said channel members to form a rigid construction, a pair of Z-section structural

members also spaced-apart laterally and extending lengthwise of said vehicle, each Z section member adjoining a respective channel member and having vertically extending webs generally parallel to and spaced inwardly of the webs of respective channel members, the upper leg of said Z-section member underlying and slidably supporting said cross-sills to support the same and said channel members and the load imposed thereon whereby said cross-sills and said channel members and said Z-section members may be relatively adjusted in a direction longitudinally of said vehicle, said wheel unit being connected to said Z-section member and supporting the same from a road surface.

3,197,229

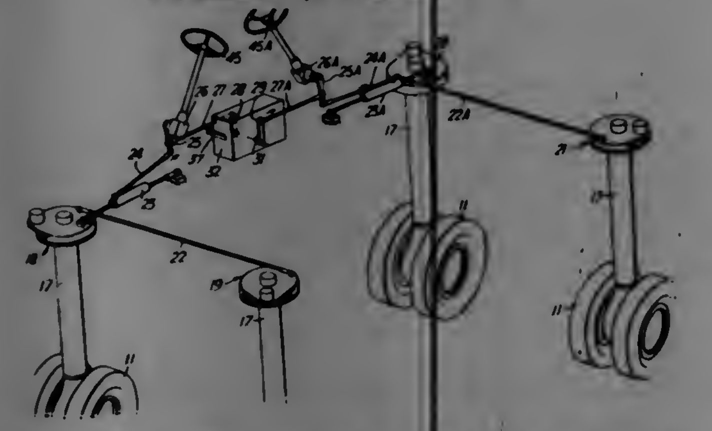
STEERING ARRANGEMENT FOR LOAD-CARRYING VEHICLES

George A. A. Houlton, Belfast, Northern Ireland, assignor to British Straddle Carrier Company Limited, Belfast, Northern Ireland, a British company

Filed June 18, 1962, Ser. No. 203,058

Claims priority, application Great Britain, June 16, 1961, 21,844/61

5 Claims. (Cl. 280—91)



1. A straddle carrier vehicle in which the ground engaging wheels are pivoted about vertical axes between a longitudinal position and a transverse position and in which a locating mechanism is provided for disposing the wheels in either position, said wheels being steerable when in either position, the locating mechanism comprising a series of pairs of relatively rotatable coupled plates each mounted on top of a vertical shaft which carries a ground-engaging wheel, one plate of each pair being fixedly connected to the shaft and being integral with a spur gear, the other plate being fixedly mounted relative to the vehicle chassis and having power means which, when operated, rotates the spur gear to rotate the shaft-plate and thus the shaft and its wheel, and a stop for arresting movement of the shaft-plate when it reaches the longitudinal or transverse wheel position.

3,197,230

STEERABLE TRAILER FOR HANDLING AND TRANSPORTING LOADS

Louis Albert Paul Raimbault, Moulins, Allier, France, assignor to Paul Raimbault & Cie, Moulins, Allier, France, a society of France

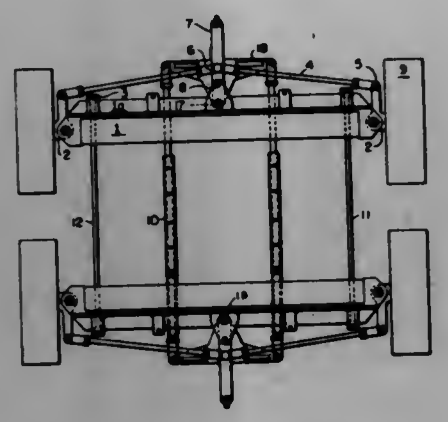
Filed Jan. 16, 1963, Ser. No. 251,924

Claims priority, application France, Jan. 22, 1962, 885,543

5 Claims. (Cl. 280—99)

1. A wheeled device for transporting loads comprising a pair of axles, each axle mounting a pair of wheels, means pivotally attaching the wheels to the ends of the axles, a bracket pivotally attached to each of the axles approximately midway between the wheels, means including connecting rods pivotally attached to the brackets and to said means pivotally attaching the wheels to the axle for pivotally attaching the wheels in the same direction and the same amount as the brackets;

a pair of telescopic linking rods pivotally attached to the brackets on either side of the pivot axes of said brackets and extending between the axles for transmitting pivoting motion of one bracket to the other bracket, each telescopic linking rod including a



plurality of openings along the length of the rod which selectively may be aligned, and a pin extending through aligned openings to fix the relative adjustment of the telescopic rods and thus the spacing of the axles.

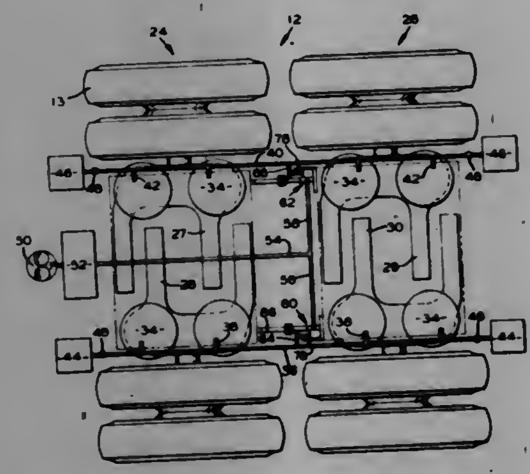
3,197,231

FLUID SUSPENSION LEVELING CONTROL SYSTEM

James W. Holzman, Muhlenberg Park, Pa., assignor to Dana Corporation, Toledo, Ohio, a corporation of Virginia

Filed Apr. 19, 1962, Ser. No. 188,690

8 Claims. (Cl. 280—104.5)



1. The combination with a vehicle having a frame superimposed on a pair of tandem axles and fluid filled spring means disposed between the outer ends of each axle and said frame, of a first and a second manifold confluent with said fluid filled spring means on one and the other side of the vehicle respectively, and a first and a second control valve operatively associated with said first and second manifold respectively, a source of fluid pressure confluent with said control valves, said control valves being adapted in a first position to join their respective manifold in a confluent relationship with the atmosphere and in a second position to join their respective manifold in a confluent relationship with said source of fluid pressure and in a third position to close their respective manifold, and a first and a second means for energizing each of said first and second valves respectively, said first and second means being operative respectively in response to the average of the movement of the axles on the one and on the other side of the vehicle relative to the frame.

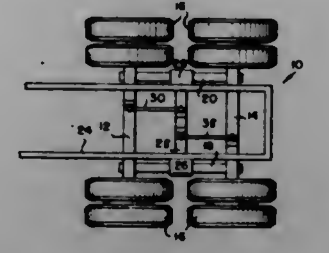
3,197,232

VEHICLE SPRING SUSPENSION

William E. Rice, Ferndale, Mich., assignor, by mesne assignments, to Rockwell-Standard Corporation, a corporation of Delaware

Filed July 20, 1962, Ser. No. 211,311

13 Claims. (Cl. 280—104.5)



1. In a vehicle suspension assembly for tandem axles, a longitudinally extending suspension side member rockably mounted intermediate its ends and having flexible end connection with spaced axles, at least one end connection comprising opposed blocks laterally rockably and vertically slidably mounted in similar opposed side notches adjacent the end of the member and coaxially pivotally connected to the axle, said notches having vertically straight laterally arcuate surfaces slidably engaging similar surfaces on said blocks, and resilient cushion members interposed laterally between each of said blocks and the axle.

3,197,233

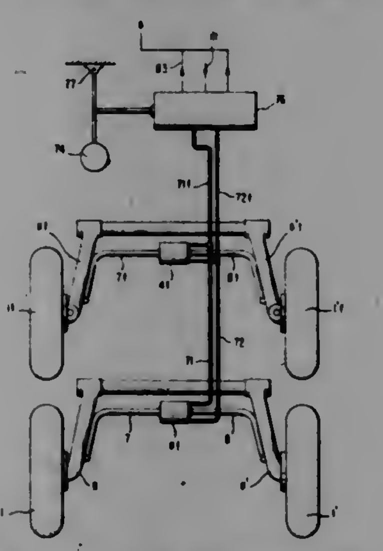
SPRING STABILIZER ARRANGEMENT

Friedrich H. Van Winsen, Kirchheim-Teck, and Klaus Bauer, Stuttgart-Unterturkheim, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany

Filed Mar. 26, 1962, Ser. No. 182,327

Claims priority, application Germany, Apr. 7, 1962 D 35,806

12 Claims. (Cl. 280—112)



1. An anti-tilt system for stabilizing the vehicle body of a motor vehicle while driving through curves, comprising wheel suspension means for oppositely disposed wheels thereof, stabilizer torsion rod means operatively connecting with each other oppositely disposed wheel suspension means, said stabilizer torsion rod means including two torsion rod portions and means operatively connecting said two torsion rod portions for adjustment thereof with respect to each other in opposition to the effect of the centrifugal force acting on the vehicle including pressure-medium actuated adjusting motor means effectively connecting said two torsion rod portions with each other, said motor means comprising rotatable rib means connected to one of said torsion rod portions and rotatable vane means connected to the other of said two torsion rod portions, said rotatable rib means and said rotatable vane means being provided with releasable locking means therebetween responsive to pressure of the pressure-medium for the adjusting motor means.

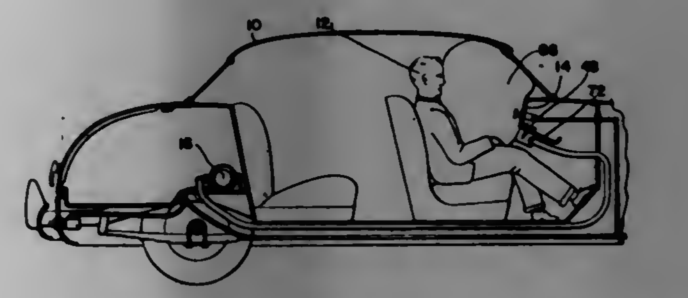
3,197,234

SAFETY DEVICE FOR VEHICLE PASSENGERS

Harry A. Bertrand, Prairie Ronde Township, Kalamazoo County, Mich. (R.R. 2, Lawton, Mich.)

Filed June 10, 1963, Ser. No. 287,740

2 Claims. (Cl. 280—150)



1. A safety device for use in a pasenger-carrying compartment of a vehicle, comprising:

a container for holding a fluid under a high pressure, inflatable bag means disposed in said passenger-carrying compartment;

conduit means connecting said container to said bag means whereby the fluid is said container can be used to inflate said bag means;

an explosively actuated fluid valve connected in said conduit means, said valve including a plunger cylinder having a main fluid passageway provided with a valve seat;

fluid exit port means communicating with said main fluid passageway at a point spaced from said valve seat;

a valve stem disposed within said main fluid passageway and being spaced from the internal surface thereof, said stem having a valve head engageable with said valve seat, said stem also having a pilot fluid passageway extending through said stem and valve head;

a plunger mounted on said valve stem and slidably disposed within a chamber;

a diaphragm extending across said pilot fluid passageway;

a plunger pin slidably extendable into said pilot fluid passageway, said pin having a sharp forward end capable of pentrating said diaphragm, said pin having an opening therethrough adapted to place said pilot fluid passageway in communication with said chamber when said diaphragm is penetrated;

an explosive charge adapted when exploded to drive said pin forwardly;

means for igniting the charge; and

switch means mounted on the vehicle for controlling ignition of the charge.

3,197,235

REMOVABLE SELF-STABILIZING LANDING GEAR FOR SEMI-TRAILERS

George Chieger, Grosse Pointe Woods, Mich., assignor to Fruehauf Corporation, a corporation of Michigan

Filed Feb. 25, 1963, Ser. No. 260,695

1 Claim. (Cl. 280—150.5)

A support leg assembly for a semi-trailer comprising

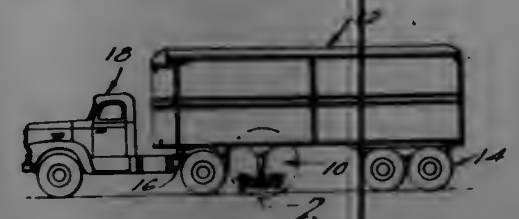
a pair of downwardly extending elongatable legs,

means for removably securing said legs to the trailer,

a pair of pads having a relatively large horizontal surface area underlying said legs, respectively for transferring the load of said trailer to an underlying supporting surface,

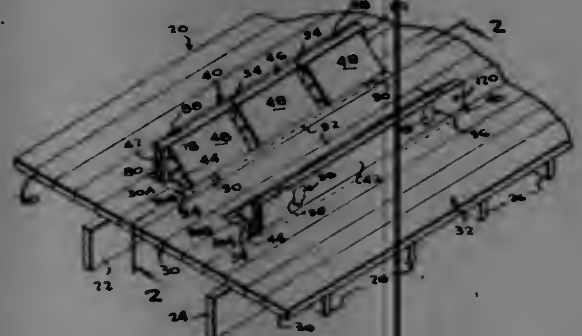
a pair of elongated cantilevered springs secured to said legs, respectively, opposite ends of said springs extending generally horizontally away from said legs, respectively, and

a pair of wheels pivotally supported at the ends of said springs, respectively, so as to be disposed in a generally rectangular array, said wheels being supported for rotation about generally vertical and horizontal axes, said wheels normally being disposed relatively lower than said pads for supporting the weight of said landing gear, said springs and said wheels being deflectable vertically upward relative to said pads when the weight of the trailer is transferred thereto to transfer the weight of the trailer to the underlying surface.



3,197,236
ADJUSTABLE RACK FOR SUPPORTING COIL MATERIALS ON THE FLOOR OR BED OF A VEHICLE

Roy W. Burton, 3051 E. 10-Mile Road, Box 96, Warren, Mich.
Filed Aug. 9, 1963, Ser. No. 301,080
7 Claims. (Cl. 280—179)



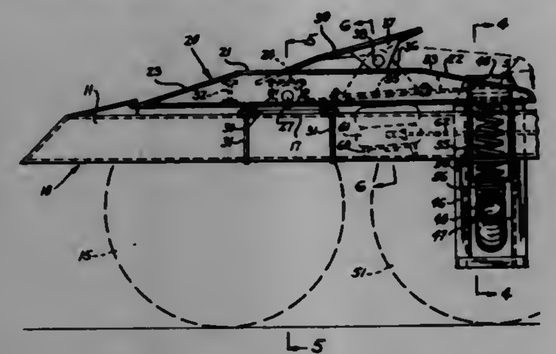
1. In combination with a vehicle bed supported on a plurality of spaced and substantially parallel bolsters, said bed having a pair of oppositely-disposed openings formed therein and extending transversely therethrough, a pair of oppositely-disposed substantially triangular racks releasably disposed within said openings and extending transversely of said bolsters, each of said racks including an abutment plate and a tread plate, said abutment plates diverging upwardly away from one another and being adapted to support a row of coil material therebetween; each of said abutment plates being provided, intermediate its respective length, with openings extending transversely therethrough, said openings normally being non-aligned with said bolsters when said abutment plates are disposed in their respective operative positions, said racks being shiftable longitudinally of said openings formed in said bed to align said openings formed in said abutment plates therewith whereby said racks may be tilted to cause said bolsters to engage within said openings formed within said abutment plates with said tread plates being disposed substantially flush with the bed of said vehicle.

3,197,237
DETACHABLE PUSHABLE AXLE

Otho W. Smith, 33 Oolitic Road, Bedford, Ind.
Filed Nov. 20, 1961, Ser. No. 153,595
5 Claims. (Cl. 280—415)

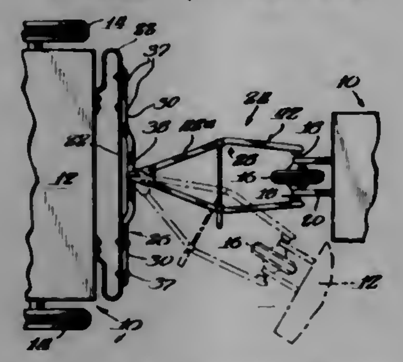
1. A detachable pushable axle for tractor vehicles having front and rear wheels adapted to permit an increase in the permissible load carried by a trailer attached to the vehicle without increase in height or length of the tractor-trailer assembly, comprising a frame including a pair of longitudinally extending beams adapted to be secured to the tractor frame members after removal of the fifth wheel of the tractor, a transverse plate extending between said beams, a channel member secured to said plate adapted to be pivotally mounted on the fifth wheel mounting of the tractor, a fifth wheel carried by said plate, vertical guide members carried by said plate at its free end, guide shoes in said guide members, a pushable axle carried by said guide shoes, wheels carried by said pushable axle to be positioned between said front and rear wheels of said tractor vehicle, and spring means positioned between said pushable axle and said beams adjacent said guide members, said guide shoes being arcuate on their transverse sides to permit lateral play of said axle in conformity to the road bed,

rubber diaphragms positioned between said plate and a fixed portion of the tractor vehicle frame, and means for inflating said diphragms with compressed air for lifting said plate and raising said pushable axle and its associated wheels from contact with the road bed.



3,197,238
TOW BAR ASSEMBLY

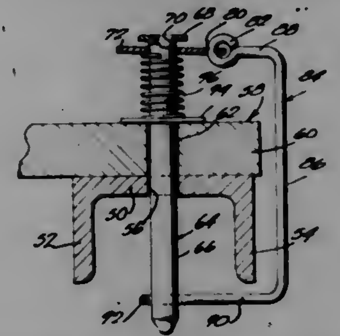
Harry G. Goddard, 9037 S. Major Ave., Oak Lawn, Ill.
Filed Oct. 5, 1962, Ser. No. 228,646
1 Claim. (Cl. 280—494)



A tow bar assembly for towing a golf car having an axle with a centrally positioned single steering wheel, said tow bar assembly including a member secured to the rear of the towing car, said member formed of three sections comprising a pair of spaced end sections and a central pivotal section pivotally supported by and between said end sections, said end sections having outer portions adapted to be secured to a towing car and having their inner portions offset so that the central pivotal section is positioned offset and spaced from the plane of securement of the outer portions to the towing car, a connecting unit including a pair of arms, means for pivotally securing said arms at one end, said means being detachably connected to the central pivotal section, said arms being bent so that the front portion of the arm is disposed at an angle with respect to the rear portion of the arm and the pair of arms forming a substantially V-shaped configuration at the front portion of said pair of arms and providing spaced rear portions which incline towards each other, said rear portions each having a cup-shaped member to engage the steering axle of the golf car to be towed, a member extending between said arms and connected to said arms for adjusting the arms relative to each other, said member being pivotally secured to one of said arms and connected to means pivotally secured to the other arm, said member being externally threaded, and a nut on said externally threaded member engaging said last mentioned means for locking said arms against relative movement.

3,197,239
DRAWBAR LOCK PIN SAFETY ATTACHMENT

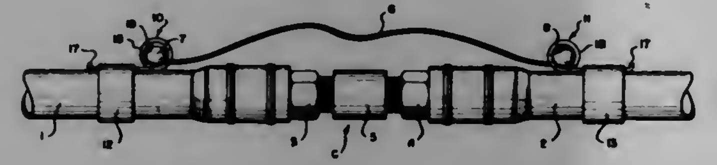
Louis F. Jezek, Jr., Rte. 3, P.O. Box 204, Temple, Tex.
Filed Sept. 11, 1964, Ser. No. 395,682
4 Claims. (Cl. 280—515)



1. An attachment for the lock pin coupling the drawbar of an automotive vehicle with the tongue of a vehicle to be drawn, said drawbar having an opening extending therethrough and said tongue having a bore extending transversely therethrough, said opening and said bore being aligned to receive said lock pin therein, a substantially flat rectangular lock plate having an opening extending transversely therethrough, said last-named opening being formed on an axis other than perpendicular to the plane of either side of said lock plate to form edges engageable with said lock pin when said plate is canted, a helicoidal spring surrounding said lock pin with one end engaging said lock plate to effect said canting of said lock plate, a washer fixedly mounted on said lock pin to engage said tongue and to bear against the other end of said spring, and means connecting said lock plate with said lock pin including an element pivotally connected with said lock plate to pivot across and span said tongue and drawbar and to releasably embracingly engage said pin.

3,197,240
SAFETY DEVICE

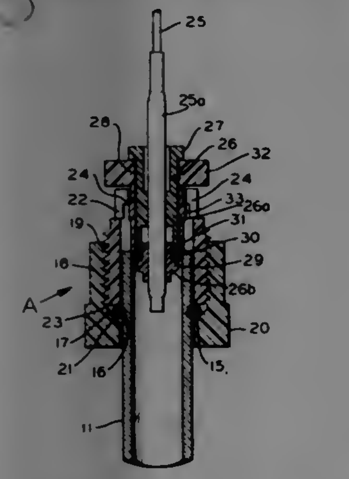
Jerome L. Lindberg, Pueblo, Colo., assignor to The Colorado Fuel and Iron Corporation, Denver, Colo., a corporation of Colorado
Filed Jan. 24, 1963, Ser. No. 253,696
2 Claims. (Cl. 285—114)



1. A safety device for preventing the high pressure end of a sectionalized conduit from whipping upon severance of the connection between said sections which comprises, in combination, two sections of high pressure conduit, the high pressure end section being a flexible hose, a releasable coupling for securing said sections together at adjacent ends thereof, an attachment member to each section near the coupling end thereof and including a band encircling the section and a clip extending longitudinally thereof, said clip having a keyhole shaped slot formed therein, a cable having a length slightly greater than the distance between said attachment members when the sections are coupled, said cable having a knob at each end of a size to enter the enlarged portion of the keyhole slot but to be retained by the narrow portion of the slot, that section of said clip containing the enlarged portion of said keyhole slot lying in contiguous relation to said hose when the hose is straight and being disposed adjacent said band but removed therefrom a distance sufficient to expose same for entry of said knob into the enlarged portion when the hose is bent, whereby said cable is secured against removal from the hose by the hose closing the opening during normal use of the device.

3,197,241
COUPLING DEVICES

Erik W. Anthon, Kensington, Calif., assignor, by mesne assignments, to Warner-Lambert Pharmaceutical Company, Morris Plains, N.J.
Filed Aug. 29, 1961, Ser. No. 134,698
5 Claims. (Cl. 285—138)



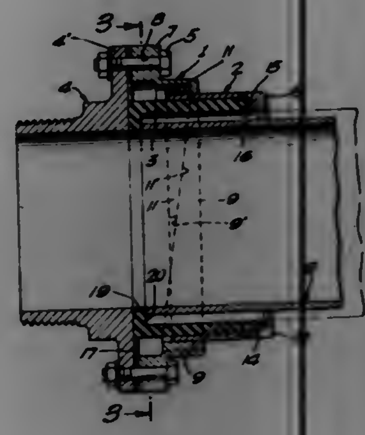
1. A quick connect coupling for connecting a plastic tube to a glass column comprising: a circumferential groove extending around said glass column near one end thereof, a resilient O-ring fitted within said groove, a housing comprised of at least two elements encompassing said O-ring and extending beyond said one end of said glass column, a flange on one of said housing elements abutting the O-ring and cooperating with the end of the second housing element to secure said O-ring, a resilient plastic device consisting of at least two telescoped resilient plastic members, one of said members fitting within one of said elements and abutting said glass column and the other of said members within said housing, flange means on one of said members, flange means on one of said elements, said two flange means arranged to effect a bayonet connection between said device and said housing, so that on relative rotation of the device to the housing, said device is pressed against said column and held in compression by said connection, said device having a passage to receive said plastic tube, and a sealing means provided between said member and said glass column to seal the passage between said tube and said glass column.

3,197,242
COUPLING

Kenneth A. Milette, La Puente, Calif., assignor to Mission-West Manufacturing Company, Los Angeles, Calif., a corporation of Delaware
Filed June 13, 1960, Ser. No. 35,616
10 Claims. (Cl. 285—175)

1. A coupling comprising: a pair of coupling members having through bores and mounted one within the bore of the other for relative rotative and axial movement; means on the outer coupling member providing for nonrotative mounting thereof on a fitting; a sealing sleeve of elastic material mounted in the bore of the inner of the coupling members so as to be deformable relative thereto; said

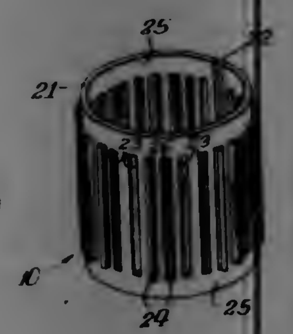
sleeve being adapted to receive therein an end portion of a conduit to be connected to the coupling; mounting and sealing means on said sleeve affording the fastening thereof to said outer coupling member and the formation of a seal between said outer coupling member and said fitting; means on said sleeve and said inner coupling



member, respectively, cooperable for deforming said sleeve into gripping and sealing engagement with the conduit in response to axial movement of said inner coupling member relative to said sleeve and means on said coupling members cooperable to effect said axial movement in response to rotative movement of said inner coupling member.

3,197,243
ALIGNING AND LOCKING DEVICE

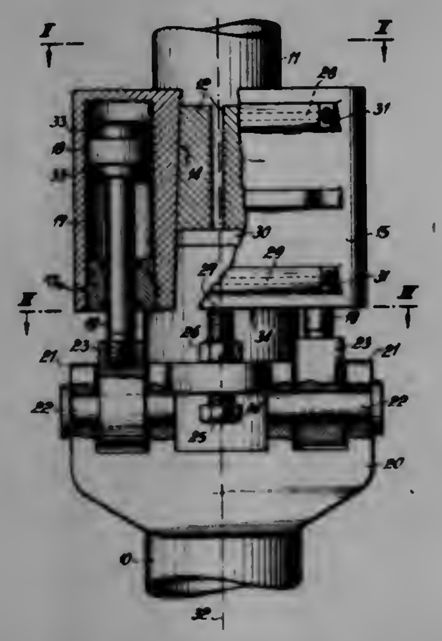
Arthur M. Brenneke, Hagerstown, Ind., assignor, by mesne assignments, to Perfect Circle Corporation, Hagerstown, Ind., a corporation of Indiana
Filed Aug. 15, 1961, Ser. No. 131,654
3 Claims. (Cl. 287—52)



3. A combination aligning and locking device for maintaining a pair of members having a clearance therebetween centered with each other and for interconnecting the members to prevent relative rotation therebetween, comprising a strip of resilient sheet material having a thickness less than the clearance between said members and bent to form an annulus adapted to be mounted in said clearance, and said annulus having projections extending inwardly and outwardly therefrom and defining relatively sharp, free edges spaced from said annulus, the radial distance between said edges of said inwardly and outwardly extending projections being greater than the clearance between said members, whereby the edges of said projections engage the adjacent surfaces of said members when said device is inserted therebetween, said device thereby being effective to maintain said members centered with each other and to prevent relative rotation therebetween, said projections being elongated axially of the annulus to provide elongated edges engaging said member, said projections comprising partially severed portions of the material of said strip bent therefrom, said partially severed portions being formed by a plurality of axially extending slits in said annulus, the ends of said slits including portions extending circumferentially of said annulus so that the entire edge of each projection engages one of said members, said circumferentially extending end portions of said slits being spaced inwardly from the ends of said annulus to provide band portions at both ends of said annulus tying said projections together.

3,197,244
MINE PROP

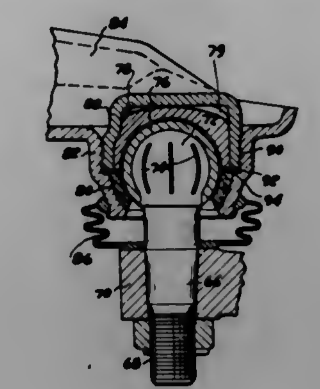
Wilhelm L. G. Heusner, Bochum-Weitmar, Germany, assignor to Hermann Schwarz Kommanditgesellschaft, Wattenscheid, Germany
Filed Mar. 26, 1962, Ser. No. 182,399
Claims priority, application Germany, Apr. 4, 1961, Sch 29,496
2 Claims. (Cl. 287—58)



1. A mine prop having a lower mine prop member and an upper mine prop member arranged in telescopic engagement with and axially adjustable relative to each other, which comprises: an open clamping ring extending around said upper mine prop member and being supported by said lower mine prop member at the top thereof, said open clamping ring having its two end portions respectively provided with surfaces facing away from each other and inclined relative to each other, tightening means having surfaces inclined corresponding to and facing said surfaces of said clamping ring for engagement therewith, pressure fluid operable cylinder piston means having the cylinder means thereof formed in said tightening means and having the piston means pivotally connected to said lower mine prop member, conduit means in said tightening means for conveying fluid to and discharging fluid from said cylinder means and including connection means for connection with fluid supply and discharge means, said pressure fluid operable cylinder piston means being operable to pull said tightening means downwardly over said clamping ring in the direction toward said lower mine prop member while the respective inclined surfaces of said tightening means and said clamping ring engage each other thereby to close said clamping ring on said upper prop member, and abutment means supported by said lower mine prop member and arranged in the path of movement of said tightening means toward said lower mine prop member for limiting the movement of said tightening means toward said lower mine prop member to thereby determine the respective desired maximum clamping pressure to be exerted by said tightening means on said clamping ring and thereby to determine the clamping pressure exerted by said clamping ring on said upper mine prop member.

3,197,245
PRELOADED BALL JOINT

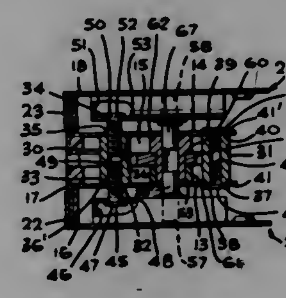
Jack C. Beer, 13269 Bloomfield, Warren, Mich.
Filed May 16, 1961, Ser. No. 110,456
1 Claim. (Cl. 287—87)



A ball joint comprising in combination two control arms, a stud with a substantially spherical ball rigidly secured to one of said arms, said ball having a plurality of circumferential grooves extending axially from adjacent its apex to adjacent the opposite end thereof and said ball being covered by a plastic coating thereon with said coating interlocked in said grooves, a first plastic bearing member, said first bearing member having a semi-spherical concave surface engaging the upper surface of said ball and a convex surface disposed on the side opposite to said semi-spherical concave surface, said convex surface having a plurality of radially extending grooves formed therein, a second plastic bearing member having a semi-spherical concave surface engaging the lower half of the ball, and adjustable housing means carried by the other of said control arms, said housing holding said bearing members and adjustably clamping said plastic coated ball between said first and second plastic bearing members.

3,197,246
SLIDING DOOR LATCH SPACER

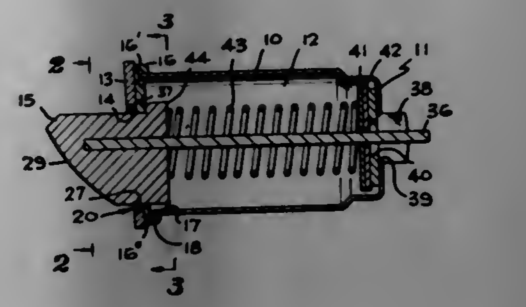
Fred J. Russell, 3800 Don Felipe Drive, Los Angeles, Calif., and George B. Solovieff, San Clemente, Calif.; said Solovieff assignor to said Russell
Filed Jan. 3, 1963, Ser. No. 249,215
3 Claims. (Cl. 292—101)



2. In a sliding door latch, a casing comprising at least one side plate, a catch member rotatably mounted in the casing and movable between an extended position and a retracted position, a threaded spacer extending from said plate transversely inwardly across the plane in which said catch member moves, escutcheon means, a connector extending from said escutcheon means into engagement with said spacer whereby to interconnect with said side plate with said escutcheon means, said spacer being located to be in engagement with said each member in one of the positions of said catch member whereby to limit movement of said catch member at said one position.

3,197,247
LOW FRICTION LATCH BOLT GUIDE

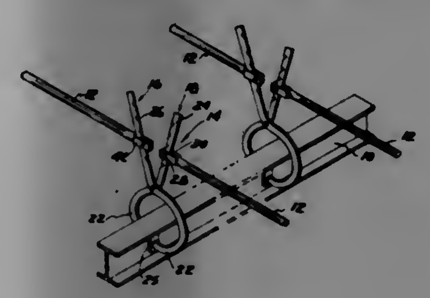
Fred J. Russell, 3800 Don Felipe Drive, Los Angeles 8, Calif.
Filed Feb. 6, 1963, Ser. No. 256,699
8 Claims. (Cl. 292—163)



3. In a latch assembly, a casing, a latch bolt reciprocatably mounted in said casing, a front plate and means attaching said front plate to the casing in position overlying the outer end of the casing, said front plate having an opening therein for said latch bolt, and a guide of low friction material held in position against the inside face of said front plate, said guide having an opening therein smaller than the opening in said front plate.

3,197,248
LIFTING MEANS

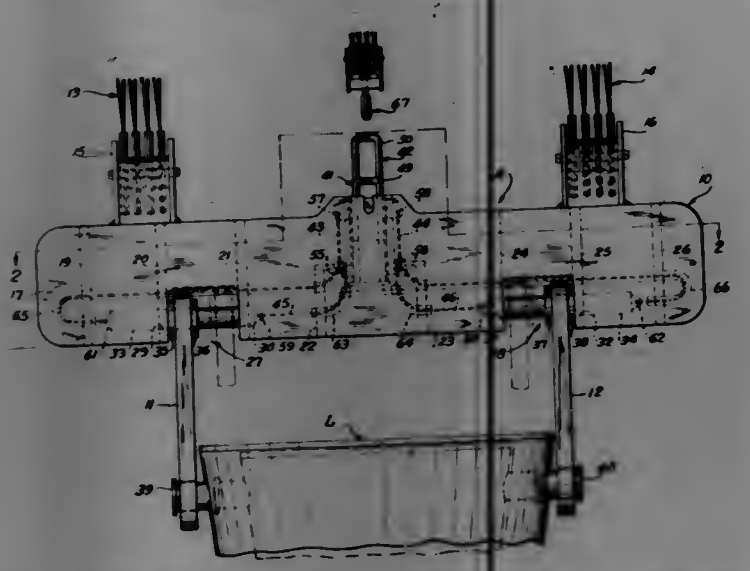
Donald Sudau, 1529 Kingsley Ave., Mount Clemens, Mich.
Filed Dec. 3, 1963, Ser. No. 327,728
2 Claims. (Cl. 294—16)



1. Lifting means comprising X-type tongs formed of two generally upright crossing parts pivotally connected between their ends, with their lower ends hooked towards each other, and their upper ends directed away from each other;
- and horizontally disposed oppositely extending handles outside of and adjustably and pivotally connected to the tong upper ends;
- the adjustable connections comprising a series of spaced notches on the inner edge of each tong upper end;
- pins on the ends of the handles selectively inserted in said notches, the handles having abutments spaced from the pins positioned to engage the under-outer edges of the tong upper ends as the handles are moved upwardly while a load is grasped by and between the tong lower ends, whereby each handle may be separately adjusted as regards its position and remain horizontally disposed, in connection with a tong upper end, in relation to the tong lower end and the load grasped thereby;
- each handle including an end opening loosely receiving and through which may easily be passed a tong upper end;
- with the pin and abutment being at opposite ends of such opening, such opening being closed all around to prevent accidental separation of the handle from the tong upper end, each handle and its pivotal connection and abutment providing increased leverage for securing said load.

3,197,249
ADJUSTABLE MATERIAL HANDLING GRAB

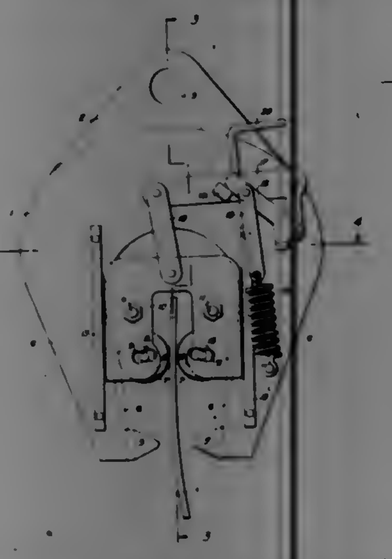
Ted R. Garman, Pittsburgh, Pa., assignor to The Cleveland Crane & Engineering Company, Wickliffe, Ohio, a corporation of Ohio
Filed Nov. 13, 1962, Ser. No. 237,159
2 Claims. (Cl. 294—81)



1. In an adjustable material handling grab: an elongated frame assembly; first and second means adjacent to opposite ends of said frame assembly for supporting the same from an overhead hoist structure having auxiliary hoist mechanism; first and second spaced rigid load engaging members; third and fourth means connecting said first and second load engaging members, respectively, to said frame assembly for movement relative thereto lengthwise thereof toward and from one another; and fifth and sixth means slidably supported in said frame assembly for movement normally to the direction of movement of said load engaging members in said frame assembly adapted to be selectively engaged and moved by an auxiliary hoist mechanism and connected to one another and to said third and fourth means for moving said load engaging members toward and from one another.

3,197,250
ROLLER PLATE GRAB

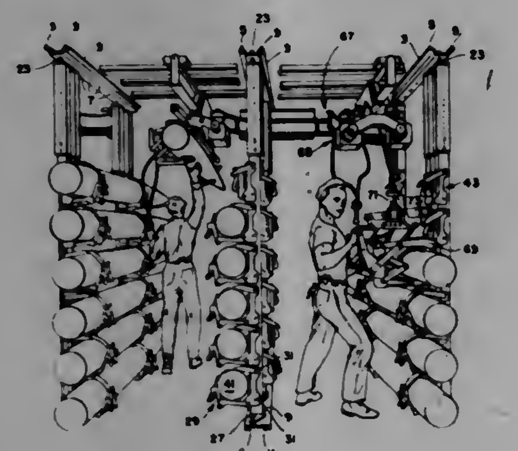
Anthony J. Trotta, Pembroke, and David A. Sudrabin, South Braintree, Mass., assignors, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware
Filed Jan. 23, 1963, Ser. No. 253,438
1 Claim. (Cl. 294—102)



A grab for gripping metal plates comprising:
- (a) an inverted U-shaped body having downwardly inwardly sloping legs,
- (b) rectangular flat plate members in spaced parallel relationship on opposite sides of said body and having parallel pairs of slots inclined upwardly from said legs,
- (c) a pair of smooth faced plate gripping rollers journaled in said slots,
- (d) each of said plate members being cut away centrally on its lower side to admit a plate therebetween,
- (e) parallel upright guide members on the legs between which the plate members slide vertically outside the legs,
- (f) an upright tension spring having its lower end pivotally connected to one leg of the body,
- (g) a link connected to the upper end of said spring,
- (h) a release lever having its intermediate portion pivoted to said link,
- (i) a bell crank member having depending and lateral arms at right angles to each other,
- (j) said bell crank being pivotally mounted on the grab body at the point of intersection of said arms,
- (k) the lower end of the release lever being pivotally connected to the lower end of the depending arm,
- (l) the intermediate portion of the lateral arm bearing an external projection,
- (m) the far end of said lateral arm having a downward link pivotally connected to a plate member,
- (n) the lateral arm being urged downwardly by the action of the tension spring and release lever exerting pressure on said projection, and
- (o) the downward pressure on said lateral arm being released when said release lever is rotated about its pivot point.

3,197,251
LOAD HANDLING APPARATUS

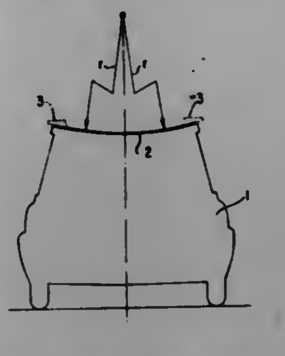
Russell E. Travis, Jr., Washington, D.C., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed Nov. 7, 1963, Ser. No. 322,260
5 Claims. (Cl. 294—104)



1. A load handling device comprising:
- (a) a post;
- (b) a first arm having a load engaging surface, said arm being secured to one end of the post;
- (c) a sleeve slidably disposed on the other end of the post;
- (d) a second arm having a load engaging surface, said second arm being pivotably secured to the sleeve;
- (e) means for controlling movement of the load engaging surface of the second arm toward and away from the opposed first arm respectively between a closed and an open position; and
- (f) means including a third load engaging surface pivotably coupled to the post and the sleeve, said third surface being disposed substantially equidistant from the other said surfaces when the device occupies its closed position.

3,197,252
ROOF CONSTRUCTION FOR VEHICLES

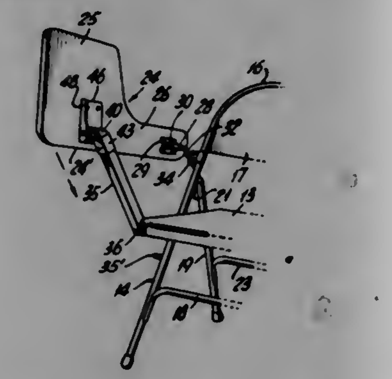
Karl Wilfert, Stuttgart-Degerloch, and Béla Barényi, Stuttgart-Vaihingen, Germany, assignors to Daimler-Benz Aktiengesellschaft, Stuttgart-Unterturkheim, Germany
Filed May 7, 1962, Ser. No. 192,787
Claims priority, application Germany, May 17, 1961, D 36,101
4 Claims. (Cl. 296—137)



1. A motor vehicle, especially passenger motor vehicle having in appearance a substantially flat sheet metal roof, the roof surface of said roof being curved concavely as seen in transverse cross section and convexly in longitudinal cross section, with the radius of curvature for each curve being relatively large to provide said substantially flat appearance of said roof.

3,197,253
FOLDING CHAIR

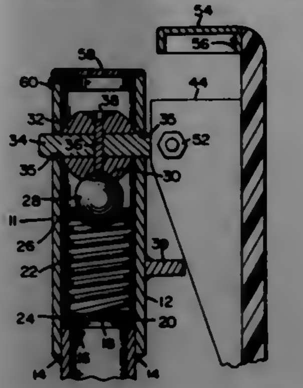
Joseph D. Brown, 11 Forbes Blvd., Eastchester, N.Y.
Filed June 1, 1964, Ser. No. 371,461
7 Claims. (Cl. 297—36)



1. The combination with a folding chair having back, seat and leg members movable from a folded position with the members in relatively closely disposed relationship to an open position, of a folding tablet arm assembly comprising an elongated tablet arm, means pivotally securing one end of said arm to said back member for pivotal movement of said arm in a substantially vertical plane relative to said chair and about an axis extending in a direction of the length of said arm, an elongated link pivotally secured to said seat member at a point spaced from the forward edge thereof and angularly displaceable in a vertical plane, a hinge assembly securing the forward end of said tablet arm to said link, said hinge assembly including a plate secured to the underside of said tablet arm, a depending member hinged to said plate with the axis of said hinge being in substantial alignment with the first said axis, means pivotally and slidably securing said depending hinge portion to said link whereby angular movement of the tablet arm about the first said pivot and in a vertical plane will produce corresponding angular rotation of said link, and downwardly extending means carried by said plate and abutting the outer end of said link with the latter inclined outwardly and upwardly of the seat member when the tablet arm is moved about said axes and into the writing position to retain said tablet arm in the writing position.

3,197,254
FOLDING TABLET ARM CHAIR

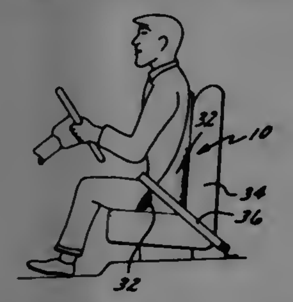
Severin B. Hendrickson, Templeton, Mass., assignor to Heywood-Wakefield Company, Gardner, Mass., a corporation of Massachusetts
Filed Mar. 20, 1963, Ser. No. 266,685
1 Claim. (Cl. 297—162)



Means for pivotally mounting a flat surfaced writing tablet on a chair for movement from an initial downwardly disposed vertical side storage position through an intermediate upwardly disposed vertical position to a final operative position extending horizontally and in spaced relationship over the seat of said chair, said means comprising the combination of a longitudinal upwardly disposed supporting member attached to said chair, a pivotal housing having its upper extremity terminating in a tablet bumper mounted on said upwardly disposed supporting member, a first pivotal means contained within said housing for pivoting said tablet within the plane of said flat surface from said initial downwardly disposed vertical side storage position to said intermediate vertical position, said housing containing means for exerting a holding action on said first pivotal means when said tablet is in said initial and intermediate positions, a second pivotal means operatively connected to said first pivotal means for pivotally displacing said tablet in a direction transverse to said plane from said intermediate position to said final horizontal operative position, said bumper exerting an upward supporting force on said tablet when in said final operative position, and an arm support member mounted on said writing tablet and extending outwardly therefrom, said arm support member having its upper surface coinciding with one edge of said table to provide an arm rest when said tablet is positioned in said downwardly disposed vertical side storage position.

3,197,255
PORTABLE BACK SUPPORT

Doris B. Caudill, 2125 W. Walnut Ave., Fullerton, Calif.
Filed Oct. 12, 1964, Ser. No. 403,143
2 Claims. (Cl. 297—460)



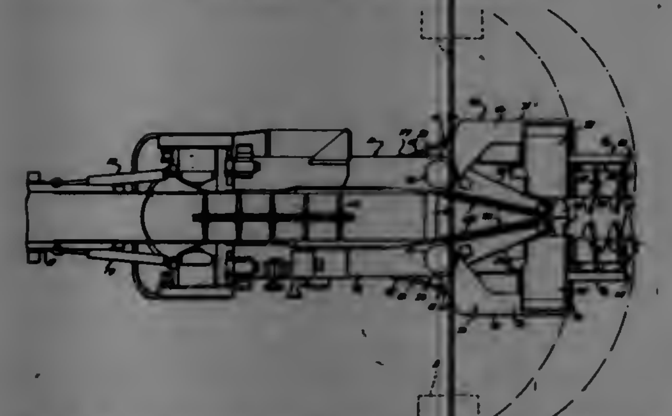
1. A portable back support to be placed on ordinary seating means comprising in combination, a generally arcuate stiff frame having a relatively high central portion and generally stiff but flexible relatively low side portions for firmly receiving the torso of a person's body when a seat belt is secured across the person using said support, said frame being formed with a central opening in said central portion for receiving the person's spinal column without interference with said frame, said frame having an uninterrupted surface except for said opening for

firmly holding the person's body, at least one elongated rib on the central portion of said frame to one side of said central opening therein having a generally arcuate cross-section, and resilient covering on said frame and rib extending across said through opening, whereby securing of a seat belt across said person causes said frame to firmly support the back and sides of the person's torso and said rib to exert a sidewise force on the person's spinal column to maintain the same in the desired position.

3,197,256

CONTINUOUS MINING MACHINE WITH LOADING MEANS

Emil J. Hlinsky, La Grange Park, Ill., assignor to Goodman Manufacturing Company, Chicago, Ill., a corporation of Illinois
Original application Jan. 23, 1961, Ser. No. 84,025. Divided and this application Aug. 6, 1963, Ser. No. 300,212
5 Claims. (Cl. 299—64)



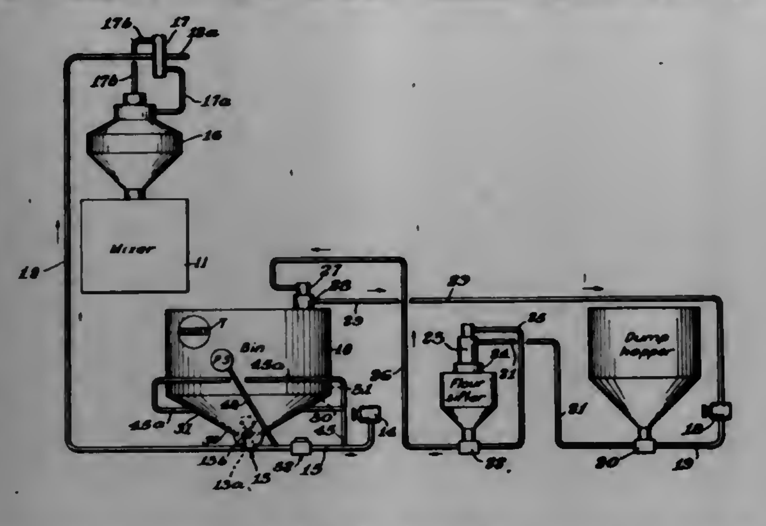
5. In a continuous mining machine, a mobile main frame, an elevating conveyor extending along said main frame from a position adjacent the ground at the forward end of said main frame, a boom arm at each side of said conveyor and extending in advance thereof, vertical pivot pins mounting said boom arms on said main frame, power means for moving said boom arms toward and from each other about said vertical pivot pins, a side cutting mining head supported on each boom arm and extending in advance thereof, an individual motor driving each mining head, and gathering means extending along said boom arms along the advance sides thereof as said boom arms move toward each other and including vertical material confining plates extending along said boom arms from positions adjacent the inner ends of said mining heads to positions adjacent opposite sides of said conveyor, vertically spaced guide plates extending along the upper and lower ends of said material confining plates, vertically spaced idler sprockets in advance of the forward ends of said material confining plates and facing said mining heads, vertically spaced drive sprockets coaxial with said pivot pins, and endless chains trained about said idler and drive sprockets and guided by said guide plates for movement along said confining plates and having spaced vertically extending flights mounted therebetween, said idler sprockets guiding said chains and flights to collect the material mined by said mining heads and progress the material along said material confining plates toward said elevating conveyor as said mining heads progress toward each other.

3,197,257

FLUID CONVEYING SYSTEM

Norman O. Krenke, Saginaw, Mich., assignor to Baker Perkins Inc., Saginaw, Mich., a corporation of New York
Filed July 17, 1962, Ser. No. 210,392
18 Claims. (Cl. 302—3)

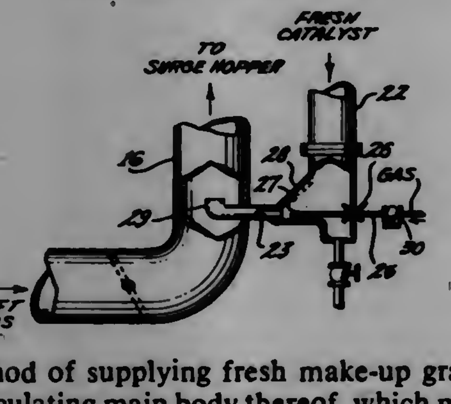
1. In a fluid conveying system; fluid stream introducing means including conduit means for transmitting particulate material entrained in the fluid stream; receptacle means for said particulate material connecting into said conduit means; an element, sensitive to the pressure in said conduit means, disposed in said conduit means upstream of said receptacle means and biased to interpose a resistance to flow in said conduit means when the pressure condition of the flow through said conduit means lowers; and means communicating with said conduit means upstream of said resistance interposing means aiding the discharge of material from said receptacle means in accordance with the pressure condition in said conduit means.



3,197,258

CONTACT MASS MAKE-UP

Willis J. Cross, Jr., Media, Pa., assignor to Houdry Process Corporation, Wilmington, Del., a corporation of Delaware
Original application Mar. 1, 1961, Ser. No. 92,705, now Patent No. 3,149,924, dated Sept. 22, 1964. Divided and this application Dec. 6, 1963, Ser. No. 342,321
1 Claim. (Cl. 302—17)



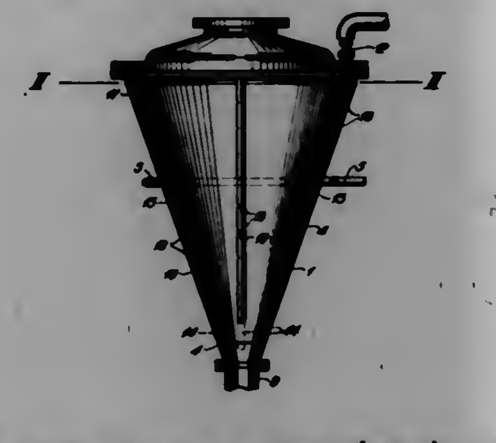
The method of supplying fresh make-up granular catalyst to a circulating main body thereof, which method comprises passing such make-up catalyst in compact gravitating flow from a supply source to a substantially horizontal transfer path, continuously impelling small amounts of the catalyst through said transfer path by a gas stream into an ascending confined stream of lift gas in a conduit at a point intermediate to the outer walls of the lift gas conduit, and controlling the amounts so impelled by adjusting the location of the point of initial contact of the gas stream with the catalyst in said substantially horizontal path and by adjusting the rate of gas flow through said substantially horizontal path.

3,197,259

PNEUMATIC CONVEYOR APPARATUS HAVING A PRESSURE CONTAINER FOR PULVERULENT OR GRANULAR MATERIAL

Heinrich Braun-Angott, 11 Berliner Strasse, Hagen, Westphalia, Germany
Filed Dec. 14, 1962, Ser. No. 244,711
Claims priority, application Germany, Dec. 19, 1961, B 65,245
7 Claims. (Cl. 302—53)

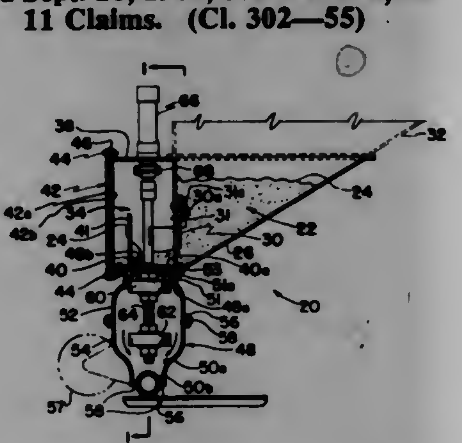
1. Pneumatic conveyor apparatus comprising, in combination, a pressure container for pulverulent granular material, said pressure container having a downwardly tapering conical part; a conical elastic lining in said conical part of said pressure container and attached at its upper edge thereof to the upper end of said conical part and being slightly spaced over a major portion thereof from the inner surface of said conical part, so as to form a space between itself and the inner surface of said conical part; partition means subdividing said space into a plurality of individual spaces; a conveying pipe connected to the lower end of said conical part; and means for feeding compressed gas into each of said individual spaces between the inner surface of said conical part of said pressure container and said conical lining so as to move the unattached portions of said lining further away from the inner surface of the conical part and to cause said compressed gas to emerge in an annular stream at the lower end of said conical lining from said space to be admixed to the material falling into said conveyor pipe.



3,197,260

SYSTEM FOR FEEDING AND TRANSPORTING MATERIALS

John H. Kauffman, Crystal Lake, Ill., assignor to Herbert Simpson Corporation, Chicago, Ill., a corporation of Illinois
Filed Sept. 26, 1962, Ser. No. 226,339
11 Claims. (Cl. 302—55)

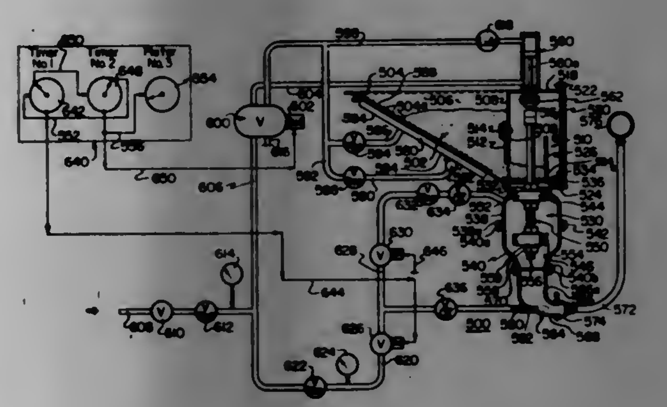


1. A feeding unit for feeding material from a material containing hopper into a flow duct having a moving fluid stream therein, said unit comprising a first valve chamber having an inlet opening at its upper end adapted for communiaction with said hopper and an outlet opening at its lower end, said chamber including an upper, annular, generally conical seating surface encircling said inlet opening and a lower, annular, generally conical seating surface encircling said lower outlet, a first movable valve member disposed in said first valve chamber including upper and lower generally cylindrical, resilient valve disks in spaced apart concentric relation to one another and movable on an upward stroke to seat said upper disk against said upper seating surface when said lower disk is away from said lower seating surface and on a downward stroke to seat said lower disk against said lower seating surface when said upper disk is away from said upper seating surface, rod means having an outer end and a free end extending into said first chamber through one of said openings in axial alignment therewith including means for securing said disks thereon in said spaced apart relation, means externally of said chamber connected to the outer end of said rod means for reciprocally moving said first valve member to effect alternate seating of said disks against their respective seating surfaces for predetermined selected periods of time, a second valve chamber having a seat therein and an inlet end in communication with said outlet opening and an outlet end adapted for communication with said flow duct, a second valve member disposed in said second valve chamber movable into engagement with and away from said seat and means for moving said second valve member to engage said seat for selective predetermined time intervals.

3,197,261

SYSTEM FOR FEEDING AND TRANSPORTING MATERIALS

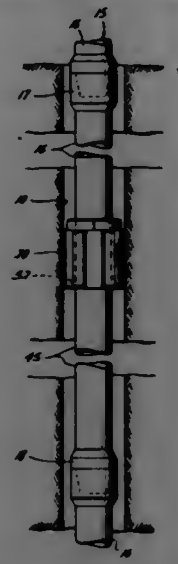
John H. Kauffman, Crystal Lake, Ill., assignor to Herbert Simpson Corporation, Chicago, Ill., a corporation of Illinois
Filed Mar. 9, 1964, Ser. No. 350,162
5 Claims. (Cl. 302—55)



1. Apparatus for feeding granular material into a fluid conduit containing a moving fluid stream, said apparatus comprising a generally vertically extending valve chamber having an upper inlet, a lower discharge outlet, and a pair of vertically spaced-apart, gradually tapering, elongated, generally conical upper and lower valve seating surfaces in concentric arrangement about a central vertical axis of the chamber, a supply chamber disposed vertically above said valve chamber containing a supply of granular material and in communication with the inlet of said valve chamber, rod means extending downwardly into said valve chamber through the inlet thereof and having an upper end reciprocally movable along the central axis of said valve chamber, upper and lower, generally flat, substantially cylindrical, resilient valve disks arranged in vertically spaced-apart relation on the free end of said rod means and movable therewith transversely of said central axis for alternate self-aligned seating of the disks against the gradually tapering portion of the respective seating surfaces upon reciprocal movement of said rod means, a fluid cylinder mounted on said supply chamber above and coaxial with the central axis of said valve chamber, piston means reciprocally movable in said cylinder and operatively connected with the upper end of said rod means, means for selectively supplying pressurized fluid to said cylinder to reciprocate the piston means, a collecting chamber disposed below and in communication with the lower discharge outlet of said valve chamber for receiving material discharged therefrom, said collecting chamber including an outlet in communication with said fluid conduit, and nozzle means extending into and axially aligned with the outlet of said collecting chamber directing a stream of pressurized fluid into the material in said collecting chamber for moving said material into said fluid conduit.

3,197,262
PIPE PROTECTOR

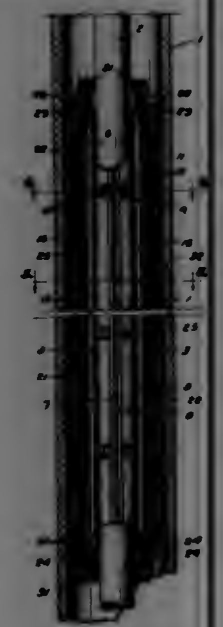
Byrl R. Fairchild, P.O. Box 2034, Oil Center Station, Lafayette, La.
Filed Nov. 5, 1962, Ser. No. 235,418
4 Claims. (Cl. 308—4)



1. A pipe protector for drill pipe sections which are adapted to be connected together by tool joints including,
(a) a tubular member for positioning on the drill pipe section, the inner diameter of said member being slightly greater than the outer diameter of the drill pipe section and smaller than the outer diameter of the tool joints when mounted thereon,
(b) fluid conducting passage means formed on the exterior surface of said member and fluid conducting passage means formed on the interior surface of said member for conducting fluid longitudinally of said interior and exterior surface of said member,
(c) said tubular member including an inner bushing split into a plurality of longitudinally extending sections,
(d) an outer sleeve extending coaxially with said inner bushing, and
(e) thread means on said sections for securing said inner bushing in said outer sleeve.

3,197,263
VIBRATION DAMPENER AND STABILIZER FOR SUCKER RODS

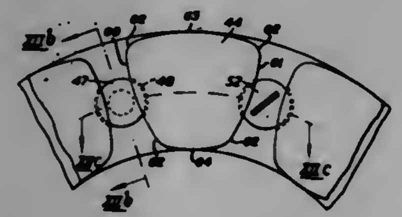
Samuel M. Holcombe, La Mesa, Calif.; Dorothy Holcombe Benton, executrix of said Samuel Maxwell Holcombe, deceased
Filed Jan. 30, 1963, Ser. No. 254,915
3 Claims. (Cl. 308—4)



2. In combination,
a flow tubing,
a string of sucker rods reciprocable within the flow tubing, and
a stabilizer bodily mounted on one of the sucker rods and reciprocable therewith for sliding contact with the flow tubing to stabilize lateral movement of the rod and to dampen vibration of the string of sucker rods,
said stabilizer including
elongated collar segments seating upon and substantially encircling the sucker rod and having outwardly extending flanges terminating short of the flow tubing,
fastening devices extending through the flanges of said collar segments for drawing the segments together in gripping contact with the sucker rod,
a plate of arcuate cross section coextensive with each collar segment,
said plates having edges spaced circumferentially from each other and from said flanges to accommodate insertion of the fastening devices and provide flow passages therebetween,
said plates having inwardly tapering ends projecting beyond upper and lower ends of the collar segments,
shoes conforming with and covering outer faces of the arcuate plate portions and having similarly tapering ends covering the tapering ends of the plates to fix the shoes from longitudinal movement of the shoes on said plates,
means for securing the shoes from radial movement on said arcuate plates, and
a composition facing having fixed connection with the plates to provide outer faces for sliding contact with the flow tubing and to prevent contact of the flanges with the flow tubing during reciprocation of the rods.

3,197,264
THRUST PADS

Alfred Hill, Wembley, England, assignor to The Glacier Metal Company Limited, Wembley, England, a company of Great Britain
Filed Jan. 14, 1963, Ser. No. 251,140
Claims priority, application Great Britain, Jan. 19, 1962, 2,113/62
5 Claims. (Cl. 308—160)

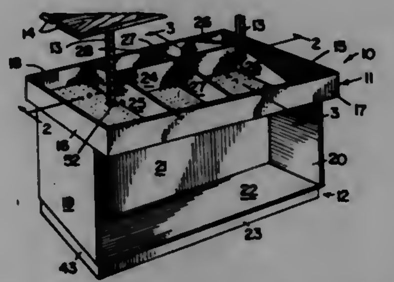


1. A thrust pad having four sides and a thrust bearing surface defined by said sides, all of said sides being arcuate convex outwards, two of said arcuate sides being opposite each other and being of equal shape and the other two of said sides being opposite each other and of unequal shape, the pad being symmetrical about an axis in the thrust bearing surface between the equal arcuate sides, and rounded off corners where adjacent sides meet.

3,197,265
DISPLAY TABLE

Morris Rand, Boston, Mass., assignor to Rand Associates, Inc., Boston, Mass.
Filed July 27, 1962, Ser. No. 212,993
4 Claims. (Cl. 312—140.1)

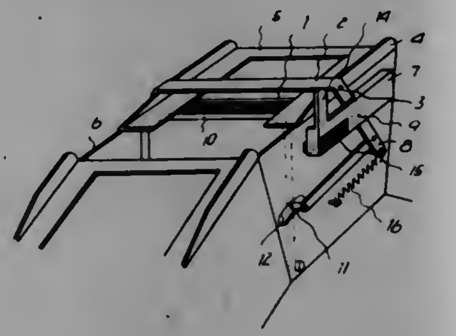
1. In a display table capable of being easily set up or knocked down,
a mounting base adapted to rest on the ground and having a planar mounting board affixed thereto,
first and second cutout portions defined by said mounting board surrounding and slidably and snugly receive first and second rectangular cross sectioned, vertical spaced standards,
a display tray extending above and substantially parallel to said mounting board and defining first and second cutout portions slidably receiving first and second vertical standards with said first and second cut-up portions of said display tray being in alignment with said first and second mounting board cutout portions respectively,
first and second spaced sidewalls extending substantially parallel to each other and perpendicular to said base and said tray,
said sidewalls removably affixed to said base and tray by a plurality of fastening means,



said fastening means comprising a male insert bracket engaged with a locking plate by a removable wedge,
said first and second vertical standards each having a lower end resting on the ground and portions thereof mounted in said first and second base and tray receiving cutout portions with upper portions extending above said tray,
two sets of parallel shelves extending between and affixed to said standards at said upper portions,
a substantially vertically extending separating panel abutting and extending between said sidewalls and said base and tray,
whereby said standards and panel prevent swaying of said table in a first direction and said sidewalls prevent swaying of said table in a second direction perpendicular to said first direction.

3,197,266
CARD RETAINING DEVICE FOR ROTARY FILING APPARATUS

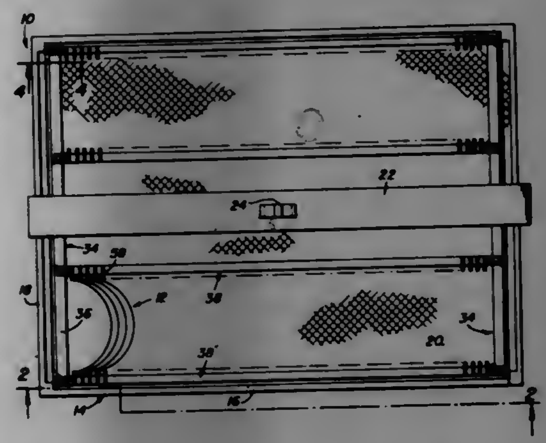
Mario Conde-Garriga, Avda. Jose Antomio 617, Barcelona, Spain
Original application Feb. 5, 1959, Ser. No. 791,368, now Patent No. 3,052,509, dated Sept. 4, 1962. Divided and this application July 12, 1962, Ser. No. 209,403
6 Claims. (Cl. 312—186)



1. In a rotary filing apparatus, in combination,
a card storage compartment having a pair of parallel walls, a transverse wall and an opening and adapted to store a plurality of cards;
obstructing means mounted on said card storage compartment and movable from an inoperative position in which it is spaced from the opening of said compartment and permits the removal of cards from the said compartment to an operative position in which it partially obstructs the opening of the said compartment and prevents the removal of cards from the said compartment and from said operative position to said inoperative position;
pressure means located at least in part between said parallel walls pivotally supported on said card storage compartment and movable between said parallel walls from an inoperative position in which it is spaced from cards in said compartment to an operative position in which it urges cards in the said compartment together and toward said transverse wall of the said compartment and from said operative position to said inoperative position;
manually operable coupling means mechanically coupling said obstructing means and said pressure means for simultaneously moving each of said obstructing means and said pressure means into its inoperative position and for simultaneously moving each of the said obstructing means and the said pressure means into its operative position; and
manually operable locking means in operative proximity with said coupling means for simultaneously releasably locking each of said obstructing means and said pressure means in its operative position.

3,197,267
PICKLING RACK

Earl R. Duff, 613 E. Canal St., Newcomerstown, Ohio
Filed Nov. 18, 1963, Ser. No. 324,405
9 Claims. (Cl. 312—213)



1. A rack for holding a plurality of articles capable of being stacked in nested relationship to each other comprising, a housing having an open side through which said articles are inserted and at least one side spaced from said open side, said one side being closed by a foraminous closure to retain the articles in the housing, positioning means mounted in the housing for holding said articles closely spaced in said nested relationship abutting the foraminous closure, said positioning means comprising at least two pair of supporting bars, bracket means removably mounting said supporting bars in spaced relation to the foraminous closure, at least one pair of parallel spacing bars mounted in adjusted spaced relation between each of said pairs of supporting bars, and a plurality of spacing projections extending from the respective spacing bars of each of said pairs toward each other for engagement by the articles disposed between said pairs of spacing bars, said spacing projections including flat faces engaged by edge portions of said articles and sharp edges engaged by surface portions of said articles, and clamp means secured to opposite end portions of each spacing bar for securing the spacing bar in adjusted position between the supporting bars, said bracket means comprising a plurality of plate members secured to the housing and having slots therein for receiving pins projecting from the supporting bars.

3,197,268

DISPERSE DYE DYEING OF ALKALI ALKALI TREATED POLYESTER-POLYURETHANE FOAM PRODUCTS

Guy Knafo, New York, N.Y., assignor to Nopco Chemical Company, Newark, N.J., a corporation of New Jersey

No Drawing. Filed May 25, 1962, Ser. No. 197,613
10 Claims. (Cl. 8—[illegible])

1. A method of dyeing polyester-polyurethane foam products and laminates thereof which comprises applying an alkali to a polyester-polyurethane foam containing a branched chain polyester formed by reacting a compound selected from the group consisting of an aliphatic dicarboxylic acid and an aliphatic monoanhydride with an aliphatic polyol, and dyeing said foam in an aqueous dyebath containing a dispersed dyestuff.

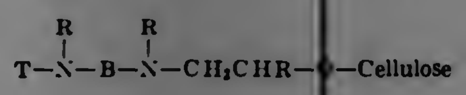
3,197,269

REACTIVE DYESTUFFS FOR CELLULOSIC TEXTILES AND PROCESS OF APPLICATION

George L. Drake, Jr., Metairie, Rita M. Perkins, New Orleans, and Wilson A. Reeves, Metairie, La., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Filed Nov. 23, 1962, Ser. No. 239,853
6 Claims. (Cl. 8—1[illegible])
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. A process for dyeing cellulosic material and chemically bonding the dye to the cellulosic material with to produce a material having the structure:



$$T-\overset{R}{\overset{|}{N}}-B-\overset{R}{\overset{|}{N}}-CH_2CHR-\ -\text{Cellulose}$$

wherein T is vinyl sulfone containing dye, B is a member of the group consisting of carbonyl, phosphoryl, and thio phosphoryl, and R is a member of the group consisting of H—, and CH_3 comprising impregnating the cellulosic material with the dye and a 1-aziridine compound and drying the impregnated cellulosic material.

3,197,270

METHOD OF FINISHING NYLON TEXTILE MATERIAL

Philip B. Roth, Bridgewater Township, Somerset County, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Nov. 1, 1962, Ser. No. 234,876
7 Claims. (Cl. 8—1[illegible]5.5)

1. A method for finishing nylon textile material containing at least 50% by weight of nylon to improve its resistance to degradation from sunlight, weathering, heat and moisture, which comprises applying thereto a water-soluble condensate of melamine and formaldehyde in the presence of a catalytically effective amount of a curing catalyst, durably fixing the condensate of melamine and formaldehyde by effecting complete cure of said condensate on the material so treated while it is in the wet state in a sealed container and at a temperature of from room temperature up to the temperature at which the nylon textile material degrades.

3,197,271

METHOD OF WASHING AND BLEACHING FABRICS

Thomas R. Smith, Gordon J. Davis, William J. McNally, and John R. Cochran, Newton, Iowa, assignors to The Maytag Company, Newton, Iowa, a corporation of Delaware

Original application Mar. 3, 1958, Ser. No. 718,639, now Patent No. 3,035,431, dated May 22, 1962. Divided and this application Jan. 22, 1962, Ser. No. 167,671
5 Claims. (Cl. 8—137)

1. A method of introduction of a bleach solution to the clothes receptacle of a washing machine operable through a washing operation comprising, filling said receptacle with a washing fluid containing a detergent-fluorescent dye composition, initiating said washing operation by agitation of said washing fluid, introducing said washing fluid from said receptacle to a reservoir containing a bleach solution, and gradually admixing said bleach solution diluted with said washing fluid into said receptacle after initiation of the agitation of the washing fluid.

3,197,272

METHOD OF TREATING COOLING TOWERS

Carl W. Regutti, Glenshaw, Pa., assignor to Calgon Corporation, a corporation of Pennsylvania

No Drawing. Filed Sept. 5, 1961, Ser. No. 135,778
5 Claims. (Cl. 21—7)

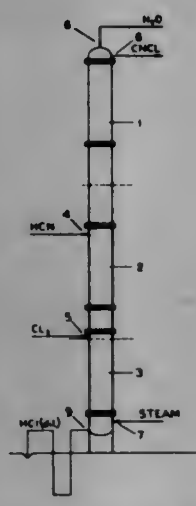
1. Method of treating a cooling tower to inhibit deterioration comprising enclosing said cooling tower with an impervious temporary cover, introducing steam into said cooling tower until the temperature has been held at a sufficient elevation for a period of time sufficient to substantially sterilize said cooling tower, passing a portion of inflowing steam through a container of steam-distillable biocide and into the cooling tower, halting the introduction of steam, and allowing the cooling tower to cool.

3,197,273

PROCESS FOR THE CONTINUOUS PRODUCTION OF CYANOGEN CHLORIDE

Elwood Bruce Trickey, Chicasaw, Ala., assignor to Geigy Chemical Corporation, Town of Greenburgh, N.Y., a corporation of Delaware

Filed July 31, 1961, Ser. No. 128,164
3 Claims. (Cl. 23—14)



1. An improved and simplified process for the continuous production in a one-column closed system of cyanogen chloride in high yields and of great purity adapted for immediate conversion to cyanuric chloride which comprises

(a) charging chlorine and hydrogen cyanide to a reaction section in the middle portion of said column, the chlorine being in excess by about 5% and the hydrogen cyanide being introduced to said reaction section superiorly to the chlorine,

(b) feeding water to a purification section in the upper portion of said column in order to remove hydrogen cyanide and hydrogen chloride from the product gas stream which passes therethrough,

(c) passing steam into a stripping section at the base of said column in order to remove hydrogen cyanide and cyanogen chloride dissolved in the dilute hydrogen chloride formed,

(d) adjusting and then uniformly maintaining the rate of input of hydrogen cyanide and chlorine and the rate of steam and water flow so that the formation of cyanogen chloride takes place predominantly in a reaction zone located in the middle portion of said reaction section and

(e) recovering cyanogen chloride admixed with about 5% of chlorine from the top of said column;

the temperature in said column decreasing from 102–110° C. at the bottom to 15–20° C. at the top.

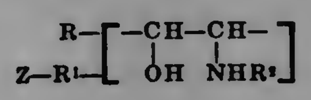
3,197,274

LIQUID-LIQUID RECOVERY OF METAL VALUES USING HYDROXYAMINE EXTRACTANTS

James M. White, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

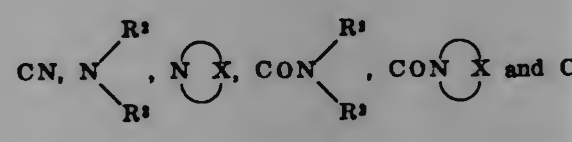
No Drawing. Filed Mar. 5, 1962, Ser. No. 177,159
17 Claims. (Cl. 23—14.5)

2. A process for the recovcry of extractable metal values from an aqueous solution comprising: (1) contacting said aqueous solution with a water immiscible organic phase containing an aminohydroxyalkyl compound having the formula:

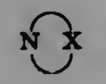


$$\begin{matrix} R- \\ Z-R^1- \end{matrix}\left[\begin{matrix} -CH-CH- \\ | \qquad | \\ OH \quad NHR^2 \end{matrix}\right]$$

where Z is selected from the group consisting of



R is selected from the group consisting of hydrogen and aliphatic hydrocarbon radicals of 1 to 20 carbon atoms, R^1 is a divalent aliphatic hydrocarbon radical of 1 to 21 carbon atoms, R^2 and R^3 are selected from the group consisting of hydrogen, aliphatic hydrocarbon radicals, aryl radicals, hydroxyalkyl radicals and aminoalkyl radicals, R^4 is selected from the group consisting of hydrogen, aliphatic radicals and aryl radicals,



is a nitrogen containing heterocyclic radical with X being the residue of said radical, and the total number of carbon atoms in R and R^1 is in the range of 5 to 21, to extract said metal values into said organic phase; (2) separating the resultant metal-pregnant organic phase from the aqueous phase; (3) contacting said metal-pregnant organic phase with an aqueous stripping medium to strip the metal values from the metal-pregnant organic phase; and (4) separating the resultant metal-pregnant aqueous stripping medium from the organic phase.

3,197,275

PROCESS FOR THE PRODUCTION OF ALKALI METAL CYANATES

Tomiro Iwai, Tokyo, Japan, assignor to Sakae Food Stuff Industry Co., Ltd., Tokyo, Japan, a corporation of Japan

No Drawing. Filed Apr. 12, 1963, Ser. No. 272,514
Claims priority, application Japan, May 9, 1962, 37/18,113
4 Claims. (Cl. 23—75)

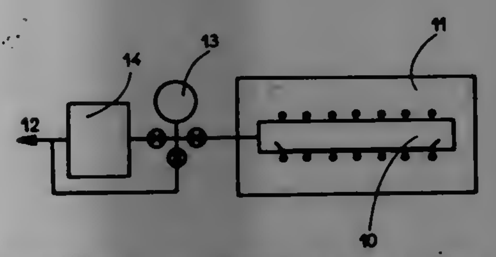
1. A process for the production of alkali metal cyanate by the reaction between urea and alkali metal carbonate, which comprises heating the alkali metal carbonate to a temperature of about 150°–350° C., thereupon mixing and stirring urea slowly and in progressively decreasing amounts with the preheated alkali metal carbonate, the mole ratio of urea to alkali metal carbonate being about 2.0–1.6:1, maintaining the temperature of the so-obtained reaction mixture constantly within the range of about 150°–350° C., the temperature being decreased within said temperature range during the mixing of the urea and the alkali metal carbonate and then being raised within said range upon completion of the addition of the urea.

3,197,276

PROCESS FOR THE PREPARATION OF PURE ANHYDROUS AlF_3 FROM $NH_4Al(SO_4)_2\cdot 12H_2O$

Francis Forrat, Marcoussis, France, assignor to Compagnie Generale d'Electricite, Paris, France

Filed July 9, 1963, Ser. No. 293,796
Claims priority, application France, July 19, 1962, 904,540
8 Claims. (Cl. 23—88))



1. A process for the preparation of pure anhydrous aluminum fluoride from the double aluminum and ammonium fluoride compound, $AlF_3\cdot 3NH_4F$, which comprises reacting ammonium aluminum sulfate,

$$NH_4Al(SO_4)_2\cdot 12H_2O$$

with hydrofluoric acid to form said double fluoride compound, thermally decomposing said double fluoride compound under vacuum, and separating the obtained anhydrous aluminum fluoride.

3,197,277

PREPARATION OF SODIUM CHLORIDE HAVING VERY LOW BULK DENSITY

Edward Graham Cooke, Northwich, England, assignor to Imperial Chemical Industries Limited, London, England, a corporation of Great Britain

No Drawing. Filed Apr. 5, 1962, Ser. No. 185,197
Claims priority, application Great Britain, Apr. 21, 1961, 14,496/61
12 Claims. (Cl. 23—89)

1. A process for making a light weight salt mass which comprises inflating an aqueous mixture of sodium chloride and a binding agent with an inflating gas which is chemically inert with respect to said mixture and thereafter drying said mixture to remove water, said binding agent being selected from the class consisting of gelatin, gluten, gums, albumens, casein, starches, dextrins and alkyl celluloses, said inflating gas being selected from the group consisting of carbon dioxide generated in situ from sodium and ammonium bicarbonates, and air.

3,197,278

METHOD OF MAKING SYNTHETIC MICA AND CERAMOPLASTIC MATERIAL

Philip S. Hessinger, West Caldwell, and Thomas W. Weber, Woodbridge, N.J., assignors to Mycalex Corporation of America, Clifton, N.J., a corporation of New York

No Drawing. Filed Sept. 17, 1963, Ser. No. 309,412
24 Claims. (Cl. 23—110)

1. The method of making non-hydroxyl mica comprising the steps of dissolving non-hydroxyl mica forming material in heated lithium sulfate solvent, and then cooling the resulting solution to cause non-hydroxyl mica crystals to precipitate out of said solution.

15. A method of making a ceramoplastic material comprising the steps of dissolving at least 30% by weight of non-hydroxyl mica forming material in lithium sulfate heated to between 900° C. and 1250° C., cooling the resulting solution at a rate to precipitate said non-hydroxyl mica therefrom and then to solidify said glass solution with a dispersion of said precipitated mica therein, grinding said solidified material, and then molding at least a portion of said ground material under heat and pressure compressing at least a portion of said ground material into a preform, and then heating said preform to cause said lithium sulfate to recrystallize to form a substantially continuous matrix for the mica dispersed therethroughout.

3,197,279

METHOD OF MAKING SYNTHETIC MICA AND CERAMOPLASTIC MATERIALS

Philip S. Hessinger, West Caldwell, and Thomas W. Weber, Woodbridge, N.J., assignors to Mycalex Corporation of America, Clifton, N.J., a corporation of New York

No Drawing. Filed Oct. 17, 1963, Ser. No. 317,050
24 Claims. (Cl. 23—110)

1. The method of making non-hydroxyl mica comprising the steps of dissolving non-hydroxyl mica forming material in heated lead fluoride solvent, and then cooling the resulting solution to cause non-hydroxyl mica crystals to precipitate out of said solution.

15. A method of making a ceramoplastic material comprising the steps of dissolving at least 30% by weight of non-hydroxyl mica forming material in a lead fluoride heated to between 1150° C. and 1250° C., cooling the resulting solution at a rate to precipitate said non-hydroxyl mica therefrom and then to cause said lead fluoride to crystallize with a dispersion of said precipitated mica therein, grinding said solidified material, compressing at least a portion of said ground material into a preform, and then heating said preform to cause said lead fluoride to recrystallize to form a substantially continuous matrix for the mica dispersed therethroughout.

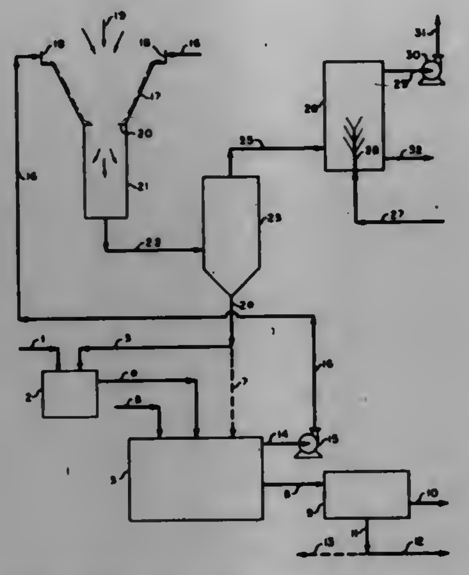
3,197,280

PRODUCTION OF PHOSPHORIC ACID

Robert J. Boyle, Scotch Plains, and James A. Gross, East Brunswick, N.J., assignors to Chemical Construction Corporation, New York, N.Y., a corporation of Delaware

Filed Jan. 11, 1962, Ser. No. 165,514
5 Claims. (Cl. 23—165)

1. In a phosphoric acid process in which phosphate rock is mixed with cooled recycle slurry, the resulting mixed slurry is reacted with sulfuric acid to form phosphoric acid and calcium sulfate in a high temperature reaction slurry, and the final reacted slurry is filtered to separate solid calcium sulfate from product phosphoric acid solution, the improved method of cooling said reaction slurry with air and precipitating calcium sulfate which comprises directing a portion of said slurry onto the inner surface of a downwardly converging passage, passing an inlet air stream downwards through said passage whereby said air stream is accelerated, projecting said slurry transversely into said air stream at the lower end of said passage, whereby said slurry is rapidly and uniformly dispersed into said air stream as finely divided particles and droplets, separating the resulting heated air stream from the cooled slurry, and returning the cooled slurry as said cooled recycle slurry.



3,197,281

METHOD FOR REMOVING IRON FROM AQUEOUS CONCENTRATED ALKALI METAL HYDROXIDE SOLUTIONS

Melvin J. Hatch, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 27, 1963, Ser. No. 268,442
4 Claims. (Cl. 23—184)

1. The method for removing iron from an aqueous concentrated alkali metal hydroxide solution containing an iron compound by contacting said solution with a water-insoluble cross-linked copolymer of a mixture of a monovinylaromatic hydrocarbon and a copolymerizable cross-linking agent which contains at least two $CH_2{=}C{=}$ groups, said cross-linking agent being present in molar amount of 0.25 to 6 percent, said copolymer having attached to nuclei thereof substituents of the group consisting of $—CH_2—O—Z$, $(—CH_2—O—)_2Z$ and mixtures thereof, Z being a polyol group derived from sorbitol, mannitol, galactitol, talitol, arabitol, ribitol and mixtures thereof, and removing the surrounding alkali metal hydroxide solution from said copolymer.

3,197,282

PROCESS FOR SIMULTANEOUSLY PRODUCING PURE AND CRUDE MAGNESIUM HYDROXIDE FROM SEA WATER

Tsuneo Kato, Iwaki-shi, Japan, assignor to Asahi Kasei Kogyo Kabushiki Kaisha, Kita-ku, Osaka, Japan, a corporation of Japan

Filed Jan. 17, 1962, Ser. No. 166,840
Claims priority, application Japan, Feb. 14, 1961, 36/5,010
2 Claims. (Cl. 23—201)

1. A method for the simultaneous production of pure and crude magnesium hydroxide from sea water, and method comprising mechanically fractionating calcium carbide waste in milky state to separate the wast into pure and crude fractions respectively constituted of relatively coarse and fine particle size, reacting the fine calcium carbide waste fraction with sea water to produce sea water substantially free from carbonic acid and a first precipitate containing magnesium hydroxide, reacting the pure calcium carbide waste fraction with the sea water which is substantially free from carbonic acid to form a second

precipitate containing magnesium hydroxide, and mechanically fractionating the second precipitate to produce a first fraction containing substantially pure magnesium hydroxide and a second fraction containing crude magnesium hydroxide.

3,197,283

PROCESS FOR THE PRODUCTION OF SILICON TETRACHLORIDE

William Edward Hamer, Highfield, Marchwiel, Wrexham, Wales, assignor to Monsanto Chemicals Limited, London, England, a British company

No Drawing. Filed Oct. 10, 1960, Ser. No. 61,351
Claims priority, application Great Britain, Nov. 10, 1959, 38,069/59
4 Claims. (Cl. 23—205)

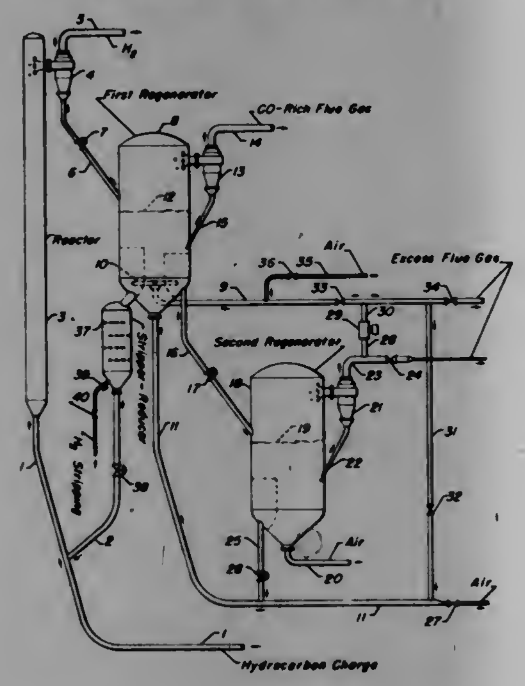
1. A process for the production of silicon tetrachloride which comprises intimately mixing finely divided silicon, carbon and silica, granulating the resulting mixture, and thereafter passing chlorine into contact with the granules of finely divided silicon, carbon and silica, to thereby result in the exothermic reaction of silicon with chlorine to produce silicon tetrachloride and the endothermic reaction of silica with carbon to produce silicon and oxides of carbon, said granules containing from 10 to 20 mols of silica for each mol of silicon and the ratio of silicon, carbon and silica in said granules being such that the heat required to initiate and maintain the endothermic reaction of chlorine with silica and carbon is supplied by heat generated in the chlorination of silicon and such that the process proceeds at an elevated and substantially constant temperature.

3,197,284

FLUIDIZED CATALYTIC HYDROGEN PRODUCTION

James Hoekstra, Evergreen Park, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

Filed Aug. 4, 1961, Ser. No. 129,330
4 Claims. (Cl. 23—212)



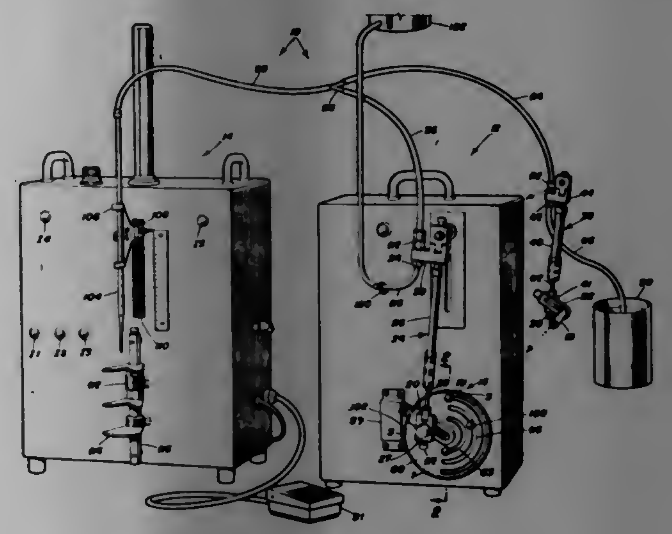
1. A continuous method for cracking a hydrocarbon charge stream to produce a hydrogen product stream substantially free of carbon oxides, which comprises, contacting said charge stream in a reaction zone with subdivided catalyst particles, which have been heated and treated as hereinafter set forth, at conditions effecting the cracking of such stream to hydrogen and carbon, recovering a gaseous hydrogen product stream from the resulting contacted particles, passing the latter to a first confined regeneration zone and therein contacting said particles under reducing conditions with a gaseous stream of controlled oxygen content obtained in part from a second regeneration zone at conditions effecting the removal of only a portion of the carbon deposit therefrom, continuously withdrawing a stream of partially oxidized catalyst particles from said first regeneration zone and effecting the contact thereof in a second confined regeneration zone with an excess of oxygen supplied in a gaseous oxygen containing stream being continuously introduced thereto whereby to burn substantially the entire remaining carbonaceous deposit from said particles, separating the resulting carbon dioxide and oxygen containing flue gas stream from the particles subsequent to the contact in said second regeneration zone and passing at least a part of such resulting flue gas stream to said first regeneration zone as at least a part of the aforesaid gaseous stream being introduced thereto, returning the further oxidized catalyst particles from said second regeneration zone to said first regeneration zone and recontacting them therein in the presence of the oxygen deficient atmosphere maintained therein, continuously withdrawing resulting regenerated catalyst particles from said first regeneration zone and introducing them to said reaction zone and in contact with the hydrocarbon charge stream as aforesaid in an amount and at a temperature sufficient to supply the endothermic heat of the cracking reaction in the reaction zone.

3,197,285

SAMPLING MACHINE

Sidney Rosen, 4119 Fordleigh Road, Baltimore, Md.

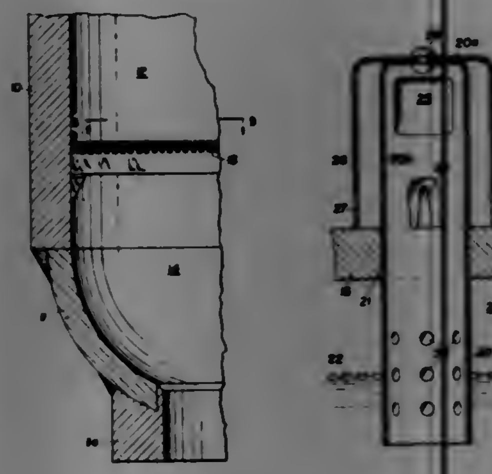
Filed May 8, 1961, Ser. No. 108,608
7 Claims. (Cl. 23—253)



1. A sampling machine, comprising a pair of stroking pump means, at least one of which is uni-directional and both having an inlet and an outlet, common means for stroking said pump means, and a reservoir containing reagent, the inlet of one of said pair of stroking pump means, which is uni-directional, being connected to said reservoir, the outlet of said last mentioned pump means and the inlet and outlet of the other of said pair of stroking pump means being connected to a common passage, said common passage having an outlet for alternately communicating with a sample supply container and a receiving container when alternately positioned therebeneath, said receiving container being for receiving a mixture of measured amounts of sample and reagent, whereby proportional quantities of reagent and sample can be withdrawn from said reservoir and sample supply container, respectively, by said pair of stroking pump means and discharged thereby through said common passage to said receiving container.

3,197,286
LIQUID PHASE REACTOR

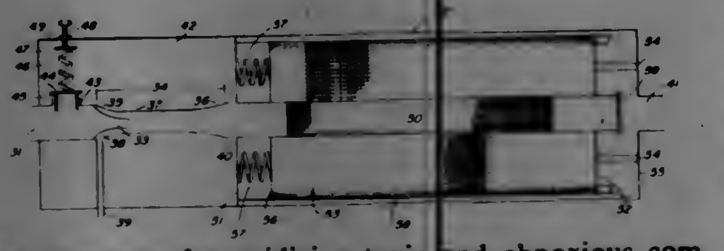
George B. Farkas, Jackson Heights, N.Y., and Michael C. Chervenak, Pennington, and Ronald Wolk, Trenton, N.J., assignors to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey
Filed Feb. 18, 1963, Ser. No. 259,292
July 27, 1965 1 Claim. (Cl. 23—285)



A liquid phase reactor wherein a liquid and a gas are passed upwardly through a reaction zone in the presence of a catalyst, said reactor comprising a pressure chamber, a fluid distributor extending transversely across the lower part of the chamber, said fluid distributor having a plurality of fluid passages extending therethrough, means to introduce a liquid and a gas to the lower part of said chamber below the fluid distributor, open ended tubular members extending downwardly from said fluid passages, risers extending upwardly from the fluid passages, a bubble cap surmounting each riser, each of the tubular members having a plurality of vertically spaced holes, the lower open end of the tubular member being at all times submerged in a zone normally containing liquid and gas for the passage of said liquid and gas upwardly therethrough, the aforesaid holes being adapted to provide outlets for any gases trapped between the lower face of the distributor and the upper surface of the liquid zone in which the lower end of the tubular member is submerged whereby the liquid and gas may pass upwardly through the distributor to provide uniform flow across the upper face of the distributor.

3,197,287
CATALYTIC CONVERTER

William B. Innes, Stamford, Conn., and Richard Duffy, Mount Vernon, N.Y., assignors to American Cyanamid Company, New York, N.Y., a corporation of Maine
Filed Apr. 3, 1961, Ser. No. 100,180
1 Claim. (Cl. 23—288)

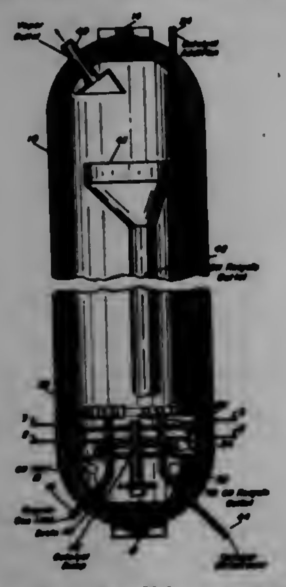


An apparatus for oxidizing toxic and obnoxious components of hydrocarbon combustion exhaust gases comprising:

- a chamber having
  - an inlet, a restricted throat portion adjacent to said inlet and an outlet for the passage therethrough of said gases and
  - an inlet for admitting air into said throat portion;
- bypass conduit means communicating with said first inlet and terminating at said outlet, said chamber being positioned internally of, coextensive with and integral with said conduit means;
- control means positioned within said conduit means for permitting the flow of at least a portion of said exhaust gases through said conduit but not through said throat portion, said control means opening in response to an increase in pressure of said exhaust gases; and
- a housing having an inlet and an outlet and adapted to contain oxidation catalyst therein, the inlet of said housing connected to the outlet of said chamber.

3,197,288
CATALYTIC REACTOR

Edwin S. Johanson, Princeton, N.J., assignor to Hydrocarbon Research, Inc., New York, N.Y., a corporation of New Jersey
Filed May 29, 1961, Ser. No. 113,539
3 Claims. (Cl. 23—289)



1. A reactor for a liquid-solids-gaseous reaction wherein the liquid and gas in continuous phase pass upwardly through the solids to cause an expansion of the solids of at least 10% based on the settled volume thereof, and wherein the solids are maintained in random motion in the liquid without substantial carryover from the reactor which comprises a substantially vertical vessel adapted to contain said solids, a perforated plate in said vessel below said solids, means to feed gas and liquid below said perforated plate and through the perforations in said plate at a velocity to maintain said solids in random motion in the liquid, covering elements superposed over all of said perforations in said plate, said covering elements having a horizontal component as compared to their horizontal spacing on the perforated plate such as to maintain an unfavorable angle of repose of the solids that will prevent the solids from flowing downwardly through the perforated plate, said covering elements being adapted to substantially uniformly distribute the liquid-gas mixture across the horizontal cross-section of the reactor, said reactor having a supplementary gas distributor mounted above the covering elements in the lower part of the reactor, said supplementary gas distributor being interconnected to gas inlet means for upward flow of gas through the liquid.

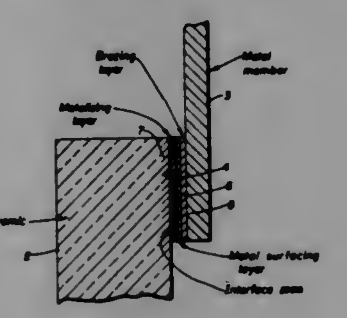
3,197,289
MODIFICATION OF ZINC HYDROSULFITE CRYSTALS BY USE OF HIGH MOLECULAR WEIGHT COLLOIDAL MATERIALS

Thomas E. Rogers, Ho-Ho-Kus, N.J., assignor to Nopco Chemical Company, a corporation of New Jersey
No Drawing. Filed Dec. 11, 1961, Ser. No. 158,604
20 Claims. (Cl. 23—300)

1. A process for the production of zinc hydrosulfite crystals comprising dividing an aqueous solution of zinc hydrosulfite containing at least about 25 percent by weight of water based on the total weight of the solution into two approximately equal portions, introducing into the first portion at least about 2% by weight of glycerine, based on the weight of said zinc hydrosulfite in said first portion, from about 0.2% to about 0.8% by weight of zinc containing pH stabilizer, based on the weight of said zinc hydrosulfite in said first portion, and from about 0.005% to about 0.1% by weight of a crystal modifier selected from the group consisting of polymers of acrylamide, gum resins having a molecular weight ranging between from about 300,000 to about 9,000,000 and nonionic polymers of ethers of cellulose having a molecular weight ranging between from about 500,000 to about 4,000,000, based on the weight of said zinc hydrosulfite contained in said first portion and removing water from the said first portion at a rate of about ½% to about 1½% by volume per minute, based on the original volume of said first portion, by heating said portion at temperatures of from about 45° C. to about 75° C. at subatmospheric pressures until the volume of said first portion is equal to approximately 80% of the original volume of said first portion, introducing into the second portion from about 0.005% to about 0.1% by weight of a crystal modifier selected from the group consisting of polymers of acrylamide, gum resins having a molecular weight ranging between from about 300,000 to about 9,000,000 and nonionic polymers of ethers of cellulose having a molecular weight ranging between from about 500,000 to about 4,000,000, based on the weight of said zinc hydrosulfite contained in said second portion, adding said second portion to the resulting concentrated first portion at a rate equal to about 1½% to 1⅓% by volume per minute based on the original volume of said second portion while simultaneously removing water from the resulting admixture at a rate equal to the rate of addition of said second portion to said concentrated first portion, by heating said mixture at temperatures of from about 55° C. to about 75° C. in the resulting concentrated solution and drying said crystals.

3,197,290
METALIZED CERAMIC STRUCTURES

Paul D. Williams, Portola Valley, and James R. Welch, Santa Clara, Calif., assignors to Eitel-McCullough, Inc., San Carlos, Calif., a corporation of California
Continuation of application Ser. No. 59,048, Sept. 28, 1960, which is a division of application Ser. No. 537,719, Sept. 30, 1955, now Patent No. 2,996,401, dated Aug. 15, 1961. This application Mar. 2, 1964, Ser. No. 349,532
5 Claims. (Cl. 29—195)



2. A metalized ceramic structure comprising a ceramic section, a metalizing layer on said ceramic section, said metalizing layer consisting essentially of 1% to 25% by weight of an oxide of titanium, 40% to 10% by weight of manganese and a major portion by weight of metal in the group consisting of molybdenum and tungsten, a member having a metallic surface, and a brazing layer between said metalizing layer and the metallic surface of said member.

3,197,291
CERAMIC COATED CORROSION-RESISTANT PRODUCT

Harold J. Michael, Columbus, Ohio, assignor to North American Aviation, Inc.
No Drawing. Original application Apr. 17, 1961, Ser. No. 103,243. Divided and this application July 19, 1962, Ser. No. 211,105
1 Claim. (Cl. 29—195)

In a coated workpiece, in combination:

(a) A surface which constitutes a base interface of oxidizable metal selected from the group consisting of iron, alloys of iron, copper, molybdenum, niobium, and tungsten,

(b) A complex metal consisting of nickel, chromium, and said oxidizable metal adhered to the workpiece at said base interface, and

(c) A non-porous high-temperature ceramic coating consisting of glass frit, refractory oxide, and oxides formed and in solution with said complex metal adhered to said complex metal to comprise the exterior surface of the coated workpiece,

said glass frit and said refractory oxide being combined in the ratio of approximately 100 parts by weight of glass frit to from 2 to 100 parts by weight of refractory oxide, said glass frit being from the group consisting of devitrite-type glass frits and of substantially fluorine-free glass frits having calculated alkali metal oxide contents of less than approximately 10% on a weight basis and smelting temperatures in the range of approximately 2500° F. to 2650° F., and said refractory oxide being from the group consisting of the oxides of aluminum, beryllium, cerium, cobalt, chromium, iron, manganese, molybdenum, nickel, niobium, silicon, tin, titanium, and zirconium.

3,197,292
MOTOR FUEL COMPOSITION

George W. Eckert and Alfred Arkell, Wappingers Falls, N.Y., assignors to Texaco Inc., New York, N.Y., a corporation of Delaware
No Drawing. Filed May 18, 1962, Ser. No. 195,959
9 Claims. (Cl. 44—69)

1. A motor fuel in the gasoline boiling range containing an effective anti-knock amount of a salt of selenious acid and of a hydrocarbylamine having the formula:

$$(a) \qquad H_2SeO_3 \cdot (RNR'R'')_x$$

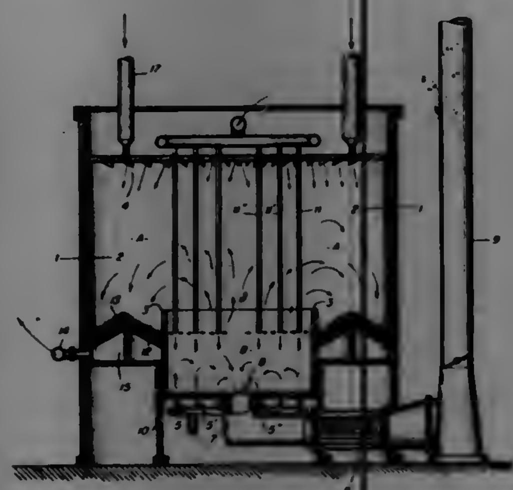
in which R represents a hydrocarbyl radical having from 3 to 28 carbon atoms, R′ and R″ each represent a radical selected from the group consisting of hydrogen and radicals from the group consisting of (1) hydrocarbyl radicals having from 3 to 12 carbon atoms, (2) alkoxyhydrocarbyl radicals having from 5 to 12 carbon atoms, and (3) aminohydrocarbyl radicals having from 3 to 12 carbon atoms, and *x* has a value from 1 to 2, and (*b*) compounds having the above noted formula in which R and R′ each interconnect to form with the basic nitrogen atom a heterocyclic ring selected from the group consisting of pyridine, pyrrolidine, piperidine, morpholine, quinoline, pyrrole and indole.

3,197,293
HIGH TEMPERATURE CONVERSION PROCESS AND APPARATUS

Eric V. Bergstrom, Byram, Conn., assignor to Socony Mobil Oil Company, Inc., a corporation of New York
Filed May 14, 1962, Ser. No. 194,505
11 Claims. (Cl. 48—206)

1. A process for carrying out high temperature reactions in a closed vessel partially partitioned internally in a substantially vertical direction to provide a combustion zone in communication with a reaction zone through an open communication zone in the upper portion of said

vessel which comprises the continuous steps of radiating heat to a ceiling of said vessel by burning fuel in said combustion zone substantially below the level of said communication zone, withdrawing the resulting flue gas from the lower portion of said combustion zone, introducing a gas transparent to radiant heat and less dense than said flue gas at a level above said combustion zone and below said communication zone to prevent substantial diffusion of said flue gas into said reaction zone; reradiating heat from said ceiling to a bed of particulate



solids in said reaction zone to maintain said bed at reaction temperature, contacting said heated bed of solids with a gaseous reactant and withdrawing a gaseous product stream from said reaction zone.

5. A process according to claim 1 in which said less dense gas is steam, said particulate solids are a carbonaceous material, said bed of solids is maintained at a temperature sufficient for said carbonaceous material to react with said steam to produce a mixture of carbon monoxide and hydrogen as said gaseous product stream.

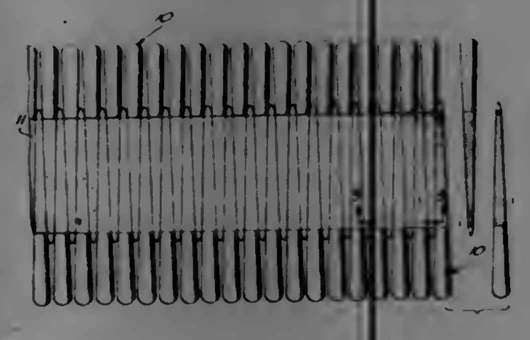
3,197,294

PROCESS OF FORMING MANICURE IMPLEMENTS

Donald R. Adams, 9157 Sunset Blvd., Los Angeles, Calif.

Filed Aug. 14, 1962, Ser. No. 216,781

6 Claims. (Cl. 51—[illegible]93)



1. The method of forming abrasive-coated manicure implements having tapered concave abrasive portions which comprises: forming a plurality of base members in a parallel array with alternating tapers for each successive base member in said array, with each successive hose member joined to its partners on either side by a continuum of the material comprising said base member, and with said base member in said array presenting said tapered concave portions in an essentially co-planar array; emplacing an abrasive coated sheet together with a layer of adhesive intermediate between said sheet and said array over said array of base members; pressing said sheet against said base member array so as to force said sheet in bonding contact with said concave portions; and thereafter cutting said base members apart with a cutting action that leaves the longitudinal edge of each said abrasive sheet portion coinciding with the corresponding longitudinal edge of each of said base members.

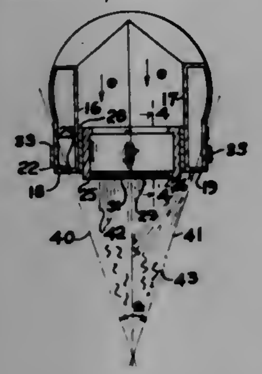
3,197,295

METHOD FOR FORMING SILICEOUS FIBERS

Edward R. Powell, North Plainfield, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed Sept. 27, 1960, Ser. No. 58,796

4 Claims. (Cl. 65—5)



4. A method of forming siliceous fibers, comprising: flowing a source of molten siliceous fiber forming material to form a molten body; inducing a flow of ambient air transverse to and over said body by projecting a gaseous blast forwardly of said body, whereby a tractive force is applied by the induced ambient air to said body and a portion of said molten material is withdrawn from said body and attenuated.

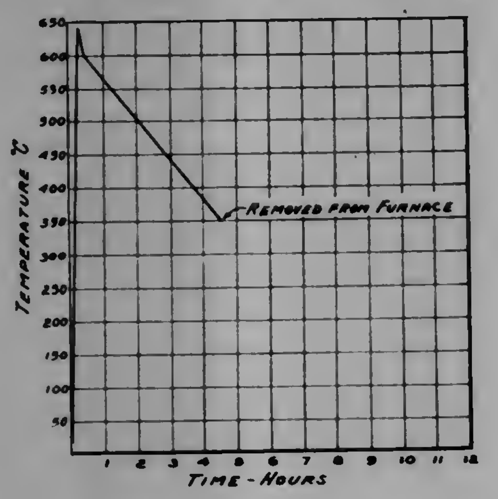
3,197,296

GLASS COMPOSITION AND METHOD OF PRODUCING TRANSPARENT PHOTOTROPIC BODY

Richard A. Eppler and Stanley D. Stookey, Corning, N.Y., assignors to Corning Glass Works, Corning, N.Y., a corporation of New York

Filed Nov. 14, 1962, Ser. No. 237,627

4 Claims. (Cl. 65—33)



1. A glass having a n_D between 1.52–1.54 consisting essentially on a weight percent basis of 48–57% SiO_2, 6–10% Al_2O_3, 15–22% B_2O_3, 0.8–2.0% Na_2O, 2.4–3.1% Li_2O, 0–4% K_2O, the total $Li_2O+Na_2O+K_2O$ being 3.2–7.2%, 4.5–5.3% PbO, 3–9% BaO, 0–7.2% ZrO_2, 0.15–0–6% Ag, 0.01–0.02% CuO, 0.3–1.2% Cl, 0–1.0% Br, 0–1.0% I, and 0–1.2% F.

2. The method of producing a phototropic glass body essentially transparent to visible radiation but which will have a transmission to visible radiation of less than about 45% of its original value upon exposure to actinic radiation of a wave length between 3000 A. and 4500 A., a half-

fading time of less than 300 seconds, and a n_D of between 1.52–1.54, which comprises melting a batch for a glass composition consisting essentially on a weight basis of 48–57% SiO_2, 6–10% Al_2O_3, 15–22% B_2O_3, 0.8–2% Na_2O, 2.4–3.1% Li_2O, 0–4% K_2O, the total $Li_2O+Na_2O+K_2O$ being 3.2–7.2%, 4.5–5.3% PbO, 3–9% BaO, 0–7.2% ZrO_2, 0.15–0.6% Ag, 0.01–0.02% CuO, 0.3–1.2% Cl, 0–1.0% Br, 0–1.0% I, and 0–1.2% F, forming the molten glass to the desired shape, and thereafter heat treating said shape by exposing it to a temperature range of about 500°–750° C. for a sufficient time to cause the precipitation of submicroscopic crystals of radiation-sensitive material within the glass.

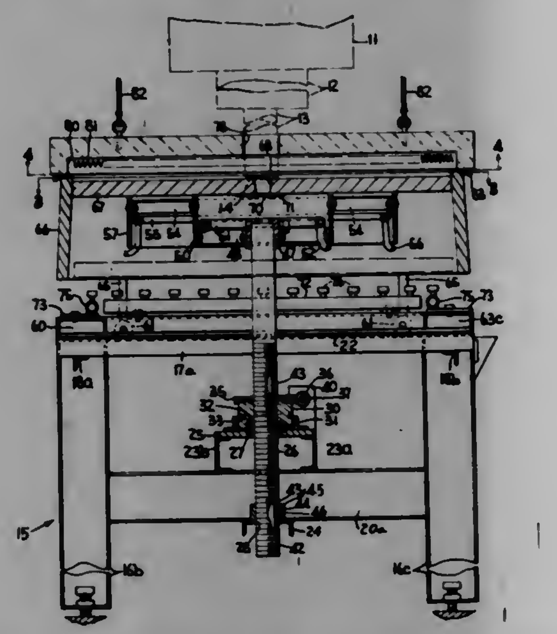
3,197,297

APPARATUS AND METHOD FOR CASTING GLASS

Leon J. Miller, Kittanning, Pa., assignor to Pittsburgh Plate Glass Company, a corporation of Pennsylvania

Filed Mar. 14, 1960, Ser. No. 14,896

10 Claims. (Cl. 65—122)



1. Apparatus for casting glass comprising a downwardly extending glass tank discharge orifice for discharging a stream of molten glass, a mold movable into casting position beneath said orifice, said mold comprising at least one side wall and a bottom plate, said bottom plate being movable with respect to said side wall and having an opening in alignment with said orifice when said mold is in casting position for the passage of glass prior to the initiation of a cast, selectively operable closure means for said bottom plate for closing said opening upon initiation and continuance of a cast, means for selectively moving said bottom plate toward and away from said orifice to thereby move said bottom plate with respect to said side wall and maintain a substantially uniform glass stream length during the cast.

10. A method of casting glass comprising, establishing a downwardly directed stream of molten glass, placing a glass confining means and a glass receiving support beneath said stream of molten glass, permitting said stream of glass to pass said support so that said support is free of glass, selectively heating said confining means and said support to a first predetermined temperature, interrupting said stream of glass to allow said glass to flow onto said support, accumulating a mass of glass on said support within said confining means and progressively moving said support downwardly as said glass accumulates thereon and maintaining a substantially uniform glass stream length, selectively and continuously heating the top surface of said accumulated glass, selectively cooling and heating portions of said support to maintain said support at a second predetermined temperature, and removing said accumulated glass from beneath said stream when a predetermined quantity of glass has been accumulated on said support within said confining means.

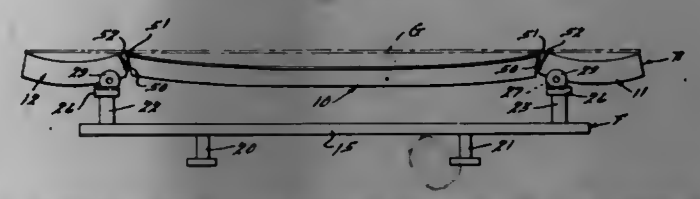
3,197,298

GLASS BENDING MOLD

Raymond Johnston, Southfield, and James P. Julio, Oak Park, Mich., assignors to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware

Filed Dec. 13, 1960, Ser. No. 75,521

10 Claims. (Cl. 65—291)



1. A mold for bending a glass sheet or the like comprising a ring-like shaping surface to support the glass sheet composed of pivotally interconnected intermediate and end ring sections arranged to form a closed sheet shaping ring having upwardly angled end portions when said sections are in the closed ring position with said end sections being foldable downwardly relative to said intermediate section about horizontally extending pivot axes to sheet receiving open ring positions, an independent frame for floatingly supporting said ring-like shaping surface including pedestal sections positioned adjacent each ring end section, and pin carrier and slotted track connector means interconnecting the shaping ring end sections and said pedestal sections to provide for relative movement therebetween lengthwise of the frame during movement of the ring end sections between said open and closed ring positions, said interconnecting means comprising a carrier mounted on each of the ring end sections and a track mounted on each of the pedestal sections to support the engaged carrier and accommodate the relative movement therebetween and gearing connected between each carrier and the associated pedestal to control said relative movement.

3,197,299

PROCESS FOR SPRAY APPLICATION OF PESTICIDES

Emerson Bosse Stull and Judd Morrow, San Antonio, Tex., assignors, by mesne assignments, to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

Filed May 2, 1961, Ser. No. 105,258

10 Claims. (Cl. 71—2.1)

1. In a process for the spray application of a pesticide onto a target area in the form of an emulsion characterized by its relatively thick, heavy, creamy, mayonnaise-like consistency, the improvement comprising the steps of:

(a) separately introducing a water phase component and an oil phase component into a mixing chamber during actual spraying operations, at least one of said phases containing said pesticide in an amount sufficient to provide said emulsion with an amount of said pesticide effective for the intended purpose, and the ratio of the water phase component to the oil phase component being sufficient to form the said relatively thick, heavy, creamy, mayonnaise-like emulsion when the two phases are mixed together;

(b) mixing said water phase component and said oil phase component in said mixing chamber to a sufficient degree to form said emulsion;

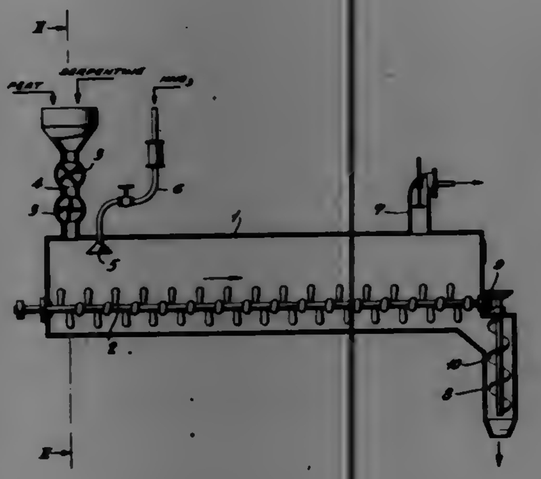
(c) discharging said emulsion from said mixing chamber as rapidly as it is formed therein; and

(d) spraying said emulsion on a target area.

3,197,300

PROCESS OF PRODUCING A SOIL NUTRIENT BY REACTING A HUMIC MATTER WITH NITRIC ACID

Shigenori Tomioka, 2210, 2-chome, Sanno, Ota-ku, Tokyo, Japan
Filed Jan. 18, 1963, Ser. No. 252,466
Claims priority, application Japan, June 16, 1962, 37/25,023
3 Claims. (Cl. 71—[illegible]4)



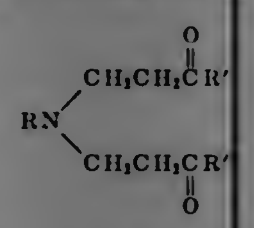
1. The process of producing a soil nutrient comprising reacting a humic matter selected from the group consisting of lignite, peat, turf and mixtures thereof with nitric acid of 20–50% strength to thereby obtain a nitro humic acid, admixing said nitro humic acid with a magnesia-containing matter selected from the group consisting of magnesium carbonate, magnesium hydroxide, magnesium oxide, serpentine, calcined serpentine and dolomite in a ratio sufficient to retain a total magnesium content in excess of 4% in the resultant product, and maintaining the mixture at 20°–120° C. in the presence of water in a quantity exceeding 50% by weight of the mixture whereby the magnesia-containing matter and nitro humic acid react with one another to produce the desired soil nutrient and recovering the resulting soil nutrient.

3,197,301

LIQUID FERTILIZERS INHIBITED AGAINST CORROSION

Charles William Lutz, Clark, N.J., assignor to FMC Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Jan. 4, 1963, Ser. No. 249,317
12 Claims. (Cl. 71—28)

1. Aqueous phosphorus-containing solution having a high degree of compatibility against component separation and inhibited against corrosion of mild steel, said aqueous solution having a phosphorus-containing ingredient from the group consisting of concentrated phosphoric acid and an ammonium phosphate and essentially containing as a base inhibitor against said corrosion, 0.04 to 0.2 weight percent of a mixture of (a) a di-long-chain-alkyl dimethyl ammonium chloride in which said alkyl groups have 8 to 18 carbon atoms, and (b) a rosin amine derivative having the following formula:



$$RN\begin{cases}CH_2CH_2\overset{O}{\overset{\|}{C}}R' \\ CH_2CH_2\underset{O}{\underset{\|}{C}}R'\end{cases}$$

where R is a member from the group consisting of abietyl, hydroabietyl and dehydroabietyl, and R′ and R″ are members from the group consisting of lower alkyl radicals having 1 to 4 carbon atoms and phenyl radicals, in the relative proportions by weight of 3:1 to 1:3 of (a) to (b).

3,197,302

SOLUBLE FERTILIZER COMPOSITION

John E. MacBride, Ellicott City, Md., assignor to W. R. Grace & Co., a corporation of Connecticut
No Drawing. Filed Nov. 2, 1962, Ser. No. 235,147
4 Claims. (Cl. 71—37)

1. A substantially dry, self-dissolving effervescent fertilizer composition comprising:

(1) a carbon dioxide liberating composition containing substantially stoichiometric amounts of (a) a carbonate selected from the group consisting of ammonium carbonate, potassium carbonate, sodium carbonate, ammonium bicarbonate, potassium bicarbonate, sodium bicarbonate, and (b) an acidic compound selected from the group consisting of ammonium acid sulfate, potassium acid sulfate, sodium acid sulfate, ammonium acid phosphate, potassium acid phosphate, sodium acid phosphate, oxalic acid, succinic acid, tartaric acid, phthalic acid and benzoic acid; and

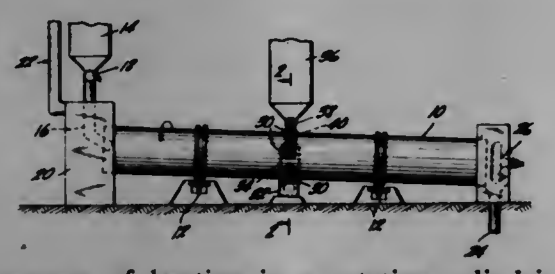
(2) a water-soluble plant nutrient,

said carbon dioxide liberating composition being present in amounts at least equal in weight to said water-soluble plant nutrient.

3,197,303

PROCESS FOR PRETREATMENT OF ORES IN ROTARY KILN

Fredrik Christen Collin, Ljan, Oslo, Norway, assignor to Elektrokemisk A/S, Oslo, Norway, a corporation of Norway
Filed Feb. 15, 1962, Ser. No. 173,539
Claims priority, application Norway, Feb. 24, 1961, 139,223
4 Claims. (Cl. 75—33)

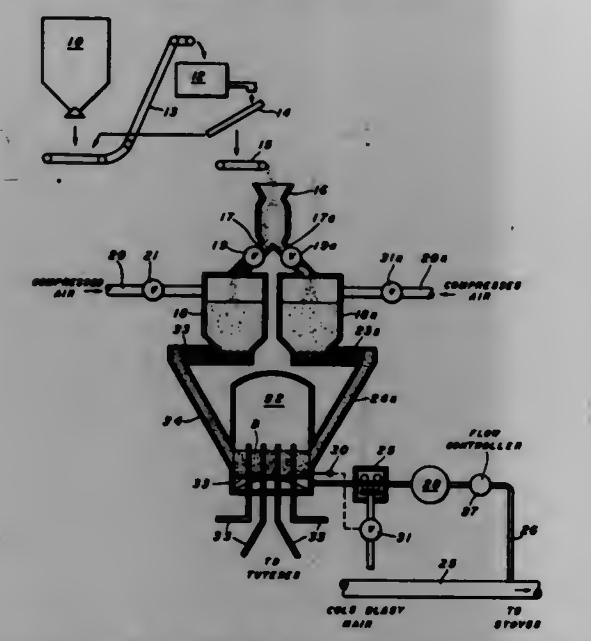


1. A process of heating in a rotating cylindrical kiln metal oxides of the type which are smelted and reduced in an electric furnace which comprises introducing into the feed end of said kiln a charge of said metal oxide and from about one third to about two thirds of the amount of carbonaceous reducing agent required for reducing all of said metal oxide, such carbonaceous reducing agent having a relatively low volatiles content up to about 25% by weight, heating said charge to a temperature of at least about 800° C., dropping upon said heated charge, while the same is located in a zone corresponding to the longitudinal middle third of said kiln, the remaining two thirds to one third of carbonaceous reducing agent required for complete reduction, said second-mentioned carbonaceous reducing agent having a relatively high volatiles content greater than about 25% by weight and being dropped upon said heated charge from a plurality of feed points spaced apart from each other a distance not greater than about three times the inside diameter of said kiln, and introducing sufficient air in said dropping zone to ignite and burn with a luminous flame the volatiles liberated from said second-mentioned carbonaceous reducing agent, thereby increasing the zone of high temperatures in the longitudinal middle third of said kiln.

3,197,304

METHOD FOR INTRODUCING COAL INTO A BLAST FURNACE

Jagdish C. Agarwal, Penn Hills Township, Allegheny County, Pa., assignor to United States Steel Corporation, a corporation of New Jersey
Filed Oct. 12, 1961, Ser. No. 144,605
2 Claims. (Cl. 75—42)

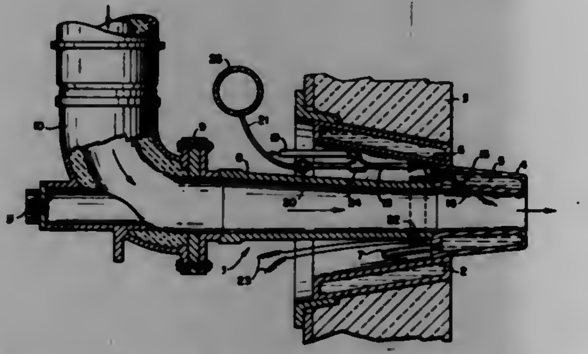


1. A method of handling pulverized fuel for injection through the tuyeres of a blast furnace comprising continuously feeding fuel particles from one of two alternative sources to a bed, fluidizing the particles in said bed with heated air maintained at a higher pressure than the pressure at the tuyere zone of the furnace, thereby drying the particles, pressurizing the source from which particles are feeding to the bed to balance the bed pressure, entraining the fuel particles in the fluidizing air, continuously forcing substantially all the fluidizing air and particles entrained therein from the bed in approximately equal portions, and directing said portions individually from the bed to the respective tuyeres.

3,197,305

IRON BLAST FURNACE FUEL INJECTION

John W. Carlson, Pueblo, Colo., assignor to The Colorado Fuel and Iron Corporation, Denver, Colo., a corporation of Colorado
Filed Jan. 15, 1962, Ser. No. 166,184
4 Claims. (Cl. 75—42)



1. In the operation of a blast furnace for producing iron of the type having a plurality of tuyeres, each tuyere having a fuel nozzle therein and a pipe system for supplying fuel to the nozzle, the improvement which comprises charging iron ore, limestone and coke into the furnace, the amount of coke being insufficient to reduce all of the iron ore, blowing through the nozzles a liquid-solid fuel mixture consisting of solid carbon particles suspended in a hydrocarbon liquid fuel selected from the group consisting of bunker-C oil, coal tar and mixtures thereof, the specific gravities of the solid carbon and hydrocarbon liquid fuel being approximately the same, said fuel mixture being forced through the pipe system and blown out of the nozzles into contact with an oxygen-containing gas being blown through the tuyeres, said fuel mixture being charged into the furnace in at least an amount sufficient to reduce the iron ore unreduced by coke.

3,197,306

METHOD FOR TREATING FERROUS METALS

Oliver Osborn and John C. Robertson, Lake Jackson, Tex., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Aug. 31, 1964, Ser. No. 393,420
10 Claims. (Cl. 75—130)

1. A process for treating ferrous based melts which comprises;

(1) introducing into a molten mass of a ferrous based metal an addition agent comprising from about 5 to about 35 weight percent aluminum and from about 95 to about 65 weight percent magnesium oxide, and

(2) maintaining said agent in said mass for a period of time ranging from about 0.25 to about 20 minutes.

3,197,307

SURFACE-MODIFICATION OF ZINC OXIDE AND ELECTROPHOTOGRAPHIC MEMBER THEREFROM

Norman W. Blake, deceased, late of Rochester, N.Y., by Bernice B. Blake, administratrix, Rochester, N.Y., and Cornelia C. Natale, Rochester, N.Y., assignors to Eastman Kodak Company, Rochester, N.Y., a corporation of New Jersey
Filed Sept. 22, 1964, Ser. No. 400,630
32 Claims. (Cl. 96—1)

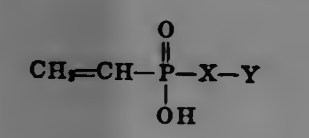
7. A photographic element for use in electrostatic photographic processes comprising 30–90% of a photoconductive finely divided zinc oxide of improved dye adsorption containing on at least 10% of the surface of the zinc oxide particles, a modifier in the concentration of 0.14×10^{-5} to 7.2×10^{-3} mole of modifier per mole of zinc oxide, obtained by reacting the zinc oxide with a Lewis acid stronger than zinc oxide, said zinc oxide dispersed in an insulating film-forming medium and coated on a non-conducting substance.

3,197,308

PRESENSITIZED PRINTING PLATE AND PROCESS FOR USING SAME

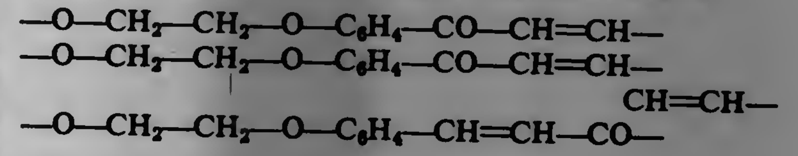
Paul Stahlhofen, Wiesbaden, Germany, assignor, by mesne assignments, to Azoplate Corporation, Murray Hill, N.J., a corporation of New Jersey
No Drawing. Filed Oct. 11, 1962, Ser. No. 229,965
Claims priority, application Germany, Oct. 13, 1961, K 44,931
36 Claims. (Cl. 96—33)

1. A presensitized printing plate comprising a base material having a coating thereon comprising a compound selected from the group consisting of a monomer and polymers thereof, the monomer having the formula



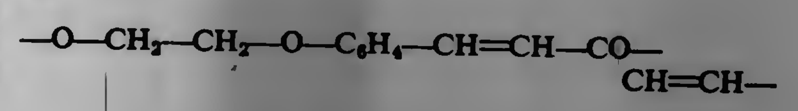
$$CH_2{=}CH{-}\underset{OH}{\underset{|}{\overset{O}{\overset{\|}{P}}}}{-}X{-}Y$$

in which X is selected from the group consisting of



$$\begin{array}{l}—O—CH_2—CH_2—O—C_6H_4—CO—CH{=}CH— \\ —O—CH_2—CH_2—O—C_6H_4—CO—CH{=}CH— \\ \hspace{22em}CH{=}CH— \\ —O—CH_2—CH_2—O—C_6H_4—CH{=}CH—CO—\end{array}$$

and



$$\begin{array}{l}—O—CH_2—CH_2—O—C_6H_4—CH{=}CH—CO— \\ \hspace{22em}CH{=}CH—\end{array}$$

and Y is selected from the group consisting of aryl and five membered ring groups including a single hetero atom selected from the group consisting of oxygen, nitrogen, and sulfur.

3,197,309
TRANSFORMATION OF ALGAE TO A HUMAN NUTRIENT

David D. Chapman, Seattle, Gerald M. Christensen and Arthur J. Pilgrim, Bellevue, Joseph A. Stern, Bothell, and Irena Zommers, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware

No Drawing. Filed Jan. 23, 1962, Ser. No. 168,230
11 Claims. (Cl. 99—1)

1. A process for making algae suitable for human consumption comprising the exposure of Chlorella algae suspended in an alkaline liquid medium in the absence of carbon dioxide to intense white light until substantial bleaching of the algae has been effected.

3,197,310
FIBROUS GLUTEN PRODUCT AND PROCESS FOR PREPARING SAID PRODUCT

Niles A. Kjelson, Minneapolis, Minn., assignor to General Mills, Inc., a corporation of Delaware

No Drawing. Filed Apr. 30, 1962, Ser. No. 191,339
12 Claims. (Cl. 99—17)

1. The process of preparing a fibrous high protein food product which comprises intimately blending a composition comprising a substantial proportion of wet gluten containing about 50 to 75% by weight water with about 5 to 35% by weight defatted oil seed flour based on the weight of the wet gluten and oven-setting the resulting composition, said intimate blending being sufficient to cause formation of distinct fibers.

3,197,311
SALAD

Omar Dajany, Arlington, Va., assignor of one-half to Elizabeth A. Dajany, Arlington, Va.

No Drawing. Filed Nov. 21, 1961, Ser. No. 154,055
1 Claim. (Cl. 99—100)

A salad comprising:

(1) a mixed vegetable content including by relative proportions:
  (a) 2 to 3 cups peeled chopped tomatoes,
  (b) 2 to 3 cups peeled chopped cucumbers,
  (c) ½ to 1 cup finely chopped fresh parsley leaves,
  (d) ¼ to ½ teaspoon salt,

and

(2) a dressing consisting essentially of by relative proportions:
  (a) ½ to ¾ cup ground hulled sesame seed,
  (b) ½ to ¾ cup lemon juice,
  (c) ¼ to ¾ teaspoon salt,
  (d) 1 to 2 tablespoons water,
  (e) ⅛ to ¼ teaspoon crushed garlic.

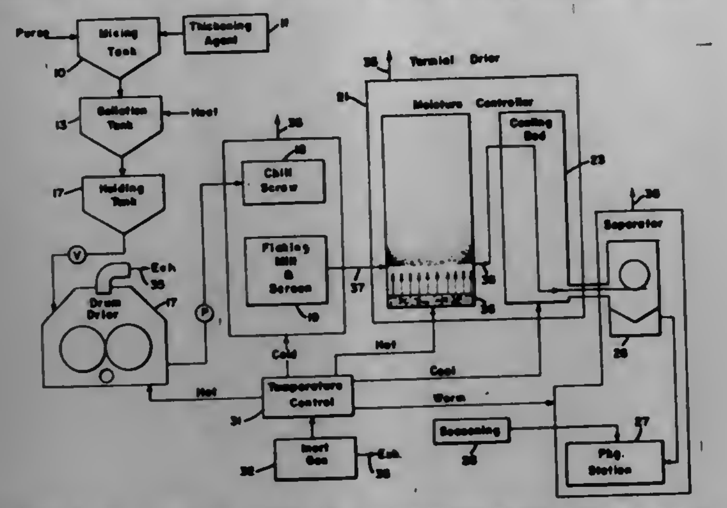
and stirred until the dressing mixture successively hardens and slightly expands and thereafter softens and lightens in color.

3,197,312
PROCESS FOR PREPARING RECONSTITUTABLE FOOD PRODUCTS

Dave Eolkin, San Lorenzo, Calif., assignor to Gerber Products Company, Fremont, Mich.

Filed Feb. 26, 1963, Ser. No. 261,565
4 Claims. (Cl. 99—204)

1. A method for processing foods to obtain a dehydrated instantly reconstitutable product comprising: forming a slurry of high sugar content food with about .5–5% of a thickening agent, heating the slurry to about 160–200° F. with agitation to gel the thickening agent, then forming a sheet with the slurry on a drying surface, heating the sheet on said surface to dehydrate the sheet, and then removing the dried food from said surface as a continuous sheet.



3,197,313
ASBESTOS-CEMENT PRODUCTS

Norman S. Greiner, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 16, 1962, Ser. No. 187,916
16 Claims. (Cl. 106—15)

1. A fungus resistant asbestos-cement product comprising essentially at least approximately 20% by weight of hydraulic cement and at least approximately 5% by weight of asbestos fiber, and containing dispersed throughout approximately 5 to 25% by weight of finely divided particulate barium borate.

3,197,314
NOVEL ANTIFOULING COMPOSITIONS

Frank J. Gross, Somerset, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed July 12, 1962, Ser. No. 209,312
8 Claims. (Cl. 106—15)

1. A marine antifouling composition comprising an effective amount of a compound selected from the group consisting of those having the following formulae:

$$\underset{\text{(I)}}{(\text{Aryl})_3\text{Bi}} \qquad \underset{\text{(II)}}{(\text{Aryl})_3\text{BiX}_2}$$

where aryl represents a monocarbocyclic aromatic radical and X represents halogen.

3,197,315
REFRACTORY COMPOSITION AND METHOD FOR PRODUCING SAME

Louis J. Jacobs and Carl J. Cherry, Chicago, Ill., assignors to The S. Obermayer Co., Chicago, Ill., a corporation of Ohio

No Drawing. Filed Oct. 3, 1962, Ser. No. 228,003
4 Claims. (Cl. 106—65)

1. A non-sticky free-flowing refractory gunning composition consisting essentially of:

	Percent
0.25 inch–10.0 mesh alumina	25–70
100–325 mesh alumina	10–35
30–40 mesh kyanite	5–35
Kaolin	5–15
85% phosphoric acid	1–8
Boric acid	0.1–0.5
Coated alumina	0.50–5.0

wherein the coated alumina comprises:

100–325 mesh alumina	85.0–99.5
Coating material	0.50–15.0

the said coating material being selected from the group consisting of fatty acids, aluminum and zinc salts of fatty acids, and mixtures thereof.

3,197,316
METHOD OF CEMENTING A WELL

Horace J. Beach, Cypress, Tex., assignor to Gulf Oil Corporation, Pittsburgh, Pa., a corporation of Pennsylvania

No Drawing. Filed Aug. 16, 1962, Ser. No. 217,290
3 Claims. (Cl. 106—90)

1. A method of cementing a well having a bottom hole temperature exceeding 170° F. comprising pumping a Portland cement slurry containing Portland cement, water in a concentration in the range of 35 to 55 percent by weight of the Portland cement, formaldehyde in a concentration in the range of 0.2 to 3 percent by weight of the Portland cement, and carboxymethyl hydroxyethyl cellulose in a concentration in the range of about 0.1 to 0.3 percent by weight of the cement down the well to the zone of the well to be cemented, and maintaining the cement slurry in place until the cement sets.

3,197,317
LOW DENSITY CEMENT FOR WELLS

Freeman D. Patchen, Dallas, Tex., assignor to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed Mar. 20, 1963, Ser. No. 266,503
7 Claims. (Cl. 106—97)

1. A cement slurry for use in wells comprising Portland cement, water, and attapulgite, the Portland cement being in an amount of at least about 30 percent by weight of said slurry, the water being in an amount of at least about 30 percent by weight of said slurry, and the attapulgite being in an amount between about 0.5 percent and 10 percent by weight of said Portland cement.

3,197,318
2-METHYLENEMALONIC ACID ESTER CONTACT ADHESIVE COMPOSITIONS

Benjamin D. Halpern, Jenkintown, Jack Dickstein, Elkins Park, and George Kitazawa, Fairless Hills, Pa., and Rose-Marie Hoegerle, Linden, N.J., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey

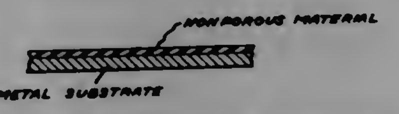
No Drawing. Filed Nov. 7, 1960, Ser. No. 67,454
5 Claims. (Cl. 106—208)

1. A substantially anhydrous moisture activated contact adhesive consisting essentially of a 2-methylenemalonate ester of the formula $CH_2{=}C(COOR)_2$, in which R is an equivalent weight of an unsubstituted hydrocarbon radical having 4–18 carbon atoms and an admixed substantially anhydrous and a substantially non-volatile solvent for said ester, said solvent being compatible with and chemically non-reactive with said ester both hot and cold, being admixed in the proportion of about 1–30 parts for 100 parts of the ester, and serving as a plasticizer therefor.

3,197,319
ORGANOPOLYSILOXANE COMPOSITIONS

John H. Wright, Waterford, N.Y., assignor to General Electric Company, a corporation of New York

Filed July 28, 1961, Ser. No. 127,681
8 Claims. (Cl. 106—287)



1. A nonporous heat unstable material consisting essentially of (A) 100 parts of a fluid organopolysiloxane having the formula

$$(R)_aSiO_{\left(\frac{4-a}{2}\right)}$$

(B) 5 to 75 parts of a silica filler, (C) 1 to 75 parts of a finely divided acid treated absorbent material selected from the class consisting of clay, charcoal, graphite, and diatomaceous earth having an acid number in the range of from 15 to 100, and (D) 0.1 to 5 parts of a member selected from the class consisting of triphenylborate, trimethylborate, trimethoxyboroxine, polyethylene glycol, polypropylene glycol, and mixtures thereof, where R is a member selected from the class consisting of monovalent hydrocarbon radicals and halogenated monovalent hydrocarbon radicals and a is equal to from 1.95 to 2.2, inclusive.

3,197,320
COATING COMPOSITIONS OF DIHYDROPYRAN METHANOL ESTERS

Peter J. Graham, Gladwyne, Pa., and Heinz F. Reinhardt, Claymont, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 28, 1962, Ser. No. 220,027
40 Claims. (Cl. 106—287)

1. An air drying coating composition consisting essentially of (a) an ester of at least one acid selected from the group consisting of alkane mono- and dicarboxylic acids, unsaturated aliphatic mono- and dicarboxylic acids, unsaturated oil acids derived from drying oils, aryl mono- and polycarboxylic acids and alkaryl mono- and polycarboxylic acids, and at least one alcohol selected from the class consisting of 3,4-dihydropyran-2-methanol and 2,5-dimethyl-3,4-dihydropyran-2-methanol; (b) a siccative metal compound which is soluble in said ester.

34. A composition of claim 1 which contains in addition at least one condensation polymer of a polycarboxylic acid with a polyfunctional compound selected from the class consisting of diamines and glycols.

3,197,321
SPRAY COMPOSITION

Lloyd T. Flanner, Glen Rock, N.J., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Aug. 29, 1962, Ser. No. 220,159
3 Claims. (Cl. 106—287)

1. A spray composition consisting essentially of about 1–10 parts by weight of at least one biphenylyl silane in which all four of the groups which, together with one silicon atom, compose said silane are members of the class consisting of biphenylyl and phenyl, said silane being dissolved in about 10–50 parts by weight of tetrahydrofuran; and in quantities in the range from about one-third the weight to about ten-fold the weight of the tetrahydrofuran solution, a mixture of propellant liquids consisting essentially of dichlorofluoromethane and chlorodifluoromethane mixed in weight proportions of about 1:3–9:1.

3,197,322
PREPARATION OF CALCIUM CARBONATE AND THE COMPOSITION SO MADE

John Maskal and Ivan M. Thompson, Ludington, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

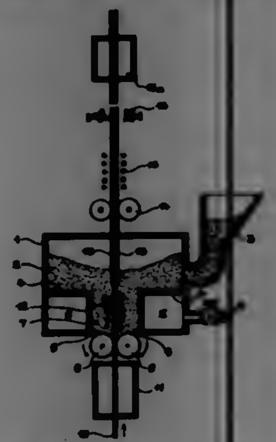
No Drawing. Filed July 25, 1962, Ser. No. 212,448
8 Claims. (Cl. 106—306)

1. A calcium carbonate product consisting essentially of a mixture of calcite and aragonite crystals containing from 15 to 60 weight percent of aragonite crystals, said crystals having a medium particle size in the range of between about 0.8 and 1.2 microns with at least about 25 weight percent of the crystals being under 0.6 micron, at least about 13 weight percent greater than 2 microns, and substantially all of the crystals being less than 10 microns.

3,197,323
ADMIXTURE FOR CEMENTITIOUS GROUTS AND METHOD OF MAKING SAME
Solomon J. Rehmar, East Cleveland, Ohio, assignor to Intrusion-Prepakt, Inc., Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Feb. 20, 1961, Ser. No. 90,176
7 Claims. (Cl. 106—3[illegible]4)

3. An article of manufacture for use in admixtures for cementitious materials consisting essentially of an intimate mixture of finely divided aluminum flakes and a powdered extender and a dried water soluble organic coating material, said aluminum flakes being substantially free of an oxide film, both said extender and said coating material being inert to aluminum, the ratio of said coating material to the sum of the aluminum flakes plus the powdered extender being sufficiently great to provide cohesion of the mixture so as to resist disintegration thereof during subsequent dry mixing and sufficiently small to produce a porous mixture, said aluminum flakes and extender being dispersed throughout said coating material and said mixture being in the form of finely divided dried particles.

3,197,324
COATING CONTINUOUS MATERIAL
Donald Herbert Brooks, River Bend, Northdene, District Vanderbijl Park, Republic of South Africa, assignor, by mesne assignments, to International Protected Metals, Inc., a corporation of New Jersey
Filed Oct. 20, 1961, Ser. No. 146,512
Claims priority, application Republic of South Africa, Nov. 1, 1960, 60/4,438; Nov. 11, 1960, 60/4,594
7 Claims. (Cl. 117—[illegible]1)



1. A coating process for coating a moving continuous strip material and the like, comprising continuously passing an aerating gas into a bed of particulate solid coating material to form a fluidized bed of the particulate coating material, forming a zone of the particulate solid coating material in open communication with and continuously fed by the fluidized bed and in which zone the degree of aeration is maintained in a state of aeration intermediate between that of a fluidized bed and that of a bed of loosely settled self-supporting particulate solid coating material, passing said moving strip in contact with the particles of said zone exclusive of said aerated bed while applying heat to the strip material as it passes through said zone sufficiently to form in said zone a partly fused layer of the particles onto the strip, thereafter passing this strip between a pair of pressurizing rollers and subsequently completely fusing the partly fused layer.

3,197,325
BASE COAT FOR WOOD FLOOR FINISHES
Robert Milton Hick, Jr., Springfield, and Andrew Weste Riedell, Jr., Drexel Hill, Pa., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Apr. 2, 1962, Ser. No. 184,567
12 Claims. (Cl. 117—73)

1. A basecoat coating composition comprising 12% to 25% of organic film-forming material consisting essentially of polyvinyl acetate having a viscosity from about 5 to about 150 centipoises and 4 to 20 parts per 100 parts of polyvinyl acetate of nitrocellulose having a viscosity from about ½ second to about 500 seconds, in solution in a balanced volatile organic diluent composition, said diluent composition in 100 parts by weight thereof consisting essentially of the following:

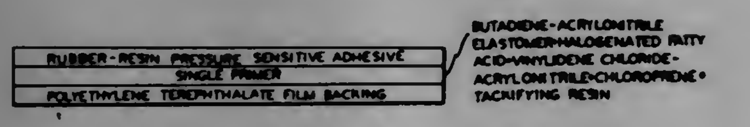
	Parts
(a) fast evaporating active solvent for the nitrocellulose and polyvinvy acetate, the evaporation rate being greater than that of toluol	at least 50
(b) slower evaporating active solvent which is at least a solvent for the polyvinyl acetate and is characterized by an evaporation rate comparable with that of the non-solvent hydrocarbon components	0 to 20
(c) C_1 to C_4 alkanol	0.3 to 25
(d) aromatic hydrocarbon which is a non-solvent for the nitrocellulose and having a rate of evaporation ranging from that of toluol to that substantially comparable with industrial 10° xylol	20 to 40

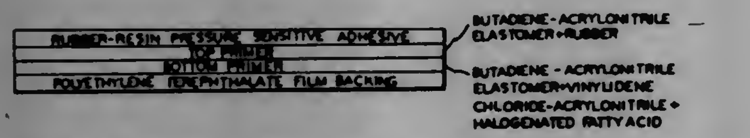
the weight ratio of

$$\frac{(d)}{(a)+(b)}$$

being in the range from about 0.25 to about 0.8.

3,197,326
PRESSURE SENSITIVE ADHESIVE TAPE
Charles S. Webber, Loudonville, N.Y., assignor to Norton Company, Troy, N.Y., a corporation of Massachusetts
Filed Oct. 26, 1964, Ser. No. 407,622
2 Claims. (Cl. 117—76)


RUBBER-RESIN PRESSURE SENSITIVE ADHESIVE
SINGLE PRIMER
POLYETHYLENE TEREPHTHALATE FILM BACKING
BUTADIENE-ACRYLONITRILE ELASTOMER+HALOGENATED FATTY ACID+VINYLIDENE CHLORIDE-ACRYLONITRILE+CHLOROPRENE+TACKIFYING RESIN


RUBBER-RESIN PRESSURE SENSITIVE ADHESIVE
TOP PRIMER
BOTTOM PRIMER
POLYETHYLENE TEREPHTHALATE FILM BACKING
BUTADIENE-ACRYLONITRILE ELASTOMER+RUBBER
BUTADIENE-ACRYLONITRILE ELASTOMER+VINYLIDENE CHLORIDE-ACRYLONITRILE+HALOGENATED FATTY ACID

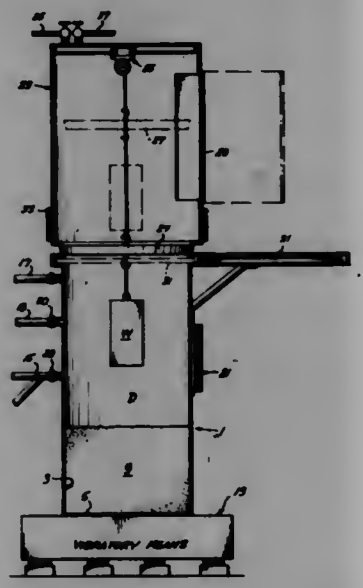
1. In a pressure sensitive tape construction wherein the tape backing is formed from a polyethylene terephthalate film and the pressure sensitive adhesive is of the rubber-resin type, the improvement comprising interposing therebetween a primer adhesive comprising a mixture of a butadiene-acrylonitrile elastomer, a vinylidene chloride-acrylonitrile copolymer, a chloroprene polymer, a tackifying resin and a halogenated fatty acid, the ratio of components ranging from 6:6:3:10:1 to 6:6:12:0:12.

2. In a pressure sensitive tape construction wherein the tape backing is formed from a polyethylene terephthalate film and the pressure sensitive adhesive is of the rubber resin type, the improvement comprising interposing therebetween a first layer of primer adhesive in contact with said film comprising a mixture of a butadiene-acrylonitrile elastomer, a vinylidene chloride-acrylonitrile copolymer and a halogenated fatty acid, the ratio of elastomer to copolymer ranging from 1:1 to 1:4 and the halogenated fatty acid being present in from 5 to 15 parts by weight per 600 parts of the elastomer-copolymer, and a second layer of primer adhesive in contact with said first layer of primer adhesive and with said pressure sensitive adhesive comprising a butadiene-acrylonitrile elastomer and a rubber compatible with the rubber used in the said pressure sensitive adhesive, the ratio of elastomer to rubber ranging from 1:2 to 2:1.

3,197,327
MANUFACTURE OF ROT RESISTANT SPONGES
Harold L. Dillon, Columbia, Tenn., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Sept. 27, 1961, Ser. No. 140,988
8 Claims. (Cl. 117—98)

8. A process for rendering cellulose sponge structures rot resistant which comprises impregnating said structure with a cationic material selected from the class consisting of a rosin amine, a quaternary ammonium halide and mixtures thereof, separately incorporating an anionic surfactant in said structure, causing said anionic and cationic material to react and form in situ a water-insoluble preservative within said structure.

3,197,328
FLUIDIZED BED GENERATED BY VIBRATORY MEANS
Charles H. Jung and Charles Robert Bennett, Seattle, Wash., assignors to The Boeing Company, Seattle, Wash., a corporation of Delaware
Filed Nov. 15, 1961, Ser. No. 152,470
13 Claims. (Cl. 117—107.2)

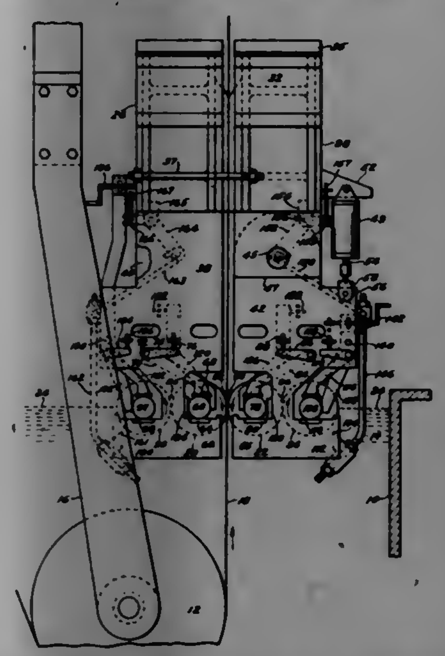


1. Apparatus for heat treating a solid article under vacuum comprising a closed, air-tight container having a bed of particulate material therein, means for evacuating the container to create a vacuum condition in the bed, means for fluidizing the bed, and means for immersing the article in the fluidized bed while maintaining the vacuum condition therein.

5. Apparatus for treating a solid article with a static charge of a gas and/or vapor that is reactive therewith, comprising a closed, air-tight container having a bed of particulate material therein, means for charging the container with the gas and/or vapor to fill the bed with a static charge of the same, means for fluidizing the bed, and means for immersing the article in the fluidized bed while maintaining the static condition of the charge therein.

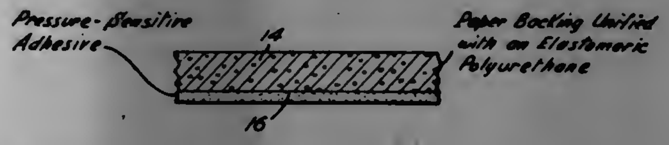
10. A method of treating a solid article with a static charge of a gas and/or vapor that is reactive therewith, comprising enclosing the article in an air-tight container having a bed of particulate material therein, charging the container with the gas and/or vapor to fill the bed with a static charge of the same, and fluidizing the bed and immersing the article therein while maintaining the static condition of the charge in the bed.

3,197,329
METHOD AND MEANS FOR FORMING UNIFORM COATINGS
George O. Maish, Bethlehem, Pa., assignor, by mesne assignments, to Bethlehem Steel Corporation, a corporation of Delaware
Filed Oct. 1, 1962, Ser. No. 227,136
6 Claims. (Cl. 117—114)



1. A method of coating metal strip comprising
- (a) positioning a pair of exit rolls in a molten metal bath with their axes approximately at the surface thereof,
- (b) passing the strip in an upward direction from the bath through the nip of the rolls,
- (c) driving the rolls in a direction opposite to the direction of movement of the strip to establish a pool of metal in the nip of the rolls, and
- (d) maintaining the speed of the rolls sufficient to prevent the formation of cusps upon the molten metal meniscus adjacent the surface of the strip emerging from the pool of molten metal in the nip of the rolls.

3,197,330
PROCESS FOR PRODUCING A PRESSURE-SENSITIVE ADHESIVE TAPE HAVING A PAPER BACKING UNIFIED WITH AN ELASTOMERIC POLYURETHANE
Charles Bartell, Waltham, Mass., assignor to Johnson & Johnson, a corporation of New Jersey
Filed Mar. 28, 1961, Ser. No. 98,804
8 Claims. (Cl. 117—122)


Pressure-Sensitive Adhesive
14
Paper Backing Unified with an Elastomeric Polyurethane
16

1. A method of making a pressure-sensitive adhesive tape comprising forming a prepolymer by reacting an organic compound having a reactive-hydrogen group selected from the class consisting of polyethers and polyesters with an organic diisocyanate, the molar ratio of said organic compound to said organic diisocyanate being at from about 1.5:1 to 10:1, mixing said prepolymer with further amounts of said organic compound having a reactive-hydrogen group in an inert organic solvent for said prepolymer and said organic compound so that the overall ratio of mols of hydroxyl groups to mols of isocyanate groups lies within the range of from about 0.3:1 to 1.5:1, incorporating said solvent mixture into a thin flexible paper web in an amount to yield from about 10 to 100% by weight of elastomeric polyurethnae based on the weight of the non-unified paper, curing said mixture in said paper

web so that an elastomeric polyurethane is formed, and coating a pressure-sensitive adhesive on at least one surface of said cured paper web.

3,197,331

RESINOUS COATING COMPOSITION AND METHODS OF APPLYING SAME

Charles L. Rohn, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

No Drawing. Filed Apr. 26, 1962, Ser. No. 190,214

10 Claims. (Cl. 117—123)

1. The method of applying dimensionally stable, continuous blister-free and fluid impervious, adhering diallyl phthalate resin protective surface coatings of high chemical resistance to the surface of calcareous cement materials which comprises forming a continuous conforming coating film on a face of an article of the calcareous material by applying thereto a flowable dispersion consisting essentially of a combination of 40 parts to 70 parts by weight of solid powdered diallyl phthalate prepolymers and 30 parts to 60 parts by weight of liquid vinyl monomer selected from the group consisting of diallyl phthalate, diallyl maleate, methyl methacrylate, acrylonitrile, vinyl chloride, vinylidene chloride, diallyl chorendate, and styrene, and mixtures thereof, together with about 0.10 part to 6 parts by weight of a peroxide free-radical catalyst dispersed in a solvent medium in amount up to approximately 20 parts by weight of solvent per part by weight of the resinous prepolymer and monomer and catalyst, evaporating the solvent and curing the resinous prepolymer and monomer by subjecting the coating film to a temperature of approximately 250° F. to 450° F. to provide an adhering continuous and conforming surface coating film rendering the porous surface of the calcareous cement material impervious to fluids and resistant to staining.

3,197,332

WATER-RESISTANT POLYMERS OF ETHYLENE OXIDE

Dennis C. Champ, Mount Royal, Montreal, Quebec, Canada, assignor to Union Carbide Canada Limited, Toronto, Ontario, Canada, a corporation of Canada

No Drawing. Filed Mar. 21, 1961, Ser. No. 97,140

8 Claims. (Cl. 117—138.8)

1. A substrate of ethylene oxide polymer having a reduced viscosity of at least 1.0, the surface on one side of said substrate being coated with a water-insoluble nonself sustaining coating of an organosilicon compound and at least a portion of the surface on the other side of said substrate being free of coating, said coated substrate being susceptible of disintegrating in water when water contacts the uncoated surface portion oppositely disposed to the coated surface of said substrate.

3,197,333

PROCESSES OF TREATING TEXTILE FIBRES BEFORE FORMING THE SAME INTO A YARN

Nikolaus Augustin Schönfeldt, Goteborg, and Kurt Helmut Grunewald, Molndal, Sweden, assignors to Berol Aktiebolag, Goteborg, Sweden, a corporation of Sweden

No Drawing. Filed Aug. 11, 1961, Ser. No. 130,760

Claims priority, application Sweden, Aug. 30, 1960, 8,247/60

6 Claims. (Cl. 117—139.5)

1. A process for reducing the buildup of static electricity of textile fibers during the spinning thereof to form yarn which comprises applying to the textile fibers a sulphated reaction product of an alkylene oxide having from two to four carbon atoms in the molecule and a hydrophobic organic substance having a polar group containing at least one active hydrogen atom and selected from the group consisting of acyclic compounds having from eight to twenty-two carbon atoms and alkyl aryl compounds having from eight to twelve carbon atoms in the alkyl chain; and a non-sulphated reaction product of an alkylene oxide having from two to four carbon atoms in the molecule and a hydrophobic substance containing a polar group having at least one active hydrogen atom and selected from the group consisting of acyclic compounds having from eight to twenty-two carbon atoms and alkyl aryl compounds having from eight to twelve carbon atoms in the alkyl chain; the said compounds being applied in an amount to reduce the buildup of static electricity.

3,197,334

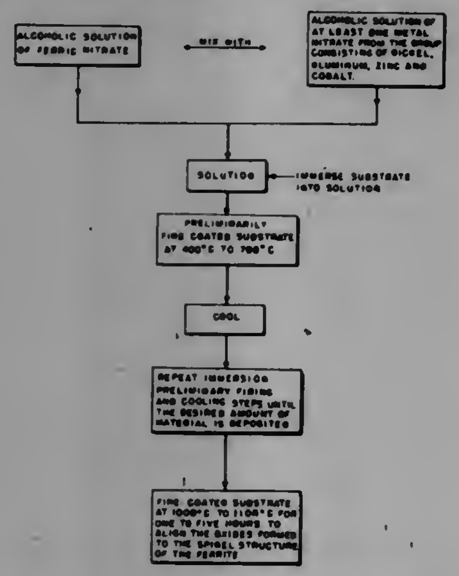
METHOD OF COATING A SUBSTRATE WITH MAGNETIC FERRITE FILM

William L. Wade, Jr., Neptune, N.J., assignor to the United States of America as represented by the Secretary of the Army

Filed Nov. 6, 1962, Ser. No. 235,896

3 Claims. (Cl. 117—169)

(Granted under Title 35, U.S. Code (1952), sec. 266)


ALCOHOLIC SOLUTION OF FERRIC NITRATE
MIX WITH
ALCOHOLIC SOLUTION OF AT LEAST ONE METAL NITRATE FROM THE GROUP CONSISTING OF NICKEL, ALUMINUM, ZINC AND COBALT.
SOLUTION
IMMERSE SUBSTRATE INTO SOLUTION
PRELIMINARILY FIRE COATED SUBSTRATE AT 400°C TO 700°C
COOL
REPEAT IMMERSION PRELIMINARY FIRING AND COOLING STEPS UNTIL THE DESIRED AMOUNT OF MATERIAL IS DEPOSITED
FIRE COATED SUBSTRATE AT 1000°C TO 1100°C FOR ONE TO FIVE HOURS TO ALIGN THE OXIDES FORMED TO THE SPINEL STRUCTURE OF THE FERRITE

1. The method of coating a substrate with magnetic ferrite film of about 7 to 23 microns in thickness comprising mixing an alcoholic solution of ferric nitrate with an alcoholic solution of at least one nitrate of a metal selected from the group consisting of nickel, aluminum, zinc, and cobalt in the stoichiometric proportion necessary to form the ferrite, immersing a substrate that is thermally stable up to 1100° C. into the thus prepared solution, preliminary firing the coated substrate at 400° C. to 700° C., cooling the coated substrate, repeating the immersion, preliminary firing and cooling steps until the desired amount of magnetic ferrite material is deposited in situ on the substrate, and firing the coated substrate at 1000° C. to 1100° C. for one to five hours to align the oxides formed to the spinel structure of the ferrite.

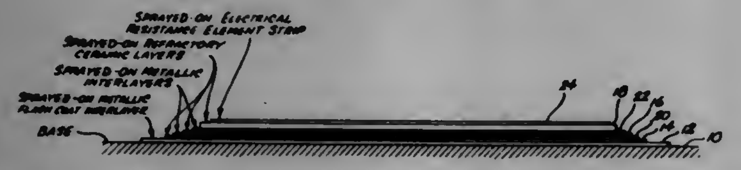
3,197,335

SURFACE-MOUNTED ELECTRICAL RESISTANCE STRUCTURE AND METHOD FOR PRODUCING SAME

Stanley W. Leszynski, 75 157th SE., Bellevue, Wash.

Filed Apr. 9, 1962, Ser. No. 186,011

13 Claims. (Cl. 117—212)


SPRAYED-ON ELECTRICAL RESISTANCE ELEMENT STRIP
SPRAYED-ON REFRACTORY CERAMIC LAYERS
SPRAYED-ON METALLIC INTERLAYERS
SPRAYED-ON METALLIC FLASH COAT INTERLAYER
BASE
24
18
22
16
20
14
12
10

1. In combination, a solid metallic base for use in high temperature environments, and an assembly of superposed solid, alternately metallic and ceramic layers, between 3 and 7 in number, inclusive, adhering thereon and consisting essentially of a metallic flash coat adhering directly to the base and having a thickness of about 0.002 of an inch, an electrically insulative refractory ceramic coat adhering directly to the opposite face of the flash coat and having a thickness of about 0.003–0.007 of an inch, and an electrically conductive resistance metal strip having a thickness of about 0.003 of an inch, overlying and adhered to the opposite face of the ceramic coat, and said flash coat having a temperature expansion coefficient intermediate those of the base metal and the refractory ceramic.

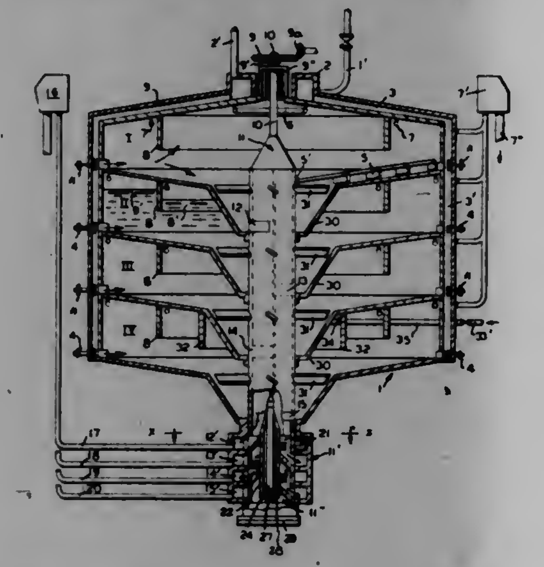
3,197,336

CLARIFIERS AND SEPARATORS

Jeronimo Diaz Compain, P.O. Box 370, New York, N.Y.

Filed Dec. 14, 1962, Ser. No. 244,690

10 Claims. (Cl. 127—13)



1. A clarifier, thickener, separator or the like comprising in combination:

(a) a plurality of superposed clarifying compartments,
(b) at least one inlet into each compartment for the introduction of liquid feed material,
(c) clarified liquid withdrawal means in each compartment,
(d) a mud collection section adjacent the lower central portion of each of said clarifying compartments,
(e) a vertical rotatable tubular element extending centrally upwardly through said plurality of clarifying compartments, in such a manner that there is no substantial flow of material between adjacent compartments,
(f) said tubular element being operatively connected to means for rotating it,
(g) the interior of said tubular element being subdivided into a number of separate vertically extending channels corresponding to a multiple of the number of compartments,
(h) each of said separate vertically extending channels having an upper intake gateway in the outer wall of said tubular element for the downward passageway of mud from said mud collection sections,
(i) each of said channels also having a separate lower lateral discharge opening located in the lower outer side wall portion of said tubular element for the discharge of mud,
(j) the plurality of lower lateral discharge openings in the lower outer side wall portion of said tubular element being located at different levels with respect to each other,
(k) said plurality of lower lateral discharge openings in the lower outer side wall portion of said tubular element being surrounded by a stationary annular manifold comprising a plurality of discharge conduits,
(l) the plurality of discharge conduits in said stationary annular manifold being located at different levels with respect to each other,
(m) said plurality of lower lateral discharge openings in the lower outer side wall portion of said tubular element being aligned with said plurality of discharge conduits in said annular manifold so that each discharge opening is in open communication with a different discharge conduit.

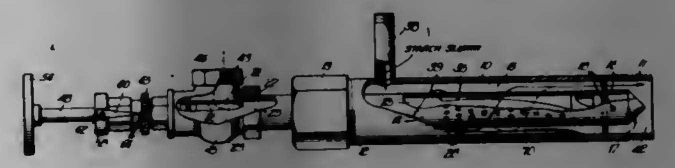
3,197,337

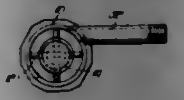
STARCH HEATER AND METHOD

Norbert F. Schink, River Forest, Ill., assignor to Corn Products Company, New York, N.Y., a corporation of Delaware

Filed Jan. 18, 1963, Ser. No. 252,427

17 Claims. (Cl. 127—28)





1. A tangential type starch slurry heater comprising an outer tubular casing, an injector tube arranged within and extending longitudinally of said casing and spaced inwardly from the wall of the casing to form an annular chamber between said injector tube and said casing, said casing having a tangential inlet through which starch slurry enters said annular chamber and flows helically through said chamber about said injector tube for passage from an outlet from said chamber as gelatinized starch, said injector tube having a multitude of orifices through which steam flows into contact with the starch slurry in said chamber, and an inner pipe arranged within and extending longitudinally of said injector tube and having a steam inlet for the entry of steam for travel through the inside of said inner pipe, said inner pipe having a cut out area in the wall thereof through which the steam passes from said inner pipe and flows through the orifices in the injector tube and contacts the starch slurry in said chamber, said inner pipe being mounted to turn relative to said injector tube for varying the register of said cut out area with said orifices and the steam pressure across said orifices during operation of the heater.

17. The method of heating and gelatinizing a starch slurry which comprises disposing the starch slurry into an elongated annular configuration, introducing steam within the annular configuration and through a multitude of longitudinally and circumferentially spaced orifices into contact with the starch slurry, and varying the total area of the orifices.

3,197,338

METHOD OF PRODUCING DRIED STARCH CONVERSION PRODUCT

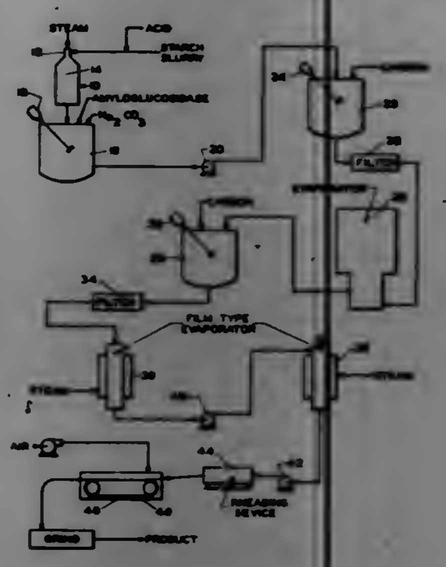
Thomas L. Hurst, Almerin Willard Turner, and Robert T. Gaudlitz, Decatur, Ill., assignors to A. E. Staley Manufacturing Company, Decatur, Ill., a corporation of Delaware

Filed June 21, 1962, Ser. No. 204,222

13 Claims. (Cl. 127—40)

1. The method of making a dehydrated starch conversion product that comprises providing a concentrated aqueous starch conversion liquor having a dextrose con-

tent, dry substance basis of at least about 90%, evaporating water from and dehydrating said starch conversion liquor until the moisture content is less than 5% by heating it under vacuum under turbulent flow conditions in the range of 130 to 250° F. whereby a molten dextrose glass is formed, and kneading said molten glass and then rapidly cooling it below 150° F. to induce crystallization and to increase the crystallinity to at least about 45%, the kneading being performed in a confining chamber at a temperature in the range of 150 to 285° F. for a period of 0.5 to 25 minutes.



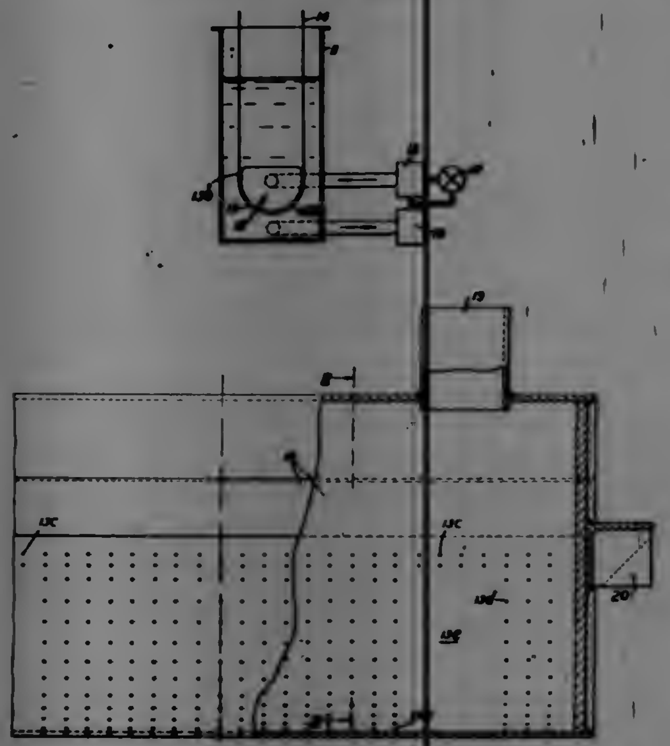
3,197,339
FLUID CUSHIONING SYSTEMS

James Cassidy Welch Black, Middlesborough, and Kenneth Thomas Lawson and Peter Wardle Dobson, Marton, England, assignors to The British Iron and Steel Research Association

Filed Apr. 15, 1963, Ser. No. 273,232

Claims priority, application Great Britain, Apr. 16, 1962, 14,700/62

2 Claims. (Cl. 134—15)



1. A strip treatment line comprising a tank for holding a liquid bath, a liquid outlet port for said tank, a pressure chamber disposed in said bath, and at least one inlet port for pressurized liquid entry into said chamber, said chamber having a part-cylindrical element, the curved surface thereof defining a bearing surface over which said strip material is passed; said bearing surface being bounded by two opposite, parallel side edges formed by the intersection of said curved surface with the opposite, parallel sides of said part-cylindrical element, and by two opposite, parallel, longitudinal edges parallel to the axis of said part-cylindrical element, said longitudinal edges defining the extent of said curved surface about said axis; one of said longitudinal edges defining a leading edge corresponding to the first portion of said curved surface over which the strip passes and the other of said longitudinal edges defining a trailing edge corresponding to the last portion of said curved surface over which the strip passes; said bearing surface having a pattern of outlet orifices for pressurized liquid exit from said chamber to maintain strip passing over said curved surface supported on a liquid cushion and out of contact with said bearing surface; said pattern of orifices consisting of a first area spaced inwardly from said side edges and extending around the median of said curved surface substantially fully between said leading and trailing edges and containing a substantially uniform distribution of orifices of constant diameter arranged in columns over the entirety of said first area; second and third areas each respectively adjacent to one of said side edges and axially spaced from said first area and extending around said curved surface substantially fully between said leading and trailing edges and containing a uniform distribution of orifices of constant diameter arranged in columns over the entirety of said second and third areas; fourth and fifth areas, each adjacent to said leading edge and extending a short distance therefrom around said curved surface and containing a uniform distribution of orifices of constant diameter arranged in columns over the entirety of said fourth and fifth areas, said fourth area being positioned between and contiguous to said first and second areas, said fifth area being positioned between and contiguous to said first and third areas, sixth and seventh areas, each adjacent to said trailing edge and extending a short distance therefrom around said curved surface and containing a uniform distribution of orifices of constant diameter arranged in columns over the entire said sixth and seventh areas, said sixth area being positioned between and contiguous to said first and second areas, said seventh area being positioned between and contiguous to said first and third areas; said first, third, fifth and seventh areas enclosing a first space on said curved surface having no orifices and said first, second, fourth and sixth areas enclosing a second space on said curved surface having no orifices, the axial dimension of said first and second spaces being several times greater than the axial distance between any two adjacent columns of said orifices, and the diameter of said orifices in said second, third, fourth, fifth, sixth and seventh areas being dimensionally smaller than the diameter of said orifices in said first area.

3,197,340
COMPOSITION AND METHOD FOR CLEANING ALUMINUM CASTINGS

Kenneth P. Bellinger, Ellington, Conn., assignor to Conversion Chemical Corporation, Rockville, Conn., a corporation of Connecticut

No Drawing. Filed Oct. 5, 1960, Ser. No. 60,568

5 Claims. (Cl. 134—28)

1. The method of cleaning aluminum castings comprising immersing castings of aluminum alloy having an alloying element insoluble in alkali in a highly alkaline bath to etch a portion of the surface and produce a dark smut thereon comprised of the alkali-insoluble alloying element; and thereafter immersing said castings in a concentrated acid bath containing 1–45 percent by weight hydrofluoric acid, 30–98 percent by weight nitric acid, 0.05–10.0 percent by weight hexavalent chromium ion (calculated as Cr) and not more than 50 percent by weight water, for a period of time sufficient to impart a white surface thereto.

3,197,341
METHOD AND COMPOSITION FOR DESCALING STAINLESS STEELS AND RELATED ALLOYS

Wilfred J. Wallace, Chula Vista, Calif., assignor to Rohr Corporation, a corporation of California

No Drawing. Filed June 19, 1961, Ser. No. 117,780

4 Claims. (Cl. 134—28)

1. The method of descaling stainless steel metals and related alloys thereof comprising treating said metals for from 3 to 15 minutes in an aqueous solution maintained at a temperature of from 65 to 110° F., said solution consisting essentially of from 16.0 to 20.0% by weight 42° Bé. ferric chloride, from 1.0 to 3.5% by weight 66° Bé. sulphuric acid, from 1.2 to 4.0% by weight 42° Bé. nitric acid, and the remainder water.

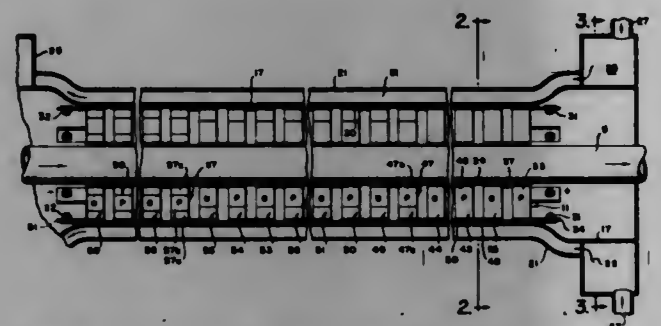
3,197,342
ARRANGEMENT OF THERMOELECTRIC ELEMENTS FOR IMPROVED GENERATOR EFFICIENCY

Alton Bayne Neild, Jr., Glen Burnie, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Sept. 26, 1961, Ser. No. 141,916

3 Claims. (Cl. 136—4)

(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A thermoelectric generator of the type described, comprising a plurality of spaced thermoelectric generating banks, a central tube, said banks being oriented around said tube, each of said banks comprising a first group of thermoelectric elements each of which containing more than two segments, a second group of thermoelectric elements containing two segments and a third group of thermoelectric elements consisting of a single segment, said groups being connected in a series arrangement, having a first end, terminal means, said terminal means being connected to said first end a switching means for selectively connecting said thermoelectric banks in parallel, said switching means containing a plurality of terminal means for connection to said terminal means of said thermoelectric banks said plurality of spaced thermoelectric banks terminal means being connected to said switching means terminal means whereby the amount of power being produced is capable of being controlled and a hollow tubular means spaced about said first central tube and enclosing said thermoelectric banks.

3,197,343
THERMOELECTRIC PANELS

Everett P. Palmatier, Solvay, N.Y., assignor to Carrier Corporation, Syracuse, N.Y., a corporation of Delaware

Filed July 5, 1962, Ser. No. 207,687

1 Claim. (Cl. 136—4)

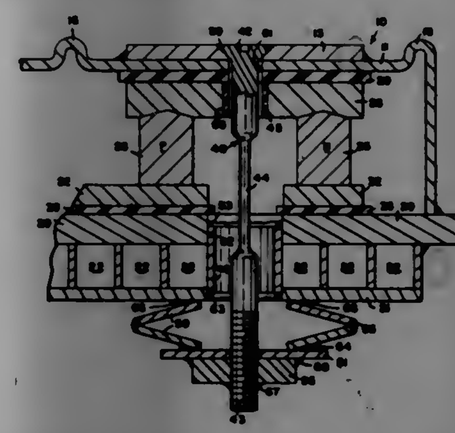
A thermoelectric panel assembly comprising:

(1) a substantially flat hot plate adapted to be heated, and a substantially flat cold plate, adapted to be cooled; said hot and cold plates being spaced from each other and having an electrically insulating, thermally conducting layer on the inner surface of said plates; said plates forming walls of a sealed enclosure;

(2) a plurality of dissimilar thermoelectric elements disposed between said hot plate and said cold plate, said thermoelectric elements being electrically connected by conducting bridges to form thermoelectric junctions of a type adapted to be heated adjacent said hot plate, and thermoelectric junctions of a type adapted to be cooled adjacent said cold plate, said thermoelectric junctions of the type adapted to be heated lying in substantially a single plane and being connected by said bridges by a pressure contact connection;

(3) a plurality of substantially flat rigid pressure plates overlying said hot plate adjacent a corresponding plurality of individual bridges forming said junctions of the type adapted to be heated, each of said plurality of rigid pressure plates lying substantially in a single plane; said rigid pressure plates being joined about their entire periphery with adjacent pressure plates by a flexible fluid tight joint;

(4) a cold side housing plate spaced from said cold plate and forming therewith a plurality of cooling water passages;



(5) a fastening member secured to each said pressure plate, said fastening member extending from its associated pressure plates through an aperture formed in the associated bridge overlaid by said pressure plate, each said fastening member also extending between the pair of thermoelectric elements joined by said associated bridge and extending through an aperture in said cold plate and through an aperture formed in said cold side housing plate to the opposite side thereof from that most closely adjacent the pair of thermoelectric elements; and

(6) an at least partially frusto-conical spring washer member through which said fastening member extends, said spring washer member being secured to said opposite side of said cold side housing plate and to said fastening member to tension said fastening member to maintain the pressure contact connections between the pair of thermoelectric elements and their associated bridge.

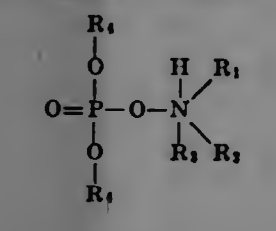
3,197,344
COMPOSITIONS AND METHODS FOR FORMING COATINGS ON METAL SURFACES

Elmer H. Plaxton, Birmingham, Mich., assignor to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Filed Apr. 23, 1962, Ser. No. 189,299

16 Claims. (Cl. 148—6.15)

9. A method for forming and adherent corrosion resistant film on a metallic surface which comprises the steps of applying to said surface a composition comprising an amine phosphate having the formula:



wherein R_1 and R_2 may each be a member of a class consisting of hydrogen and hydrocarbon radicals having 1 to 12 carbon atoms and of the group consisting of alkyl, aryl and cycloalkyl; R_3 is a member of the class consisting of hydrogen and hydrocarbon radicals having 1 to 20 carbon atoms and of the group consisting of alkyl, aryl and cycloalkyl; R_4 is a member of a class consisting of H, NH_2 and hydrocarbon radicals having 1 to 20 carbon atoms, and wherein the foregoing hydrocarbon radicals may contain hydroxyl, bromo, chloro-, sulfo-, nitro-, and amino substituent groups, said phosphate being present in a quantity sufficient to provide an H_3PO_4 equivalency in the range of about 0.05 to about 10, about 1% to about 40% of a film forming resin which is compatible with said phosphate and water in a pH range of about 7 to about 11, said composition containing water and having a pH in the range of about 7 to about 11, and thereafter heating said coating to a temperature in the range of about 300–450° F. to form an adherent film on said surface.

3,197,345
PROCESS AND COMPOSITION FOR PHOSPHATIZING METALS

William J. Vullo, Tonawanda, N.Y., and Donald H. Campbell, Niagara-on-the-Lake, Ontario, Canada, assignors to Hooker Chemical Corporation, Niagara Falls, N.Y., a corporation of New York

No Drawing. Original application Mar. 21, 1960, Ser. No. 16,125. Divided and this application June 20, 1963, Ser. No. 289,444

20 Claims. (Cl. 148—6.15)

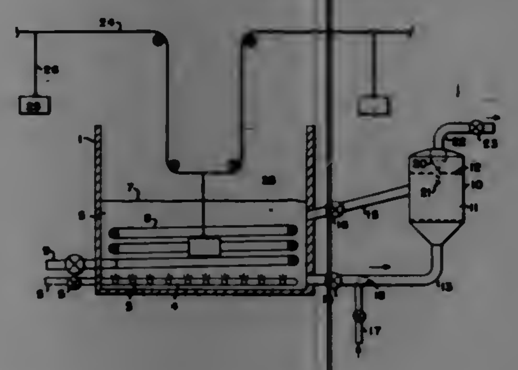
1. A substantially water-free composition of matter suitable for phosphatizing metal consisting essentially of a chlorinated hydrocarbon containing a minor proportion of an organic solvent capable of dissolving orthophosphoric acid in the chlorinated hydrocarbon, a phosphatizing proportion of orthophosphoric acid, and an inhibiting proportion of at least 0.01 percent by weight of a nitrated organic compound containing the nitro group, capable of inhibiting the formation of a heavy phosphate coating while enhancing the formation of a hard, uniformly thin phosphate coating.

3,197,346
HEAT TREATMENT OF FERROUS METALS WITH FLUIDIZED PARTICLES

John C. Munday, Cranford, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

Original application Nov. 27, 1953, Ser. No. 394,747, now Patent No. 3,053,704, dated Sept. 11, 1962. Divided and this application Feb. 27, 1962, Ser. No. 176,006

13 Claims. (Cl. 148—13)



1. The method of altering the surface of a ferrous metal object which comprises introducing a gas to a vessel containing a multiplicity of finely-divided carbonaceous solid particles substantially incombustible under the conditions of the treatment and reactive with the surface of said ferrous metal object at a rate suitable to fluidize said solid particles, introducing a ferrous metal object into the said vessel and submerging it in said fluidized solid particles at a region spaced from said vessel, maintaining the temperature of said fluidized solid particles at a temperature between about 1450° F. and 1750° F. and thereafter withdrawing said ferrous metal object from said vessel.

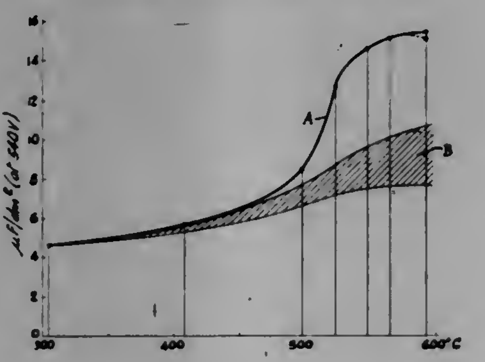
3,197,347
TREATMENT OF ALUMINUM FOIL FOR ELECTROLYTIC CAPACITORS

Dietrich Altenpohl, Feldmeilen, Zurich, Switzerland, assignor to Swiss Aluminium Ltd., Chippis, Switzerland, a company of Switzerland

Filed Dec. 11, 1962, Ser. No. 243,857

Claims priority, application Switzerland, Dec. 14, 1961, 14,450/61

8 Claims. (Cl. 148—20.3)



1. The process of treating substantially pure aluminum foil for electrolytic capacitors prior to etching, which process comprises the steps of degreasing the foil and then annealing the foil at a temperature of at least 500° C. in a gas which is substantially inert to the foil.

3,197,348
THIXOTROPIC PROPELLANT

Sol Skolnik, Los Angeles, Calif., and Emanuel D. Margolin, Waco, Tex., assignors to the United States of America as represented by the Secretary of the Navy

No Drawing. Filed Nov. 7, 1963, Ser. No. 323,194

7 Claims. (Cl. 149—17)

(Granted under Title 35, U.S. Code (1952), sec. 266)

1. In a propellant composition comprising a liquid fuel component, a solid component selected from the group consisting of oxidizers, burning rate catalysts, fuels, and mixtures thereof the improvement which comprises a finely divided particulate material uniformly dispersed in said liquid component as the sole component for rendering the composition thixotropic, said particulate material having a particle size less than about 20 millimicrons and being selected from the group consisting of silica, carbon, and finely divided metals.

3,197,349
SILICONE PROPELLANT COMPOSITIONS CONTAINING NITROGUANIDINE

Klaus Kuhn, Essen-Bredeney, and Theodor Netzer, Pocking, Starnberg, Germany, assignors to Nitrochemie G.m.b.H., Aschau, near Kraiburg, Germany

No Drawing. Filed Feb. 15, 1963, Ser. No. 259,777

12 Claims. (Cl. 149—19)

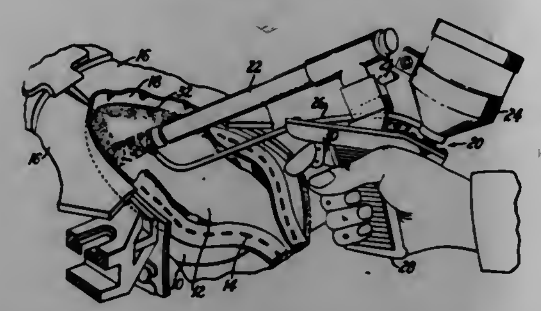
1. A solid propellant composition adapted for use in fire extinguishing devices, said propellant composition comprising a body of silicone resin stable at temperatures of at least 150° C. and having distributed therethrough as oxidizing salt at least one perchlorate selected from the group consisting of alkali metal perchlorates and ammonium perchlorate, and nitroguanidine as propellant which upon oxidation forms gas for propelling purposes, said oxidizing salt serving as a source of oxygen for said propellant.

3,197,350
METHOD OF BONDING WITH ADHESIVE AND ADHESIVE CONTAINING AN INDICATOR

Walter H. Wedger, Hamilton, and Ernest M. Crowell, Beverly, Mass., assignors, by mesne assignments, to United Shoe Machinery Corporation, Boston, Mass., a corporation of New Jersey

Filed May 4, 1961, Ser. No. 107,813

7 Claims. (Cl. 156—64)



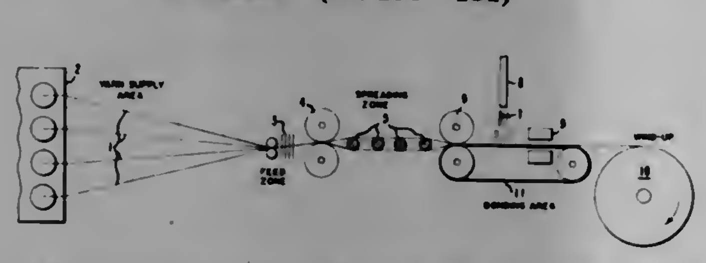
1. A method for bonding surfaces together comprising the steps of providing a mixture of heat fusible substantially solvent-free resin adhesive particles and finely divided coloring material which will retain its coloring ability at the temperature to which the adhesive composition is subjected in use and which is compatible with said adhesive uniformly distributed through the mass of particles, said particles and coloring material being in physically distinct but closely adjacent spaces, said mixture being opaque and masking the presence of said coloring material through diffraction of incident light by the surfaces of the adhesive particles, directing against a first surface to be bonded a stream of heated gas and entrained particles of said mixture, softening said adhesive particles by said heated gas, depositing heat softened particles from said gas stream as an adherent, whitish, difficultly observable layer on said first surface, fusing the particles of resin adhesive in said layer by directing heated gas at the layer to convert the resin adhesive into a fluid in which individual particles have merged to eliminate internal and external light diffracting surfaces of said particles and the coloring material is no longer masked by diffracting particle surfaces but colors the fluid to render its position readily perceptible and to indicate that the adhesive has been heat softened to bond forming condition, pressing a second surface against said adhesive layer to force the heat softened material into intimate contact with both of said surfaces, and solidifying the adhesive.

3,197,351
PREPARATION OF THIN, HIGHLY DIRECTIONALIZED FILAMENT STRUCTURES

Donald W. Selby, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

Filed Sept. 29, 1961, Ser. No. 141,819

3 Claims. (Cl. 156—181)



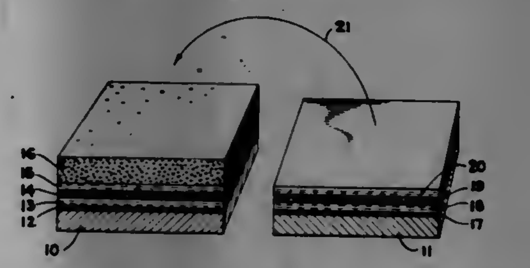
1. A continuous method of preparing thin, bonded, nonwoven sheet structures containing highly directionalized filaments spread uniformly throughout their width with substantially all of the individual filaments being essentially parallel to each other which comprises passing a warp of substantially zero-twist yarns through a spreading zone, pulling the yarns through said zone thus maintaining the yarns sufficiently taut to prevent filament entanglement, rubbing the filaments against a supporting element having a sufficiently different electrostatic potential to provide a static charge thereby electrostatically spreading the individual filaments of the yarn uniformly in said spreading zone, maintaining the spaced relationship of the filaments of the warp exiting from the spreading zone, applying a binder composition to the uniformly spread warp of filaments and setting the binder to retain the spaced relationship.

3,197,352
METHOD OF FORMING RIGID PANELS AND RIGID PANEL PRODUCTS

James M. Coates, 7141 Birdview Drive, Malibu, Calif.

Filed Aug. 17, 1962, Ser. No. 217,565

1 Claim. (Cl. 156—242)



A method of forming a rigid flat panel for use in construction work, comprising the steps of: applying a thin coat of a mold parting agent to a flat non-porous first mold surface; applying a thermosetting resin to provide a first gel coat; permitting said gel coat to partially gel to a tacky consistency; overlying said first gel coat with reinforcing material; wetting said reinforcing material with a thermo-setting resin to form a reinforcing coat; applying pre-cast solid state polyurethane foam to said reinforcing coat while it is still wet; applying a thin coat of a mold parting agent to a flat non-porous second mold surface at least co-extensive in area with said first mold surface; applying a thermo-setting resin to provide a second gel coat; permitting said second gel coat to partially gel to a tacky consistency; overlying said second gel coat with reinforcing material; wetting said reinforcing material with a thermosetting resin to form a reinforcing coat similar to said first mentioned reinforcing coat; placing said second mold surface in opposing relationship to said first mold surface while it is still wet to sandwich said solid state polyurethane foam therebetween; urging said mold surfaces towards each other under a given pressure; applying heat while said pressure is applied; and removing said molds whereby a panel having both opposite flat surfaces formed with reinforcing material in place is provided.

3,197,353
APPARATUS FOR MOUNTING FILMS AND OTHER INSERTS IN CARDS

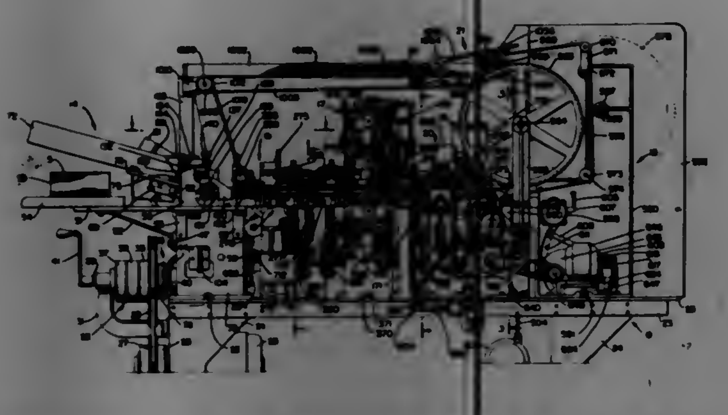
Leo C. Williams, Pearl River, N.Y., and Clifford R. Rounsefell, Hillsdale, N.J., assignors to Minnesota Mining and Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Original application Mar. 28, 1957, Ser. No. 649,149, now Patent No. 2,987,099, dated June 6, 1961. Divided and this application July 27, 1960, Ser. No. 45,632

21 Claims. (Cl. 156—366)

1. In an apparatus for operating on cards each having an aperture therein and an adhesive sheet secured over said aperture at one face of each card, the combination of a continuously driven conveyor means for advancing successive cards in spaced relation along a predetermined path, stop means arranged along said path, means for operating said stop means for each cycle of operation of the apparatus for arresting the movement of each card for a predetermined interval and thereafter releasing said card for further movement by said conveyor means, a strip severing means, means for operating said severing

means once for each said cycle of operation, an endless strip of material having a plurality of register marks spaced therealong, a first means to feed said strip in a predetermined path toward said severing means at a first speed in timed relation to the operation of said severing means, a scanning means positioned in said strip path a predetermined distance from said severing means, a second means to feed a predetermined length of said strip into register with said severing means at a second speed, means responsive to the passage of a register mark under said scanning means to render said first means inoperative and to actuate said second feed means, and carrier means operable in timed relation to said severing means and said card stop means to receive each severed strip portion and to mount the same over the aperture of a card held by said card stop means.

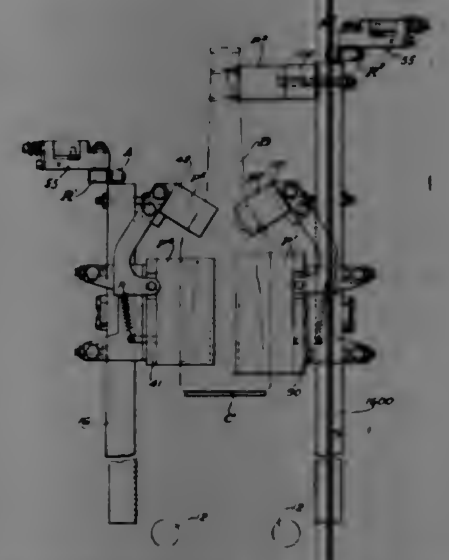


3,197,354
LABEL-PRESSING DEVICE FOR LABELING MACHINES

Sidney T. Carter, Shrewsbury, Mass., assignor to Geo. J. Meyer Manufacturing Co., Cudahy, Wis., a corporation of Wisconsin

Filed Oct. 26, 1962, Ser. No. 233,241

8 Claims. (Cl. 156—476)



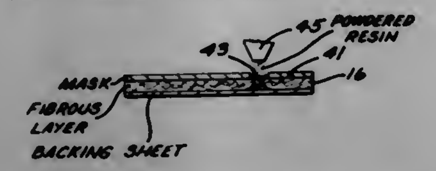
1. In a labeling machine of the kind which comprises means whereby an article to be labeled is advanced uninterruptedly along a predetermined path while a label is pressed into adhering contact with the article by a presser element which moves along said path concomitantly with the article, in combustion, force-applying means, which does not advance along the conveyor path with the presser element, located at approximately the same distance above the conveyor path as is the area of the article to which the label is to be applied, said force-applying means being operative resiliently to urge the presser element toward the article as the advancing article passes said force-applying means.

3,197,355
METHOD OF MAKING A PATTERN COATED BACKING AND PRODUCT

Richard S. Copeland, Grand Rapids, Mich., assignor to Sackner Products, Inc., Grand Rapids, Mich., a corporation of Michigan

Filed Apr. 20, 1961, Ser. No. 104,451

6 Claims. (Cl. 161—73)



1. A backing pad for a decorative laminate to be embossed comprising, a fibrous resilient layer formed of a plurality of randomly oriented fibers; and a binder resin powder dispersed substantially throughout the thickness of said layer in a pattern area corresponding generally to the embossment pattern to be formed and said resin powder being suspended in the form of tiny particles by clinging contact with said fibers.

3,197,356
LAMINATED PANEL

James K. Campbell, Midland, Mich., assignor to Dow Corning Corporation, Midland, Mich., a corporation of Michigan

No Drawing. Filed Sept. 27, 1962, Ser. No. 226,730

3 Claims. (Cl. 161—93)

1. An acoustic, thermal insulating, decorative panel consisting of (1) a layer of a glass fiber mat having a phenolic resin coating on the fibers and being firmly adhered to (2) an extruded film of a copolymer consisting of 97 mol percent ethylene units and 3 mol percent of acrylic acid residues, which is in turn firmly adhered to (3) a pigmented glass fabric coated with a silicone consisting of 95 parts by weight of a dimethylsiloxane fluid and 5 parts by weight of a methylhydrogensiloxane fluid.

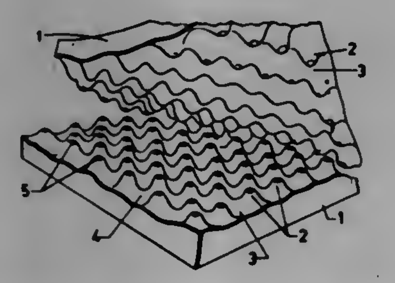
3,197,357
YIELDABLY DEFORMABLE MATERIAL HAVING OPEN OR CLOSED CELLS AND AT LEAST ONE UNDULATED SURFACE, OR OBJECT OF THIS MATERIAL

Karel H. N. Schulpen, Haviklaan 17, The Hague, Netherlands

Filed Nov. 19, 1956, Ser. No. 623,209

Claims priority, application Germany, Nov. 21, 1955, S 46,425; Netherlands, Feb. 13, 1956, 204,488

3 Claims. (Cl. 161—116)



1. A cushioning or padding element for upholstering purposes comprising multicellular spongy material having on at least one side uninterrupted continuous undulatory elevations and depressions, said undulatory elevations and depressions being in a zigzag relationship and being produced by a mechanical subdividing operation.

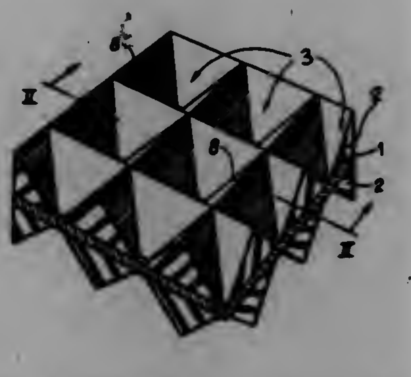
3,197,358
METAL RUBBER COMPOSITE SEALING PLATE

Attilio Angioletti, Milan, Italy, and Bernard Wetzel, Arbon, Switzerland, assignors to Società Applicazioni Gomma Antivibranti, "S.A.G.A.," S.p.A., Milan, Italy

Filed Aug. 2, 1962, Ser. No. 214,309

Claims priority, application Italy, Oct. 26, 1961, 19,291/61

1 Claim. (Cl. 161—116)



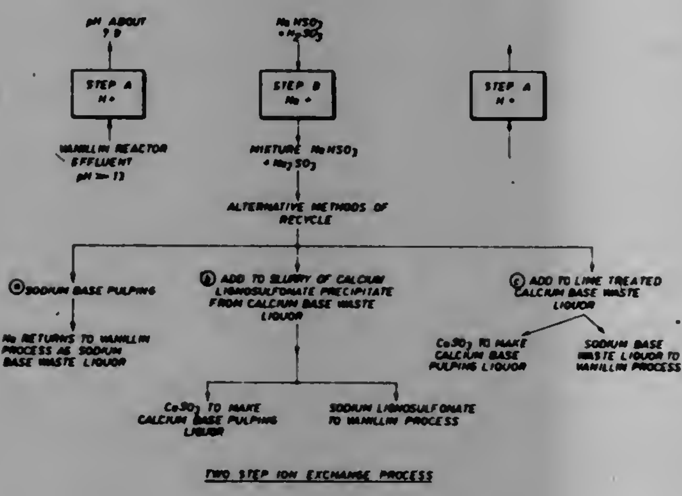
A composite sealing plate comprising a metal sheet, rubber layers firmly bonded to both faces of said metal sheet respectively, each of said rubber layers constituting of a multiplicity of adjacent recesses of pyramidal form, the base contour of each of said recesses having a closed perimeter and being situated on an enveloping surface equidistant from the metal-rubber interface and being formed by intersecting crest line sections each of which provides a crest line section for the base contour of an adjacent recess.

3,197,359
CYCLIC PROCESS FOR RECOVERING VANILLIN AND SODIUM VALUES FROM LIGNOSULFONIC WASTE LIQUORS BY ION EXCHANGE

Charles Donald Logan, St. Catharines, Ontario, Canada, assignor to The Ontario Paper Company Limited, Thorold, Ontario, Canada

Filed Sept. 5, 1961, Ser. No. 135,938

9 Claims. (Cl. 162—16)


pH ABOUT 7.0
NaHSO3 + Na2SO3
STEP A H+
STEP B Na+
STEP A H+
VANILLIN REACTOR EFFLUENT pH ≈ 13
MIXTURE NaHSO3 + Na2SO3
ALTERNATIVE METHODS OF RECYCLE
ⓐ SODIUM BASE PULPING
ⓑ ADD TO SLURRY OF CALCIUM LIGNOSULFONATE PRECIPITATE FROM CALCIUM BASE WASTE LIQUOR
ⓒ ADD TO LIME TREATED CALCIUM BASE WASTE LIQUOR
Na RETURNS TO VANILLIN PROCESS AS SODIUM BASE WASTE LIQUOR
CaSO3 TO MAKE CALCIUM BASE PULPING LIQUOR
SODIUM LIGNOSULFONATE TO VANILLIN PROCESS
CaSO3 TO MAKE CALCIUM BASE PULPING LIQUOR
SODIUM BASE WASTE LIQUOR TO VANILLIN PROCESS
TWO STEP ION EXCHANGE PROCESS

1. A repetitive cyclic process for recovering sodium values from and for a process for producing vanillin from lignosulfonic acid compounds, which comprises: (1) pulping lignocellulose materials utilizing a sodium base sulphite pulping process to produce lignosulfonic acid compounds in the liquor residual from said sulphite pulping process; (2) oxidizing said lignosulfonic acid compounds under alkaline conditions in the presence of sodium hydroxide, said sodium hydroxide being present in solution with said lignosulfonic acid compounds, to produce vanillin in the form of its sodium derivative in the liquor residual from said oxidizing step, said liquor residual from said oxidizing step containing lignin in solution; (3) passing said liquor residual from said oxidizing step through a cation exchange resin having exchange centres selected from at least one of the group consisting of carboxylic and phosphoric acid exchange centres, which resin is further characterized by its ability to be regenerated under atmospheric pressure to its hydrogen form by an acid selected from the group consisting of sulphurous acid, aqueous solutions of sodium bisulphite, and mixtures of same, said liquor residual from said oxidizing step containing lignin in solution and being passed through said resin at a rate which maintains the pH of said liquor higher than that at which lignin precipitates therein to convert said resin to its sodium form; (4) passing an acid selected from the group consisting of sulphurous acid, aqueous solutions of sodium bisulphite, and mixtures of the same through said resin in its sodium form to regenerate said resin to its hydrogen form and to produce a liquor containing sodium sulphite and sodium bisulphite; and (5) recycling said liquor containing sodium sulphite and sodium bisulphite to said sodium base sulphite pulping process.

3,197,360
INTERNAL STRENGTHENING OF INSULATING BOARD WITH CEREAL FLOUR

Christian F. Girard and Alexander Rose, Ottawa, Ontario, Canada, assignors to Canadian International Paper Company, Montreal, Canada, a corporation of Canada

No Drawing. Filed Apr. 2, 1963, Ser. No. 269,885

6 Claims. (Cl. 162—175)

1. A process of internally strengthening insulating board containing pulp fiber consisting essentially of cooking a cereal flour without boiling to obtain cereal flour particles commensurate in dimension with the pulp fiber dimension, quenching the cooked cereal flour by diluting it with cold water and bringing its temperature down to at least 130° F., adding the quenched cooked cereal flour to an aqueous insulating board pulp furnished slurry, and making the insulating board from the slurry, the cereal flour being added in an amount of from about 1% to 5% by weight of the pulp on a dry basis.

6. Insulating board comprising pulp furnish, cereal flour, and a rosin soap, having internal strength, and made by a process consisting essentially of mixing a cereal flour with a rosin soap, cooking the mixture without boiling to obtain particles of the combination commensurate in dimension with the pulp fiber dimension, quenching the cooked mixture by diluting it with cold water and bringing its temperature down to at least 130° F., adding the quenched cooked mixture to an aqueous insulating board pulp furnish slurry, and making board from the slurry, the cereal flour being in an amount of from about 1% to 5% by weight of the pulp on a dry basis and the rosin being not more than about 10% by weight of the cereal flour.

3,197,361
APPARATUS FOR TRANSFERRING A FIBROUS CEMENT WEB FROM A FORMING STATION TO A TUBE WINDING STATION

Robert A. Schneider, Fort Washington, Pa., assignor to Certain-Teed Products Corporation, Ardmore, Pa., a corporation of Maryland

Filed May 28, 1963, Ser. No. 283,773

14 Claims. (Cl. 162—284)

1. In a machine for making pipe from a fiber containing slurry by forming a web of fibers and winding the web on a rotating mandrel comprising;

mandrel drive mechanism adapted to sequentially receive and rotate a plurality of mandrels;

mechanism for continuously forming a web of fibers from said slurry;

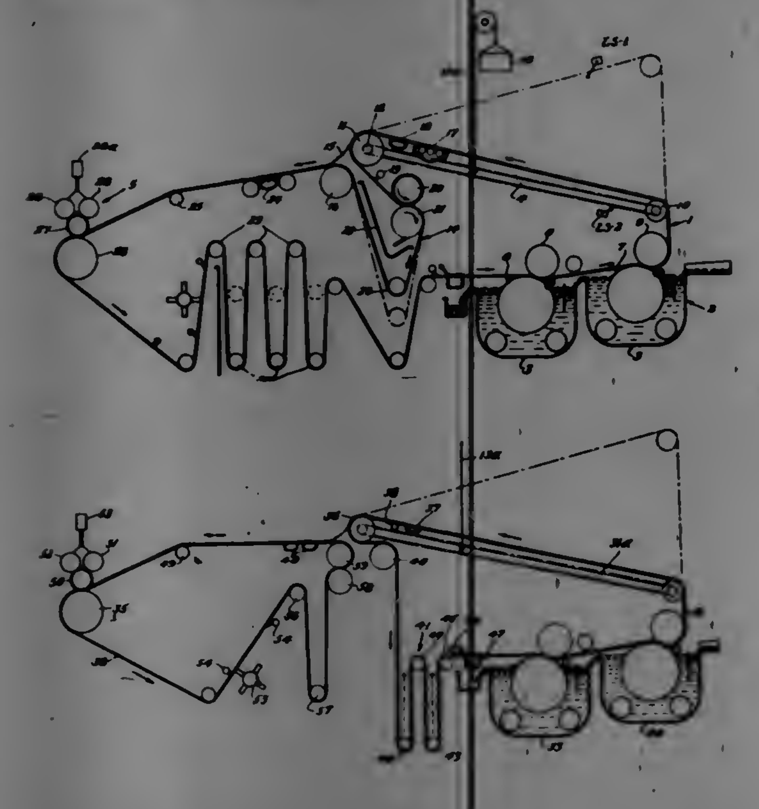
a conveyor for transferring the fiber web from the web-forming mechanism to the mandrels;

drive mechanism for the conveyor including continuously operatable means for driving the conveyor in the region where the conveyor receives the fiber web from the web-forming mechanism and further including discontinuously operatable means for driving the fiber web carrying conveyor in the region of the mandrels to provide for cessation of web feed during change of mandrels;

and a slack accumulator for the conveyor located along the path of travel of the conveyor at a point between the continuous and the discontinuous drive means.

10. In a conveyor for transferring material from a first to a second material transfer station including an endless flexible conveyor element adapted to travel in an endless path;

mechanism for driving the conveyor in its endless path



including a continuously operatable conveyor drive means in the region of said first station;

the drive mechanism further including intermittently operatable conveyor drive means in the region of said second station;

take-up means to extend the path of travel of said conveyor element in the run thereof from the first station to the second station;

and means connected to said take-up means to cause said take-up means to extend the path of travel of the conveyor element, when said discontinuously operatable means is stopped independently of said continuously operating drive means.

3,197,362

PESTICIDAL LIQUID FORMULATIONS STABLE AT LOW TEMPERATURES

Franco Pinamonti and Sergio Maccone, Milan, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, Italy, a corporation of Italy

Filed June 26, 1962, Ser. No. 205,356

Claims priority, application Italy, June 30, 1961, 12,011/61

9 Claims. (Cl. 167—22)

1. A liquid pesticidal formulation, stable at low temperatures, containing in a solvent selected from the group consisting of xylene and Cellosolve acetate, as a first component the monomethylamide of O,O-dialkyldithiophosphorylacetic acid and a second component selected from the group consisting of phenol and o, m, and p cresol and which forms with monomethylamide of O,O-dialkyldithiophosphorylacetic acid, in a eutectic system, a liquid mixture at temperatures lower than the melting temperature of the two components which form the eutectic.

3,197,363

METHOD FOR CONTROLLING PESTS AND AGENTS THEREFOR

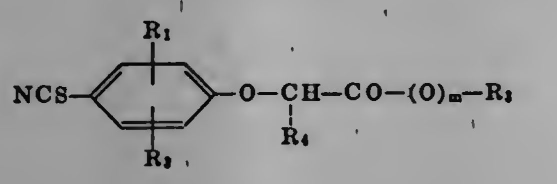
Kurt Gubler and Enrico Knusli, Riehen, near Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Original application May 9, 1962, Ser. No. 193,598. Divided and this application Aug. 2, 1963, Ser. No. 310,514

Claims priority, application Switzerland, May 10, 1961, 5,508/61

7 Claims. (Cl. 167—30)

1. Method for controlling pests which comprises contacting the pests with a compound of the formula



wherein

R_1 and R_2 are independently selected from the group consisting of hydrogen, chlorine, bromine, lower alkyl, alkenyl containing 2–3 carbon atoms, alkoxy containing 1–4 carbon atoms and nitro,

R_3 is a member selected from the group consisting of alkyl containing 1 to 8 carbon atoms, alkenyl containing 2–4 carbon atoms, chloro alkyl containing 1 to 4 carbon atoms, chloro alkenyl containing 2–3 carbon atoms and propargyl,

R_4 is a member selected from the group consisting of hydrogen and methyl, and

m is independently a number from zero to one inclusive.

3,197,364

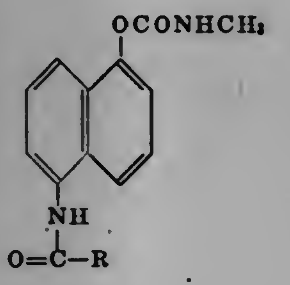
SUBSTITUTED 1-NAPHTHYL N-METHYLCARBAMATE INSECTICIDE

John R. Kilsheimer, South Charleston, W. Va., and Herbert H. Moorefield, Raleigh, N.C., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Original application Dec. 30, 1960, Ser. No. 79,523, now Patent No. 3,099,681, dated July 30, 1963. Divided and this application Apr. 26, 1963, Ser. No. 280,482

6 Claims. (Cl. 167—32)

5. The process for killing insects which comprises applying an insecticidal amount of a compound having the structural formula:



wherein R is a lower alkyl radical to said insects.

3,197,365

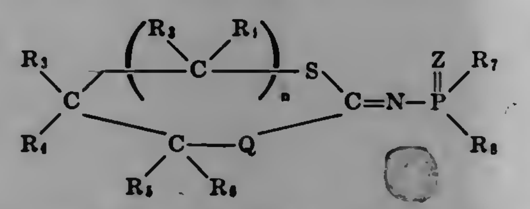
INSECTICIDAL AND NEMATOCIDAL PHOSPHINYL IMIDES

James Byron Lovell, Pennington, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Oct. 2, 1963, Ser. No. 313,199

13 Claims. (Cl. 167—33)

1. A method for protecting a plant from insect attack which comprises: spraying on said plant a long-lasting systemic composition comprising an inert carrier and an effective amount of an imide having the formula:



wherein R_1, R_2, R_3, R_4, R_5 and R_6 are each a substituent selected from the group consisting of hydrogen, lower alkyl, lower carbalkoxy, halo-lower alkyl, phenyl, lower alkyl substituted phenyl, nitrophenyl, halophenyl, cyanophenyl, methoxyphenyl, sulfamylphenyl, methylthiophenyl, lower carbalkoxyphenyl, carbamylphenyl, N-methylcarbamylphenyl, benzyl and naphthyl; R_7 and R_8 are each a substituent selected from the class consisting of lower alkyl, phenyl, lower alkoxy, lower monoalkylamino and lower dialkylamino; Q and Z are each selected from the group consisting of oxygen and sulfur; and *n* is an integer from 0 to 1, whereby the said imide is absorbed by the plant, thereby rendering it toxic to insects attempting to feed on said plant over a prolonged period of time.

3,197,366

EMBALMING FLUIDS AND PROCESSES

William N. Cannon, Greenwood, and Edwin R. Shepard, Indianapolis, Ind., assignors to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana

No Drawing. Filed Sept. 10, 1962, Ser. No. 222,687

11 Claims. (Cl. 167—49.5)

1. A method for embalming which comprises injecting into the vascular system and the abdominal and chest cavities of a cadaver a solution containing an aldehyde represented by the formula:

$$R''CHO$$

where R'' is selected from the group consisting of hydrogen and $(CH_2)_nCHO$, and *n* is a number from 0 to 6 plus an antiseptic anionic salt of a cation selected from the group consisting of the dibenziodolium cation, the 3,7-dichlorodibenziodolium cation, the 2,4-dichlorodibenziodolium cation, the 3,7-dinitrodibenziodolium cation, the 3-nitrodibenziodolium cation, and the 3,7-bis(trifluoromethyl)dibenziodolium cation, said antiseptic salt having a water solubility greater than 0.1 mg./ml. at 20° C.

3,197,367

PREGNENOLONE HEMISUCCINATE COMPOSITIONS AND THERAPY

Frank P. Panzarella, Valley Stream, N.Y., assignor to Doak Pharmacal Company, Inc., New York, N.Y., a corporation of New York

No Drawing. Filed Oct. 24, 1960, Ser. No. 64,304

9 Claims. (Cl. 167—58)

1. A topical composition useful in alleviating allergic, pruritic and inflammatory dermatitis comprising a vehicle suitable for topical use and containing at least 0.5 weight percent of an active therapeutic agent selected from the group consisting of pregnenolone hemisuccinate, the alkali metal salts, the alkaline earth metal salts, the alkanolamine salts of said pregnenolone hemisuccinate and mixtures thereof, said alkanolamine having a hydroxyalkyl group containing 2 to 4 carbon atoms.

3,197,368

PROCESS FOR THE PREPARATION OF NATURAL CHOLINE PHOSPHORIC ACID DIGLYCERIDE ESTER COMPOUNDS

Gertrud Lappe, nee Reuter, Cologne-Lindenthal, and Hans Eikermann, Cologne-Braunsfeld, Germany, assignors to A. Nattermann & Cie, Cologne-Braunsfeld, Germany

No Drawing. Filed June 2, 1961, Ser. No. 114,286

Claims priority, application Germany, Dec. 5, 1960, N 19,273

10 Claims. (Cl. 167—58)

7. Water-soluble adducts of 1 mole of a choline phosphoric acid diglyceride ester with 0.8 to less than 1 mole of a salt of a bile acid, said salt being a salt of a member of the group consisting of sodium, potassium, magnesium, and calcium.

9. An aqueous solution of the adduct defined in claim 7, suitable for injections.

3,197,369

COATED GELATIN CAPSULES

Arno Widmann and Kurt Heinz Bauer, Eberbach, Germany, assignors to R. P. Scherer G.m.b.H., Eberbach, Germany, a corporation of Germany

No Drawing. Filed Feb. 15, 1962, Ser. No. 173,327

Claims priority, application Germany, Feb. 15, 1961, Sch 29,902

14 Claims. (Cl. 167—64)

1. A gelatin capsule for administration rectally and embodying a medicament, the surface of which is coated with an essentially dry adherent continuous film whose melting or softening point is above a temperature of at least 50° C., which film contains a lubricating substance that is emulsifiable with water together with an emulsifying agent in such amounts that the coated capsule, upon contact with moisture, becomes slippery and nonadherent to mucous tissue.

3,197,370

PYRILAMINE TANNATE COMPOSITIONS

Edward J. Hanus, Palisade, and Sheldon Siegel, Westfield, N.J., assignors to Merck & Co., Inc., Rahway, N.J., a corporation of New Jersey

No Drawing. Filed Feb. 6, 1961, Ser. No. 87,077

4 Claims. (Cl. 167—65)

1. A pharmaceutical preparation for oral administration comprising a stable, solid intimate admixture of pyrilamine tannate and at least one ingredient selected from the group consisting of aspirin and ascorbic acid.

3,197,371

PROCESS FOR TREATING HYPERCHOLESTERALEMIA

Joseph P. Dailey, Kankakee, Ill., assignor to Armour Pharmaceutical Company, Chicago, Ill., a corporation of Delaware

No Drawing. Filed July 6, 1962, Ser. No. 208,689

6 Claims. (Cl. 167—65)

1. In treatment to obtain lowering of the serum cholesterol level in a mammal afflicted with hypercholesterolemia, the administration on a daily basis to said mammal of at least 200 mg. of an isolated phospholipid containing at least 10% by weight of arachidonic acid and being substantially free from proteinaceous substances.

3,197,372
PROCESS FOR PREPARING AN ANTIPOLIOMYELITIS VACCINE

Werner Schäfer, Tubingen, and Heinz Restle, Marbach, near Marburg an der Lahn, Germany, assignors to Behringwerke Aktiengesellschaft, Marburg an der Lahn, Germany, a corporation of Germany

No Drawing. Filed Oct. 9, 1962, Ser. No. 229,482
Claims priority, application Germany, Oct. 10, 1961, B 64,328; Aug. 3, 1962, B 68,295
10 Claims. (Cl. 167—78)

1. A process for the preparation of an inactivated viral suspension adaptable to the manufacture of antipoliomyelitis vaccine, which process comprises adding hydroxylamine to a suspension of poliomyelitis viruses containing simian virus 40 at a temperature from 4° C. to 40° C. and at a pH from 4.5 to 7 to give a concentration of hydroxylamine in said suspension from 0.01 to 5.0 mols per liter, and, after said suspension is free of infectious viruses, removing unreacted hydroxylamine by addition to the suspension of a carbonyl compound selected from the group consisting of acetone, acetylacetone, acetonylacetone, acetoacetic acid ethyl ester, and acetoacetic acid methyl ester.

3,197,373
IMMUNOLOGICAL AGENT

Francis C. Jackson, Gonzales, Tex., assignor to Texas A & M Research Foundation, College Station, Tex.

No Drawing. Filed Feb. 23, 1962, Ser. No. 175,343
1 Claim. (Cl. 167—78)

The process for making a vaccine to immunize cattle against infectious keratoconjunctivitis which comprises forming an aqueous suspension of a smooth colony of *Moraxella bovis*, A.T.C. 10,900, spraying the suspension upon the surface of a Bordet Gengou potato glycerine culture medium containing blood cells, incubating the culture medium while in an inverted position for a period of 18 to 72 hours at a temperature of from 25° to 45° C., harvesting the cells and suspending them in a saline solution containing up to 0.02% by weight of sodium chloride, adding a bactericide selected from the group consisting of formalin, merthiolate, quaternary ammonium compounds and benzyl alcohol. holding for a period to kill all the bacteria, and dispensing into containers from which the vaccine will be administered.

3,197,374
PROCESS FOR THE DISAGGREGATION AND PURIFICATION OF VIRUSES

Walter Hennessen, Marburg an der Lahn, and Heinz Restle, Marbach, near Marburg an der Lahn, Germany, assignors to Behringwerke Aktiengesellschaft, Marburg an der Lahn, Germany, a corporation of Germany

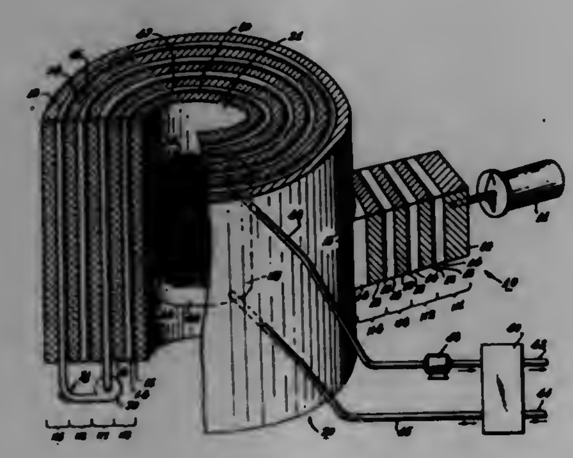
No Drawing. Filed Oct. 11, 1962, Ser. No. 230,007
Claims priority, application Germany, Oct. 14, 1961, B 64,383
2 Claims. (Cl. 167—78)

1. In a process for the purification of a suspension of a virus selected from the group consisting of poliomyelitis virus and influenza virus by chromatography with a calcium phosphate adsorption column,. the improvement whereby virus aggregates in said virus suspension are disaggregated which comprises passing said suspension at a rate of flow of 0.001 to 0.4 cubic centimeters per minute per square centimeter through a calcium phosphate adsorption column filled at a pressure of 500 to 600 millimeters Hg with a suspension of $CaHPO_4 \cdot 2H_2O$ in 0.001 Molar phosphate buffer having a pH of 6.5 to 7.5, the ratio of the diameter of the column to its length being about 1:10 to 1:20 and said virus suspension being adjusted to a concentration of about 4000 to 6000 γN per cubic centimeter of said $CaHPO_4$ suspension, subsequently washing said column with a 0.001 Molar phosphate buffer having a pH of 6.5 to 7.5, and then eluting the adsorbed virus at a rate of flow of 0.001 to 0.400 cubic centimeter per minute per square centimeter with a phosphate buffer having a pH of 6.5 to 7.5 and a constant molarity between 0.1 and 1.0 Molar.

3,197,375
NUCLEAR POWER REACTOR

Lyle B. Borst, Ossining, N.Y., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

Filed Oct. 28, 1958, Ser. No. 770,144
13 Claims. (Cl. 176—11)

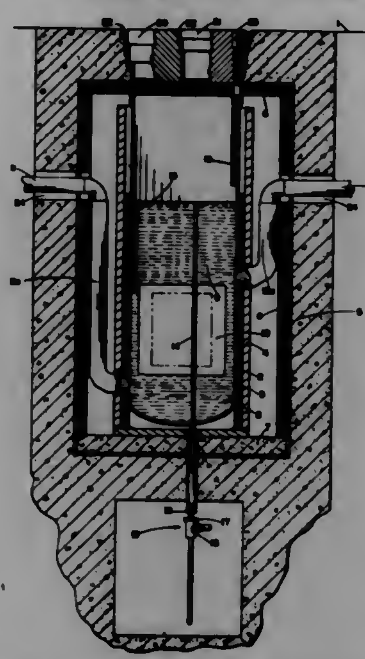


1. A neutronic power reactor comprising means responsive to neutrons from an external source of neutrons for producing and sustaining a subcritical neutronic chain reaction including a core of fissile material of concentration and composition insufficient for a divergent neutronic chain reaction, said core having a multiplication factor (K*inf*) approximating unity but not exceeding the prompt criticality of the fissile material, an external source of neutrons, means to augment the neutron flow from said source and supply the augmented neutron flow to said core at the location and in the amount of neutron leakage from said core, said augmentation means including a plurality of neutron amplifier stages each including in sequence a moderator input zone containing neutron moderator material in which neutrons of epithermal energy from said source are moderated to thermal energy levels and a fuel zone containing neutron fissile material in mass concentration and geometric configuration adapted to augment the neutron flow by a steady-state subcritical reaction, the effective multiplication factor (K*eff*) of said fuel zone being less than unity, and, between each stage and next succeeding stage, a neutron barrier substantially opaque to thermal neutrons but transmissive to epithermal neutrons, at least the last stage being arranged substantially to surround said core in such a manner that neutrons are supplied to said core to equal substantially the leakage from said core at the approximate location of the leakage, whereby a steady-state subcritical neutronic chain reaction is produced and sustained in said core, said neutron fissile material being in a fluid state in at least two of said neutron amplifier stages, and means to circulate a portion of the fluid fissile material in the fuel zone of one of said two stages to the other of said two stages, the fluid fissile material having the characteristic of emitting neutrons with appreciable time delays after excitation by neutrons in said one stage, said circulating means including means to synchronize the rate of circulating the fissile material with the time delays of neutron emission so that the delayed neutrons are emitted in said other stage.

3,197,376
EPITHERMAL THORIUM POWER-BREEDER NUCLEAR REACTOR

Ralph Balent, Tarzana, and Raymond J. Beeley, Woodland Hills, Calif., assignors to North American Aviation, Inc.

Continuation of application Ser. No. 654,187, Apr. 22, 1957. This application Dec. 16, 1960, Ser. No. 76,423
4 Claims. (Cl. 176—18)

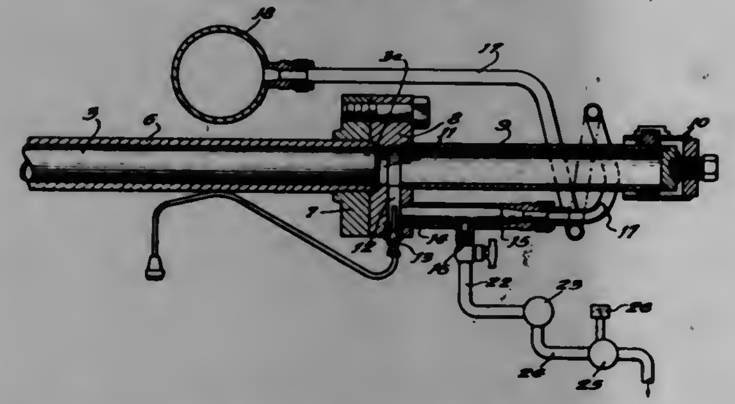


1. A thorium power breeder reactor comprising a vessel, a core within said vessel, said core containing a solid moderator matrix, said moderator being selected from the class consisting of carbon and beryllium, said moderator defining a plurality of fuel element channels, a plurality of fuel elements supported within said channels, each of said fuel elements containing thorium-232 and uranium-233 as the fissionable fuel, means for passing a liquid metal coolant through said channels, means for protecting said moderator from contact with said coolant, reflector means surrounding said core and consisting of said moderator and a plurality of thorium-232 rods disposed therein, said coolant and said moderator being present in sufficient quantity to provide a neutron spectrum in said core having a mean energy of from about 1 to about 10^5 ev., said thorium-232 being converted to uranium-233 by said neutron spectrum.

3,197,377
REACTOR MONITORING MEANS

Leo A. Ohlinger, Chicago, Ill., assignor to the United States of America as represented by the United States Atomic Energy Commission

Filed May 24, 1946, Ser. No. 672,116
1 Claim. (Cl. 176—19)

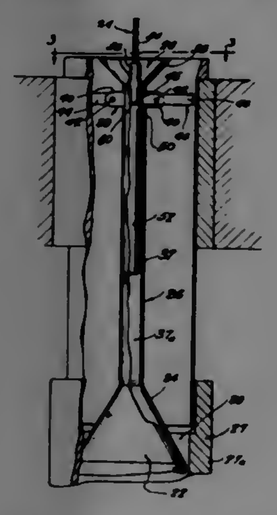


In a neutronic reactor, a plurality of tubes having inlet ends and outlet ends, a discharge manifold connected to the outlet ends of the tubes, bodies of fissionable material disposed in the tubes, means supplying fluid coolant to the inlet ends of the tubes, a header, a plurality of pipes connecting the outlet ends of the tubes to the header independently of the manifold, means connected with the header for measuring the radioactivity of the fluid coolant, and a plurality of valves associated with the pipes for providing for the flow of coolant from all of the tubes to the header and from one tube after another to the header, each pipe being provided with one of the aforesaid valves.

3,197,378
CONTROL ROD LIFT-COUPLING MECHANISM

Peter Fortescue, Rancho Santa Fe, Calif., assignor to General Dynamics Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 8, 1961, Ser. No. 150,955
6 Claims. (Cl. 176—36)



1. A coupling mechanism for effecting the releasable attachment of an elongated lifting member to an article that is to be lowered to and raised from a supported rest position by the lifting member, which coupling mechanism comprises a pair of coupling elements adapted to be joined in mating relationship, one of said coupling elements being secured to the article and the other of said coupling elements being secured to the lower end of the elongated lifting member, at least one linking member, said linking member being secured to one of said coupling elements so that the linking member is moved into engagement with the other of said coupling elements so as to effect the releasable attachment of said coupling elements to each other when said coupling element secured to the elongated lifting member is advanced into mating relationship with said coupling element secured to the article, and disengaging means mounted for selective movement along said elongated lifting member and into engagement with said linking member whereby said linking member is moved to allow the said coupling elements to be separated.

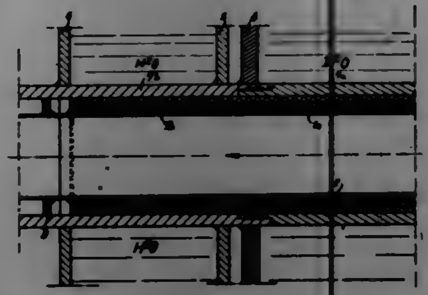
3,197,379
GUIDE TUBES FOR NUCLEAR REACTORS

Lucien Alfille, Orsay, Jean Ropers, Vanves, and Claude Gewiss, Paris, France, assignors to Commissariat à l'Energie Atomique, Paris, France

Filed May 1, 1962, Ser. No. 205,813
Claims priority, application France, May 2, 1961, 860,477
6 Claims. (Cl. 176—43)
(Filed under Rule 47(a) and 35 U.S.C. 116)

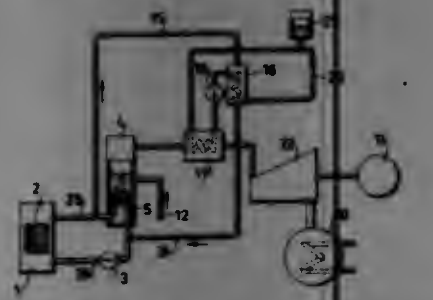
1. In a fluid cooled liquid moderated nuclear reactor, at least one horizontal pressure tube passing through the reactor and a composite guide tube for a fuel element housed in said pressure tube comprising an inner metallic tubular element for guiding the fuel element, at least one metallic structure having a low apparent density surrounding said tubular element, the inner surface of said structure contacting said tubular element and the outer surface of structure contacting the inner surface of said

pressure tube, means for holding said structure on said tubular element and stop means secured to said tubular element and to said pressure tube for maintaining said tubular element in position in the pressure tube, said metallic structure comprising helically wound strips forming at least one layer on said tubular element, each of said layers covering the surface on which it is wound, said strips located in the hot inner zone of the reactor being of a different material from those located in the cold outer zone of the reactor.



3,197,380
POWER PLANT FOR SUPERHEATING THE STEAM ORIGINATING FROM THE STEAM GENERATOR OF A NUCLEAR PRESSURIZED WATER REACTOR

Jöns Arthur Dahlgren, Elsa Borgs Gata 24, Stockholm, Sweden
Filed Jan. 28, 1963, Ser. No. 254,277
Claims priority, application Sweden, Feb. 23, 1962, 2,031/62
4 Claims. (Cl. 176—65)

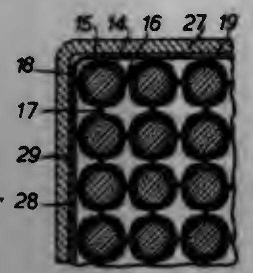


1. A nuclear reactor device for the production of superheated steam comprising a nuclear reactor of the pressurized water type, a steam generator, a heat exchanger, a steam superheater, means for passing a major portion of the pressurized water from the reactor through the steam generator in heat exchange with water contained therein, means for recirculating the major portion of the pressurized water from the steam generator to the reactor, means for passing the steam produced in the steam generator through the superheater, means for passing a minor portion of the pressurized water from the reactor through the heat exchanger, means for recirculating the minor portion of the pressurized water from the heat exchanger to the reactor, means for passing an auxiliary liquid through the heat exchanger in heat exchange with the minor portion of the pressurized water, and means for passing the auxiliary liquid from the heat exchanger through the superheater in heat exchange with the steam passing through the superheater.

3,197,381
NUCLEAR REACTOR FUEL ELEMENTS

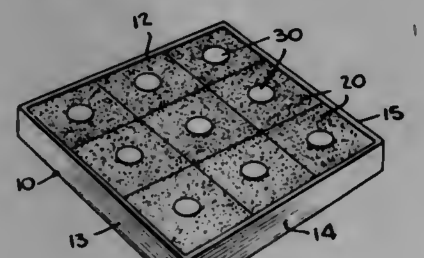
Leslie Reginald Blake, Shepshed, England, assignor to United Kingdom Atomic Energy Authority, London, England
Filed Oct. 2, 1961, Ser. No. 142,039
Claims priority, application Great Britain, Oct. 4, 1960, 33,973/60
3 Claims. (Cl. 176—72)

1. A nuclear reactor fuel element, particularly for a fast reactor, comprising an outer metal sheath with a generally circular cross sectional shape having flats, at least one individually sealed inner metal sheath disposed within said outer sheath in direct contact with said flats, a thermally bonding material interposed between said outer sheath and said inner sheath where clearance exists between them, and nuclear fuel enclosed within said inner sheath and having a cross sectional shape to provide intimate contact of said fuel with said inner sheath over a major portion of the periphery of said shape, there being left unoccupied by said fuel between 10 and 50% of the interior of said inner sheath.



3,197,382
INTERNALLY STRENGTHENED FLAT FUEL PLATE

John L. Zambrow, Westbury, N.Y., assignor, by mesne assignments, to Sylvania Electric Products Inc., a corporation of Delaware
Filed Aug. 11, 1960, Ser. No. 48,971
5 Claims. (Cl. 176—73)

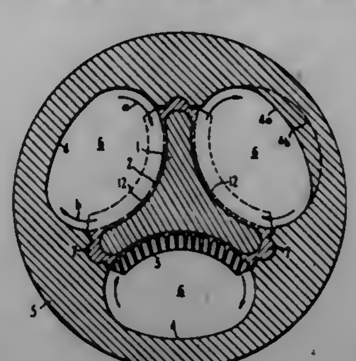


1. A nuclear fuel plate comprising a plurality of contiguous coplanar fuel slabs having a thickness equal to a major fraction of the thickness of said fuel plate, said plurality of fuel slabs being distributed throughout the area of the fuel plate, each of said slabs having means defining a hole extending normally through the thickness thereof, a plurality of metal dowels, each of said dowels disposed in one of said holes so as to completely fill said hole, metal cladding completely surrounding said plurality of slabs, the portion of said metal cladding facing said fuel slabs being provided with a metallurgical bond restricted to each of said dowels at each end thereof.

3,197,383
NUCLEAR REACTOR FUEL ELEMENT

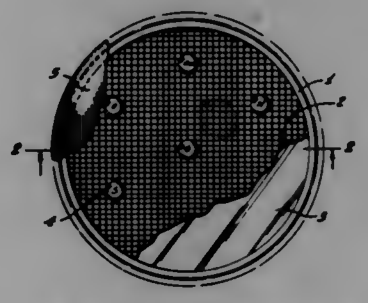
Ennemond Maillet, Paris, France, assignor to Commissariat a l'Energie Atomique, Paris, France
Filed Jan. 28, 1963, Ser. No. 254,141
Claims priority, application France, Feb. 9, 1962, 887,617
8 Claims. (Cl. 176—81)

1. A nuclear reactor fuel cartridge comprising: a fuel element comprised of a rod of fuel material enclosed within a can; a casing surrounding said fuel element, the inner surface of said casing and the external surface of said can being formed with a plurality of opposed concave surfaces cooperating to define therebetween a plurality of cooling gas passages, said concavities on the external surface of said can each being provided with a longitudinally extending set of fins each disposed obliquely with respect to the axis of said can, said fins cooperating respectively with the opposed concavity on the internal surface of said casing to impart a helical flow to gas moving along the passage defined therebetween; and means provided between adjacent concavities on said can for engagement with portions of said casing between adjacent concavities on the internal surface of said casing for centering said can with respect to said casing.



3,197,384
PROCESS FOR THE DETERMINATION OF MICROBIAL SENSITIVITY TO ANTIMICROBIAL AGENTS

Leon S. Goldman, New York, N.Y., assignor of ten percent to Harold C. Herman
Filed Dec. 13, 1960, Ser. No. 76,438
3 Claims. (Cl. 195—103.5)

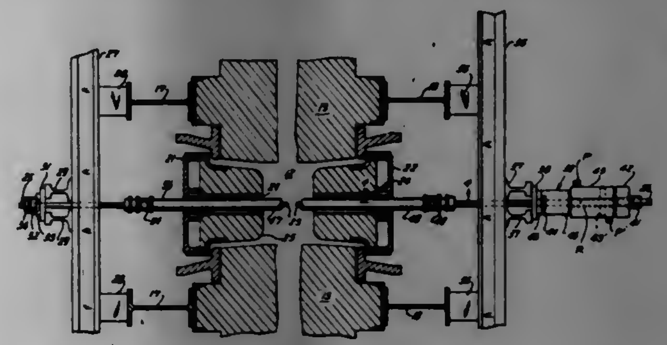


1. A process for the determination of bacterial sensitivity to antibiotics, comprising the steps of placing a disc of dark filter paper which is utilized for the easier perceptibility of bacterial colonies against a disc of light filter paper which is utilized for the easier perceptibility of pigment and hemolytic process, then impregnating premarked areas on the two discs with various antibiotic solutions to provide for the rapid detection of said bacterial sensitivity, each of the antibiotic solutions having a triphenyltetrazolium chloride to provide for the rapid determination of bacterial sensitivity, a water-insoluble non-toxic resin from the group consisting of rosin and shellac to prevent the antibiotics from being washed away and to provide for a slow diffusion of the triphenyltetrazolium chloride into the surrounding areas of said papers, and then drying the discs impregnated by the solutions at the marked areas, said non-toxic resin being added as a solution of 0.5 percent concentration.

3,197,385
PROCESS OF COOLING DOWN A REGENERATIVE COKE OVEN BATTERY

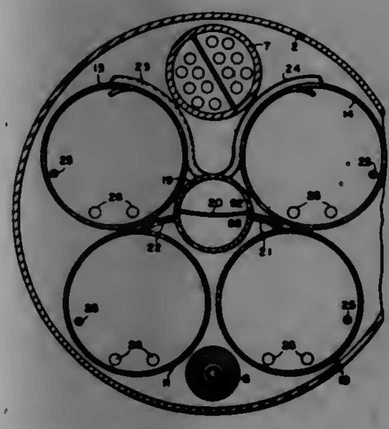
Frans Wethly, Manhasset, N.Y., assignor to Allied Chemical Corporation, New York, N.Y., a corporation of New York
Filed Dec. 6, 1961, Ser. No. 157,410
2 Claims. (Cl. 202—1)

1. The process of cooling down a regenerative coke oven battery constituted of refractory brickwork defining the heating walls and coking chambers in side by side relation with crosswise extending regenerators beneath the heating walls defined by regenerator division walls positioned beneath the heating walls, said regenerative coke oven battery having buckstays at the opposite sides of each heating wall and the regenerator division wall therebeneath and having tie rods extending across the top of the battery with at least one tie rod positioned at the top of each heating wall, means at the ends of the tie rods for applying compressive forces on the opposite ends of each heating wall, means at the base of the regenerator division walls for applying compressive forces to the opposite ends thereof toward the median of the battery, which process comprises placing a tension member in each coking chamber of the battery near the base of the coking chamber with the ends thereof extending exteriorly of the coking chamber, securing the ends of each of the tension members to the buckstays at the opposite sides of the battery, applying a tensioning force to at least one end of each tension member to tension said tension member and maintaining said tension to thereby exert compressive forces on the buckstays from the opposite sides of the battery toward the longitudinal median thereof, cooling the tension members during the application of the compressive forces and periodically adjusting (*a*) the tension applied to each tension member during the cooling of the battery, (*b*) the means at the ends of the tie rods for applying compressive forces on the opposite ends of each heating wall, and (*c*) the means at the base of the regenerator division walls for applying compressive force to the opposite ends thereof to maintain the opposite sides of the battery under substantially constant compressive forces toward the longitudinal median of the battery notwithstanding contraction of the brickwork during the cooling of the battery, thus minimizing formation of cracks in the battery during the cooling thereof and closing up cracks which form.



3,197,386
PLURAL STAGE STEAM DISTILLATION APPARATUS FOR PURIFYING OILS AND FATS

Jurgen Lau, Deggendorf (Danube), Germany, assignor to Deggendorfer Werft und Eisenbau, G.m.b.H., Deggendorf (Danube), Germany, a corporation of Germany
Filed Aug. 22, 1961, Ser. No. 133,205
Claims priority, application Germany, Aug. 26, 1960, D 34,111
18 Claims. (Cl. 202—173)



1. Apparatus for steam treating oils and the like which comprises, a common horizontally oriented shell, a plurality of steaming pipes arranged within said common shell and extending in substantially horizontal direction, means for supplying steam to each of said steaming pipes, vapor collecting means arranged within said common shell

and connected individually to each of said steaming pipes and means for conveying oil to be treated successively through each of said steaming pipes.

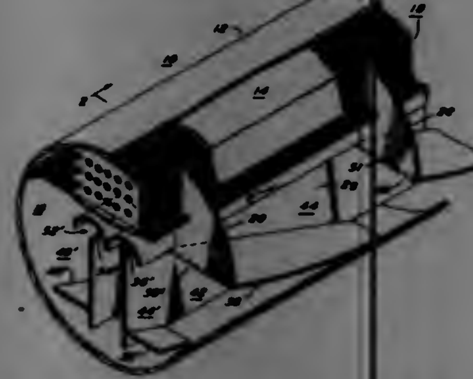
3,197,387

MULTI-STAGE FLASH EVAPORATORS

Harold Richard Lawrance, Swarthmore, Pa., assignor to Baldwin-Lima-Hamilton Corporation, Philadelphia, Pa., a corporation of Pennsylvania

Filed May 20, 1963, Ser. No. 281,734

20 Claims. (Cl. 202—173)



1. A flash evaporator stage comprising a longitudinally extending hollow housing, first and second end walls at each end of said housing, a flash box extending between said end walls, said flash box having spaced side walls, a pair of liquid separating walls extending from said first end wall adjacent the top of said flash box to said second end wall adjacent the bottom of said flash box to form unflashed liquid compartments below said liquid separating walls and flashed liquid compartments above said walls, said liquid separating walls extending outwardly from said spaced side walls, said unflashed liquid compartments being in flow communication with the interior of said flash box along the length thereof, said first end wall having an opening therein below said liquid separating walls on either outward side of said flash box side walls, said second end wall having openings therein above said liquid separating walls on either outward side of said flash box side walls, said second end wall openings extending upward to a point below the top edge of said flash box side walls.

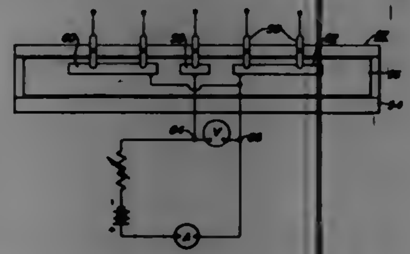
3,197,388

METHOD AND APPARATUS FOR ESTIMATING CORROSION RATE

Glenn A. Marsh and Robert L. Littler, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed Dec. 22, 1961, Ser. No. 161,449

6 Claims. (Cl. 204—1)



1. The method of estimating the rate of corrosion of a selected corrodible structural member in a multi-metallic, electrolyte-containing corrosion system including the selected member and a plurality of other electrically connected members fabricated of diverse metals comprising,

(a) exposing a specimen fabricated of the same metal as said selected member to a body of electrolyte substantially identical with that of said corrosion system,

(b) exposing a plurality of other specimens each of which is fabricated of the same metal, respectively, as one of the other members of said plurality to said body of electrolyte, each of all said specimens having a ratio of its surface area to the surface areas of the other specimens in contact with said body of electrolyte the same as the corresponding ratio of each member to the other members in contact with electrolyte in said corrosion system so as to provide a proportional duplicate of said corrosion system.

(c) electrically connecting the specimens of said plurality in short circuit, and

(d) measuring the zero resistance current flow between said first specimen and the specimens of said plurality connected in short circuit.

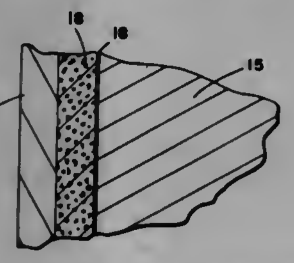
3,197,389

METHOD FOR FABRICATING SELF-MODERATING NUCLEAR REACTOR FUEL ELEMENT

Joseph A. Dudek and Edward L. Reed, Woodland Hills, Calif., assignors, by mesne assignments, to the United States of America as represented by the United States Atomic Energy Commission

Original application Dec. 15, 1959, Ser. No. 859,815. Divided and this application May 10, 1963, Ser. No. 285,175

1 Claim. (Cl. 204—1.5)



A process for the manufacture of a nuclear reactor fuel element comprising providing a zirconium hydride core material, electrolytically depositing a layer of copper on said core, electrophoretically depositing uranium oxide on said copper, and electrolytically depositing copper over said uranium oxide, in an amount such that the atom ratio of said uranium to said copper is from about 1:1 to about 1:12, thereby forming a matrix of copper containing uranium oxide interspersed therethrough, and electrolytically depositing a layer of nickel over said copper matrix.

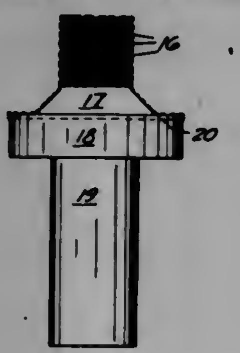
3,197,390

SCREEN GRID FOR POWER TUBES AND METHOD OF MAKING THE SAME

Norman B. Mears, Dakota County, Minn. (1170 Dobb Road, St. Paul, Minn.)

Filed July 2, 1962, Ser. No. 206,873

6 Claims. (Cl. 204—11)



1. A method of forming a screen grid for electronic tubes comprising:

(a) forming a matrix of dielectric material having a substantially circular end, an elongated substantially cylindrical portion, a multiplicity of spaced parallel grooves extending longitudinally of said cylindrical portion, and an annular skirt portion;

(b) applying a first coat of metal to said end, cylindrical, and skirt portions, and to the surfaces defining said grooves;

(c) removing said first coat of metal from said cylindrical portion of said matrix, leaving the metal coating on said end and skirt portions and on the surfaces defining said grooves;

(d) electrodepositing a metal layer on the remaining metal coated surfaces of said matrix;

(e) continuing the electrodeposition of the said metal layer until said grooves are filled to the face of said cylindrical portion and to form a screen grid of the desired thickness, and

(f) treating said matrix to remove at least portions thereof from the electroformed grid body.

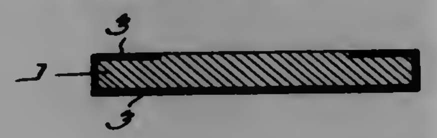
3,197,391

METHOD OF ETCHING ALUMINUM

Fredrick H. Bowers, 610 Willard St., Kalamazoo, Mich.

Filed June 18, 1964, Ser. No. 376,069

3 Claims. (Cl. 204—33)



1. A method of etching aluminum comprising:

(a) applying to a surface thereof a preselected pattern of resist of a kind inert and resistant to the effects of anodizing;

(b) anodizing the remainder of the surfaces;

(c) removing the resist and exposing the patterned non-anodized surface; and

(d) selectively etching the patterned non-anodized surface by the application of an etchant thereto with the anodized surfaces as a resist thereto and leaving said anodized surfaces substantially unaffected.

3,197,392

PROCESS FOR PREPARING ORGANOMETAL COMPOUNDS

Ernest F. Silversmith and Walter John Sloan, Wilmington, Del., assignors to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Nov. 30, 1961, Ser. No. 156,128

20 Claims. (Cl. 204—59)

1. The process for preparing organometal compounds having hydrocarbon radicals bonded directly to a metal selected from the group consisting of lead, tin, arsenic, antimony and bismuth, which comprises electrolyzing, at a cathode of the selected metal, a solution of an alkylating agent in a normally liquid, initially non-hydroxylic catholyte which, exclusive of the alkylating agent, has a higher reduction potential than the alkylating agent employing at least 0.01 mole of alkylating agent per kilogram of solution, said alkylating agent being at least one member of the group consisting of (a) esters of the formula RX wherein X is an anion whose conjugate acid, HX, has a molecular weight greater than 20 and a pKa in water of less than about 6 and R is a hydrocarbon radical of 1 to 10 carbon atoms having a saturated carbon atom attached to X and (b) onium salts of the formula G_nQY wherein G_nQ is an onium cation in which Q is an element selected from groups VA and VIA of the Periodic Table, *n* is an integer of 3 to 4, G is a hydrocarbon radical at least one of which is R as defined above, and Y is salt-forming anion, which onium salts are weakly acidic to weakly basic. their water solutions having a pH between 5 and 10, said catholyte containing a current-carrier in an amount sufficient to provide a conductivity of at least 0.0005 ohm^{-1} cm.^{-1}, said current-carrier being a dissolved current-carrying salt which, in water, has a pH in the range of 5 to 10; and recovering an organometal compound from said solution.

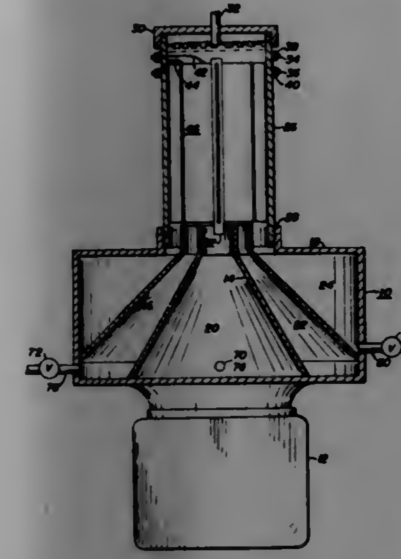
3,197,393

METHOD AND APPARATUS FOR DIELECTROPHORETIC SEPARATION OF POLAR PARTICLES

Robert B. McEuen, Brawley, Calif., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed Mar. 27, 1961, Ser. No. 98,385

8 Claims. (Cl. 204—180)



1. The method of segregating polar particles from nonpolar particles comprising suspending a mixture of said particles in a non-conductive fluid having a density and dielectric constant differing substantially from that of said particles, midly centrifuging the particle-fluid suspension while subjecting the suspension to the effect of a non-uniform alternating electric field having a maximum field intensity coxial with the axis of centrigugal force imposed on said suspension, and decreasing intensity as said field extends radially outward from said axis of centrifugal force, and collecting particles at the radial extremities of said field.

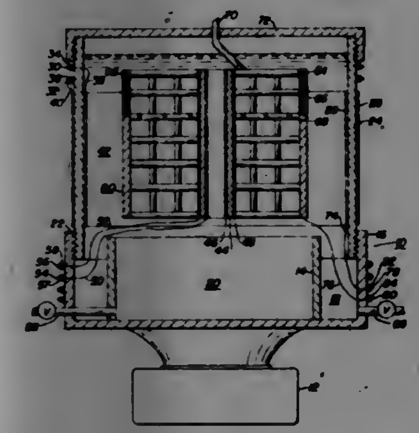
3,197,394

APPARATUS AND METHOD FOR SEPARATING POLARIZABLE FROM NON-POLARIZABLE PARTICLES

Robert B. McEuen, Barrington, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed Jan. 2, 1962, Ser. No. 163,597

16 Claims. (Cl. 204—186)



1. An apparatus for separating polarizable particles from nonpolarizable particles, comprising a cylindrical chamber, means for supporting said chamber for rotation about a vertical axis, means for rotating said chamber, a tubular grid axially disposed within said chamber and spaced from the cylindrical wall of said chamber, electrode means for propagating a non-uniform electric field having a maximum intensity near said grid, means for conducting electric potential to said electrode means, transducer means for converting electric pulses into transmitted ultrasonic waves having the maximum intensity near said grid, means for transmitting electric pulses to

said transducer means, and means for introducing the mixture to be separated in said chamber and withdrawing the separated mixture from said chamber.

3,197,395
CARBON ELECTRODES

Joseph F. Nelson, Westfield, N.J., assignor to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Mar. 13, 1961, Ser. No. 94,983
5 Claims. (Cl. 204—294)

1. A method of making a carbon electrode from fluid coke which comprises providing a batch of product fluid coke comprising spherical fluid coke particles mostly of a size between about 20 and 140 mesh, grinding a portion of said fluid coke particles to produce fluid coke particles of a size smaller than 200 mesh, mixing the ground fluid coke, unground fluid coke and a pitch binder in the proportions of about 20 to 40 wt. percent ground fluid coke, about 60 to 80 wt. percent unground fluid coke and between about 10 and 22 wt. percent on the mixed fluid cokes of pitch binder, forming and compressing briquettes and baking the resulting briquettes to crack or decompose the pitch binder to coke, partly crushing said briquettes to form fluid coke pieces larger than said unground fluid coke particles to obtain fluid coke pieces of a size between about 3/16 and 1 inch, mixing the crushed briquette pieces with unground and ground fluid coke in the proportion of about 20 to 30 wt. percent ground fluid coke particles, 45 to 65 wt. percent unground fluid coke particles, 15 to 30 wt. percent crushed briquette pieces, 16 to 25 wt. percent pitch binder on weight of said coke mixture, making electrodes from said mixture, compressing and baking to produce a prebaked carbon electrode of desired properties.

3,197,396
METHOD OF PREVENTING DEPOSIT FORMATION

Russell F. Stedman, Des Plaines, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed Nov. 24, 1961, Ser. No. 154,892
2 Claims. (Cl. 208—48)

1. A method of retarding deposit formation in a heat exchanger upon heating therein to a temperature above about 300° F. of a hydrocarbon fraction containing free sulfur, which comprises, prior to said heating, adding a mercaptan to said hydrocarbon fraction and converting said mercaptan to a disulfide and said free sulfur to hydrogen sulfide, and thereafter heating the resultant mixture in said heat exchanger to a temperature above about 300° F.

3,197,397
HYDROCRACKING CATALYST REGENERATION OF A CRYSTALLINE ZEOLITE COMPOSITE

Carlyle G. Wight and Robert H. Hass, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed June 25, 1962, Ser. No. 205,103
9 Claims. (Cl. 208—111)

1. A catalytic hydrocracking process in combination with an intervening catalyst regeneration step, said catalyst being a water-sensitive composite of a Group VIII noble metal hydrogenating component deposited upon a crystalline, zeolitic molecular sieve cracking base comprising silica, alumina and at least one exchangeable cation, which comprises:

(A) contacting a hydrocarbon feedstock plus added hydrogen with said catalyst under hydrocracking conditions including a temperature between about 400° and 850° F., and continuing said contacting until said catalyst has become substantially deactivated;

(B) terminating the flow of hydrocarbon feedstock to said deactivated catalyst and raising the catalyst temperature to above about 900° F. in a stream of hydrogen while stripping volatile hydrocarbons therefrom;

(C) subjecting the stripped and preheated catalyst, still at a temperature above about 900° F., to oxidative regeneration at temperatures limited to the range of about 900° to 1,400° F. but below the temperature at which said catalyst becomes thermally unstable, in contact with a stream of oxygen-containing regeneration gases, and continuing said oxidative regeneration for a time sufficient to burn off a desired major portion of deactivating combustible deposits on said catalyst;

(D) subjecting the oxidized catalyst from step (C) to reduction with hydrogen at temperatures between about 0° and 1,400° F., and during the terminal portion of said reduction, adjusting the catalyst temperature to the level desired for initiating a new hydrocracking run; and

(E) re-establishing a hydrocracking contacting sequence with hydrocarbon feedstock as specified in step (A).

3,197,398
HYDROGENATION PROCESS AND CATALYST COMPRISING A CRYSTALLINE ZEOLITE CONTAINING A GROUP VIII METAL

Dean Arthur Young, Yorba Linda, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Aug. 20, 1962, Ser. No. 218,101
15 Claims. (Cl. 208—111)

1. A hydrocracking process for converting a relatively high-boiling mineral oil feedstock containing a substantial proportion of aromatic hydrocarbons to lower boiling hydrocarbons having a relatively high ratio of iso/normal paraffins, which comprises contacting said feedstock plus added hydrogen with a hydrocracking catalyst at elevated temperatures and pressures, said hydrocracking catalyst comprising a zeolitic, crystalline molecular sieve cracking base having relatively uniform pore diameters between about 6–14 A., a silica/alumina mole-ratio between about 3 and 10, and having zeolitic cations from the class consisting of hydrogen and divalent metals, and deposited thereon a minor proportion of a Group VIII noble metal hydrogenating component, at least a portion of said hydrogenating component having been added to said molecular sieve base by impregnation with a colloidal sulfide hydrosol of said Group VIII metal, followed by drying and reducing the metal sulfide-molecular sieve composite.

3,197,399
HYDROCRACKING CATALYST ACTIVATION

Carlyle G. Wight and Robert H. Hass, Fullerton, Calif., assignors to Union Oil Company of California, Los Angeles, Calif., a corporation of California

No Drawing. Filed Oct. 15, 1962, Ser. No. 230,718
15 Claims. (Cl. 208—111)

11. A method for activating a fresh catalyst comprising a crystalline zeolitic molecular sieve cracking base and a Group VIII noble metal hydrogenating component, said catalyst being substantially free of carbonaceous deposits, and having been prepared by treating said molecular sieve cracking base with an aqueous solution of a salt of said noble metal followed by a drying and calcining procedure wherein temperatures above about 200° F. are attained before complete drying of the catalyst has occurred, thereby resulting in a partially deactivated catalyst, which comprises subjecting said catalyst, initially in an oxidized state, to a reduction-oxidation treatment sequence wherein the catalyst is first reduced with hydrogen and then oxidized with an oxygen-containing gas at a temperature between about 400° and 1,200° F., and repeating said oxidation-reduction sequence at least once again.

15. A process for hydrocracking a high-boiling hydrocarbon feedstock to produce lower boiling hydrocarbons, which comprises subjecting said feedstock plus added hydrogen to hydrocracking conditions of pressure and temperature in contact with a catalyst composed and activated as defined in claim 11.

3,197,400
PROCESS FOR REMOVING SULFUR FROM DIESEL OILS

William L. Fierce and Allen F. Millikan, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

No Drawing. Filed July 10, 1962, Ser. No. 208,908
10 Claims. (Cl. 208—231)

2. A method of treating a petroleum fraction which consists in:

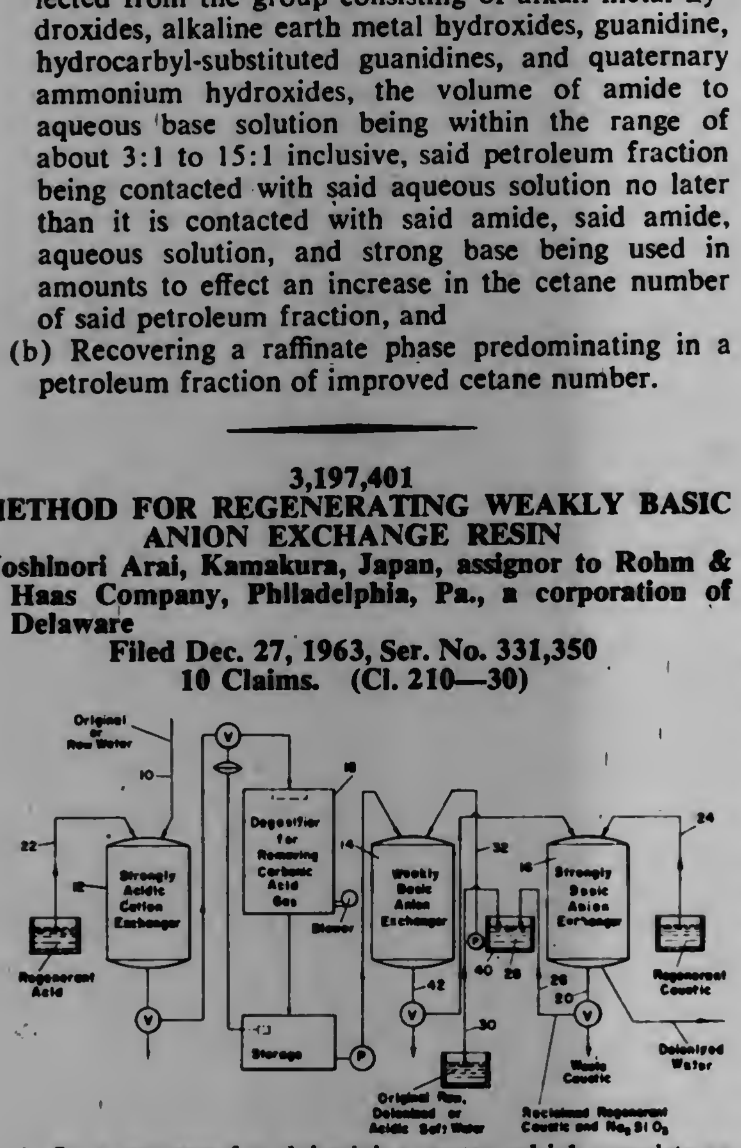
(a) Contacting a sulfur-containing petroleum fraction of the diesel fuel boiling range with a water-soluble dialkyl N-substituted aliphatic acid amide and an aqueous solution of a strong base of 0.7–5.0 N selected from the group consisting of alkali metal hydroxides, alkaline earth metal hydroxides, guanidine, hydrocarbyl-substituted guanidines, and quaternary ammonium hydroxides, the volume of amide to aqueous base solution being within the range of about 3:1 to 15:1 inclusive, said petroleum fraction being contacted with said aqueous solution no later than it is contacted with said amide, said amide, aqueous solution, and strong base being used in amounts to effect an increase in the cetane number of said petroleum fraction, and

(b) Recovering a raffinate phase predominating in a petroleum fraction of improved cetane number.

3,197,401
METHOD FOR REGENERATING WEAKLY BASIC ANION EXCHANGE RESIN

Yoshinori Arai, Kamakura, Japan, assignor to Rohm & Haas Company, Philadelphia, Pa., a corporation of Delaware

Filed Dec. 27, 1963, Ser. No. 331,350
10 Claims. (Cl. 210—30)

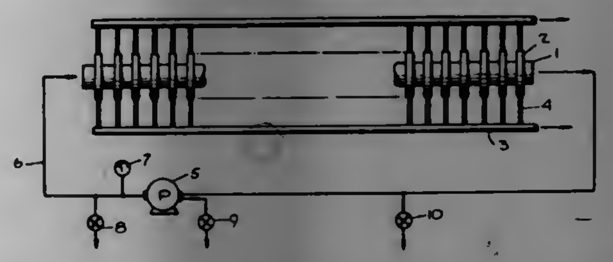

Original or Raw Water
10
22
12
Strongly Acidic Cation Exchanger
Regenerant Acid
18
Degasifier for Removing Carbonic Acid Gas
Blower
Storage
14
Weakly Basic Anion Exchanger
42
32
40
28
26
20
30
16
Strongly Basic Anion Exchanger
24
Regenerant Caustic
Deionized Water
Waste Caustic
Original Raw, Deionized or Acidic Soft Water
Reclaimed Regenerant Caustic and Na_2SiO_3

1. In a process for deionizing water which consists essentially of passing water to be treated in contact with a strongly acidic cation exchanger, then passing the water in contact with a weakly basic anion exchanger, and next passing the water in contact with a strongly basic anion exchanger, the method of regenerating the weakly basic anion exchanger which comprises first passing caustic in contact with the strongly basic anion exchanger, collecting the effluent silica-containing waste caustic from the strongly basic exchanger and diluting at least a portion of that waste caustic with a diluent selected from the class consisting of untreated raw water, deionized water, and acidic soft water until the silica concentration in the effluent is below about 1%, then passing the thus diluted effluent in contact with said weakly basic anion exchanger so as thereby to regenerate the weakly basic exchanger.

3,197,402
METHODS FOR THE RAPID RECOVERY OF HEAVY WATER AND OTHER PRODUCTS

Simon Lyon Ruskin, New York, N.Y.; Dan Ruskin, Milton Reder, and Carol Farhi, executors of said Simon L. Ruskin, deceased

Filed Nov. 20, 1957, Ser. No. 697,519
2 Claims. (Cl. 210—42)



1. The process of enriching the content of heavy water in water of ordinary heavy water content comprising the steps of passing the ordinary water through an elongated path in a strong magnetic field essentially perpendicular to the fluid flow so as to cause the more common para form of light water and the less common ortho form of heavy water to be propelled outward from the main stream to the periphery of the liquid to form a light water enriched layer, collecting said light water enriched layer from said periphery as waste, and collecting said heavy water enriched molecules from the main stream for further utilization.

3,197,403
ACIDIZING CORROSION INHIBITOR

Olen L. Riggs, Jr., Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

No Drawing. Filed Apr. 4, 1960, Ser. No. 19,480
21 Claims. (Cl. 252—8.55)

1. An acidizing process for the removal of calcareous incrustation from a ferrous metal surface whereby corrosion of the metal substrate is inhibited which comprises contacting said incrusted surface with an aqueous solution of a strong mineral acid containing from about 0.1 to 5% of the product obtained by reacting at a temperature between about 65° C. and 200° C. from about 0.7 to 0.3 mole of a mercapto compound selected from the group consisting of thiol acetic acid, mercapto succinic acid, toluene thiol, and o-mercapto-benzoic acid, with correspondingly from about 0.3 to 0.7 mole of an organic nitrogen compound selected from the group consisting of a 2-alkyl-pyridine, the alkyl group of which contains from 4 to 12 carbon atoms, an o-alkyl-aniline the alkyl group of which contains from 1 to 6 carbon atoms, a polyethylene polyamine, a N-alkyl-trimethylene-diamine in which the alkyl group is derived from a fatty acid, and an imidazoline substituted in the number one position with an aliphatic group containing a radical selected from the class consisting of hydroxy, amino and imino and substituted in the number two position with a C_{12}–C_{22} hydrocarbon group selected from the class consisting of alkyl and alkenyl.

3,197,404
P_2S_5-EPOXIDE REACTION PRODUCTS AND SALTS THEREOF

Henry G. Berger, Medford Lake, and Herbert Myers, Merchantville, N.J., assignors to Socony Mobil Oil Company, Inc., a corporation of New York

No Drawing. Filed June 27, 1961, Ser. No. 119,839
18 Claims. (Cl. 252—32.7)

11. A mineral lubricating oil composition comprising a major proportion of mineral lubricating oil and a minor

proportion, from about 0.1% to about 15%, by weight, of an oil-soluble, phosphorus- and sulfur-containing product produced by the process which comprises (1) forming a reaction mixture comprising (a) from about ½ to about 1 mol proportion of phosphorus pentasulfide and (b) about 1 mol proportion of an epoxy compound having a total of from about 8 to about 40 carbon atoms, at least about 8 of said carbon atoms being aliphatic carbon atoms, (2) maintaining said reaction mixture at a temperature of from about 25° C. to about 200° C. for a period sufficient to effect reaction between the phosphorus pentasulfide and the epoxy compound and form the phosphorus- and sulfur-containing product and (3) converting said product to a metal salt thereof.

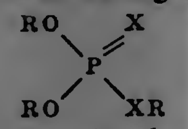
3,197,405

PHOSPHORUS- AND NITROGEN-CONTAINING COMPOSITIONS AND PROCESS FOR PREPARING THE SAME

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio

No Drawing. Filed July 9, 1962, Ser. No. 208,553
24 Claims. (Cl. 252—32.7)

1. A process for preparing phosphorus- and nitrogen-containing compositions comprising forming an acidic intermediate by reacting at a temperature of from about 25° C. to about 150° C., a hydroxy-substituted triester of a phosphorothioic acid having the formula



wherein R is selected from the class consisting of hydrocarbon radicals, hydroxy-substituted hydrocarbon radicals, and hydrocarbon radicals containing one polar substituent selected from the class consisting of chloro, bromo, iodo, alkoxy, aryloxy, nitro, keto, and aldehydo, at least one of the R radicals being a hydroxy-substituted hydrocarbon radical, and X is selected from the class consisting of sulfur and oxygen, at least one of the X radicals being sulfur, with an inorganic phosphorus reagent selected from the class consisting of phosphorus acids, phosphorus oxides, and phosphorus halides, the molar ratio of the hydroxy-substituted triester to inorganic phosphorus reagent being within the range of from about 2:1 to about 5:1 and neutralizing at a temperature of from about 0° to 200° C., at least about 50% of said acidic intermediate with an amine selected from the class consisting of hydrocarbon and hydroxy-substituted hydrocarbon amines having from about 4 to about 30 carbon atoms.

18. A lubricating composition comprising a major proportion of a lubricating oil and from about 0.001% to about 10% by weight of the product of the process of claim 1.

3,197,406

LUBRICATING COMPOSITIONS CONTAINING A METAL SALT OF A SULFATED ALIPHATIC SULFONIC ACID

Milton S. Konecky, South Plainfield, Arnold J. Morway, Clark, and Jeffrey H. Bartlett, New Providence, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

No Drawing. Filed Dec. 20, 1962, Ser. No. 246,025
8 Claims. (Cl. 252—33.2)

1. A lubricating composition comprising:
(a) a major proportion of a lubricating oil, and
(b), from 2 to 40 wt. percent of metal salt of C_6 to C_{30}
  aliphatic sulfonic acid,
    said metal being selected from the group consisting
      of alkali metals and alkaline earth metals,
    said aliphatic sulfonic acid being formed by the
      radio-sulfoxidation of paraffins and containing
      an average of from 0.9 to 3.2 sulfur atoms per
      molecule, and
      from 10 to 35% of said sulfur atoms being present
      as sulfate sulfur.

3,197,407

STABILIZATION OF ORGANIC SUBSTANCES

Henryk A. Cyba, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware

No Drawing. Filed May 8, 1962, Ser. No. 193,337
9 Claims. (Cl. 252—46.6)

1. Hydrocarbon material normally subject to oxidative deterioration containing, as an inhibitor therefor from about 0.0001% to about 25% by weight of an S-dithiophosphatyl compound selected from the group consisting of S-dithiophosphatyl thioepoxyalkane and S-dithiophosphatyl epoxyalkane.

3,197,408

SYNTHETIC FUNCTIONAL FLUIDS

Robert A. Cupper, Ridgefield, Conn., and Carl A. Wolf, Jr., New York, N.Y., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Dec. 16, 1960, Ser. No. 76,162
22 Claims. (Cl. 252—51.5)

1. A synthetic lubricant composition comprising a synthetic base fluid selected from the group consisting of ester-based fluids and polyalkylene glycol base fluids and a corrosion inhibiting amount for said synthetic base fluid of cyanuric acid as a corrosion inhibitor for said base fluid.

3,197,409

ALKYLENE GLYCOL ESTER REACTION PRODUCT

Louis de Vries, Richmond, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

No Drawing. Filed Mar. 28, 1963, Ser. No. 268,603
6 Claims. (Cl. 252—56)

1. An oil-soluble polymeric dispersant consisting of the ester of an alkylene glycol and a succinic anhydride substituted copolymer of (A) monomer units having the general formula

$$—RCH—CH_2—$$

in which R represents a member selected from the group consisting of hydrogen and an aliphatic hydrocarbon radical of from about 1 to about 18 carbon atoms and atoms, the ratio of (A) to (B) being from about 1:1 to about 400:1, said copolymer having a moleuclar weight of from about 10,000 to about 1,000,000, said succinic anhydride groups being esterified with a glycol of the class consisting of polyalkylene glycols and alkoxy polyalkylene glycols having polyalkylene glycol groups of a molecular weight between about 220 and 30,000 and containing at least five alkylene oxide units in which each alkylene oxide unit has from 2 to 7 carbon atoms, the molar ratio of glycol to succinic anhydride being from about 0.25:1 to 2:1.

2. A lubricating oil composition comprising a major proportion of an oil of lubricating viscosity and a minor proportion sufficient to improve the detergent characteristics of the polyalkylene glycol ester reaction product of claim 1.

3,197,410

THERMOELECTRIC COMPOSITIONS OF $Ta_xW_{1-x}Se_2$

Lothar H. Brixner, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Aug. 28, 1961, Ser. No. 134,148
1 Claim. (Cl. 252—62.3)

Thermoelectric compositions consisting essentially of tantalum, tungsten, and selenium in the proportions represented by the formula $Ta_xW_{1-x}Se_2$ where x is in the range of 0.10–0.01.

3,197,411

PROCESS FOR GROWING GALLIUM PHOSPHIDE AND GALLIUM ARSENIDE CRYSTALS FROM A Ga_2O AND HYDROGEN VAPOR MIXTURE

Carl J. Frosch, Summit, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed July 9, 1962, Ser. No. 208,365
3 Claims. (Cl. 252—62.3)

1. A process for growing an epitaxial single crystal on a semiconductor substrate, said single crystal consisting of a semiconductor material selected from the group consisting of GaP, GaAs and mixtures thereof comprising the steps of passing a mixture of hydrogen containing 10^{-4} to 1 atmosphere of water into sequential contact with a source providing a group V element selected from the group consisting of arsenic, phosphorus and mixtures thereof, a gallium source material, the group V element and the gallium being at a temperature providing a vapor content of the group V element and Ga_2O in the hydrogen water mixture at least equivalent to their respective saturation pressures at 700° C., and a substrate, the said substrate having a temperature below the lowest saturation temperature of the vapor constituents.

3,197,412

FERRITE COMPOSITIONS

Ernst M. Gyorgy, Morris Plains, and Frank J. Schnettler, Morristown, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Oct. 15, 1963, Ser. No. 317,400
4 Claims. (Cl. 252—62.5)

1. A rectangular hysteresis loop ferrite composition consisting essentially of 25 to 50 mol percent ferric oxide, 4 to 67 mol percent manganese oxide, up to 55 mol percent magnesium oxide, up to 15 mol percent cadmium oxide, up to 30 mol percent copper oxide, up to 9 mol percent nickel oxide, up to 18 mol percent zinc oxide, up to 6 mol percent calcium oxide, up to 1.3 mol percent cobalt oxide, up to 10 mol percent chromium oxide, and from ½ to 20 percent by weight of composition of at least one material selected from the group consisting of palladium, platinum and thorium oxide.

3,197,413

PROCESS FOR ATOMIZING ASPHALT

Lloyd C. Wingerd, Berkeley, Calif., assignor to California Research Corporation, San Francisco, Calif., a corporation of Delaware

Filed July 25, 1961, Ser. No. 126,538
2 Claims. (Cl. 252—311.5)

1. A process for the preparation of aqueous suspensions of atomized asphalt suitable for direct use in the manufacture of structural board, said process comprising: heating to a temperature in the range of 425–550° F. a hard asphalt characterized by being free from offensive odor and smoke and having a flash point below about 500° F. (Cleveland Open Cup), a penetration not exceeding 16 at 130° F., as measured with a 100-gram load in 5 seconds, and a viscosity not exceeding 400 centistokes at 450° F.; spraying the melted asphalt through an atomizing device at a temperature between about 425 and 550° F. and under a pressure above about 50 p.s.i.g. to subdivide said asphalt into particles passing substantially completely at least 94% through a 40-mesh sieve; and chilling the atomized asphalt with a shower of water to a temperature less than about 140° F. to form a liquid suspension of non-coalescent particles of asphalt in water.

3,197,414

TETRAETHYLLEAD-TETRAMETHYLLEAD ANTIKNOCK FLUIDS

James M. Wood, Jr., Baton Rouge, La., assignor to Ethyl Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed June 26, 1961, Ser. No. 119,294
6 Claims. (Cl. 252—386)

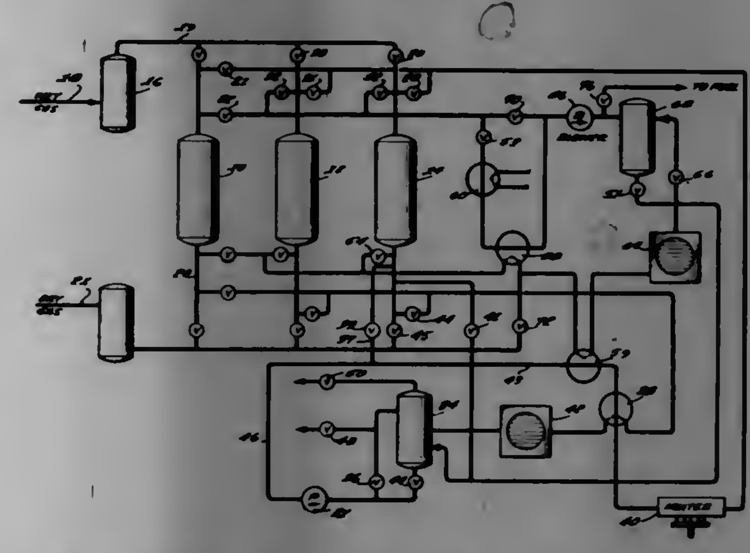
1. An antiknock fluid composition which consists essentially of
(1) An alkyllead mixture consisting of tetraethyllead
  and tetramethyllead, from about 10 to about 90 mole
  percent of this mixture being tetraethyllead,
(2) Trimethylphosphate present in amount such that
  the phosphorus to lead atom ratio is from about
  0.1:3 to about 2:3, and
(3) A cyclepentadienyl manganese tricarbonyl compound
  present in amount such that the weight ratio
  of manganese to lead is from about 0.005:1 to about
  0.5:1.

3,197,415

METHOD OF STRIPPING ADSORBED HYDROCARBONS FROM AN ADSORPTION BED

Lloyd T. Hendrix, Santa Ana, Calif., assignor to Richfield Oil Corporation, Los Angeles, Calif., a corporation of Delaware

Filed Oct. 10, 1961, Ser. No. 144,203
9 Claims. (Cl. 252—411)



1. In a method for regenerating an adsorption bed subject to damage when steam is condensed thereon utilized to recover liquifiable hydrocarbons from a wet natural gas at a pressure of at least 150 p.s.i.a., the improvement comprising:
  preheating recycled liquid hydrocarbons to approximately at least the steam saturation temperature at the regenerating pressure,
  passing said preheated hydrocarbons through said adsorption bed to preheat said bed to approximately at least said steam saturation temperature, and
  subsequently passing superheated steam through said bed to strip adsorbed hydrocarbons from said bed at a temperature of at least said steam saturation temperature.

3,197,416

PROCESS OF REMOVING METALLIC CONTAMINANTS FROM HYDROCARBON CRACKING CATALYSTS

Richard I. Bergman, Princeton, N.J., and Norman W. Frisch, Levittown, Pa., assignors to Princeton Chemical Research, Inc., Princeton, N.J., a corporation of New Jersey

No Drawing. Filed Mar. 15, 1963, Ser. No. 265,368
6 Claims. (Cl. 252—411)

1. A process for removing metallic contaminants selected from the group consisting of iron, nickel and

vanadium cations, from a silica-containing cracking catalyst selected from the group consisting of silica-alumina and silica-magnesia catalysts, which comprises treating said catalyst with a mixture of a reducing agent and a chelating agent and intimately contacting said catalyst in an aqueous reaction medium maintained at a pH of from 4 to 10 with a mixture of anionic and cationic exchange resins, said mixture comprising from 2% to 85% by weight of the anionic ion exchange resin with the balance essentially the cationic ion exchange resin.

3,197,417
METHOD OF PREPARING A NICKEL-ALUMINUM CHLORIDE ON ETA-ALUMINA CATALYST COMPOSITION

Hillis O. Folkins, Crystal Lake, and Elmer L. Miller, Cary, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
No Drawing. Filed Apr. 19, 1961, Ser. No. 103,983
2 Claims. (Cl. 252—442)

1. The method of producing a highly active isomerization catalyst which consists in impregnating beta-alumina trihydrate with a solution of a reducible nickel salt to a nickel content of 0.5–5% by weight, adjusting the water content of the impregnated alumina to about 5–15% by weight of water and forming it into pellets, calcining the pellets slowly at a gradually increasing temperature up to about 1000° F. for a time sufficient to convert the alumina to eta-alumina without appreciable formation of gamma-alumina, and reducing them with hydrogen at elevated temperature sufficient to reduce the nickel salt to metal, heating the reduced material with aluminum chloride at a temperature to cause reaction between the aluminum chloride and surface hydroxyl groups in the eta-alumina, the amount of aluminum chloride being sufficient to cause 10–20% by weight to be chemically combined and chemisorbed on the catalyst, heating the resulting product in a stream of an inert gas to remove aluminum chloride not reacted or chemisorbed and to remove absorbed by-product hydrogen chloride.

3,197,418
METHOD FOR PRODUCING COPPER-CONTAINING HYDROGENATION CATALYSTS

Kazutomo Maebashi and Motokazu Yano, Tokyo, Japan, assignors to Asahidenka Kogyo Kabushiki Kaisha, Tokyo, Japan, a corporation of Japan
No Drawing. Filed Feb. 26, 1964, Ser. No. 347,343
Claims priority, application Japan, Feb. 2, 1959, 34/3,029
8 Claims. (Cl. 252—454)

1. A process of producing a copper-containing hydrogenation catalyst, which consists essentially of reacting an aqueous acidic solution with an aqueous alkaline solution capable of reacting with the acidic solution to form a coprecipitate of the hereinafter mentioned metals, said aqueous acidic solution containing copper ions and ions of a second metal selected from the group consisting of zinc, cadmium, aluminum, silicon, titanium, tin, zirconium, vanadium, chromium, molybdenum, tungsten, manganese, Ag, Sc, Y, La, Ce, Ga, In, Hf, Be, Mg, Ca, Sr, Ba, and metals of Group VIII of the Mendeléeff Periodic Table, the mol ratio of said second metal to copper in said acidic solution being between 1:100 and 70:30, said acidic and alkaline solutions being added simultaneously to an aqueous third solution having a pH between 7 and 11 to form a combined precipitate of said metals, the rate of adding said acidic and alkaline solutions to said third aqueous solution being so regulated as to keep the pH of the reaction mixture between *x*—0.4 and *x*+0.5 (wherein *x* is from 7 to 11) throughout the entire duration of the reaction, washing the precipitate with water to remove the alkali therefrom and then drying the same, whereby an alkali-free hydrogenation catalyst is obtained.

3,197,419
MIXED ANTIMONY OXIDE-IRON OXIDE OXIDATION CATALYST

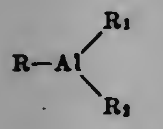
James L. Callahan, Cuyahoga County, Ohio, and Berthold Gertisser, Essex County, N.J., assignors to The Standard Oil Company, Cleveland, Ohio, a corporation of Ohio
No Drawing. Filed Jan. 8, 1963, Ser. No. 250,008
7 Claims. (Cl. 252—456)

1. A catalyst composition consisting essentially of an active catalytic oxide complex of antimony and iron as an essential catalytic ingredient, the Sb:Fe atomic ratio being within the range from about 1:50 to about 99:1; said complex being formed by heating the mixed oxides of antimony and iron in the presence of oxygen at an elevated temperature above 500° F. but below their melting point for a time sufficient to form said active catalytic oxide complex of antimony and iron.

3,197,420
PROCESS FOR POLYMERIZING 1,3,6-TRIOXA-CYCLO-OCTANES

Klaus Weissermel, Frankfurt am Main, and Manfred Reiher, Hofheim, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany
No Drawing. Filed July 29, 1960, Ser. No. 46,090
Claims priority, application Germany, Aug. 7, 1959, F 29,123
19 Claims. (Cl. 260—2)

1. A process which comprises polymerizing a 1,3,6-trioxa-cyclo-octane in the presence of a catalyst system comprising (1) an organo aluminum compound having the formula



$$R-Al\begin{matrix}\diagup R_1\\ \diagdown R_2\end{matrix}$$

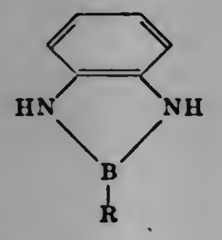
wherein R represents a member of the group consisting of halogen, hydrogen and alkyl of one to six carbon atoms and R_1 and R_2 represent alkyls of one to six carbon atoms; and (2) an organic halogen compound selected from the group consisting of 4-chloromethyl-1,3-dioxolone and a halogen-containing ether in which the mobility of the halogen atom is less than that of the chlorine atoms in α-monochloro-dialkyl ethers.

18. Thermoplastic, rubber-elastic homopolymer of a 1,3,6-trioxa-cyclo-octane having a reduced viscosity greater than 2.5, determined in benzene at 25° C.

3,197,421
POLYMERIC ORGANOBORON COMPOUNDS AND METHOD OF PREPARING SAME

James L. Boone and Robert J. Brotherton, Fullerton, Calif., assignors to United States Borax & Chemical Corporation, Los Angeles, Calif., a corporation of Nevada
No Drawing. Filed June 13, 1962, Ser. No. 202,082
3 Claims. (Cl. 260—2)

1. The method for producing solid, thermally stable polymeric organoboron compounds which comprises heating under reflux an organobenzodiazaboroline having the formula

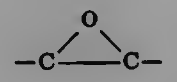


with phenyldichloroborane in the presence of a heat transfer medium inert to the reactants, continuously removing the hydrogen chloride reaction by-product, removing the inert heat transfer medium by distillation and recovering and heating the resultant reaction mass to at least about 450° C. in an inert atmosphere, where R is selected from the group consisting of methyl, phenyl, and meta and para methyl substituted phenyl.

3,197,422
CURING OF EPOXY RESINS

William R. Peterson and Ralph E. McNay, Houston, Tex., assignors by mesne assignments, to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
No Drawing. Filed Jan. 17, 1963, Ser. No. 252,036
6 Claims. (Cl. 260—2)

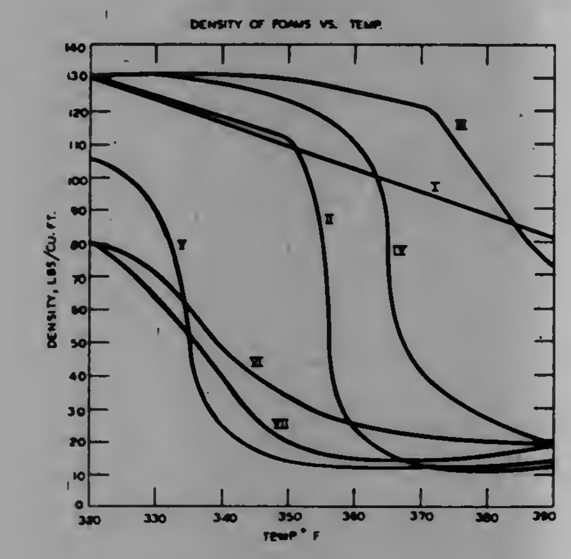
1. A method of curing an epoxy resin containing more than one



functional group which comprises: heating a mixture comprising said epoxy resin and as a curing agent a hydrocarbon insoluble-alcohol soluble extract of the plant Grindelia obtained by extracting said plant with a liquid aliphatic hydrocarbon and then extracting the hydrocarbon insoluble residue with a monohydric alcohol of from 1–5 carbon atoms, the amount of said curing agent being such as will effect irreversible conversion of said epoxy resin to a hard, solid mass.

3,197,423
MANUFACTURE OF CELLULAR POLYVINYL CHLORIDE

Bernard Ackerman, Metuchen, N.J., assignor to Carlisle Chemical Works, Inc., Reading, Ohio
Filed May 2, 1962, Ser. No. 191,916
5 Claims. (Cl. 260—2.5)



1. A method for making a cellular material from a vinyl chloride polymer which comprises adding to said polymer a chemical blowing agent containing a nitrogen to nitrogen bond and as activator reducing the decomposition temperature of said blowing agent a salt mixture comprising a zinc salt of a member of the group consisting of organic monocarboxylic acids having 8 to 24 carbon atoms, phenol, and alkyl phenols, and a potassium salt of a member of the group consisting of monocarboxylic acids having 8 to 14 carbon atoms, phenol, and alkyl phenols, and heating said polymer to decompose the blowing agent.

3,197,424
PIGMENTED COATING COMPOSITION AND PROCESS

Victor J. Larson, Wilmington, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

Filed Feb. 21, 1962, Ser. No. 174,711

The portion of the term of the patent subsequent to Jan. 1, 1980, has been disclaimed

12 Claims. (Cl. 260—16)

1. Process of preparing a nonlacquer enamel coating composition which dries to any desired degree of flatness, which comprises heating to about 430° F.–460° F. an unbodied drying oil as a carrier for ethyl hydroxyethyl cellulose, dispersing the ethyl hydroxyethyl cellulose in the heated carrier while agitating and maintaining at a temperature of about 430° F.–460° F. until all of the ethyl hydroxyethyl cellulose has been added and substantially completely dispersed in the carrier, thinning the ethyl hydroxyethyl cellulose dispersion to the desired nonvolatile content by adding thereto a petroleum aliphatic naphtha having a kauri-butanol solvency value not in excess of about 60 to form a flatting base, and incorporating with the ethyl hydroxyethyl cellulose flatting base a paste comprising a mixture of a prime pigment and a normally glossy drying nonaqueous organic film-forming vehicle selected from the group consisting of oleoresinous varnishes, oil-modified phthalic esters, spirit varnishes, the petroleum naphtha being a solvent for all film-forming vehicles employed, the ethyl hydroxyethyl cellulose/carrier ratio being 40/100–200/100, the total combined amount of ethyl hydroxyethyl cellulose, carrier and solvent being about 15%–100% by weight based on the solids content of said vehicle.

3,197,425
PROCESS FOR PIGMENTING PLASTIC MATERIALS

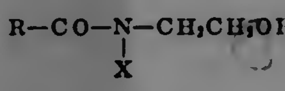
Roderich König, Riehen, near Basel, and Karl Keller, Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed July 14, 1960, Ser. No. 42,768

Claims priority, application Switzerland, July 15, 1959, 75,774

7 Claims. (Cl. 260—23)

1. A process for pigmenting plastic resin materials selected from the class consisting of thermoplastic polyethylene, polypropylene, polystyrene and polyvinyl chloride resins, which comprises thoroughly admixing a mixture of pigment lubricant and amide of the general formula



$$R-CO-\underset{\displaystyle X}{\underset{|}{N}}-CH_2CH_2OH$$

wherein

R—CO— represents the acyl radical of a monobasic hydrocarbon carboxylic acid with 10–20 carbon atoms and
X represents a member selected from the group consisting of H and —CH_2CH_2OH,

with said resin materials prior to the shaping of the latter, said mixture containing 30 to 50% by weight of said amide calculated on said pigment, and the amount of said lubricant being at least about equal to that of said amide, thereby obtaining a homogeneously pigmented mixture.

3,197,426

COATING COMPOSITION CONTAINING WAX, THERMOPLASTIC PETROLEUM RESIN, AND ETHYLENE-VINYL ACETATE COPOLYMER

Ralph Zaayenga, Drexel Hill, Pa., assignor to Sun Oil Company, Philadelphia, Pa., a corporation of New Jersey

No Drawing. Filed Apr. 7, 1961, Ser. No. 101,371

4 Claims. (Cl. 260—28.5)

2. A container for packaging liquids formed from fibrous sheet material and provided with an adherent substantially non-flaking coating, said coating being a hydrocarbon composition consisting essentially of 51% to 90% paraffin wax, 5–24% petroleum resin, and 5–25% of the copolymer of ethylene and vinyl acetate; said petroleum resin being obtained by polymerizing, in the presence of a Friedel-Crafts catalyst, a mixture of olefins, said olefins consisting essentially of aliphatic olefins containing 5–7 carbon atoms and having an average molecular weight of about 90, at least 10% of said olefins being conjugated diolefins, to produce a solid resin.

3,197,427

CATIONIC THERMOSETTING POLYAMIDE-EPICHLOROHYDRIN RESINS OF IMPROVED STABILITY AND PROCESS OF MAKING SAME

Alfred C. Schmalz, Hollins, Va., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 12, 1963, Ser. No. 294,760

3 Claims. (Cl. 260—29.2)

1. The process of stabilizing an aqueous solution of a cationic water-soluble thermosetting resin obtained by reacting a polyalkylene polyamine having two primary amine groups and at least one secondary amine group with a dicarboxylic acid selected from the group consisting of diglycolic acid and C_3 to C_8 saturated aliphatic dicarboxylic acids in a mole ratio of from about 0.8 to about 1.4 of the former to about 1.0 of the latter to form a long-chain polyamide, and then reacting the polyamide with epichlorohydrin in a mole ratio of epichlorohydrin to secondary amine groups of said polyamide of from about 0.5 to 1 to about 1.8 to 1 to form the water-soluble cationic thermosetting resin which comprises adding formic acid to the aqueous solution of cationic thermosetting resin to adjust the pH thereof to the range from about 3.0 to about 4.0 and then adding sulfuric acid to further adjust the pH thereof to the range from about 2.0 to about 3.0.

3,197,428

COMPOSITION COMPRISING CEMENT AND A COPOLYMER CONTAINING CARBOXYLATE AND ALCOHOL GROUPS

Frederick H. Siegele, Westport, Conn., assignor to American Cyanamid Company, New York, N.Y., a corporation of Maine

No Drawing. Filed Oct. 13, 1961, Ser. No. 144,840

14 Claims. (Cl. 260—29.6)

1. A cement composition capable of forming a fluid slurry when mixed with water, said cement composition comprising a dry hydraulic cement mixed with from 0.1 to 3 weight percent, based on said hydraulic cement, of a homogeneous, completely hydrolyzed, water-soluble copolymer prepared from vinyl acetate and an αβ-unsaturated monocarboxylic acid derivative selected from the group consisting of acrylic acid, methacrylic acid, methyl acrylate, ethyl acrylate, propyl acrylate, methyl methacrylate, diethyl fumarate, dimethyl maleate, fumaric acid, maleic acid and acrylonitrile, said copolymer containing hydroxyl and alkali metal carboxylate groups, the groups being present in said copolymer in the mol ratio of from 97 to 82 of hydroxyl and from 3 to 18 of the alkali metal carboxylate, respectively.

3,197,429

POLYVINYL ACETATE ADHESIVE MIXTURE

James C. Baatz, West Springfield, Mass., assignor to Shawinigan Resins Corporation, Springfield, Mass., a corporation of Massachusetts

No Drawing. Filed Sept. 21, 1962, Ser. No. 225,375

4 Claims. (Cl. 260—29.6)

1. An adhesive composition capable of forming at 45° F. a continuous, non-chalky, water redispersible film, which comprises: (A) an aqueous dispersion of polyvinyl acetate in amount sufficient to provide from 18 to 40% of polyvinyl acetate in the final composition; (B) from 0.5 to 5% of a compound selected from the group consisting of thiourea, ammonium thiocyanate and the monovalent alkali metal thiocyanates; (C) from 2.5 to 8% of polyvinyl alcohol, in aqueous solution, said polyvinyl alcohol having a 20° C. viscosity of 1 to 70 centipoises as a 4% by weight aqueous solution, and a residual unhydrolyzed polyvinyl acetate content of less than 50% by weight; and boric acid in a weight ratio of boric acid to the polyvinyl alcohol of 0.03 to 0.20.

3,197,430

BACTERIOSTATIC ACRYLONITRILE POLYMERS

Fred J. Lowes, Jr., Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Mar. 16, 1962, Ser. No. 180,341

6 Claims. (Cl. 260—45.95)

1. Composition of matter, the essential constituents of which are (1) a fiber-forming acrylonitrile polymer which polymer contains in the polymer molecule at least about 85 weight percent of acrylonitrile, the balance being another monoethylenically unsaturated monomer that is compatible with acrylonitrile and (2) at least about 0.5 weight percent based on the weight of said fiber-forming polymer of 2-chloro-4-phenylphenol.

3,197,431

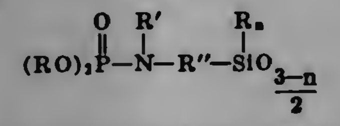
NOVEL ORGANOSILICON COMPOUNDS

William M. Lanham, Charleston, and Percy L. Smith, Dunbar, W. Va., assignors to Union Carbide Corporation, a corporation of New York

No Drawing. Filed July 25, 1960, Ser. No. 44,885

25 Claims. (Cl. 260—46.5)

10. A siloxane comprising polymeric units represented by the formula:



$$(RO)_2\overset{O}{\overset{\|}{P}}-\overset{R'}{\overset{|}{N}}-R''-\overset{R_n}{\overset{|}{Si}}O_{\frac{3-n}{2}}$$

wherein R is a monovalent hydrocarbon group, R′ is a member selected from the group consisting of the hydrogen atom and the monovalent hydrocarbon groups, R″ is a divalent hydrocarbon group containing at least three carbon atoms, *n* is an integer from 0 to 2 inclusive and the nitrogen atom is interconnected to silicon through at least three carbon atoms.

3,197,432

TRANSPARENT RESINOUS ORGANOPOLYSILOXANES

Harry F. Lamoreaux, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed July 2, 1962, Ser. No. 206,998

4 Claims. (Cl. 260—46.5)

1. An optically clear, solid, resinous, thermally stable, solvent resistant organopolysiloxane comprising a plurality of eight membered rings of alternate silicon atoms and oxygen atoms, each of said silicon atoms being connected to one monovalent hydrocarbon radical free of aliphatic unsaturation and substantially every silicon atom of one of said eight membered rings being connected to a silicon atom of another of said eight membered rings

through a divalent alkylene radical containing at least two carbon atoms, with any valences of silicon not accounted for above being satisfied by a member selected from the class consisting of hydrogen and monovalent hydrocarbon radicals containing olefinic unsaturation.

3,197,433

OPTICALLY CLEAR ORGANOPOLYSILOXANE RESINS

Harry F. Lamoreaux, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

No Drawing. Filed July 2, 1962, Ser. No. 207,077

7 Claims. (Cl. 260—46.5)

1. An organopolysiloxane resin comprising a first class of organocyclotetrasiloxane units and a second class of organocyclotetrasiloxane units,. there being present in said resin substantially twice the number of said second class as of said first class, with substantially every unit of said first class being attached to four units of said second class through a silicon-bonded alkylene radical of at least two carbon atoms, with substantially every unit of said second class being attached through its 1- and 5-silicon atoms, respectively, to two and only two units of said first class through said silicon-bonded alkylene radical, substantially all of the valences of silicon other than the valences satisfied by oxygen in the cyclotetrasiloxane rings and the valences satisfied by silicon-bonded alkylene radicals being satisfied by monovalent hydrocarbon radicals free of aliphatic unsaturation.

3,197,434

POLYCARBONAMIDES FROM ORGANIC DICARBOXYLIC ACIDS AND BIS(AMINOPROPOXYARYL)ALKANES AND PROCESS FOR PRODUCING THE SAME

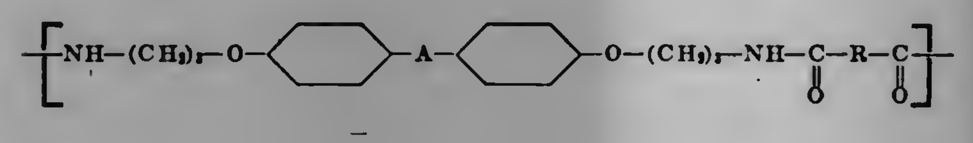
Jack Preston, William A. H. Huffman and Ralph W. Smith, Decatur, Ala., assignors, by mesne assignments, to Monsanto Company, a corporation of Delaware

No Drawing. Filed Mar. 17, 1960, Ser. No. 15,540

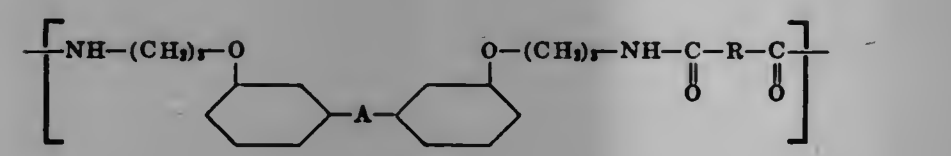
19 Claims. (Cl. 260—47)

1. A linear carbonamide polymer composed essentially of recurring structural units having a formula selected from the group consisting of:

(I)

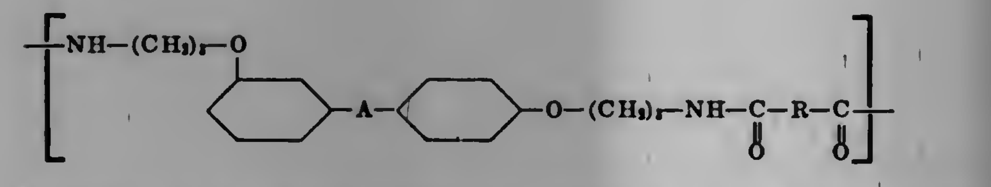


(II)



and

(III)



wherein R is a divalent hydrocarbon radical of 2 to 8 carbon atoms and A is a lower aliphatic divalent hydrocarbon radical of 1 to 8 carbon atoms wherein a single carbon atom bears both aminopropoxyphenyl substituents.

3,197,435

COMPOSITION COMPRISING A NOVOLAK AND TRI (LOWER ALKYLIDENE) HEXITOL AND METHOD OF PREPARATION

Thomas E. Ronay, Oak Park, and Robert D. Dexheimer, Naperville, Ill., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio

No Drawing. Filed Nov. 19, 1962, Ser. No. 238,723

5 Claims. (Cl. 260—58)

1. A composition of matter comprising the reaction product of a novolak and a tri (lower alkylidene) hexitol from the class consisting of trimethylene sorbitol and trimethylene mannitol.

3,197,436

COORDINATION POLYMERS

Burton Peter Block, Conshohocken, Luke R. Ocone, Springfield Township, Montgomery County, and Joseph Simkin, Philadelphia, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Mar. 16, 1962, Ser. No. 180,363

18 Claims. (Cl. 260—63)

1. A polymer having an inorganic backbone, said backbone consisting of a doubly bridged trivalent octahedral metal coordinated with a bidentate ligand which is an ion with a charge of —1 capable of forming an essentially strain-free ring with said octahedral metal and wherein said bridging group is the anion of an acid selected from the group consisting of organic carboxylic acids of the formula R′COOH where R′ is selected from the group consisting of alkyl and aryl and acids of structure $R_2M'(Y)YH$ where R is a member of the group consisting of hydrocarbon alkyl and aryl radicals containing from one to ten carbon atoms, M′ is an element selected from Group VB having an atomic number greater than 7 and Y is an atom selected from the group consisting of oxygen and sulfur.

15. A process for making novel polymers having a spiral inorganic backbone which comprises mixing 1 mole of a metal chelate of structure $M(AB)_3$ with 2 moles of an acid HX where M is a trivalent octahedral metal, AB is a bidentate ligand with a charge of —1 capable of forming an essentially strain-free ring with M and X is the anion of an acid capable of bridging said M atoms selected from the group consisting of organic carboxylic acids of the formula R′COOH where R′ is selected from the group consisting of alkyl and aryl and acids of structure $R_2M'(Y)YH$ where R is a member

of the group consisting of hydrocarbon alkyl and aryl radicals containing from one to ten carbon atoms, M′ is an element selected from Group VB having an atomic number greater than 7 and Y is an atom selected from the group consisting of oxygen and sulfur, and heating said mixture in an inert atmosphere to volatilize HAB.

3,197,437

TRIOXANE POLYMERIZATION PROCESS

James Estill Wall, Westfield, N.J., assignor to Celanese Corporation of America, New York, N.Y., a corporation of Delaware

Filed Aug. 17, 1960, Ser. No. 50,139

3 Claims. (Cl. 260—67)

1. Method of producing on oxymethylene polymer which comprises trimerizing aqueous formaldehyde in an acidic system to produce an aqueous product comprising trioxane and unreacted formaldehyde, extracting at least a portion of said aqueous product with a stream of benzene to obtain an extracted trioxane stream, passing trioxane and benzene from said extracted stream into a polymerization zone to produce a product comprising an oxymethylene polymer, unreacted trioxane and benzene, separating oxymethylene polymer from said product to produce a residue comprising trioxane and benzene and combining said residue with at least one of said aforementioned streams.

3,197,438

POLYMERIZATION AND CO-POLYMERIZATION OF TRIOXANE IN INERT SOLVENTS

Louis L. Wood, Jr., Clarksville, Md., assignor to W. R. Grace & Co., New York, N.Y., a corporation of Connecticut

No Drawing. Filed Oct. 20, 1961, Ser. No. 146,414

6 Claims. (Cl. 260—67)

1. A process for preparing a high molecular weight polymer of trioxane having a reduced specific viscosity of at least about 0.50 and a large percentage of the particles in the 40 to 80 micron size range, which comprises the steps of:

(a) heating trioxane to a temperature of 50 to 100° C. for a period of 1 to 24 hours,

(b) in the presence of 1×10^{-5} to 15×10^{-5} moles of boron trifluoride etherate for each mole of trioxane to be polymerized, wherein said catalyst is added to the initial reactant mixture,

(c) initiating the polymerization in the presence of a quantity of solvent equal to $\frac{1}{10}$ to $\frac{1}{7}$ mole of solvent for each mole of molten trioxane to be polymerized,

(d) adding an additional quantity of solvent equal to up to 1 mole of solvent per 5 moles of trioxane to be polymerized in small increments over the period of the reaction and

(e) recovering the finely divided polymer product.

3,197,439

PREPARATION OF POLYESTER RESINS

Horst E. Frey, Chicago, Ill., assignor to Standard Oil Company, Chicago, Ill., a corporation of Indiana

No Drawing. Filed Aug. 30, 1960, Ser. No. 52,763

9 Claims. (Cl. 260—75)

1. The method of condensing reactants which normally cross-link and form insoluble gels prior to completion of the desired condensation reaction to form a resinous polyester substantially free of cross-linking, which comprises conducting in a reaction zone the steps of (1) reacting a reactive mixture consisting essentially of reactants (A) a member of the group consisting of polycarboxylic acids having more than two active carboxyl groups and polyhydric alcohols having more than two active hydroxyl groups, and (B) a member of the group consisting of polycarboxylic acids having two active carboxyl groups and polyhydric alcohols having two active hydroxyl groups, in molar proportions that provide a slight excess of hydroxyl groups to carboxyl groups at condensation temperatures for a period of time sufficient to effect at least 50% reaction of said hydroxyl and carboxyl groups but insufficient to effect premature cross-linking of said reactants; (2) adding from about 0.1 to about 1 mole per mole of reactant A of a gelation inhibitor to said partially reacted mixture, said gelation inhibitor being a member of the group consisting of C_{2-13} alkanol and C_{2-8} alkanoic acid and having its functional group different from the functional group of said reactant A; (3) continuing the reaction of said partially reacted mixture at condensation temperature to complete the desired polycondensation reaction in the presence of said inhibitor whereby premature cross-linking of said reactants prior to completion of said reaction is inhibited; (4) removing substantially all of the unreacted gelation inhibitor from said reaction mixture under conditions whereby said unreacted inhibitor is vaporized and removed from said zone; and (5) thereafter removing said polyester from said reaction zone.

3,197,440

1,4-DI(β-HYDROXYETHYLMERCAPTO)-2,3,5,6 TETRACHLOROBENZENE CONTAINING POLYETHER URETHANES

John J. Verbanc, Carrcroft, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 23, 1961, Ser. No. 97,746

5 Claims. (Cl. 260—77.5)

1. A cured polyurethane polymer obtained by reacting an isocyanate-terminated polyurethane polymer with 1,4-di(β - hydroxyethylmercapto)-2,3,5,6-tetrachlorobenzene, said isocyanate-terminated polyurethane polymer being prepared by reacting an organic polyisocyanate with a polyether polyol having a number average molecular weight between about 500 and 10,000; the value of the molar ratio of —NCO groups to —OH groups ranging between about 0.95:1 and 1.1:1 with about 30 to 80 percent by weight of said cured polyurethane polymer being derived from said polyether polyol and about 5 to 35 percent by weight of said polyurethane polymer being derived from said 1,4-di(β-hydroxyethylmercapto)-2,3,5,6-tetrachlorobenzene.

3,197,441

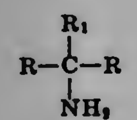
POLYMERIC REACTION PRODUCTS OF CAPROLACTAM AND AMINO ALCOHOLS

Herbert L. Wehrmeister, Terre Haute, Ind., assignor to Commercial Solvents Corporation, New York, N.Y., a corporation of Maryland

No Drawing. Filed May 23, 1960, Ser. No. 30,784

12 Claims. (Cl. 260—78)

8. As new compositions of matter, hard solid polymeric products obtained by a process which consists of interacting caprolactam with an amino alcohol having the following general formula:



$$\mathrm{R}-\overset{\mathrm{R_1}}{\underset{\mathrm{NH_2}}{\mathrm{C}}}-\mathrm{R}$$

wherein R is hydroxymethyl and R_1 is a member selected from the group consisting of hydroxyalkyl, alkyl and hydrogen in molar ratios of the caprolactam to the amino alcohol of from about 200 to 1 to about 10 to 1 and at temperatures above 170° C. but below temperatures causing any substantial decomposition of the polymeric product and the reactants.

3,197,442

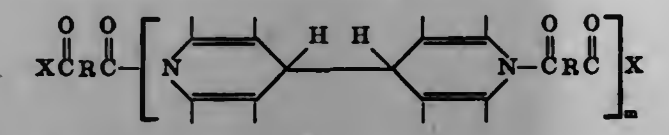
POLYAMIDE RESINS FROM DIALKALI METAL DIPYRIDYL COMPOUNDS

Walter E. Kramer, Niles, and Louis A. Joo, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

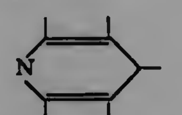
No Drawing. Filed Dec. 20, 1960, Ser. No. 77,015

5 Claims. (Cl. 260—78)

2. A resinous polyamide of the formula



in which R is selected from the group consisting of C_1–C_{20} saturated and unsaturated aliphatic and cycloaliphatic radicals and aromatic radicals, X is halogen, *m* is an integer, and the nuclei



are formed from a cyclic tertiary mono-amine of the same molecular formula, containing no constituents, other than the tertiary N atom, which are not inert toward alkali metals.

3,197,443

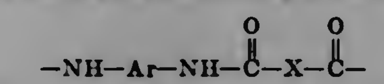
THERMALLY STABLE POLYAMIDES FROM SYMMETRICALLY SUBSTITUTED AROMATIC DIAMINES

Donald C. Pease, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 13, 1960, Ser. No. 42,490

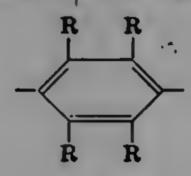
3 Claims. (Cl. 260—78)

1. A high melting polyamide consisting essentially of repeating units having the following structural formula

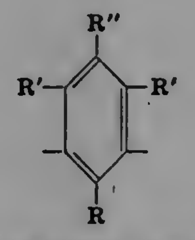


$$-\mathrm{NH}-\mathrm{Ar}-\mathrm{NH}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\mathrm{X}-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-$$

in which Ar is selected from the group consisting of



and



wherein R and R′ are selected from the group consisting of methyl, ethyl, and halogen; R″ is selected from the group consisting of hydrogen, methyl, ethyl, and halogen and X is $(CH_2)_n$ where *n* is a number from 0–8.

3,197,444

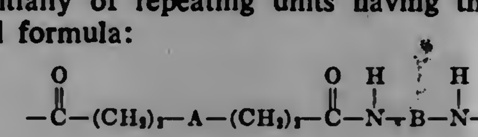
THERMALLY STABLE POLYAMIDES FROM SUBSTITUTED AROMATIC DIALKANOIC ACIDS

Frank B. Moody, West Chester, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 13, 1960, Ser. No. 42,491

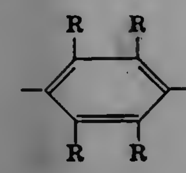
3 Claims. (Cl. 260—78)

1. A novel high molecular weight polyamide consisting essentially of repeating units having the following structural formula:

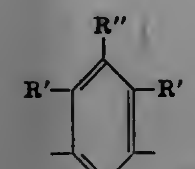


$$-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-(\mathrm{CH_2})_r-\mathrm{A}-(\mathrm{CH_2})_r-\overset{\mathrm{O}}{\overset{\|}{\mathrm{C}}}-\overset{\mathrm{H}}{\overset{|}{\mathrm{N}}}-\mathrm{B}-\overset{\mathrm{H}}{\overset{|}{\mathrm{N}}}-$$

wherein A is selected from the group consisting of



and



wherein R and R′ are lower alkyl and R″ is selected from the group consisting of hydrogen and lower alkyl; and wherein B is a divalent hydrocarbon radical selected from the group consisting of aliphatic, aromatic and aliphatic-aromatic hydrocarbon radicals.

3,197,445

POLYETHYLENE OXALATE PROCESS

Warren K. Cline, Hamden, Conn., assignor to Olin Mathieson Chemical Corporation, New Haven, Conn., a corporation of Virginia

No Drawing. Filed July 23, 1962, Ser. No. 211,870

3 Claims. (Cl. 260—78.4)

1. A method of preparing polyethylene oxalate having film- and fiber-forming properties which comprises heating cyclic ethylene oxalate at a temperature of about 165° C. to about 210° C. in a nitrogen atmosphere with a catalyst selected from the group consisting of aluminum chloride, zinc chloride, antimony trifluoride, titanium tetrachloride, ferric chloride, stannic chloride, zinc acetate, calcium acetate, antimony trioxide, lead oxide and tetrabutyl titanate, said catalyst being used in an amount of from about 0.003% to about 0.03% by weight based on oxalate content.

3,197,446

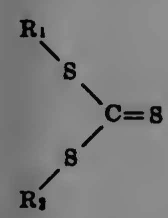
ROOM TEMPERATURE CURE OF HALOGENATED BUTYL RUBBER

George J. Ziarnik, Elizabeth, and Kenneth W. Powers, Nixon, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware

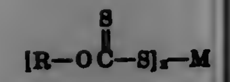
No Drawing. Filed Nov. 8, 1960, Ser. No. 67,923

10 Claims. (Cl. 260—79.5)

1. A process for curing a halogenated rubbery copolymer which comprises curing at a temperature of less than 250° F. an admixture of (A) a halogenated copolymer of a major proportion of a C_4 to C_8 isoolefin and a minor proportion of a C_4 to C_{14} multiolefin, containing at least 0.5 wt. percent of confined halogen, (B) about 0.5 to about 15 wt. percent, based on copolymer, of zinc oxide, (C) about 0.05 to about 10 wt. percent, based on copolymer, of a halide of a heavy metal selected from the group consisting of Group II–B, IV–B, V–B, and VIII metals, and (D) about 0.1 to about 5 wt. percent, based on copolymer, of a compound selected from the group consisting of ethylene trithiocarbonate, trimethylene trithiocarbonate, trithiocarbonates represented by the structural formula:



wherein R_1 and R_2 are each selected from the group consisting of hydrogen, C_1 to C_8 alkyl, aryl, aryl-alkyl, alkali metals, lead, ammonium; xanthates represented by the structural formula:



$$\left[R-O-\overset{\overset{S}{\|}}{C}-S\right]_x-M$$

wherein R is selected from the group consisting of C_1 to C_8 alkyl, benzyl and phenyl, M is a metal selected from the group consisting of metals of Group I and Group II, *x* is an integer or from 1 to 2; and an aromatic hydrocarbon containing at least two hydroxyl groups attached to the nucleus.

3,197,447

POLYMERS AND COPOLYMERS OF ACETALS OF ALLYL ALCOHOL

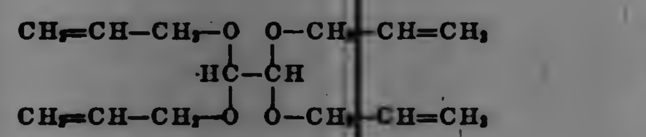
Pierre Talet, Alfortville, France, assignor to Nobel-Bozel, Paris, France, a joint-stock company of France

No Drawing. Filed Nov. 6, 1961, Ser. No. 152,119

Claims priority, application France Nov. 26, 1960, 845,126

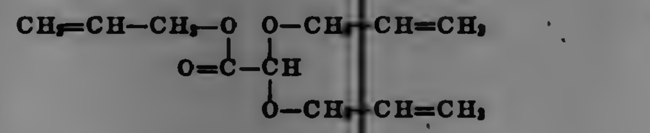
9 Claims. (Cl. 260—80)

1. Homopolymers produced by the polymerization of a polymerizable unsaturated monomer compound selected from the group consisting of:



$$\begin{array}{l}CH_2{=}CH-CH_2-O\ \ O-CH_2-CH{=}CH_2\\ \qquad\qquad\qquad\ |\qquad |\\ \qquad\qquad\quad HC-CH\\ \qquad\qquad\qquad\ |\qquad |\\ CH_2{=}CH-CH_2-O\ \ O-CH_2-CH{=}CH_2\end{array}$$

and



$$\begin{array}{l}CH_2{=}CH-CH_2-O\ \ O-CH_2-CH{=}CH_2\\ \qquad\qquad\qquad\ |\qquad |\\ \qquad\qquad\quad O{=}C-CH\\ \qquad\qquad\qquad\qquad\ |\\ \qquad\qquad\qquad\qquad O-CH_2-CH{=}CH_2\end{array}$$

3,197,448

PROPYLENE-BUTADIENE ELASTOMER AND PROCESS

Gilbert Gavlin, Lincolnwood, Edward A. Hedman, Roselle, and Bruce W. Hubbard, Jr., Oak Park, Ill., assignors to The Richardson Company, Melrose Park, Ill., a corporation of Ohio

No Drawing. Filed Nov. 14, 1960, Ser. No. 68,654

3 Claims. (Cl. 260—85.3)

1. A process for making a high molecular weight elastomeric copolymer which comprises subjecting a mixture of propylene and butadiene in an inert hydrocarbon solvent while in a confined atmosphere to the action of a catalyst complex consisting of sodium chloride, sodium alkenyl derived from an aliphatic olefin and sodium alkoxide derived from a methyl alkyl carbinol, wherein the reaction is initiated at a minimum temperature of about 25° C. and the ratio of propylene to butadiene in said mixture is a maximum of approximately 1:1.

3,197,449

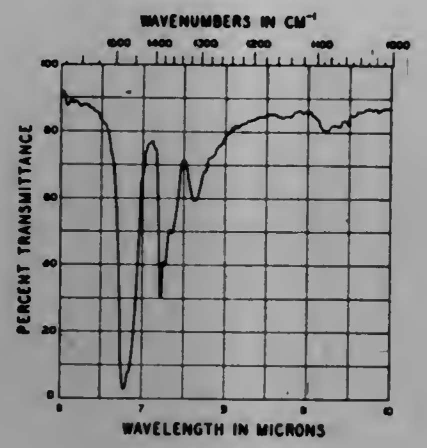
COPOLYMERIZATION PROCESS USING A FREE-RADICAL CATALYST

Frederick P. Reding, Charleston, and Edgar W. Wise, South Charleston, W. Va., assignors to Union Carbide Corporation, a corporation of New York

Filed July 27, 1960, Ser. No. 45,638

4 Claims. (Cl. 260—88.2)

1. A process for producing a solid copolymer of ethylene and an alpha olefin containing from 3 to about 12 carbon atoms, which comprises reacting a mixture consisting of ethylene and from about 3 to about 40 mole percent of said alpha olefin with a free radical polymerization catalyst at a pressure of from about 70,000 p.s.i. to about 125,000 p.s.i. and a temperature of from about 70° C. to about 250° C.; said copolymer having a content of said alpha olefin of at least 1 mole percent.



3,197,450

PROCESS FOR MAKING POLYVINYL ALCOHOL AND DIMETHYLACETAMIDE

Kwan C. Tsou, Huntingdon Valley, Pa., assignor to The Borden Company, New York, N.Y., a corporation of New Jersey

No Drawing. Filed Sept. 13, 1962, Ser. No. 223,537

6 Claims. (Cl. 260—91.3)

1. The process of concurrently preparing polyvinyl alcohol and an N-dialkyl-substituted aliphatic acid amide which comprises

(a) forming a solution comprising a mole of a polyvinyl ester selected from the group consisting of polyvinyl formate, polyvinyl acetate, polyvinyl propionate, and polyvinyl butyrate in an alcohol selected from the group consisting of methanol and ethanol,

(b) introducing into the resulting solution about a mole at least of a reactant consisting essentially of a C_2 to C_{16} dialkylamine and

(c) maintaining contact between the ester and amine at a temperature of about 0°–75° C. until the ester is hydrolyzed to polyvinyl alcohol and the amine is converted to an N-dialkyl-substituted aliphatic acid amide, the proportion of the alcohol used being about 100–500 parts by weight for 100 parts of said ester.

3,197,451

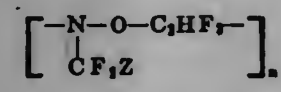
COPOLYMERS OF FLUORINATED NITROSO-ALKANES AND TRIFLUOROETHYLENE

Robert Neville Haszeldine, Manchester, England, and Christopher J. Willis, Vancouver, British Columbia, Canada, assignors to National Research Development Corporation, London, England, a British corporation

No Drawing. Filed July 11, 1961, Ser. No. 123,123

10 Claims. (Cl. 260—92.1)

1. A substantially 1:1 copolymer of trifluoroethylene and a fluorinated nitrosoalkane, said copolymer consisting essentially of structural units, connected in head to tail manner, of the formula



$$\left[\begin{array}{l}-N-O-C_2HF_3-\\ \ \ |\\ \ \ CF_2Z\end{array}\right]_n$$

in which *n* represents an integer from 3 to 5,000, and Z is selected from the group consisting of a fluorine atom, a chlorine atom, a fluoroalkyl radical having 1 to 4 carbon atoms and a fluorochloroalkyl radical having 1 to 4 carbon atoms.

3,197,452

METHOD FOR PREPARING PREVAILINGLY TO SUBSTANTIALLY ISOTACTIC CRUDE POLYMERIZATES OF BUTENE-1

Giulio Natta, Piero Pino, and Giorgio Mazzanti, all of Milan, Italy, assignors to Montecatini Societa Generale per l'Industria Mineraria e Chimica, a corporation of Italy

No Drawing. Original application Nov. 30, 1955, Ser. No. 550,164. Divided and this application Aug. 7, 1958, Ser. No. 753,625

3 Claims. (Cl. 260—93.7)

1. A process for polymerizing butene-1 with a catalyst prepared from (1) a solid, violet crystalline material comprising violet crystalline titanium trichloride and (2) a dialkyl aluminum monohalide in which the alkyl groups contain from 2 to 4 carbon atoms, which process comprises forming the catalyst by mixing (1) and (2) at a temperature up to 90 C. and in a liquid diluent substantially inert to the dialkyl aluminum monohalide, to obtain a catalyst in which none of the titanium is reduced below the trivalent state, and then polymerizing butene-1 with said catalyst at a temperature between 20° C. and 120° C. in a liquid diluent substantially inert to the dialkyl aluminum monohalide.

3,197,453

PROCESS FOR PURIFYING MONOMER FEEDS FOR POLYMERIZATION PROCESSES

Arthur A. Harban, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed July 11, 1961, Ser. No. 123,185

11 Claims. (Cl. 260—93.7)

1. In a mass polymerization process wherein liquid propylene is contacted with a heterogeneous organometallic catalyst mixture active for the polymerization of propylene to solid polymer under polymerization conditions to form solid polypropylene and wherein an effluent containing catalyst residue, solid particulate polypropylene product and propylene soluble materials is removed from said polymerization, the improvement which comprises contacting said effluent before recovery of said product with fresh liquid propylene feed under liquid phase contacting conditions such that catalyst poisons present in said feed are rendered innocuous by said residue and said feed extracts at least a portion of said soluble materials from said effluent, subjecting said feed after said contacting to vaporizing conditions to free it of said soluble materials, and then passing said feed freed of impurities to said polymerization.

3,197,454

REMOVAL OF CATALYST RESIDUES FROM OLEFIN POLYMERS

William E. Plaster, Bartlesville, Okla., assignor to Phillips Petroleum Company, a corporation of Delaware

Filed Apr. 2, 1962, Ser. No. 184,438

6 Claims. (Cl. 260—93.7)

1. A process for producing polymers of 1-olefins comprising:

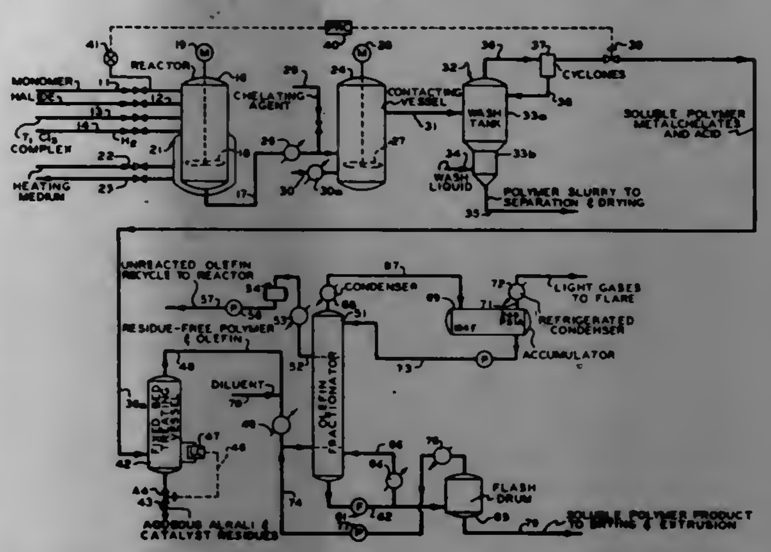
subjecting at least one 1-olefin in the presence of a metal-containing catalyst formed upon mixing a first component selected from the group consisting of elemental metal, organo metal compounds and mixtures thereof, the metal being selected from Groups I, II and III; and a second component containing a halide of a metal selected from the Groups IV, V, VI and VIII capable of polymerizing said olefins to polymerization conditions;

treating the polymerization effluent with a compound selected from the group consisting of alpha and beta diketones capable of chelating the catalyst metal;

washing the treated effluent with a low boiling hydrocarbon under liquid conditions;

recovering solid polymer substantially free of catalyst residue from the treated effluent;

treating the remaining effluent by passing same through a fixed bed of solid alkali metal hydroxide; and



recovering soluble polymer substantially free of catalyst residue.

3,197,455

DISAZO DYESTUFFS

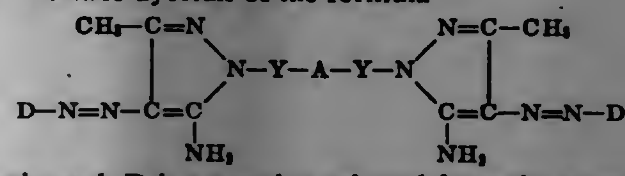
Jean-Pierre Jung, Riehen, near Basel, and Guido Schetty, Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Dec. 10, 1962, Ser. No. 243,620

Claims priority, application Switzerland, Dec. 15, 1961, 14,557/61

4 Claims. (Cl. 260—160)

1. A disazo dyestuff of the formula



wherein each D is a member selected from the group consisting of carboxyphenyl, sulfophenyl, phenoxyphenyl, phenylsulfonylphenyl, phenoxysulfonylphenyl, N-phenyl-N-lower alkylsulfamyl-phenyl, N-phenylsulfonyl-sulfamylphenyl, and benzoylphenyl, both D's together containing from 0 to maximally 4 water-solubilizing groups selected from the class consisting of —COOH and —SO_3H, the phenyl ring in D which is attached to the adjacent azo bridge, being further substituted by a member selected from the group consisting of hydrogen, nitro, chloro, chloroacetylamino, 4,6 - dichloro-s-triazinyl-(2)-amino, and lower alkyl, each Y is a phenyl ene radical with from one to two substituents selected from the group consisting of hydrogen, chloro, bromo, methyl ethyl, —SO_3H and —COOH, and A is a member selected from the group consisting of —CO— and —SO_2—, the total number of said water-solubilizing groups being at least 1 and maximally 4.

3,197,456

AZO-DYESTUFFS

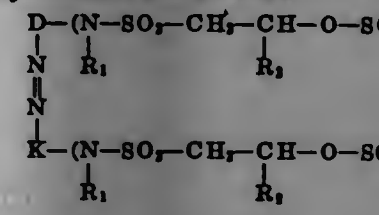
Rudolf Kühne and Fritz Meininger, Frankfurt am Main, and Walter Noll, Bad Soden, Taunus, Germany, assignors to Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Brüning, Frankfurt am Main, Germany, a corporation of Germany

No Drawing. Filed July 18, 1961, Ser. No. 124,821

Claims priority, application Germany, July 22, 1960, F 31,728

6 Claims. (Cl. 260—163)

1. Azo-dyestuffs of the formula



$$\begin{array}{l}D-(\underset{\displaystyle R_1}{\underset{|}{N}}-SO_2-CH_2-\underset{\displaystyle R_2}{\underset{|}{CH}}-O-SO_3H)_n\\ |\\ N\\ \|\\ N\\ |\\ K-(\underset{\displaystyle R_1}{\underset{|}{N}}-SO_2-CH_2-\underset{\displaystyle R_2}{\underset{|}{CH}}-O-SO_3H)_m\end{array}$$

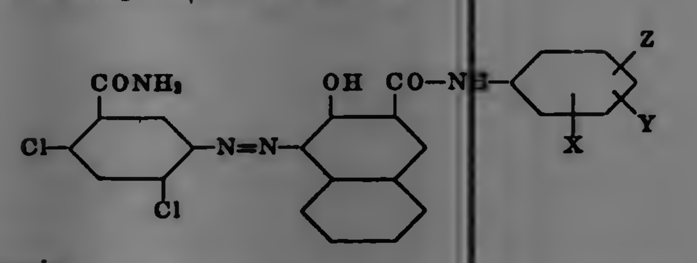
wherein R_1 represents a lower alkyl of 1 to 5 carbon atoms and R_2 represents a member selected from the group consisting of hydrogen and lower alkyl groups of 1 to 5 carbon atoms; D represents a member selected from the group consisting of radicals of the benzene, azobenzene, benzoylaminophenyl, phenylsulfonylaminophenyl, naphthalene and diphenylether series; K represents the radical of a coupling component selected from the group consisting of radicals of the benzene, naphthalene, acetoaceticacidanilide, diphenylamine and pyrazolone series; *n* is an integer from 0 to 2; *m* is an integer from 0 to 1; and the sum of *n* and *m* is at least 1.

3,197,457
MONOAZO PIGMENTS

Guido Schetty, Basel, Emil Stocker, Riehen, near Basel, and Kurt E. Burdeska, Basel, Switzerland, assignors to J. R. Geigy A.-G., Basel, Switzerland

No Drawing. Filed Nov. 26, 1962, Ser. No. 240,164
Claims priority, application Switzerland, Nov. 29, 1961, 13,862/61
6 Claims. (Cl. 260—204)

1. A compound of the formula



wherein
- X is a member selected from the group consisting of hydrogen, methyl, and methoxy;
- Y is a member selected from the group consisting of methyl, methoxy, ethoxy, and chlorine;
- Z is a member selected from the group consisting of hydrogen, and chlorine.

3,197,458
CUPRIC HYDROGENATED DEXTRAN AND METHOD FOR PREPARING THE SAME

Nicholas A. Floramo, San Juan, Puerto Rico, assignor to Chemicals Incorporated, Luquillo, Puerto Rico, a Puerto Rican corporation

No Drawing. Filed Aug. 15, 1962, Ser. No. 216,971
4 Claims. (Cl. 260—209)

1. A substantially non-ionic complex, which is stable on contact with water, of cupric hydroxide and hydrogenated dextran, said hydrogenated dextran having an intrinsic viscosity of 0.03 to 0.30 at 25° C., and said complex containing from 1 to 10 weight percent of copper, measured as elemental copper.

3,197,459
PROCESSES FOR MAKING POWDERED OR GRANULAR SUBSTANCES FROM SEAWEED BY ALKALINE DIGESTION

Cyril Wilfred Bonniksen, Drayton St. Leonard, Oxford, England, assignor to Grebon Holdings Limited, Drayton, St. Leonard, Oxford, England, a British company

No Drawing. Filed Dec. 4, 1961, Ser. No. 157,010
7 Claims. (Cl. 260—209.6)

1. A method of digesting brown sea-weed which comprises drying the weed, reducing the dried weed to a fine meal in dry state, moistening the meal with water, adding an alkali metal borate in a quantity being at least 0.1% of the weight of the final product, and digesting the weed with a mild alkali selected from the group consisting of sodium carbonate and trisodium phosphate in the presence of said alkali metal borate and at a temperature not exceeding 100° centigrade, the water being added to an amount not more than 50% of the weight of the dry meal but enough to ensure penetration of the weed particles by said mild alkali to effect digesting but insufficient to destroy the non-viscous free flowing form of the final product.

3,197,460
ISOLATION OF CHROMAN DERIVATIVES FROM AQUEOUS SOLUTIONS

Arnulf K. Esterer, Longview, Wash., assignor to Weyerhaeuser Company, Tacoma, Wash., a corporation of Washington

No Drawing. Filed Dec. 28, 1962, Ser. No. 248,845
4 Claims. (Cl. 260—210)

1. The method comprising contacting an aqueous extract of Douglas fir bark containing dihydroquercetin and other water soluble bark constituents selected from the group consisting of ether solubles other than dihydroquercetin, phenolics which are ether insoluble and butanol soluble, material which is ether and butanol insoluble and which forms water insoluble lead derivatives, and carbohydrate material, with a cation-exchange resin at a temperature in the range from 45°–55° C., separating the resulting dihydroquercetin depleted extract from the resulting dihydroquercetin retaining resin by eluating the dihydroquercetin from said resin with hot water at a temperature of 95° to 100° C.

3,197,461
SALTS OF DIHYDRODESOXYSTREPTOBIOSAMINES AND PROCESS FOR THE PREPARATION THEREOF

Hiroshi Ikeda and Hatsuko Ikeda, Tokyo, Japan, assignors to Rikagaku Kenkyusho, Tokyo, Japan, a corporation of Japan

Filed Jan. 16, 1962, Ser. No. 173,601
9 Claims. (Cl. 260—210)

1. Dihydrodesoxystreptobiosamine sulfate.

7. A process for preparing a sulfate of a dihydrodesoxystreptobiosamine compound selected from the group consisting of dihydrodesoxystreptobiosamine, dihydrodesoxyhydroxystreptobisoamine and dihydrodesoxymannosidostreptobiosamine said process comprising hydrolyzing a substance selected from the group consisting of the free base and sulfate of antibiotics selected from the group consisting of dihydrodesoxystreptomycin, dihydrodesoxyhydroxystreptomycin and dihydrodesoxymannosidostreptomycin with dilute sulfuric acid, removing streptidine sulfate from the resulting reaction product, removing the excess sulfate ion by the addition of barium hydroxide, and drying the resulting solution under reduced pressure at a temperature of from 10 to 100° C.

3,197,462
FLOWERING HORMONE FROM CARNAUBA WAX AND ITS PREPARATION

Ray H. Roberts and Burdean E. Struckmeyer, Madison, Wis., assignors to Wisconsin Alumni Research Foundation, Madison, Wis., a corporation of Wisconsin

No Drawing. Filed Dec. 27, 1961, Ser. No. 162,575
5 Claims. (Cl. 260—236.5)

1. A composition characterized by its ability to generate blossoming in flowering plants, consisting essentially of (1) the fraction of carnauba wax that is soluble at a temperature of from about 20–22° C. in a refined hydrocarbon solvent consisting predominantly of n-heptane and having a boiling point of from 90–100° C., (2) the fraction of carnauba wax residue of (1) that is soluble at a temperature of from about 20–22° C. in chloroform and (3) the fraction of carnauba wax residue of (2) that is soluble in warm chloroform at temperatures above 35° C. and insoluble in chloroform at temperatures between 30–35° C.

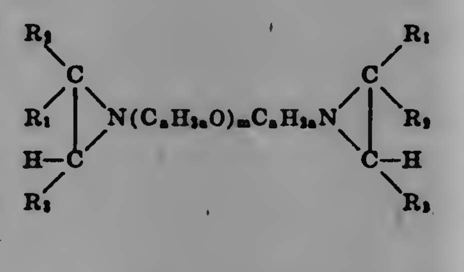
2. In the process of preparing a composition in accordance with claim 1 consisting essentially of anthogens I, II and III and characterized by its ability to generate blossoming in flowering plants, the steps which comprise (1) extracting carnauba wax with a refined hydrocarbon solvent consisting predominantly of n-heptane and having a boiling point of from 90–100° C. at a temperature of from about 20–22° C., recovering anthogen I by removing the solvent from the resulting extract, (2) extracting the wax residue from step (1) with chloroform at a temperature of from about 20–22° C., recovering anthogen II by removing the solvent from the resulting extract, (3) dissolving the wax residue from step (2) in hot chloroform at a temperature of about 45–55° C., cooling the resulting solution, removing crystals which form in the solution as the solution cools down to about 35° C., continue cooling the solution, and removing the crystals of anthogen III which form in the solution as the solution cools down from about 35° C. to about 30° C.

3,197,463
CERTAIN AZIRIDINE COMPOUNDS

Giuliana C. Tesoro, Dobbs Ferry, N.Y., and Stephen B. Sello, Bergenfield, N.J., assignors to J. P. Stevens & Co., Inc., New York, N.Y., a corporation of Delaware

No Drawing. Filed Mar. 10, 1961, Ser. No. 94,720
6 Claims. (Cl. 260—239)

1. A compound of the formula:



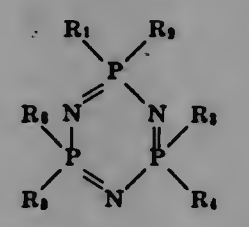
in which R_1, R_2 and R_3 are selected from the group consisting of hydrogen and lower alkyl, *m* is an integer number and has a value of 2 to 50, and *a* has a value of 2 to 4.

3,197,464
AZIRIDINYL PHOSPHONITRILES

Gerhard F. Ottmann, Hamden, Haywood Hooks, Jr., West Haven, and Ehrenfried H. Kober and Rudi F. W. Ratz, Hamden, Conn., and Samuel S. Ristich, Patchogue, N.Y., assignors to Olin Mathieson Chemical Corporation, New York, N.Y., a corporation of Virginia

No Drawing. Filed May 18, 1962, Ser. No. 196,012
7 Claims. (Cl. 260—239)

1. A compound of the formula



wherein R_1, R_2, R_3, R_4, R_5 and R_6 each is a member of the group consisting of amino, lower alkylamino, di-lower alkylamino and ethyleneimine, at least one ethyleneimine group and one member of the group consisting of amino, lower alkylamino and di-lower alkylamino being present.

3,197,465
DITHIO-BIS-AZIRIDINE AND 2-METHYL DERIVATIVE THEREOF

Charles W. Woods, University Park, and Alexej B. Borkovec, Kensington, Md., assignors to the United States of America as represented by the Secretary of Agriculture

No Drawing. Application July 22, 1963, Ser. No. 305,907, which is a division of application Ser. No. 210,598, July 17, 1962. Divided and this application Apr. 2, 1964, Ser. No. 363,038
2 Claims. (Cl. 260—239)
(Granted under Title 35, U.S. Code (1952), sec. 266)

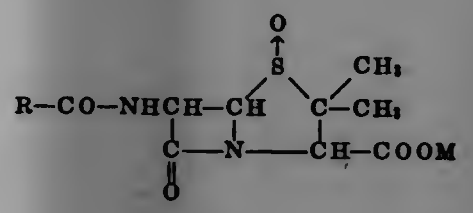
1. 1,1′-dithiodiaziridine.
2. 1,1′-dithiobis(2-methylaziridine).

3,197,466
PENICILLIN SULFOXIDES AND PROCESS

Alfred W. Chow, Merchantville, N.J., and John R. E. Hoover, Glenside, Pa., assignors to Smith Kline & French Laboratories, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed Oct. 30, 1961, Ser. No. 148,711
6 Claims. (Cl. 260—239.1)

1. A compound of the structure:



wherein
- R is a member selected from the group consisting of lower alkyl, phenyl lower alkyl, phenoxy lower alkyl, and phenyl; and
- M is a pharmaceutically acceptable nontoxic cation selected from the group consisting of hydrogen, alkali metal cations and organic amine cations.

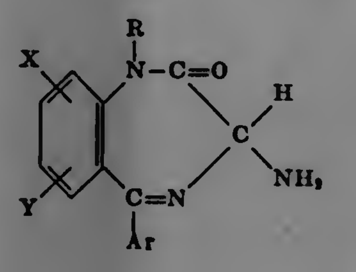
3,197,467
PROCESS FOR PREPARING 1,3-DIHYDRO-3-HYDROXY-2H-1,4-BENZODIAZEPIN-2-ONES

Stanley C. Bell, Philadelphia, Pa., assignor to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Dec. 20, 1962, Ser. No. 247,460
7 Claims. (Cl. 260—239.3)

1. The process of which comprises:

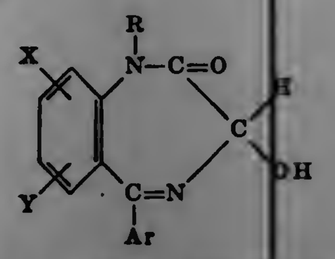
(1) dissolving in excess acid a 3-amino-1,3-dihydro-2H-1,4-benzodiazepin-2-one compound having the formula



wherein R is selected from the group consisting of hydrogen, lower alkyl, lower alkenyl and lower aralkyl; Ar is selected from the group consisting of phenyl, thienyl and phenyl bearing a substituent selected from the group consisting of halogen, lower alkoxy, lower alkyl and lower haloalkyl; X and Y each represent hydrogen, halogen, nitro, haloalkyl and alkylsulfonyl;

(2) adding a nitrite to the thus formed solution and;

(3) recovering from the reaction mixture a 1,3-dihydro-3-hydroxy-2H-1,4-benzodiazepin-2-one, having the formula:



wherein X, Y, Ar and R are as above stated.

3,197,468

RIFAMYCIN B HYDRAZIDES

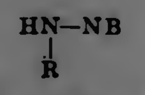
Piero Sensi and Nicola Maggi, Milan, Italy, assignors to Lepetit S.p.A., Milan, Italy

No Drawing. Filed Feb. 5, 1964, Ser. No. 342,804

Claims priority, application Great Britain, Feb. 18, 1963, 6,460/63

16 Claims. (Cl. 260—239.3)

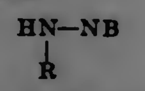
1. A process for preparing rifamycin B hydrazides, which comprises reacting, in a solvent and in the presence of a water-eliminating agent, rifamycin B with a hydrazine of the formula:



$$\underset{R}{\underset{|}{HN}}-NB$$

wherein R is selected from the class consisting of hydrogen and lower alkyl, and NB is selected from the class consisting of amino, mono- and di-lower alkylamino, hydroxyethylamino, anilino, lower alkyl-phenylamino, 4-pyridylcarbamyl, 4-pyridylamidino, 1-piperidino, 4-morpholino, 1-hydantoino and 1-thioureido.

8. A rifamycin B hydrazide selected from the class consisting of the reaction products of rifamycin B and hydrazines of the formula



$$\underset{R}{\underset{|}{HN}}-NB$$

wherein R is selected from the class consisting of hydrogen and lower alkyl, and NB is selected from the class consisting of amino, mono- and di-lower alkylamino, hydroxyethylamino, anilino, lower alkyl-phenylamino, 4-pyridylcarbamyl, 4-pyridylamidino, 1-piperidino, 4-morpholino, 1-hydantoino and 1-thioureido.

3,197,469

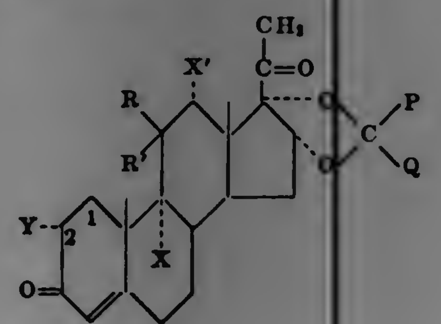
16,17-ACETALS AND KETALS OF 6-HALO-16,17-DIHYDROXY STEROIDS OF THE PREGNANE SERIES AND INTERMEDIATES THEREFOR

Josef Fried, Princeton, N.J., assignor, by mesne assignments, to Pharmaceutical Research Products, Inc., Abingdon, Va., a corporation of Virginia

No Drawing. Filed Aug. 6, 1958, Ser. No. 753,401

12 Claims. (Cl. 260—239.55)

1. A compound selected from the group consisting of steriods of the formula



and the 1,2-dehydro derivatives thereof, wherein R is hydrogen, R′ is β-hydroxy and together R and R′ is keto; X is selected from the group consisting of hydrogen, halogen, and lower alkyl; X′ is selected from the group consisting of hydrogen and lower alkyl; Y is hydrogen; Y′ is halogen; P and Q are selected from the group consisting of hydrogen, lower alkyl, halogenated lower alkyl, monocyclic cycloalkyl, monocyclic aryl, monocyclic aryl lower alkyl, monocyclic heterocyclic, and monocyclic heterocyclic lower alkyl; and together with the carbon atom to which they are joined P and Q is selected from the group consisting of cycloalkyl and monocyclic heterocyclic.

3,197,470

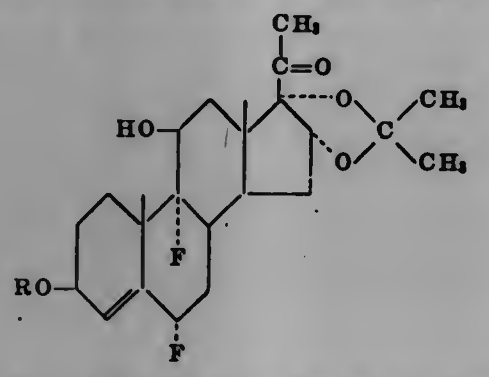
3β-HYDROXY-4-PREGNENE DERIVATIVES AND PREPARATION THEREOF

Romano Deghenghi, Westmount, Quebec, and David J. Marshall, Montreal, Quebec, Canada, assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware

No Drawing. Filed Sept. 20, 1963, Ser. No. 310,476

16 Claims. (Cl. 260—239.55)

1. Pregnene derivatives of the following structure



in which R is selected from the group consisting of hydrogen, lower aliphatic acyl groups containing from two to six carbon atoms, cyclopentylpropionyl, and benzoyl groups.

3,197,471

3-AMINO STEROID COMPOUNDS AND PROCESS OF MAKING SAME

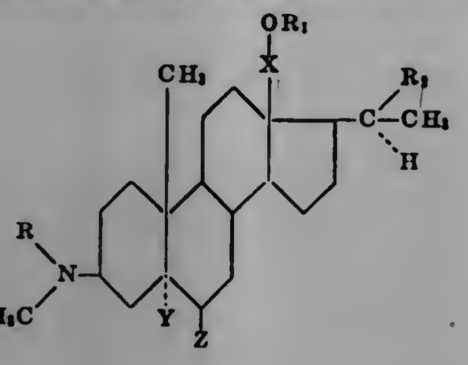
Jean Georges Le Men, Paris, France, assignor to Roger Bellon, Neuilly-sur-Seine, Seine, France

Filed Apr. 6, 1962, Ser. No. 185,730

Claims priority, application Great Britain, Oct. 9, 1959, 34,318/59; Mar. 25, 1960, 10,680/60

24 Claims. (Cl. 260—239.57)

12. The basic steroid compounds selected from the group consisting of steroid compounds of the formula



wherein

R is a substituent selected from the group consisting of hydrogen, alkyl with 1 to 18 carbon atoms, phenyl lower alkyl, cyclopentyl lower alkyl, and cyclohexyl lower alkyl, and alkanoyl with 1 to 18 carbon atoms, cyclopentyl lower alkanoyl, cyclohexyl lower alkanoyl, benzoyl, hexahydrobenzoyl, and phenyl lower alkanoyl;

X is a member selected from the group consisting of the methylene group and the carbonyl group;

Y and Z are members selected from the group consisting of hydrogen and a direct carbon to carbon bond;

R_1 is a member selected from the group consisting of hydrogen, alkyl with 1 to 18 carbon atoms, phenyl lower alkyl, cyclopentyl lower alkyl, and cyclohexyl lower alkyl, alkanoyl with 1 to 18 carbon atoms, cyclopentyl lower alkanoyl, cyclohexyl lower alkanoyl, benzoyl, hexahydrobenzoyl, and phenyl lower alkanoyl;

R_2 is a member selected from the group consisting of hydroxyl, alkanoyloxy with 1 to 18 carbon atoms, cyclopentyl lower alkanoyloxy, cyclohexyl lower alkanoyloxy, benzoyloxy, hexahydrobenzoyloxy, and phenyl lower alkanoyloxy; and

R_2 together with R_1 forming a direct bond to complete a 5-membered ring, when X is the carbonyl group;

and their acid addition salts.

3,197,472

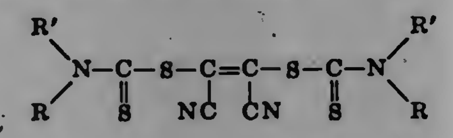
1,2-DICYANO-1,2-BIS(N,N-DISUBSTITUTED THIOCARBAMYLTHIO)-ETHYLENES

Robert D. Vest, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed July 27, 1962, Ser. No. 212,998

10 Claims. (Cl. 260—247.1)

1. A compound of the formula



$$\underset{R}{\overset{R'}{>}}N-\underset{\underset{S}{\|}}{C}-S-\underset{\underset{NC}{|}}{C}=\underset{\underset{CN}{|}}{C}-S-\underset{\underset{S}{\|}}{C}-N\underset{R}{\overset{R'}{<}}$$

where each of R and R′ taken singly has up to 10 carbons and is selected from the group consisting of hydrocarbon and hydrocarbon bearing a substituent selected from the group consisting of —OR″, —CN, —OH and —COOR″, R″ being alkyl of 1–6 carbons, and R and R′ attached to the same nitrogen together form a divalent group selected from the class consisting of alkylene and oxaalkylene of 4–10 carbons.

4. 1,2-dicyano-1,2-bis(2,6-dimethylmorpholinothiocarbamylthio)ethylene.

3,197,473

CARBOXYLIC ACID AMIDES AND METHOD FOR THEIR PREPARATION

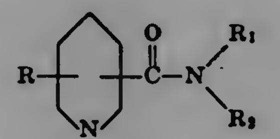
Josef Klosa, Berlin-Zehlendorf, Germany, assignor to Messrs. H. Trommsdorff, Aachen, Germany, a company of Germany

No Drawing. Filed Feb. 25, 1963, Ser. No. 260,862

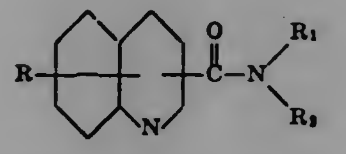
Claims priority, application Germany, Mar. 1, 1962, C 26,394

4 Claims. (Cl. 260—287)

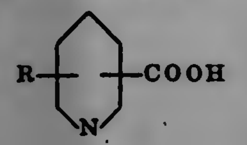
1. In the method for the preparation of carboxylic acid amides selected from the group consisting of



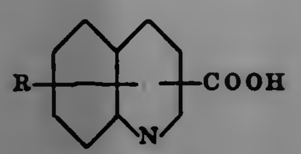
and



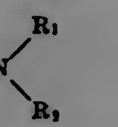
wherein R is a member selected from the group consisting of hydrogen, alkyl of 1 to 2 carbon atoms, alkoxy of 1 to 2 carbon atoms, and phenyl; R_1 is a member selected from the group consisting of an alkyl radical, a benzene radical, and a heterocyclic radical; R_2 is a member selected from the group consisting of hydrogen and an alkyl radical, and a radical forming a closed heterocyclic nitrogen ring in conjunction with N and R_1, the improvement which comprises condensing a carboxylic acid selected from the group consisting of



and



with an amine of the formula



wherein R, R_1 and R_2 have the foregoing significance, in the presence of polyphosphoric acid.

3,197,474

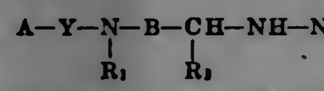
ARYLAMINOALKYL HYDRAZINES AND ARALKYLAMINOALKYL HYDRAZINES

John H. Biel, Milwaukee, Wis., assignor, by mesne assignments, to Colgate-Palmolive Company, a corporation of Delaware

No Drawing. Filed Feb. 3, 1960, Ser. No. 6,380

18 Claims. (Cl. 260—296)

1. A member of the group consisting of compounds of the formula



$$A-Y-\underset{R_1}{\underset{|}{N}}-B-\underset{R_5}{\underset{|}{C}}H-NH-NH_2$$

and nontoxic acid addition salts thereof wherein A is a member of the group consisting of phenyl, lower alkylphenyl, halophenyl, lower alkoxy-phenyl, lower alkylenedioxyphenyl and pyridyl, R_1 is a member of the group consisting of hydrogen and lower alkyl, R_5 is a member of the group consisting of hydrogen and lower alkyl, Y is a lower alkylene of not more than 5 carbons, and B is lower alkylene.

6. N-3-pyridylmethyl-N-methylamino-2-propyl hydrazine.

3,197,475

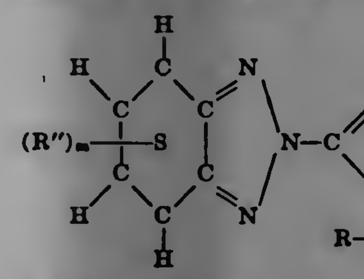
CERTAIN 2-(O-AMINOPHENYL)-TETRAHYDROBENZOTRIAZOLE COMPOUNDS

Rudolph A. Carboni, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Mar. 12, 1962, Ser. No. 179,200

10 Claims. (Cl. 260—308)

1. A compound of the formula:



wherein R is selected from the class consisting of hydrogen and an acyl group free of acetylenic unsaturation; R″ contains less than 19 carbons and is selected from the group consisting of alkyl, alkoxy, halogen of atomic number 9–35, nitro, sulfo, —SO_3 alkali metal, cyano and carboxy; R′ contains less than 19 carbons and is selected from the group consisting of R″ and an alkenylene group which forms an extended aromatic structure of up to 14 ring carbons with the aromatic ring to which it is attached; and each of *m* and *n* is a cardinal number less than 5.

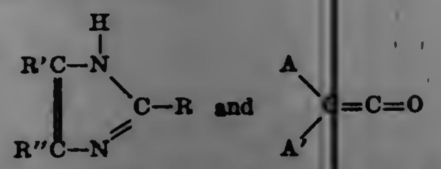
3,197,476
METHOD OF SYNTHESIS OF 1-ACYL IMIDAZOLES

William E. Erner, Wilmington, Del., assignor to Air Products and Chemicals, Inc., Philadelphia, Pa., a corporation of Delaware

No Drawing. Filed Dec. 6, 1962, Ser. No. 242,626

4 Claims. (Cl. 260—309)

1. The method of synthesizing 1-acyl imidazoles which consists essentially in reacting imidazoles having an available imino-hydrogen atom and ketenes characterized respectively by the formulas—



wherein R, R' and R'', as well as A and A', are independently selected from the group consisting of hydrogen, alkyl of 1 to 5 carbon atoms, aryl of 6 to 10 carbon atoms, and aralkyl of 7 to 12 carbon atoms.

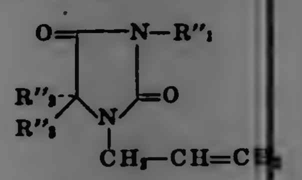
3,197,477
ALLYLHYDANTOINS

Franklyn W. Gubitz, Nassau, N.Y., assignor to Sterling Drug Inc., New York, N.Y., a corporation of Delaware

No Drawing. Original application May 1, 1961, Ser. No. 106,483. Divided and this application June 6, 1962, Ser. No. 200,317

3 Claims. (Cl. 260—309.5)

1. A compound having the formula



wherein R''_1, R''_2, and R''_3 are selected from the group consisting of H and lower-alkyl of from one to four carbon atoms.

3,197,478
1,3-DIPHENYL-2-BENZOYL-IMIDAZOLIDINES AND PROCESS

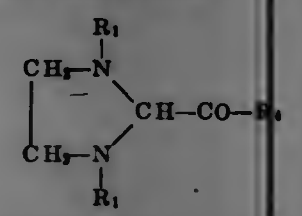
Hans-Werner Wanzlick, Berlin-Spandau, Eberhard Schikora, Bensheim-Auerbach, and Hans-Jerg Kleiner, Berlin-Halensee, Germany, assignors to Schering AG., Berlin, Germany

No Drawing. Filed Oct. 16, 1961, Ser. No. 145,503

Claims prority, application Germany, Oct. 22, 1960, Sch 28,649, Sch 28,650

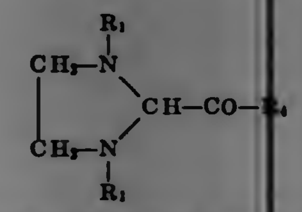
10 Claims. (Cl. 260—309.7)

1. A compound of the formula:

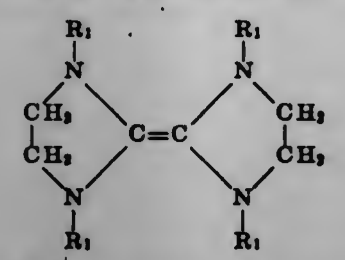


wherein R_1 is selected from the group consisting of phenyl and lower alkoxy phenyl; and wherein R_4 is selected from the group consisting of lower alkoxy phenyl, halogenphenyl, nitrophenyl and furyl.

10. The method of producing a compound of the formula:



wherein R_1 is selected from the group consisting of phenyl and lower alkoxy phenyl, and wherein R_4 is selected from the group consisting of lower alkoxy phenyl, halogenphenyl, nitrophenyl and furyl, which comprises reacting a bis-[1,3-diarylimidazolidinylidene-(2)] of the formula:



wherein R_1 has the same definition as above, with an aldehyde of the formula:

$$OHC—R_4$$

wherein R_4 has the same definition as above.

3,197,479
PROCESS FOR PRODUCING 3-SUBSTITUTED INDOLES

Herbert E. Johnson, South Charleston, W. Va., assignor to Union Carbide Corporation, a corporation of New York

No Drawing. Filed Sept. 10, 1962, Ser. No. 222,697

The portion of the term of the patent subsequent to July 31, 1979, has been disclaimed and dedicated to the Public

12 Claims. (Cl. 260—319)

1. The process for producing a compound selected from the group consisting of 3-(hydroxyhydrocarbyl)indole, 3-(alkoxyhydrocarbyl)indole, bis(3-indolyl)hydrocarbon, and mixtures thereof which comprises heating at 175° C. to 350° C. a mixture of (a) an indole having a hydrogen atom on the 1- and 3-positions thereof with (b) an alcohol of the formula

$$XRO(C_nH_{2n})H$$

wherein R is a divalent hydrocarbon radical free from aliphatic unsaturation having from 2 to 10 carbon atoms, and having at least one valence bond from a carbon atom having a hydrogen atom bonded thereto; X is a hydroxyl group bonded to said R-group through a carbon atom having a hydrogen atom bonded thereto; and *n* is an integer having a value of from 0 to 10, in contact with (c) an inorganic base selected from the group consisting of an alkali metal hydroxide and barium hydroxide.

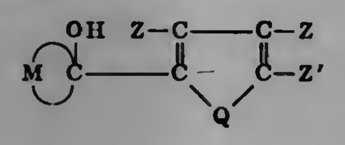
3,197,480
2 AND 2,4-(ALPHA HYDROXYPOLYPERHALOCYCLOALKYL) - THIOPHENES, PYRROLES, AND FURANS; 2 AND 2,4 - [(ALPHA HYDROXY-ALPHA,ALPHA DIPOLYPERHALO HYDROCARBON) METHYL]-THIOPHENES, PYRROLES AND FURANS AND PROCESS FOR MAKING THEM

David C. England, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Dec. 12, 1962, Ser. No. 244,007

18 Claims. (Cl. 260—326.5)

1. A compound of the formula



wherein:

(A) Q is a member of the group consisting of —O—, —NH—, and —S—;

(B) M is selected from the group consisting of

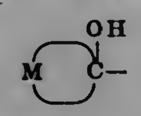
(1) identical and nonidentical pairs of monovalent polyfluoroperhalo wholly carbon chain radicals of up to 8 chain carbons and monovalent ω-hydropolyfluoroperhalo wholly carbon chain radicals of 2–31 chain carbons, at least one of the members of said pairs of monovalent radicals

having 2 fluorine atoms on a carbon alpha to the depicted carbon, all halogen being of atomic number 9–35, and

(2) single divalent polyfluoroperhalo wholly carbon chain radicals of 3–5 carbons having 2 fluorine atoms on at least one carbon alpha to the depicted carbon, all halogen being of atomic number 9–35;

(C) Z is selected from the group consisting of hydrogen, nitro, halogen, R'CO—, R'COO— and R'O wherein R' is hydrocarbon of up to 8 carbon atoms. and

(D) Z' is selected from the group consisting of Z and



4. 2,2,3,3,4,4-hexafluoro-1-(2-pyrrolyl)cyclobutanol.

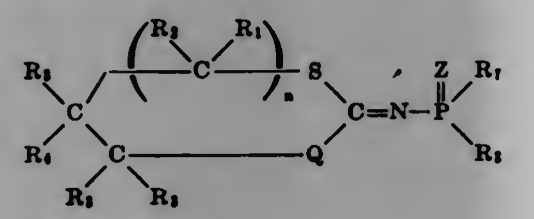
3,197,481
PHOSPHINYL IMIDES AND METHOD FOR THEIR PREPARATION

Roger Williams Addor, Pennington, N.J., assignor to American Cyanamid Company, Stamford, Conn., a corporation of Maine

No Drawing. Filed Sept. 20, 1962, Ser. No. 225,136

14 Claims. (Cl. 260—327)

1. A phosphinyl imide having the formula:



wherein R_1, R_2, R_3, R_4, R_5 and R_6 are each a radical selected from the group consisting of hydrogen, lower alkyl, lower carbalkoxy, halo-lower alkyl, phenyl, lower alkyl substituted-phenyl, nitrophenyl, halophenyl, cyanophenyl, methoxyphenyl, sulfamylphenyl, methylthiophenyl, (lower) carbalkoxyphenyl, carbamylphenyl, N-methylcarbamylphenyl, benzyl and naphthyl; R_7 and R_8 are each selected from the class consisting of lower alkyl, phenyl, lower alkoxy, lower monoalkylamino and lower dialkylamino radicals; Q and Z are each an atom selected from the group consisting of oxygen and sulfur; and *n* is an integer from zero (0) to one (1).

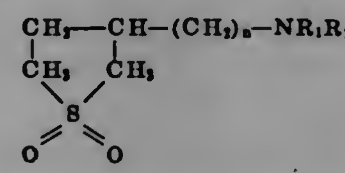
3,197,482
SULFOLANYLALKYLAMINES

Herman E. Faith, Indianapolis, Ind., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware

No Drawing. Filed Sept. 10, 1962, Ser. No. 222,629

9 Claims. (Cl. 260—332.1)

1. A sulfolanylalkylamine compound selected from the class consisting of: compounds having the structural formula



wherein *n* is a number selected from the group consisting of 1, 2 and 3, R_1 is selected from the group consisting of hydrogen and alkyl having 1–3 carbon atoms and R_2 is selected from the group consisting of hydrogen and alkyl having 1–3 carbon atoms; hydrohalide salts thereof; and methohalide and ethohalide salts thereof wherein R_1 and R_2 are both alkyls having 1–3 carbon atoms.

3,197,483
PREPARATION OF CYCLIC THIOETHERS

Bernard Buchholz, Flourtown, Thomas E. Deger, Ambler, and Roland H. Goshorn, Fort Washington, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania

No Drawing. Filed July 30, 1962, Ser. No. 213,119

10 Claims. (Cl. 260—332.8)

1. A process for the preparation of cyclic thioethers which comprises reacting H_2S with a cyclic ether selected from the class consisting of furan, lower alkyl furan, tetrahydrofuran and lower alkyl tetrahydrofuran by contacting vapors of said reagents with each other at a temperature between about 175° C. and about 600° C. in the presence of a metal oxide dehydration catalyst wherein the metal is selected from the group consisting of aluminum, silicon, chromium, tungsten, uranium and molybdenum promoted with an activating amount of a compound selected from the group consisting of a tungsten containing heteropoly acid, an alkali metal salt thereof, and an alkaline earth metal salt thereof.

7. A process for the preparation of thiophene which comprises a vapor phase reaction of furan and hydrogen sulfide, said process being carried out (1) in the presence of a catalyst consisting essentially of alumina promoted with 0.5% to 5% by weight of the catalyst of a heteropoly acid compound selected from the group of phosphotungstic acid, silicotungstic acid and alkali metal salts of phosphotungstic and silcotungstic acid, (2) at a mole ratio of hydrogen sulfide to furan between about 2:1 to 10:1 (3) at a space velocity of furan between about 10 and 50 cc./hr./cc. of catalyst, (4) at a reactor temperature between about 300° and 475° C., and (5) at a pressure between about 50 and 250 p.s.i.g.

3,197,484
2-HYDROPEROXIDES OF 2-ALKENYL DIOXOLANES AND META DIOXANES

Carol Kazuo Ikeda, Wallingford, Pa., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware

No Drawing. Filed Jan. 12, 1962, Ser. No. 165,953

15 Claims. (Cl. 260—340.7)

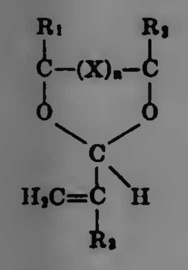
2. (2-hydroperoxy-2-isopropenyl-1,3-dioxolane-4)butyl acetate.

15. A 2-hydroperoxide of a compound having a structure selected from the group consisting of

$$A—B \text{ and } A—G—A$$

wherein

A is a radical of the structure



wherein

R_1 and R_2 are selected from the group consisting of hydrogen and alkyl of 1 through 8 carbon atoms,

R_3 is selected from the group consisting of hydrogen and methyl; and

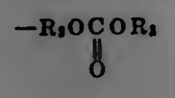
X is a radical selected from the group consisting of methylene and methylene substituted with at least one radical selected from the group consisting of

alkyl of 1 through 3 carbon atoms,
alkoxymethyl,
hydroxymethyl,

acyloxymethyl of 1 through 8 carbon atoms,
chloromethyl,
hydroxy,
cyanoethoxymethyl,
allyloxymethyl, and
allylidenedioxydimethylene,

B is a monovalent alkyl radical of 1 through 6 carbon atoms substituted with at least one radical selected from the group consisting of
—OH,
—COOH
—OR_4,
—$OOCR_4$, and
—$COOR_4$
where R_4 is a radical selected from the group consisting of alkyl of 1 through 20 carbon atoms, benzyl and tolyl, and

G is selected from the group consisting of
—R_5—
—R_5OR_5—
—$R_5OOCR_6COOR_5$—
—$R_5COOR_7OOCR_5$—, and

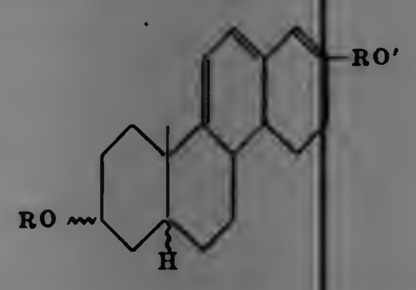

$-R_5O\underset{\underset{O}{\|}}{C}OR_5$

where
R_5 is an alkylene radical of 1 through 4 carbon atoms;
R_6 is a divalent hydrocarbon radical of 1 through 8 carbon atoms; and
R_7 is a radical selected from the group consisting of alkylene of 1 through 8 carbon atoms and polyalkyleneoxy of 1 through 6 carbon atoms; and
n is a number 0 to 1

3,197,485
INTERMEDIATES IN SYNTHESIS OF PREGNADIENE

Wataru Nagata, Hyogo Prefecture, Japan, assignor to Shionogi & Co., Ltd., Osaka, Japan
No Drawing. Filed July 18, 1962, Ser. No. 210,842
Claims priority, application Japan, Mar. 12, 1960, 35/8,208; Mar. 19, 1960, 35/9,421; Apr. 4, 1960, 35/20,124, 35/20,125; Apr. 6, 1960, 35/20,723; Apr. 21, 1960, 35/22,417; Apr. 25, 1960, 35/22,611; July 19, 1961, 36/25,986
18 Claims. (Cl. 260—340.9)

1. A compound of the formula:



wherein R is a lower alkanoyl group and R′ is a lower alkyl group.

3,197,486
PROPYNYL DERIVATIVES OF ALPHA AND BETA CONIDENDROL

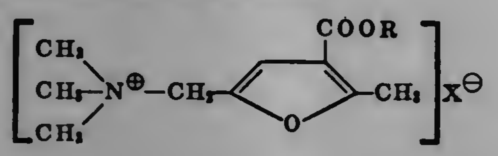
George B. Sterling, Mogadore, Ohio, assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 21, 1964, Ser. No. 405,608
2 Claims. (Cl. 260—343.3)

1. 4 - (3′,4′ - bis(2 - propynyloxy)phenyl) - 1,2,3,4-tetrahydro - 3 - (hydroxymethyl) - 6,7 - bis-(2-propynyloxy)-2-naphthoic acid γ-lactone (β-isomer).

3,197,487
SALTS OF 2-METHYL-5-DIMETHYLAMINOMETHYL-3-CARBOXYLIC ACID AND ITS ESTERS

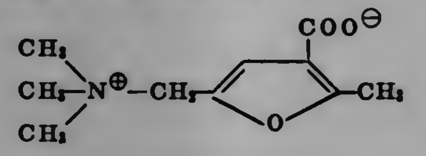
Rolf Denss and Franz Häfliger, Basel, Switzerland, assignors to Geigy Chemical Corporation, Ardsley, N.Y., a corporation of Delaware
No Drawing. Filed July 27, 1962, Ser. No. 213,043
Claims priority, application Switzerland, July 28, 1961, 8,912/61
6 Claims. (Cl. 260—347.2)

1. A compound of the formula



wherein
R is a member selected from the group consisting of hydrogen and lower alkyl, and
X⊖ is the normal equivalent of a pharmaceutically acceptable acid ion.

2. The betaine of the formula

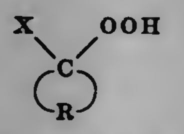


3,197,488
SYNTHESIS OF KETO-CARBOXYLIC ACIDS AND KETONES

John B. Braunwarth and Charanjit Rai, Crystal Lake, Ill., assignors to The Pure Oil Company, Palatine, Ill., a corporation of Ohio
No Drawing. Filed Nov. 15, 1962, Ser. No. 238,040
14 Claims. (Cl. 260—347.3)

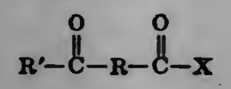
1. The process which comprises converting a compound of the formula

(I)



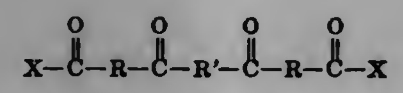
into a compound of the formulae

(II)

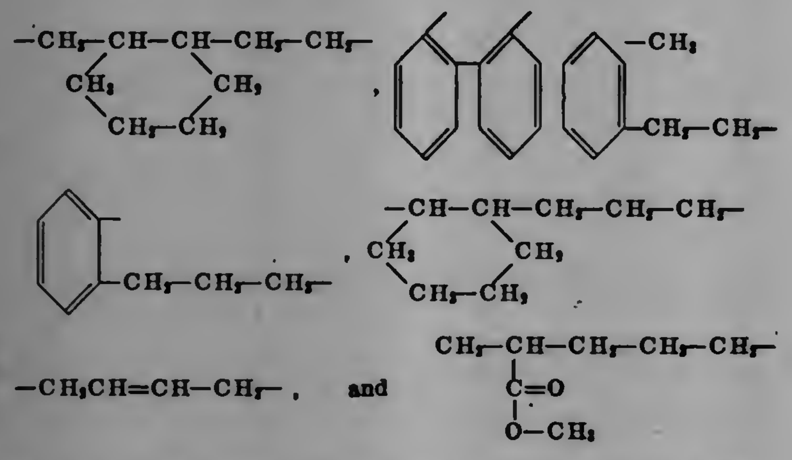

$R'-\overset{\overset{O}{\|}}{C}-R-\overset{\overset{O}{\|}}{C}-X$

and

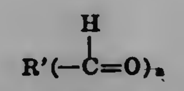
(III)


$X-\overset{\overset{O}{\|}}{C}-R-\overset{\overset{O}{\|}}{C}-R'-\overset{\overset{O}{\|}}{C}-R-\overset{\overset{O}{\|}}{C}-X$

wherein in said formulae, X is a member of the group consisting of hydroxyl and C_1 to C_6 alkyl, R is a member of the group consisting of C_3 to C_9 cycloalkylene, C_1–C_4 alkyl-, phenyl-, benzyl-, hydroxy-, carboxyl-, oxo-, C_1 to C_6 alkoxy-, cycloalkyl-, and halo-substituted C_3 to C_9 cycloalkylene,



R′ is a member of the group consisting of C_1 to C_{20} alkyl, C_2 to C_8 alkylene, C_6 to C_{18} aryl, C_1 to C_6 alkyl-substituted C_6 to C_{18} aryl, C_6 to C_{18} aryl-substituted C_1 to C_6 alkyl, C_3 to C_9 cycloalkyl, furyl, thiofuryl, pyrryl, oxazolyl, thiazolyl, imidazolyl, pyridyl, benzofuryl, isobenzofuryl and the hydroxy, nitro, sulfo, lower alkyl, and lower alkoxy-substituted forms thereof which comprises reacting a compound of Formula I with an aldehyde of the formula


$R'(-\overset{\overset{H}{|}}{C}=O)_n$

wherein R′ is as above-defined and n is an integer of 1 to 2, under redox conditions at a temperature of about −100° C. to 100° C. and separating compounds of Formula I when n is 1 and compounds of Formula II when n is 2.

3,197,489
6,16-DIFUNCTIONAL PROGESTERONES

Richard T. Rapala, Indianapolis, Ind., assignor to Eli Lilly and Company, Indianapolis, Ind., a corporation of Indiana
No Drawing. Filed Oct. 27, 1961, Ser. No. 148,028
12 Claims. (Cl. 260—397.1)

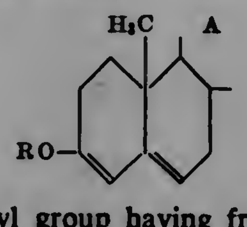
1. 6,16-dichloropregesterone wherein the configuration of the chloro groups is selected from the group consisting of α and β.

5. 6-chloro-16-carbomethoxyprogesterone wherein the configuration of the chloro and carbomethoxy groups is selected from the group consisting of α and β.

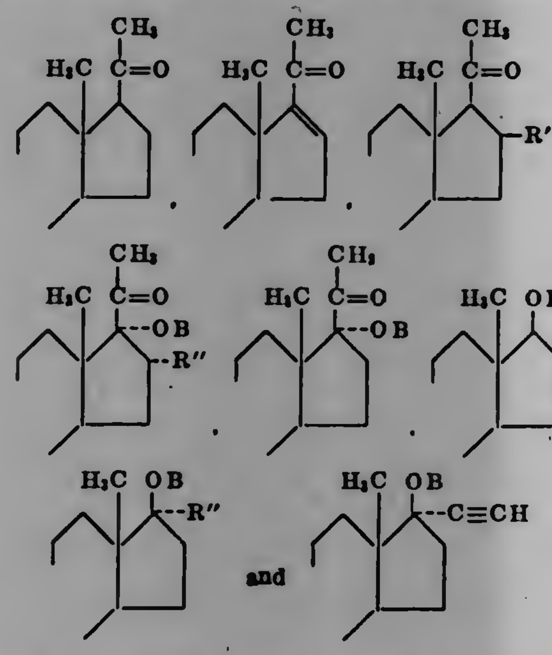
3,197,490
PROCESS FOR THE PRODUCTION OF 6-METHYL PREGNANES AND ANDROSTANES

Susumu Nakanishi, Hopkins, Minn., assignor to General Mills, Inc., a corporation of Delaware
No Drawing. Filed Mar. 19, 1963, Ser. No. 266,177
10 Claims. (Cl. 260—397.3)

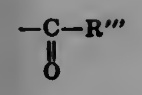
1. A process of preparing 6-alkyl steroid compounds comprising treating with an alkylating agent selected from the group consisting of R′X, $R'OSO_2C_6H_4CH_3$ and $R'OSO_2CH_3$ in which R′ is an alkyl group having from 1 to 8 carbon atoms and X is a halogen atom, a steroid compound having the formula



where R is an alkyl group having from 1 to 8 carbon atoms and A is selected from the group consisting of



in which R″ is an alkyl group having from 1 to 8 carbon atoms and B is selected from the group consisting of H and


$-\underset{\underset{O}{\|}}{C}-R'''$

where R‴ is selected from the group consisting of alkyl, cycloalkyl, aralkyl and alkoxyaralkyl groups in which the alkyl group has from 1 to 12 carbon atoms and the aryl group is phenyl.

3,197,491
PROCESS FOR MAKING TETRAETHYL LEAD

Mathias J. Schuler, Pitman, N.J., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 7, 1961, Ser. No. 87,530
17 Claims. (Cl. 260—437)

1. The process for making tetraethyl lead which comprises reacting ethyl chloride in the liquid phase with monosodium lead alloy at temperatures in the range of 100° C. to about 150° C., employing from about 2 to about 50 moles of ethyl chloride for each mole of alloy, in the presence of from about 0.01 to about 5 parts by weight of acetone for each 100 parts of alloy and at least one iodine-containing substance of the group consisting of elemental iodine, metal iodides in which the metals are in groups I to IV of the periodic table, alkyl lead iodides of the formula $R_{4-x}PbI_x$ wherein R represents an alkyl group of 1 to 4 carbon atoms and x is an integer of 1 to 2, iodine-containing saturated organic compounds that consist of 2 to 7 carbon atoms, 1 to 2 iodine atoms and the rest hydrogen atoms, tetraalkylammonium iodides, and iodoacetone, employing an amount of said iodine-containing substances to provide from about 0.01 to about 1 part by weight of iodine for each 100 parts of alloy.

3,197,492
STABLE LEAD ALKYL COMPOSITIONS AND A METHOD FOR PREPARING THE SAME

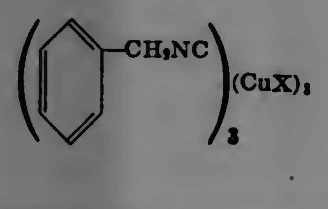
Wilford H. Thomas and Shirl E. Cook, Baton Rouge, La., assignors to Ethyl Corporation, New York, N.Y., a corporation of Virginia
No Drawing. Filed Apr. 13, 1964, Ser. No. 359,406
15 Claims. (Cl. 260—437)

1. A method of inhibiting the decomposition of an alkyllead compound at temperatures of from about 100° C. to about 195° C. which comprises incorporating with said compound from about 5 to about 30 weight percent based on the weight of said compound of a mono-hydrocarbon substituted cyclomonoalkene hydrocarbon in which the ring contains 6–7 carbon atoms and in which the molecule contains from 7 to about 14 carbon atoms.

3,197,493
COPPER ISOCYANIDE COMPLEXES AND PREPARATION THEREOF

John A. C. Allison, Greenmeadow, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Aug. 17, 1962, Ser. No. 217,529
7 Claims. (Cl. 260—438)

1. A compound having the structure



where X is selected from the group consisting of cyano, bromo, chloro and iodo.

3,197,494
S-(10-PHENOXARSINYL) XANTHATES

Stanley J. Strycker, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 29, 1962, Ser. No. 233,904
5 Claims. (Cl. 260—440)

1. S-(10-phenoxyarsinyl) 2-lower alkoxyethyl xanthate.

3,197,495
S-(10-PHENOXARSINYL) 2-PHENOXYETHYL XANTHATE

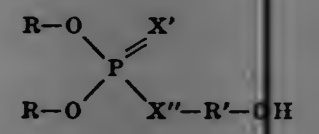
Stanley J. Strycker, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Oct. 29, 1962, Ser. No. 233,905
1 Claim. (Cl. 260—440)

S-(10-phenoxarsinyl) 2-phenoxyethyl xanthate.

3,197,496
POLYPHOSPHORUS ESTER DERIVATIVES OF O,O-DIHYDROCARBYL-s-HYDROXYLALKYL PHOSPHORODITHIOATES

William M. Le Suer, Cleveland, Ohio, assignor to The Lubrizol Corporation, Wickliffe, Ohio, a corporation of Ohio
No Drawing. Filed Aug. 9, 1961, Ser. No. 130,270
8 Claims. (Cl. 260—461)

1. An acidic phosphorus-containing composition prepared by the process comprising the reaction of a hydroxy-substituted triester of a phosphorothioic acid having the formula

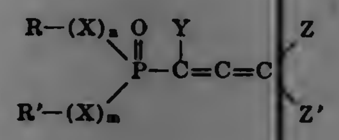


wherein R is an organic radical selected from the class consisting of alkyl, cycloalkyl, aryl, and polar-substituted derivatives of each of the above, and R′ is an organic radical selected from the class consisting of alkylene, cycloalkylene, arylene, phenylalkylene, and phenylcycloalkylene, and X′ and X″ are selected from the class consisting of oxygen and sulfur, at least one being sulfur, with an inorganic phosphorus reagent selected from the class consisting of phosphorus acids, phosphorus oxides and phosphorus halides.

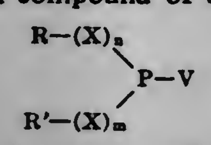
3,197,497
ALLENIC PHOSPHORUS DERIVATIVES

Victor Mark, Olivette, Mo., assignor to Monsanto Company, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Mar. 16, 1962, Ser. No. 180,350
15 Claims. (Cl. 260—461)

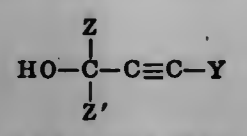
1. The method of preparing a compound of the structure



wherein each X is selected from the class consisting of —O—, —S—, —NH— and —NR″—; wherein R, R′ and R″ are each a member of the group consisting of alkyl, alkenyl, alkynyl, phenyl, naphthyl, alkylphenyl, cycloaliphatic and chlorine, bromine cyano nitro and alkoxy substituted derivatives thereof wherein alkyl, alkenyl and alkynyl have 1 to 18 carbon atoms, cycloaliphatic has 5 to 7 carbon atoms, and alkoxy has 1 to 4 carbon atoms; wherein Y is selected from the class consisting of hydrogen and R; wherein *m* and *n* are integers from 0 (0) to to one (1); and wherein Z and Z′ are selected from the class consisting of Y, and such that Z and Z′ together form an alkylene radical of four to eight carbon atoms; which comprises reacting a compound of the structure

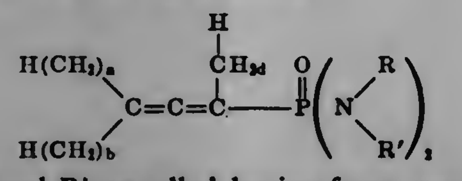


wherein V is a halogen atom with a propargyl alcohol of the structure



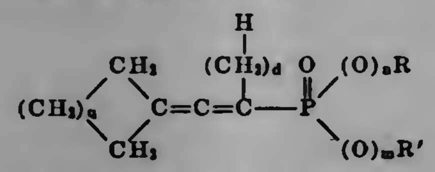
in the presence of a hydrogen halide acceptor of the class consisting of the alkali metal salts of alcohols, the trialkyl amines, dimethyl aniline and pyridine at a temperature at which the proparyl thus formed is stable and gradually heating to induce the rearrangement.

4. A compound of the structure



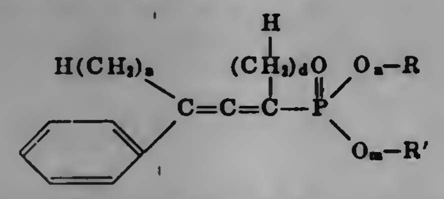
wherein R and R′ are alkyl having from one to ten carbon atoms; wherein *a*, *b* and *d* are integers from zero (0) to four (4).

6. A compound of the structure



wherein R and R′ are alkyl of up to ten carbon atoms; wherein *q* is an interger from one (1) to five (5); wherein *m* and *n* are each integers from zero to one and wherein *d* is an integer from zero (0) to four (4).

8. A compound of the structure

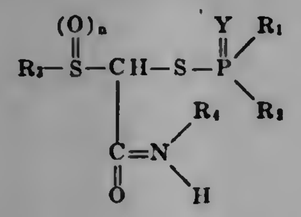


wherein R and R′ are alkyl of from one to 10 carbon atoms; wherein *a* and *d* are integers from zero (0) to four (4); wherein *m* and *n* are integers from zero (0) to one (1).

3,197,498
ALKYL-(MERCAPTO, SULFOXY, SULFONYL)-ACETIC ACID AMIDE-S-ESTERS OF PHOSPHORUS ACIDS

Walter Lorenz, Wuppertal-Vohwinkel, Hans-Gerd Schicke, Wuppertal-Elberfeld, and Gerhard Schrader, Wuppertal-Cronenberg, Germany, assignors to Farbenfabriken Bayer Aktiengesellschaft, Leverkusen, Germany, a corporation of Germany
No Drawing. Filed Mar. 27, 1962, Ser. No. 182,976
Claims priority, application Germany, Apr. 8, 1961, F 33,623
4 Claims. (Cl. 260—461)

1. A compound of the formula



wherein R_1 and R_2 stand for members selected from the group consisting of lower alkyl having up to 4 carbon atoms and lower alkoxy having up to 4 carbon atoms, R_3 stands for lower alkyl having up to 4 carbon atoms, R_4 stands for a member selected from the group consisting of hydrogen and methyl, Y stands for a chalkogen of an atomic weight less than 40 and *n* stands for an integer between 0 and 2.

3,197,499
PROCESS FOR PURIFYING BENZOPHENONE 4,4′-DICARBOXYLIC ACID

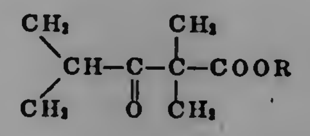
John H. McCracken, Monroeville, and Johann G. D. Schulz and Arthur C. Whitaker, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed Nov. 30, 1960, Ser. No. 72,593
2 Claims. (Cl. 260—475)

1. A process for purifying benzophenone 4,4′-dicarboxylic acid obtained as a result of the nitric acid oxidation of 1,1-di(para)tolylethane which comprises reacting said diarylketone carboxylic acid with methanol in excess of the amount stoichiometrically required to react with said diarylketone carboxylic acid to obtain the methyl ester thereof and thereafter recovering the methyl ester so obtained.

3,197,500
ESTERS OF 2,2,4-TRIMETHYL-3-KETOPENTANOIC ACID WITH MONOHYDRIC HYDROCARBON ALCOHOLS

Garry C. Kitchens and Thomas F. Wood, Wayne, N.J., assignors to The Givaudan Corporation, New York, N.Y., a corporation of New Jersey
No Drawing. Filed Oct. 31, 1960, Ser. No. 65,937
7 Claims. (Cl. 260—483)

1. Compounds represented by the following structural formula:

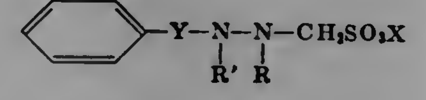


wherein R is a member selected from the group consisting of a C_3 to C_{10} branched chain alkyl group, a C_4 to C_{10} straight chain alkyl group, a C_3 to C_{10} mono-unsaturated aliphatic hydrocarbon group, a C_3 to C_{10} di-unsaturated aliphatic hydrocarbon group, a phenyl group, a phenyl group substituted with a lower alkyl group, a lower alkyl group substituted with a phenyl group, and a lower alkenyl group substituted with a phenyl group.

3,197,501
METHANE SULFONATE DERIVATIVES OF ARALKYL HYDRAZINES

John H. Biel, Milwaukee, Wis., assignor, by mesne assignments, to Colgate-Palmolive Company, a corporation of Delaware
No Drawing. Filed July 30, 1958, Ser. No. 751,886
7 Claims. (Cl. 260—508)

1. A compound of the formula



wherein Y is an alkylene group having not more than five carbons, R is a member selected from the group consisting of hydrogen, methanesulfonic acid, alkali metal methanesulfonates, lower alkyl, lower alkanoyl, benzoyl, isonicotinyl, glutamyl, benziloyl, 5-pyrrolidone-2-carbonyl, aryl, and cycloalkyl, R′ is a member of the group consisting of hydrogen, alkyl, aralkyl, cycloalkyl and hydroxalkyl and X is a member of the group consisting of hydrogen and alkali metal.

3,197,502
PROCESS FOR MAKING 2,6-DINITRO-m-TOLUIC ACID

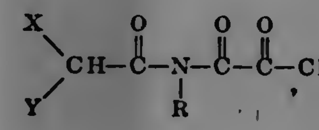
Guy H. Harris, Concord, and Bryant C. Fischback, Walnut Creek, Calif., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Nov. 14, 1960, Ser. No. 68,657
5 Claims. (Cl. 260—515)

1. A method of preparing 2,6-dinitro-m-toluic acid which comprises nitrating an organic reactant consisting essentially of 2-nitro-m-toluic acid with a nitrating agent while said acid is in solution in sulfuric acid, and then recovering 2,6-dinitro-m-toluic acid from the reaction mixture.

3,197,503
N-(ARYL)OXAMIC ACID CHLORIDES

Lowell R. Smith, St. Louis, and Angelo John Speziale, Creve Coeur, Mo., assignors to Monsanto Company, a corporation of Delaware
No Drawing. Filed Dec. 14, 1962, Ser. No. 244,583
7 Claims. (Cl. 260—544)

1. An N-(aryl)oxamic acid chloride of the formula



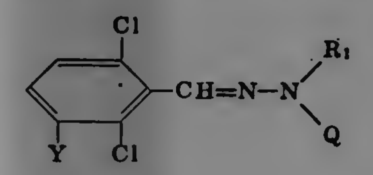
wherein X is halogen of atomic weight in the range of 35 to 80, wherein Y is selected from the group consisting of hydrogen, halogen of atomic weight in the range of 18 to 80 and lower alkyl, and wherein R is an aromatic hydrocarbyl having from 6 to 10 carbon atoms selected from the group consisting of phenyl and alkyl substituted phenyl and said aromatic hydrocarbyl having substituents on the aromatic nucleus thereof selected from the group consisting of halogen of atomic weight in the range of 35 to 80, nitro, methoxy and ethoxy.

3,197,504
CHLOROBENZALDEHYDE HYDRAZONES AND THEIR HYDRAZONIUM SALTS

John Harvey, Jr., Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del., a corporation of Delaware
No Drawing. Filed Feb. 16, 1961, Ser. No. 89,612
9 Claims. (Cl. 260—566)

1. A compound selected from the group consisting of the formula:

(1)

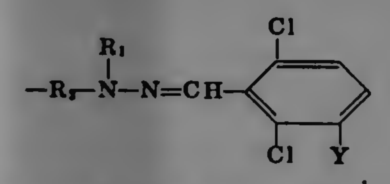


where

Y is selected from the group consisting of hydrogen and chlorine,

R_1 is selected from the group consisting of hydrogen, allyl, propynyl, cycloalkyl of 3 to 8 carbons, and alkyl of 1 to 6 carbons and

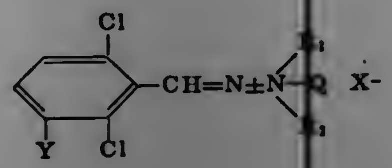
Q is selected from the group consisting of alkyl of 1 to 18 carbons, allyl, propynyl, cycloalkyl of 3 to 8 carbons and



where R_1 and Y are defined as above and R_2 is selected from the group consisting of dimethylene, tetramethylene, and 2-butenylene and

Q when taken together with R_1 forms a 6 member heterocyclic substituent having at least one hetero-atom selected from the group consisting of nitrogen and oxygen; and

(2)



where

Y and Q are as defined above, R_1 is selected from the group consisting of allyl, propynyl, cycloalkyl and 3 to 8 carbons, and alkyl of 1 to 6 carbons,

R_3 is selected from the group consisting of allyl, propynyl, and alkyl of 1 to 6 carbons and,

X is an anion selected from the group consisting of chloride, bromide, iodide, methosulfate, and ethosulfate and

Q when taken together with R_1 forms a 6 member heterocylic substituent having at least one hetero-atom selected from the group consisting of nitrogen and oxygen.

3,197,505

PROCESS FOR THE PREPARATION OF CYCLOHEXANONEOXIME FROM THE OXIDATION PRODUCTS OF CYCLOHEXANE

Luciano Jori, 4 Via Freguglia, Milan, Italy
Filed Aug. 13, 1962, Ser. No. 216,541
Claims priority, application Italy, Sept. 16, 1961, 16,627/61
8 Claims. (Cl. 260—566)

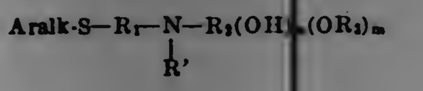
1. A process for producing cyclohexanoneoxime from cyclohexanone contained in a mixture consisting essentially of cyclohexanol, cyclohexanone and cyclohexane, said mixture being obtained from the oxidation of cyclohexane with oxygen, which comprises (1) mixing said mixture with at least a stoichiometric amount of hydroxylamine, (2) mixing the so-formed reaction mixture with an alkali aqueous solution at less than room temperature, thereby forming an alkali aqueous phase containing the major portion of the cyclohexanoneoxime and an organic phase containing a minor portion of the cyclohexanoneoxime, (3) passing said organic phase through a sulphonic acidic ion exchange resin, thereby removing the minor portion of cyclohexanoneoxime, and (4) mixing said alkali aqueous phase obtained in step (2) with cyclohexane, thereby extracting the cyclohexanol contained in said alkali aqueous phase and obtaining an alkali aqueous solution of cyclohexanone-oxime.

3,197,506

BENZYLTHIOALKYLAMINO ALKOXY ALCOHOLS

Robert J. Wineman, Concord, Morton H. Gollis, Brookline, and John C. James, Melrose, Mass., assignors to Monsanto Research Corporation, St. Louis, Mo., a corporation of Delaware
No Drawing. Filed Feb. 28, 1962, Ser. No. 176,410
5 Claims. (Cl. 260—570.5)

1. Aralkylthioalkylamino alkoxy alkanols of the formula



$$\text{Aralk-S}-R_1-\underset{\substack{|\\ R'}}{N}-R_2(OH)_n(OR_3)_m$$

where

each of R_1, R_2 and R_3 is saturated aliphatic hydrocarbon, saturated aliphatic hydrocarbon,

Aralk is an aralkyl hydrocarbon radical consisting of saturated aliphatic hydrocarbon substituted by a benzenoid ring,

each said hydrocarbon radical is hydrocarbon of up to twelve carbon atoms,

and

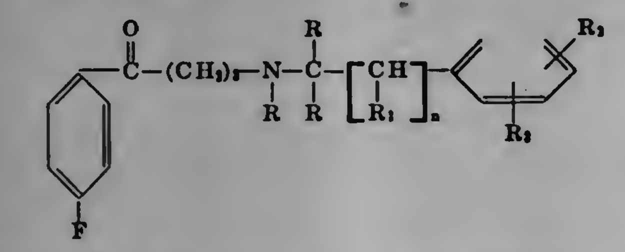
n and *m* are small integers each having a value of from one to two.

3,197,507

SUBSTITUTED 3-p-FLUOROBENZOYLPROPYL-PHENYLALKYLAMINES AND METHOD FOR MAKING THE SAME

Meier E. Freed and Scott J. Childress, Philadelphia, Pa., assignors to American Home Products Corporation, New York, N.Y., a corporation of Delaware
No Drawing. Filed Mar. 21, 1963, Ser. No. 266,805
7 Claims. (Cl. 260—570.5)

1. A compound selected from the group of compounds having the formula:



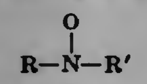
wherein *n* ranges from 0 to 1, R is selected from the group consisting of hydrogen and lower alkyl: R_1 is selected from the group consisting of hydrogen and hydroxyl; R_2 and R_3 are selected from the group consisting of hydrogen, lower alkoxyl and lower alkyl and the acid addition salts thereof.

3,197,508

PROCESS FOR PREPARING N,N-DISUBSTITUTED NITROXIDES

Arthur Kentaro Hoffmann, Stamford, and Allan Murry Feldman, Norwalk, Conn., assignors to American Cyanamid Company, Stamford, Conn., a corporation of Maine
No Drawing. Filed Dec. 4, 1962, Ser. No. 242,078
4 Claims. (Cl. 260—576)

1. A process for preparing a nitroxide of the formula



$$R-\overset{\substack{O\\ |}}{N}-R'$$

in which R and R′ are each selected from the group consisting of tertiary alkyl, tertiary cycloalkyl, phenyl, polyphenyl, naphthyl, phenanthryl, anthracyl, subsituted phenyl, substituted polyphenyl, and substituted naphthyl, said substituents being selected from the group consisting of halo, alkyl, alkoxy, dialkylamino, dibenzylamino, perfluoroalkyl, trimethyl silyl and tribenzyl silyl, which comprises forming an adduct by reacting

RNO_2 with R′Z

in which R and R′ are as defined hereinabove and Z is selected from the group consisting of Na, Li, K and MgX wherein X is halogen, and subsequently hydrolyzing said adduct.

3,197,509

DIAMINE DIOXIDE COMPOUNDS

Howard F. Drew, Wyoming, and Roger E. Zimmerer, Springfield Township, Hamilton County, Ohio, assignors to The Procter & Gamble Company, Cincinnati, Ohio, a corporation of Ohio
No Drawing. Filed Dec. 21, 1961, Ser. No. 161,307
3 Claims. (Cl. 260—583)

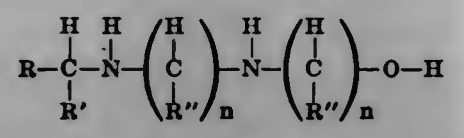
1. N,N′N′ - trimethyl-N-alkylethylenediamine-N,N′-dioxide wherein said alkyl ranges in chain length from 10 to 18 carbon atoms.

3,197,510

N¹-SECONDARY-ALKYL-AMINOALKYL ALKANOLAMINES

Henryk A. Cyba, Chicago, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Mar. 1, 1962, Ser. No. 176,822
6 Claims. (Cl. 260—584)

1. A compound of the following formula:



$$R-\underset{\substack{|\\ R'}}{\overset{\substack{H\\ |}}{C}}-\overset{\substack{H\\ |}}{N}-\left(\underset{\substack{|\\ R''}}{\overset{\substack{H\\ |}}{C}}\right)_n-\overset{\substack{H\\ |}}{N}-\left(\underset{\substack{|\\ R''}}{\overset{\substack{H\\ |}}{C}}\right)_n-O-H$$

where R and R^1 are alkyl and the total number of carbon atoms in R and R^1 is from 2 to about 50, *n* is from 2 to 4, and R″ is selected from the group consisting of hydrogen and alkyl of from 2 to 8 carbon atoms.

3,197,511

NITROPOLYSTYRENE

Kwan Chung Tsou, Huntingdon Valley, Pa., Arthur Lyem, Darlington, Md., and Benjamin D. Halpern, Jenkintown, Pa., assignors to The Borden Company, New York, N.Y., a corporation of New Jersey
No Drawing. Filed May 7, 1964, Ser. No. 365,794
4 Claims. (Cl. 260—644)

1. A compound selected from the group consisting of nitrated atactic polystyrene of average molecular weight below about 50,000 after nitration and nitrated isotactic polystyrene, the compound being an explosive of brisance on detonation approximately equal at least to that of TNT and of velocity of detonation not above about half that of TNT.

3,197,512

THERMAL ISOMERIZATION OF HIGHLY FLUORINATED-1:3 AND 1:4-HEXADIENES

Ronald Eric Banks, Burnage, Manchester, Anthony Kenneth Barbour, Coombe Dingle, Bristol, Colin Russell Patrick, Quinton, Birmingham, and John Colin Tatlow, Kings Norton, Birmingham, England, assignors to National Research Development Corporation, London, England, a British corporation
No Drawing. Filed Sept. 4, 1959, Ser. No. 838,056
Claims priority, application Great Britain, Sept. 11, 1958, 29,174/58
6 Claims. (Cl. 260—648)

1. A process for the manufacture of a highly fluorinated cyclohexadiene isomer selected from the group consisting of the highly fluorinated cyclohexa-1:3-diene and the highly fluorinated cyclohexa-1:4-diene isomers from a material essentially consisting of the isomer other than the one to be manufactured which comprises heating said material essentially consisting of the other isomer to a temperature between 100 and 700° C. in inert surroundings to produce a mixture of said highly fluorinated cyclohexa-1:3-diene and highly fluorinated cyclohexa-1:4-diene isomers and separating the highly fluorinated cyclohexadiene isomer to be manufactured from the reaction product.

3,197,513

PREPARATION OF PERFLUOROOLEFINS

George W. Holbrook and Ogden R. Pierce, Midland, Mich., assignors to Dow Corning Corporation, Midland, Mich., a corporation of Michigan
No Drawing. Filed May 21, 1962, Ser. No. 196,512
6 Claims. (Cl. 260—653.5)

1. A method of preparing perfluoro-olefins which method comprises reacting (1) a perhalocarbon of the formula $CFX_2(CFX)_nCFXCFX_2$ wherein X is selected from the group consisting of chlorine and bromine, and *n* is a positive integer, with (2) an alkali metal fluoride wherein the alkali metal atom is selected from the group consisting of potassium, rubidium and cesium, under substantially anhydrous conditions in (3) an inert organic liquid having a dielectric constant of at least 20 until the halogen atoms other than fluorine have all been replaced with fluorine to give an internal perfluoroolefin having the same number of carbon atoms per molecule as perhalocarbon (1).

3,197,514

PROCESS FOR THE PREPARATION OF 2-BROMO 3-HALO PROPENE-1

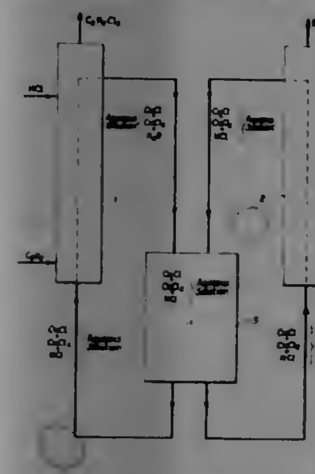
Hendricus Gerardus Peer, Rijswijk, South Holland, Netherlands, assignor to The Nederlandse Organisatie voor Toegepast - Natuur - Wetenschappelijk Onderzoek ten Behoeve van Nijverheid, Handel en Verkeer, The Hague, Netherlands, a corporation of the Netherlands
No Drawing. Filed Mar. 16, 1961, Ser. No. 96,102
Claims priority, application Great Britain, Mar. 28, 1960, 10,897/60, 10,898/60; May 20, 1960, 17,889/60
The portion of the term of the patent subsequent to Nov. 11, 1980, has been disclaimed
4 Claims. (Cl. 260—654)

1. A process for the production of substantially pure 2,3-dibromo-propene-1 which comprises the steps of reacting up to the stoichiometric amount of bromine with a solution of allene in a solvent selected from the group consisting of glacial acetic acid, carbon tetrachloride, chloroform and methylene dichloride and recovering said 2,3-dibromo-propene-1 to the substantial exclusion of tetrabrominated products.

3,197,515

PROCESS FOR PREPARING DICHLORETHYLENE AND MIXTURES THEREOF WITH VINYLIDENE CHLORIDE

Pierre Chassaing and Georges Clerc, Saint Auban, France, assignors to Pechiney-Compagnie de Produits Chimiques et Electrometallurgiques, Paris, France
Filed Sept. 27, 1962, Ser. No. 229,257
Claims priority, application France, Sept. 29, 1961, 874,556
4 Claims. (Cl. 260—654)



1. In the process of preparing dichlorethylene and mixtures thereof with vinylidene chloride comprising a first acetylene reaction of acetylene with an aqueous hydrochloric acid solution of cuprous chloride and cupric chloride in which cupric chloride is converted to cuprous chloride to provide a liquid effluent richer in cuprous chloride than is the feed and in which dichlorethylene is removed overhead, and a second oxidation reaction in which a hydrochloric acid solution of cupric chloride and cuprous chloride is reacted with oxygen containing gas to reconvert cuprous chloride to cupric chloride and provide an effluent richer in cupric chloride than is the feed, the improvement comprising feeding said effluent from the acetylene reaction to a receiver, feeding said effluent from the oxidation reaction to the same receiver for mixture with said effluent from the acetylene reaction, feeding to the acetylene reaction from the receiver the mixture made up of said effluent from the acetylene

reaction and said effluent from the oxidation reaction and feeding to the oxidation reaction from the same receiver the mixture of the said effluents from the oxidation reaction and the acetylene reaction, thereby operating the oxidation and acetylene reactions in parallel with a common feed therebetween.

3,197,516
STABLE SOLUTIONS OF ARYLLITHIUM COMPOUNDS

Donald L. Esmay, Coon Rapids, Minn., and Conrad W. Kamienski, Bessemer City, N.C., assignors to Lithium Corporation of America, Inc., New York, N.Y., a corporation of Minnesota
No Drawing. Filed Feb. 9, 1962, Ser. No. 172,110
12 Claims. (Cl. 260—665)

1. A method of preparing highly stable solutions of aryllithium compounds which comprises providing a suspension of the aryllithium compound in an inert liquid hydrocarbon, and then adding a liquid ether, selected from the group consisting of normally liquid lower alkyl ethers, tetrahydrofuran and tetrahydropyran, to said suspension in an amount in the range of that amount which is substantially just sufficient to convert said suspension into a solution and not substantially more than twice said amount.

3,197,517
CONVERSION OF o-DIISOPROPYLBENZENE AND 3,4-DIISOPROPYLTOLUENE TO INDENES AND NAPHTHALENES

Frederick J. Soderquist, Essexville, Harold D. Boyce, Coleman, and Jerome H. Stickelmeyer, Midland, Mich., assignors to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
No Drawing. Filed Jan. 22, 1962, Ser. No. 167,926
9 Claims. (Cl. 260—668)

1. Method for making indenes and naphthalenes by passing a feed of the group consisting of o-diisopropylbenzene, 3,4-diisopropyltoluene and mixtures thereof through a reaction zone maintained at a temperature ranging between 525° and 800° C. at a throughput rate between 5 and 150 grams of feed per 100 ml. of reaction zone per hour whereby demethanation and cyclization of the feed are promoted and recovering indenes and naphthalenes from the process effluent.

3,197,518
INTERCONVERSION OF HYDROCARBON RING COMPOUNDS

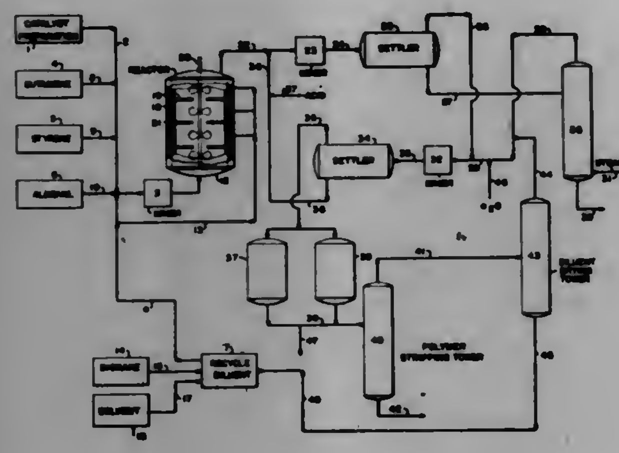
Duane K. Chapman and George J. Rossman, Ashland, Ky., assignors to Ashland Oil & Refining Company, Ashland, Ky., a corporation of Kentucky
No Drawing. Filed Apr. 4, 1962, Ser. No. 184,933
23 Claims. (Cl. 260—668)

1. A method of converting polycyclic hydrocarbon compounds, comprising subjecting a feed containing at least one polycyclic hydrocarbon compound selected from the group consisting of acenaphthene, anthracene, biphenyl, fluorene, indane, phenanthrene, phenylnaphthalene and tetrahydronaphthalene to conversion in the presence of hydrogen and a catalyst comprising chromia on alumina at a temperature of about 1200° to 1400° F., a pressure of about 100 to 1000 p.s.i. and a weight hourly space velocity of about 0.5 to 2.0.

7. The method of synthesizing polycyclic hydrocarbon ring compounds comprising subjecting a petroleum catalytic reformate having an end boiling point in the range of about 500–700° F. to conversion in the presence of hydrogen and a catalyst which comprises 5–25% by weight chromia on an alumina support at a temperature of about 1200–1400° F., a weight hourly space velocity of about 0.5—2.0, and a pressure of about 100–1000 p.s.i.

3,197,519
REMOVAL OF ALKALI METAL FROM LIQUID HYDROCARBON POLYMERS

Ralph H. Schatz, Westfield, Bruce R. Tegge, Madison, Robert C. Green, Rahway, and Murray Nadler, Morristown, N.J., assignors to Esso Research and Engineering Company, a corporation of Delaware
Filed Aug. 27, 1962, Ser. No. 219,506
5 Claims. (Cl. 260—669)



1. In a process for polymerizing a conjugated diolefin in the presence of a hydrocarbon solvent for the polymer, an ether promoter, and an alkali metal catalyst, the improvement which comprises recovering a solution of polymer in solvent containing alkali metal impurities; mixing said polymer solution with an acidified aqueous solution of said ether in a ratio of about $\frac{1}{10}$ to 1 volume of acidified water and ether per volume of polymer solution; settling said mixture to form a lower layer containing ether, water, and salts of said alkali metal impurities, and an upper layer containing polymer dissolved in hydrocarbon and ether, free of alkali metal impurities; separating an ether-water mixture approaching the azeotropic composition from water containing alkali metal impurities in said lower layer by distillation; diluting the separated ether-water mixture with alkali-metal-free water, acidifying the solution, and employing the resulting mixture as the acidic aqueous ether solution in said mixing step; separating hydrocarbon-ether solvent from polymer in said upper layer by flash distillation; drying said hydrocarbon-ether diluent and recycling said hydrocarbon-ether solvent to said polymerization step.

3,197,520
PROCESS FOR THE ARYLATION OF AROMATIC COMPOUNDS

Ernest Bryson McCall, Llangollen, and Ryland James Roberts, Glynceiriog, near Wrexham, Wales, assignors to Monsanto Chemicals Limited, London, England, a British company
No Drawing. Filed Nov. 30, 1961, Ser. No. 156,145
Claims priority, application Great Britain, Dec. 30, 1960, 42,839/60
8 Claims. (Cl. 260—670)

1. A process for replacing a hydrogen atom on a nuclear carbon atom of an aromatic compound with an aryl group, said aryl group being selected from the class consisting of phenyl, alkylphenyl, naphthyl and diphenylyl, and said aromatic compound being selected from the class consisting of:

(a) benzene, naphthalene and diphenyl;
(b) alkyl-benzene, -naphthalene and diphenyl;
(c) terphenyl, quaterphenyl and diphenyl ether;
(d) furan, thiophene and mono- and dibenzo-furan and thiophene; and
(e) alkyl-, cycloalkyl- and phenyl-furan, thiophene, and mono- and dibenzo-furan and thiophene;

said process comprising heating, at a temperature of at

least about 200° C., said aromatic compound with a sulfone of the formula, $R—SO_2—R'$, wherein R represents said aryl group and R′ represents a member selected from the class consisting of R, alkyl and phenylalkyl, said heating being carried out in the presence of a member selected from the class consisting of alkali metal hydroxide, alkali metal carbonate and alkali metal oxide.

3,197,521
PROCESS FOR REMOVING ACID-FORMING HYDROGEN-CONTAINING COMPOUNDS IN AN ALKYLATION PROCESS

Vladimir Haensel, Hinsdale, Ill., assignor to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed May 21, 1962, Ser. No. 196,480
10 Claims. (Cl. 260—671)

1. In the reaction of aromatic and olefin-acting reactants with each other at alkylating conditions in the presence of boron fluoride and a boron fluoride-modified, substantially anhydrous inorganic oxide, said reactants being contaminated with compounds containing hydrogen which can react to form acidic materials, the improvement which comprises contacting the reactants with a metal selected from the group consisting of aluminum, zinc, magnesium, iron and chromium at conditions to convert said hydrogen-containing compounds to molecular hydrogen.

3,197,522
PROCESS FOR ALKYLATING AROMATICS

Harold L. Dimond and Arthur C. Whitaker, Pittsburgh, Pa., assignors to Gulf Research & Development Company, Pittsburgh, Pa., a corporation of Delaware
No Drawing. Filed June 19, 1962, Ser. No. 203,488
12 Claims. (Cl. 260—671)

1. A process for alkylating an alkylatable aromatic which comprises reacting a substantially water-saturated alkylatable aromatic, calculated at atmospheric temperature and pressure, containing boron trifluoride in the presence of gaseous boron trifluoride and an olefin.

3,197,523
DEALKYLATION OF ALKYLAROMATIC COMPOUNDS

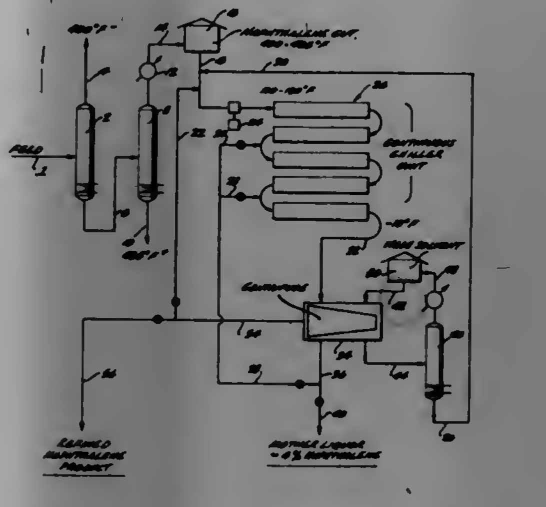
Edward Michalko, Chicago, and Richard E. Rausch, Wheeling, Ill., assignors to Universal Oil Products Company, Des Plaines, Ill., a corporation of Delaware
No Drawing. Filed Nov. 3, 1961, Ser. No. 149,890
7 Claims. (Cl. 260—672)

1. A process which comprises hydrodealkylating an alkyaromatic compound in the presence of hydrogen and a catalyst prepared by coprecipitating alumina and at least one oxide of a metal selected from the group consisting of tin, titanium and zirconium, calcining the resultant precipitate and thereafter compositing with the calcined precipitate at least one oxide of a meal selected from the group consisting of chromium, molybdenum and tungsten.

3,197,524
RECOVERY OF PETROLEUM NAPHTHALENE

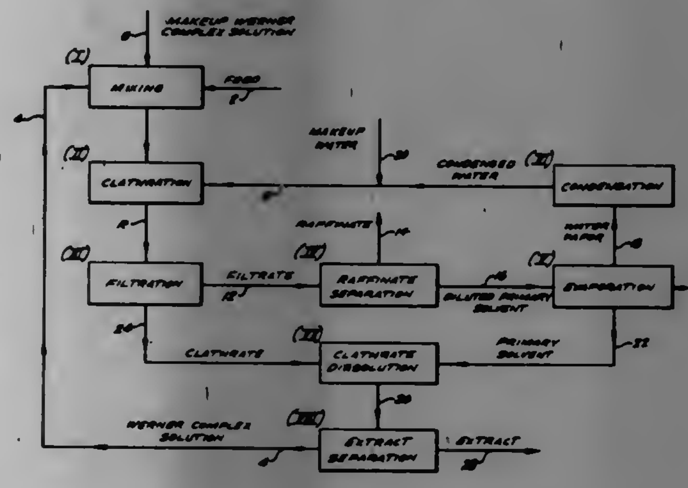
Peter Stanley Backlund, Anaheim, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Nov. 10, 1960, Ser. No. 68,480
9 Claims. (Cl. 260—674)

1. A process for recovering substantially pure naphthalene from a petroleum fraction boiling between about 390° and 450° F., and containing substantial proportions of alkyl-benzenes and indanes, and containing less than about 30% by weight of naphthalene, which comprises: adding relatively naphthalene-rich material to said petroleum fraction to raise the naphthalene content to above about 50% by weight, then effecting fractional crystallization by reducing the temperature of the resulting mixture to between about 10° and −50° F. over a period of time greater than about 15 minutes and less than about 1.5 hours, separating mother liquor from the resulting naphthalene product, washing said naphthalene product with a minor proportion of a lower paraffin hydrocarbon and recovering from said washing a naphthalene product having an acid-wash color below about 10 on the Barrett scale, said naphthalene-rich material being selected from the class consisting of (1) a portion of said naphthalene product and (2) a dealkylated alkyl naphthalene reformate fraction.



3,197,525
CLATHRATION PROCESS

William D. Schaeffer, Pomona, Calif., assignor to Union Oil Company of California, Los Angeles, Calif., a corporation of California
Filed Aug. 7, 1961, Ser. No. 129,653
5 Claims. (Cl. 260—674)



3. A method for resolving a mixture of di-substituted benzene isomers including a para-isomer, comprising: (1) forming a solution of a Werner complex consisting of a salt selected from the group consisting of the thiocyanates, isothiocyanates, cyanates, isocyanates, cyanides, and azides of metals selected from the group consisting of manganese, iron, cobalt and nickel, coordinated with a heterocyclic base, in a primary solvent comprising an aqueous solution of nitrogen base of lower volatility than water; (2) mixing the resulting Werner complex solution with the mixture of disubstituted benzene isomers; (3) adding water to the resulting mixture to effect precipitation of a solid clathrate of said para-isomer from said mixture of disubstituted benzene isomers, with said Werner complex; (4) separating said solid clathrate from the resulting mixture to leave two liquid phases, one comprising primary solvent diluted with water and the other comprising raffinate material from said mixture of disubsti-

tuted benzene isomers; (5) substantially separating said liquid phases; (6) heating the diluted primary solvent phase to evaporate substantially all of the dilution water therefrom and regenerate it as primary solvent; (7) dissolving solid clathrate from step (4) in the regenerated primary solvent from step (6) to free said para-isomer therefrom, which forms as an extract phase, and regenerated Werner complex solution, which forms as a separate phase; and (8) separating said extract phase from the regenerated Werner complex solution phase.

3,197,526

PREMIX STABILIZED POLYESTER MOLDING COMPOSITIONS CONTAINING SULFUR AND A SUBSTITUTED ARYL HYDROXIDE

Arthur M. Howald, Perrysburg, Ohio, assignor, by mesne assignments, to American Cyanamid Company, Wayne, N.J., a corporation of Maine

No Drawing. Filed Apr. 3, 1961, Ser. No. 100,028

11 Claims. (Cl. 260—866)

1. A premix stabilized molding composition comprising: an unsaturated polyester resin having carbon to carbon double bonds, a polymerizable monomeric substance having a carbon to carbon double bond and, a stabilizer combination of sulphur and an arylhydroxide stabilizing substance effective as a stabilizer in the presence of oxygen, said arylhydroxide having at least one hydroxyl group and being selected from the class of substituted monohydroxy and poly-hydroxy benzenes, naphthalenes, pyrenes, anthracenes and phenanthracenes which have at least one nuclear substituent which consists at least in part of a monovalent hydrocarbon radical selected from the group consisting of alkyl, alkenyl, aryl, alkaryl, and aralkyl radicals, the stabilizer combination constituting from 0.01 to 0.6 percent by weight of the polyester resin contained in the composition.

3,197,527

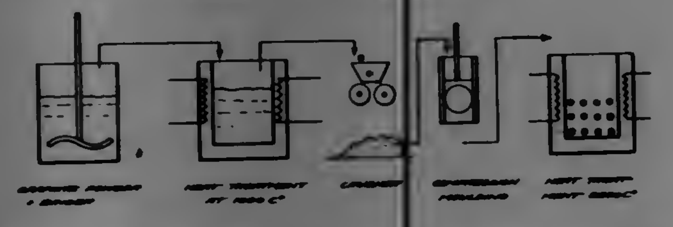
PROCESS FOR THE PRODUCTION OF DENSE SHAPED GRAPHITIC BODIES

Wilhelm Krummeich, Hanau am Main, Germany, assignor to Nuklear-Chemie und -Metallurgie Gesellschaft m.b.H., Wolfgang, near Hanau am Main, Germany

Filed July 20, 1961, Ser. No. 125,358

Claims priority, application Germany, July 21, 1960, N 18,668

3 Claims. (Cl. 264—29)



1. In a process for the production of substantially gas tight shaped graphite bodies by compression molding of graphite powder and subsequent baking of the molded bodies, the steps which consist of providing a layer consisting of finely divided carbon on the graphite particles and compression molding such coated graphite particles.

3,197,528

METHOD OF CONSTRUCTING FURNACE PARTS

Charles F. Warga, Jenkintown, and Russel A. Miller, West Chester, Pa., assignors to Howe Sound Company, New York, N.Y., a corporation of Delaware

Filed Apr. 11, 1962, Ser. No. 186,626

7 Claims. (Cl. 264—60)

1. A method of constructing a furnace part of the type comprising a refractory material enclosed in a pan-like metallic shell, which comprises

(1) introducing into the shell a body of moist, plastic, heat-hardenable refractory material containing sodium silicate as a bonding agent,
   (a) one face of the body of refractory being exposed and all other faces thereof being covered by the shell,
(2) and drying and hardening said refractory substantially without buckling and formation therein of laminations by irradiating only the exposed face thereof with infra-red energy, said irradiation,
   (a) being from a source at a temperature above 1000° F., and
   (b) raising the temperature of an upper quarter-inch of the refractory body adjacent its exposed surface at an average rate of at least about 115° F. per hour.

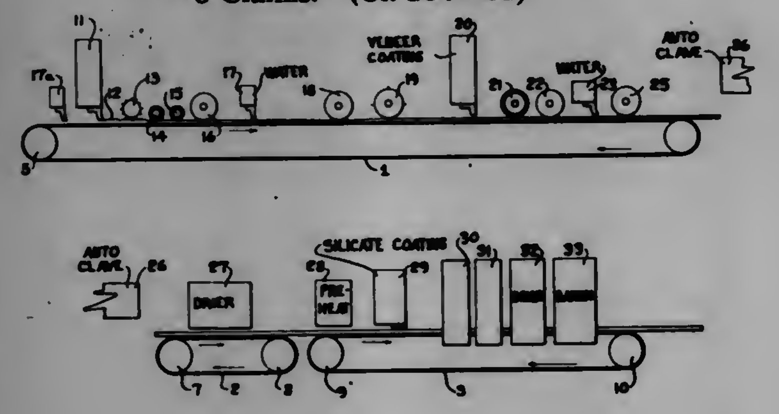
3,197,529

ASBESTOS-CEMENT SHEETS

Norman S. Greiner, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York

Filed July 26, 1962, Ser. No. 212,638

8 Claims. (Cl. 264—62)



1. A process for manufacturing an asbestos-cement sheet comprising the steps of:
(a) fabricating by a "dry process" an uncured asbestos-cement sheet having a moisture content, by weight, greater than 10%,
(b) curing said sheet,
(c) drying said sheet until the moisture content, by weight, does not exceed about 2%,
(d) applying a silicate coating which comprises at least one silicate compound selected from the group consisting of sodium silicate and potassium silicate to the sheet while the temperature of the sheet is in the range of about 90° F. to about 150° F., and
(e) baking the coating.

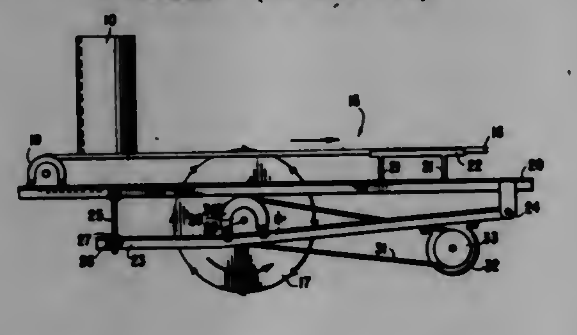
3,197,530

CLAY DRAIN TILE MANUFACTURE

Ray R. Miller and James R. Miller, Bascom, Ohio, assignors to J. A. Miller Tile Company, Bascom, Ohio, a corporation of Ohio

Filed June 17, 1963, Ser. No. 288,113

3 Claims. (Cl. 264—67)



1. A method for making end-notched clay drain tiles comprising the steps of standing the tiles before they are fired in upright unrestrained positions on a plurality of relatively narrow parallel conveyor belts, notching the bottom terminal end of each tile while it is being conveyed in upright unrestrained position by carrying the tiles on the conveyor belts over a series of rotating saws extending upwardly between the narrow belts, and carrying the tiles on the conveyor belts to a remote position.

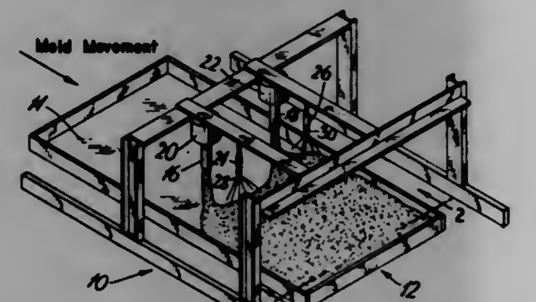
3,197,531

METHOD FOR EVEN DISTRIBUTION OF LIQUID-STATE FOAM

Donald E. Wilbur, Jr., Hastings on Hudson, N.Y., assignor to Union Carbide Corporation, a corporation of New York

Filed May 28, 1963, Ser. No. 283,891

3 Claims. (Cl. 264—88)



1. A method of spreading and distributing liquid-state foam comprising depositing said liquid-state foam onto a suitable base having a mold containing sidewalls and a bottom from a plurality of adjacently spaced dispensing orifices in a manner such that as impinging multiple streams of gas are directed substantially perpendicular to said foam an integral, uniform and even laydown is immediately established in said mold from sidewall to sidewall prior to the commencement of the foaming action whereby the front and rear portions of said mold are uniformly filled to the same depth as the remaining portions of said mold.

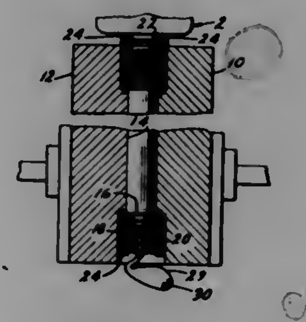
3,197,532

PROCESS FOR MAKING SQUEEZE TUBE CONTAINERS

Edward W. Maass, Northampton, Mass., assignor to Tubed Chemicals Corporation, Easthampton, Mass., a corporation of Delaware

Filed Apr. 4, 1963, Ser. No. 271,047

6 Claims. (Cl. 264—98)



1. The process of producing hollow tubular dispenser tipped containers in an open-ended blow molding zone which comprises extruding a thermoplastic tube member in softened condition while freely suspending the same, then closing blow mold dies about said tube and immediately introducing fluid under pressure to the interior of said tube member and then next while maintaining fluid pressure conditions in the interior of the tube simultaneously conducting said fluid under pressure through both ends of the mold in direct contact with the plastic material at said ends during expansion of said member in said open-ended molding zone.

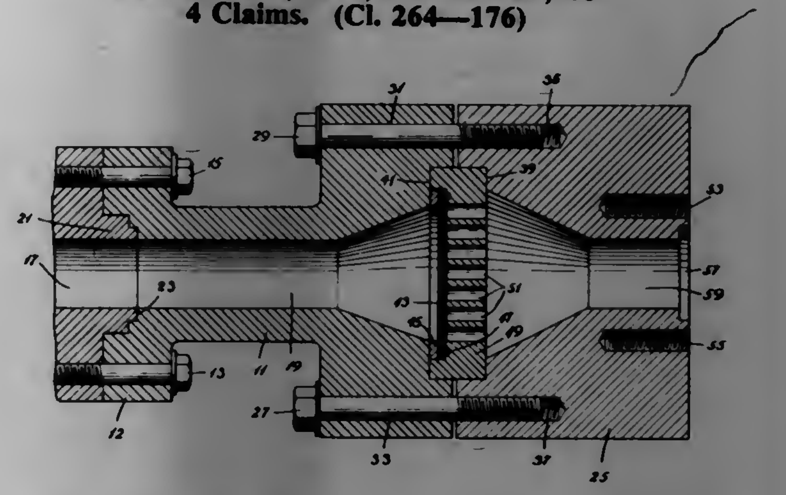
3,197,533

GEL AND FISH-EYE REDUCTION IN THERMOPLASTICS

Malcolm G. Robinson, Westfield, Walter E. Zavitz, Somerville, and Agis F. Kydonieus, Somerset, N.J., assignors to Union Carbide Corporation, a corporation of New York

Filed Dec. 26, 1961, Ser. No. 162,255

4 Claims. (Cl. 264—176)



1. In a thermoforming process wherein a gel-containing thermoplastic is forced through a shaping nozzle at elevated temperatures, the step which comprises forcing the gel particles and the molten thermoplastic containing said particles prior to contact with said shaping nozzle, through the capillaries of a rigid, noncompressible, metallurgically-bonded microporous, metallic bed, said capillaries having an average pore diameter between about 2 to 35 microns and effective capillary lengths of at least 0.05 inch under the influence of pressure greater than at least 5,500 p.s.i., to reduce the gel particles to micron size thereby escaping visual detection in the shaped product.

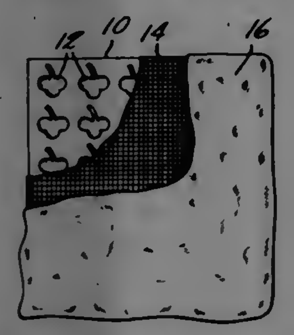
3,197,534

METHOD OF FORMING THIN RESILIENT SHELLS

Alan E. Murray, 616 Fairfield Ave., Bridgeport 3, Conn.

Filed Aug. 22, 1961, Ser. No. 133,096

14 Claims. (Cl. 264—223)



1. The method of forming a thin resilient shell to reproduce the contour of a surface which comprises the steps of placing at least one layer of substantially open mesh fabric material upon a surface, wetting the fabric material with water, applying an aqueous slurry of gypsum plaster to the fabric material while said fabric material is still wet, and permitting the gypsum plaster to harden while in contact with said surface to form a thin shell.

3,197,535

METHOD OF FORMING THREE CAST-UNITED AND RELATIVELY MOVABLE ELEMENTS

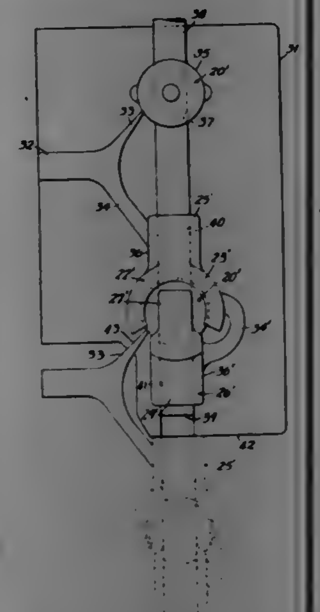
Louis H. Morin, 125 Beechwood Ave., New Rochelle, N.Y.

Filed Apr. 20, 1962, Ser. No. 188,992

3 Claims. (Cl. 264—242)

1. The method of forming a die cast product comprising united relatively movable elements the first element being generally spherical in form and having two pairs of nubbins therein and a pair of second named elements

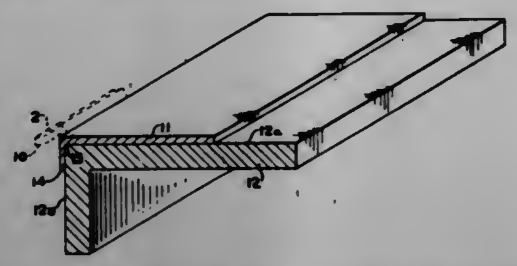
each including yoke portions adapted to partially envelope said spherical element and be attached thereto by said nubbins, which consists in simultaneously forming in a pair of dies said first element and said two other elements in spaced cavities of said dies by pressure injection of casting material simultaneously into the spaced cavities of the dies, then shifting the cast elements by a core pin to move the first named element into registering position with the second named cavities, whereby, in the next successive casting operation, the second named elements are formed directly upon the pre-cast first named element then positioned in the cavities forming said second named elements, arranging said core pin in said dies to form, during the casting operation, an aperture in each element with said apertures aligned with each other, and stripping the core pin from the cast product comprising the assemblage of all of said elements and returning said core pin to position for reception of the next casting operation.



3,197,536
METHOD OF MANUFACTURING ASBESTOS-CEMENT ARTICLES

Clayton V. French, Somerville, N.J., assignor to Johns-Manville Corporation, New York, N.Y., a corporation of New York
Continuation of application Ser. No. 831,633, Aug. 4, 1959. This application Feb. 26, 1962, Ser. No. 175,683
7 Claims. (Cl. 264—285)

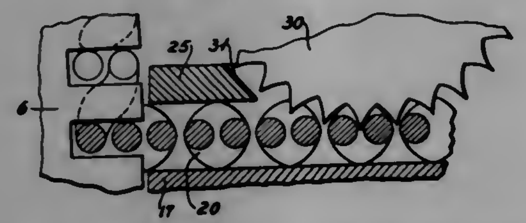
1. A method of creating sharp bends in green asbestos-cement sheets comprising forming a crimp in a green sheet of asbestos fiber and cement, the sides of the crimp being curved about radii of curvature of at least approximately one inch, placing the crimped sheet on a form having a bend thereon, the included angle formed by the sides of the bend being greater than 0° but less than 180°, the crimp being adjacent the bend, straightening the curved sides of the crimp, the crimped portion of the sheet conforming closely to the bend on the form,



and curing the sheet so as to permanently set the sheet with the bend conforming shape therein.

3,197,537
APPARATUS AND METHOD FOR MANUFACTURING SLIDE FASTENERS

Harry Hansen, 14 Hoffdingsvej, Valby-Copenhagen, Denmark
Filed Sept. 18, 1961, Ser. No. 138,832
Claims priority, application Denmark, Nov. 8, 1960, 4,403
10 Claims. (Cl. 264—287)



1. A method of making a row of coupling links for slide fasteners, comprising the steps of first continuously and progressively forming a filament into a planar zigzag structure with the flank portions thereof lying close together, and then successively and progressively displacing the pair of flank portions which at any time form the frontmost pair of said planar structure out of the plane thereof, and feeding the next following pair of flank portions forward in the plane of said structure to the position previously occupied by said displaced pair of flank portions.

3,197,538
STRETCH ORIENTATION OF POLYVINYLIDENE FLUORIDE

Nicholas J. Capron, deceased, late of Chalfont, Pa., by Sheila W. Capron, administratrix, Chalfont, Pa., Richard A. Ferren, Ambler, and William S. Barnhart, Lafayette Hill, Pa., assignors to Pennsalt Chemicals Corporation, Philadelphia, Pa., a corporation of Pennsylvania
Filed Oct. 31, 1960, Ser. No. 66,350
3 Claims. (Cl. 264—288)

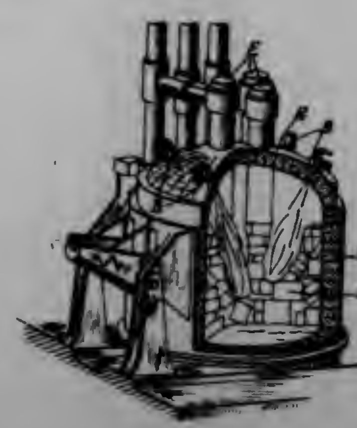
1. A method for stretching orienting homopolymers of vinylidene fluoride which comprises the step of stretching a vinylidene fluoride homopolymer having a plasticity number of from about 1500 to 2500 at a temperature of from 100° C. to 145° C.

ELECTRICAL

3,197,539
METHOD OF OPERATING ELECTRIC ARC FURNACE

Gene W. Hinds, Westfield, N.J., assignor to Union Carbide Corporation, a corporation of New York
Filed July 11, 1962, Ser. No. 209,187
5 Claims. (Cl. 13—9)

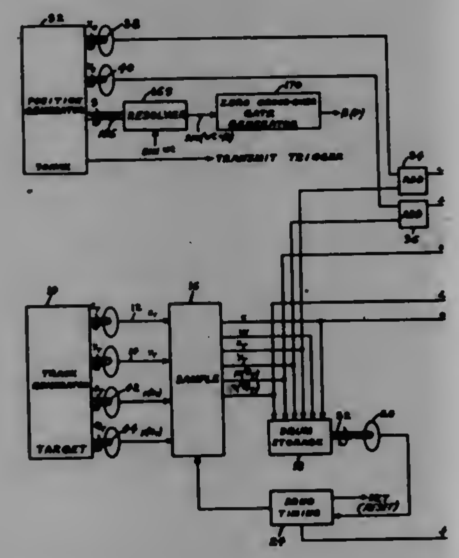
1. In the method of melting scrap in an electric arc-furnace, in which the scrap is charged into the furnace, the electrodes are lowered, the melting current is turned on, and heat is applied to the scrap by the electrodes in the furnace, the improvement which comprises passing streams of fuel and an oxidant down through the roof from stations spaced therearound in a circle between the electrodes and the furnace walls, to form a combustible mixture,



igniting said mixture to provide post-mixed flames, and directing said flames into the charged scrap at locations between the electrodes and the lining of the furnace.

3,197,540
WAKE SIMULATOR

Myron N. Kaufman, Massapequa, and Irwin May, East Meadow, N.Y., assignors, by direct and mesne assignments, to the United States of America as represented by the Secretary of the Navy
Filed June 7, 1962, Ser. No. 200,899
1 Claim. (Cl. 35—10.4)



A wake simulator for simulating the display results produced by sonar equipment aboard one's own ship when the sonar equipment thereon picks up echoes from the wake of a target vessel comprising, in combination:

means for deriving a first signal corresponding to a range-attenuated wake echo signal;

means for deriving a second signal having a variable parameter characteristic of the age of a wake;

means for deriving a third signal having a variable parameter characteristic of the aspect angle of a wake;

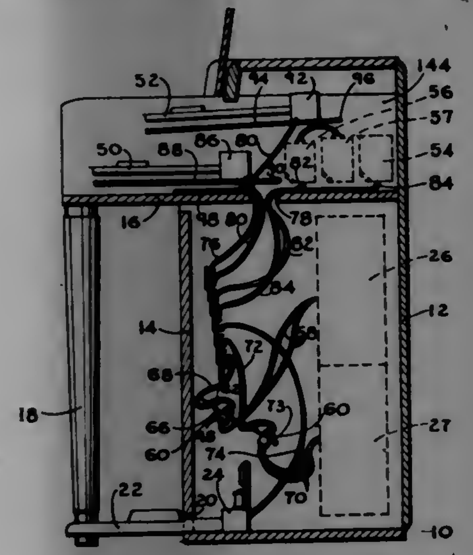
means for deriving a fourth signal having a variable parameter characteristic of own-ship's speed with respect to a wake; and

means, to which said four signals are fed, for combining said wake echo signal with said other three signals to obtain an output signal which corresponds to that obtained from a real wake by sonar equipment mounted aboard a marine vessel.

3,197,541
ELECTRONIC MUSICAL INSTRUMENT

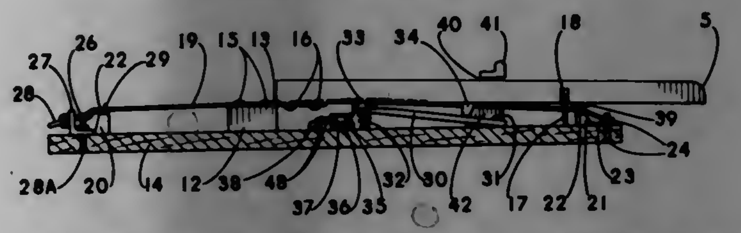
Richard H. Peterson, 10108 Harnew Road E., Oaklawn, Ill.
Filed June 26, 1961, Ser. No. 122,374
19 Claims. (Cl. 84—1.14)

1. In an electronic organ, in combination: a plurality of more than two electronic unitary assemblies, each comprising a multiplicity of individual electronic sub-assemblies; a cable associated with each of said combined assemblies; each cable including a multiplicity of structurally united and electrically separate individual conductors leading to predetermined sub-assemblies of the associated combined assembly; each cable extending away from its associated combined assembly; a connection terminal unit at the end of each cable electrically remote from the associated combined assembly; each connection terminal having a multiplicity of electrical contact terminal members; each terminal contact member being electrically connected to a predetermined one of said individual conductors; certain of the sub-assemblies in certain of said combined assemblies being adapted to originate and deliver signals of predetermined frequencies corresponding to the notes of the musical scale; the different sub-assemblies for each frequency being all connected to contact terminal members in their associated connection terminal units located in corresponding predetermined positions on said connection terminal units; and means for detachably juxtaposing any connection terminal unit to any other connection terminal unit, with their corresponding terminal contact members in homologous positions and all the terminal contact members for each sub-assembly in electrical contact with each other; whereby a multiplicity of independent sets of sub-assemblies may be electrically interconnected simultaneously by the juxtaposition of their connection terminal units; said combined assembly units including a combined tone generator unit having a multiplicity of electrically independent oscillators; a combined key switch assembly unit having a multiplicity of player-controlled key switches, each operative, when the associated connection terminal units have been juxtaposed, to control the delivery or non-delivery of signal from its associated oscillator; and a combined percussion unit for varying the decay of the signal from certain of said oscillators.



3,197,542
FOOT PEDAL STRING BASS

Orbra W. Appleton, 614 S. 12th St., Burlington, Iowa
Filed Nov. 12, 1963, Ser. No. 322,828
3 Claims. (Cl. 84—1.15)

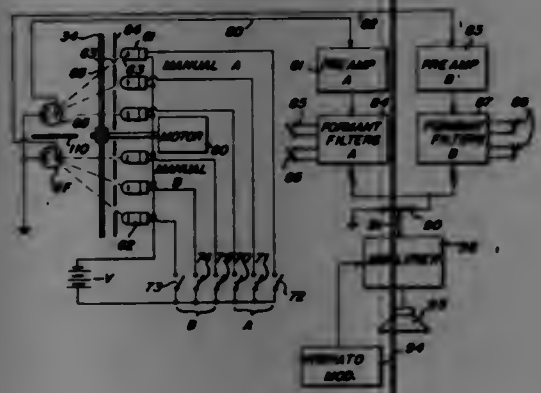


1. A foot pedal string bass assembly comprised of a base, two bridges attached to the base, a string, a means to hold the string in adjustable tension between the two

bridges, a pedal having a fulcrum attached thereto, a hammer pivotably attached to the base, a spring attached to the base and positioned so as to hold the hammer against the string, the fulcrum having contact with the hammer so as to move the hammer away from the string when the pedal is depressed, an electronic pickup means to transmit the vibration of the string to an amplifier.

3,197,543
PHOTOELECTRIC ORGAN

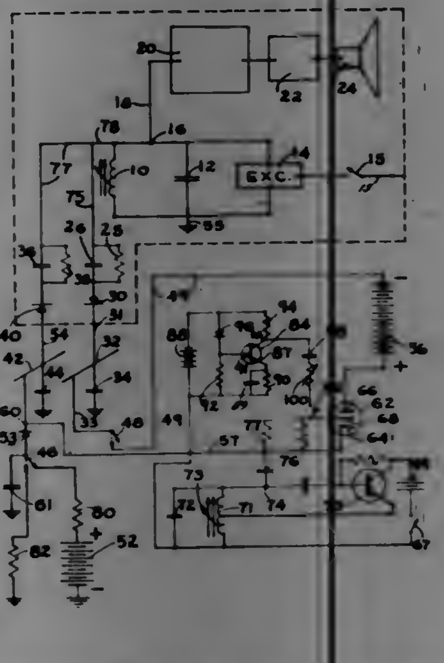
Richard E. Williams, Fairfax, Va., assignor to Dimension Incorporated, Chantilly, Va., a corporation of Maryland
Filed Aug. 5, 1958, Ser. No. 753,354
28 Claims. (Cl. 84—1.28)



2. In a keyed musical instrument, a single record storing device, said record storing device having recorded thereon a plurality of re-entrant tracks each corresponding with a complex musical tone, certain of said tracks being non-harmonically related, first means for at will selecting and reproducing the musical content of any of said tracks as first electrical signal in a first channel, second means for at will reproducing the musical content of any of said tracks as second electrical signal, in a second channel, and means for commonly acoustically reproducing the signal content of both said channels.

3,197,544
ELECTRONIC MUSICAL INSTRUMENTS WITH TWIN DETUNING CIRCUITS TO MAINTAIN CONSTANT VIBRATO

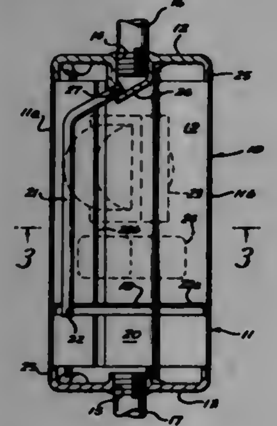
Richard H. Peterson, Oak Lawn, and William H. Hass, Elmwood Park, Ill.
Filed Aug. 28, 1961, Ser. No. 134,377
12 Claims. (Cl. 84—1.25)



1. In an electronic musical instrument of the type comprising a plurality of oscillators, one of each semi-tone of the musical scale; vibrato means comprising two pitch changers for altering the frequency of each oscillator; means for altering the operativeness of said two pitch changers to secure a maximum pitch, or a minimum pitch, or a normal, intermediate pitch; said maximum and minimum pitches differing from said intermediate pitch by the same amount, but in opposite directions; automatic timing means for keeping the pitch maximum or minimum and for changing from maximum to minimum at tremulant frequency; player-controlled stop means for rendering said automatic timing means operative, or for rendering said automatic, timed means inoperative, and adjusting said pitch changers to secure normal, intermediate pitch; and player-controlled means for normal control of the delivery of signal from each individual oscillator, regardless of the condition of said pitch changers.

3,197,545
CASE FOR BALLAST TYPE TRANSFORMERS

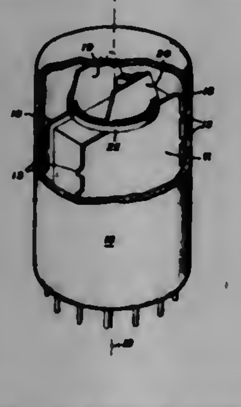
Buell Moore, Houston, Tex., assignor to Esquire, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 10, 1962, Ser. No. 243,429
3 Claims. (Cl. 174—52)



1. In a ballast type transformer, a hollow case having an opening in its opposite ends, means about each opening for connection to a pipe, means dividing the case into a transformer chamber adjacent one end and a wiring chamber adjacent the other end and connecting with the opening therein, a transformer positioned entirely within said transformer chamber, conduit means extending through the transformer chamber and connecting the opening in said one end of the case with the wiring chamber to bypass the transformer chamber, said dividing means having an opening therein providing communication between the transformer and wiring chambers, and an inspection plate providing access to the wiring chamber.

3,197,546
GETTER SUPPORT ASSEMBLY

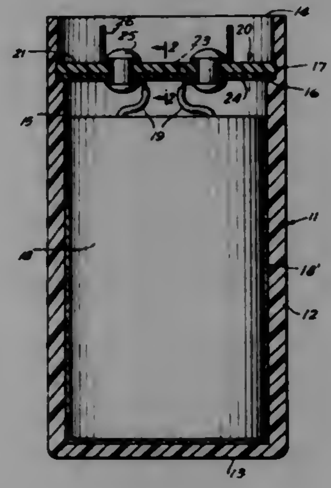
Claude Hopper, Jr., Owensboro, Ky., assignor to General Electric Company, a corporation of New York
Filed July 23, 1962, Ser. No. 211,621
7 Claims. (Cl. 174—50.54)



1. In an electron tube, a getter supporting arrangement, comprising a pair of spaced insulative members supporting electrodes of the electron tube, a tab extending from a corresponding edge of each of said pair of spaced insulative members, said tabs having a notched portion in each side thereof, and a ring-shaped getter encircling said taps and directly engaging said notched portions in supporting relation whereby to accurately and rigidly position said getter in the electron tube.

3,197,547
VENTABLE CLOSURE FOR CAPACITOR

John G. Peace, Jr., New Bedford, and Edmond F. Rogers, Fairhaven, Mass., assignors to Aerovox Corporation, New Bedford, Mass., a corporation of Massachusetts
Filed Jan. 29, 1963, Ser. No. 254,751
2 Claims. (Cl. 174—52)

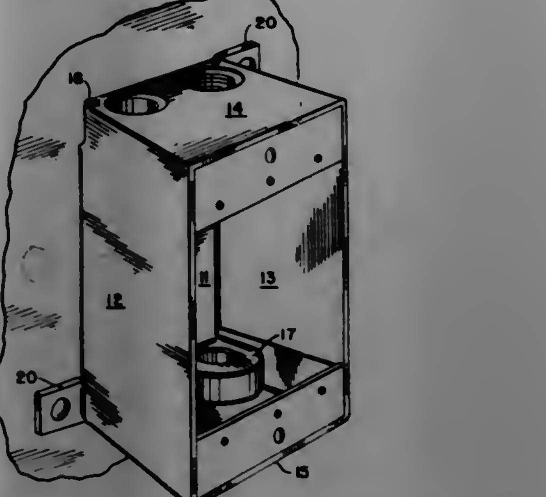


1. A capacitor unit comprising a hollow casing having a mouth, a capacitor section in said casing, a cover member comprising a disc of substantially rigid material, a disc of resilient compressible material of substantially the same diameter as said rigid disc bonded to the undersurface thereof, said cover member having terminals protruding therefrom and electrically connected to said capacitor section, said casing having an internal annular groove positioned between the upper end of the capacitor section and the mouth of the casing, said cover member being of diameter slightly less than the diameter of said annular groove and slightly greater than the inner diameter of said casing between the mouth thereof and said annular groove, the thickness of said cover member at the periphery thereof being normally slightly greater than the height of said groove, said cover member being positioned in said groove, whereby the periphery of said resilient disc will be compressed to effect a gas tight seal between said annular groove and the periphery of said cover.

3,197,548
WEATHERPROOF ELECTRICAL OUTLET BOX AND MOUNTING MEANS THEREFOR

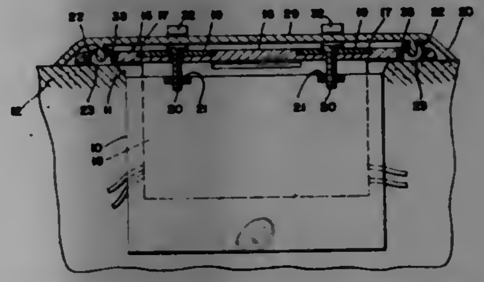
Milton Weitzman, Bayside, and Melvin Gould, Laurelton, N.Y., assignors to Slater Electric Inc., Glen Cove, N.Y., a corporation of New York
Filed Apr. 22, 1963, Ser. No. 274,737
5 Claims. (Cl. 174—58)

2. A cast metal weatherproof outlet box comprising, in combination, a base, side walls, end walls, slots extending inwardly of the junction of said walls at the corners, each said slot substantially bisecting the angle between the respective sidewall and said base, said slots extending from said end walls along the junction of said side walls and said base for a predetermined distance and a mounting lug placed in at least one of said slots, each said lug having a thickness substantially equal to the width of said slots and being bent along a line transverse to its width at an angle equal to said slot angle whereby said lugs when inserted in said slots extend from said box parallel to either said base or said side walls, each said lug having means to fasten it to a surface to thereby mount the box on that surface.



3,197,549
COVER ASSEMBLY FOR AN OUTLET BOX AND SUPPORTING WALL MAT THEREFOR

Raymond J. Good, 1504 Highland Ave., Lakewood, Ohio
Filed June 22, 1962, Ser. No. 204,385
4 Claims. (Cl. 174—66)



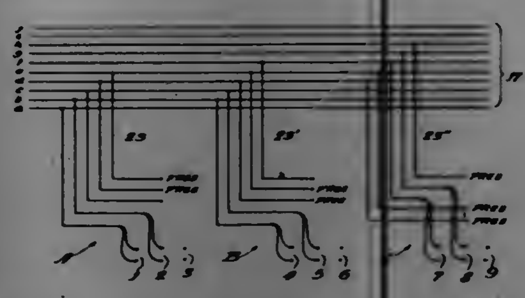
1. An outlet box cover assembly comprising a wall mat and a cover plate, said wall mat comprising a flat frame having a pair of spaced side portions and top and bottom portions, recessed means in said wall mat adapted for receiving the ears of an electric fixture and for mounting said wall mat to an outlet box recessed in an opening in a wall so that said wall mat will lie flush against the wall and so that said electric fixture will extend into said outlet box, a gripping element on said wall mat, said gripping element comprising a plurality of resilient, radially inwardly directed fingers, said cover plate comprising a flat plate having a downwardly beveled, wall-engaging edge portion, a tear-shaped mating element having a radially inwardly sloping surface fixed to said cover plate, said fingers of the gripping element engaging the inwardly sloping surface of said mating element to constantly pull the cover plate toward the wall mat and to pull said beveled edge into engagement with the wall adjacent to the periphery of said wall mat.

3,197,550
VARIABLE COUNT TERMINAL AND SYSTEM

Donald J. Smith, Sleepy Hollow Manor, Ill., assignor to Reliable Electric Company, Franklin Park, Ill., a corporation of Illinois
Filed Aug. 28, 1961, Ser. No. 134,330
3 Claims. (Cl. 174—72)

1. In combination, a cable having a plurality of conductor pairs, a plurality of terminals, each terminal including a cable stub having a plurality of conductor pairs which is less in number than the conductor pairs of said cable, and a plurality of binding post pairs which is less

in number than the conductor pairs of said cable stub, each cable stub being connected to said cable so that the complement of each cable stub is different from the complement of all other cable stubs, and each complement including members which are common to other complements, said complements being overlapping complements, certain ones of said binding post pairs of each terminal being connected to certain members of its associated complement, each terminal including at least one binding post pair which is unconnected, and each complement including a plurality of free common members which are not connected to a binding post pair in any terminals whereby the ability is provided, in the event of expansion of service, to connect one of said unconnected binding post pairs to any one of a plurality of said free common members of an associated complement.



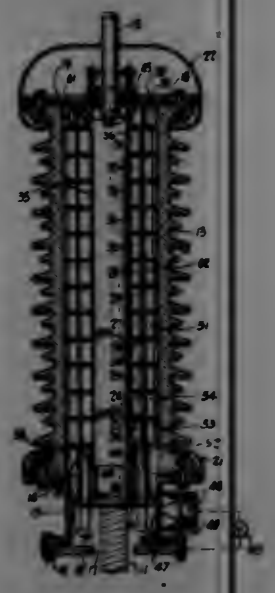
3,197,551

CABLE TERMINALS WITH SHIELDING CAPACITORS

Sven O. Linderholm, Ludvika, Sweden, assignor to The Ohio Brass Company, Mansfield, Ohio, a corporation of New Jersey

Filed Aug. 19, 1960, Ser. No. 50,675

6 Claims. (Cl. 174—73)



3. A high voltage cable terminal comprising in combination a hollow cylindrical insulator housing having electrically conducting terminal members mechanically connected to the ends thereof, one terminal member having means electrically connecting it to the conductor of an electric cable passing concentrically through the housing, a hollow insulating cylinder mounted within said housing adapted to confine an insulated cable passing through the housing, first and second concentric sets of annular capacitor elements coaxial with said insulating cylinder, means electrically and mechanically separating the first and second sets of capacitor elements, the elements of each set being stacked axially and serially connected to provide separate voltage dividing and grading means, one end of each set being connected to one of said terminal members and the other end of each set being connected to the other of said terminal members.

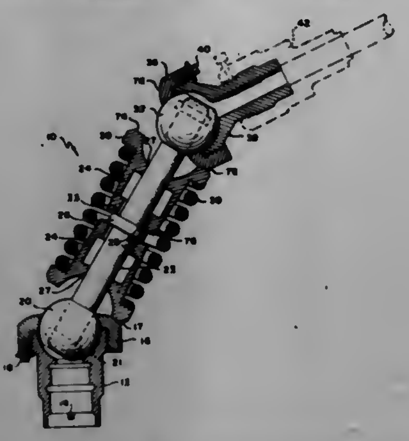
3,197,552

FLEXIBLE BASE ASSEMBLY

Henry J. Flair, Franklin Park, Ill., assignor, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Feb. 6, 1964, Ser. No. 343,171

3 Claims. (Cl. 174—86)



1. An antenna mount for submarines comprising:
a guide bar having a ball member on each end thereof and an abutment mounted therebetween;
each of said ball members secured in a socket member comprising a first cap member provided with a socket portion for receiving said ball member and a second cap member for retaining said ball member in said first cap member;
first and second sliding sleeve means slidably surrounding said guide bar, each of said sliding sleeve means being mounted on either side of said abutment, each of said sleeves having a shoulder forming an abutment at one of its ends;
a spring member concentrically mounted around said first and second sleeve members between said shoulders on said sleeves for biasing said sleeves against said second cap members;
said second cap members and said shoulders having mating curved surfaces in engagement with each other so as to provide for tilting movement of said socket members with respect to said guide bar; and
said abutment on said guide bar having a radial extent which exceeds the inner diameter of the other ends of said sliding sleeve members thereby restraining the degree of tilt of the socket members relative to the guide bar.

3,197,553

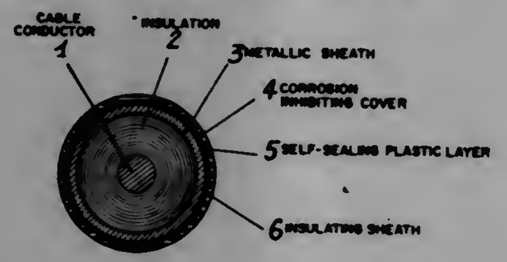
ELECTRIC CABLE WITH CORROSION-INHIBITING SHEATH

Henry Nicolas, Lyon, France, assignor to Compagnie Generale d'Electricite, Paris, France

Filed July 13, 1962, Ser. No. 209,525

Claims priority, application France, July 19, 1961, 868,370

7 Claims. (Cl. 174—107)



1. In an electric cable having an outer metal sheath, the improvement comprising corrosion-inhibiting means arranged around said sheath for opposing the chemical reaction which results in corrosion in said sheath, and an insulating cover surrounding said corrosion inhibiting means for protecting said cable from damaging external forces, said metal sheath consisting of lead and said corrosion inhibiting means consisting of a layer of tar containing traces of phenol.

7. The method of producing corrosion-resistant cables having a central conductor, insulation, and an outer metallic sheath comprising the steps of covering said metallic sheath with a layer of corrosion-inhibiting material, extruding a self-sealing layer containing polyisobutylene and a layer of polyvinyl chloride simultaneously so as to produce a unitary covering, and securing said unitary covering to said layer of corrosion-inhibiting material.

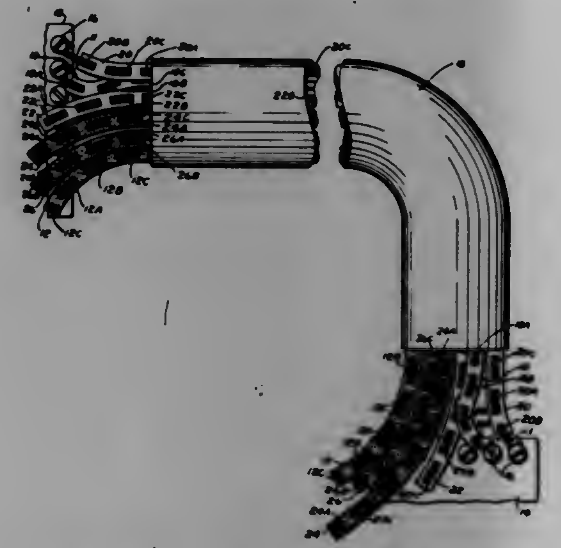
3,197,554

MULTI-WIRE ELECTRICAL SYSTEM WITH IDENTIFYING MEANS

Gene W. Baker, 1817 76th St., Des Moines, Iowa

Filed Sept. 1, 1961, Ser. No. 136,156

12 Claims. (Cl. 174—112)



1. In a cable device of the class described, a first electro-conducting member, insulation material on said first electro-conducting member, groups of indicia marks progressively repeated along the length of said insulation material, said groups of indicia marks being similar to each other and said indicia marks within said groups being different from each other, the indicia marks adjacent the extreme outer ends of said first electro-conducting member being identical, a second electro-conducting member, insulation material on said second electro-conducting member identical to said insulation material on said first electro-conducting member, groups of indicia marks on the insulation material of said second electro-conducting member of the same character and arrangement as the groups of indicia marks on said first electro-conducting member, the indicia marks adjacent the extreme outer ends of said second electro-conducting member being identical, and the indicia marks adjacent the extreme outer ends of said first and second electro-conducting members being different.

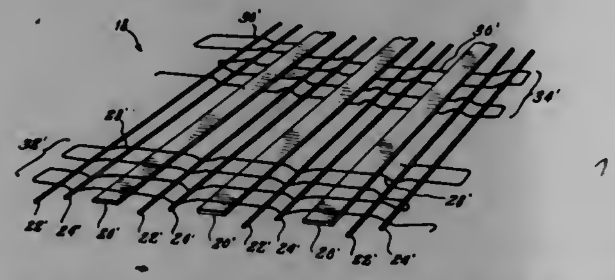
3,197,555

FABRIC CABLE

Sheldon Mittler, 81 St. Marks Ave., Freeport, N.Y.

Filed Apr. 6, 1962, Ser. No. 185,589

3 Claims. (Cl. 174—117)



1. An electric cable comprising an elongate weave having a warp formed by electrically conductive and electrically insulative thread and a weft formed by electrically insulative thread, said weft covering the warp on either side thereof, the weft thread on one side of the warp conductors being separate and distinct from the weft thread on the other side of the warp conductors, said weft being interlaced with a warp so as to be withdrawable therefrom in a continuous strand along any desired length on the weave to expose the warp, said weft being removable from one side of the weave, the conductive thread being crimpable and maintained in the weave so that elevations may be crimped therein.

3,197,556

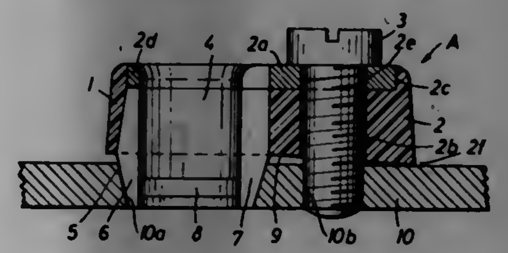
INSULATING SLEEVE FOR GUIDING CABLES THROUGH A WALL OPENING

Johann Hans Simon, 8 Kirchstrasse, Unkel (Rhine), Germany

Filed Jan. 11, 1963, Ser. No. 250,914

Claims priority, application Germany, Jan. 17, 1962, S 77,580

15 Claims. (Cl. 174—153)



1. An insulating sleeve, particularly for guiding electric cables through openings provided in the housing of current-consuming apparatus, said sleeve comprising a radially inwardly compressible nozzle of elastic material, said nozzle having a cable-receiving through bore having a first and a second end and an outer face, the dimensions of said nozzle being such that upon insertion into said opening the wall surrounding said opening exerts a pressure upon said outer face to contract said nozzle radially inwardly and hold a cable received in said bore against axial movement; and a collar comprising a first portion which is integral with said nozzle at said first end and a second portion which surrounds said nozzle, said sleeve having an annular substantially axially extending recess having an open end spaced from said first end and disposed between the second portion of said collar and said nozzle.

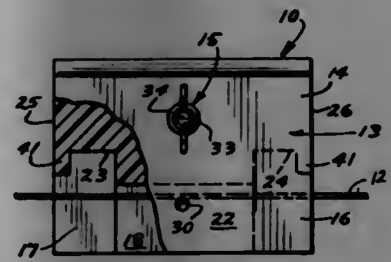
3,197,557

ELECTRIC FENCE INSULATOR MOUNT

Clarence Tromsness, Rte. 2, Box 92, Strathcona, Minn.

Filed June 8, 1962, Ser. No. 201,119

3 Claims. (Cl. 174—158)



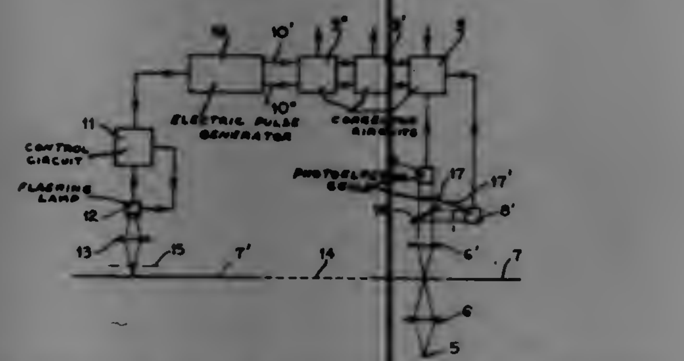
2. An electric fence insulator comprising:
(a) an insulator block of high dielectric strength material having a body with an undercut portion on the lower side thereof which is adapted for receiving therethrough a wire which is to be isolated,
(b) said body having a vertically depending lip at each longitudinal end which extends downwardly slightly into said undercut portion;
(c) narrow supporting means positioned within said undercut portion for suspending said wire in spaced relation beneath said body; and

(d) means extending laterally outward from said upper body portion and adapted for securing said insulator block to a fence post, whereby said body will provide a protective shield over said supporting means to protect the same from the weather elements.

3,197,558
PROCESS FOR THE REPRODUCTION OF CONTINUOUS TONE PICTURES

Marc Henri Marie Ernst, Croix, France, assignor to Les Petits-Fils de Leonard Danel, Loos-lez-Lille, Nord, France, a corporation of France

Filed Mar. 31, 1961, Ser. No. 110,598
Claims priority, application France, Apr. 1, 1960, 823,140
4 Claims. (Cl. 178—6.6)

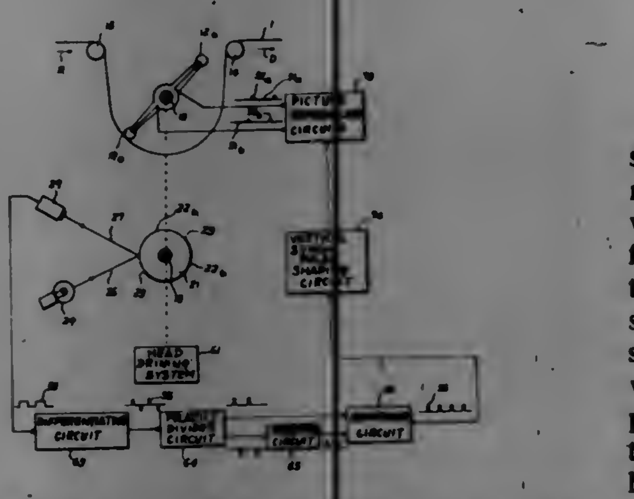


1. An apparatus for the reproduction of a continuous tone picture, including a television camera, adapted to generate an electric video signal, the picture to be reproduced being placed before said television camera so as to be scanned thereby, a generator of electric pulses, means to modulate the recurrence frequency of said electric pulses according to the modulation of the video signal generated by said television camera, a cathode-ray tube with an electron beam releasing electrode, on which said frequency modulated electric pulses are applied, and means to synchronize the electron beam sweeping of said cathode-ray tube with the scanning of said television camera.

3,197,559
MAGNETIC RECORDING AND REPRODUCING SYSTEM WITH MECHANICAL GENERATION OF SYNCHRONIZING INFORMATION

Nobutoshi Kihara, Shibuya-ku, Tokyo, Japan, assignor to Sony Corporation, Tokyo, Japan, a corporation of Japan

Filed Oct. 23, 1961, Ser. No. 146,972
Claims priority, application Japan, Oct. 25, 1960, 35/43,294
8 Claims. (Cl. 178—6.6)



1. The method of transducing intelligence comprising an information signal requiring periodic synchronizing signals which comprises

(a) periodically physically moving a scanning means across the width dimension of a longitudinally moving record medium to record successive tracks extending transversely across the record medium,

(b) synchronizing the period of the physical transverse scanning movements of the scanning means across the record medium with the period of said synchronizing signals while supplying the information signal to the scanning means for recording along the successive tracks on the record medium so that each of the required synchronizing signals occurs in time while the scanning means is scanning at a predetermined position with respect to the width dimension of the record medium for each of a plurality of recorded tracks on the record medium with the predetermined positions at said plurality of recorded tracks being in longitudinal alignment in the direction of movement of the record medium,

(c) thereafter periodically transversely moving the scanning means across the width dimension of the longitudinally moving record medium to scan the successive transversely extending recorded tracks thereon to reproduce the information signals from the successive tracks,

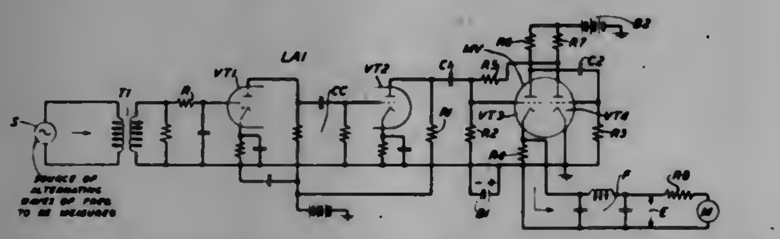
(d) generating synchronizing signals by means of a synchronizing signal generator moving in synchronism with the physical movement of the scanning means during reproduction of the recorded tracks with the generation of the synchronizing signals by the synchronizing signal generator being coordinated with the movement of the scanning means so that the synchronizing signals are generated while the scanning means is scanning each of said predetermined positions with respect to the width dimension of the record medium at said plurality of recorded tracks on the record medium, and

(e) combining the information signal reproduced by the scanning means from the record medium with the periodic synchronizing signals generated by the synchronizing signal generating means to provide a composite intelligence signal.

3,197,560
FREQUENCY MEASURING SYSTEM

Robert R. Riesz, Chatham, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York

Filed Dec. 29, 1944, Ser. No. 570,407
3 Claims. (Cl. 179—1)



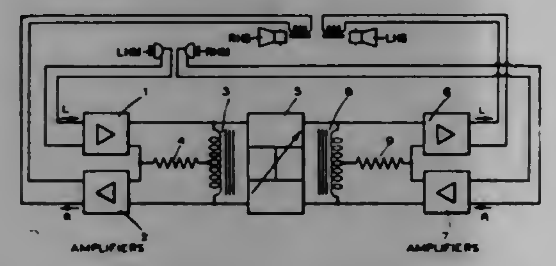
1. In combination with a pitch control channel for a speech analyzing and synthesizing system, including means for transforming speech sounds into a constant volume electrical wave comprising the same frequencies, filtering means for selecting a narrow frequency band containing the range of fundamental speech frequencies from said wave and a frequency counter for converting the selected band into a slowly varying direct current signal whose magnitude is proportional to the fundamental pitch of the speaker's voice, a circuit for controlling the time of duration of the pitch signal comprising a vario-losser in the input of said frequency counter, normally providing a loss sufficient to prevent operation of said counter in response to the applied waves, an enabling branch circuit including a filter for selecting from said constant volume electrical wave a second band of speech frequencies in the low frequency region in which the

voiced sounds usually contain a greater amount of energy than do the unvoiced sounds, means for rectifying the latter selected band and for applying the rectified voltage to bias said vario-losser in such direction as to reduce its loss, a disabling branch including another filter for selecting from said constant volume electrical wave a third band of speech frequencies in the higher frequency region in which the unvoiced speech sounds have substantially constant energy and means for rectifying the selected third band and applying the rectified voltage to bias said vario-losser in such direction as to increase its loss, and means for relatively adjusting the gain of said enabling and disabling circuit branches so that for voiced sound inputs to said system the resultant bias applied to said vario-losser will be such as to reduce its loss sufficiently to enable operation of frequency counter, and for unvoiced sound inputs only to said system the resultant bias applied to said vario-losser will be such as to maintain its loss sufficiently high to prevent operation of said frequency counter.

3,197,561
STEREOPHONIC SIGNAL TRANSMISSION SYSTEM LEVEL CONTROL

Eric Wollaston Berth-Jones, West Ealing, London, England, assignor to Electric & Musical Industries Limited, Hayes, Middlesex, England, a company of Great Britain

Filed Aug. 11, 1961, Ser. No. 130,918
Claims priority, application Great Britain, Aug. 16, 1960, 28,265/60
6 Claims. (Cl. 179—1)



1. A stereophonic signal transmission system comprising a left hand and a right hand signal source, a left hand and a right hand signal utilization means, a left hand and a right hand channel along which sets of signals from said left hand and said right hand signal source are respectively transmitted to said left hand and said right hand signal utilization means, an attenuator for controlling the signal transfer in both channels simultaneously and means for feeding the left hand set of signals through said attenuator in one direction, and means for feeding the right hand set of signals through the attenuator in an opposite direction wherein each said feeding means substantially prevents either set of signals from passing to the inappropriate output utilization means.

3,197,562
DICTATION INSTALLATIONS

Karl-Heinz Happold and Ernst Rose, Munich, Germany, assignors to Sud-Atlas-Werke G.m.b.H., Munich, Germany, a corporation of Germany

Filed Aug. 17, 1961, Ser. No. 133,285
10 Claims. (Cl. 179—6)

9. A dictation installation comprising,

a plurality of dictating machines each having a recording surface and a record-reproduce head for scanning said surface,

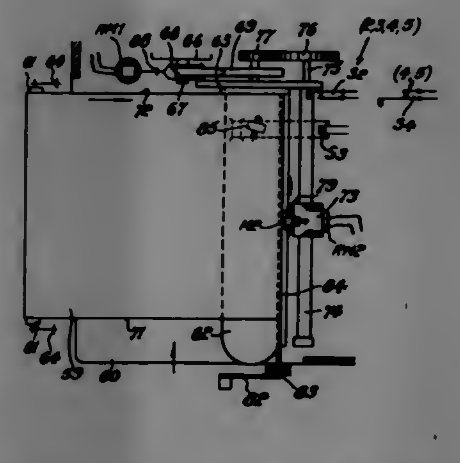
a plurality of dictation stations each having at least transducing means for converting sound energy into electrical energy and dictation initiating means for effecting coupling between said transducing means and the record-reproduce head of one of said dictating machines,

a source of a busying signal,

a signal transmission line,

said dictation initiating means having means for selectively initiating transfer of said busying signal from said source to a selected one of said dictating machines only when said one dictating machine is then available for recording dictation,

means associated with the selected one of said dictating machines responsive to said busy signal transmitted over said transmission line for coupling signals over said transmission line between the record-reproduce head of said one dictating machine and the transducing means at the dictation station then initiating the transfer of said busying signal to said one machine only when said one machine is then available for recording dictation while thereafter preventing said one machine from receiving said busying signal in response to initiation from any other of said dictation stations,



the latter means being responsive to the initiating means at said then initiating dictation station providing an indication of completion of dictation for accepting a busying signal initiated from any of said dictation stations following such indication,

means under control of a dictation station then connected to a dictating machine for back spacing said record-reproduce head to permit reproduction of prior recorded dictation,

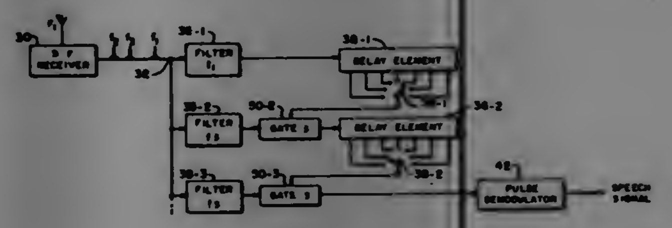
and means responsive to the initiating means at said then initating dictation station providing an indication of completion of dictation for moving said head to a position on said recording surface free from said prior recorded dictation.

3,197,563
NON-SYNCHRONOUS MULTIPLEX COMMUNICATION SYSTEM

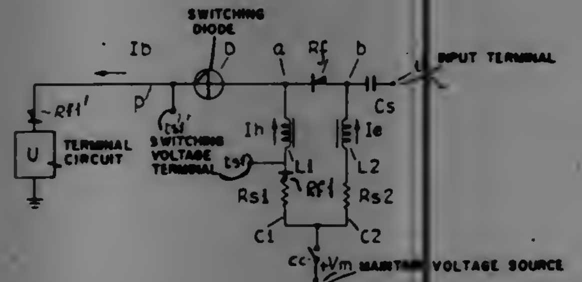
Donald H. Hamsher, West Long Branch, Harry W. Parmer, Oakhurst, and Arthur C. Prichard, Elberon, N.J., assignors to the United States of America as represented by the Secretary of the Army

Filed Aug. 15, 1961, Ser. No. 131,687
1 Claim. (Cl. 179—15)
(Granted under Title 35, U.S. Code (1952), sec. 266)

A system for selectively accepting an address code wherein a prescribed number of pulses at discrete frequencies spaced by preselected time intervals correspond to a signal message code pulse comprising, means for distributing said pulses to a plurality of parallel arranged channels each including a frequency selective filter, the first of said channels being responsive to the first pulse derived from said address code and including a proportional time delay element serially connected to said first channel filter, the remaining parallel arranged successive channels each including a proportioned time delay element and a normally closed gating circuit interconnecting a respective filter and its associated delay element, said successive channel frequency selective filters being arranged to respectively pass successive code address pulses in the order they are received, means for independently varying the time delay of said delay elements, the respective gating circuits being responsive to the coincidence of the output of the time delay varying means of the channel preceding a respective gating circuit and the output of the channel filter associated with said respective gating circuit whereby the output of a respective channel filter is passed to the respective delay element associated with said respective channel filter.

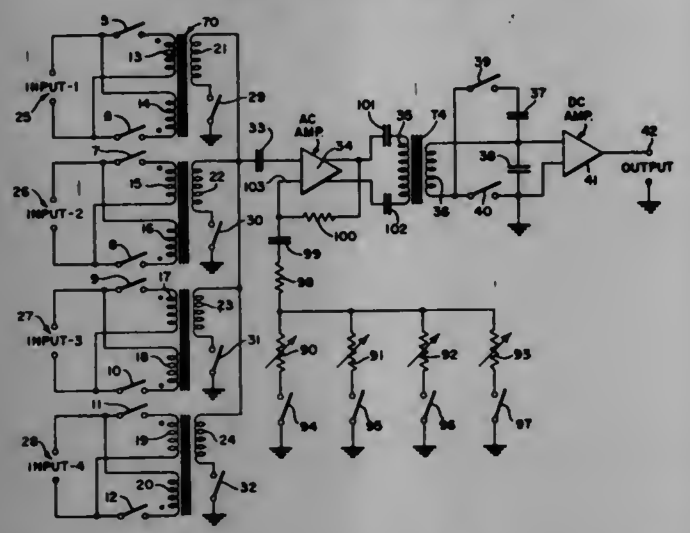


3,197,564
CIRCUIT ARRANGEMENTS EMPLOYING SEMI-CONDUCTOR DIODES
Harold James Stirling, Orpington, England, assignor to Associated Electrical Industries Limited, London, England, a British company
Filed Sept. 5, 1961, Ser. No. 136,064
Claims priority, application Great Britain, Sept. 7, 1960, 30,831/60; Apr. 27, 1961, 15,290/61
4 Claims. (Cl. 179—18)



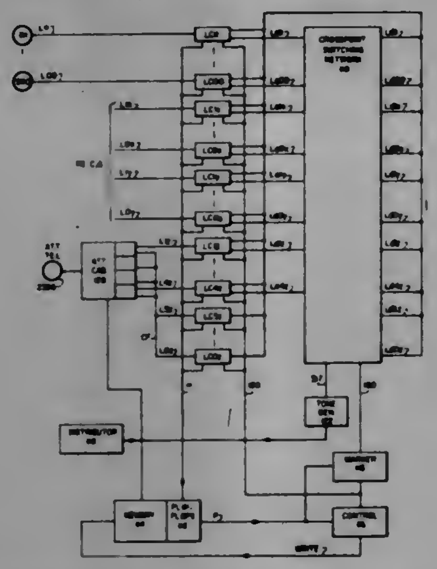
1. A circuit arrangement comprising an alternating current transmission path, an input terminal at which alternating communication currents can be applied to said path and a semiconductor switching diode connected in said path and operable by application of a switching voltage from a high impedance condition to a low impedance condition in which it can thereafter be held by maintaining a holding current through it, the arrangement further including a biasing circuit for said switching diode comprising rectifier means included in the transmission path between said switching diode and said input terminal, a first biasing current path connected to said transmission path at a point between said switching diode and said rectifier means for applying to said transmission path a holding current for said switching diode, and a second biasing current path connected to said transmission path at a point between said rectifier means and said input terminal for applying a forward biasing current for the rectifier means effective to forward bias the rectifier means for passing alternating communication currents unless the instantaneous magnitude and polarity of an alternating communication current is such in relation to said forward biasing current as to cause said rectifier means to become reversely biased.

3,197,565
LOW-LEVEL MULTIPLEX SYSTEM WITH INDEPENDENTLY VARIABLE GAIN ON EACH CHANNEL
David C. Yoder and John H. Searcy, both of Fort Lauderdale, Fla., assignors to Systems Engineering Laboratories, Inc., Fort Lauderdale, Fla., a corporation of Florida
Filed Sept. 25, 1961, Ser. No. 140,470
13 Claims. (Cl. 179—15)



1. A multiplex system comprising a plurality of signal channels each adapted to be coupled to a low level D.C. signal source and each including means to convert a D.C. signal to a corresponding alternating signal, an A.C. amplifier means, means coupling the alternating signal outputs from said signal channels in common to the input of said A.C. amplifier means, a feed-back impedance coupling the output of said A.C. amplifier means with the input to said A.C. amplifier means, a gain control means coupled to the input of said A.C. amplifier means and a point of reference potential, switch means for sequentially coupling said channels with said A.C. amplifier means, and means operating said gain control means to set the gain of said A.C. amplifier means in synchronism with said switch means.

3,197,566
CALL REROUTING ARRANGEMENT
Richard P. Sanders, Lisle, and John G. van Bosse, Park Ridge, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Feb. 13, 1962, Ser. No. 173,006
4 Claims. (Cl. 179—18)



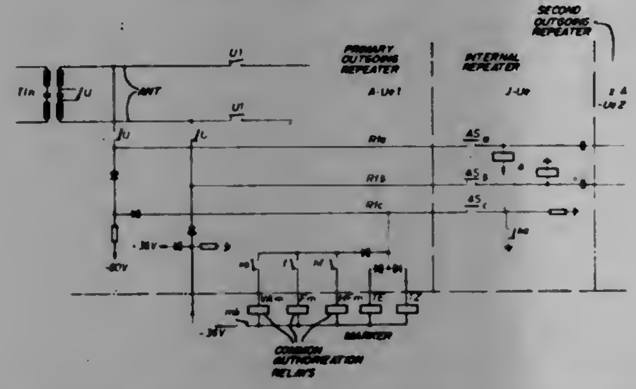
1. A communication switching system comprising a switching network for selectively establishing connections between any one of a plurality of originating paths and any one of a plurality of terminating paths by one of a plurality of possible routes; a plurality of line circuits

and associated lines, each line circuit having an individual connection to an originating path and an individual connection to a terminating path, a plurality of registers individual to the line circuits, each register including a set of storage elements for recording the sequence state of calls at the associated line and a set of storage elements for recording called line number designations, control equipment for controlling storage in the registers, signalling connections from the line circuits to the control equipment to forward supervisory and call signals from the lines, means in the control equipment responsive to an off-hook signal from a calling line via its signal connection to cause a calling state to be recorded in the sequence state set of that line's register, means in the control equipment responsive to call signals from the calling line via its signal connection to cause a corresponding number to be recorded in the called number set of that line's register; a marker having connections to the control equipment and to the switching network, means in the control eqnipment responsive to the completion of a called number designation and recording of a corresponding sequence state in the register of the calling line to cause the marker to be seized, means in the marker to make a busy test of the called line by accessing the called line register via the control equipment to determine the sequence state stored therein and if in an idle state to find an available route and cause a connection to be established through the switching network between the originating path of the calling line and the terminating path of the called line by way of the route found;

means included in said control equipment to respond to a call signal which designates a reroute request from a first one of said lines via its signal connection followed by the call signals designating the number of a second of said lines to record in the first-line register called-number set the designation of said second line and to record a reroute condition state in the sequence-state set of the first line,

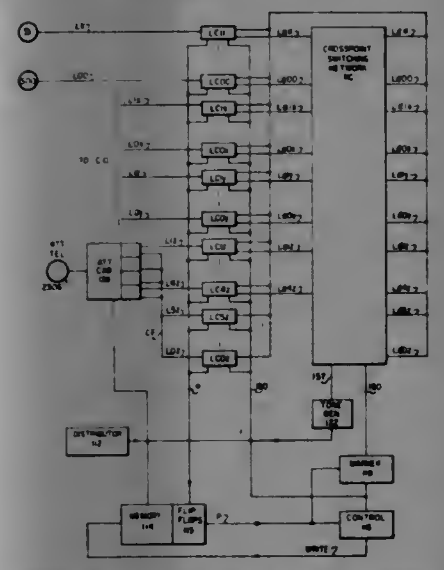
means included in said marker which during a call in which said first line is being called and the busy test finds the reroute condition state, responds thereto to receive from the first-line register the designation of the second line, and then makes a busy test of the second line and if idle searches for a route and causes a connection to be completed between the third line and the second line.

3,197,567
CIRCUIT ARRANGEMENT FOR PABX-SYSTEMS
Herbert Heitmann, Stuttgart-Feuerbach, and Hans Aumüller, Besigheim, Wurttemberg, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Mar. 5, 1962, Ser. No. 177,354
Claims priority, application Germany, Mar. 7, 1961, St 17,543
3 Claims. (Cl. 179—18)



1. A private branch exchange automatic telephone system comprising a subscriber line which is given a particular class of service, a plurality of outgoing trunk circuits individually associated with outgoing calls for the duration thereof, an internal repeater circuit for transferring calls within said exchange, means responsive to signals from a subscriber line for seizing one of said trunk circuits and for storing signals indicating the class of service given to a conversing subscriber line, means responsive to switch directing signals received from said conversing subscribers for further extending said call, means responsive to predetermined switch directing signals for seizing said internal repeater circuit, and means for thereafter forwarding said class of service signal from said one trunk circuit through said internal repeater circuit to the next succeeding circuit.

3,197,568
ELECTRONIC SWITCHING SYSTEM AND ATTENDANT'S ARRANGEMENT THEREFOR
William R. Wedmore, Lombard, and Richard P. Sanders, Lisle, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Nov. 1, 1961, Ser. No. 147,985
10 Claims. (Cl. 179—27)



1. In a communication switching system, a plurality of subscriber lines, a plurality of trunk lines extending to another exchange, and a plurality of operator lines less in number than said trunk lines, each of said lines having a line circuit associated therewith,

a switching network for selectively establishing connections, each established connection extending between two of the line circuits,

common control equipment including a memory and logic circuits shared on a time division multiplex basis, said memory having a plurality of groups of storage elements, a source of recurring pulses supplied to the memory, a multiplex arrangement which associates each group of memory elements with an individual pulse time slot during which the stored information is recirculated and may be selectively modified by means of the logic circuits, so that each group of elements associated with a time slot comprises a memory word, each memory word including sequence-state storage elements and call-signal storage elements;

a marker for use in transferring memory word information between different time slots, and for controlling the establishment and release of connections through said switching network; each line circuit having a time slot and corresponding memory word individually associated therewith at least for the duration of any in-use period;

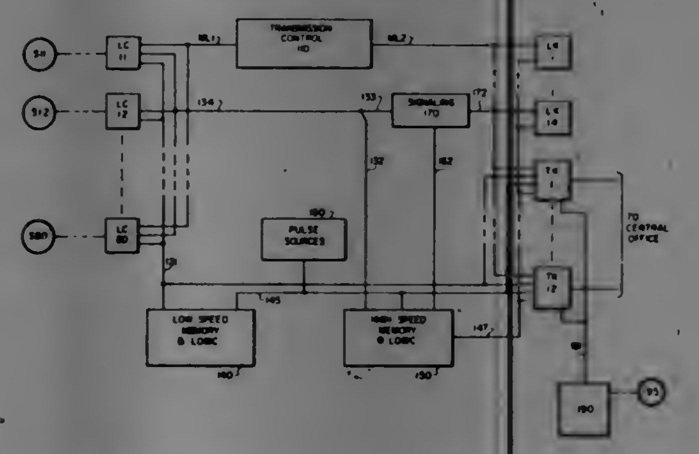
attendant's cabinet apparatus, part of which is individual and part of which is common to the operator lines; the apparatus individual to each operator line including answering key means connected to the line and supervisory lamp means connected to means constructed and arranged to cause the lamp means to indicate the supervisory condition of any switching-network connection which includes that operator line;

means including said common control equipment and said marker for establishing one connection through said switching network between the line circuits of a trunk line and an operator line, and means for actuating the lamp means associated with said operator line to give an indication of said connection;

means effective responsive to the answering key means of said operator line being in an answer condition, and said one connection remaining established for receiving call signals from calling means included in said attendant's cabinet apparatus and registering these call signals in the call-signal storage elements of the memory word associated with said operator line; means responsive to the last said stored call signals for seizing the marker to cause another connection to be established between said trunk line and a desired subscriber line;

the trunk lines being independent of said attendant's cabinet apparatus except for switching network connections to operator lines and information supplied to and from the operator-line memory words by use of said marker.

3,197,569
TRUNK AND ATTENDANT'S CIRCUIT ARRANGEMENT FOR AN ELECTRONIC SWITCHING EXCHANGE
Donald K. Melvin, San Carlos, Calif., assignor to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Nov. 28, 1961, Ser. No. 155,281
8 Claims. (Cl. 179—[illegible]7)



1. In a communication switching system in which a local exchange serves a plurality of local subscriber lines and a plurality of trunk lines extending to a central exchange, with switching equipment in the local exchange for selectively establishing connections between any two local line terminals or between a local line terminal and a trunk line terminal;

said switching equipment comprising common control apparatus which includes a source of cyclically recurring pulses in individual time slots, and a recirculating memory arranged to store switching information associated with the individual time slots and during each time slot to supply the information to and receive signals from associated circuits and to selectively modify the information, with each of said trunk lines being individually associated with one of said time slots;

trunk circuits individually associated with the trunk lines for controlling connections to the corresponding terminals, each trunk circuit comprising

an answer key means having a normal condition and an answer condition,

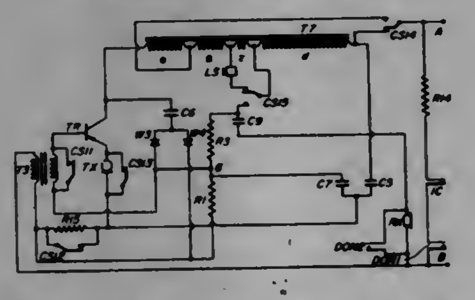
supervisory gate means having an input connection to a line from said pulse source on which cyclically recurring pulses appear in the time slot individually associated with the corresponding trunk line and having an output connection to a common time division multiplex supervisory conductor for supplying supervisory signals to said switching equipment,

and ringing detection means coupled to the associated trunk line, including a bistable device, arranged to set said device to an off-normal state in response to the beginning of a ringing current signal received over the trunk line;

means responsive to the off-normal state of the ringing-detection bistable device for indicating the call and for enabling the supervisory gate means to couple said cyclically recurring pulses in the individual time slot of the trunk line to said common supervisory conductor to cause an in-use condition of the trunk to be registered by said switching equipment,

means responsive to actuation of the answer key means to the answer condition for resetting the ringing-detection bistable device to normal while maintaining the supervisory gate means enabled to supply said cyclically recurring pulses to the common supervisory conductor to continue the in-use registration in the switching equipment.

3,197,570
TELEPHONE SUBSCRIBER SETS USING AMPLIFIERS
Edward Harry Lambourn, London, England, assignor to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Sept. 18, 1961, Ser. No. 138,859
Claims priority, application Great Britain, Aug. 31, 1956, 26,730/56
12 Claims. (Cl. 179—81)



1. A transistorized telephone subset for establishing and receiving telephone calls over a telephone line connected thereto, comprising a transmitter and a receiver for transmitting and receiving speech signals over said line when a telephone call is in progress, a loudspeaker for receiving ringing signals from said line when said line is being called and for producing audible tones in accordance therewith, amplifying means normally connected between said line and said loudspeaker, self-biasing means in said amplifying means operated responsive to output signals from said amplifying means for causing said amplifying means to operate as a class A amplifier in amplifying said ringing signals, and hook switch control means operated responsive to the removal of said subset for disconnecting said self biasing means and for connecting the said amplifying means to amplify the said transmitted speech signals.

3,197,571
SIGNALLING CIRCUITS
Thomas Harold Flowers, London, England, assignor to Her Majesty's Postmaster General, London, England
Filed Apr. 26, 1962, Ser. No. 190,378
Claims priority, application Great Britain, May 11, 1961, 17,269/61, Patent 985,198
8 Claims. (Cl. 179—84)

1. A signalling circuit including

(A) an oscillator circuit comprising

(i) a transistor having base, emitter and collector electrodes,

(ii) a capacitor,

(iii) an impedance having a low magnitude of D.C. impedance,

(iv) a transformer including
  (a) a primary winding and
  (b) a secondary winding,

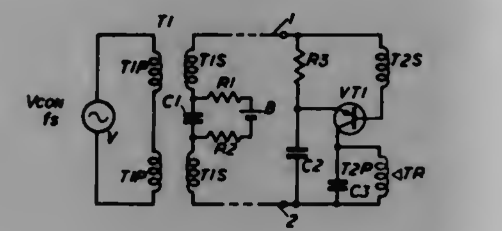
(v) a tuned circuit including said primary winding and tuned to a relatively high audio-frequency, and

(vi) input terminals for the oscillator circuit,

(vii) said capacitor and impedance being connected in series between the said input terminals,

(viii) D.C. conduction means connecting said emitter electrode to the junction of said capacitor and impedance,

(ix) said tuned circuit being connected between said collector electrode and the end of said capacitor not connected to the said impedance, and



(x) said secondary winding providing positive feedback means and being connected together with the said impedance in the base-emitter circuit of said transistor,

(B) an electro-acoustical transducer, and means coupling said electro-acoustical transducer to said transformer,

(C) a D.C. power source continuously connected to said input terminals and continuously applying a D.C. potential across said terminals,

(D) an audio-frequency signal source of relatively low frequency as compared to the frequency to which said tuned circuit is tuned, and

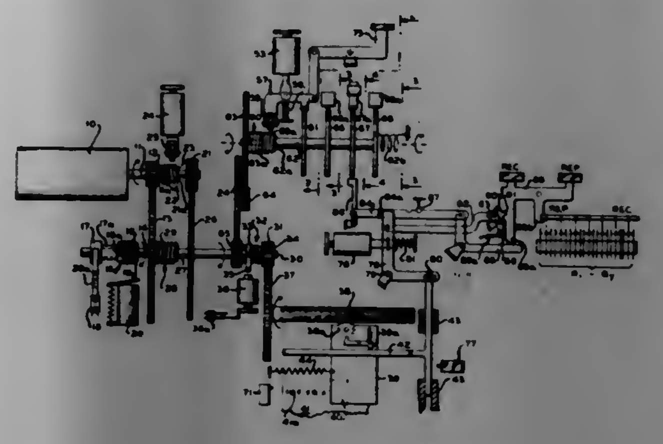
(E) means for connecting said audio-frequency signal source to said input terminals when it is desired to activate said oscillator circuit;

(F) said audio-frequency signal source when so connected biasing said transistor to a conductive state during alternate half cycles of said relatively low frequency audio-frequency signals, and

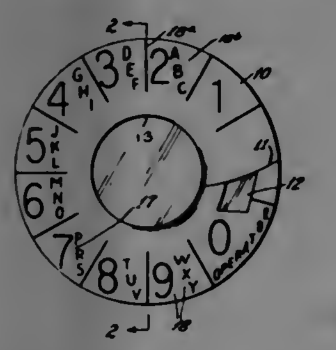
(G) said D.C. power source supplying input energy to said oscillator circuit when said transistor is so biased.

3,197,572
AUTOMATIC TELEPHONE REPERTORY DIALING SYSTEM
Richard K. Walker, Convent, N.J., assignor, by mesne assignments, to DASA Corporation, Andover, Mass., a corporation of California
Filed Mar. 28, 1961, Ser. No. 98,962
16 Claims. (Cl. 179—90)

15. In an automatic repertory dialing machine: the combination of a record medium, a cooperating translating head, drive means successively activatable to produce successive step movements between said head and record medium, a dialing mechanism for producing trains of dial pulses of numbers according to the respective digits dialed, means responsive to said dialing mechanism for activating said drive means by different numbers of activations according to the number of individual dial pulses representing the respective digits dialed, and means responsive to said dial pulses for feeding a signal continuously to said head for recordation on said record medium.



3,197,573
TELEPHONE SUPPLEMENTARY DIAL ATTACHMENT
Arthur H. Anson, 805 N. 26th St., Allentown, Pa.
Filed July 7, 1964, Ser. No. 380,800
5 Claims. (Cl. 179—90)

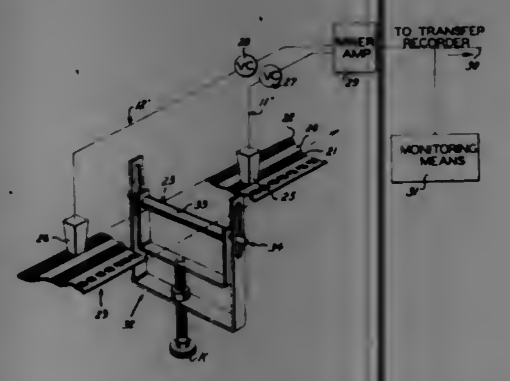


1. A supplementary telephone call indicia device for use with dial telephones of the type having a base surmounted by a rotatable dialing ring provided with an annular row of finger openings by means of which said ring may be rotated relatively to a fixed stop carried by said base, said device being in the form of a flat annulus of an outside diameter substantially greater and an inside diameter substantially less than the diameter of the telephone dialing ring, said annulus being split to provide a pair of separable ends one of which is notched to form an opening in the annulus for projection therethrough of said fixed stop carried by the base of the telephone, said annulus being adapted for disposition between the telephone base and the rotatable dialing ring in axial registry with the latter whereby a substantial surface of the annulus is exposed externally of the dialing ring in concentric relation thereto, said exposed surface of the annulus having spaced circumferentially thereabout dialing indicia corresponding in character and circumferential spacing but of substantially larger size than that of the conventional indicia normally disposed beneath the telephone dialing ring.

3,197,574
NOISE SUPPRESSION SYSTEM
Edgar C. Zane, 10531 Bloomfield St., North Hollywood, Calif.
Filed Apr. 16, 1962, Ser. No. 187,589
13 Claims. (Cl. 179—100.1)

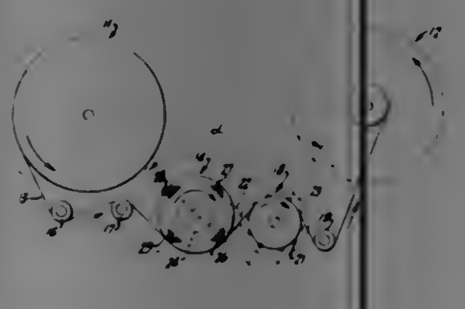
1. Apparatus for producing a resultant electrical signal which is the electrical analog of a relatively maximized wanted sound passage and a relatively minimized unwanted noise passage, comprising: signal-carrying channel means including a first wanted sound channel and a

second unwanted noise channel, said first and second channels being provided with transducer means for transducing a first transducible input having a relatively maximized ratio of wanted-sound-to-unwanted-noise portions for producing in said first channel a first electrical signal having a relatively maximized wanted sound electrical signal portion corresponding to a wanted sound passage and having a relatively minimized unwanted noise electrical signal portion corresponding to an unwanted noise passage, and for transducing a second transducible input having a relatively maximized ratio of unwanted-noise-to-wanted-sound portions for producing in said second channel an electrical signal having a relatively maximized unwanted noise electrical signal portion corresponding to an unwanted noise passage and having a relatively minimized wanted sound electrical signal portion corresponding to a wanted sound passage, with the ratio of the unwanted noise electrical signal portion to the wanted sound electrical signal portion in said second channel being substantially greater than in said first channel; and amplitude and time balancing means for combining said unwanted noise electrical signal portions of said first and second electrical sigals of said first and second channels in amplitude balanced relatively time-equivalent opposition to each other whereby to substantially reduce the net resultant unwanted noise electrical signal portion with respect to the wanted sound electrical signal portion.



3,197,575
HIGH DENSITY RECORDER UTILIZING LOW TAPE SPEED

Emil L. Eckstein, 27002 Whitestone Road,
Palos Verdes Peninsula, Calif.
Filed Aug. 10, 1960, Ser. No. 48,773
11 Claims. (Cl. 179—100.2)



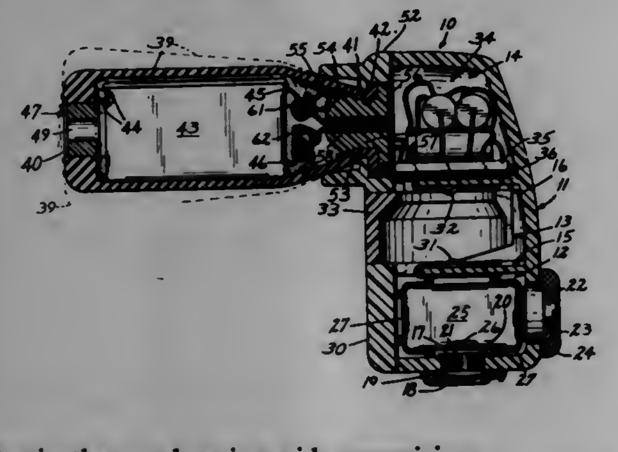
4. An improved tape recorder comprising a rotatable drum, a plurality of *n* number of recording heads spaced equally about the circumference of said drum and spaced longitudinally thereon over a distance less than the width of tape to be recorded upon, drive means transporting tape across said drum over a limited circumferential extent thereof, means rotating said drum in a direction opposite to the direction of tape motion thereover whereby the recording speed is the sum of tape velocity and peripheral drum velocity, and means synchronizing the tape drive means and drum rotating means to establish a ratio of tape velocity to peripheral head velocity equal to the quantity

$$\frac{1+\frac{e}{l}}{n-1-\frac{e}{l}}$$

wherein l is the length of each segment recorded on the tape by each head and e is the length of each unrecorded portion between successive recorded segments by the same head.

3,197,576
IN-THE-EAR HEARING AID

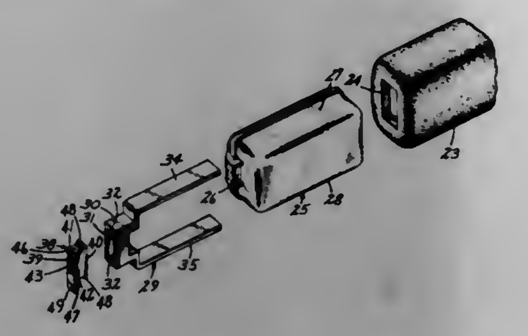
Richard T. Martin, Minneapolis, Minn., assignor to Dahlberg Electronics, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Apr. 2, 1964, Ser. No. 356,803
10 Claims. (Cl. 179—107)



1. An in-the-ear hearing aid comprising:
(a) a housing adapted to be fitted into the ear of the user, said housing containing a microphone and amplifier connected in operable relationship;
(b) a soft resilent elongated hollow boot having a first aperture at one end thereof and a second aperture at the opposite end thereof, said opposite end of the boot being tapered and terminating in an external ilp;
(c) an elongated receiver member capable of producing an acoustic output from one end thereof, said receiver being mounted inside of said hollow resilient boot so that the acoustic output end of said receiver is adjacent the first aperture of said boot, the boot and receiver adapted for insertion in the ear canal of the user with the first aperture adjacent the eardrum of the user;
(d) a third aperture through the wall of said housing, the diameter of said third aperture being less than the normal diameter of the exterior lip of said boot, said other end of the boot being positioned through said third aperture and held therein by said exterior lip;
(e) a locking member comprising a knob portion separated from one face of a plate by means of a shaft portion, the maximum diameter of the knob portion being less than the diameter of said third aperture but greater than the normal diameter of said second aperture, the diameter of said shaft portion being substantially equal to the diameter of said second aperture, and the diameter of said plate being larger than the diameter of said third aperture, said locking member having a fourth aperture extending through the plate and shaft and knob portions thereof, the knob portion of said locking member being forced through the second aperture of said boot to lock the other end of the boot in said third aperture;
(f) and conductor means extending through said fourth aperture and connecting the output of said amplifier to said receiver.

3,197,577
WAX RETARDER BAFFLE FOR HEARING AIDS

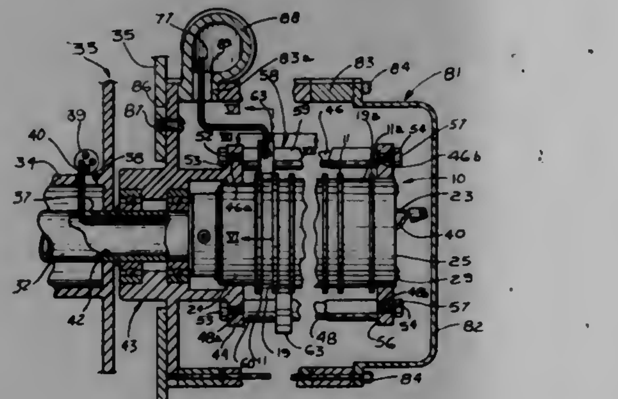
Emmett N. Kuklock, Minneapolis, Minn., assignor to Dahlberg Electronics, Inc., Minneapolis, Minn., a corporation of Minnesota
Filed Sept. 24, 1964, Ser. No. 398,989
11 Claims. (Cl. 179—184)



5. An in-the-ear hearing aid wax-retarding assembly comprising:
(a) a head member having a baffle-receiving opening extending along an axis therethrough, said opening having tapered wall surfaces;
(b) a pair of arms connected to said head member, said arms extending generally parallelly from opposite sides of said head member in the same direction as the axis of said baffle-receiving opening;
(c) a baffle having tapered wall surfaces corresponding to the taper of the wall surfaces of the baffle-receiving opening of said head member, said baffle being removably mounted in said baffle-receiving opening; and
(d) said baffle having an offset aperture therethrough, said aperture extending generally in the same direction as the axis of said baffle-receiving opening.

3,197,578
COLLECTOR RING ASSEMBLY

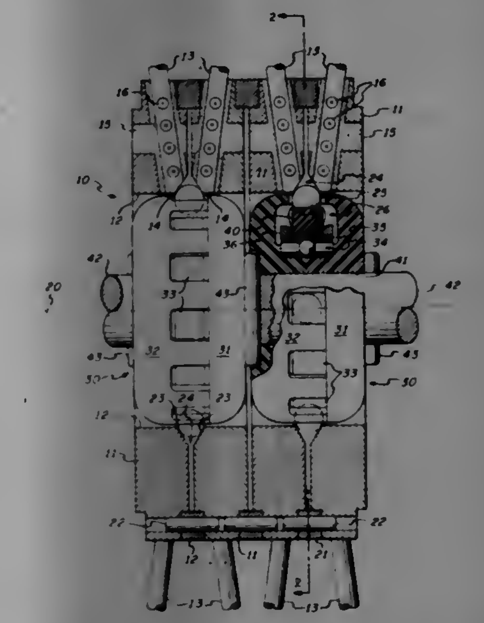
Roger T. Becker, Kalamazoo, and William K. Becker, Ross Township, Kalamazoo County, Mich., assignors to Aero-Motive Manufacturing Company, Kalamazoo, Mich., a corporation of Michigan
Filed July 20, 1962, Ser. No. 211,193
3 Claims. (Cl. 191—12.4)



1. A collector ring assembly for conducting electrical potential from a source to a conductor rotatable with respect to said source, comprising:
a plurality of similar, electrically nonconductive and annular members arranged in side-by-side abutting relation, each nonconductive member having a cylindrical body and an external, annular flange near one axial side thereof and a pair of openings extending axially therethrough, one of said openings being centrally located and the other of said openings being spaced radially outwardly from said one opening, each nonconductive member having a plurality of circumferentially spaced projections on one axial side thereof and a plurality of corresponding recesses on the other axial side thereof, the projections on one nonconductive member being snugly and slidably receivable into the recesses on another nonconductive member to prevent relative radial and rotative movement of the two members, and each nonconductive member having a radially disposed opening extending through the peripheral surface thereof and communicating with said other opening therein;
holding means including a pair of annular end members holding said nonconductive members together and against axial movement away from each other;
an electrically conductive annular ring of relatively small radial thickness snugly embracing and encircling the cylindrical portion of each of said nonconductive members and snugly disposed between the flange thereof and the flange of the adjacent nonconductive member;
frame structure including a pair of annular support members respectively encircling said end members and a plurality of rigid, spaced and parallel elements extending between and connected to said support members;
brush support means supported upon at least one of said elements, and brush means held by said support means for electrically conductive engagement with each of said rings.

3,197,579
MULTIPLE CIRCUIT ROTARY SWITCH WITH RESILIENT ANNULAR CONTACT BIASING MEANS

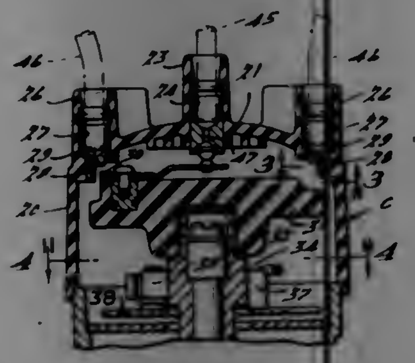
Russell H. Romney, Salt Lake City, Utah, assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed Nov. 6, 1961, Ser. No. 150,489
1 Claim. (Cl. 200—11)



An electric switch comprising an even number of similarly shaped wafers having their axes of symmetry aligned with respect to a predetermined axis, each of said wafers having a plurality of radially extending spaced conductors mounted thereon, said wafers being disposed adjacent to one another to form cooperative pairs thereof, said wafers defining each cooperative pair being aligned with respect to each other to provide cooperative pairs of axially spaced conductors wherein one conductor of each cooperative pair is disposed in one of said wafers while the other cooperative conductor is disposed in the other of said wafers of a cooperative pair, each of said wafers having a central aperture defined by inwardly extending spaced extremities of said conductors, and said conductors having chamfered inwardly extending spaced extremities of cooperative pairs of conductors circularly disposed to define a circular groove, at least one ball of conductive material positionably disposed for rolling in each of said grooves for selectively contacting adjacent cooperative extremities of ones of said pairs of conductors for completing the electrical circuit through said pair of conductors, ball cage means disposed within said central aperture for rotation about said axis and cooperative with each of said pairs of conductors and having spaced slots therein adapted to receive said balls for positioning said balls with respect to said extremities of their respective conductors along said grooves, a shaft disposed within said central aperture and connected to rotate said ball cage means about said axis, each of said ball cage means having a hollow annular space coaxial with respect to said predetermined axis within which said balls protrude, and annular resilient tire means rotatably mounted on ball bearings for rotation about said predetermined axis with respect to said ball cage means within said hollow annular space for resiliently applying a radial force for urging each of said balls into contact with its respective pair of conductors.

3,197,580
VENTILATED TERMINAL IGNITION DISTRIBUTOR CAP

Frank Zezulka, Dearborn, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Dec. 10, 1962, Ser. No. 243,262
5 Claims. (Cl. 200—19)

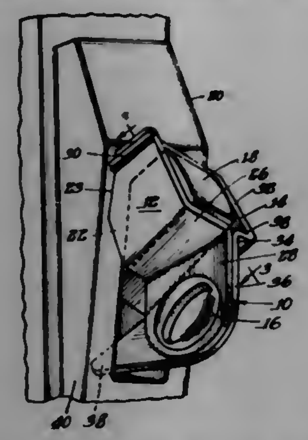


1. An engine spark ignition distributor cap comprising an imperforate, cup-shaped housing of insulator material having a plurality of conductor cable receiving terminals extending through the bottom wall of the cup-shaped cap, at least one of said terminals having a ventilation passage therethrough connecting the interior arc supporting portion of the cap to the exterior thereof, said passage extending longitudinally of the terminal and being located such that the exteriorly disposed end thereof will be covered by the adjacent end of the conductor cable to be received in said one terminal.

3,197,581
TWO PIECE HANDLE LOCKING DEVICE EACH WITH PORTIONS INTERLOCKABLE WITH THE OTHER

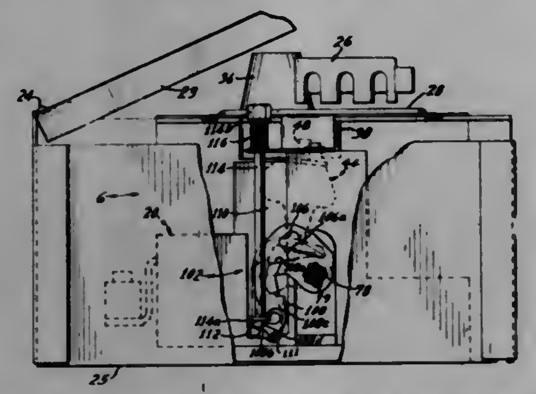
Joseph Clifford, Cedar Rapids, Iowa, assignor to Square D Company, Park Ridge, Ill., a corporation of Michigan
Filed June 6, 1962, Ser. No. 200,410
2 Claims. (Cl. 200—42)

1. For use with an electrical control device including a casing and a pivotally mounted operating handle extending outwardly of a recess in the casing and having a generally rectangular cross section defined by first, second, third, and fourth surfaces of said handle, a locking device mountable on said handle for locking the handle in either of two operative positions thereof, said locking device comprising a first part formed from flat stock and including a generally L-shaped portion a first leg of which is engageable with said first surface and a second leg of which is engageable with said second surface, a second part formed from flat stock and including a generally L-shaped portion a first leg of which is engageable with said third surface and a second leg of which is engageable with said fourth surface, said first leg of the L-shaped portion of said first part and said second leg of the L-shaped portion of said second part respectively having free end portions interlockable with each other, said first part and said second part each including a tab portion extending substantially perpendicularly from said third surface at an acute angle to said second and fourth surfaces in spaced substantially parallel relationship to the tab portion of the other part and one of said tab portions projecting into said recess when said locking device is mounted on said handle, and a screw insertable through one of said tab portions and threadable into the other of said tab portions for drawing said second leg of said first part and said second leg of said second part toward each other into clamping engagement respectively with said second and fourth surfaces.



3,197,582
ENCLOSED CIRCUIT INTERRUPTER

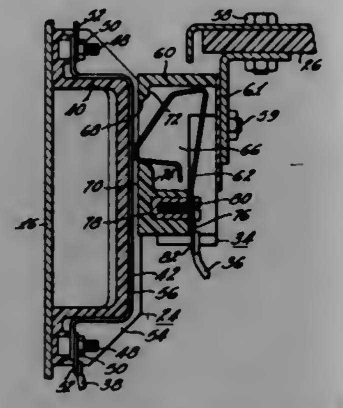
Alexander R. Norden, New York, N.Y., assignor to Federal Pacific Electric Company, a corporation of Delaware
Filed July 30, 1962, Ser. No. 213,364
6 Claims. (Cl. 200—50)



1. Enclosed switching apparatus having an enclosure, a door hingedly mounted on said enclosure, switching apparatus mounted in said enclosure, said apparatus being operable with said enclosure door closed, said apparatus including a movable contact and a stationary contact, a switch shaft pivoted in said apparatus, said movable contact being carried by said shaft, manual operating means forming part of said switching apparatus and being movable between "on" and "off" positions for moving said switch shaft between open and closed contact positions, said operating means including a manual operator fixed to said switching apparatus and overcentering spring means operatively connected to said shaft, and interlocking means engageable with said shaft, said interlocking means being responsive to the position of said enclosure door to obstruct movement of said shaft in the contact closing direction when said enclosure door is open, so that the operator may be manipulated to the "on" position against the bias of said spring means despite obstruction of the switch shaft.

3,197,583
ELECTRICAL CONNECTOR FOR SECONDARY CIRCUITS

Edwin C. Goodwin, Jr., Canton, and Ira W. Paterson, Milton, Mass., assignors to Allis Chalmers Manufacturing Company, Milwaukee, Wis.
Filed Dec. 19, 1962, Ser. No. 245,810
1 Claim. (Cl. 200—50)

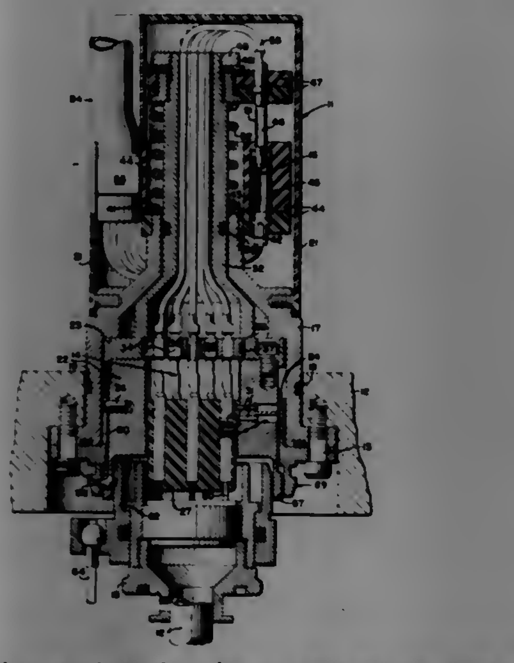


In combination, a switchgear cubicle having a wall, a stationary secondary disconnect element rigidly mounted on said wall, said stationary element comprising an insulating base and a plurality of contact bars mounted in a row in spaced apart relationship on said base, each bar being separated from an adjacent bar by a portion of said insulating base which extends between adjacent bars, switchgear apparatus removably mounted within said cubicle, and a movable secondary disconnect element rigidly mounted on said apparatus in registry with said stationary element, said movable element comprising an insulating base having a plurality of integrally formed spaced apart projections, each projection extending between a pair of adjacent portions of said insulating base of said stationary element and each projection having a recess therewithin and an opening through the top thereof communicating with said recess, and a plurality of electrically conductive contact members, individual members being mounted within their respective recesses, each of said members being in the form of a relatively long resilient strip bent back upon itself to form a loop, and each member having one end anchored and having a portion of said loop extending through said opening, said portion being movable into its respective recess under pressure.

3,197,584
ELECTRICAL BREAKAWAY SWITCHING CONNECTOR

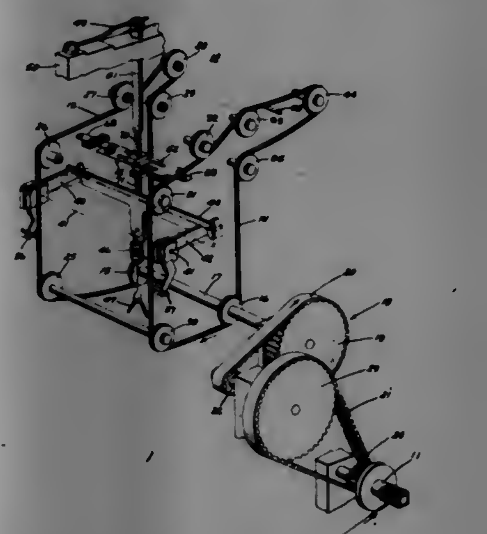
Thomas K. C. Hardesty, Ednor, and Allen J. Sondheimer, Chevy Chase, Md., assignors to the United States of America as represented by the Secretary of the Navy
Filed June 22, 1962, Ser. No. 204,648
6 Claims. (Cl. 200—51.09)
(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An electrical breakaway switching connector comprising a male connector, a female connector, and a switching mechanism, said female connector having a hollow elongated housing and a body member positioned in said housing and being relatively movable with respect thereto, said body member having a first set of electrical contacts fixed thereto, a spring in engagement with said housing and said body member to resiliently bias said body member to a first position and in a direction away from the male connector, said male connector having a second set of electrical contacts of the same number as said body member, said second set of contacts being aligned on said male connector to engage the respective contacts on said body member when the male connector and body member are interlocked, means to releasably lock said body member and male connector in direct engagement with one another, said switching mechanism comprising third and fourth sets of electrical contacts, said third set being rigidly mounted on said housing and said fourth set being mounted on said body member for movement therewith, whereby when force is exerted to separate said male connector from said body member, the locking means causes said body member to move with said male connector from said first position toward a second position against the bias of said spring thus moving said fourth set of contacts to actuate the switching mechanism prior to release of said male connector by the locking means, and subsequent to said release, the spring causes the body member to return to its first position and thereby return said fourth set of contacts to their initial position.



3,197,585
ENDLESS ROLLER CHAIN MOVEMENT DETERMINING APPARATUS WITH SWITCH ACTUATING MEANS

Albert F. Wilcox, Yoder, Ind., assignor to General Electric Company, a corporation of New York
Filed Aug. 31, 1962, Ser. No. 220,785
8 Claims. (Cl. 200—61.13)



1. An apparatus for determining movement of a moving member, said apparatus comprising: a moving member, a first endless band having a predetermined number of unit lengths, a second endless band having a number of unit lengths greater than said predetermined number of unit lengths in said first endless band, the number of unit lengths in said first endless band having no factor greater than one in common with the number of unit lengths in said second endless band, means for movably supporting said endless bands, means for advancing said endless bands proportionally in response to the movement

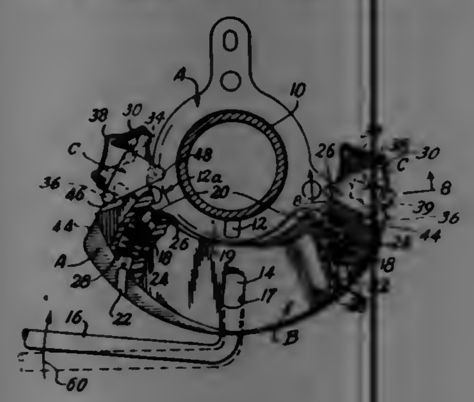
of the moving member, means on said first endless band for indicating a position on said first endless band, and means on said second endless band for indicating a position on said second endless band, said means on said endless bands having an initial relative location and when said endless bands are advanced to displace said means on said first and second endless bands to a preselected relative location, said preselected relative location of said means on said first and second endless bands determining the extent of said movement of the moving member, and said extent of movement being determined in multiples of the number of unit lengths of said first endless band.

3,197,586
TURN SIGNAL DEVICE HAVING A PAIR OF LATCHES EACH HAVING TWO PROJECTIONS ENGAGEABLE WITH CORRESPONDING NOTCHES AND A LATCH CAM ENGAGEABLE WITH A RELEASE CAM

Francis Charles Schmidt, Lancaster, Ohio, assignor to Essex Wire Corporation, Fort Wayne, Ind., a corporation of Michigan

Filed May 20, 1963, Ser. No. 281,482

8 Claims. (Cl. 200—61.34)



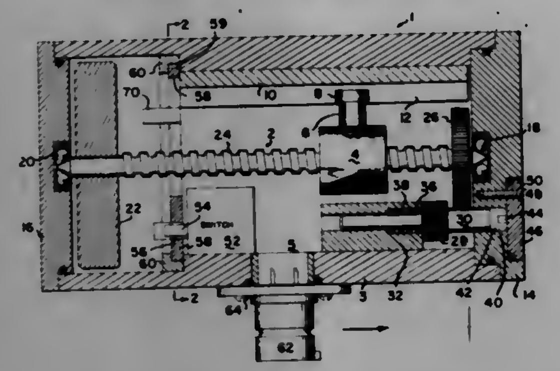
1. In a turn signal, the combination comprising a steering shaft having a turn signal release cam, a stationary member, a rock shaft journaled therein, a movable member mounted on said rock shaft for rocking movement relative to said stationary member, means operable to normally center said movable member relative to said stationary member, a first means for latching said movable member in a rocked position in either direction from centered position and a second means operable by steering shaft rotation to release said first means, said first means comprising a pair of latches, one of said members having first and second notches for each of said latches, each latch having first and second projections received in said first and second notches, means biasing said projections toward the bottoms of said notches, the other of said members having a cam for each of said second projections which normally hold them spaced from the bottoms of said second notches, each of said cams having a cam notch for receiving said second projection under action of said means operable to normally center said movable member relative to said stationary member, one when the movable member is rocked in one direction and the other when the movable member is rocked in the other direction, said second means comprising each of said latches having a cam normally clear of the turn signal release cam of the steering shaft and positioned in the path thereof when said second projection is received in a cam notch, said turn signal release cam engaging said latch cam when rotated in the direction signaled to pivot said latch in one direction about its second projection in the cam notch of said other member and pass by the latch without releasing the same, and said turn signal release cam engaging said latch cam when rotating in the return direction to pivot said latch in the opposite direction about its first projection in its first notch of said one member and thereby release said second projection thereof from the cam notch in which it was received to permit said movable member to return to centered position.

3,197,587
LINEAR ACCELERATION RESPONSIVE SWITCH

Kenneth E. Pope, Albuquerque, N. Mex., assignor to Globe Industries, Inc., Dayton, Ohio, a corporation of Ohio

Filed May 9, 1961, Ser. No. 108,821

18 Claims. (Cl. 200—61.53)



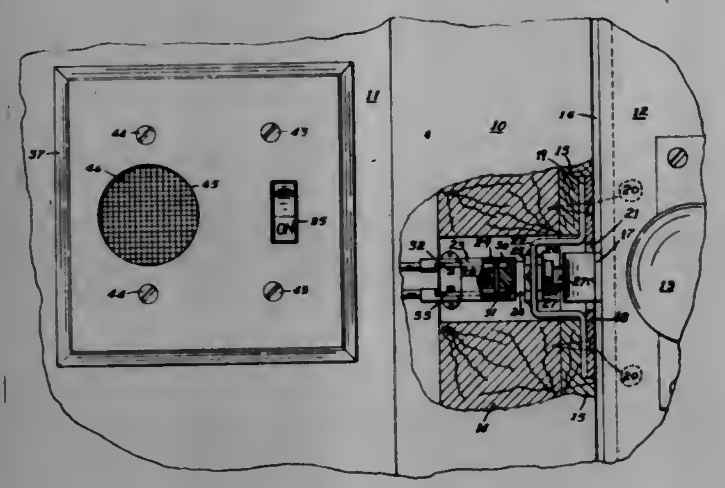
1. An acceleration integrating switching device subjected bodily to acceleration, comprising: a housing, said housing containing a partially threaded shaft and a nut thereon, means cooperating with said housing for constraining said nut to translational movement with respect to said shaft for a portion of its travel upon said shaft, switch actuating means mounted within said housing and disposed adjacent to said shaft, means upon said nut for activating said switch actuating means, said nut being arranged to translate a substantial distance along said shaft when said housing is bodily subjected to acceleration forces acting in a direction parallel to said shaft, the switch actuating means being activated when said nut has travelled a predetermined distance along said shaft proportional to the distance displaced by the housing during the acceleration of the device.

3,197,588
DOOR ALARM

Charles R. Baldwin, 1124 S. Adams, and William Baldwin, W. 4115 Broad St., both of Spokane, Wash.

Filed Mar. 6, 1961, Ser. No. 93,464

1 Claim. (Cl. 200—61.68)



A door bolt controlled device comprising:

a switch mounted in an aperture recessed behind a door striker plate in a fixed position, said switch having a projecting stem extending from said aperture into the recess which receives the door bolt, said stem being movable toward or away from said aperture;

a mounting bracket secured to said switch and locked in place by said striker plate;

said switch having a pair of contacts closed when said stem is positioned outwardly away from said aperture;

a spring in said switch operatively connected to said contacts to normally bias said contacts to a closed position;

said bracket and said switch being connected by a threaded sleeve on the switch and a matching threaded nut fixed on the bracket; and

wherein said switch includes mechanical means for linking any rotational movement of said stem with said sleeve so that the switch and its stem can be adjusted endwise on the bracket by rotation of said stem.

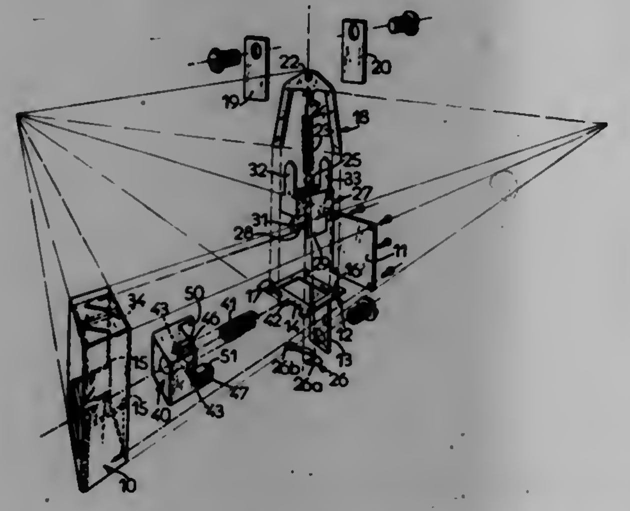
3,197,589
PUSHBUTTON-OPERATED QUICK-ACTING SWITCH OR SELECTOR DEVICE

Walter Peter Schmitt, Rte. de Phalsbourg, Sarre-Union, Bas-Rhin, France

Filed May 1, 1962, Ser. No. 191,514

Claims priority, application France, May 2, 1961, 860,530

13 Claims. (Cl. 200—67)



1. A change-over switch comprising a casing, a pair of stop means solid with said casing, at least one of said stop means being electrically conductive, a contact carrying element mounted at one of its ends on said casing for pivoting about a first axis and for oscillating at its other end between said stop means, an intermediate member mounted on said casing for pivoting about a second axis substantially at 45 degrees with respect to said first axis, two abutments solid with said intermediate member, a lever mounted on said intermediate member for pivoting about a third axis substantially at 90 degrees with respect to said second axis, means for oscillating said lever between said abutments, and an overcentered spring for connecting said lever with said contact carrying element.

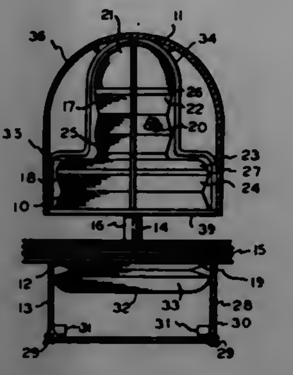
3,197,590
DEVICE FOR OPENING OR CLOSING AN ELECTRICAL CIRCUIT WHEN A PARTICULAR LIQUID LEVEL IS REACHED

Harold D. Jones, Jr., 1317 William-Oliver Bldg., Atlanta, Ga.

Filed Sept. 1, 1961, Ser. No. 135,619

7 Claims. (Cl. 200—83)

7. A device for opening and closing an electrical circuit in response to a surface level of a liquid in a container comprising, in combination, a container having a bottom surface, a liquid in said container, a plurality of expandable-collapsible components having interiors of different volumes communication with each other and in vertical alignment within said container on said bottom surface, weight means connected to said expandable-collapsible components for collapsing with its weight said expandable-collapsible components, means buoyant in said liquid for expanding with its buoyancy the expandable-collapsible components and having sufficient buoyancy in the liquid to support the weight of the weight means and to expand the expandable-collapsible components, and means responsive to the expansion and collapse of the expandable-collapsible components for closing an electrical circuit when the expandable-collapsible components are fully collapsed.

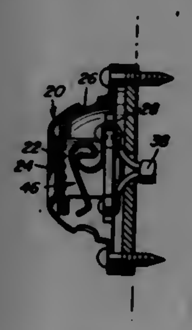


3,197,591
THERMOSTATIC DEVICE HAVING AUGMENTING BIMETALLIC COILED SECTIONS

Charles A. Thurmond, Asheville, N.C. (Box 332, Oak Hill, Fla.)

Filed Dec. 28, 1961, Ser. No. 162,713

6 Claims. (Cl. 200—113)



1. A thermostatic alarm assembly comprising, anchor means, fixed contact means spaced from said anchor means and thermal deflecting coil means including a coil section operatively connected to the anchor means for uncoiling in response to an increase in the ambient temperature of its surrounding medium, a reversely coiled section responsive to an increase in the ambient temperature of its surrounding medium for coiling simultaneously with said uncoiling of said coil section, means interconnecting said coil sections for simultaneous coiling and uncoiling with respect to movable coil centers disposed between said coil sections and movable contact means operatively connected to said reversely coiled section for displacement by the reversely coiled section in a contact pressure direction for positive contact engagement, and a contact wiping direction for surface cleaning of said fixed contact means.

3,197,592
TIME LAG FUSES WITH FUSE LINKS HAVING LINK-SEVERING OVERLAYS

Frederick J. Kozacka, South Hampton, N.H., assignor to The Chase-Shawmut Company, Newburyport, Mass.

Filed Jan. 30, 1963, Ser. No. 255,732

12 Claims. (Cl. 200—123)

1. An electric time-lag fuse comprising in combination:

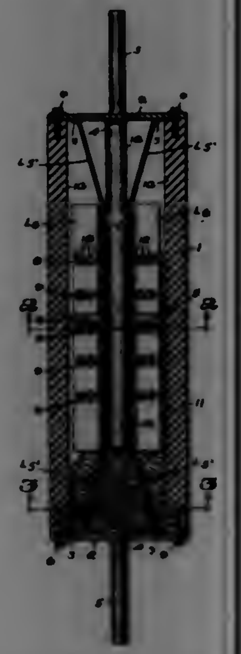
(a) a pair of spaced terminal elements;

(b) a tubular casing of insulating material closed on both ends thereof by said pair of terminal elements;

(c) a ribbon fuse link of a metal having a relatively high fusing point conductively interconnecting said pair of terminal elements, said fuse link defining a plurality of serially related zones of reduced cross-section;

(d) an overlay on said fuse link of a metal having a relatively low fusing point arranged in close proximity to one of said plurality of zones of reduced cross-section to cause severance of said fuse link by a metallurgical reaction on reaching by said overlay the fusing point of said low fusing point metal; and

(e) an intimate mixture of granular quartz and of an additional pulverulent arc-quenching filler embedding said plurality of zones of reduced cross-section

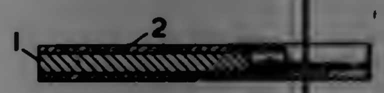


of said link and embedding said overlay, said additional filler having a substantially smaller thermal conductivity than said granular quartz as such, said additional filler further having a substantially smaller average particle size than said granular quartz, and said mixture having a sufficiently high content of said additional filler to coat the preponderant portion of the particles of said granular quartz and to extend the fusing time of said overlay at currents in the order of five times the rated current of the fuse to the order of several seconds.

3,197,593

ELECTRICAL CURRENT-LIMITING FUSE

Emil Lange, Ville-d'Avray, France, and Bernt Ingvaldsen, Drammen, Norway; said Ingvaldsen assignor to Aktieselskabet National Industri, Drammen, Norway
Filed Apr. 20, 1961, Ser. No. 104,480
1 Claim. (Cl. 200—135)



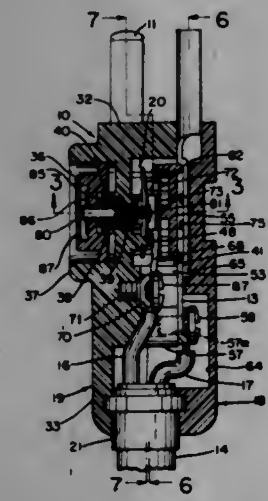
In an electric current-limiting fuse consisting of a fusible metallic conductor and sand, with some of said sand forming a fixed uniform hard coating enclosing said conductor, the fuse structure with some of said sand penetrating the surface of said conductor resulting from heating said conductor and said sand together.

3,197,594

THERMO-SENSITIVE SWITCH PLUG

Donald J. Schmitt, Mansfield, Ohio, assignor to Therm-O-Disc, Incorporated, Mansfield, Ohio, a corporation of Ohio
Filed Dec. 28, 1962, Ser. No. 247,930
4 Claims. (Cl. 200—136.5)

1. An electric plug for attaching a line cord from a small hand power tool or other electrical appliance to an electric power outlet comprising: a rectangular base member and a cover member therefor fitting together to form an elongated plug housing of electric insulating material defining a cavity, a pair of prongs of conductive metal mounted in said housing on opposite longitudinal sides of said cavity having portions projecting outwardly generally parallel to the opposite longitudinal sides of said housing, said housing having slots at one end to receive said prongs and a line-cord-receiving opening at its opposite end, a pair of laterally spaced line-cord-receiving terminals mounted within said housing adjacent said line-cord-receiving opening, wall portions within said cavity defining a circular chamber having a lateral opening and a longitudinal opening connecting said chamber with said cavity, one of said terminals being electrically connected to one of said prongs, means for carrying an electric current through the other of said prongs to the other of said terminals including switch means connected within said chamber and having a stationary contact and a mobile contact and means for opening said switch means including a bi-metallic disc operably connected to said mobile contact to move the same into or out of contact with said stationary contact and an electric heating element mounted in said chamber adjacent said disc and receiving an electric current from one of said terminals, said disc having two stable positions of opposite concavity and holding the contacts together to close the circuit through said current carrying means when in the first of said stable positions and moving the contacts out of contact when heated sufficiently to snap to the other stable position, said disc being mounted with its central axis generally parallel to the longitudinal side walls of the plug and generally perpendicular to the base and cover members of said plug housing, and means for electrically connecting said switch means with said other prong through said lateral opening and with said other terminal through said longitudinal opening and a spring-loaded manual reset button engaging the central portion of said disc and projecting out of the cover member of said housing for moving said disc to said first stable position.



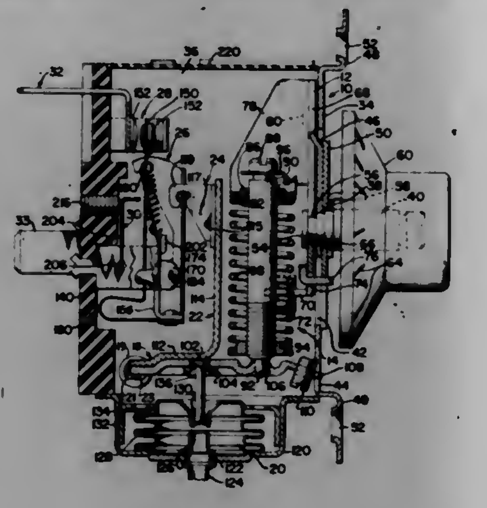
3,197,595

CONTROL DEVICE

Victor Weber, Greensburg, Pa., assignor to Robertshaw Controls Company, a corporation of Delaware
Filed Aug. 23, 1960, Ser. No. 51,439
7 Claims. (Cl. 200—140)

1. In a control device, a combination comprising an expansible thermal responsive device, a casing, a lever means pivoted between the side walls of said casing and being adapted for actuation in one direction by said thermal responsive device, biasing means adapted to actuate said lever means in the opposite direction, switch means actuated by said lever means between energized and deenergized positions and a slide member adapted for movement on one wall of said casing, a stem member

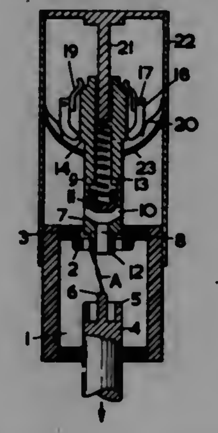
slidably securing said slide member to said wall, a cam member carried by said stem member, and cam follower means operatively engaging said cam member and secured to said slide member to move said slide member in response to movement of said cam, and said biasing means being mounted on said slide member whereby the force of said biasing means is varied by rotational movement of said stem to thereby prevent actuation of said switch means until said thermal responsive means registers a predetermined ambient condition, said slide member comprising a support means located adjacent the lower portion of said slide member, and adjustable means adapted to be positioned on said support means for engagement with said lever means, whereby rotational movement of said cam member moves said adjusting means into engagement with said lever means to positively actuate said lever means to open said switch means and deenergize the electrical circuit.



3,197,596

OUTLET ARRANGEMENT FOR AN ARC QUENCHING CHAMBER

Emil Lange, 65 rue de Versailles, Ville d'Avray, France, assignor of one-half to Aktieselskabet National Industri, Drammen, Norway
Filed Dec. 1, 1961, Ser. No. 189,656
Claims priority, application Germany, Dec. 2, 1960, L 37,677; Dec. 23, 1960, L 37,804
2 Claims. (Cl. 200—148)

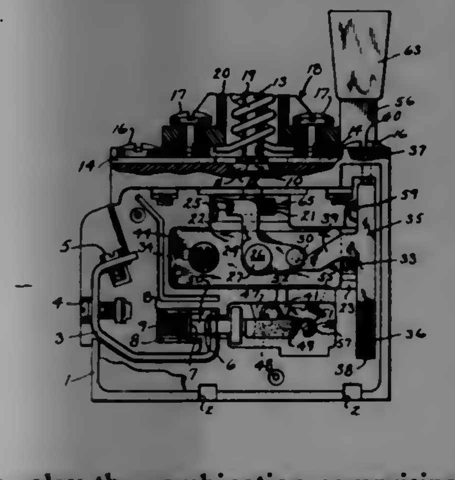


1. In an electric switch the combination including an arc-quenching chamber, fluid quenching medium within said chamber, an outlet passage of said chamber, a casing secured to said chamber, a guide pin secured to said casing, a tubular slider mounted on said guide pin for axial movement toward and away from said outlet passage, a tubular choke element carried by said slider for extending with clearance into and partly obturating said outlet passage, cam surfaces on said slider, a plurality of spring-loaded levers mounted within said casing and each having one end resting on one of said cam surfaces, a plurality of detent springs each secured to one of said levers and disposed for engaging one of said cam surfaces for resisting displacement of said slider in a direction away from said outlet passage, and a movable switch pin in said chamber for drawing from said choke element an arc creating pressure within said quenching medium upon opening of said electric switch, said slider moving under the pressure of said quenching medium in opposition to said detent springs until upon the pressure of said quenching medium exceeding a predetermined limit said cam surfaces allow said levers to turn and so move said detent springs for sudden release of said slider to carry said choke element clear of said outlet passage.

3,197,597

RELAY WITH NON-INTERFERING INDICATOR

Gerd C. Boysen, Milwaukee, Wis., assignor to Allen-Bradley Company, Milwaukee, Wis., a corporation of Wisconsin
Filed Oct. 13, 1961, Ser. No. 145,005
4 Claims. (Cl. 200—167)



1. In a relay the combination comprising: an indicator movable between normal and indicating positions and having a working element operatively associated therewith; bias means to urge the indicator toward indicating position; and a tripping mechanism including a trip member movable between latched and operating positions, said trip member having a driving portion thereon and a blocking element that blockingly engages the working element when the trip member is in latched position to hold the indicator in normal position and drivingly engages the working element when the trip member is moved toward latched position to move the indicator toward normal position, means to move the trip member toward operating position, a contact actuator movable between retracted and actuating positions and engageable by the driving portion to be carried to actuating position upon movement of the trip member to tripped position, actuator bias means to urge the actuator toward retracted position, cocking lever means movable with the actuator and engageable with the actuator and trip member, and reset lever means engageable with the cocking lever means only when the cocking lever means is in a position corresponding to the actuated position of the actuator, said reset lever means upon engagement with the cocking lever means causing the cocking lever means to move the trip member toward latched position while holding the actuator in actuated position.

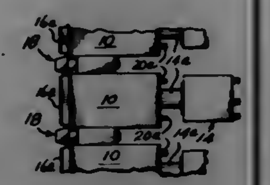
3,197,598

SELF-LOCKING PUSH BUTTON SWITCH OPERATING DEVICE

James H. Andersen, Mountlake Terrace, James W. Amis, Jr., Bellevue, and Maurice D. Fuller, Seattle, Wash., assignors to Korry Manufacturing Co., Seattle, Wash., a corporation of Washington
Filed May 24, 1962, Ser. No. 197,479
17 Claims. (Cl. 200—167)

14. A push-button switch mechanism comprising a housing having a switch-operating member reciprocable therein through a predetermined switch-operating range

and beyond said range in a direction outwardly of the housing, a switch base to which said housing is lockingly connected, normally engaged cooperable locking means respectively carried by the housing and base to thus lock the housing and base together, and means to operate the locking means, including actuator means controlled by positioning of the switch-operating member in said housing to maintain the locking means interengaged throughout movement of the member in said operating range and to effect disengagement of the locking means by movement of said member outwardly of the housing to a position beyond said range.



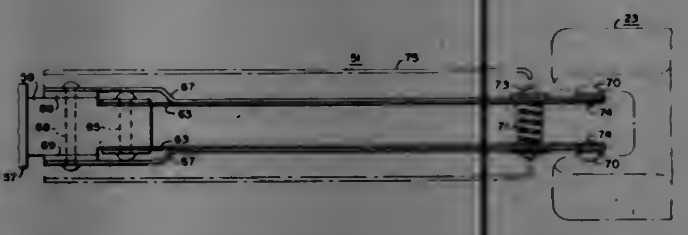
3,197,599

SWITCH DEVICE WITH IMPROVED CONTACT STRUCTURE

Robert C. Lingenfelter, Sharon, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania

Filed Oct. 8, 1962, Ser. No. 228,936

11 Claims. (Cl. 200—170)



1. In an electric switch structure, a stationary contact structure comprising a pair of spaced apart surfaces converging into spaced apart main contact surfaces, a movable contact structure comprising a pair of spaced apart flexible conductors, contacts disposed on opposite sides of said pair of conductors and cooperable with said main contact surfaces, a support, means for moving said support to move said movable contact structure to move said contacts in the direction of convergence of said converging surfaces and into a closed position in engagement with said main contact surfaces, said movable contact structure comprising a first spring means and a second spring means, said first spring means supporting said contacts on said support and flexing when one of said contacts engages one of said converging surfaces to align said contacts with said main contact surfaces, and said second spring means being disposed between said flexible conductors and operating when said contacts are moved into said closed position to bias said flexible conductors apart to thereby bias said contacts in opposite directions against said main contact surfaces.

3,197,600

DOOR FOR MICROWAVE OVENS

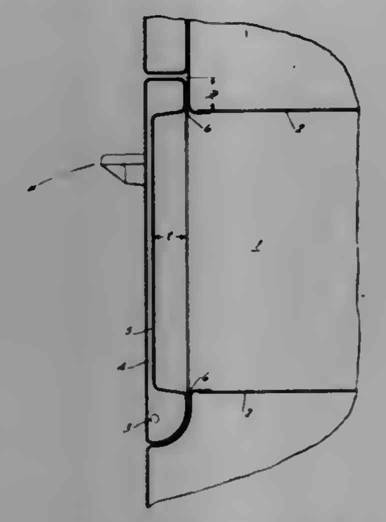
Paul Müller, Freiburg im Breisgau, Germany, assignor to Miwag Mikrowellen A.G., Basel, Switzerland

Filed May 24, 1960, Ser. No. 31,433

Claims priority, application Germany, May 25, 1959, D 30,732

2 Claims. (Cl. 219—10.55)

1. In a microwave oven, in combination, an oven enclosure having surrounding walls and a front opening, said opening being defined by said surrounding walls and surrounded by a flanged rim of said walls extending at least partly in the plane of said opening; means for feeding microwave energy of a predetermined frequency into the interior of said oven enclosure; and an oven door movable into a position covering said opening of said oven enclosure, said door having marginal portions facing, when said door is in said position, said flanged rim of said walls and being spaced therefrom a small distance so as to form therewith a narrow gap, said door being formed with a recess extending outwardly from the plane of said marginal portions and facing the entire cross-sectional area of the interior of said oven enclosure, the depth of said recess being substantially equal to ¼ of the free-space wavelength of said microwave energy, the contour and cross-sectional area of said recess being substantially equal to that of said opening of said oven enclosure, said recess forming a direct extension of the interior of said enclosure, and the width of said marginal portions being substantially equal to ¼ of the free-space wavelength of said microwave energy whereby leakage of microwave energy through said gap between door and oven enclosure is avoided.



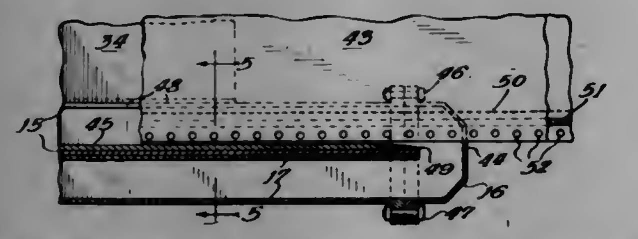
3,197,601

HEAT TREATING APPARATUS

Ignatius R. Wayne, Chicago, Joseph W. Pollard, Villa Park, and Howard K. Absler, Skokie, Ill., assignors, by direct and mesne assignments, to Uarco, Incorporated, a corporation of Illinois

Filed Jan. 26, 1962, Ser. No. 169,030

4 Claims. (Cl. 219—10.55)



1. Apparatus for heat treating only a narrow longitudinal band of a length of material, comprising:

a microwave energy source;

chamber means having an input connected with said source and establishing an elongated zone of high intensity electric field, said chamber means including a section of wave guide having a slot-like opening therein, said elongated zone of intensity electric field being established adjacent said slot and inside said wave guide;

means supporting said length of material in a plane extending through said zone and for travel in a direction generally parallel with said zone, only said narrow longitudinal band of material being located in said zone, said band traveling through substantially the entire extent of said zone, other portions of the material traveling substantially outside said zone, the narrow longitudinal band being located along an edge of said length of material, said edge traveling through said wave guide.

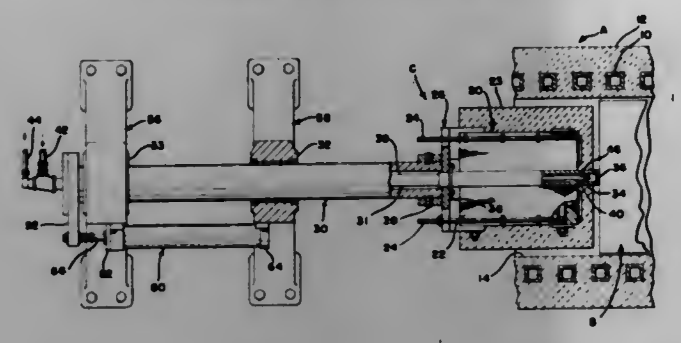
3,197,602

INDUCTION HEATING CORE

Robert G. Armstrong, Euclid, Ohio, assignor to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio

Filed Oct. 26, 1961, Ser. No. 147,906

7 Claims. (Cl. 219—10.67)



1. An apparatus for automatically locating a ferromagnetic core with respect to a workpiece being inserted and removed from the workpiece receiving passage of an induction heating coil, said apparatus comprising, a ferromagnetic core, said core being axially moved in said passage by the workpiece to be heated, a guide means for allowing said core to move axially within said workpiece receiving passage between a first and second axial position, said first position being adjacent one end of said passage and the second position being adjacent an opposite end of said passage, and a second means for yieldably exerting a relatively small force on said core, said force having a relatively constant magnitude as said core moves between said positions and tending to move said core into said coil and maintain said core in contact with said workpiece as said workpiece moves within said coil.

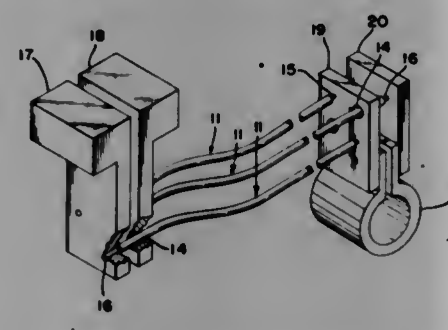
3,197,603

ELECTRICAL CONNECTIONS FOR HIGH FREQUENCY TRANSMISSION LINES

Richard A. Sommer, Parma, and Robert J. Kasper, Seven Hills, Ohio, assignors to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio

Filed Sept. 4, 1962, Ser. No. 221,221

4 Claims. (Cl. 219—10.75)



1. A high frequency heating apparatus comprising a source for generating a high frequency current, said source having a first and second output lead, an inductor movable with respect to said source, said inductor having a first and second input lead, a first pair of terminal blocks substantially fixed with respect to said source with one of said blocks being connected to said first output lead and the other of said blocks being connected to said second output lead, a second pair of terminal blocks substantially fixed with respect to said movable inductor with one of said blocks of said second pair being connected to said first input lead and the other block of said second pair being connected to said second input lead, a plurality of pairs of small flexible cables extending between said pairs of blocks with the first cable of each pair of cables connecting one of the blocks of each pair of blocks and the second cable of each pair of cables connecting the other blocks of each pair of blocks, said terminal blocks of each pair being generally parallel with respect to each other, said first cable for each pair of cables passing through and being insulated from one block of said first pair of blocks and being connected to the other block of said first pair of blocks.

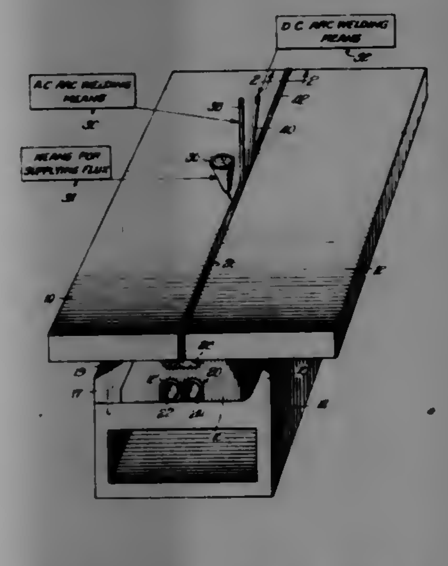
3,197,604

METHOD AND APPARATUS FOR WELDING

Frank H. Turbyville, Jr., Stockton, Calif., and Columbus Floyd, Park Forest, Merven N. Pfeiffer, Calumet City, and Clarence Verbeek, Lansing, Ill., assignors to Union Tank Car Company, Chicago, Ill., a corporation of New Jersey

Filed Apr. 4, 1962, Ser. No. 184,968

2 Claims. (Cl. 219—73)



1. An apparatus for welding the edges of metal plates together comprising means to hold the edges of said metal plates in close proximity to form a joint therebetween, a first arc welding means having a first arc welding electrode, a second arc welding means having a second arc welding electrode, means to move said first and second arc welding electrodes in tandem along said joint on one side of said metal plates to form a weld bead extending through said joint, said first and second arc welding means being an alternating current arc welding means and a direct current arc welding means, respectively, said alternating current arc welding means being adapted to maintain a substantially constant arc gap between the weld bead and said first electrode.

3,197,605

CONSTRICTED ELECTRIC ARC APPARATUS

Jean Albert François Sunnen, Brussels, Belgium, assignor to La Soudure Electrique Autogene Procedes Arcos, Brussels, Belgium, a corporation of Belgium

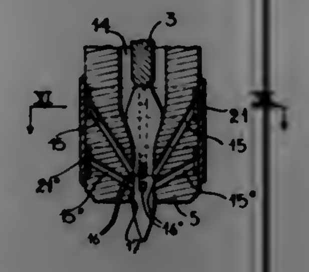
Filed Jan. 29, 1962, Ser. No. 169,341

Claims priority, application France, Feb. 6, 1961, 851,835

3 Claims. (Cl. 219—76)

3. An apparatus for treating a workpiece, comprising a first electrode, a second electrode provided with a hollow portion disposed coaxially with the first electrode and having an inlet adjacent the free end of the first electrode and an outlet spaced therefrom, means for applying between these two electrodes a voltage sufficient for flashing an electric arc between a free end of the first electrode and the inlet of the second electrode, means for delivering argon under pressure around the free end of the first electrode and through the hollow portion of the second electrode in order to propel ionized gases formed in the arc through said hollow portion and beyond the outlet of the same, passages in said second electrode opening into said hollow portion at a place intermediate the inlet

and outlet thereof, the axis of the portion of said passages in the region of the place where the passages open into said hollow portion making with the axis of said hollow portion an acute angle having its apex situated further from the inlet of the hollow portion than the said place, means for supplying a gas under pressure with a powder suspended therein to some of said passages, and means

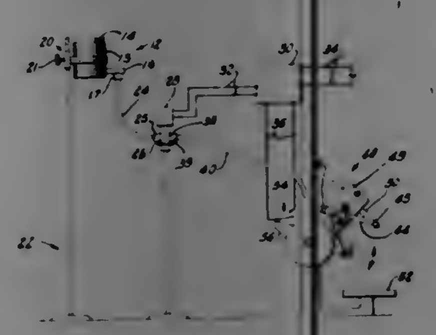


for delivering a gas under pressure with another powder suspended therein to other of said passages, the openings into said hollow portion of some of said passages being at a shorter distance from the inlet of the hollow portion of said second electrode than that of the openings into said hollow portion of other of said passages.

3,197,606

FLUID DISPENSER FOR WELDING MACHINES

Louis Hylwa, Seneca Falls, N.Y., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Mar. 19, 1962, Ser. No. 180,693
5 Claims. (Cl. 219—78)

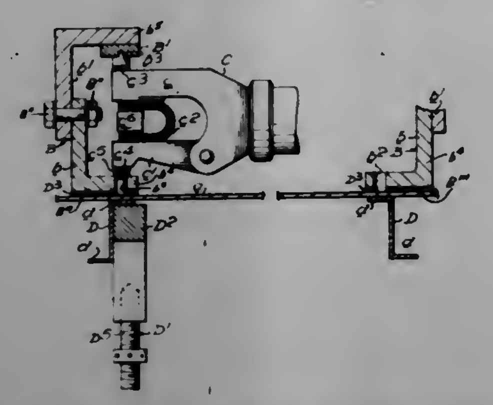


1. A hydraulic pressure actuated device for controllably dispensing fluid comprising the combination of:
- a fluid supply source formed and positioned to provide a supply of fluid having pressure,
- valving means formed to reciprocate between an open and closed position and connected to said fluid supply source,
- a dispensing nozzle having an orifice and providing a limited fluid passageway of a substantially consistent dimension having a given longitudinal resistance to fluid flow,
- a tube interconnecting said valve means with said nozzle formed to provide a continuous fluid column from said valving means to said nozzle orifice, the resistance to fluid flow being sufficient to maintain the fluid column in said tube and nozzle when said valving means is closed and said orifice is at atmospheric pressure, and
- timing means and an externally controlled activating switch connected to said valving means to actuate opening thereof for a prescribed period of time for application of fluid from said fluid supply to said fluid column to overcome the resistance and eject a specified amount of fluid from said orifice, said switch being activated by means directly integrated with fluid dispensing requirements.

3,197,607

APPARATUS FOR WELDING HOLLOW COMPONENTS

Fred Pedley, The Grange, Birch, Middleton, England
Filed Oct. 25, 1962, Ser. No. 233,108
3 Claims. (Cl. 219—78)

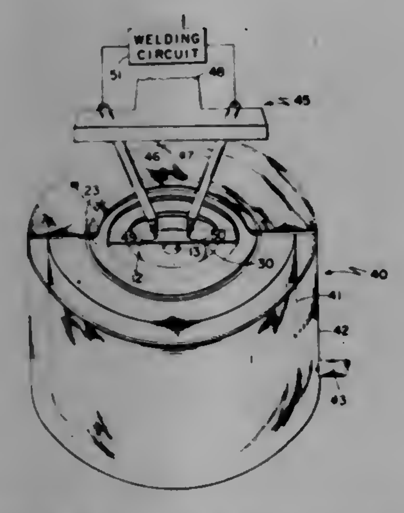


1. Apparatus for welding an internal metal member within a hollow metal component comprising means for clamping said member within said component with the regions of said member to be welded to said component extending in peripheral surface contact with the interior of said component around a weld zone, a rigid jig assembly adapted to be mounted to surround said component at said zone, said jig assembly having an annular surface adapted to extend in close conformity with and around the outer surface of said component with said outer surface urged under pressure against said annular jig surface by said clamping means, means on said jig assembly for positioning a welding gun in welding positions against the outer surface of said hollow component around said zone, means providing a track for extending longitudinally through said hollow component during the welding operation, and means mounting said clamping means for displacement along said track from one welding zone to another.

3,197,608

METHOD OF MANUFACTURE OF SEMICONDUCTOR DEVICES

Robert C. Ingraham, Topsfield, Mass., assignor to Sylvania Electric Products Inc., a corporation of Delaware
Filed Jan. 23, 1962, Ser. No. 168,091
4 Claims. (Cl. 219—85)

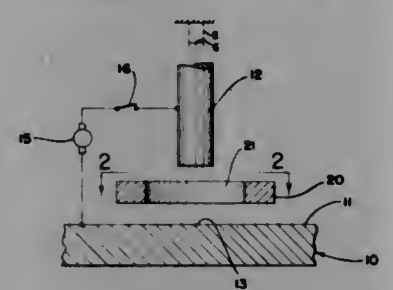


1. The method of producing a semiconductor device including the steps of mounting a body of semiconductor material having an electrode on one surface thereof on a support, attaching the two end portions of a conductive strip to said support so that a central section of said strip lies adjacent the electrode, placing a first conductive member in contact with the strip adjacent one side of the electrode, placing a second conductive member in contact with the strip adjacent the opposite side of the electrode, advancing both members to cause the portion of the strip intermediate the members to contact the electrode, and passing electrical current between the first and second conductive members and through the portion of the strip intermediate the members whereby said portion is heated to cause the portion to fuse to the electrode.

3,197,609

METHOD AND APPARATUS FOR STUD WELDING

Richard A. Sommer, Parma, Ohio, assignor to The Ohio Crankshaft Company, Cleveland, Ohio, a corporation of Ohio
Filed Nov. 20, 1962, Ser. No. 238,860
3 Claims. (Cl. 219—99)

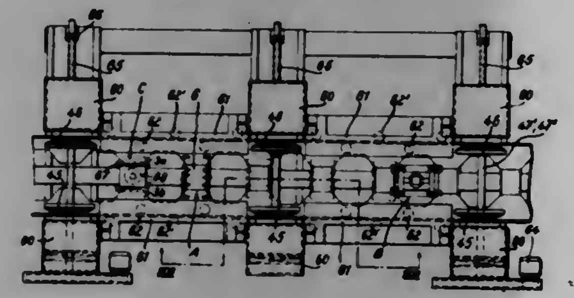


1. A method of welding a metal stud having a given diameter to a large area metal workpiece comprising: positioning a metal stud in spaced relationship to the workpiece and aligned with the intended point of the weld between the stud and the workpiece, positioning a high frequency inductor having a diameter substantially greater than the diameter of said stud coaxial with the stud and the point of the weld and in heat inducing relationship with both the workpiece and the end of the stud to be welded, flowing high frequency currents in the inductor to heat both the workpiece and the end of the stud, then, moving the stud into contact with the workpiece at said point, flowing a current between said stud and workpiece to heat the workpiece and the end of the stud and, then, pressing the heated stud into firm engagement with the heated workpiece.

3,197,610

HONEY-COMB GIRDERS

Franz Litzka, Haus 29, Marktredwitz, Bavaria, Germany
Filed May 10, 1960, Ser. No. 28,094
Claims priority, application Germany, May 13, 1959, L 33,217
7 Claims. (Cl. 219—124)

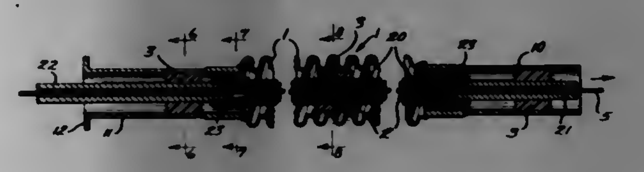


1. In an apparatus for producing honey-comb girders by welding together web portions of two girder sections formed by severing the web of a girder along a longitudinally undulating pattern, in combination, a support provided with guide means for directing said sections therealong; welding means disposed on said support along the path of said sections for intermittently welding the web portions thereof together; feed means for said sections longitudinally spaced from said guide means along said path with said welding means disposed between said guide and feed means, said feed means and said guide means each comprising a respective first pair of rollers journaled on said support for rotation about respective axes lying generally in a plane perpendicular to said web portions and said sections on opposite sides of said web portions, and a second pair of rollers journalled on said support for rotation about respective axes lying generally in a plane perpendicular to said web portions and said sections on opposite sides of said web portions but axially spaced from the first pair of rollers, the rollers of each of said first pairs bearing upon opposite faces of the web portion of one of said sections and upon adjacent inner flange surfaces of said one section perpendicular to its web portion, the rollers of each of said second pairs bearing upon opposite faces of the web portion of the other of said sections and upon adjacent inner flange surfaces of said other section perpendicular to its web portion; and drive means connectable with said both pairs of rollers of said feed means for positively rotating same to advance said sections, the axes of the first and second pairs of rollers of said feed means and said guide means being substantially coplanar, the rollers of each of said pairs disposed along corresponding faces of said web portions being substantially coaxial.

3,197,611

ELECTRODE WIRE GUIDE ATTACHMENT AND GAS BLANKET CONDUIT FOR A WELDING GUN

Lewis D. Morris, 2518 E. 16th St., and James W. Robinson, Jr., 143 Lebo Blvd., both of Bremerton, Wash.
Filed Dec. 3, 1962, Ser. No. 241,931
9 Claims. (Cl. 219—130)



1. An electrode guide attachment for welding guns, for the purpose specified, comprising an outer casing formed as a series of continuous convolutions in bellows-like form, and inherently bendable and settable in a bent form, a sleeve extending from one end of said outer casing for engagement with the nozzle of a welding gun, to conduct gas from the gun to the interior of said outer casing, a freely flexible inner sleeve of braided conductive wires disposed substantially coaxially within said outer casing to form a passageway for flow of gas through the attachment, spacers apertured for passage of gas, and disposed at intervals lengthwise of said outer casing and inner sleve, to retain the latter spaced from and substantially centralized within the outer casing, in all bent positions thereof, a rigid extension sleeve at the nozzle-connecting end of the attachment, for securement to the nozzle of the gun, and communicating with the interior of the inner sleeve, for guiding to the latter electrode wire from the gun, to be guided in bent configuration therethrough by contact with the inner sleeve, means at the opposite end of the inner sleeve and held within the outer casing for guiding such wire to the work, and means at such opposite end of the outer casing for directing gas about the issuing electrode wire toward its work-contacting tip.

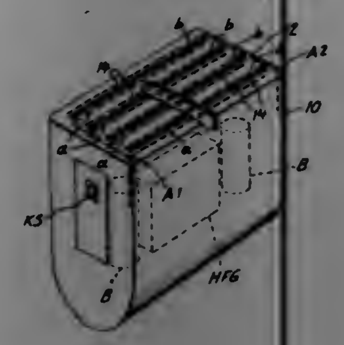
3,197,612

ELECTRIC SHAVER

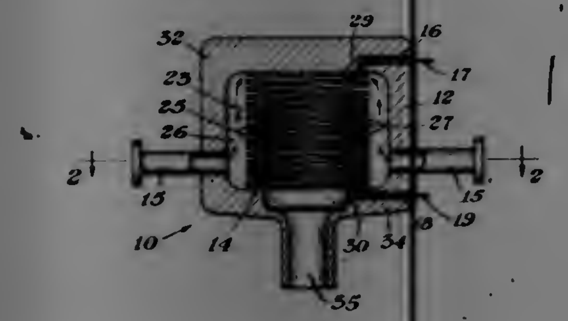
Robert W. Reich, Merzhauserstr. 143, Freiburg im Breisgau, Germany
Filed May 8, 1963, Ser. No. 278,884
4 Claims. (Cl. 219—223)

1. An electric shaver comprising, a casing having a guide plate adapted for passage over the skin of the user, said guide plate having a plurality of hair receiving slits defined therein for receiving hair to be shaved; a like plurality of electrical wire pairs of relatively thin cross-sec-

tional area, one pair being provided for each of said slits, the wires of each pair being electrically isolated from each other, said wire pairs being mounted behind said guide plate such that one wire of each pair is disposed adjacent one edge of an associated slit and the other wire of each pair is disposed adjacent the opposing edge of the associated slit, and high frequency generating means connected to said wire pairs and energizable for providing a high frequency field across each wire pair, said field being of sufficient intensity to fuse hair entering said field through said slits.



3,197,613
ELECTRIC FLUID HEATING DEVICE
Michael F. Ciemochowski, Warren, Mich., assignor to The Dow Chemical Company, Midland, Mich., a corporation of Delaware
Filed Feb. 15, 1962, Ser. No. 173,570
4 Claims. (Cl. 219—307)



1. A heat exchanger comprising

a housing defining a chamber having an inner wall, said chamber having at least one radially disposed port and one generally axially disposed port, the radial direction and axial direction being with reference to the axis of

a conductive, edge wound, generally helical electrical heater,

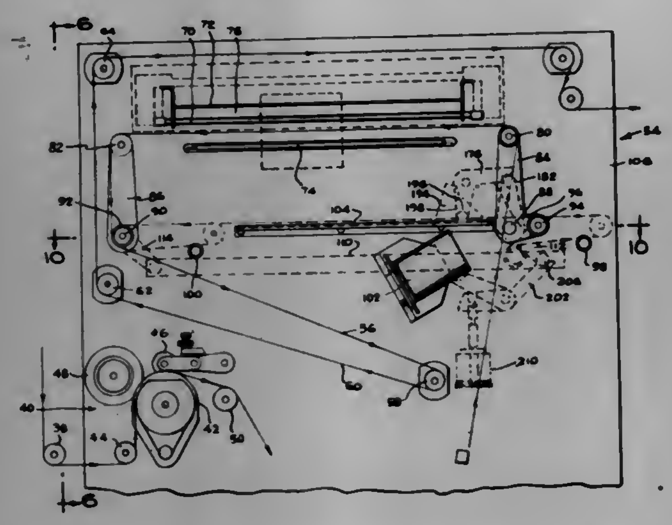
said heater being a helically disposed conductive ribbon having a thickness less than its width,

said heater defining a centrally disposed passageway, said heater having a relatively narrow predetermined spacing between each turn thereof,

said helical heater being positioned in said chamber and in spaced relationship to the wall thereof,

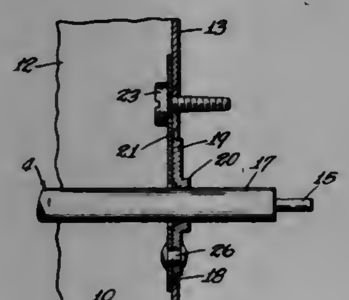
a space being defined between said heater and said wall, said radially disposed port being in direct communication with said space and said axially disposed port being in direct communication with said passageway, said helical heater being supported by only the terminal portions thereof and supported between said radially disposed port and said axially disposed port and said heat exchanger being so constructed and arranged that fluid passing from radial to an axial port flows through the turns of said heater.

3,197,614
FUSER UNIT FOR ELECTRONIC PRINTING MACHINE
George E. Engelstad, Chicago, and Lawrence A. Borneman, Lombard, Ill., assignors to A. B. Dick Company, Chicago, Ill., a corporation of Illinois
Filed Aug. 31, 1961, Ser. No. 135,375
9 Claims. (Cl. 219—388)



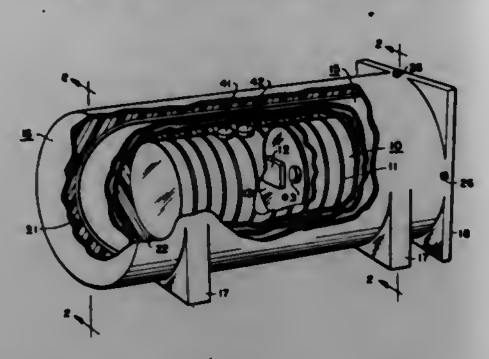
9. In a device for applying intense heat to a web, the combination comprising a heat source, movable guide means for directing the web along a working path adjacent said heat source, said movable guide means being movable to a retracted position in which said web is translated from its working path away from said heat source to protect the web against being overheated, means biasing said movable guide means to said retracted position, power means for moving said guide means to the working position thereof, a latch for retaining said guide means in the working position, and a solenoid for operating said latch, said latch having biasing means for releasing said latch when said solenoid is de-energized.

3,197,615
ELECTRIC HEATING APPARATUS
Johan Wetlesen, Toronto, Ontario, Canada, assignor to Edwin L. Wiegand Company, Pittsburgh, Pa.
Filed Mar. 20, 1961, Ser. No. 97,095
4 Claims. (Cl. 219—404)



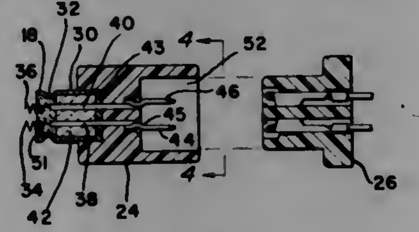
2. An electric heater assembly for attachment to an apertured oven wall, comprising a large and a small metal plate in face to face relation, the larger plate being of flexible material and said plates having certain marginal portions adjoining and mechanically and electrically connected and opposite free portions overlying and capable of moving apart through flexure of said large plate, a sheathed electric heating element having a terminal portion which is mechanically and electrically connected to said small plate and which passes through an oversize opening in said large plate to accommodate free flexure of the latter, the free end of said large plate being adapted to be mechanically and electrically connected to said oven wall at said oven aperture whereby said large plate normally overlies the inner surface of said oven wall and closes said oven aperture.

3,197,616
TEMPERATURE REGULATION CIRCUIT
Donald W. Gade, Fullerton, and Franklyn L. Wiley, Long Beach, Calif., assignors, by mesne assignments, to the United States of America as represented by the National Aeronautics and Space Administration
Filed Mar. 4, 1963, Ser. No. 262,596
8 Claims. (Cl. 219—413)



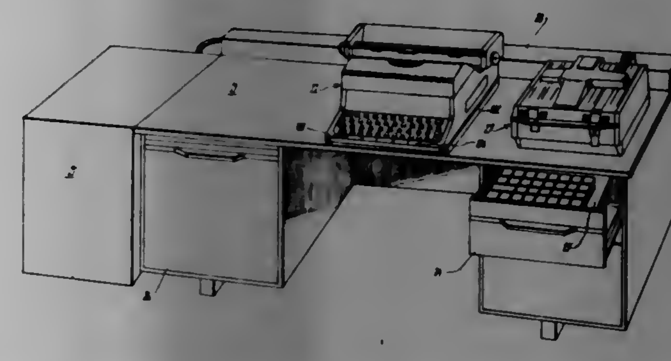
1. A temperature control circuit for maintaining a preselected level of temperature within an oven space, comprising first temperature sensing means positioned to produce a first output signal indicative of the amount by which the actual oven temperature differs from the preselected level, second temperature sensing means positioned to produce a second output signal indicative of the temperature difference between the interior and the exterior of the oven space, comprising means connected to said first and second temperature sensing means for comparing the first and second output signals and producing an error signal proportional to the algebraic combination thereof, and heat transfer means adjacent the oven space for regulating the flow of heat in the oven space in accordance with the amplitude of an applied error signal, the means for controlling the heat flow being connected to the comparing means for receiving the error signal produced thereby.

3,197,617
ELECTRIC HEATING UNIT AND CONNECTOR ASSEMBLY THEREFOR
Charles W. Gillespie, Vandalia, and Ronald L. Leonard, Dayton, Ohio, assignors to General Motors Corporation, Detroit, Mich., a corporation of Delaware
Filed Apr. 12, 1961, Ser. No. 102,499
1 Claim. (Cl. 219—541)



In combination, an electrical heating unit having a tubular sheath enclosing a pair of electrical heating elements and in permanently fixed relationship thereto, said tubular sheath having a closed end portion and an open end portion, said heating elements having their ends adjacent to said closed end portion of the sheath electrically connected together, a pair of electrical conductors connected respectively to said heating elements adjacent the open end portion of the sheath and extending from said open end portion of said tubular sheath, a rigid alignment member coextensive with the internal dimension of said open end portion and having a pair of holes for receiving and aligning respectively said pair of conductors in said open end portion, said alignment member being positioned entirely within the confines of the tubular sheath and terminating flush with the end of the tubular sheath, a resilient sealing member coextensive with the external dimension of said open end portion and having hole means for receiving the extending portions of said electrical conductors, said sealing member being in face to face contact with said alignment member and the end of the tubular sheath, a first insulator having means defining a first pocket configured like the external dimension of said open end portion for receiving said open end portion and said sealing member and a pair of open-ended port means in said first insulator each smaller than said open end portion for receiving respectively the extending portions of said electrical conductors, one end of each of said port means opening into said first pocket, each of said port means having an enlarged substantially rectangular portion at one end thereof opposite from said one end and adjacent respectively to the ends of said electrical conductors, a pair of generally flat connector tabs each having one portion configured to fit in relative nonrotatable relationship respectively to each of said enlarged rectangular portions and attached respectively to each of said electrical conductors in said enlarged rectangular portions to lock said tubular sheath, said sealing member, said electrical conductors and said first insulator into a unitary sandwiched assembly, said first insulator having means defining a second pocket adjacent said rectangular portions receiving another portion of each of said connector tabs therein, said other portions of said connector tabs being offset from the center of said second pocket, and a second insulator having a pair of electrical contacts offset from the center thereof, said second insulator slidably fitting into said second pocket of said first insulator with said electrical contacts respectively engaging said connector tabs, the offset of said electrical contacts and the offset of said connector tabs coinciding whenever said electrical contacts and said connector tabs are properly engaged.

3,197,618
DATA PROCESSING SYSTEM
Paul F. Stanley, West Hartford, and Ferdinand G. von Kummer, Bloomfield, Conn., assignors to Royal McBee Corporation, Port Chester, N.Y., a corporation of New York
Filed Dec. 12, 1958, Ser. No. 780,090
19 Claims. (Cl. 235—61.6)



19. In a data processing system having a typewriter unit adapted for manual operation and in the alternative by key puller solenoids selectively energized in response to data translated from a storage tape, means for generating signals representative of operated typewriter unit instrumentalities, and record perforating mechanism operable in response to said representative signals for recording data representative of said operative instrumentalities in a record, said typewriter unit including carriage return mechanism, line feed mechanism, and corresponding keys for manually initiating operation of said mechanisms, first switch means, a line feed-carriage return key operable when depressed to close said first switch means and to initiate operation of said line feed mechanism, said line feed mechanism including a timing cam, second switch means closable by said cam a predetermined time after initiation of said line feed operation, and circuit means including said first and second switch means for

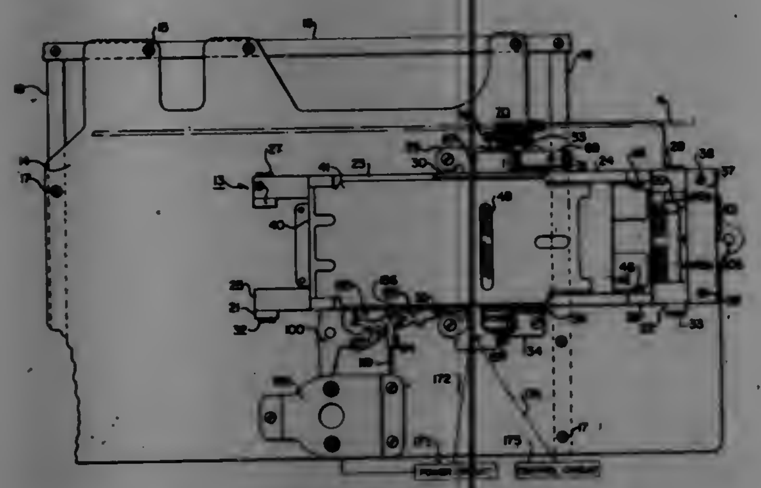
energizing a carriage return key puller solenoid when both said switches are closed thereby to initiate operation of said carriage return mechanism.

3,197,619
FUNCTION CONTROL APPARATUS

David D. Donohoo, Jr., Centerville, Ohio, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Filed Nov. 30, 1961, Ser. No. 156,073

15 Claims. (Cl. 235—61.11)



1. Program control apparatus for an automatic machine, such as an accounting machine, comprising:
- movable means on said machine,
- a function control medium on which function control data is recorded by indicia in any of a plurality of function control data-representing positions in a plurality of areas,
- a sensing station,
- means for moving said function control medium in synchronism with said movable means to cause at least a selected one of said areas of function control data-representing positions to be moved to said sensing station,
- first sensing means to sense at least one of said function control data-representing positions in said selected area for the occurrence of an indicium condition,
- second sensing means,
- and means controlled by said first sensing means upon sensing the occurrence of said indicium condition in said one function-control-data-representing position to cause said second sensing means to then sense other of the function-control-data-representing positions in said selected area for the occurrence of an indicium condition in each.

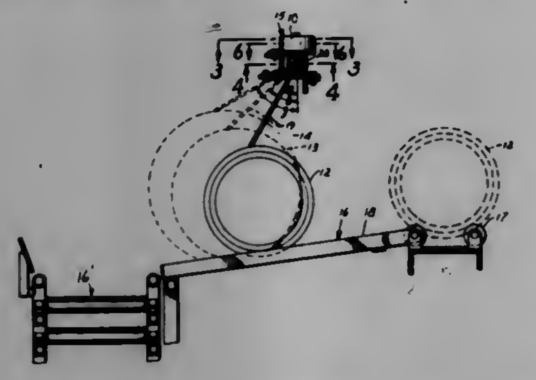
3,197,620
SYSTEM FOR COUNTING MOVING OBJECTS OF DIFFERENT DIMENSIONS

William J. Peltier, 4646 Grand Ave. S., Minneapolis, Minn.

Filed June 25, 1962, Ser. No. 204,868

5 Claims. (Cl. 235—92)

2. A counting circuit suitable for use with an electromechanical counting system of the class described containing:
- (a) a plurality of counters,
- (b) a plurality of normally open switches, one each for a different one of said counters,
- (c) first parallel circuit means comprising each of said counters and their respective switches,
- (d) a normally closed switch connected in series with said first parallel circuit means,
- (e) counting switches equal in number to the number of said counters each of which is so successively connected with said first parallel circuit means as to close when actuated one of said normally open switches,
- (f) a first one of said counting switches also being so connected with said first parallel circuit means that, when actuated, it opens said normally closed switch,
- (g) normally closed control switches connected with each one of said counting switches after said first one of said counting switches each of which is opened when its connected counting switch is closed, thereby reopening any of said normally open switches which has been previously closed,



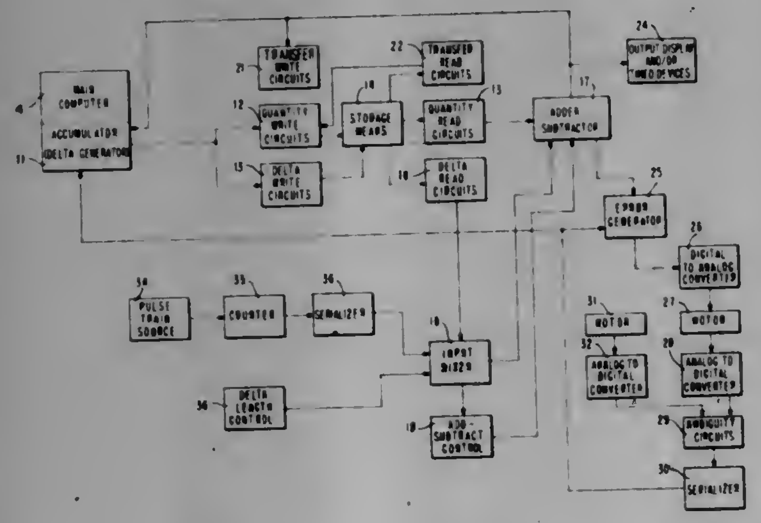
- (h) electro-magnetic means positioned near each of said normally open switches which, when energized, holds said normally open switches closed,
- (i) means for storing a charge when said first counting switch is closed and for discharging such charge when said first counting switch is opened whereby to briefly energize said electro-magnetic means,
- (j) a parallel circuit comprising said charging means and said electromagnetic means,
- (k) a source of electricity, and
- (l) one of said counters being energized to register a count responsive to closing of at least said first counting switch and subsequent opening thereof.

3,197,621
REAL TIME CONTROL SYSTEM FOR PROCESSING MAIN AND INCREMENTAL QUANTITIES

Robert J. Urquhart, Endicott, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 30, 1960, Ser. No. 79,869

17 Claims. (Cl. 235—152)



6. In a real-time process control system wherein a digital computer intermittently generates a main control quantity and an incremental quantity representing the desired change in said main control quantity during a time interval, buffer apparatus for converting the main control quantity and the incremental quantity into a sequence of signals at time intervals for controlling an

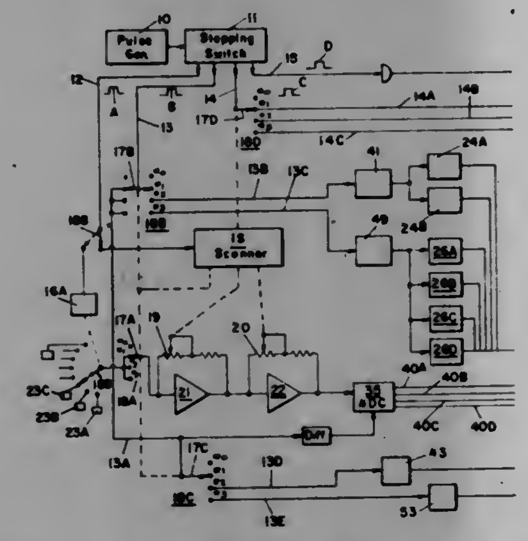
output device comprising a rotatable magnetic drum having three separate tracks about the periphery thereof, read and write means associated with each of said tracks, a digital computer having an accumulator, means interconnecting said accumulator with the write means for a first of said tracks for transferring a main control quantity from said accumulator to said first track, means interconnecting said accumulator with the write means of a second of said tracks for transferring an incremental quantity from said accumulator to said second track, an adder-subtractor, circuit means connecting the read heads for said first and second tracks with said adder-subtractor to modify the main control quantity recorded on said first track with said incremental quantity each revolution of said magnetic drum, said adder-subtractor having an output conductor, means interconnecting said output conductor with the write head for said third track to record the modified main control quantity on said third track, means interconnecting the read head of said third track with said write head for said first track to record the modified main control quantity on said first track in place of the main control quantity previously recorded thereon, an output device, and gating means interconnecting said output conductor of said adder-subtractor and said output device, said output device being controlled by said modified main control quantity on said output conductor.

3,197,622
ANALOG DIGITAL DATA SYSTEM

William T. Wynne, Willow Grove, Pa., assignor to Leeds and Northrup Company, Philadelphia, Pa., a corporation of Pennsylvania

Filed Feb. 23, 1962, Ser. No. 174,942

7 Claims. (Cl. 235—154)



7. A system for producing a binary-coded digital output representing the average of a predetermined number of successive analog values comprising
- summation means including counter means having normal-digit-position stages and at least one stage of lower order,
- means for dividing the successive values each by a first factor related to said predetermined number thereof,
- converter means for transforming the divided analog values into a succession of binary-coded signals, each consisting of groups of pulses, the number of pulse groups corresponding with the number of said normal-digit-position stages of said counter means, and the number of pulses in each group being from 0 to 9 depending upon the numerical value of a corresponding one of the digits of the analog input of the converter means,
- means for entering each of said binary-coded signals in said counter means with displacement from its normal-digit-position in direction and extent corresponding with division by a second factor, the product of said first and second factors corresponding with said predetermined number of analog values,

said counter means comprising
- four counter modules having binary-coded decimal outputs,
- and a counter-advance module,

said counter-advance module comprising
- an amplifier
- a differentiator, and
- three And-gate elements, two of said And-gate elements being energized by the outputs of two of said counter modules and a third of said And-gate elements being energized by the output of another of said modules as differentiated by said differentiator, the concurrent energization of all three of said And-gate elements enabling the And-gate and resulting in a delayed pulse on an output line of said amplifier to effect the state of certain of said counter modules to provide an advance in the value of the joint output of all of said counter stages in steps of 1 from 0 to 9 for successive pulses of one of said groups of pulses,

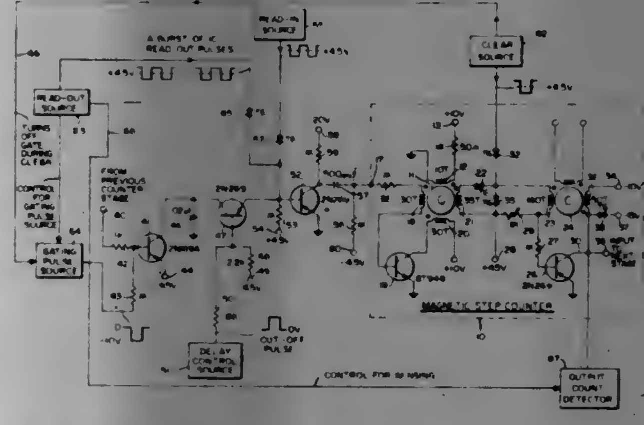
said delayed pulse being derived from a network including
- a rectifier,
- a capacitor,
- resistance means traversed by the output current of said capacitor for charging of said capacitor through said rectifier, and a circuit maintaining conduction of said rectifier except upon sudden decrease in output of said amplifier occurring when said And-gate is disabled,
- the output line of the amplifier being connected to the junction of said capacitor and said rectifier means,
- said rectifier means becoming non-conductive upon said sudden decrease of output current of said amplifier whereupon the discharge of said capacitor produces a pulse on said output line.

3,197,623
DECIMAL ADDER-ACCUMULATOR

Roland Yii, West Chester, Pa., assignor to Burroughs Corporation, Detroit, Mich., a corporation of Michigan

Filed Sept. 15, 1961, Ser. No. 138,451

13 Claims. (Cl. 235—173)

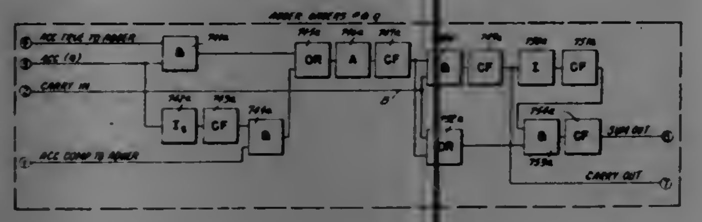


1. A magnetic core circuit comprising first and second magnetic core counter stages, the magnetic cores of said stages having a substantially rectangular hysteresis loop, a transfer circuit including coupling means from said first counter stage to a capacitor storage means, means associated with said first counter stage for generating a narrow voltage pulse in said transfer circuit, connecting means from said capacitor storage means to said second counter stage including a delay gating semiconductor device, control means for maintaining said delay gating semiconductor device non-conducting for blocking the input path to said second counter stage for a predetermined time thereby permitting said capacitor to charge under control of said voltage pulse and to subsequently discharge when said gating semiconductor device conducts to permit an

input into said second counter stage when said path is unblocked or, alternatively, without delaying said voltage pulse in said capacitor, to unblock said gating semiconductor device to permit an input directly into said second counter stage from said first counter stage over said transfer circuit.

3,197,624
ELECTRONIC DATA PROCESSING MACHINE

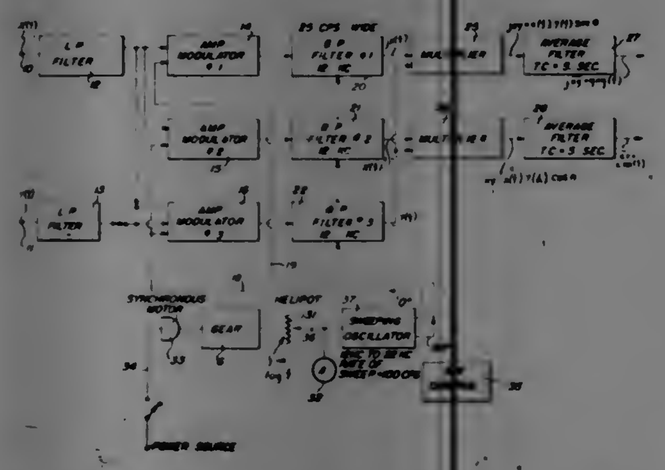
Jerrier A. Haddad, Binghamton, Richard K. Richards, Poughkeepsie, Nathaniel Rochester, Wappingers Falls, and Harold D. Ross, Jr., Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Original application Mar. 30, 1954, Ser. No. 419,642, now Patent No. 2,974,866, dated Mar. 14, 1961. Divided and this application June 27, 1960, Ser. No. 42,458
18 Claims. (Cl. 235—175)



6. In a novel binary parallel adder device comprising, in combination, a plurality of orders, each consisting of a full binary adder comprising diode AND circuits and diode OR circuits, and each having a sum output and a carry output, the carry outputs of each lower order feeding to the carry input of the next higher order and a plurality of half binary adder overflow orders each comprising diode AND circuits and a diode OR circuit and each having a sum output and a carry output, a lower order carry output feeding to the carry input of the next higher half binary adder.

3,197,625
CROSS CORRELATOR

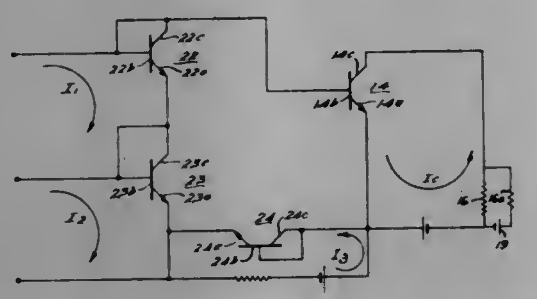
Alfred G. Ratz, Trenton, N.J., assignor, by mesne assignments, to Electro-Mechanical Research, Inc., Sarasota, Fla., a corporation of Connecticut
Filed Oct. 1, 1958, Ser. No. 764,613
11 Claims. (Cl. 235—181)



6. A cross correlator comprising a source of first wide band signal $x(t)$, a source of second wide band signal $y(t)$, each of said signals $x(t)$ and $y(t)$ having a relatively extensive Fourier spectrum, frequency scanning means for concurrently selecting sample narrow band signals of corresponding frequency existing at identical times in said signals $x(t)$ and $y(t)$ for a range of frequencies taken in succession, means for continuously multiplying said sample signals during said selecting to provide a product signal during said selection over said range of frequencies and means for continually integrating said product signal during said selecting over a substantial time interval at least as long as the period of time required by said selection over said range of frequencies, said means for concurrently selecting comprising first and second amplitude modulators responsive to said wide band signals $x(t)$ and $y(t)$ respectively, and a source of frequency scanning local oscillations connected to said amplitude modulators, said local oscillations being square waves.

3,197,626
LOGARITHMIC MULTIPLIER-DIVIDER

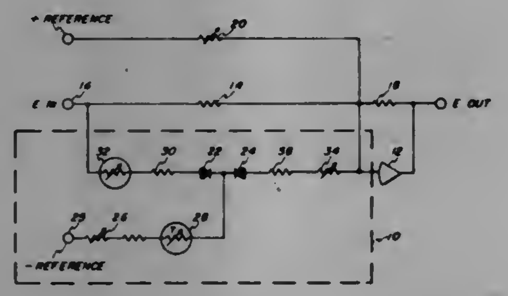
George E. Platzer, Jr., Birmingham, Mich., assignor to Chrysler Corporation, Highland Park, Mich., a corporation of Delaware
Filed Jan. 8, 1962, Ser. No. 164,873
17 Claims. (Cl. 235—195)



1. A circuit for multiplying a pair of quantities represented by current inputs comprising a first and second input transistor, each having an emitter, base, and collector and having its base and collector connected, said input transistors operable to produce a voltage proportional to the logarithm of the input current, said transistors connected to each other in a series additive relationship and each having a pair of input terminals connected between its base and emitter, an electrical means connected in series with said first and second input transistors for producing a voltage to reduce the sum voltage of said first and second transistors and having substantially the same temperature voltage operating characteristics as said first and second input transistors, an output transistor having an emitter, collector, and base, said first and second input transistors and said electrical means connected across said base and emitter of said output transistor, said output transistor operable to produce through its collector a current output proportional to the antilogarithm of the sum of the voltages applied between its emitter and base.

3,197,627
ELECTRONIC FUNCTION GENERATOR

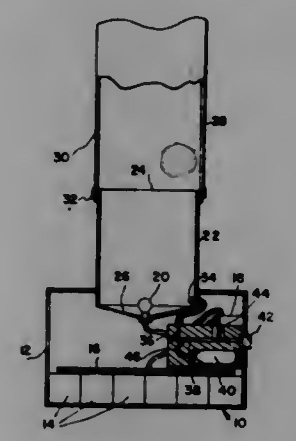
Lloyd G. Lewis, La Grange, Ill., assignor to Electronic Associates Inc., Long Branch, N.J., a corporation of New Jersey
Filed Nov. 8, 1961, Ser. No. 151,093
4 Claims. (Cl. 235—197)



1. Electronic function generating apparatus for providing an output potential which varies in accordance with the logarithmic function of the amplitude of an independent variable input potential which is delivered from a source, comprising in combination, a pair of diodes connected in a series-opposition relationship between the source of input potential and an output terminal, and a reference voltage source including a positive temperature coefficient resistor element coupled to the common juncture of said pair of diodes and biasing one of said pair of diodes to a condition of continuous conduction whereby, in dependence upon the amplitude of the input signal the other of said pair of diodes is biased to a condition of conduction, variations in the amplitude of the input potential causing corresponding variations in the amount of current which is conducted by each of said pair of diodes, and a negative coefficient resistor element connected in series circuit with said one of said diodes on the side thereof remote from common juncture, said negative temperature coefficient resistor having a value and a coefficient to provide with a change in temperature a change in voltage drop thereacross substantially equal to the difference between the changes in voltage drops across said first and second diode elements, whereby variations in ambient temperature affect only the amplitude of potential at the junction of said pair of diodes to maintain a constant flow of current through the one of said pair of diodes.

3,197,628
INFLATABLE ILLUMINATED HIGHWAY BARRICADE

Richard W. Schuff, 5026 E. Cheery Lynn Road, Phoenix, Ariz.
Filed May 20, 1963, Ser. No. 281,721
5 Claims. (Cl. 240—6.4)

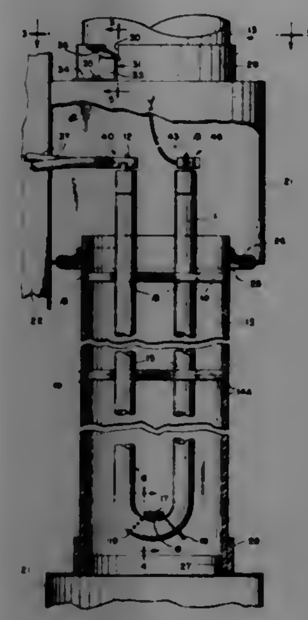


1. In an inflatable illuminated highway barricade, the combination of: a portable base; batteries supported thereon; an upstanding hollow tubular member having a closed bottom and an open top and supported on said base; a flexible and inflatable barricade means coupled to the upper open end of said tubular member; said hollow tubular member having an upper open end adapted to receive said flexible barricade when it is deflated for, thus, stowing said flexible barricade in said tubular member; second means communicating with the interior of said tubular member at a lower portion thereof for pneumatically inflating said barricade means.

3,197,629
AIRCRAFT WARNING LIGHTS FOR TOWERS

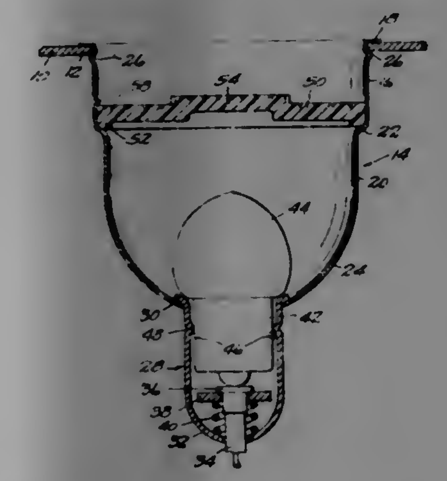
Merlin Lloyd Williams, Spokane, and Warren P. Jensen, Seattle, Wash., assignors to Electrical Products Consolidated, Seattle, Wash., a corporation of Washington
Filed Jan. 17, 1963, Ser. No. 252,169
13 Claims. (Cl. 240—11.4)

1. A lighting fixture comprising top and bottom vertically spaced and aligned hoods fixed relative to one another, said bottom hood presenting upwardly projecting flange means and said top hood being formed with a bottom opening surrounded by a resilient gasket ring, an upright elongated tubular lighting unit seated on said bottom hood and interfitting with said flange means, the upper end portion of said lighting unit extending upwardly through a sealing interfit with said gasket into said top hood and being spaced from the upper end thereof a distance exceeding the height of said flange means whereby said lighting unit can be removed with said hoods remaining fixed relative to one another by lifting it from said flange means, and tilting it within said gasket to swing the lower end thereof away from said bottom hood, and then lowering the tilted lighting unit endwise away from said top hood.



3,197,630
REFLECTOR AND LENS ASSEMBLY

Alfred F. Dumdel, St. Joseph, Mich., assignor to M. D. Brown Company, Niles, Mich., a corporation of Michigan
Filed Apr. 16, 1963, Ser. No. 273,397
5 Claims. (Cl. 24—41.55)

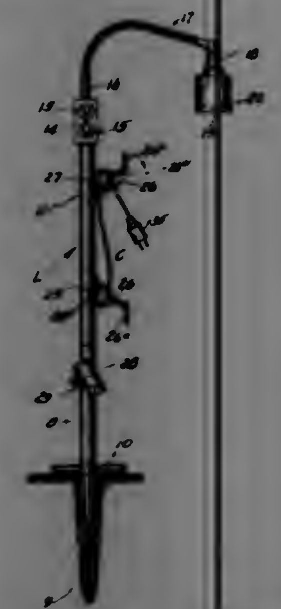


1. In combination,
a mounting member having an opening,
a reflector unit adapted to mount a lamp bulb and having an open end part mounted in said mounting member opening,
said unit having an internal circumferential shoulder spaced inwardly from its open end,
a synthetic resin molded lens within and spanning said unit and bearing aganst said shoulder,
spaced lens retainer means carried by and projecting into said unit spaced from said shoulder,
said lens having marginal recesses clearing said retainer means during lens insertion and adapted to be positioned in rotatively spaced relation from said retainer means in the operative position of the lens and projections on said lens engaging said retainer means upon rotation of said lens to disalign said recess and retaining means.

3,197,631
PORTABLE OUTLET EXTENSION AND LIGHT

Robert H. Jensen, Rte. 2, Box 128A, Oscoda, Mich.; Lucille Elaine Jensen, executrix of said Robert H. Jensen, deceased

Filed June 24, 1963, Ser. No. 290,075
4 Claims. (Cl. 240—81)

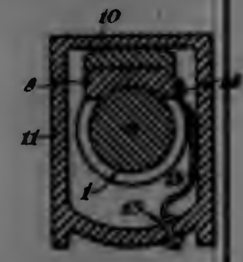


1. A portable outlet extension and lighting device the combination comprising: a sectional, hollow standard provided with a tapered, pointed lower end section; an elongated, horizontally disposed step provided on said standard and located a predetermined distance above said pointed end; an outlet box mounted on the upper end of the standard, said outlet box forming an extension of the standard and detachably connected to a source of electrical energy; a castered mobile dolly formed with a centrally disposed hub; a vertically disposed, tubular member mounted in said hub and formed with a centrally disposed opening of predetermined size in the bottom wall thereof into which the tapered lower end of the standard is inserted and held, and a lighting means flexibly connected to said outlet box.

3,197,632
HOT BEARING DETECTOR

George W. Baughman, Swissvale, Pa., assignor to Westinghouse Air Brake Company, Wilmerding, Pa., a corporation of Pennsylvania

Filed July 20, 1959, Ser. No. 828,134
4 Claims. (Cl. 246—169)



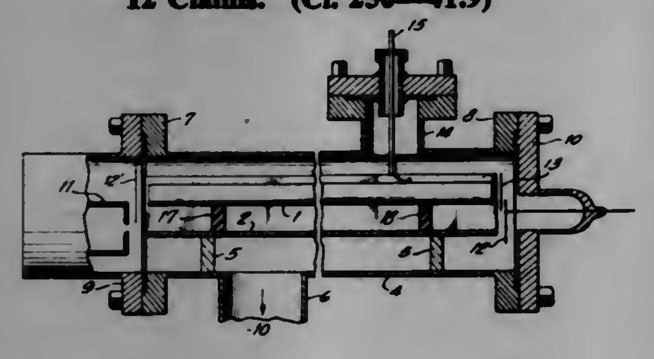
1. In combination, a journal box, a bearing housed in said box, a tube fastened at one end to said bearing and protruding downwardly through said box, a radioactive pellet positioned within said tube, fusible means in heat transfer relationship to said bearing and mounted in said tube to support said pellet, whereby upon overheating of said bearing said fusible means releases said pellet to fall through said tube, and means located at the protruding end of said tube to retain said pellet in a partly exposed position, and a radiation detector located outside of said box to respond to radiation from said pellet in its exposed position.

3. A hot bearing detector, comprising, in combination, a railway journal box having an exposed base, a bearing enclosed in said journal box, a radioactive element mounted externally on the base of said box, a shield mounted on said journal box for movement between a position shielding said element and a position exposing said element, means including a fusible link in heat transfer relation to said bearing connected between said bearing and shield to hold said shield in its shielding position, means for resiliently biasing said shield to its element exposing position, and a radiation detector mounted below said box to respond to exposed radiation from said element.

3,197,633
METHOD AND APPARATUS FOR SEPARATING IONS OF RESPECTIVELY DIFFERENT SPECIFIC ELECTRIC CHARGES

Ulf von Zahn, Minneapolis, Minn., assignor to Siemens-Schuckertwerke Aktiengesellschaft, Berlin-Siemensstadt and Erlangen, Germany, a corporation of Germany

Filed Dec. 4, 1962, Ser. No. 242,224
12 Claims. (Cl. 250—41.9)

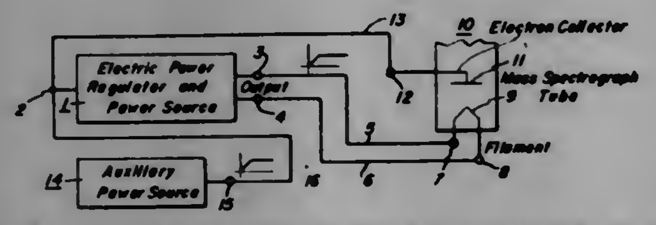


1. Apparatus for separating ions of respectively different specific electric charges, comprising an evacuable vessel, an ion source and a collector axially spaced from each other in said vessel and defining a normal flight axis for ions from said source to said collector, axially elongated broad-surface reference electrode means extending in parallel and spaced relation to said axis between said source and said collector, an elongated field electrode insulated from said members and extending in parallel and spaced relation to said axis opposite said surface electrode means, said field electrode having a substantially convex surface facing said axis and having a smaller transverse width than said reference electrode means, electric circuit means connected between said electrode means and said field electrode for applying to said field electrode a periodically varying field voltage and a superimposed fixed voltage, whereby the ions travel in the field space between said electrode means and said field electrode on stable and instable paths depending upon their charge so that only ions of given charge reach said collector.

3,197,634
DELAYED WARM-UP FILAMENT POWER SUPPLY FOR MASS SPECTROMETER WITH EMISSION CURRENT REGULATION

Robert L. Watters, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York

Filed Oct. 30, 1963, Ser. No. 320,046
3 Claims. (Cl. 250—41.9)



1. An emission current regulated power supply for the filament of a mass spectrometer having a thermionic electron emissive filament and an electron collecting electrode, said power supply comprising:

(a) an electric power regulator including a source of electric power and having electric power output means and control means, said regulator being responsive to variations in the magnitude of electric power supplied to said control means to provide a variation in the same direction in the magnitude of electric power delivered by said output means;

(b) electrically conductive means connecting said filament to said electric power output means for energization thereby, said filament providing a quantity of electrons which varies in magnitude in the same direction as variations in the magnitude of power from said output means;

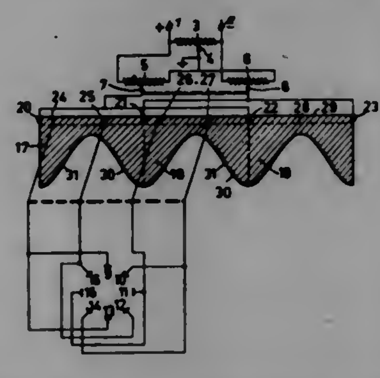
(c) an auxiliary source of electric power having output means, said auxiliary source providing a delay between the time of energization thereof and a predetermined time at which full output power capability is reached, said output power capability increasing gradually to full output power capability and thereafter being essentially constant; and

(d) conductive means connecting said electron collecting electrode and the output means of said auxiliary source to said control means, said auxiliary source being arranged to provide an electric power input to said control means which effects a gradual increase in the power supplied to said filament until said predetermined time elapses and thereafter provide a constant magnitude power input to said control means, said electron collecting electrode being arranged to provide variations in the magnitude of power to said control means which are in the opposite direction to variations in the quantity of electrons emitted by said filament and received by said electron collecting electrode to effect substantially constant emission current from said filament after said predetermined time has elapsed.

3,197,635
REGULATING DEVICE FOR THE CORRECTION OF IMAGE DEFECTS OF AN ELECTRON-OPTICAL SYSTEM

Adrianus Cornelis van Dorsten and Adrianus Jacobus Jozef Franken, Emmasingel, Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed June 25, 1962, Ser. No. 204,912
Claims priority, application Netherlands, July 10, 1961, 266,898
3 Claims. (Cl. 250—49.5)

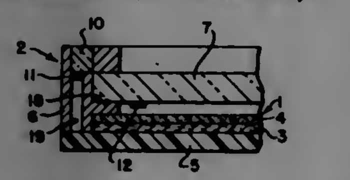


1. A regulating device for correcting an astigmatic electron optical system in an electron beam focusing apparatus in which charge carriers are accelerated with the aid of an electrostatic stigmator having a plurality of electrodes, the value and the direction of the additional astigmatism required for the correction of the image defect of the electron-optical system being separately adjusted by variable resistors, said device comprising a control resistor connected to a source of adjustable voltage through terminals and further comprising a plurality of equal resistance elements each consisting of a layer of resistance material on an insulated support, the cross-sectional area of each layer gradually decreasing to a minimum between the voltage terminals so that the resistance measured between one of the terminals and a point moving from one terminal to the other varies according to a non-linear function from the beginning, sliding contacts simultaneously movable over a contact area on the resistance elements between adjacent terminals, said contacts being spaced from one another by one half of the length of a resistance element and being connected each to at least one electrode of the correcting system, the resistance elements constituting a continuous member, the potential gradient in each section being opposite to the potential gradient in the adjoining sections.

3,197,636
SAFETY FLUOROSCOPE WITH AN ALERTING DEVICE OF CONTRASTING COLOR SURROUNDING THE SCREEN

Samuel B. Wyatt, Denville, Sidney Alexander, Pompton Lakes, and Frank J. Masi, Morristown, N.J., assignors to United States Radium Corporation, Morristown, N.J., a corporation of Delaware

Continuation of application Ser. No. 2,658, Jan. 15, 1960. This application Dec. 28, 1962, Ser. No. 248,848
4 Claims. (Cl. 250—80)



1. In a fluoroscope screen assembly having a frontside partly defined by a central working area in the whole of which is visible a primary phosphor coating excitable to luminescence of a given apparent color by an X-ray beam directed toward the opposite side of said screen assembly, and also partly defined by an edge area surrounding said working area and not excitable to luminescence by said X-ray beam; an alerting device for indicating visually on the frontside of said screen assembly when said X-ray beam is not confined to said working area comprising:

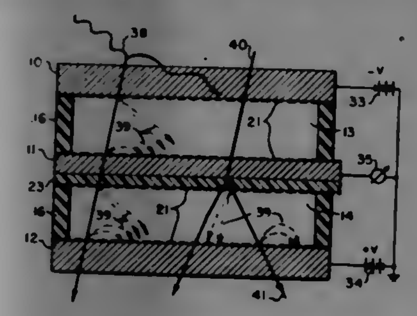
(a) a border portion defining a part of the screen assembly frontside circumscribing said working area and dividing it from said edge area, and

(b) at least one secondary X-ray excitable phosphor coating visible from the frontside of said assembly in at least part of said border portion and contrasting markedly from said primary coating in apparent color when excited by said X-ray beam.

3,197,637
HIGH INTENSITY GAMMA INSENSITIVE NEUTRON DOSIMETER

Stanley Kronenberg, Skillman, N.J., assignor to the United States of America as represented by the Secretary of the Army

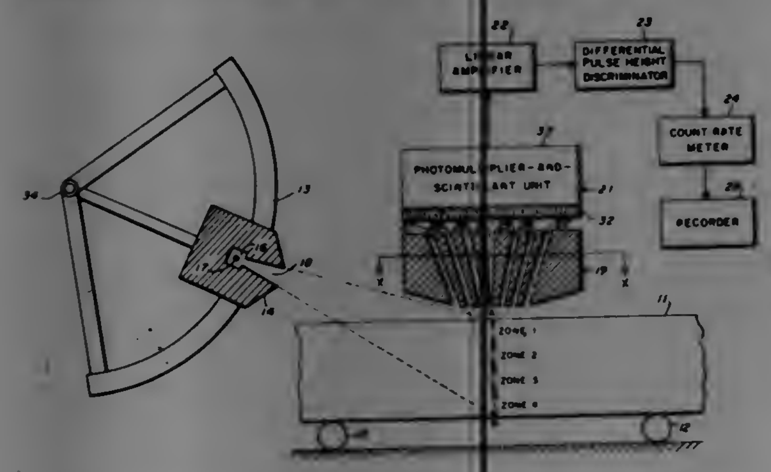
Filed July 2, 1962, Ser. No. 207,133
10 Claims. (Cl. 250—83.1)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A high intensity gamma insensitive neutron dose-rate-meter comprising three registered and spaced electrodes electrically insulated from each other, means to

provide evacuated chambers formed by said electrodes, the two outer electrodes being made of electrically conductive material containing no hydrogen and the central electrode being made of nonhydrogenous electrically conductive material on one side and on its other side of material which produces high energy charged particles upon reaction with neutrons, means to charge one of said outer electrodes negatively and the other outer electrode positively, a read out device and an electrical connection from said central electrode to said read out device.

3,197,638
BACKSCATTER FLAW DETECTION SYSTEM
Kenneth F. Sinclair, Daly City, Calif., assignor to the United States of America as represented by the Secretary of the Navy
Filed Jan. 21, 1963, Ser. No. 253,009
6 Claims. (Cl. 250—83.3)
(Granted under Title 35, U.S. Code (1952), sec. 266)


22
23
DIFFERENTIAL PULSE HEIGHT DISCRIMINATOR
24
COUNT RATE METER
PHOTOMULTIPLIER-AND-SCINTILLANT UNIT
RECORDER
ZONE 1
ZONE 2
ZONE 3
ZONE 4

1. Apparatus for the detection of flaws in a material specimen comprising:

irradiating means, located adjacent said material specimen, for subjecting a selected localized zone in said material specimen to a directionally-incident collimated beam of radiation of known energy level;

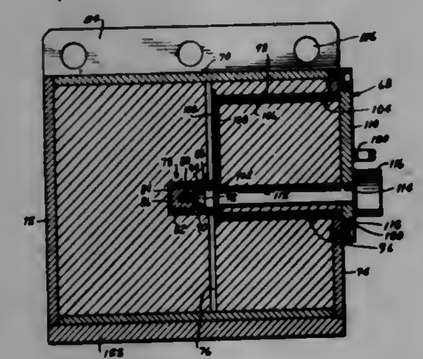
selective detecting means, located on the same side of said material specimen as said irradiating means, and selectively positioned for selectively detecting certain singly-scattered backscattered photons resulting from Compton interactions induced in the selected localized zone of said material specimen by said incident beam of radiation, the selectively detected backscattered photons being those which present a maximum scattered intensity to said detecting means according to the dictates of the equation $I=ke^{-(\mu x+\mu_1 x_1)}\phi$ wherein I is the scattered photon intensity, μ is the absorption coefficient in the material specimen medium for the incident radiation beam energy level, x is the distance for the incident radiation beam from the surface where said incident beam enters said material specimen to the localized zone in said material specimen, μ_1 is the absorption coefficient in the material specimen medium for the energy level of the beam of backscattered photons, x_1 is the distance from the localized zone in said material specimen to the surface location where the beam of backscattered photons exits from said material specimen, ϕ is the scattering coefficient for the given angle of scattering as defined by the intersection of said incident beam of radiation and said beam of backscattered photons, and k is a constant;

transducers means connected to said selective detecting means, said transducer means receiving and converting the selectively-detected backscattered photons to electrical impulses whose relative amplitudes are representative of the individual energy levels of the selectively-detected backscattered photons;

counting means, connected to the output of said transducer means, for counting per unit time the total number of the photon-derived electrical impulses produced by said transducer means in response to the selectively-detected backscattered photons, a change in the count rate of said photon-derived electrical impulses which is not attributable to known changes in said material specimen being indicative of the presence of a flaw in the selected localized zone of said material specimen;

depth-change-compensating means, located on the same side of said material specimen as said irradiating means, for varying the operative capacity of said selective detecting means, whereby said detecting means detects backscattered photons of the selected group in such fashion that the loss in sensitivity of said detection apparatus with increase in depth, in said material specimen, of the point of interest is just offset by an increase in the selected-photon detecting capacity of said detecting means.

3,197,639
RADIOACTIVE SOURCE HOLDER
Leonard R. Stone, South Euclid, Thomas J. Radcliffe, Warrensville, and George W. Sower, Cleveland Heights, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey
Original application Sept. 1, 1959, Ser. No. 837,403, now Patent No. 3,133,191, dated May 12, 1964. Divided and this application Sept. 25, 1961, Ser. No. 140,486
4 Claims. (Cl. 250—106)

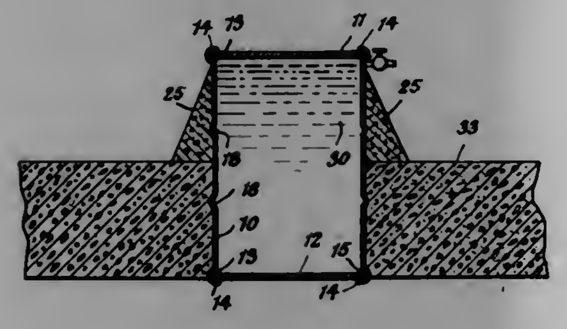


1. A shielded radioactive source holding receptacle adapted to transmit a collimated radioactive beam in a fixed linear direction in relation to a major axis of said receptacle, said receptacle consisting of a cylindrical side wall and a pair of end walls, an imperforate body of ray shielding material substantially filling one end of said receptacle, a cavity adapted to receive a radioactive source extending through the inner face of said body of shielding material, means for holding a radioactive source in fixed position within said cavity, a radioactive beam path between said cavity and the end wall of said receptacle confronting the open end of said cavity, a beam shutter for said radioactive beam path comprising a shielding cylinder rotatably mounted within said receptacle in a position between the open end of said source cavity and said last named end wall whereby it is normally interposed in said beam path, said shutter having a disk-shaped face plate mounted for rotation on said last named end wall, a tubular radiation transmission duct eccentrically located in said shielding cylinder in axial position thereto for alignment with said source receiving cavity and said beam path when said shutter is rotated, and a lever externally fixed to said face plate and extending beyond said source holder in a radial direction whereby said shutter may be rotated to align said radiation transmission duct with said source cavity and said beam paths.

3,197,640
METHOD OF TREATING GRASS SEED
Clarence J. Speas, Clinton, Tenn., assignor to Oak Ridge Atom Industries, Inc., a corporation of Tennessee
No Drawing. Filed Oct. 9, 1961, Ser. No. 143,545
4 Claims. (Cl. 250—106)

1. A method of treating grass seed of the group consisting of orchard grass, fescues, rye grasses, blue grasses and redtop comprising irradiating said seed with gamma rays at a rate between 10 and 500 roentgens per minute with a total dosage of between 250 and 2000 roentgens.

3,197,641
PROTECTIVE WINDOWS OR SKYLIGHTS FOR FALLOUT SHELTERS
Joseph P. Larkin, 1230 South Dixie Highway, Lake Worth, Fla.
Filed Feb. 12, 1962, Ser. No. 172,510
1 Claim. (Cl. 250—108)



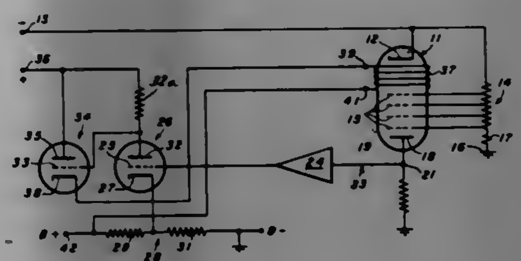
A window for a fallout shelter comprising an open-ended commercial oil drum having a peripheral outwardly extending flange at each end, and outer transparent planar sheet covering the outer end of the drum, an inner transparent sheet covering the inner end of the drum, a sealing gasket between each flange and its adjacent sheet, C-shaped resilient clamps having legs positioned respectively over the outside edge of the outer sheet and the inner edge of the adjacent flange, the outer legs being yieldable to internal pressure against said outer sheet to permit removal thereof from the inside of the drum, additional C-shaped clamps positioned over the exposed side of the inner transparent sheet and its adjacent flange, said additional clamps having portions exposed interiorly of the shelter which may be pried loose to permit removal of the inner sheet, and liquid normally filling the drum, removal of said inner sheet by prying open the interiorly exposed portions of the additional C-shaped clamps permitting dumping of the liquid whereupon the exertion of pressure from the interior of the drum forces the outer legs of the first mentioned clamp to yield and further pressure dislodges the outer sheet, the open ended drum thus providing an emergency exit from the shelter.

3,197,642
FEEDBACK CIRCUIT FOR ELECTROMAGNETIC CONTROL OF PHOTOMULTIPLIER TUBE
Vincent G. Shaw, Unity Township, Westmoreland County, Pa., assignor to Latronics Corporation, Latrobe, Pa., a corporation of Pennsylvania
Filed Nov. 20, 1961, Ser. No. 153,575
3 Claims. (Cl. 250—207)

1. In a photomultiplier tube circuit, in combination,

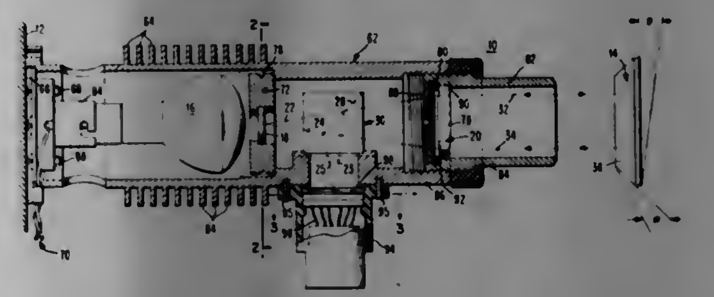
(a) a photomultiplier tube having an anode, a cathode and a plurality of dynodes intermediate the anode and cathode,
(b) a high voltage power supply having its negative terminal connected to the cathode of the tube,
(c) a load resistor in the anode circuit of the tube, the anode of the tube being connected to ground through the load resistor,

(d) a non-inverting amplifier connected to receive an input from the anode of the tube,
(e) a first triode connected to receive the output of the amplifier on its grid,
(f) a load resistor in the plate circuit of the first triode, connecting the plate of the first triode to the positive terminal of the high voltage power supply,
(g) a second triode having its plate connected to the positive terminal of the power supply and its grid connected to the plate of the first triode, and



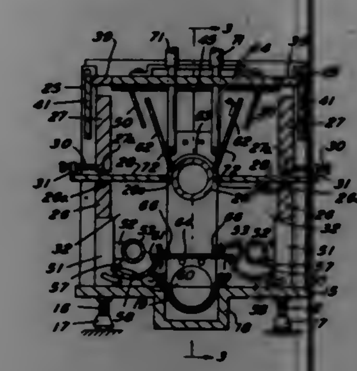
(h) an electromagnetic coil in the cathode circuit of the second triode, the coil being positioned about the photomultiplier tube in the region of the cathode of the tube to develop a magnetic field intermediate the cathode and first dynode of the tube, whereby an increase in electron emission from the cathode of the tube, above a predetermined level, will cause the electromagnetic coil to be operative to deflect a substantial portion of emitted electrons, thereby controlling the amount of current through the tube.

3,197,643
ELECTRO-OPTICAL PLANE ALIGNING APPARATUS
John Morris, Nichols, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Dec. 30, 1960, Ser. No. 79,725
2 Claims. (Cl. 250—210)



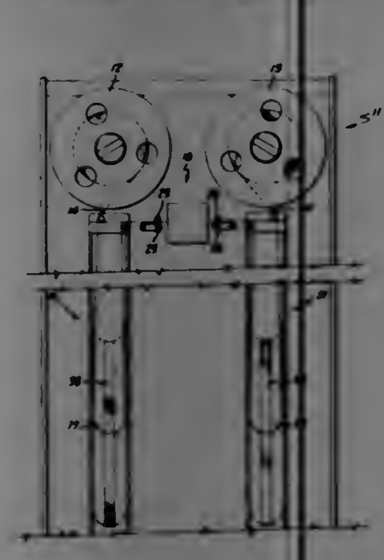
1. Apparatus for providing electrical detection of the pitch and azimuth of angular orientation of a work plane relative to a reference plane comprising, in combination: an optical section and an electrical section; said optical section having a light source, a collimating lens system, a mirror surface on said work plane, an aperture in the focal plane of said collimator lens system, a beam-splitter between said aperture and said collimator lens system whereby an image of said aperture is formed in a comparable focal plane defined by said beam-splitter and said collimator lens system; said electrical system having a light-sensitive bridge network for providing an electrical indication of said pitch and said azimuth; said bridge network comprising a first and second Wheatstone bridge, each of said Wheatstone bridges having first and second active photo-conductive cells located in said comparable focal plane and first and second temperature compensating photo-conductive cells, whereby variation in the position of said light image on said active photo-conductive cells of said bridge causes its voltage output to provide a temperature independent indication of the particular angular orientation involved.

3,197,644
PHOTOSENSITIVE APPARATUS FOR MEASUREMENT OF COLOR DENSITY
Thomas J. Etzrodt, Jr., 951 Allengrove St., and Edwin Cullinan, 6862 Dicks Ave., both of Philadelphia, Pa.
Filed Dec. 26, 1962, Ser. No. 247,127
10 Claims. (Cl. 250—218)



1. Apparatus for measuring color density of an article comprising a light proof housing having a base plate, side wall panels extending upwardly from said plate, end panel sections extending upwardly from said plate, a top closure for said housing including a top closure wall, a plurality of photoelectric cells mounted at horizontally spaced locations on said top closure wall for delivering an electrical current proportional to the light incident thereon, elongated illuminating sources mounted in the lower part of said housing interiorly of said side wall panels, a mounting device interiorly disposed in said housing for exposing the article whose color density is to be measured in a light path between said illuminating means and said photoelectric cells, and interiorly disposed screen plates extending downwardly with respect to said top closure wall and providing the side boundaries of a horizontally elongated light transfer passageway.

3,197,645
LOOP SENSING APPARATUS
John D. Sperry, Los Altos, Calif., assignor to Ampex Corporation, Redwood City, Calif., a corporation of California
Filed Nov. 1, 1961, Ser. No. 149,306
7 Claims. (Cl. 250—219)



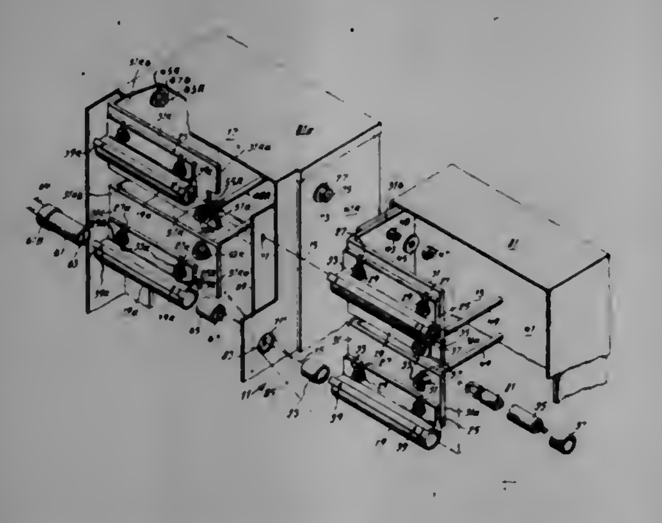
1. In a tape transport, apparatus for sensing the length of the loop in a tape storage column, comprising:

(a) means for providing a beam of collimated light from a zone on the interior of said column and at one end thereof, with said beam being directed along a first axis inclined to a first longitudinal wall of said column and incident on said wall between the limits of excursion of said tape loop when said tape loop is at the more remote limit of excursion thereof;

(b) a transparent pane mounted in said first longitudinal wall of said column and extending between the said limits of excursion of said tape loop; and

(c) a light-sensitive photocell mounted at one end of said pane corresponding to said one end of said column for receiving said light and for providing a signal corresponding to the amount of said light received.

3,197,646
PHOTOSENSITIVE OBJECT DETECTING MECHANISM
Walter G. Anders and Benjamin W. Woodward, Tonawanda, N.Y., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed Jan. 9, 1962, Ser. No. 165,130
8 Claims. (Cl. 250—222)



1. Object detecting mechanism for sensing the presence of a physical object in an entranceway defined between two oppositely disposed entranceway framing structures, said detecting mechanism comprising:

(a) a receiver unit including a photocell adapted for excitation by light energy;

(b) a transmitter unit for projecting a beam of light energy for exciting said photocell;

(c) means for adjustably mounting said receiver unit on one of said entranceway framing structures;

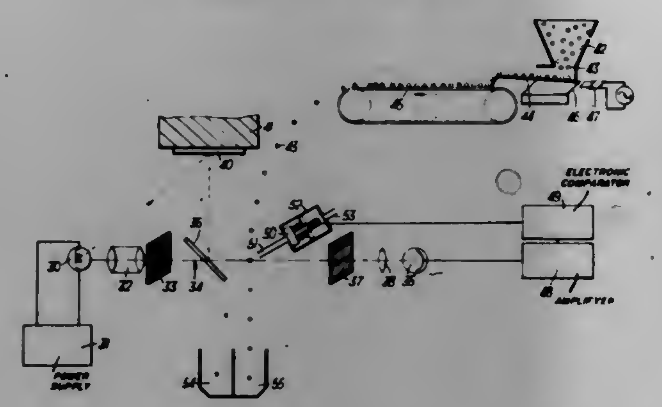
(d) means for adjustably mounting said transmitter unit on the other of said oppositely disposed framing structures in position for projecting its light beam across said entranceway and onto said photocell;

(e) a light shield of opaque material also adjustably mounted on said one of said framing structures for excluding light energy from said photocell, said light shield having a front face intermediate said photocell and said transmitter, said front face having a certain aperture defined therein, said aperture being dimensioned to obtain a pin hole lens opening effect causing light rays passing therethrough to exit at the same angle at which such rays enter said aperture;

(f) said receiver unt, said transmitter unit and said light shield being mounted with respect to each other on said framing structures such that adjustment of said means for adjustably mounting said receiver unit and said transmitter unit permits said light beam from said transmitter to pass through said shield aperture at an angle normal to said shield face and onto said photocell for excitation thereof; and

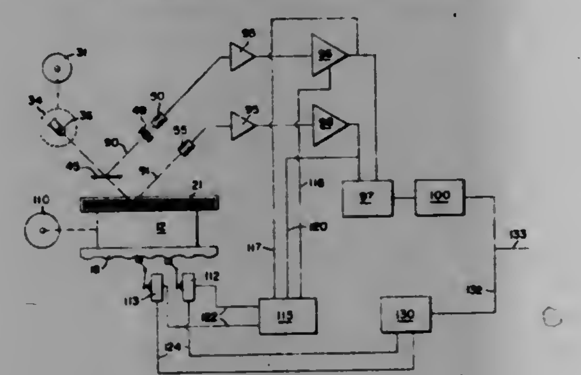
(g) means disposed intermediate said photocell and said shield aperture for preventing extraneous light rays that pass through said aperture from impinging on said photocell.

3,197,647
PHOTOSENSITIVE APPARATUS FOR SORTING TRANSLUCENT OBJECTS
Herbert Fraenkel, London, England, assignor, by mesne assignments, to Gunson's Sortex Limited
Filed Apr. 12, 1962, Ser. No. 187,036
Claims priority, application Great Britain, Apr. 20, 1961, 14,386/61
7 Claims. (Cl. 250—225)



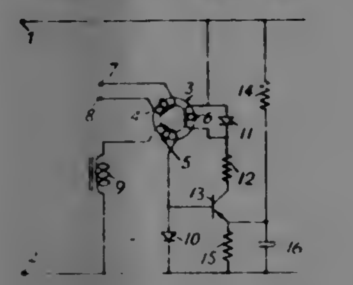
1. A sorting machine for sorting translucent objects of various sizes which modify the polarization of polarized light passing through them, said machine comprising illuminating means for illuminating the translucent objects to be sorted with polarized light; light-sensitive means positioned to receive and be sensitive to light which has passed through a translucent object so illuminated and which has had its polarization modified by said translucent object; means controlled by signals from the light-sensitive means for separating desired from undesired translucent objects; an analyser disposed in the path of the light from the objects to the light-sensitive means, the analyser being crossed with respect tot he polarization of the polarized light produced by the illuminating means; and means for irradiating a translucent object with additional light while said object is being viewed by the light-sensitive means and causing the additional light to fall on the light-sensitive means in amount varying in accordance with variation in the sizes of said objects thereby reducing the variation in the signals from the light-sensitive means caused by variation in the sizes of said objects.

3,197,648
OPTICAL MEASURING APPARATUS USING TIME INTERVAL
Robert H. Gasch, Jr., Long Lake, and Ernest F. Schmidt and Roger O. Wales, Bloomington, Minn., assignors to Honeywell Inc., a corporation of Delaware
Filed Sept. 6, 1960, Ser. No. 54,274
2 Claims. (Cl. 250—236)



1. A linear measuring system for measuring the relative movement between a pair of relatively movable elements, comprising in combination; a fine measuring apparatus including a light source mounted on one of said elements, means providing a pair of equally spaced beams of light from said source, a pair of optical grids each mounted respectively on said pair of relatively movable elements, said light beams being directed on said grids, a photocell associated with each of said grids and operative to be energized upon light from said source falling on said photocell to detect the passage of said beams across each of said grids, means connected to said photocells for measuring the time interval between the periods when each of said photocells become energized to give an output indicative of the displacement of said elements over a fine range of movement; a coarse measuring apparatus for measuring over a coarse range of displacement between said elements including two sets of a plurality of switching means each calibrated corresponding to the units of coarse distance it is desired to measure, said sets being mounted in part on each of said elements and spatially offset from one another so that one set will read a positive unit of measure whenever the other is in a switchover stage of operation, additional switching means responding to the operation of said photocells of said fine measuring apparatus for connecting said one of said sets of switching means to an output circuit for said coarse measuring apparatus; and circuit means combining the outputs of said fine and coarse measuring apparatus to give an indication of relative displacement of said elements over said coarse and fine ranges of movement.

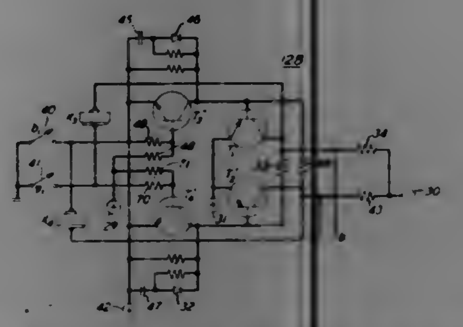
3,197,649
TRIGGER CIRCUITS
Norman Alfred Jukes, Walsall, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Oct. 1, 1962, Ser. No. 227,224
Claims priority, application Great Britain, Oct. 6, 1961, 35,980/61
1 Claim. (Cl. 307—88)



A trigger circuit for producing an output pulse of current when the voltage across a coil reaches a predetermined level comprising in combination with said coil first and second input terminals adapted for connection to a source of direct or rectified alternating current, first and second output terminals, a square loop core, a first winding on said core having its ends connected to the output terminals respectively, a second winding on the core having one end connected to the second input terminal through said coil and its other end connected to the second input terminal through a first diode, a third winding on the core having one end connected to the first input terminal and its other end connected through a first resistor to the collector terminal of a transistor, the base terminal of which is connected to said other end of the second winding, a second diode bridging the ends of the third winding, a second resistor connecting the emitter terminal of the transistor to the first input terminal, and a third resistor and a capacitor connected in parallel between the emitter terminal of the transistor and the second input terminal, the arrangement being such that when the voltage across said coil reaches a predetermined level the transistor will be rendered conductive and an output pulse will appear at the output terminal, whereafter no further output pulses can be obtained until the core is driven to its original state.

3,197,650
PULSE SEQUENCE TIMER

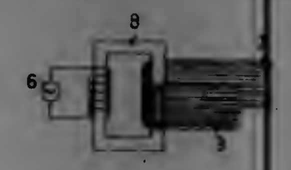
Edward E. Schwenzfeger, Bayside, N.Y., and Irmfried M. Vogt, East Orange, N.J., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Original application Dec. 16, 1958, Ser. No. 780,763, now Patent No. 3,126,525, dated Mar. 24, 1964. Divided and this application Nov. 22, 1963, Ser. No. 329,335
4 Claims. (Cl. 307—88)



2. A pulse sequence timer including first and second input terminals, first and second output terminals, first input bistable means connected to said first input terminal, first output bistable means connected between said first input bistable means and said first output terminal, second input bistable means connected to said second input terminal, second output bistable means connected between said second input bistable means and said second output terminal, a first ferroelectric capacitor serially connected between said first input terminal and said second output terminal, and a second ferroelectric capacitor serially connected between said second input terminal and said first output terminal.

3,197,651
HALL EFFECT DEVICE HAVING ANISOTROPIC LEAD CONDUCTORS

Gottfried Arlt, Aachen, Germany, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Apr. 6, 1960, Ser. No. 20,284
Claims priority, application Germany Apr. 9, 1959
3 Claims. (Cl. 307—88.5)



1. An electric transmission device comprising a thin body of a semiconductive material having a high carrier mobility, means providing a magnetic field having a component normal to the main surface of said body, a transformer having a primary winding and a plurality of secondary windings, a source of signals, means for applying said signals to said primary winding, substantially separate conducting means connecting each of said secondary windings to spaced apart points on a pair of opposite continuous, uninterrupted edges of said body, and means for deriving a Hall voltage from said body.

3,197,652
CONTROLLABLE SEMICONDUCTOR DEVICES

Nicholas De Wolf, Boston, and Roderic E. Hall, Waban, Mass., assignors to Transitron Electronic Corporation, Wakefield, Mass., a corporation of Delaware
Filed June 17, 1960, Ser. No. 36,773
4 Claims. (Cl. 307—88.5)

1. A semiconductor device comprising,

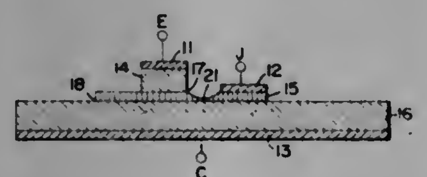
first, second and third terminals,

first, second and third contiguous semiconductor regions, adjacent regions being of opposite conductivity to define a first rectifying junction portion between said first and second regions and a second rectifying junction portion between said second and third regions with said first and second rectifying junction portions polarized in opposite sense,

said first and second rectifying junction portions being in series between said first and second terminals,

a fourth semiconductor region of the same type conductivity as said second region adjacent to said third region and said third terminal and defining with said third region a third rectifying junction portion in series with said first and second rectifying junction portions between said first and third terminals with said first and third rectifying junction portions polarized in the same sense,

means including said fourth region and means intercoupling said second and fourth regions establishing a carrier conduction path from said third terminal for exercising control over the second terminal current and for establishing a negative resistance characteristic between said first and second terminals in which an increase in potential therebetween is accompanied by a decrease in current flowing through said second terminal for a prescribed potential range above a breakover potential and for establishing a positive resistance characteristic between said first and second terminals in which an increase in potential therebetween is accompanied by an increase in current flowing through said second terminal below a saturation current potential lower than said breakover potential which saturation current potential corresponds to the lowest potential where maximum second terminal current is attained when the only potential changed is that between said first and second terminals,



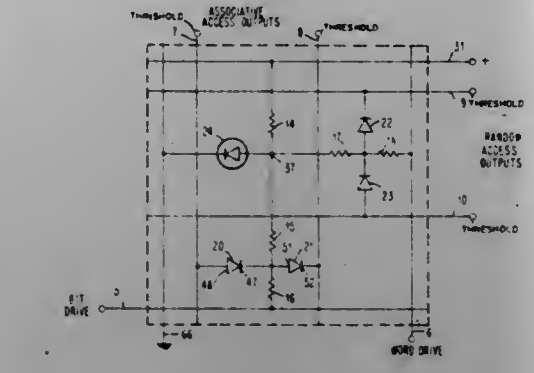
the current through said second terminal then being a single valued function of the potential between said first and second terminals,

the magnitude of said saturation current being controllable and a function of the current flowing through said third terminal.

3,197,653
RANDOM OR ASSOCIATIVE ACCESS MEMORY

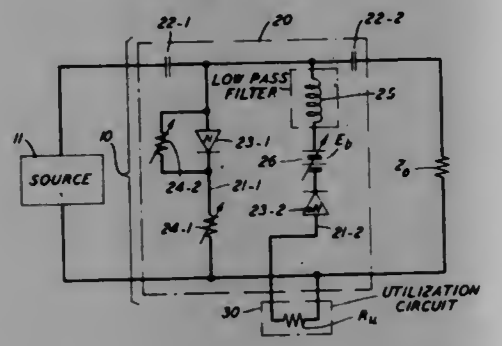
John L. Anderson, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Apr. 3, 1961, Ser. No. 100,395
5 Claims. (Cl. 307—88.5)

1. A memory cell adapted for nondestructive readout comprising: a bipolar driver circuit; a first and a second read-out circuit having a first and a second threshold signal level respectively; a bistable circuit element; a coupling network including two series resistors connected between said bipolar driver and said element; a first diode connected between said first read-out circuit and a point intermediate said two resistors; a second diode connected between said second read-out circuit and said intermediate point; biasing means connected at the junction of said coupling network and said element for biasing said element and said diodes so that a positive signal exceeding said first threshold from said bipolar driver passes through said first diode to said first readout circuit only when said element resides in one of said stable states and a negative signal less than said second threshold on said driver passes through said second diode to said second read-out circuit only when said element resides in the other state.



3,197,654
NEGATIVE-RESISTANCE DIODE DETECTOR

Neal D. Newby, Leonia, N.J., and William C. G. Ortel, New York, N.Y., assignors to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed June 22, 1961, Ser. No. 118,951
7 Claims. (Cl. 307—88.5)



1. Apparatus for coupling a source to a load which comprises

a transmission path interconnecting the source with the load,

a negative resistance diode included in said transmission path and having a current-voltage characteristic with contiguous regions of positive and negative resistance,

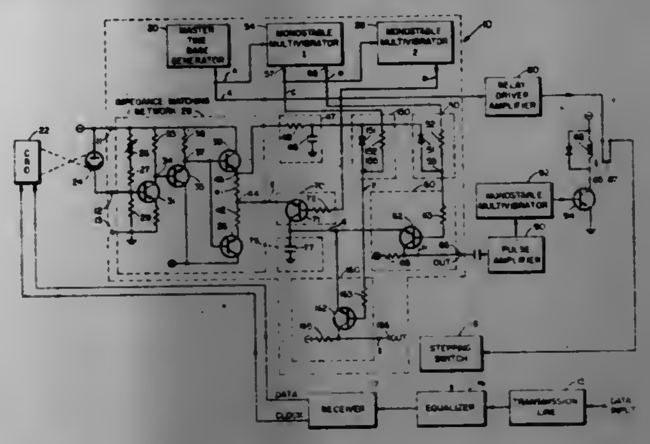
means for biasing said diode to a point of contiguity, said means for biasing comprising a second negative resistance diode whose current-voltage characteristic is dual to that of the first mentioned negative resistance diode,

and means external to said diode for rendering said characteristic substantially symmetrical for an interval about the point of contiguity of said regions of positive and negative resistance.

3,197,655
VOLTAGE STEP DETECTOR

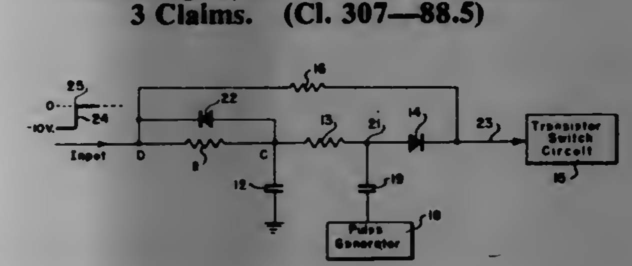
Neil Leman Wiseman, Rochester, N.Y., assignor to General Dynamics Corporation, Rochester, N.Y., a corporation of Delaware
Filed Feb. 6, 1962, Ser. No. 171,505
9 Claims. (Cl. 307—88.5)

1. A detector for detecting a change in magnitude of a stepwise varying input voltage comprising means for sampling said input voltage at recurring intervals, means for generating a storage pulse subsequent to each sampling interval, means for storing said input voltage in response to each of said storage pulses until the arrival of the next storage pulse, output comparison means operated upon by said sampled voltage and said stored voltage for providing an output signal to indicate the change in the magnitude of said imput voltage.



3,197,656
TRANSISTOR TIME DELAY CIRCUITS

Paul M. Kintner, Huntington Station, N.Y., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed Aug. 6, 1962, Ser. No. 215,155
3 Claims. (Cl. 307—88.5)



1. A time delay circuit which comprises

(a) an input circuit for receiving an input signal changing between first and second levels,

(b) said input circuit including a time delay circuit having a series resistance and shunt capacitance.

(c) a reset diode connected in shunt with the series resistance and poled to bring the voltage on said capacitance substantially to the first level of the input signal upon the occurrence thereof,

(d) the capacitance discharging through the series resistance toward the second level of the input signal upon the occurrence thereof,

(e) a transistor switching circuit having input and output circuits.

(f) means for establishing a threshold switching level of the transistor input circuit at substantially the second level of the point signal upon the occurrence thereof,

(g) a resistance and diode connected in series between the shunt capacitance and the transistor input circuit in the order named,

(h) said diode being poled to be initially substantially non-conductive when the input signal changes to said second level and thereby substantially isolate the time delay and transistor input circuits,

(i) a second capacitance small compared to said shunt capacitance and connected to the junction of the last-mentioned resistance and diode,

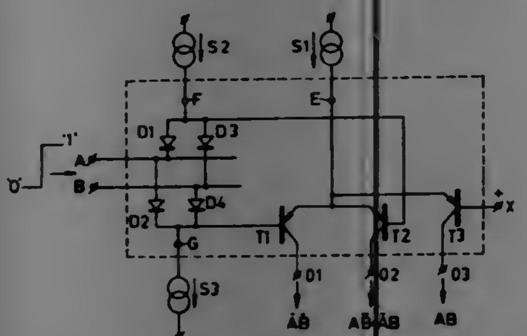
(j) and means for applying repetitive pulses to the second capacitor having an amplitude less than the difference between the input signal levels to periodically add pulse voltages to the shunt capacitance voltage at said junction,

(k) the period of the pulses being predetermined to yield added voltages passing above said threshold switching level during the discharge of the shunt capacitance sufficiently to switch the transistor switch circuit to the opposite state thereof and being short compared to the time delay between the change of the input signal to the second level and the switching.

3,197,657

ELECTRICAL LOGICAL CIRCUIT

Raymond William Clarke, Smallfield, Horley, England, assignor to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware
Filed Dec. 12, 1962, Ser. No. 244,055
Claims priority, application Great Britain, Dec. 21, 1961, 45,835/61
4 Claims. (Cl. 307—88.5)

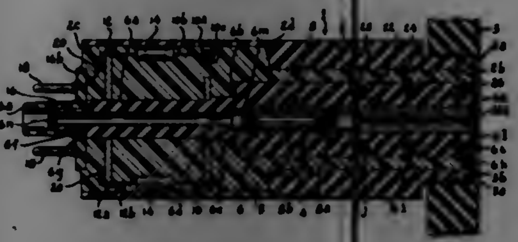


1. A logical circuit comprising a plurality of signal input terminals, a pair of transistors having their emitters connected to a common constant-current supply terminal, a signal output terminal connected to a collector of the transistor pair, a plurality of pairs of asymmetrically conductive paths equal in number to the number of signal input terminals, the paths of each of said pairs being connected in series with each other with the same low-impedance direction of conduction between the two base electrodes of the transistor pair with their junction connected to one of the signal input terminals, each base electrode of the transistor pair being connected to a further constant-current supply terminal one of which terminals is provided for connection to a source having such polarity as to pass current into the system of asymmetrically conductive paths while the other terminal is for connection to a source having such polarity as to take current from said system of paths and a third transistor having its emitter connected to the emitters of the transistor pair, its base connected to a bias supply point and its collector connected to an additional logical output terminal.

3,197,658

PROXIMITY RESPONSIVE DEVICE

Richard J. Byrnes, West Allis, Walther Richter, River Hills, Robert W. Spink, Wauwatosa, and Merle R. Swinehart, Brookfield, Wis., assignors to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed May 25, 1961, Ser. No. 112,716
11 Claims. (Cl. 307—116)

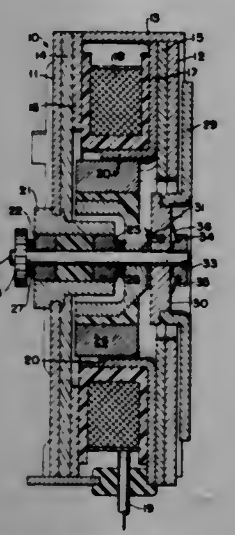


11. In a proximity sensing device for detecting the presence of electrically conducting elements adjacent thereto and for providing an output control signal in response thereto, a cylindrical probe having a sensing end and a plug end, said probe comprising a tubular external housing member open at opposite ends, a cylindrical mounting member spaced coaxially within said housing member, said mounting member having a sensing end flush with one end of said housing member and having a plug end extending beyond the other end of said housing member, sensing coils mounted adjacent the sensing end of said mounting member in spaced apart relation comprising a primary coil and a pair of secondary coils, a pair of spaced insulating discs mounted on said supporting member within said housing member between said coils and said other end of said housing member, means mounted between said discs for energizing said primary coil with an alternating voltage, an axial bore extending through said supporting member, magnetic means within said bore for coupling said secondary coils to said pirmary coil, said coils being arranged to provide a directive magnetic field extending axially from the sensing end of said probe, said secondary coils being balanced to provide no net voltage when said magnetic field is undisturbed, conveyance of an electrically conductive element into said magnetic field being effective to cause said secondary coils to provide an output voltage, circuit means mounted between said discs for utilizing said output voltage, potting material filling the space around said supporting member within said housing member, and an electrical connector mounted on the extending end of said mounting member and electrically connected to said circuit means.

3,197,659

MOTION DAMPER FOR INTERMITTENT ROTARY DEVICES

Maurice B. Marshall, Waterbury, Conn., assignor to Consolidated Electronics Industries Corp., Waterbury, Conn., a corporation of Delaware
Filed May 2, 1961, Ser. No. 107,271
3 Claims. (Cl. 310—49)



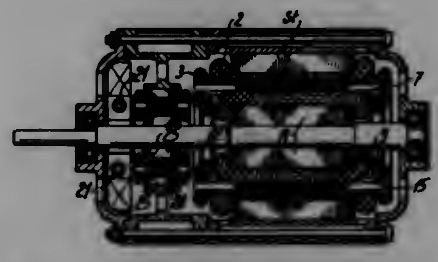
1. A compact stepper-motor-damper combination comprising

(a) a stepper-motor having a rotatable output shaft carrying output pinion means,
(b) an annularly shaped rotor having at least one friction surface disposed radially outward of said shaft,
(c) said rotor being fixedly mounted on said output shaft,
(d) an inertia member loosely mounted on said shaft adjacent said rotor friction surface and comprising a disc-like member having a friction surface,
(e) a friction slip drive means acting axially between said inertia member and said rotor friction surface,
(f) said slip drive means comprising a washer-like element formed of a material having controlled friction properties characteristic of polymerized tetrafluoroethylene, nylon and phenolic, and
(g) spring means acting axially on said inertia member to urge said inertia member friction surface axially against said washer-like element to urge axially said washer-like element into predetermined pressure engagement with said rotor,
(h) said slip drive means being operative to exert a predetermined slip torque between said inertia member and said rotor surface,
(i) said slip torque causing controlled slippage between said rotor and said inertia member upon deceleration of said rotor,
(j) said controlled slippage influencing the output of said shaft.

3,197,660

FREQUENCY CONVERTER

Georg Leischner, Zurich, Switzerland, assignor to Marie Cecile Kissling, Geneva, Switzerland
Filed Aug. 30, 1961, Ser. No. 134,894
Claims priority, application Switzerland, Sept. 9, 1960, 10,201/60
16 Claims. (Cl. 310—160)

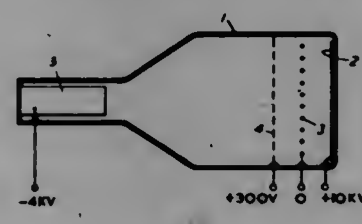


1. In a frequency converter comprising a rotor and a stator, an excitation low frequency multi-phase winding and a generator low frequency multi-phase winding, said rotor carrying one of said low frequency windings and said stator carrying said other low frequency winding, an excitation intermediate frequency multi-phase winding and a generator intermediate frequency multi-phase winding, said rotor carrying one of said intermediate frequency windings and said stator carrying said other intermediate frequency winding, means including said low frequency windings for producing within the bodies of said rotor and of said stator a corresponding low number of pairs of magnetic poles, and means including said intermediate frequency windings for producing in said bodies a corresponding higher number of pairs of magnetic poles, the ratio between said low number of pairs of magnetic poles and said higher number of pairs of magnetic poles being defined by the ratio between said low and said intermediate frequencies, said low frequency excitation winding being housed in grooves which are located upon the median axes of said higher number of pairs of magnetic poles.

3,197,661

SIGNAL STORAGE TUBES

Ian Robertson Sinclair, Chelmsford, England, assignor to English Electric Valve Company Limited, London, England, a British company
Filed Feb. 13, 1961, Ser. No. 88,987
Claims priority, application Great Britain, Feb. 22, 1960, 6,132/60
9 Claims. (Cl. 313—68)

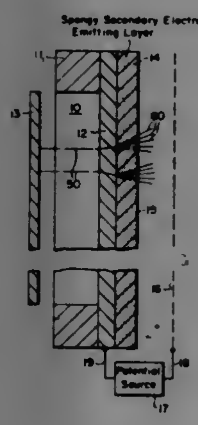


1. A signal storage tube including an electron source, a storage electrode positioned in the path of electrons from said source and comprising a metallic mesh having deposited on the side thereof towards the electron source a thin insulating layer of material exhibiting the "Malter Effect," a collector electrode closely adjacent but spaced from said storage electrode on the side thereof nearer the electron source, and a further electrode closely adjacent but spaced from said storage electrode on the side thereof remote from the electron source.

3,197,662

TRANSMISSIVE SPONGY SECONDARY EMITTER

Robert J. Schneeberger, Pittsburgh, Pa., assignor to Westinghouse Electric Corporation, East Pittsburgh, Pa., a corporation of Pennsylvania
Filed Mar. 11, 1960, Ser. No. 14,394
16 Claims. (Cl. 313—104)

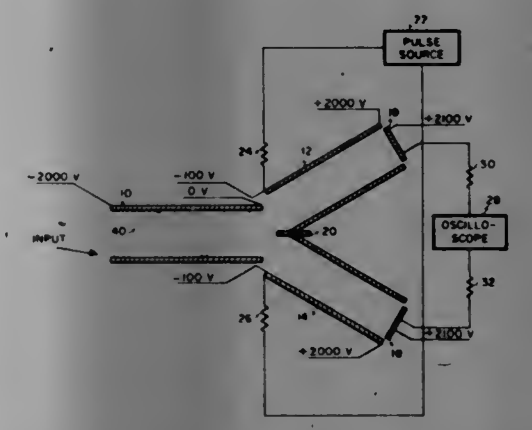


1. A secondary electron source comprising a layer of insulator material on a conductive and electron penetrable support member, said layer of insulator material consisting of matter in spongy form having a density of less than 2 percent of the density of said insulator material in the bulk form.

3,197,663

ELECTRON MULTIPLIER GATE

James Norman, Blacksburg, Va., and Hayden Smith, Jr., Whitmore Lake, and Robert R. Thompson, Livonia, Mich., assignors to The Bendix Corporation, Southfield, Mich., a corporation of Delaware
Filed June 4, 1962, Ser. No. 199,798
4 Claims. (Cl. 313—103)



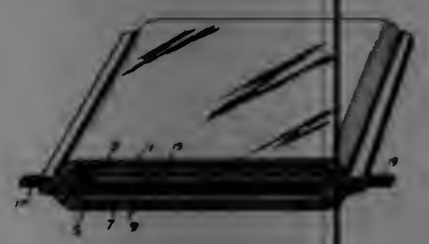
2. A gate for a first channel electron multiplier comprising

a plurality of channel electron multipliers having their inputs positioned relative to the output of the first channel to receive electrons emerging from the first channel, means for applying biasing voltages to the inputs of each of the plurality of channels to prevent the entrance of electrons emerging from the first channel, and means for applying a voltage pulse to at least one of the inputs of the plurality of channels to cause the electrons emerging from the first channel to enter the pulsed channel during application of the pulse.

3,197,664
ELECTROLUMINESCENT DEVICES AND AN IMPROVED DIELECTRIC MEDIA FOR SUCH ELECTROLUMINESCENT DEVICES

Thomas J. Sentementes, Wakefield, and Frederic Koury, Lexington, Mass., assignors to Sylvania Electric Products Inc., a corporation of Delaware

Filed Mar. 9, 1961, Ser. No. 94,536
10 Claims. (Cl. 313—108)

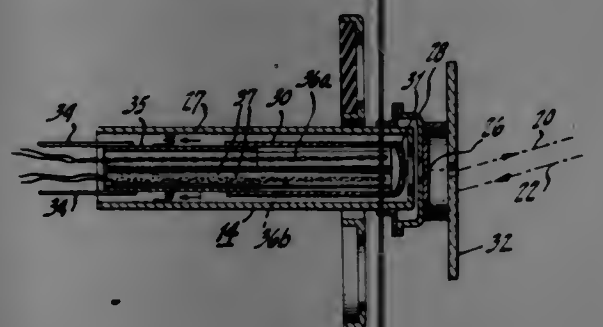


7. An electroluminescent device comprising: a first electrode, a superposed second electrode, and a layer of light-emitting material between said first and second electrodes comprising an electroluminescent phosphor embedded in cyanoethylcellulose having a degree of substitution of 2.3 to 2.5.

3,197,665
ELECTRON GUN WITH POSITIONER FOR EMISSIVE SURFACE OF CATHODE

Appleton Danforth Cope, Hightstown, N.J., assignor to Radio Corporation of America, a corporation of Delaware

Filed May 11, 1962, Ser. No. 193,920
8 Claims. (Cl. 313—146)

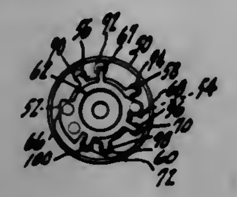


7. A television pickup tube comprising:
(a) an elongated envelope having an axis;
(b) an electron gun substantially on said axis;
(c) said electron gun including a tubular cathode having a close end and an open end;
(d) said closed end being substantially hemispherical in shape and having an electron emissive coating thereon;
(e) a hollow tubular control electrode positioned substantially coaxially around said tubular cathode;
(f) said control electrode having an end positioned substantially normal to said axis and having an aperture therein; and,
(g) differential heating means for positioning a selected area of said closed end of said cathode adjacent to the aperture in said control electrode, said differential heating means comprising:
  a plurality of heaters adapted to be independently energized and circumferentially spaced around the inner periphery of said tubular cathode.

3,197,666
ELECTRON TUBE HAVING A NOVEL ELECTRODE SUPPORT ARRANGEMENT

John Wallen Gaylord and John B. Pyle, both of Lancaster, Pa., assignors to Radio Corporation of America, a corporation of Delaware

Filed Oct. 9, 1961, Ser. No. 143,846
15 Claims. (Cl. 313—255)

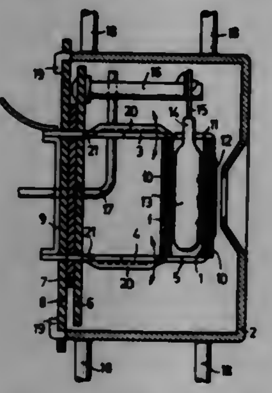


1. An electron tube having an envelope, a first elongated electrode within said envelope, an annular conductive structure connected to one end of said electrode and sealed through the wall of said envelope, said structure defining a cup-shaped portion within said envelope, and a second electrode insulatingly fixed to spaced portions only, of said annular structure and within said cup-shaped portion.

3,197,667
INDIRECTLY HEATED CATHODE OF SMALL FILAMENT CURRENT POWER

Friedrich Hermann Raymund Almer, Adrianus Kuiper, and Pieter Geert van Zanten, all of Eindhoven, Netherlands, assignors to North American Philips Company, Inc., New York, N.Y., a corporation of Delaware

Filed Sept. 29, 1960, Ser. No. 59,229
Claims priority, application Netherlands, Oct. 2, 1959, 243,986
4 Claims. (Cl. 313—263)



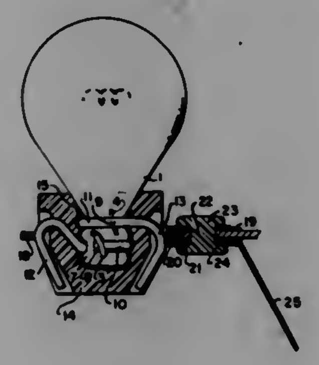
1. In an electron discharge tube an electrode assembly comprising a cylindrical cathode having a given longitudinal axis, a heater element within said cathode, at least one other electrode having an active surface and surrounding said cathode, the active surface of said other electrode being parallel to the longitudinal axis of the cathode, an insulating member spaced from said cathode, and a plurality of reinforced parallel cathode supporting strips of relatively poor thermal conductivity having about the same length as the cathode extending at right angles to the longitudinal axis of and securing the cathode to said insulating member, at least one end of said cathode being closed by one of said supporting strips.

3,197,668
LAMP WITH RESILIENT CONTACT TERMINALS

John J. Horan, 420 Quigley Ave., Willow Grove, Pa.
Original application Apr. 11, 1960, Ser. No. 21,408, now Patent No. 3,118,717, dated Jan. 21, 1964. Divided and this application Mar. 21, 1962, Ser. No. 181,399
5 Claims. (Cl. 313—318)

1. An electric lamp comprising:
a radiant energy producing device;
a hermetically sealed enclosure containing said device;
said enclosure having a press portion at the lower end thereof;

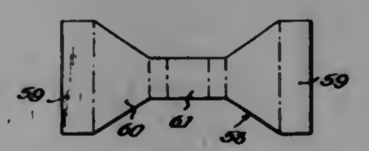
a pedestal enclosing said press portion and having an outside wall;
a plurality of electrical leads extending from said energy producing device out of said enclosure and into said pedestal via said press portion,
said press portion being sealed around each of said leads;
a plurality of metallic members contained within said pedestal;
each of said members being a connection to a respective one of said leads;
said members having resilient contact portions thereof



projecting out of said pedestal and flanking said wall along their respective lengths toward their termini;
at least one of said resilient contact portions sloping outwardly from above and below toward a radial bulge thereon spaced outwardly from said wall;
said lamp having a radial projection axially spaced slightly beyond said bulge;
whereby, after the said bulge on the said resilient contact portion has been passed resiliently through a constricting hole in an extraneous thin-walled receptacle, the edge of said hole may be resiliently held between said bulge and said projection.

3,197,669
ELECTRON EMITTING ELEMENT FOR ELECTRON GUN

Julius Lee Solomon, Chicago, Ill., assignor to Welding Research, Inc., Chicago, Ill., a corporation of Illinois
Original application May 12, 1961, Ser. No. 109,575, now Patent No. 3,187,216, dated June 1, 1965. Divided and this application May 23, 1961, Ser. No. 112,084
2 Claims. (Cl. 313—342)

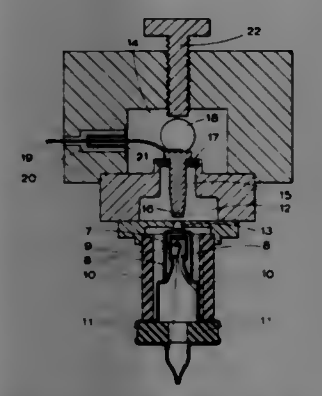


1. An electron emitting element comprising a strip of metal of substantially the same thickness throughout but which varies in width, said element having a shape providing a pair of spaced clamping portions, a centrally located uninterrupted flat area and diagonal portions connecting the clamping portions with the flat area, said clamping portions being disposed in parallel planes and which have a right angle relation with the flat area, said flat area at respective ends being joined to the diagonal connecting portions by the metal of the strip and which has reverse bends, whereby the magnetic field such as may be caused by current flow in the flat area is substantially nullified, and the said strip having its maximum width at the clamping portions and its minimum width along the length of the flat area.

3,197,670
ELECTRON DISCHARGE DEVICES FOR GENERATING HIGH FREQUENCY OSCILLATIONS

Douglas Jaques Wootton, Harrow, England, assignor to Electric & Musical Industries Limited, Hayes, England, a company of Great Britain

Filed Mar. 16, 1959, Ser. No. 799,666
Claims priority, application Great Britain, Mar. 20, 1958, 8,900/58
8 Claims. (Cl. 315—5.21)

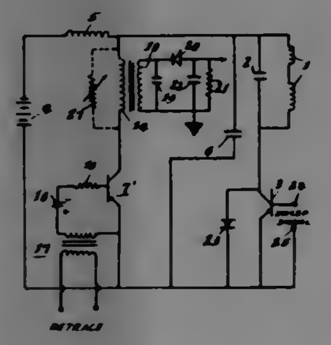


1. An electron discharge device for generating high frequency oscillations on the retarding field principle comprising means for generating electrons, a first body structure forming walls of a resonant cavity, an aperture in said body structure for allowing the passage of electrons from said generating means into said resonant cavity, a second body structure forming walls of a resonant tuning cavity, a coaxial transmission line coupling the first mentioned cavity to said tuning cavity for feeding high frequency oscillations set up in said first mentioned cavity to said tuning cavity, a reflector electrode in a fixed position in said first mentioned cavity for reflecting said electrons so that high frequency oscillations are set up in said first mentioned cavity by said electrons, said reflector electrode extending to said tuning cavity to form with a portion of said first body structure said coaxial transmission line, and being wholly disposed within the two body structures, means for changing the resonant frequency of said tuning cavity thereby to change the resonant frequency of said first mentioned cavity, and means for extracting said high frequency oscillations from said tuning cavity.

3,197,671
TRANSISTORIZED DEFLECTION SYSTEM

George R. Carlson, Winnetka, Ill., assignor to Warwick Electronics Inc., a corporation of Delaware

Filed May 21, 1962, Ser. No. 196,115
6 Claims. (Cl. 315—27)

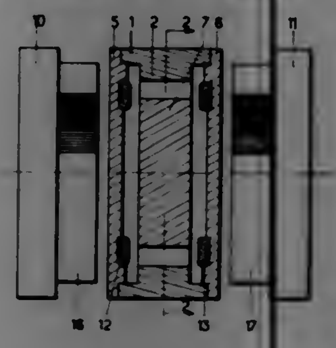


1. In a display device having a deflectable electron beam and a sweep circuit for developing sweep and retrace control signals, a deflection system comprising: a source of direct current potential; deflection means; first switch means connected in series with said deflection means and connected with said source, and controlled by said signals to conduct during the sweep signal; a capacitor connected in parallel with said deflection means and

first switch means, across said source; and second switch means operatively connected with said source and capacitor and controlled by said sweep and retrace signals to control the charge of said capacitor from said source during retrace.

3,197,672
MAGNETIC FIELD STRENGTH REDUCTION NEAR COLLECTOR OF M-TYPE TRAVELLING WAVE TUBE

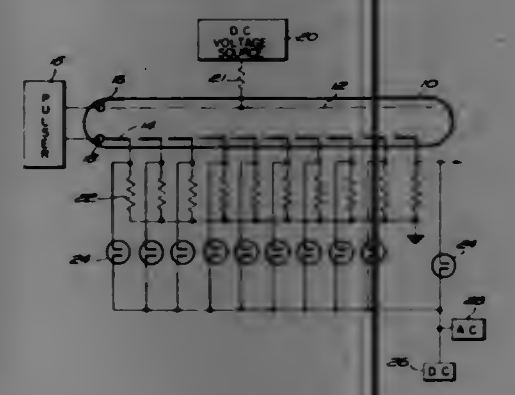
Maurice Favre, Paris, France, assignor to Compagnie Generale de Telegraphie Sans Fil, Paris, France
Filed Mar. 7, 1961, Ser. No. 93,959
Claims priority, application France, Mar. 29, 1960, 822,736
9 Claims. (Cl. 315—39.3)



1. In a travelling wave tube of the M-type having successively adjacent an electron gun area, an interaction area and a collector area and means including pole piece means for generating through said three areas a transverse magnetic field, the improvement essentially consisting of means for substantially reducing the field strength of said magnetic field traversing said collector area with respect to the field strength thereof traversing said interaction area including auxiliary pole piece means operatively associated with said first-mentioned pole piece means and effectively providing discontinuities within said collector area to reduce the transverse magnetic field set up by said first-mentioned pole piece means within said collector area.

3,197,673
COUNTING CIRCUITRY EMPLOYING MULTI-CATHODE GLOW TRANSFER TUBE AND A.C. BIAS SOURCE TO INCREASE CIRCUIT STABILITY

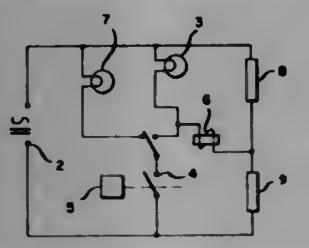
Charles B. Falconer, Newton, Mass., assignor to Laboratory for Electronics, Inc., Boston, Mass., a corporation of Delaware
Filed Oct. 4, 1962, Ser. No. 228,385
2 Claims. (Cl. 315—84.6)



1. An improved counting circuit in which a glow discharge is sequentially transferred from one adjacent cathode to the next in a glow transfer tube by a series of applied impulses comprising: a series of gas discharge tubes each connected to one of said cathodes; means for sequentially applying a drive voltage to said gas discharge tubes in response to said glow discharge; and means for applying a continuous A.C. voltage to each of said gas discharge tubes to reduce the magnitude of the drive voltage necessary to reach the maximum striking potential of said gas discharge tubes, said continuous A.C. voltage having a peak to peak value less than twice the minimum striking potential of said gas discharge tubes and not greater than the difference between the maximum striking potential and the maximum maintaining potential.

3,197,674
ARRANGEMENT FOR CAUSING AN INDICATION UPON THE INTERRUPTION OF A LOAD CIRCUIT

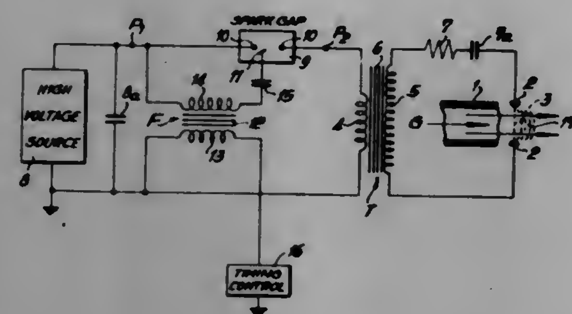
Sten Gustaf Hellman, Lidingo, Sweden, assignor to AGA Aktiebolag, Lidingo, Sweden, a corporation of Sweden
Filed June 23, 1961, Ser. No. 119,097
Claims priority, application Sweden, July 11, 1960, 6,785/60
4 Claims. (Cl. 315—88)



1. An electrical circuit comprising terminals for connection to a source of current, a load, a flasher contact connected in series with said terminals and load, means for intermittently closing and opening said flasher contact, a relay comprising a winding and a make and break contact, first impedance means connected in parallel with said load through said winding, second impedance means connected in parallel with said flasher contact through said winding, said make and break contact being in series with said flasher contact and said load with the winding connected intermediate said load and said make and break contact, and a second load in parallel with said first load series connected to said make and break contact and said terminals.

3,197,675
METHOD AND APPARATUS FOR HIGH-SPEED PHOTOGRAPHY OF GAS FLOW PHENOMENA

Frank Fruengel, Sulldorfer Landstrasse 400, Hamburg-Rissen, Germany, and Walter Thorwart, Hamburg-Rissen, Germany; said Thorwart assignor to said Fruengel
Filed Jan. 30, 1961, Ser. No. 85,854
19 Claims. (Cl. 315—111)



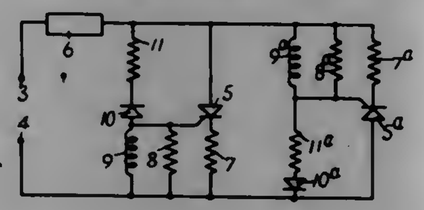
6. In apparatus for high-speed photography of gas flow phenomena including channel means for delivering a stream of gas along a predetermined path at a gas stream velocity of between 5 and 3,000 meters per second, in combination, spark gap means positioned across the path of the gas stream produced by said channel means for directing spark discharges across said stream of gas;

pulse input means for providing pulse sequences of a frequency between 5,000 and 300,000 pulses per second and very short pulse duration; and

pulse providing means coupling said pulse input means to said spark gap means for causing between 5,000 and 300,000 very short spark discharges per second while said gas stream is moving at said gas stream velocity of between 5 and 3,000 meters per second, the energy of said spark discharges being small enough to create minimum gas flow disturbance but sufficient to provide light for photographing the gas stream.

3,197,676
ALTERNATING CURRENT OVERLOAD PROTECTION CIRCUITS

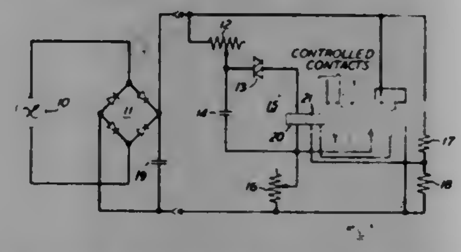
Peter David Jones, Castle Bromwich, Birmingham, England, assignor to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Nov. 5, 1962, Ser. No. 239,861
Claims priority, application Great Britain, Nov. 22, 1961, 41,733/61
7 Claims. (Cl. 317—33)



1. An A.C. overload protection circuit comprising in combination an A.C. source, first and second terminals connected to said A.C. source, a switchable rectifier having its anode connected to the first terminal, a first resistor through which the cathode of the switchable rectifier is connected to the second terminal, a load in the anode-cathode circuit of the switchable rectifier, resistance means connecting the gate of the switchable rectifier to the second terminal, an inductor connected across said resistance means, and a series circuit connecting the gate of the switchable rectifier to the first terminal, said series circuit including a diode, the switchable rectifier being non-conductive during alternate half-cycles in which energy is stored in said inductor, but being switched on during intervening half-cycles by the energy stored in said inductor, and said switchable rectifier being switched off when current flowing in the load exceeds a predetermined value.

3,197,677
SNAP ACTION RELAY WITH CLOSE OPERATE AND RELEASE VOLTAGES

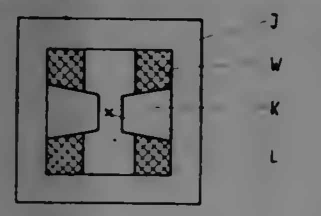
Eero E. Helin, Cold Spring Harbor, N.Y., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Mar. 15, 1962, Ser. No. 179,971
7 Claims. (Cl. 317—155.5)



1. A relay circuit responsive to a variable voltage comprising a voltage divider to which said variable voltage may be applied, a relay having first and second windings and a plurality of contacts, said first winding being responsively coupled across at least part of said voltage divider, said first winding being effective to operate said relay in response to an increase in said variable voltage above a first level, means responsive to the operation of said relay for reducing the effectiveness of said first winding to permit release of said relay in response to a decrease of said variable voltage below a second level that is closer to said first level than in the absence of said reducing means, means for connecting said second winding across a first portion of said voltage divider in a polarity to oppose said first winding when said relay is released, and a normally open contact of said relay effective to connect said second winding across a second adjacent portion of said voltage divider in a polarity to aid said first winding intermediately during operation of said relay, said normally open contact being opened intermediately during release of said relay.

3,197,678
APPARATUS FOR PRODUCING MAGNETIC FIELDS

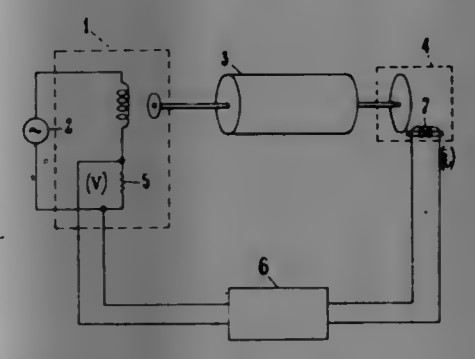
Johann Jaroslav Primas, Zurich, Switzerland, assignor to Trüb, Taüber & Co. AG., Zurich, Switzerland
Filed Jan. 30, 1962, Ser. No. 169,911
Claims priority, application Switzerland, Sept. 26, 1961, 11,222/61
4 Claims. (Cl. 317—158)



1. Apparatus for producing a magnetostatic field of predetermined form comprising two pole shoes on a common yoke and separated by an air gap, each pole shoe having a surface form corresponding to a potential surface of an electrostatic field whose field distribution in the air gap and its vicinity is the same as that of the desired magnetostatic field, the electrostatic field strength on the said potential surface having a constant value at the point of greatest field strength and a declining value in all directions from the single point of greatest field strength, and each pole shoe surface having a radius of curvature greater than half the width of said air gap.

3,197,679
SPEED STABILITY APPARATUS FOR SYNCHRONOUS MOTOR

Eric Thomas Arthur Phillips, Derek Francis Banks, and Allen Arthur Kirchel, Beckenham, Kent, England, assignors to Muirhead & Co., Limited, Beckenham, Kent, England
Filed Jan. 23, 1963, Ser. No. 253,487
Claims priority, application Great Britain, Mar. 12, 1962, 9,446/62
4 Claims. (Cl. 318—180)



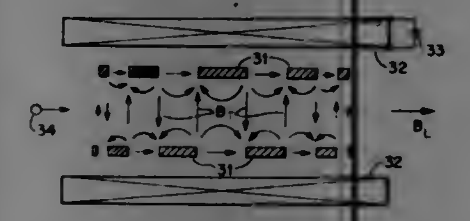
1. An arrangement for at least partially eliminating undesired fluctuations in the angular velocity of rotating apparatus, comprising a synchronous electric motor drivably connected to the rotating apparatus, a shaft rotating with said apparatus, electromagnetic braking means acting on said shaft and arranged to apply a continuous braking torque thereto, a winding in the said motor, an electric circuit including said winding, sensing means in the said circuit to detect fluctuations in the current flowing in said

winding, and control means for producing an output signal derived from the average of the fluctuations sensed by the sensing means and for applying the said output signal to the said braking means to vary the braking torque applied thereby to said shaft.

3,197,680
CHARGED PARTICLE ANGULAR MOMENTUM CHANGER

Richard C. Wingerson, Dayton, Ohio, assignor to Massachusetts Institute of Technology, Cambridge, Mass., a corporation of Massachusetts

Filed Mar. 13, 1962, Ser. No. 179,410
13 Claims. (Cl. 317—200)

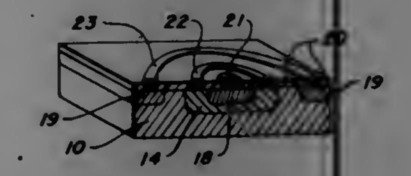


1. A device for changing the magnetic moment of a charged particle moving in a static magnetic field with a definable axis comprising means to supply a field transverse to the axis of said static magnetic field at the location of said particle whereby forces act on said particle to change its path and means to change the direction of said transverse field in accordance with the changing location of said charged particle, along a helical path characterized by decreasing pitch with increasing radius.

3,197,681
SEMICONDUCTOR DEVICES WITH HEAVILY DOPED REGION TO PREVENT SURFACE INVERSION

Gerald R. Broussard, Richardson, Tex., assignor to Texas Instruments Incorporated, Dallas, Tex., a corporation of Delaware

Filed Sept. 29, 1961, Ser. No. 141,708
3 Claims. (Cl. 317—235)

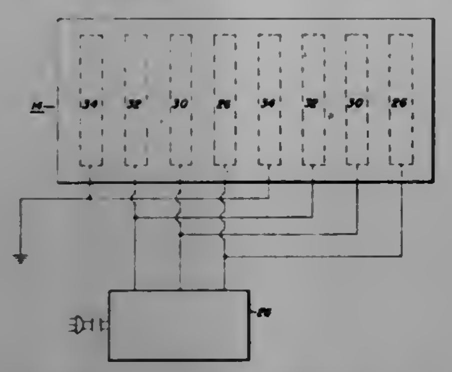


1. A transistor comprising a wafer of semiconductor material, a shallow base region defined in the wafer near one major face thereof composed of semiconductor material of conductivity-type opposite to that immediately underlying the base region, the base region occupying only a limited part of the total area of said one major face, a shallow emitter region defined in the wafer near said one major face overlying a portion of the base region and being surrounded by the base region, the emitter region being composed of conductivity-type opposite that of the base region, and means for preventing the effects of inversion of the conductivity type of the surface of the wafer, said means comprising an annular region defined in the wafer near said one major face completely surrounding the base region and laterally spaced therefrom, the annular region being very heavily doped with conductivity-determining impurities of the type opposite that in the base region, the annular region being of the same conductivity type as that of subjacent semiconductor material.

3,197,682
SAFE ELECTRO-RESPONSIVE-FLUID CHUCK

Donald L. Klass, Barrington, and Thomas W. Martinek and Lynn E. Ellison, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio

Filed Apr. 13, 1961, Ser. No. 102,706
4 Claims. (Cl. 317—262)

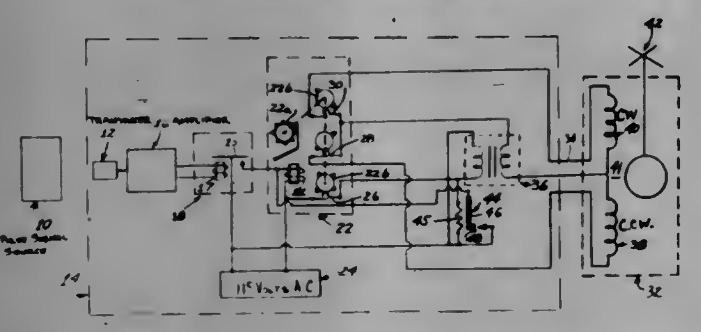


1. A chuck comprising a plurality of spaced electrodes supported in co-planar and electrically insulated relationship; a thin layer of dielectric material supported adjacent to said plurality of electrodes, the exposed adjacent surfaces of said electrodes being in physical contact with the exposed surface of said dielectric layer; a film of electroviscous liquid covering and supported by the other exposed surface of said dielectric layer not in contact with said plurality of electrodes; means to connect said plurality of electrodes to an alternating potential source; other electrodes disposed adjacent to, but insulated from, the electrodes comprising said plurality; and means for grounding said other electrodes.

3,197,683
PULSE OPERATED REMOTE CONTROL SYSTEM

Robert P. Bennett and William O. Lichtner, Jr., Raleigh, N.C., assignors to Cornell-Dubilier Electric Corporation, a corporation of Delaware

Filed Dec. 27, 1961, Ser. No. 162,501
2 Claims. (Cl. 318—16)

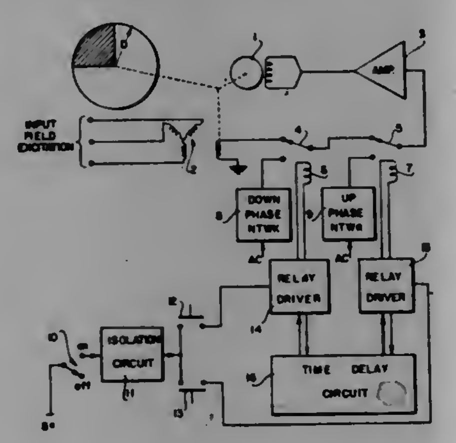


1. Control apparatus for operating a remote antenna comprising a reversible motor for rotating said antenna, a pair of mechanical stops that limit the rotation of said antenna to substantially 360°, control apparatus remote from said motor for energizing and controlling the duration of rotation of said motor, said control apparatus including energizing means for said motor, remote-control pulsing means, program switching means responsive to said pulsing means and arranged to advance a step at a time in response to each pulse, said program switching means having plural successive closed and open control positions in which said motor is energized and de-energized, respectively, alternative ones of said closed control positions energizing said motor for rotation in opposite directions, and deferred-action auxiliary pulsing means arranged to provide an advancing pulse to said program switching means to advance said program switching means from a closed control position to an open control position, the operating parameters of said auxiliary pulsing means and said motor being coordinated so that said auxiliary pulsing means will operate after said antenna should have reached a stop having started from its most distant position, said program switching means having switching connections effective concurrently to energize said motor energizing means and said auxiliary pulsing means and, thereafter, effective concurrently to de-energize said energizing means and said auxiliary pulsing means.

3,197,684
SERVO SYNCHRONIZATION CIRCUIT WITH LOCK-OUT PREVENTION

Carl Ralph Riege, North Hollywood, Calif., assignor to Lockheed Aircraft Corporation, Burbank, Calif.

Filed Aug. 28, 1961, Ser. No. 134,181
2 Claims. (Cl. 318—28)



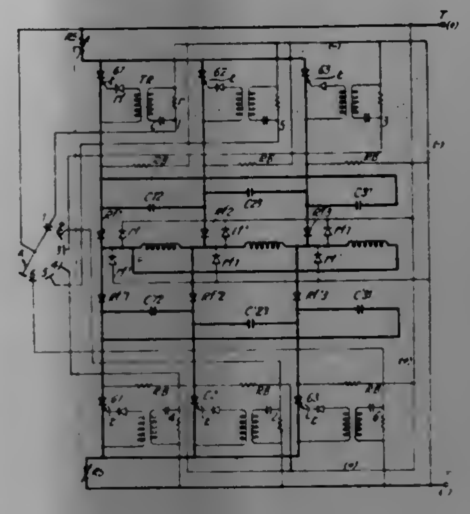
1. In a synchro loop wherein the motor is provided with mechanical stops whereby a lock condition exists by virtue of said stops, the improvement comprising relay contacts connected in the synchro loop, phase shift networks, and relay means responsive to said lock condition to shift one of said relay contacts from said synchro loop to one of said phase shift networks to drive the motor from said lock condition, timing means for de-energizing said relay means after a predetermined delay and isolation circuit means to prevent further operation of said relay means after said lock condition is eliminated.

3,197,685
BISTABLE COMMUTATION SYSTEM FOR DYNAMO ELECTRIC MACHINES UTILIZING ELECTRONIC SWITCHES

Peter John Grenville Hetzel, Dunchurch, Rugby, England, assignor to Associated Electrical Industries Limited, London, England, a British company

Filed Oct. 6, 1960, Ser. No. 60,881
Claims priority, application Great Britain, Oct. 6, 1959, 33,860/59
8 Claims. (Cl. 318—138)

1. In combination with a dynamo-electric machine having armature terminals, field poles, and a plurality of armature current paths so disposed that considering each of them as a whole they will pass between field poles of the machine at different times, a commutating switching arrangement comprising a plurality of pairs of semiconductor switching devices, at least one pair of said switching devices connected in current-reversing association with each armature path, bistable connections between the switching devices of each such pair to operate said switching devices substantially instantaneously from a condition in which one device of the pair is "on" and the other is "off" to a condition in which these states are reversed, the current direction in each path being reversible by such paired reversal of the devices associated therewith, connections interconnecting the armature paths and switching devices in an overall organization including in respect of each armature path series connections thereof establishable by the switching devices through at least one other of the armature paths, and synchronous timing means connected to the switching devices for effecting timed operations of the pairs thereof in a predetermined sequence effective to reverse the current direction of each armature path during its passage between poles while establishing a series connection of said path with another path at least immediately before and immediately after such reversal.



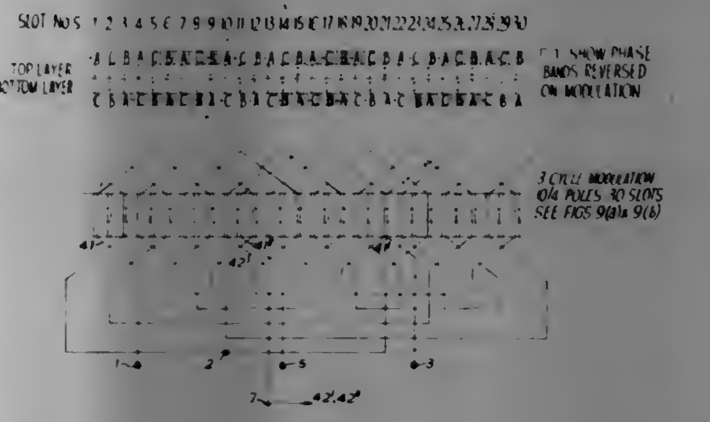
ERRATUM

For Class 318—180 see:
Patent No. 3,197,679

3,197,686
ROTARY ELECTRIC MACHINES PROVIDING POLE-CHANGING BY POLE-AMPLITUDE MODULATION

Gordon Hindle Rawcliffe, Clifton, Bristol, and William Fong, Redland, Bristol, England, assignors to National Research Development Corporation

Filed June 16, 1961, Ser. No. 117,576
Claims priority, application Great Britain, July 5, 1960 23,417/60; Nov. 16, 1960, 39,434/60
6 Claims. (Cl. 318—224)

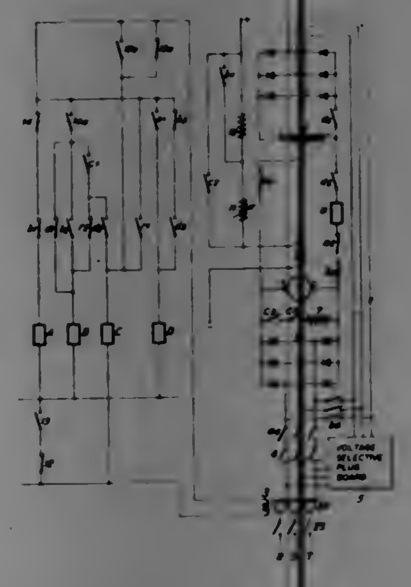

SLOT NOS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
TOP LAYER
BOTTOM LAYER
SHOW PHASE BANDS REVERSED ON MODULATION

1. A rotary electric machine having a three-phase winding comprising consecutive coils forming coil-groups of consecutive phases each coil-group comprising one or more coils, said three-phase winding having first current-supply connections providing a first number of poles defined by the number of said coil-groups in each phase, said three-phase winding having second current-supply connections alternative to said first connections defining a pole-amplitude modulation wave applied to the three-phase winding, said pole-amplitude modulation wave hav-

ing an even multiple of three consecutive positive and negative wave half-cycles, each half-cycle including a number of consecutive coils, the negative half-cycles being characterized by reversal of sense of current flow in the coils of said negative half-cycles relative to the sense of current flow therein with said first current-supply connections, said pole-amplitude modulation wave providing a second number of poles alternative to said first pole-number, said second pole-number being defined as the numerical difference between the first pole-number and the number of said half-cycles of said pole-amplitude modulation wave and the ratio of said first and second pole-numbers being other than 2:1, said coils of said three-phase winding being chorded to an even number of pole-pitches corresponding to a third pole-number, said third pole-number being defined as the numerical sum of said first pole-number and the number of half-cycles of said pole-amplitude modulation wave.

3,197,687
AUTOMATIC BRAKING DEVICE FOR DIRECT CURRENT MOTORS

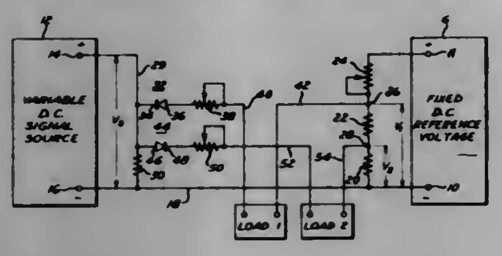
Benjamin Vaucher, Tramelan, Switzerland, assignor to Kummer Freres S.A. Fabrique de Machines, Tramelan, Switzerland, a joint-stock company
Filed Nov. 13, 1961, Ser. No. 151,829
Claims priority, application Switzerland, Nov. 15, 1960, 12,783/60
9 Claims. (Cl. 318—270)



1. An automatic braking device for a direct current motor comprising, in combination, high speed relay means adapted for applying a first predetermined voltage to the motor thereby causing the latter to rotate at a predetermined high speed, low speed relay means adapted for applying a second adjustable voltage to the motor thereby causing the latter to rotate at a speed lower than said predetermined high speed, control switching means having a first position corresponding to said high motor speed and a second position corresponding to said lower motor speed, a braking resistor, contact means adapted to connect said braking resistor to the motor, relay means controlled by said high speed relay means and adapted to control said contact means for connecting said braking resistor to the motor, and a braking control circuit including a calibration resistor having a voltage lower than said first voltage applied at its terminals, said braking control circuit deenergizing said relay means when the voltage applied across the motor has decreased in braking so as to be equal to the voltage applied to said calibration resistor and said relay means thereby causing said second adjustable voltage to be applied to the motor.

3,197,688
MOTOR CONTROL SYSTEM WITH CROSS-OVER CIRCUIT

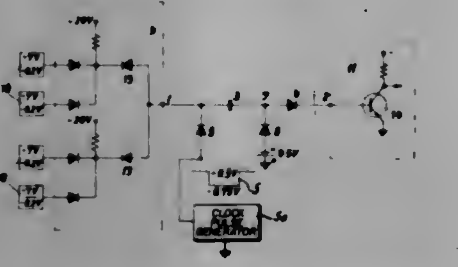
Fred S. Horner, Jr., Waukesha, Wis., assignor to Cutler-Hammer, Inc., Milwaukee, Wis., a corporation of Delaware
Filed July 11, 1962, Ser. No. 208,987
6 Claims. (Cl. 318—338)



1. In combination,
(a) a direct current motor,
(b) first means for normally supplying the motor armature with a predetermined maximum value of current which is decreased inversely in accordance with the value of a first control potential,
(c) second means for normally supplying the motor field winding with a given maximum value of current which is decreased inversely in accordance with the value of a second control potential,
(d) a first source of adjustable direct current potential,
(e) a second source providing first and second constant direct current potentials of different magnitude,
(f) third means in circuit with the motor armature and said first source and providing a resultant direct current potential which varies as a function of the magnitude of said adjustable direct current potential and the instantaneous value of motor armature current,
(g) fourth means in circuit with said first, second and third means and said second source to subject said first means to a first control potential which varies in accordance with the algebraic resultant of said first constant direct current potential and said variable resultant direct current potential and to subject said second means to a second control potential which varies in accordance with the algebraic resultant of said second constant direct current potential and said variable resultant direct current potential.

3,197,689
CIRCUIT FOR DELAYED TRANSMISSION OF BINARY CODED INTELLIGENCE

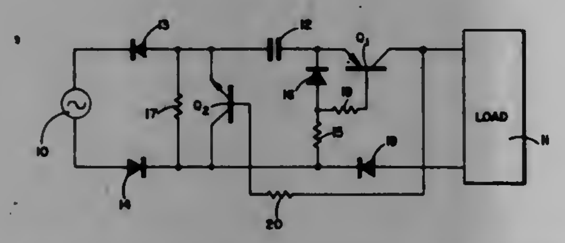
Otto Müller, Sulzbach (Murr), Wurttemberg, Germany, assignor to Telefunken Patentverwertungs-G.m.b.H., Ulm (Danube), Germany
Filed Aug. 25, 1961, Ser. No. 133,871
Claims priority, application Germany, Sept. 3, 1960, T 18,954
4 Claims. (Cl. 320—1)



1. A delay line comprising, in combination: an input; a capacitor having one terminal connected to said input; a first diode having one terminal connected to the other terminal of said capacitor; an output connected to the other terminal of said first diode; a second diode having one terminal connected to said one terminal of said capacitor; means for applying clock pulses to the other terminal of said second diode; a third diode having one terminal connected to said other terminal of said capacitor; and means connected to the other terminal of said third diode and applying a potential to the junction of said capacitor and said first diode, via said third diode, for charging said capacitor, upon the application of an input signal to said input, during the clock pulse interval and discharging said capacitor, via said output, during the trailing flank of a clock pulse; the polarity of said second diode being so arranged that, in the absence of a clock pulse, it is conductive and hence able to pass the input signal appearing at said input and is rendered non-conductive only upon the application of a clock pulse so that there can then be formed at said input an input voltage which corresponds to said input signal; the polarity of said third diode being so arranged that, during the clock pulse, the charging current for said capacitor can flow through said third diode; and the polarity of said first diode being so arranged that, during the trailing flank of the clock pulse, the discharge current for said capacitor can flow through said first diode to said output.

3,197,690
SIGNAL TRANSLATING CIRCUIT FOR PROVIDING ISOLATION BETWEEN D.C. SOURCE AND LOAD

Gary E. Ball, Long Beach, Calif., assignor to North American Aviation, Inc.
Filed Mar. 1, 1963, Ser. No. 261,957
10 Claims. (Cl. 320—1)

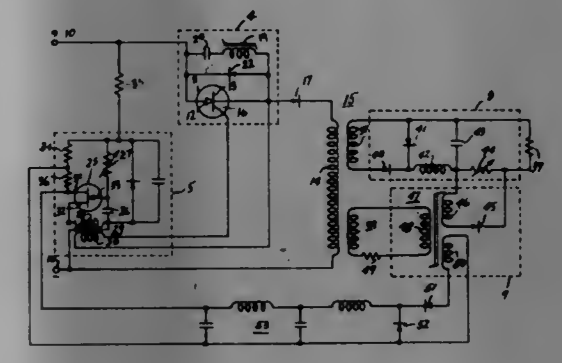


1. A direct current isolating circuit for translating an alternating current signal from a source to a load comprising
a capacitor,
first means coupling said capacitor to said source for charging said capacitor, said means including a diode having one terminal connected to a first side of said capacitor,
second means coupling said capacitor to said load for discharging said capacitor, said second means including a first transistor connecting a junction between said diode and capacitor on one side of said capacitor to said load, and an impedance element connected in series to the other side of said capacitor for return of discharge current through the load,
and third means connecting said diode in parallel with the emitter-base junction of said transistor, said diode being poled for conduction opposite to conduction through said emitter-base junction, whereby said transistor is rendered non-conductive while said capacitor is charging through said diode.

3,197,691
REGULATED POWER SUPPLY

Elliott M. Gilbert, Lynchburg, Va., assignor to General Electric Company, a corporation of New York
Filed Jan. 2, 1962, Ser. No. 163,449
5 Claims. (Cl. 321—18)

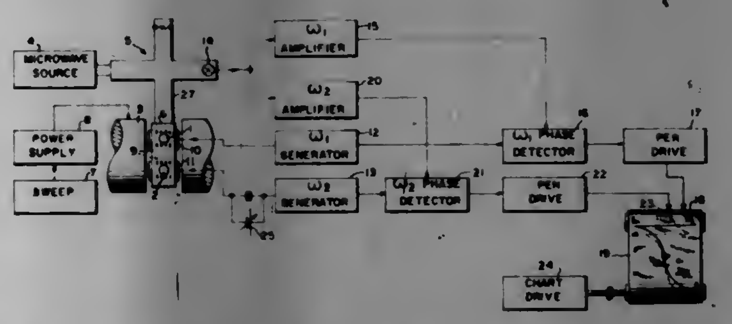
1. In a regulated solid state power supply circuit the combination comprising,
(a) D.C. to A.C. inverting means including self-commutating silicon controlled rectifier means for producing output pulses from a unidirectional input the duration of said output pulses being fixed,
(b) gate pulse generating means for producing gate pulses having a variable repetition rate to trigger the controlled rectifier means periodically into conduction after the said silicon control rectifier means has become nonconducting due to its self-commutating action, the repetition rate of said pulses thereby controlling the nonconducting to conducting time ratio of said rectifier means,
(c) means coupled to said inverter for rectifying said output pulses and producing a unidirectional output the magnitude of which is dependent on the conducting to nonconducting time ratio of said rectifier means,



(d) means to control the conducting to nonconducting time ratio of said rectifier means in response to said output including,
  a control circuit responsive to said output signal for producing an error signal proportional to the deviation of said output from a predetermined level having a saturable reactance device to produce said signal, and,
  means to apply said signal to said pulse generating means to vary the repetition rate of said gate pulse to vary the conducting to nonconducting time ratio of said rectifier to maintain the unidirectional output constant.

3,197,692
GYROMAGNETIC RESONANCE SPECTROSCOPY

James S. Hyde, Menlo Park, Calif., assignor to Varian Associates, Palo Alto, Calif., a corporation of California
Filed Apr. 2, 1962, Ser. No. 184,285
11 Claims. (Cl. 324—.5)

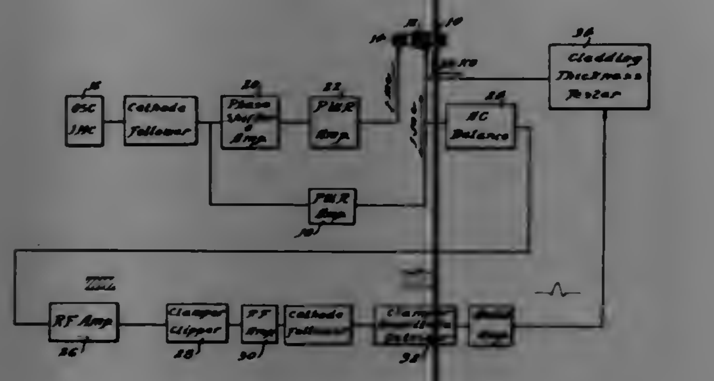


1. A gyromagnetic resonance apparatus comprising: a cavity resonator structure for accommodating simultaneously therein two gyromagnetic samples positioned in a polarizing magnetic field; means for exciting said cavity structure with electromagnetic energy at the resonant frequency thereof, for simultaneous irradiation of said samples at said frequency whereby the magnetic field components of said energy induces gyromagnetic resonance in said samples; means for separately and simultaneously modulating the polarizing field at each sample at respective different frequencies; and means for simultaneously and separately detecting a modulation in the microwave impedance of said cavity resonator structure at each of the modulation frequencies due to gyromagnetic resonance in said samples.

3,197,693

NONDESTRUCTIVE EDDY CURRENT SUBSURFACE TESTING DEVICE PROVIDING COMPENSATION FOR VARIATION IN PROBE-TO-SPECIMEN SPACING AND SURFACE IRREGULARITIES

Hugo L. Libby, Richland, Wash., assignor to the United States of America as represented by the United States Atomic Energy Commission
Filed Oct. 4, 1960, Ser. No. 60,526
10 Claims. (Cl. 324—40)

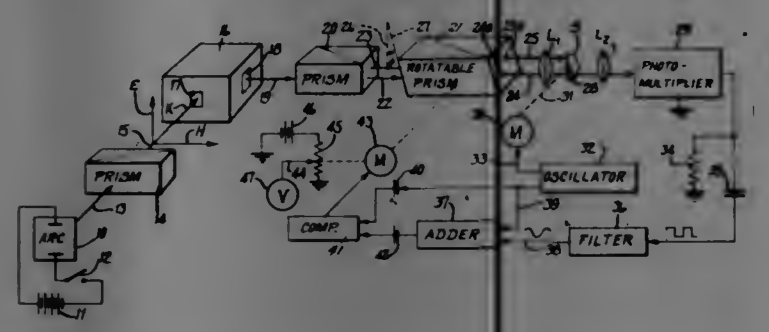


3. A device for measuring discontinuity in a metal sample comprising a probe having two annular coils mounted coaxially and coplanar with respect to each other; means for applying a variable amplitude A.-C. signal to one of said coils; means for applying an equal-frequency amplitude-and-phase variable A.-C. signal to the other coil; said A.-C. signals being applied to said coils simultaneously; and means for measuring the resultant signal across one of said coils, the measured resultant signal being a measure of discontinuities within said metal.

3,197,694

METHOD AND APPARATUS FOR MEASURING MAGNETIC FIELDS USING RESONANCE RADIATION FROM A GAS IN THE FIELD

Donald E. Cunningham, Cleveland, Ohio, assignor to Thompson Products, Inc., Cleveland, Ohio, a corporation of Ohio
Filed July 9, 1958, Ser. No. 747,480
17 Claims. (Cl. 324—43)

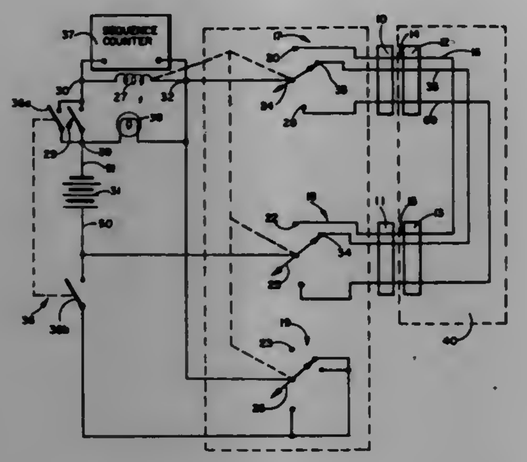


3. Apparatus for measuring the magnitude of a magnetic field comprising, a resonance tube containing vapor of a material of known atomic properties, said vapor emitting resonance radiation of a predetermined frequency when excited by radiation of the same said frequency, means to excite said vapor by directing radiation of said predetermined frequency into said resonance tube, an analyzer positioned to resolve said emitted resonance radiation into two differently polarized rays, means to derive an electrical signal having an amplitude proportional to the difference of the intensities of said two rays, means to vary the magnitude of a parameter of observation to reduce said electrical signal to zero, and means to measure the magnitude of said parameter as a measure of the magnitude of said magnetic field.

3,197,695

CONTINUITY PROGRAMMING DEVICE HAVING PLURAL STEPPING SWITCHES STEPPED IN RESPONSE TO CONTINUITY BETWEEN CORRESPONDING CONTACTS OF SAID SWITCHES

Donald E. Wingfield, Artesia, Calif., assignor to North American Aviation, Inc.
Filed Nov. 2, 1961, Ser. No. 149,737
7 Claims. (Cl. 324—51)



1. In a system for automatically programming the continuity checking of circuits by sequentially connecting each of the circuits to be checked to a source of current until a discontinuity is detected the combination comprising a source of current.

a pair of stepping switches, each switch having a number of contacts, each contact of one stepping switch corresponding to a contact of the other stepping switch, and each switch having a swinger, said swingers being mechanically connected to each other in order to be simultaneously stepped to corresponding contacts,

actuating mear for stepping said pair of swingers from one pair of corresponding contacts to another in response to a flow of current, said means comprising a solenoid coil having first and second terminals,

means for connecting the first terminal of said coil to one of said swingers,

a control switch connecting the second terminal of said coil to said source of current,

means connected to the other of said swingers for providing a return current path to said source,

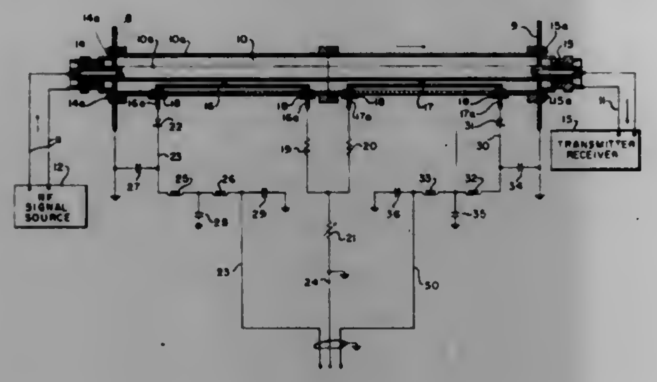
and means for connecting circuits to be checked between said stepping switches, each circuit having one terminal connected to a contact of one stepping switch and another terminal connected to a corresponding contact of the other stepping switch whereby said actuating means steps said pair of swingers from one pair of corresponding contacts to another each time said control switch is closed only if the circuit connected to the one pair of corresponding contacts has continuity.

3,197,696

RADIO-FREQUENCY CIRCUIT ANALYZER FOR MEASURING INCIDENT AND REFLECTIVE WAVES INCLUDING A BIDIRECTIVE COUPLING DEVICE

Denis Bibo, New Shrewsbury, N.J.
(15 Orchard Road River Plaza, Red Bank, N.J.)
Filed Sept. 5, 1961, Ser. No. 136,713
3 Claims. (Cl. 324—58)

1. An apparatus for indicating the relative values of incident and reflected waves translated between a radio-frequency wave-signal source and a load device over a transmission line, comprising: an elongated coaxial bidirective coupling device adapted to be inserted in said line and having inner and outer conductors and a characteristic impedance substantially equal to that of the line; a pair of longitudinally spaced pick-up elements inserted in said bidirective coupling device and having couplings of opposite polarity to at least one of the conductors of said bidirective coupling device, each of said elements having electrical constants related to the constants of said device to provide a response substantially independent of frequency; a resistive impedance connected in series circuit with each of said pick-up elements

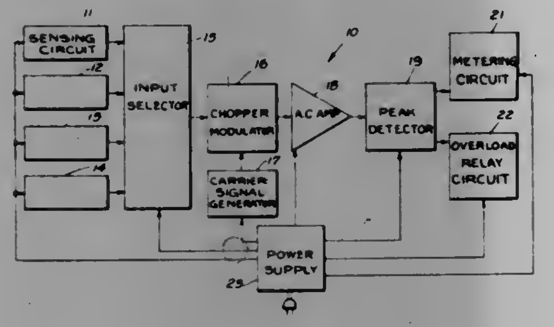


and having a value to render the circuit substantially aperiodic and having a common terminal; a third resistive impedance connected between said common terminal and ground and having a value approximately the characteristic impedance of the line; and a pair of independent indicating circuits, each including a signal detector and coupled to one of said pick-up elements, whereby the values of the incident and reflected waves may be separately indicated simultaneously.

3,197,697

ELECTRICAL MEASURING SYSTEM FOR MEASURING SELECTED ONES OF A PLURALITY OF MOMENTARY INPUT SIGNALS

Porter Thompson McCauley, Winnetka, Ill., assignor to Microdyne, Inc., Wilmette, Ill., a corporation of Illinois
Filed Mar. 2, 1960, Ser. No. 12,320
2 Claims. (Cl. 324—62)

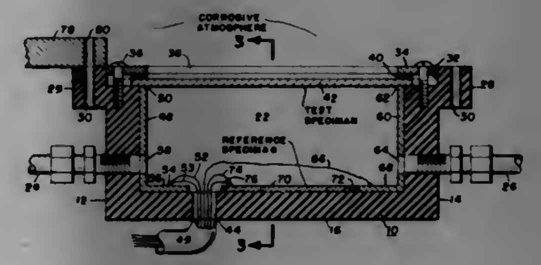


1. An electrical strain measuring system comprising: a plurality of sensing circuits each including at least one variable resistance sensing element; means for applying a unipotential operating voltage to each of said sensing circuits to develop, in each of said sensing circuits, a variable D.C. sensing signal representative of changes in the resistance of the sensing element thereof; selector means for coupling said sensing circuits, individually and in a plurality of different combinations, to a single output circuit; a source of A.C. signals of substantially constant amplitude and frequency; modulator means having two input circuits individually coupled to said A.C. source and to said output circuit, for generating an A.C. output signal having an amplitude representative of the amplitude of an applied D.C. signal from said output circuit and a frequency equal to the frequency of the applied A.C. signal; a peak detector, coupled to said modulator means, for developing a substantially unipotential control signal representative of the amplitude of said A.C. output signal, and a control circuit coupled to said peak detector for actuation by said control signal.

3,197,698

TEMPERATURE-CONTROLLED CORROSION TEST PROBE

Edward Schaschl and Robert L. Littler, Crystal Lake, Ill., assignors to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Dec. 7, 1959, Ser. No. 857,868
4 Claims. (Cl. 324—65)

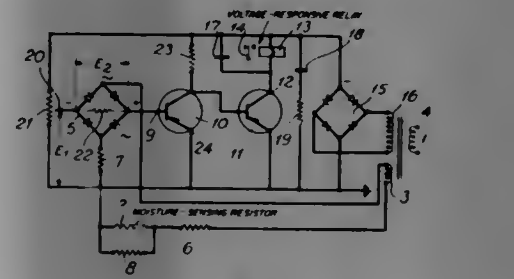


1. In a corrosion-testing device the combination of a fluid-tight housing having side walls, bottom, end walls and an open top, said side and end walls terminating in a peripheral planar surface, a first test specimen attached across said open top in sealed relationship with said peripheral planar surface to form a chamber within said housing, a second test specimen within said chamber and spaced from said first test specimen, a pair of electrical conductors connected to spaced points along said first test specimen, one of said conductors beig connected to said second test specimen and inlet and outlet conduit means in fluid communication with said chamber.

3,197,699

ELECTRICAL MOISTURE SENSING DEVICE

Knud Harald Storm Johansen, Ulkebol, Sonderborg, Denmark, assignor to Danfoss A/S, Elsmark, Nordborg, Als., Denmark, a Danish company
Filed Mar. 5, 1964, Ser. No. 349,639
5 Claims. (Cl. 324—65)



1. In an electrical moisture sensing device, an electrical circuit comprising, a full-wave bridge rectifier having two sets of alternate junctions comprising a set of A.-C. junctions and a set of D.-C. junctions, a load resistor connected between said D.-C. junctions, an A.-C. source connected across said bridge rectifier to said A.-C. junctions for applying a substantially constant A.-C. voltage to said bridge rectifier, a current-conducting moisture sensor capable of absorbing moisture and having the characteristic of varying in conductivity proportionately to the moisture absorbed and connected to one of said A.-C. junctions in series with said A.-C. source for developing

a D.-C. voltage corresponding to a rectified A.-C. voltage applied to said bridge rectifier and variably proportionate to the conductivity of said sensor, an adjustable D.-C. source connected to said bridge rectifier for applying a known second D.-C. voltage to said bridge rectifier of a polarity opposite to the polarity of said first D.-C. voltage to develop a difference voltage between said first and second D.-C. voltages and representative of the change in conductivity of said sensor, and voltage-responsive means connected to said bridge rectifier to respond to said difference voltage, and means for superimposing an A.-C. voltage on said adjustable D.-C. source to improve the accuracy, and sensitivity of the differential values.

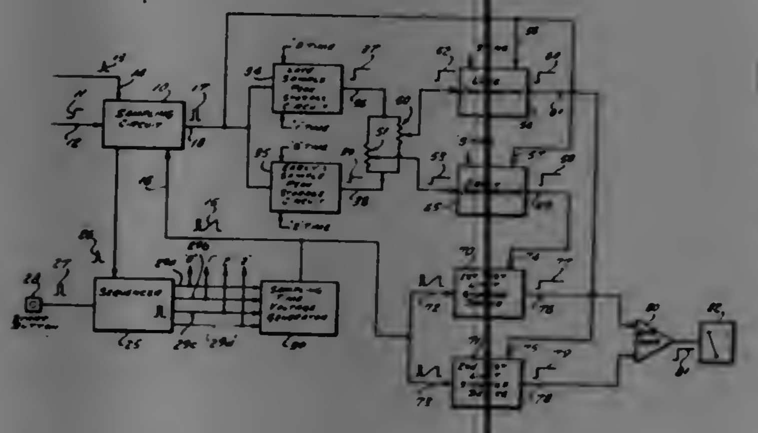
3,197,700

APPARATUS AND METHOD FOR MEASURING TIME INTERVALS BETWEEN POINTS ON RECURRING SIGNALS

Paul Schwartz, Old Bethpage, Richard S. Rothschild, New York, Gerard G. Leeds, Great Neck, and Robert M. Sugarman, Patchogue, N.Y., assignors, by mesne assignments, to General Applied Science Laboratories, Inc., Westbury, N.Y., a corporation of New York

Filed July 27, 1961, Ser. No. 127,299

17 Claims. (Cl. 324—68)



1. An electronic time interval measuring system for measuring the time interval between two voltage levels on recurring signals, comprising, in combination, means for applying the recurring signals to the system, a voltage generator circuit having a voltage output, sampling circuit means connected to the signal applying means and connected to the voltage generator output and being adapted to sample the recurring signals to derive therefrom a peak output voltage having an amplitude representative of the amplitude of the signal at the instant of sampling, said sampling circuit means having means for controlling the instant of sampling by the magnitude of a voltage, said voltage being the output of the voltage generator circuit, means for controlling the magnitude of the voltage generator circuit output, first and second storage means connected to the output of the sampling circuit means adapted to detect and store the peak output voltage level of the sampling circuit means at a first and second predetermined instant of the sampling cycle, means adapted to derive from the first and second storage means a first and second reference potential corresponding to the signal voltage levels between which the time interval is desired to be measured, first comparator circuit means connected to the output of the sampling circuit means and having applied thereto said first reference potential, said first comparator circuit means being adapted to have an output command pulse when a succession of peak output voltages of the sampling circuit means crosses the first reference potential, second comparator circuit means connected to the output of the sampling circuit means and having applied thereto said second reference potential, said second comparator circuit means being adapted to have an output command pulse when a succession of peak output voltages of the sampling circuit means crosses the second reference potential, and time indicating circuit means connected and responsive to the output command pulses from said first and second comparator circuit means whereby the interval between the output command pulses is indicated, said interval being representative of the time interval desired to be measured.

3,197,701

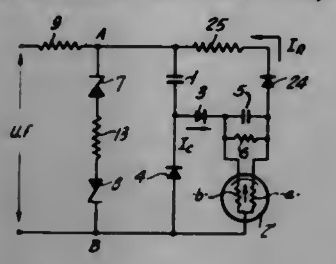
ZERO SUPPRESSED FREQUENCY METER UTILIZING THE DISCHARGE CURRENT OF A CAPACITOR

Michael Sangl and Peter Alber, Erlangen, Germany, assignors to P. Gossen & Co. G.m.b.H., Erlangen, Germany

Filed May 18, 1961, Ser. No. 111,063

Claims priority, application Germany, Jan. 27, 1961, G 31,481

6 Claims. (Cl. 324—78)



1. A movable coil, suppressed zero frequency meter, wherein the discharge of a capacitor through the meter coil is related to the frequency applied thereto, comprising a capacitor, a charging rectifier connected thereto for charging said capacitor only in response to input voltages of a first polarity, a meter coil, a discharge rectifier series connected with said capacitor to apply discharge voltages of said first polarity to said meter coil, a third rectifier and a resistor connected between one end of said meter coil and said capacitor for maintaining an opposite current flow to said meter coil at a substantially constant value when said input voltage is at the other polarity, and a voltage stabilizing branch connected in parallel with said capacitor and charging rectifier, said branch comprising a pair of oppositely poled zener diodes and a limiting resistance series connected therebetween.

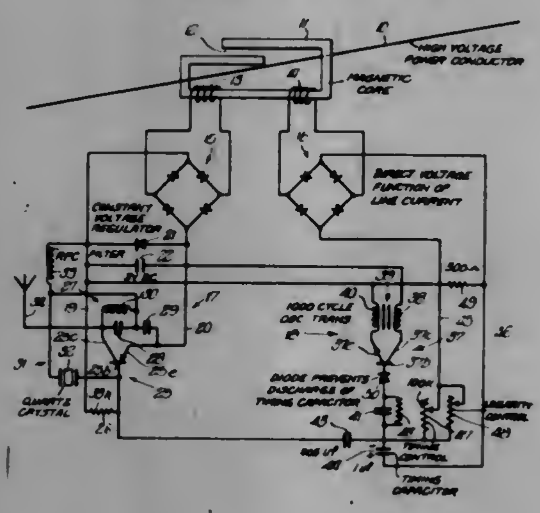
3,197,702

POWER LINE VOLTAGE MEASUREMENT MODULATED TRANSMISSION SYSTEM

Edmund O. Schweitzer, Jr., Northbrook, Ill., assignor, by direct and mesne assignments, to S. & C. Electric Company, Chicago, Ill., a corporation of Delaware

Filed Feb. 19, 1960, Ser. No. 9,992

14 Claims. (Cl. 324—127)


HIGH VOLTAGE POWER CONDUCTOR
MAGNETIC CORE
DIRECT VOLTAGE FUNCTION OF LINE CURRENT
CONSTANT VOLTAGE REGULATOR
1000 CYCLE OSC. TRANS
QUARTZ CRYSTAL
TIMING CAPACITOR

1. Means for measuring the flow of current in a conductor and transmitting to a remote point a signal varying according to the magnitude of said current flow comprising, in combination, a radio transmitter operating at a predetermined high frequency and energized by current flow through said conductor, a low frequency generator energized by current flow through said conductor to generate a predetermined low frequency for modulating said high frequency, and means controlled by current flow through said conductor for causing said low frequency generator to generate a series of pulses of said low frequency with the number of pulses of said low frequency per unit time being a function of the magnitude of the current flow in said conductor.

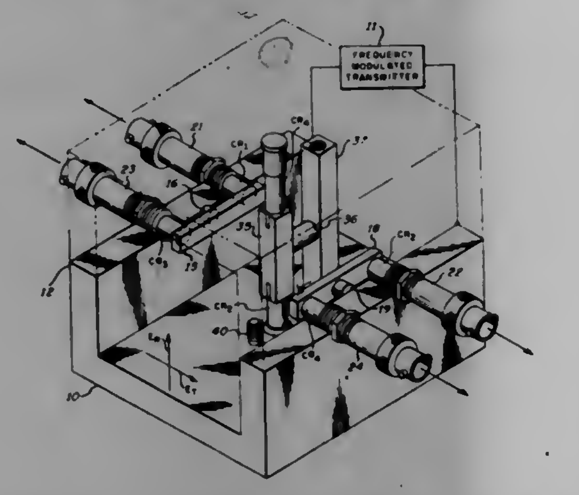
3,197,703

COMPACT MICROWAVE ASSEMBLY FOR ACCOMPLISHING FREQUENCY CONVERSION IN ELECTROMAGNETIC WAVE TRANSMITTING AND RECEIVING SYSTEM

Ronald W. Mongeon, San Jose, Calif., assignor to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Nov. 16, 1962, Ser. No. 238,093

8 Claims. (Cl. 325—24)



7. A compact waveguide assembly for use in a dual polarization electromagnetic wave system comprising the combination,

a section of conductively bounded waveguide adapted to propagate electromagnetic waves within a given frequency range and polarized in orthogonal electromagnetic field modes,

first and second pairs of signal mixing elements respectively coupled through the conductive boundary of said waveguide at diametrically opposite regions of the waveguide intermediate its two ends,

the second element of each pair being spaced along said waveguide from its respective first element by an electrical distance substantially equal to an odd multiple of a quarter waveguide wavelength, and

a third pair of signal mixing elements coupled through the conductive boundary of said waveguide intermediate its two ends in a manner to be excited only by electromagnetic waves polarized parallel to the second one of said orthogonal electromagnetic field modes.

3,197,704

PASSIVE RADARS FOR MEASURING THERMAL NOISE USING PLURAL LOCAL OSCILLATIONS

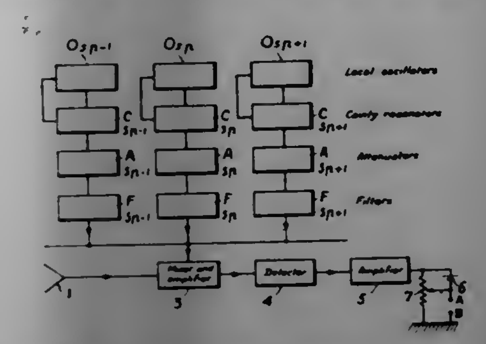
Jean Claude Simon and Leon Malnar, both of Paris, France, assignors to Compagnie Generale de Telegraphie Sans Fil, a corporation of France

Filed Nov. 25, 1960, Ser. No. 71,824

Claims priority, application France, Dec. 14, 1959, 812,970

5 Claims. (Cl. 325—438)

1. A passive radar comprising in combination: an aerial having a predetermined bandwidth equal to 2nB cycles; mixing and amplifying means having a first input connected to said aerial and a bandwidth extending substantially from 0 to B cycles, said mixing and amplifying means having a second input and an output; means for providing 2n local oscillations having frequencies respectively spaced apart by 2B cycles; means for feeding said local oscillations to said second input; and detecting means connected to said output.



3,197,705

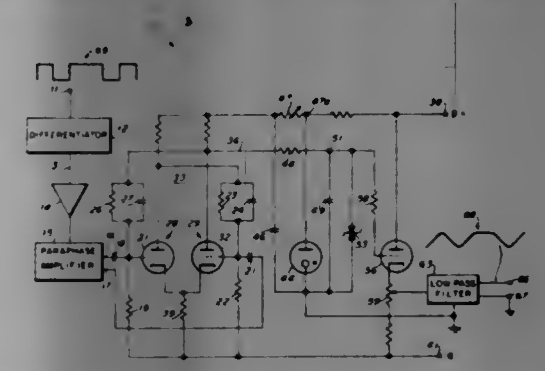
MODULATOR SHAPER FOR FREQUENCY SHIFT TRANSMITTER

Homer H. Da Moude, 8466 Abilene Terrace, La Mesa, Calif.

Filed Apr. 25, 1962, Ser. No. 190,181

12 Claims. (Cl. 325—163)

(Granted under Title 35, U.S. Code (1952), sec. 266)



9. Apparatus for shaping a phase-modulator input signal so that phase is either shifted linearly with respect to time or not shifted at all, said signal to be shaped being a binary-coded signal, comprising differentiating means for converting said binary-coded signal to voltage spikes, means for amplifying said voltage spikes, means for coupling said differentiating means to said amplifying means, an integrator, a bistable pulse generator coupled between said amplifying means and said integrator, means coupled to said integrator for converting the output signal of said integrator to an alternating current signal, and means for applying said alternating current signal to said phase-modulator input.

3,197,706

ULTRA HIGH-FREQUENCY SUPERHETERODYNE RECEIVER OF THE KIND COMPRISING A MIXING DIODE

Karl Heinz Kupfer, Krefeld, Germany, assignor to North American Phillips Company, Inc., New York, N.Y., a corporation of Delaware

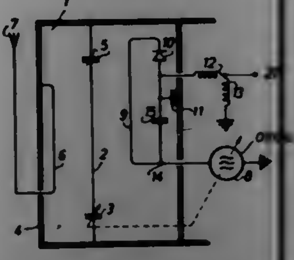
Filed Nov. 20, 1961, Ser. No. 153,465

Claims priority, application Germany, Dec. 29, 1960, P 26,308

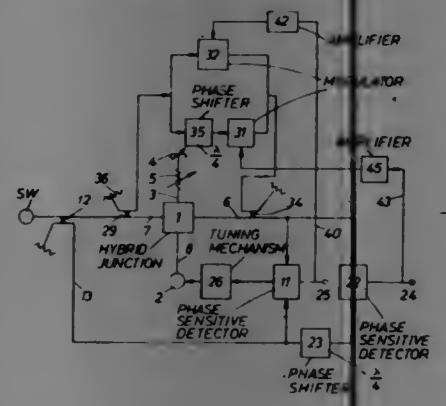
3 Claims. (Cl. 325—445)

1. A mixer for very high frequency signals comprising a source of said signals, a source of local oscillations, a cavity resonator, means tuning said cavity resonator to the frequency of said signals, means coupling said signals to said cavity resonator, a loop coupled to said cavity resonator, means connecting one end of said loop to said source of local oscillations, a diode having one electrode connected to the other end of said coupling loop, means

for deriving intermediate frequency signals from the other electrode of said diode, and a capacitor connected between said one end of said loop and the other electrode of said diode, said capacitor providing opposite phase shift for said oscillations of said local oscillator between said one end of said loop and said other electrode than the phase shift provided by said loop.



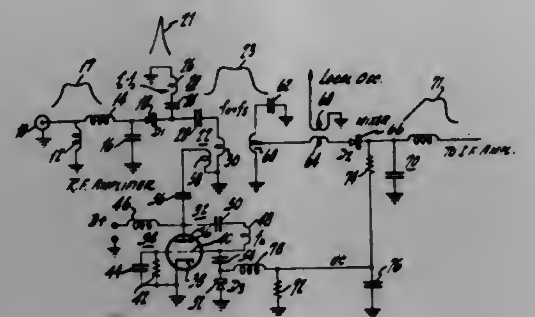
3,197,707
MICROWAVE FREQUENCY DISCRIMINATORS
Allan Stanley Wiltshire and Sidney Albert Drage, both of Malvern, England, assignors to James Scott (Electronic Engineering) Limited, Glasgow, Scotland
Filed Nov. 27, 1961, Ser. No. 155,136
Claims priority, application Great Britain, Nov. 28, 1960, 40,798/60
10 Claims. (Cl. 325—487)



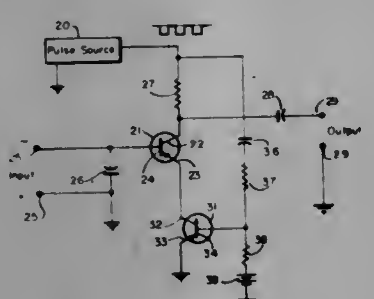
1. A microwave frequency discriminator comprising a microwave bridge and two phase-sensitive detectors, the microwave bridge including an input arm, an output arm, a resonant cavity, an adjustable impedance, an arm connected to the resonant cavity and an arm connected to the adjustable impedance, a hybrid junction to which the arms are connected, the two phase-sensitive detectors each including two input arms and an output arm and being connected in parallel with each other, an output signal channel connected between the bridge output arm and an input arm of each phase-sensitive detector, a reference signal channel connected between the bridge input arm and the other input arm of each of the phase-sensitive detectors, means connected between an input arm of each phase-sensitive detector to apply to the second phase-sensitive detector a signal derived from, and in quadrature with, that applied to the first phase-sensitive detector, resonant cavity tuning means, and means to control the cavity tuning means, the control means being connected between the output arm of the first phase-sensitive detector and the cavity tuning means.

3,197,708
AGC PARAMETRIC AMPLIFIER WITH CONSTANT OUTPUT SIGNAL LEVEL
Wen Yuan Pan, Haddon Heights, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Jan. 19, 1961, Ser. No. 83,713
6 Claims. (Cl. 330—4.9)

1. A parametric amplifier comprising the combination of a non-linear reactance device responsive to a control voltage to change the reactance thereof, a signal input circuit coupled to said device, means providing a pump oscillator coupled to said device, an idler circuit coupled to said device and tuned to the frequency of a sideband produced by the interaction of signals from said signal input circuit and said pump oscillator, and means responsive to the level of said signal from said input circuit for changing the frequency of said pump oscillator to change the gain of said amplifier as an inverse function of the amplitude of signals applied to said signal input circuit and provide output signals of substantially constant amplitude from said amplifier.

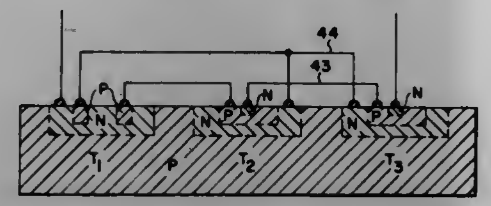


3,197,709
PULSE SEMICONDUCTOR AMPLIFIER WITH A REDUCED LEAKAGE CURRENT EFFECT
John Antonio, Fairfield, and Ralph Townsend, Darien, Conn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware
Filed June 5, 1962, Ser. No. 200,168
4 Claims. (Cl. 330—18)



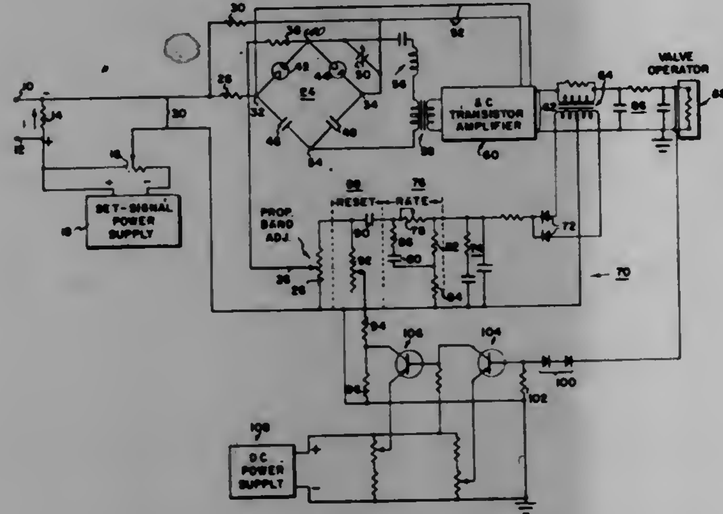
1. An amplifier comprising a first transistor having a first collector electrode, a first base electrode, said first collector electrode adapted to be connected to an output receiver circuit; and a first emitter electrode; means for applying an input signal to be amplified between said first base electrode and ground; means connected between said first base electrode and ground to integrate said applied input signal; a second transistor having a second collector electrode, a second base electrode, and a second emitter electrode; said first emitter electrode being connected to said second collector electrode; means for connecting said second emitter electrode to ground to form a series path from said first collector electrode, through said first transistor, said first emitter electrode, said second collector electrode, through said second transistor, and said second emitter to ground; circuit means connected across said first collector electrode and ground to receive an output signal from said first and second transistors and means for simultaneously applying an intermittent potential between both the common junction provided between said first collector electrode and said second base electrode and ground to simultaneously energize said first transistor and to render said second transistor conductive.

3,197,710
COMPLEMENTARY TRANSISTOR STRUCTURE
Hung Chang Lin, Monroeville, Pa., assignor to Westinghouse Electric Corporation, Pittsburgh, Pa., a corporation of Pennsylvania
Filed May 31, 1963, Ser. No. 284,611
8 Claims. (Cl. 330—38)



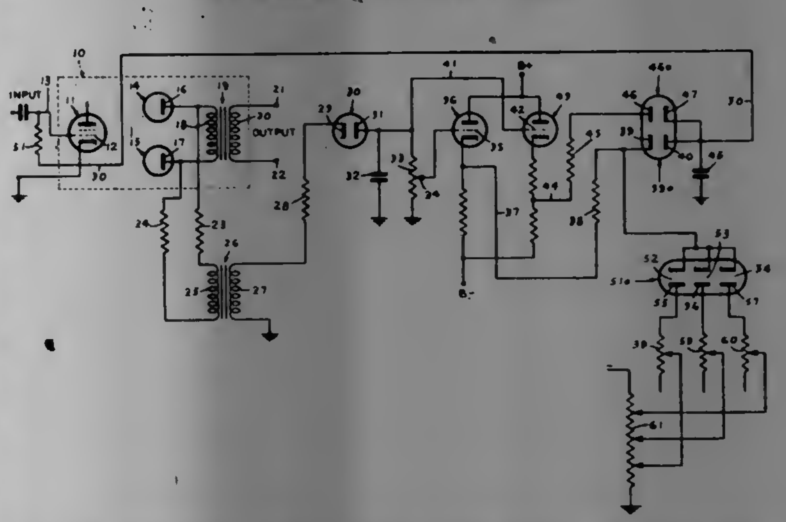
1. A semiconductor structure comprising: a unitary body of semiconductive material including a substrate; first and second separate semiconductive regions of a first type of semiconductivity on said substrate; third and fourth semiconductive regions of a second type of semiconductivity disposed in p-n junction forming relationship with said first region on the surface thereof remote from said substrate and forming a first sub-structure operable as a first transistor wherein said first region serves as the base region and said third and fourth regions serve as emitter and collector regions; a fifth semiconductive region of said second type of semiconductivity disposed in p-n junction forming relationship with said second region; and a sixth semiconductive region of said first type of semiconductivity disposed in p-n junction forming relationship with said fifth region and forming a second sub-structure operable as a second transistor of opposite polarity to that of said first transistor wherein said second region serves as the collector region, said fifth region serves as the base region and said sixth region serves as the emitter region.

3,197,711
MEANS FOR PREVENTING RESET WIND-UP IN ELECTRONIC CONTROL APPARATUS
David A. Richardson, Sheldonville, Mass., assignor to The Foxboro Company, Foxboro, Mass.
Filed May 18, 1961, Ser. No. 110,987
20 Claims. (Cl. 330—103)



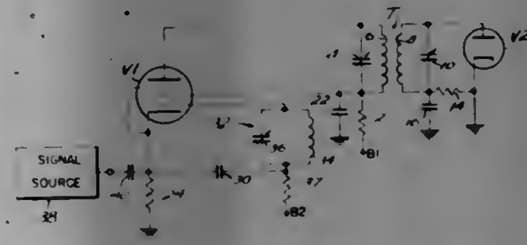
11. Electronic process control apparatus of the proportioning type adapted to receive an electrical measurement signal corresponding to a process condition to be controlled, and including means to develop a corresponding electrical output signal for operating a device adapted to influence said process condition; said control apparatus comprising an electrical amplifier responsive to said measurement signal and including an output circuit to develop an output signal for transmission to said device, circuit means including a capacitive element coupled to the input of said amplifier for introducing reset action in said output signal, and a reset control circuit including means responsive to said output signal and coupled to said capacitor to proportionately adjust the charge thereon so as to tend to maintain said output signal at a preselected limiting value and to adjust the input signal for said amplifier so that it remains within the normal operating range of said amplifier while said process condition varies beyond the full-scale operating range of the control apparatus.

3,197,712
SIGNAL COMPRESSOR AND EXPANDER APPARATUS
Benjamin B. Bauer, Stamford, Conn., assignor to Columbia Broadcasting System, Inc., New York, N.Y., a corporation of New York
Filed Mar. 22, 1961, Ser. No. 97,636
6 Claims. (Cl. 330—132)



1. In automatic signal control apparatus, the combination of first capacitor means, input means including a first unilaterally conductive device forming a conductive path for charging said first capacitor means, voltage divider means connected to said first capacitor means, second capacitor means, means connected to said voltage divider means and including a second unilaterally conductive device for charging said second capacitor means in response to the voltage across said first capacitor means, and means connected to said voltage divider means and including a third unilaterally conductive device for discharging said second capacitor means.

3,197,713
HIGH GAIN TUNED AMPLIFIER WITH CATHODE INPUT CIRCUIT
Harry F. Paul, Tilton, N.H., assignor to Tram Electronics, Inc., Winnisquam, N.H., a corporation of New Hampshire
Filed Dec. 28, 1962, Ser. No. 247,941
8 Claims. (Cl. 330—186)

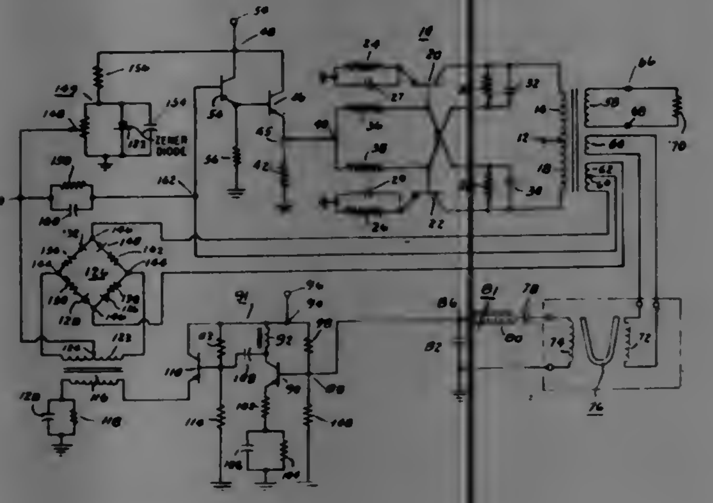


7. An amplifier comprising an electron tube having a plate, cathode, control grid and screen grid, a resistor connecting said cathode to ground, means for applying a D.C. voltage to said screen grid, a voltage source in the plate circuit of said tube whereby to cause said tube to conduct current, output means for deriving an A.C. output signal from said plate circuit, means including a coupling capacitor for applying an input A.C. signal voltage to said cathode to vary the voltage difference

between said cathode and control grid in a direction determined by the polarity of said signal voltage, and a tuned circuit connected at one end to said cathode and at another end to said control grid for reversing the polarity of said signal voltage and applying it to said control grid so as to vary said voltage difference further in the same direction, whereby the output signal derived by said output means will have an amplitude which is a large multiple of the amplitude of said input A.C. signal voltage.

3,197,714
CONTROL SYSTEMS UTILIZING TUNING FORKS

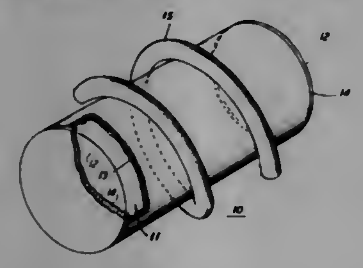
Val A. Prevallet, Jr., Ferguson, Mo., assignor to Sperry Rand Corporation, a corporation of Delaware
Filed Oct. 6, 1960, Ser. No. 60,912
6 Claims. (Cl. 331—1)



1. A control system that can provide an accurate frequency reference and that comprises a tuning fork which has an input coil and an output coil, an oscillator that can respond to changes in its input voltage to change its output frequency, a phase-sensitive device that can respond to the phase displacement of two signals to provide a polarized control signal, a connection between said phase-sensitive device and the input of said oscillator that applies said polarized control signal to said input of said oscillator to vary the input voltage of said oscillator, a second connection between the output of said oscillator and said phase-sensitive device to apply the output frequency of said oscillator to said phase-sensitive device, a third connection between the output of said oscillator and said input coil of said tuning fork to apply the output frequency of said oscillator to said input coil of said tuning fork, and a fourth connection between said output coil of said tuning fork and said phase-sensitive device, said tuning fork responding to changes in the output frequency of said oscillator to cause the voltage across the output coil of said tuning fork to be displaced in phase from the voltage across the input coil of said tuning fork, said phase-sensitive device responding to the phase displacement of the voltage across said output coil of said tuning fork, relative to the voltage across said input coil of said tuning fork, to provide a control signal which changes the input voltage of said oscillator and thereby changes the output frequency of said oscillator, said control signal being polarized to force said output frequency of said oscillator to move toward its specified frequency, said phase-sensitive device being a magnetic demodulator, said second connection including the center-tapped secondary winding of a transformer that has its primary winding connected to said oscillator, said third connection including another secondary winding of said transformer, said fourth connection including a phase-shifting network that shifts the voltage of said output coil approximately ninety degrees and also including an amplifier and the signal transformer for said magnetic demodulator, the first said connection including a resistor connected to the center tap of said secondary winding of said second connection and connected to the center tap of the secondary winding of said signal transformer of said fourth connection, said resistor being in a circuit that establishes the input voltage for said oscillator, said magnetic demodulator generating substantially no voltage drop across said resistor as long as the phase displacement between the voltages across the input and output coils of said tuning fork is zero but responding to phase displacement between the voltages across said input and output coils of said tuning fork to generate a polarized voltage drop across said resistor and thereby change the input voltage of said oscillator.

3,197,715
THIN FILM OPTICAL MASER

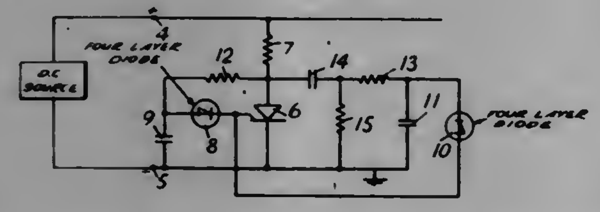
Arthur Ashkin, Bernardsville, N.J., assignor to Bell Telephone Laboratories, Incorporated, New York, N.Y., a corporation of New York
Filed Oct. 3, 1961, Ser. No. 142,563
4 Claims. (Cl. 331—94.5)



1. A solid state optical maser element comprising a cylindrical base member, and a thin film negative temperature medium on the cylindrical surface of said member, said element having substantially flat and parallel portions defining the edges of said thin film, said flat portions being substantially normal to the axial dimension of said base member, and said base member having a lower refractive index than that of said film.

3,197,716
CONTROLLED RECTIFIER RELAXATION OSCILLATOR

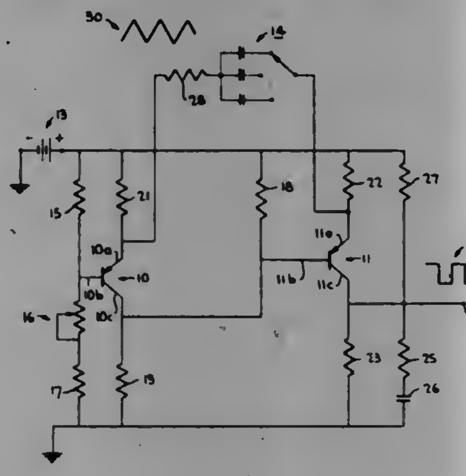
Maurice James Wright, Harborne, Birmingham, and Frederick Herbert Laishley, Solihull, England, assignors to Joseph Lucas (Industries) Limited, Birmingham, England
Filed Sept. 10, 1962, Ser. No. 222,387
Claims priority, application Great Britain, Sept. 18, 1961, 33,321/61
4 Claims. (Cl. 331—111)



1. An oscillatory circuit comprising in combination terminals for connection to a D.C. source, a switchable rectifier connected in circuit with said terminals, said switchable rectifier having an anode, a cathode, and a gate, and said switchable rectifier being switched on by positive pulses applied between its gate and cathode, and being switched off by negative pulses applied between its gate and cathode, a load in the anode-cathode circuit of said switchable rectifier, a first capacitor, a charging circuit for said capacitor when said switchable rectifier is nonconductive, a first four layer diode, means connecting said first four-layer diode in circuit with said first capacitor, said first four-layer diode breaking down when the voltage across said first capacitor reaches a predetermined value, a discharge path for said capacitor through the gate and cathode of said switchable rectifier when said first four-layer diode breaks down, discharge of said first capacitor rendering said switchable rectifier conductive, a second capacitor, a charging path for said second capacitor when said switchable rectifier is conductive, a second four-layer diode, means connecting said second four-layer diode in circuit with said second capacitor, said second four-layer diode breaking down when the voltage across said second capacitor reaches a predetermined value, and a discharge path for said second capacitor through the gate and cathode of said switchable rectifier when said second four-layer diode breaks down, discharge of said second capacitor rendering said switchable rectifier non-conductive.

3,197,717
SYMMETRICAL VARIABLE FREQUENCY ASTABLE MULTIVIBRATOR

Paul Wilson Redcay, Washington, D.C., assignor to the United States of America as represented by the Secretary of the Army
Filed June 22, 1962, Ser. No. 204,651
4 Claims. (Cl. 331—113)
(Granted under Title 35, U.S. Code (1952), sec. 266)



1. A transistor square-wave generator having a variable pulse repetition rate comprising:

(a) first and second transistors, each of said transistors having a base, an emitter, and a collector, said first and second transistors being interconnected to form a direct-coupled amplifier with the collector of said first transistor directly connected to the base of said second transistor;

(b) a first common voltage junction;

(c) a second common voltage junction;

(d) biasing means connected between the base and said first common voltage junction and the base and said second common voltage junction of each of said transistors, said biasing means rendering both of said transistors normally conducting;

(e) a first load impedance connected between the collector of said first transistor and said second common voltage junction;

(f) a second load impedance connected between the collector of said second transistor and said second common voltage junction;

(g) frequency determining feedback means comprising:

  (1) a first fixed resistance connected between the emitter of said first transistor and said first common voltage junction;

  (2) a second fixed resistance connected between the emitter of said second transistor and said first common voltage junction; and

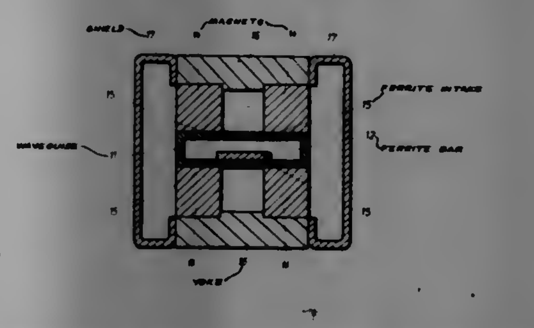
  (3) a variable capacitance connected between the emitters of said first and second transistors;

(h) an output terminal connected to the collector of said second transistor; and

(i) means connected in shunt with said second load impedance of said second transistor for compensating for any variation in collector impedance due to variations in the pulse repetition frequency.

3,197,718
GYROMAGNETIC RESONANCE WAVEGUIDE ISOLATOR WITH FERRITE STRIPS AND OVERLAPPING FERRITE BAR

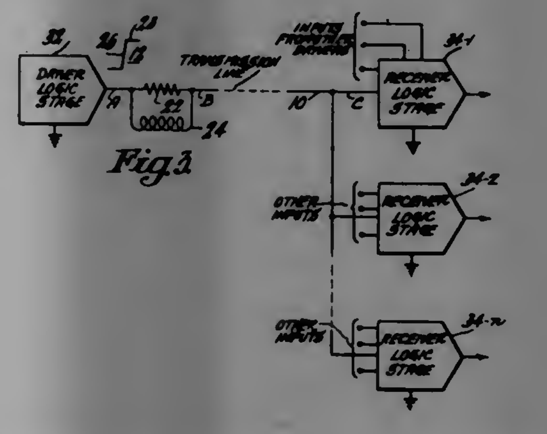
Viktor Sigrist and Martin Muller, both of Pforzheim, Germany, assignors to International Standard Electric Corporation, New York, N.Y., a corporation of Delaware
Filed Aug. 8, 1962, Ser. No. 215,697
Claims priority, application Germany, Aug. 8, 1961, St 18,190
4 Claims. (Cl. 333—24.2)



1. A waveguide isolator using gyromagnetic resonance to obtain isolation comprising waveguide means of rectangular cross section, means associated with said waveguide means for generating a static magnetic field, a plurality of ferrite stripes arranged symmetrically in broad side walls of said waveguide at fixed distances from the narrow side walls of said waveguide to reduce the reluctance of said waveguide to said static magnetic field, a ferrite bar mounted parallel to said waveguide axis between two of said stripes on at least one of the broad side walls of said waveguide, said ferrite bar being of sufficient width to overlap said ferrite stripes on each side of said ferrite bar.

3,197,719
IMPEDANCE MATCHING SOURCE TO LINE FOR PULSE FREQUENCIES WITHOUT ATTENUATING ZERO FREQUENCY

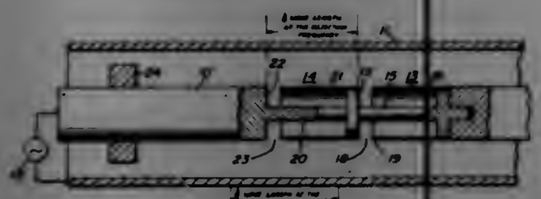
George H. Wells, Westmont, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Feb. 13, 1961, Ser. No. 89,034
13 Claims. (Cl. 333—33)



1. In combination, a transmission line which is mismatched at both ends, and a matching section in series with the line which section has an alternating current impedance in a desired frequency band which includes the higher frequency components of a steep fronted wave which is substantially equal to the line impedance and a direct current impedance of substantially zero.

3,197,720
TRANSMISSION LINE HAVING FREQUENCY REJECT BAND

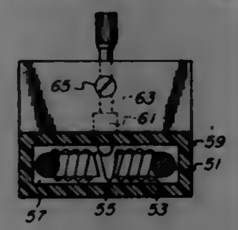
Rudolph A. Dehn, Schenectady, N.Y., assignor to General Electric Company, a corporation of New York
Filed Oct. 17, 1961, Ser. No. 145,610
7 Claims. (Cl. 333—73)



1. A transmission line system for transmitting high frequency electrical energy at a desired frequency between a source and a load circuit connected to the transmission line and rejecting energy at a rejection frequency comprising a pair of parallel conductors, a pair of filter circuits connected in series with said transmission line in spaced relation along the transmission line and each comprising a pair of parallel impedances tuned to resonance at the rejection frequency, the first of said filter circuits being located on said transmission line nearer said load circuit, and the second of said filter circuits being located on said transmission line at a position nearer the end thereof to which the source is connected by approximately 90 electrical degrees or an odd multiple thereof at the rejection frequency and impedance means located in said line on the side of said second filter circuit remote from said first filter circuit for compensating at the desired frequency for impedance inserted in said transmission line by said filter circuits.

3,197,721
TOROIDAL APPARATUS WITH WINDING SURROUNDING BOTH CORE AND GAP WHEREIN PERMEABLE MATERIAL IS VARIABLY POSITIONED

Stanley E. Bogotch, Forest Hills, Robert R. Ingram, Commack, and Victor G. Zourides, Brooklyn, N.Y., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware
Filed July 1, 1963, Ser. No. 291,644
7 Claims. (Cl. 333—75)

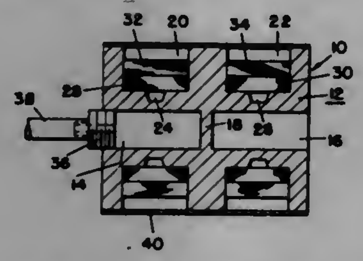


2. A tunable inductor comprising a length of permeable material closed on itself to envelop substantially a particular area, the closure of said length of permeable material being such as to leave an air space between the two ends of said length, permeable means positionable within said air space, and an electric winding supported on said length surrounding said air space and extending from one side of said air space to the other side of said air space, but being disposed to permit positioning of said permeable means within said air space.

3,197,722
PRESSURE TRANSDUCER

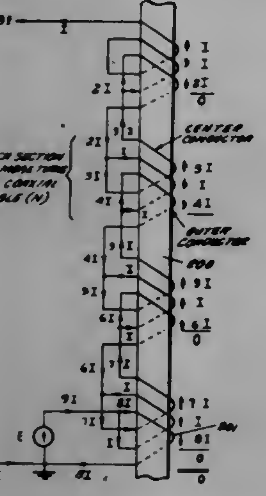
Jacob Chass, Philadelphia, Pa., assignor to International Resistance Company, Philadelphia, Pa.
Filed June 7, 1961, Ser. No. 121,804
9 Claims. (Cl. 336—30)

2. A pressure transducer comprising a core of a magnetic material the permeability of which is varied by stressing the material, said core being circular in transverse cross-section, and having a separate longitudinally extending blind passage in each end thereof and a pair of annular grooves in the outer surface thereof, each of said grooves being around a separate one of said passages, a separate primary winding of an insulated electrically conductive wire wound around said core in each of said grooves, said primary windings being of the same length and being electrically connected together, a separate secondary winding of an insulated electrically conductive wire wound around the core in each of said grooves, said secondary windings being of the same length and being electrically connected together, the connections between said primary windings and between said secondary windings being such that when a current is passed through said primary windings, the voltages induced across said secondary windings are of opposite polarity.



3,197,723
CASCADED COAXIAL CABLE TRANSFORMER

Isadore K. Dortort, Philadelphia, Pa., assignor to I-T-E Circuit Breaker Company, Philadelphia, Pa., a corporation of Pennsylvania
Filed Apr. 26, 1961, Ser. No. 105,690
3 Claims. (Cl. 336—195)

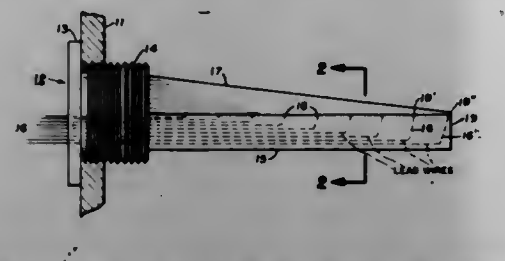


1. A high voltage transformer system; said high voltage transformer system comprising a plurality of windings and a common magnetic core receiving said plurality of windings; each of said plurality of windings comprising a plurality of turns; each of said plurality of windings having an input winding portion; each of said plurality of windings except the last of said plurality of windings having an output winding portion; the said input winding portion of each of said plurality of windings being connected in series with the said output winding portion of the next adjacent winding of said plurality of windings.

3,197,724
ELECTRICAL RESISTANCE CORROSION PROBE

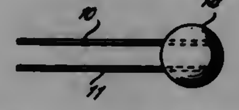
Glenn A. Marsh, Crystal Lake, Ill., assignor to The Pure Oil Company, Chicago, Ill., a corporation of Ohio
Filed Nov. 20, 1959, Ser. No. 854,410
12 Claims. (Cl. 338—13)

7. A corrosion-test probe comprising a base member adapted to be inserted in sealed relationship through the wall of a vessel confining a corrosive atmosphere, an elongated, hollow corrodible metallic test specimen of uniform composition, said test specimen having known graduated thickness along its length, with the thinnest end attached to said base member, an elongated insulating support member extending from said base member within said test specimen in sealed relationship therewith, a plurality of conductor means extending through said base and support members and terminating in electrical contact with the inside wall of said test specimen at spaced points of known wall thickness.



3,197,725
BEAD TYPE THERMISTORS

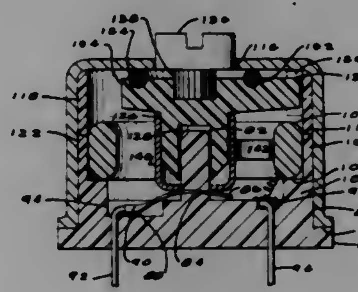
Meyer Sapoff, West Orange, and John Gecsey, Rahway, N.J., assignors to Victory Engineering Corporation, Union, N.J., a corporation of Delaware
Original application Sept. 5, 1961, Ser. No. 136,019. Divided and this application Sept. 19, 1962, Ser. No. 224,664
1 Claim. (Cl. 338—22)



A thermistor comprising at least two platinum and iridium alloy conductors, a covering of gold diffused into the entire surface of said conductors, a bead of calcined metal oxides on a portion of the covered conductors and a covering of glass around the bead and in hermetic contact with the diffused gold surface of the conductors.

3,197,726
POTENTIOMETER

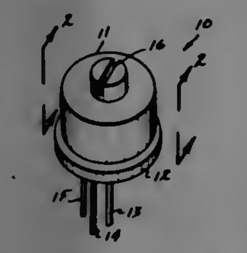
Warren D. Hulbert, Hacienda Heights, Calif., assignor to Spectrol Electronics Corporation, San Gabriel, Calif., a corporation of Delaware
Filed Sept. 12, 1962, Ser. No. 223,229
4 Claims. (Cl. 338—164)



4. A sealed subminiature potentiometer comprising: a housing having enclosing walls defining a substantially cylindrical internal cavity, a resistance element positioned about the periphery of said cavity, a pair of fixed electrical connections to said resistance element, and extending through said housing, an electrically conductive slip-ring element extending externally of said housing, and defining a substantially annular bearing surface internally of said housing disposed coaxially therewith at the center thereof, a rotor positioned substantially at the center of said housing and upon said bearing surface, a conductive rotor casing disposed over a portion of said rotor, including that portion positioned upon said bearing surface, a wiper arm affixed to said rotor casing and having slidable engagement with said resistance element, thereby electrically interconnecting said electrically conductive element to a movable point on said resistance element intermediate said pair of fixed electrical conductions, said electrically conductive element and said electrical connections extending through said housing being secured to said housing and forming therewith substantially sealed portions of said enclosing walls, a rotor position control connected to said rotor, and rotation freedom providing sealing means disposed between said rotor and said housing forming therewith a substantially sealed portion of said enclosing walls.

3,197,727
POTENTIOMETER

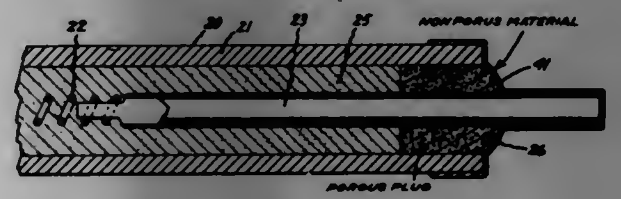
Warren D. Hulbert, Hacienda Heights, Calif., assignor to Spectrol Electronics Corporation, San Gabriel, Calif., a corporation of Delaware
Original application Sept. 12, 1962, Ser. No. 223,229. Divided and this application Feb. 1, 1965, Ser. No. 429,462
13 Claims. (Cl. 338—175)



5. A potentiometer comprising a housing defining a cavity, a resistance element positioned within said cavity, a plurality of electrical connections to said resistance element, one of said electrical connections having slidable contact with said resistance element and including a pin member rigidly affixed to, sealed with, and extending through said housing and into said cavity, an electrically non-conductive rotor member having an opening axial therein which is in bearing contact with and disposed about said pin member and having an opening transverse to and communicating with said axial opening, and a wiper arm having first and second portions, said first portion being in slidable contact with said resistance element, said second portion being positioned within said transverse opening and mechanically locked between said pin member and said rotor member.

3,197,728
ORGANOPOLYSILOXANE COMPOSITIONS

John H. Wright, Waterford, N.Y., assignor to General Electric Company, a corporation of New York
Original application July 28, 1961, Ser. No. 127,681. Divided and this application Jan. 6, 1965, Ser. No. 432,922
1 Claim. (Cl. 338—274)



An electric heating unit comprising an elongated tubular metal sheath and elongated electrical resistance conductor arranged within said sheath and spaced therefrom, an elongated metal terminal disposed at one end of said sheath, the inner end portion of said terminal being disposed interiorly of one end of said sheath and spaced therefrom and electrically connected to the adjacent end of said resistance conductor and the outer end portion of said terminal being disposed exteriorly of said one end of said sheath, a dense mass of heat conducting and electrical insulating material arranged within said sheath and embedding both said resistance conductor and the inner end of said terminal and retaining the same in spaced relation with said sheath, a porous plug of ceramic material secured in place in one end of said sheath and embedding the adjacent intermediate portion of said terminal, said plug effectively sealing said one end of said sheath against the entry of foreign solid material thereinto and against the loss of any of said dense mass of material therefrom while accommodating control breathing of air therethrough into and out of said one end of sheath during the normal use of said unit, having the terminal structure of said heating unit consisting of the end portion of said sheath, the exterior face of said porous plug immediate to said end portion of said sheath, and said exterior end portion of said terminal, treated with a nonporous heat unstable composition comprising (A) 100 parts of an organopolysiloxane having the formula,

$$(R)_aSiO_{\left(\frac{4-a}{2}\right)}$$

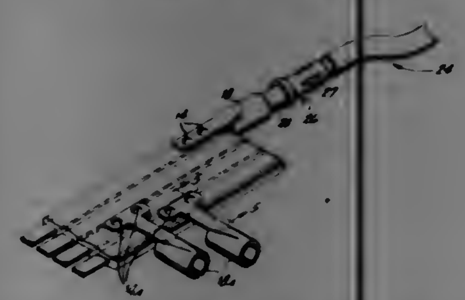
(B) 5 to 75 parts of a filler, and (C) 1 to 75 parts of an acid treated absorbent material having an acid number in the range of from 1 to 500, where R is a member selected from the class consisting of monovalent hydrocarbon radicals and halogenated monovalent hydrocarbon radicals and *a* is equal to from 1.95 to 2.2, inclusive.

3,197,729
SEMI-RIVET CONNECTOR

John C. Sarazen, White Plains, N.Y., assignor to Burndy Corporation, a corporation of New York

Filed Aug. 9, 1962, Ser. No. 215,931

1 Claim. (Cl. 339—97)



An electrical connection comprising: an electrical cable including a ribbon conductor having a flat flexible dielectric covering on a surface thereof; a contact element formed of a strip of substantially malleable conductive metal having a plurality of spaced apart pointed tangs extending from a surface thereof; a connector portion on said contact element for electrically coupling an external conductor thereto; said contact element surface being disposed in area contact with said dielectric covering; a plurality of said tangs having body portions adjacent said contact element surface extending through said covering and further having deformed end portions which have been malleably curled over at an angle to the said body portions of said tangs and extend generally along the interface between said covering and said ribbon conductor, said end portions contacting said conductor and securing said contact element to said cable by gripping said covering.

3,197,730
PRESSURE-TIGHT CONNECTOR

Richard L. Hargett, Frederick, Md., assignor to the United States of America as represented by the Secretary of the Navy

Filed Dec. 4, 1963, Ser. No. 328,135

1 Claim. (Cl. 339—102)

(Granted under Title 35, U.S. Code (1952), sec. 266)

A pressure-tight electrical connector assembly for armored cables comprising insulated contact means adapted to be electrically connected to the conductors of said cable,

a first sleeve member having a central bore therethrough for receiving said armored cable and an annular groove in the outer peripheral wall thereof,

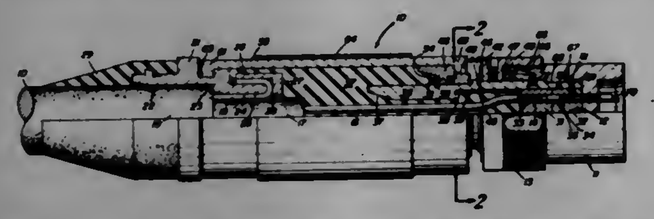
a resilient coating embedding the end of said first sleeve member receiving said cable and forming a layer of coating material between the cable and said sleeve member to provide a watertight connection therebetween,

a cylindrical shell slideably fitting over the other end of said first sleeve member to clamp outwardly bent portions of the cable armor therebetween,

a second sleeve member having an annular recess in the outer peripheral wall thereof and having a central bore therethrough for receiving in one end thereof the unarmored conductors of said cable emerging from the coupled first sleeve member and shell,

means for positioning said insulated contact means within said bore of said second sleeve member at the other end thereof,

a resilient insulating material interposed between said insulated contact means and said first sleeve member and forming a substantially cylindrical collar embedding said cylindrical shell and said one end of said second sleeve member to provide a watertight connection therebetween,



a pair of half-tubular shells having flanges on the inner peripheral walls at the end portions thereof mounted on said first and second sleeve members with said flanges being received in the groove and recess respectively thereof to compose a cylindrical casing about the cylindrical collar of insulating material and interconnecting said first and second sleeve members whereby tension applied to said cable is transmitted through said casing and sleeve members between the armor and said insulated contact means and strain on the conductors of said cable is precluded,

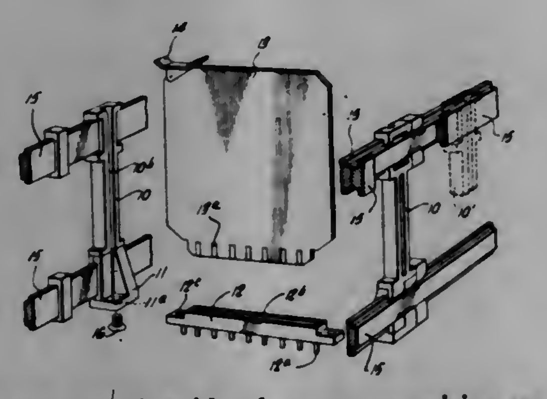
and at least one metallic band surrounding said casing and securing said casing to said first and second sleeve members.

3,197,731
PRINTED CIRCUIT HARDWARE

Stanley E. Beale, Bradbury, and Robert V. Fischer, Los Angeles, Calif., assignors, by mesne assignments, to Applied Development Corporation, a corporation of California

Filed July 19, 1963, Ser. No. 296,337

14 Claims. (Cl. 339—176)



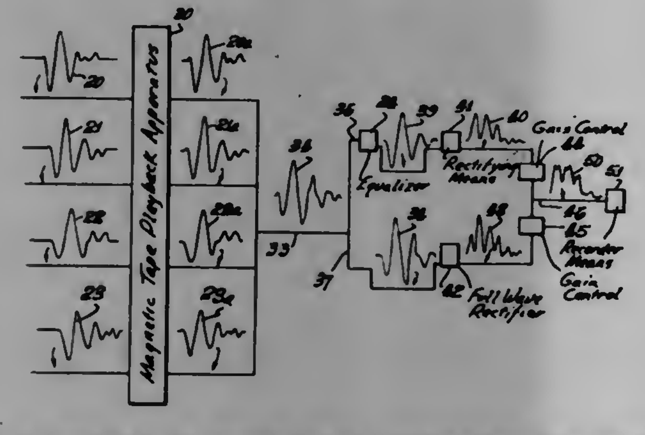
1. A circuit board guide element comprising an elongate element having a mounting socket defined adjacent an end and adapted to receive a mounting member, said elongate element being further characterized as having a circuit board track defined on at least one side of the element to extend longitudinally thereof to slidably receive and secure the edge of a circuit board, the end of the elongate element opposite the end having the mounting socket being constructed and defined to be snap-locked, and a separate mounting foot having an end constructed and defined to be snap-locked to said end of the elongate element, said mounting foot being provided with an aperture spaced in parallel alignment with the track of the elongate element for securing an electrical connector to said mounting foot by means of the aperture to maintain the elongate element and a secured electrical connector in the same plane when the foot and elongate element are snap-locked together so that a circuit board may be slidably received by the guide element and slipped into engagement with a secured and thus aligned electrical connector said mounting foot being further defined with a longitudinal track for parallel alignment with the track of the elongate element when the foot and the elongate element are snap-locked together.

3,197,732
METHOD OF GEOPHYSICAL EXPLORATION

Carl H. Savit, Van Nuys, and Mark Holzman, Los Angeles, Calif., assignors to Western Geophysical Company of America, Los Angeles, Calif., a corporation of Delaware

Filed Nov. 30, 1961, Ser. No. 156,093

6 Claims. (Cl. 340—15.5)



1. A method of geophysical exploration for locating and identifying underground strata comprising the steps of:

(a) recording a plurality of signals reflected from a reference point by underground strata upon a like plurality of channels of a magnetic tape recorder;
(b) combining said plurality of recorded signals as a first and second summed signal, said first signal being a summed, equalized signal of said plurality, said second signal being a summed, non-equalized signal of said plurality;
(c) obtaining the absolute value of said first and second signals; and,
(d) adding said absolute values of said first and second signals in predetermined proportions to obtain a composite single signal.

3,197,733
METAL DETECTOR FOR PNEUMATIC TIRES OF AUTOMOTIVE VEHICLES

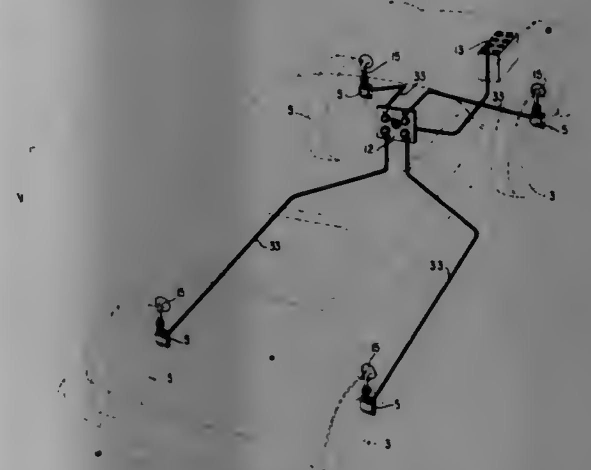
Ira C. Cowie, Betty's Delight, Port Tobacco, Md.

Filed Oct. 23, 1962, Ser. No. 232,455

3 Claims. (Cl. 340—52)

1. An automotive vehicle having an operator's station and a plurality of pneumatic tires, the combination comprising:

(a) a plurality of detector means mounted on the vehicle adjacent each of a plurality of the tires for generating an electrical impulse on passing in proximity to a foreign metallic body embedded in the associated tire,
(b) indicator means for each detector means actuated by an electrical impulse from the associated detector means,
(c) support means holding the plurality of indicator means adjacent to each other and in a location where the indicating means are visible from the operator's station,
(d) electrical conduit means connecting each detector means with the associated indicator means for transmitting an actuating impulse from the detector means to the indicator means,



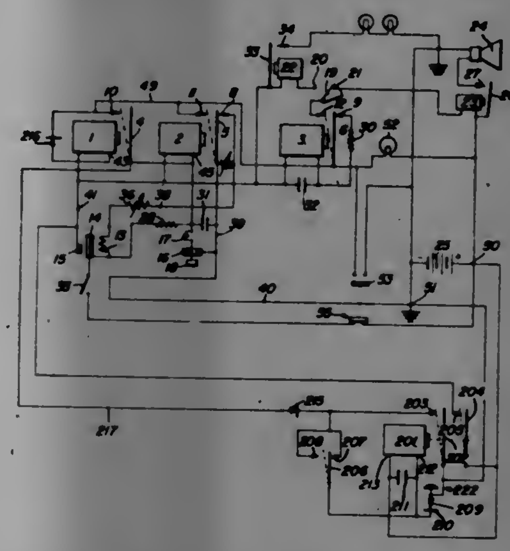
(e) a source of electrical energy,
(f) means connecting the source of electrical energy with the plurality of indicator means and the plurality of detector means to form an electrical circuit for supplying the electrical energy of the electrical impulses, and
(g) manually operable switch means in the electrical circuit for opening and closing the electrical circuit.

3,197,734
BURGLAR AND PERSONAL PROTECTION ALARM FOR VEHICLES

Franklin B. Kennell, 151 Northern Blvd., Riverhead, N.Y.

Filed Aug. 29, 1962, Ser. No. 220,168

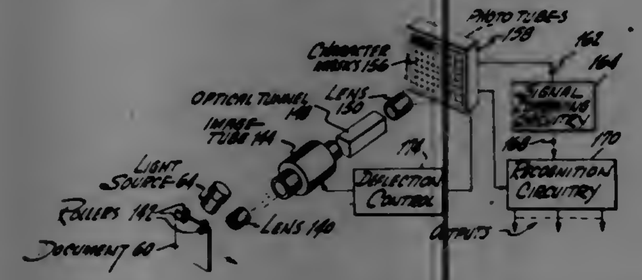
7 Claims. (Cl. 340—65)



1. An alarm system for vehicles having internal indicating means rendered operative upon entry into the vehicle and intermittently operative energizing means providing an alarm signal for a limited duration of time, selectively controlled conditioning means operatively connected to said energizing means for placing thereof in an alert condition, inertia responsive detecting means operatively connected to the conditioning means and the energizing means to render the energizing means operative in response to attempted entry into the vehicle when the energizing means is in said alert condition, vehicle

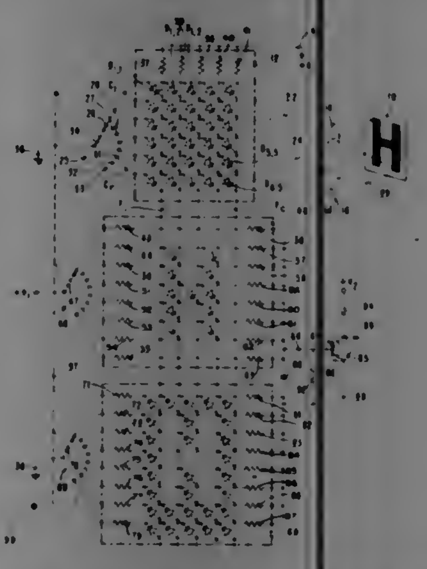
mounted actuating means operatively connected to the energizing means and the indicating means for simultaneous operation thereof for an indefinite duration of time, selectively actuated key means insertable through said actuating means to stop operation of the energizing means and the indicating means, and reset means operatively connected to the actuating means and responsive to withdrawal of the key means from the actuating means for restoring said energizing means to said alert condition.

3,197,735
READING MACHINE
Harold E. Haynes, Camden, and Harry J. Woll, Haddon Heights, N.J., assignors to Radio Corporation of America, a corporation of Delaware
Filed Apr. 18, 1962, Ser. No. 188,385
18 Claims. (Cl. 340—146.3)



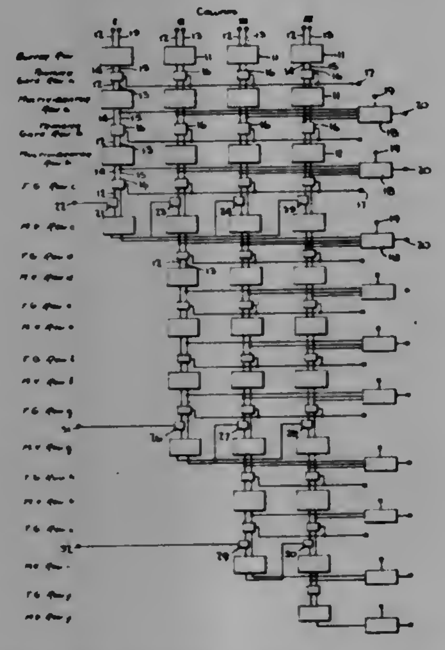
1. In a character recognition system, the combination comprising:
- a positive mask and a negative mask of each character recognizable in said system;
- means for comparing similar images of the same unknown character with each said mask;
- means producing pairs of signals, each signal of a pair corresponding to the degree of match between a different one of said images and a different one of the masks for the same said recognizable character;
- means providing a number of reference signals each having an amplitude related to a different recognizable character;
- and signal combining means for combining each of said reference signals with the related said pair of signals.

3,197,736
PATTERN RECOGNITION SYSTEM
Robert A. Leightner, Tioga Center, N.Y., and Eugene N. Schroeder, Bethesda, Md., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed May 22, 1962, Ser. No. 196,628
7 Claims. (Cl. 340—146.3)



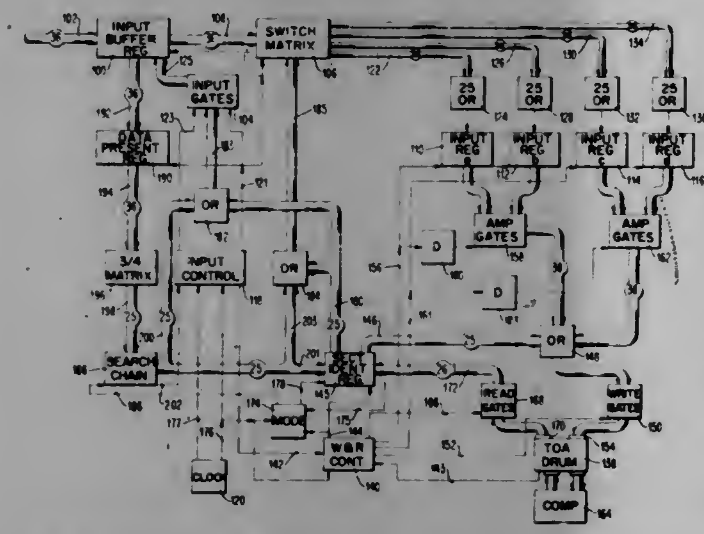
1. A pattern recognition system comprising, in combination:
- a diode sensor matrix comprising rows and columns of photo-sensitive diodes interconnected so that each diode row may be selected sequentially to ascertain which diodes are conducting as a result of light shining thereon;
- a first and second decoder diode matrix comprising rows of photo-sensitive diodes and connected to said sensor matrix, said first diode matrix having a plurality of said last-mentioned diodes disposed in an array resembling the light area of said pattern and said second decoder diode matrix having an array of said last-mentionedd iodes disposed in an array resembling the dark area of said pattern;
- integration means jointly responsive to said first and second decoder diode matrices for indicating the presence on said sensor matrix of said pattern; and
- switching means connected to said sensor matrix and to said diode matrices for energizing each row of said sensor matrix and each row of said decoder diode matrices in a field sequential manner thereby comparing the light and dark areas of the pattern on said sensor matrix with the respective electrical equivalent diode patterns of the decoder matrices.

3,197,737
ELECTRONIC MEMORY DEVICE
Joseph Patrick Conklin, Fairfield, Conn., assignor to Pitney-Bowes, Inc., Stamford, Conn., a corporation of Delaware
Filed June 10, 1960, Ser. No. 35,367
6 Claims. (Cl. 340—172.5)



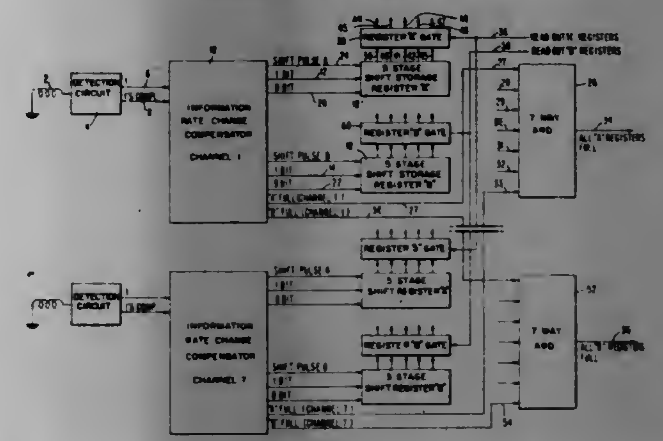
1. A device which stores a group of *m* words, introduced therein in a binary code of *n* bits, for periods of time which vary in accordance with the identity of the word being stored comprising a plurality of binary storage elements arranged in an array of *n* columns formed of *m* rows, means for introducing in an ordered manner a different one of the *n* bits of a word of said group into the first storage element of each of said *n* columns whereby the word is represented by the permutational condition of the first row of said *m* rows of storage elements, means for transferring the bits from one storage element to the next succeeding storage element in a column in stepwise fashion whereby the word represented by the bits is transferred from row to row, an analysis matrix consisting of a columnar arrangement of the said group of words in binary coded form, the said array of storage elements being related to the said analysis matrix in that each of the said storage elements in the array is represented by a binary bit which is correspondingly positioned in the matrix, read-out means to analyze the permutational condition of the storage elements in each of the *m* rows, each row being analyzed for a different one of said group of words in accordance with said analysis matrix whereby a read-out is effected if the word contained in a row of said array matches the correspondingly positioned word in the analysis matrix and storage is thereby terminated, the said group of words being arranged in said analysis matrix so that at least one of the bits of the last word in the matrix is repeated in at least the preceding word in the same column thereby forming at least one repetitive series, reset means keyed to the storage element which corresponds to the bit in the matrix which precedes the repetitive series, said reset means being rendered operative by the presence in the storage element of a bit of opposite sense to that of the repetitive series and acting to eliminate from said array the word in the row which contains the keying storage element, the storage elements corresponding to the bits in the said repetitive series being omitted from said array whereby the total number of storage elements in said array equals the product of *m* times *n* minus the number of bits in said repetitive series.

3,197,738
DATA PROCESSING SYSTEM
Edward J. Raser, Rhinebeck, and Walker H. Thomas, Poughkeepsie, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed July 1, 1958, Ser. No. 745,922
13 Claims. (Cl. 340—172.5)



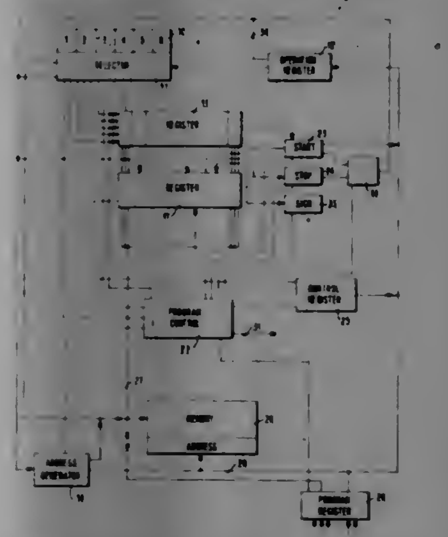
1. In an automatic position reporting system for mobile craft including a digital computer and a plurality of fixed position receiving stations each adapted to receive and record as sets of binary signals the times of arrival of pulses transmitted at successive intervals by said craft, said stations adapted to be variously arranged in groups containing a predetermined number of stations, certain of said stations being in more than one of said groups, an input system adapted to translate binary signals from a selected group of said stations to said computer for position determination computations during each interval, comprising a storage device having a plurality of addressable registers for storing sets of binary signals from said receiving stations during each interval, one of said registers being associated with each said station, transmission means adapted to translate binary signals from said registers to said computer for processing, and selection means for selecting the registers associated with a group during each interval and actuating said transmission means for translation of signals from the registers of the selected group to said computer comprising means, responsive to computer generated address signals, adapted to select a preferred group in accordance with a signal generated as a result of a computation performed by said computer on time of arrival information signals previously translated to said computer and alternate means operative, in the absence of said computer generated address signal, to sample combinations of said registers corresponding to said station groups for selecting a group containing suitable signals for processing.

3,197,739
MAGNETIC RECORDING SYSTEM
Ernest G. Newman, Poughkeepsie, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed June 30, 1958, Ser. No. 745,731
7 Claims. (Cl. 340—172.5)



1. A circuit for assembling the individual signals of a group which appear on separate ones of a plurality of signal lines at different times comprising: a plurality of storage means each for receiving the individual signals from a different one of said signal lines, a variable frequency clock associated with each signal line, a frequency comparator for each signal line operative to produce a signal indicative of a difference in the rate that signals are received at its two inputs, means for directly connecting each signal line to an input of its associated frequency comparator, means for connecting the output of the variable frequency clock to the other input of the frequency comparator, means operative for changing the frequency of the variable frequency clock under control of the difference signal generated by the frequency comparator, and means for transmitting signals from each signal line to its associated storage means under control of its associated variable frequency clock.

3,197,740
DATA STORAGE AND PROCESSING MACHINE
Joseph M. Terlato, Bronx, and Bruce M. Updike, Endwell, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York
Filed Aug. 29, 1958, Ser. No. 758,062
3 Claims. (Cl. 340—172.5)

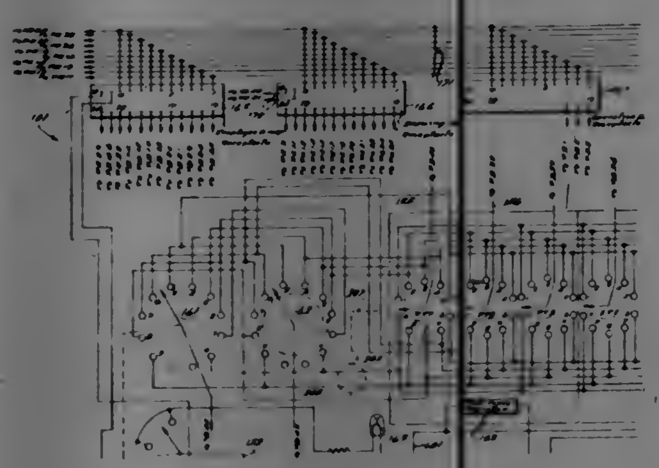


1. In a data processing machine utilizing a series of instructions for operation of said machine and including a plurality of peripheral units operated under control of said series of instructions,

(a) a plurality of selectable storage locations for the storage of data,
(b) an operation register for storing data indicative of the operation to be performed by said data processing machine and said peripheral units,
(c) a condition register for storing condition data respecting the transfer of data between selected units of said data processing machine,
(d) a first and second address register intended in said data processing machine for storing address data respecting the transfer of data between various units of the machine,
(e) and a program control means for controlling said data processing machine and operable in response to the termination of an operation to select a plurality of storage locations responsive to data stored in said operations register and transfer the data in said condition register and address registers into said plurality of storage locations.

3,197,741
MEANS FOR RECORDING REGISTERED DATA

Charles F. Kohler, Parma, Mich., assignor, by mesne assignments, to Hancock Telecontrol Corporation, Jackson, Mich., a corporation of Ohio
Filed Sept. 17, 1959, Ser. No. 840,574
21 Claims. (Cl. 340—172.5)

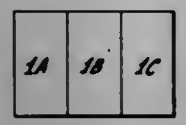


4. In a system for recording data collected in a series of data storage groups, means for supplying information to said groups, selective means for placing each group in an active status capable of being connected to a recording apparatus or in an inactive status incapable of connection thereto, means for connecting a first active status group in said series to said recording apparatus for information transmission and simultaneously disconnecting said group from said information supply means, and means responsive to the completion of information transmission from said first group to said recording apparatus for instantaneously disconnecting the first group from the recording apparatus, connecting the next active status group in said series to said recording apparatus and initiating resetting of said first group.

3,197,742
SEARCH APPARATUS

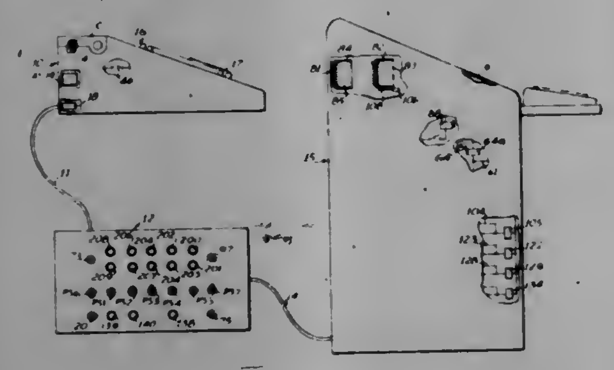
Albert S. Rettig, Haddonfield, N.J., and David Z. Cohen, Tel Aviv, Israel, assignors to Radio Corporation of America, a corporation of Delaware
Filed Jan. 11, 1960, Ser. No. 1,707
13 Claims. (Cl. 340—172.5)

1. Apparatus for searching a data file for all messages stored therein which have predetermined message characters in selected character positions comprising, in combination with means for reading said file messages character by character: a search criterion register storing said predetermined characters in corresponding selected character positions and special masking characters in other character positions; a comparator connected to receive and compare character by character, the outputs of said reading means and said register and to provide a "compare" signal in response to the equality of characters being compared; a recognition device connected to receive the output of said register and to provide a "recognition" signal in response to each of said special masking characters; and signalling means connected to receive the "compare" and "recognition" signals.



3,197,743
DATA COUPLING DEVICE

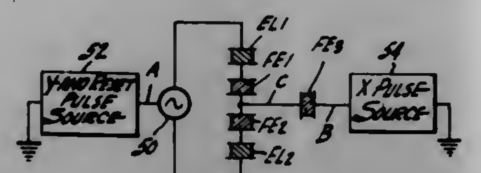
Albert L. Nixon, Chamblee, Ga., assignor to Data Machines, Inc., Richmond, Va., a corporation of Virginia
Filed June 7, 1962, Ser. No. 200,851
10 Claims. (Cl. 340—172.5)



. 1. In a machine of the type wherein a wired adding machine controls a card punching machine to determine the holes to be punched by said card punching machine into a data card carried therein, said adding machine being characterized by a commutator including a plurality of commutator switches for interconnecting any one of a plurality of first wires with any one of a plurality of second wires, a keyboard having a plurality of keys, certain of said keys controlling certain of said commutator switches. and a plurality of function control switches, certain other of said keys controlling said function switches, said card punching machine being characterized by a program drum adapted to receive a prepunched program card thereon, a plurality of star wheel switches associated with said drum for actuation in response to the punches in said program card, a source of current, a plurality of interposer magnets for prescribing the punching of said data card by said card punching machine, the combination therewith of first circuits connecting said interposer magnets to said first wires of said commutator, second circuits connecting said second wires of said commutator to said star wheel switches, third circuits connected to said star wheel switches, said interposer magnets and said third circuits being connected to said source of current, relay switch means in said third circuits, relay coil means for controlling said relay switch means, a plurality of programming switches connected in series with said function control switches, said program control switches and said function control switches being connected to said relay coils across said source of current for selectively energizing said coils to actuate said relay switches.

3,197,744
FERROELECTRIC STORAGE CIRCUITS

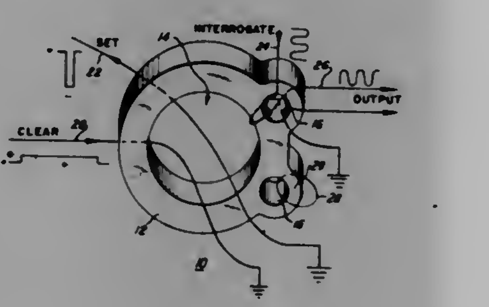
Bernard J. Lechner, Princeton, N.J., assignor to Radio Corporation of America, a corporation of Delaware
Filed Dec. 4, 1963, Ser. No. 328,090
17 Claims. (Cl. 340—173.2)



1. A transcharger circuit comprising, in combination:
a bridge network having four legs, the first and second legs each including a ferroelectric element, and at least one of said first and second legs also including a load element in series with the ferroelectric element, and the third and fourth legs comprising together a substantially balanced alternating voltage source which is connected at the connection between the third and fourth legs to a point of reference potential;
means coupled to said bridge network for applying a pulse thereto for causing the two ferroelectric elements to assume an unblocked condition, whereby upon termination of said pulse they tend to present a low impedance to said source;
means coupled to said bridge network for applying a pulse thereto for causing the two ferroelectric elements to assume a blocked condition, whereby upon termination of said last-named pulse they present a high impedance to said source; and
a third ferroelectric element coupled between the junction of the first and second legs of the bridge and said point of reference potential.

3,197,745
MAGNETIC CORE CIRCUIT

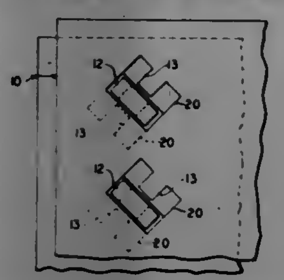
Joseph P. Sweeney, Harrisburg, Pa., assignor to AMP Incorporated, Harrisburg, Pa., a corporation of New Jersey
Filed Apr. 13, 1960, Ser. No. 22,036
3 Claims. (Cl. 340—174)



2. An improved magnetic core memory circuit comprising: a toroidal core of magnetic material, said core having at least two minor apertures through it, read-out winding means threading one of said minor apertures, set winding means on said core for setting the flux therein to a desired value, clear winding means on said core for resetting the flux therein, a low-resistance conductor means threading the other of said minor apertures and encircling a portion only of said core, the said read-out winding means further including a first conductor adapted to be energized by an alternating current, and a second conductor coupled to the first conductor by magnetic flux in said core.

3,197,746
MEMORY CORE ASSEMBLY

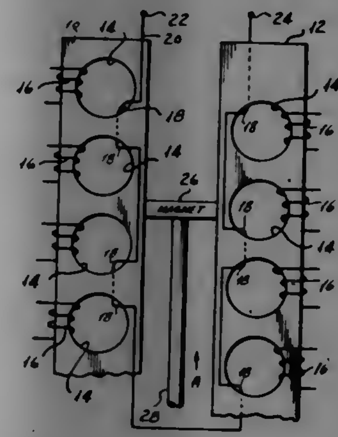
Rudolph O. Stoehr, Des Plaines, and John W. Liston, Mount Prospect, Ill., assignors to Automatic Electric Laboratories, Inc., Northlake, Ill., a corporation of Delaware
Filed Aug. 24, 1960, Ser. No. 51,688
5 Claims. (Cl. 340—174)



1. An arrangement for a magnetic memory device having a plurality of magnetic ring cores;
insulating cards having substantially uniformly flat top and bottom surfaces and positioned in planes parallel and adjacent to each other, said cores being disposed perpendicularly to the planes of said cards and at least one of said cards having portions extending in the corresponding planes through said cores to support the cores;
and printed conductor segments disposed on said insulating cards, including said portions thereof, such that conductor segments on one of said insulating cards contact conductor segments on an adjacent sheet to form continuous electrical paths through and between said cores.

3,197,747
APERTURED FERRITE DEVICE

Martin R. Kramer, Jackson Heights, N.Y., assignor to United Aircraft Corporation, East Hartford, Conn., a corporation of Delaware
Filed Sept. 29, 1960, Ser. No. 59,243
9 Claims. (Cl. 340—174)

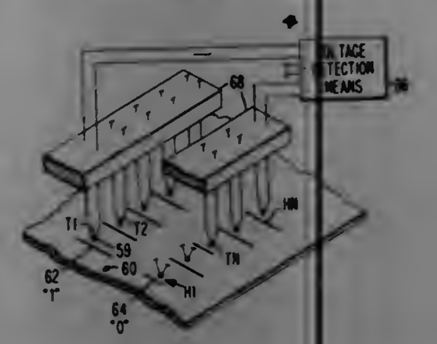


3. An information storage device including in combination a plurality of saturable cores, means mounting said cores in spaced relationship to form a plurality of rows and columns of said cores, output windings associated with certain ones of said cores to form a coded pattern of cores having output windings, each of said columns having an even number of output windings alternately connected in series-opposed relationship, interrogating windings normally inductively coupled to said output windings by said cores, means for applying an interrogating signal to said interrogating windings normally to cause said output windings to provide output signals, means adapted to be moved past said rows of cores in succession to saturate said cores whereby the output windings of a row adjacent which said movable means is disposed provide no output signals and means for moving said movable means successively past said rows.

3,197,748
MAGNETIC FIELD SENSING APPARATUS

George E. Dailey, Newark Valley, N.Y., assignor to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 30, 1960, Ser. No. 79,724
15 Claims. (Cl. 340—174)

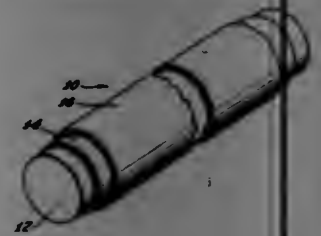


10. Apparatus for detecting binary information stored in a plurality of magnetic field patterns including means for providing said magnetic field patterns, a thermocouple junction in each of said patterns, said thermocouple junction being one which provides an altered voltage output resultant solely from the presence of magnetic field therein, and voltage detection means for providing an indication of the bit value of the stored binary information in each of said magnetic field patterns.

3,197,749
MAGNETIC DEVICE AND APPARATUS AND PROCEDURE FOR MAKING THE SAME

Richard M. Clinehens, Dayton, Ohio, and Donal A. Meier, Inglewood, Calif., assignors to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Continuation of application Ser. No. 802,494, Mar. 27, 1959. This application Sept. 29, 1961, Ser. No. 143,018
7 Claims. (Cl. 340—174)



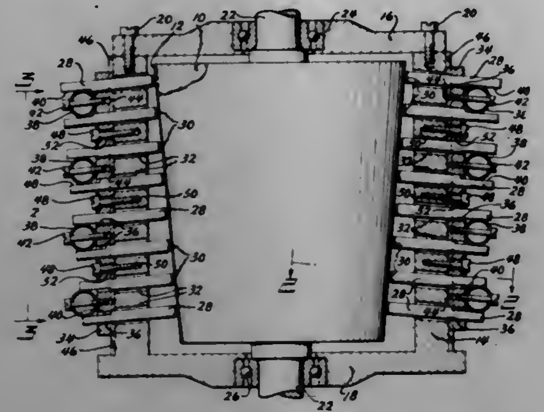
1. A bistable magnetic device comprising: a base member of a non-magnetic material, said base member having a cylindrical surface; and a thin layer of magnetic material uniformly disposed over said surface, said magnetic material being composed of an iron-nickel alloy, substantially of 97% iron, by weight, and the remainder being nickel.

3,197,750
MAGNETIC TRANSDUCER HEAD MOUNTING MEANS

Joseph E. Smith, Jr., Birmingham, Mich., assignor to Ex-Cell-O Corporation, Detroit, Mich.

Filed Apr. 28, 1961, Ser. No. 106,216
12 Claims. (Cl. 340—174.1)

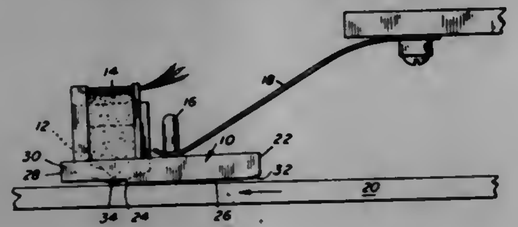
1. Apparatus for mounting rows of elongated magnetic transducer heads with their magnetic flux emitting ends a predetermined distance away from a magnetizable surface, said apparatus comprising: a tapered rotatable drum member supporting the magnetizable surface; a stationary main support member defining a substantially cylindrical reference surface arranged outwardly and concentrically to said rotatable drum member; a channel for each row of said transducer heads, the channel being disposed longitudinally on the cylindrical reference surface and having along its axis thereon a series of elongated apertures adapted to allow the bodies of said transducer heads to protrude to the interior of said stationary main support member; a tranducer head mounting bar slidably situate in said channel and capable of limited longitudinal linear movement; means adjustably securing said transducer heads in said mounting bar; and means adjustably securing said mounting bar in said channel.



3,197,751
FLYING MAGNETIC HEAD ASSEMBLY

John A. Felts, Los Angeles, Calif., assignor to General Precision, Inc., a corporation of Delaware

Filed Dec. 18, 1963, Ser. No. 331,509
4 Claims. (Cl. 340—174.1)



1. A transducer assembly adapted for operation in gas-lubricated relationship with a magnetizable surface moving in relation thereto, comprising:

(A) A shoe having a bearing pad with leading and lagging edges oppositely disposed with respect to the direction of movement of said surface, and a head support section adjacent the lagging edge of said bearing pad and positioned with respect to said pad so as to be more distantly spaced from said surface with respect to said bearing pad;

(B) A recording head carried by said support section and having pole pieces presenting a gap, said gap being positioned rearwardly of said lagging edge; and

(C) Means for tiltably mounting said shoe whereby the leading edge of said bearing pad may, in operating relationship with said magnetic surface, assume a position further from said surface than the lagging edge thereof.

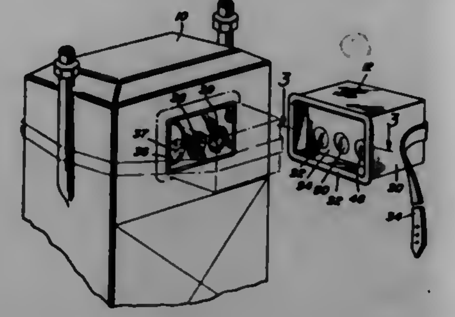
3,197,752
REMOTE READING ATTACHMENT FOR METERS

Jacob Rabinow, Bethesda, Md., assignor, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Oct. 2, 1962, Ser. No. 227,752
5 Claims. (Cl. 340—206)

1. In a remote reading system for the indicator members of a meter, a meter unit adapted to be retained in optical alignment with the indicator members and their background, said unit including a housing, means for mounting said housing on the exterior of said meter, a plurality of motor operated scanning disks in said housing, and means to direct illumination toward said indicator members, each disk having a scan opening, means connecting said disks for rotation, photosensitive means

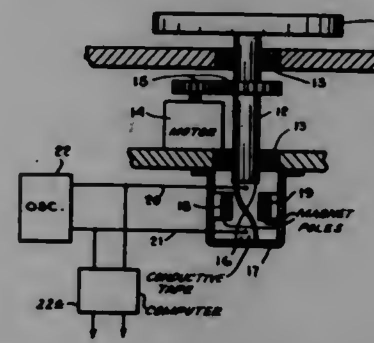
operable with said disks to provide electrical signals in response to the scanning of said indicator members by said disk openings, portable remote read-out unit including a rotary member and a power supply, electrically conductive coupling means for separably coupling said power supply with said motor operated scanning disks, means connected with said power supply for rotating said rotary member at a speed corresponding to said scanning disks, display means associated with said rotary member, said coupling means operatively connecting said photosensitive means with said display means, and said display means controlled by the electrical signals of said photosensitive means which are conducted by said coupling means to display the angular positions of one of the indicator members.



3,197,753
DIGITAL GONIOMETER

Alexander M. Voutsas, New York, N.Y., assignor to American Bosch Arma Corporation, a corporation of New York

Filed Sept. 28, 1960, Ser. No. 59,090
13 Claims. (Cl. 340—207)

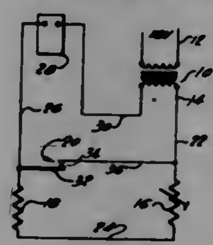


1. In a device of the character described, a reference member, an elastic element connected to said reference member, a movable member rotatable about an axis with respect to said reference member and connected to said elastic element for torsionally stressing said elastic element in response to relative rotation of said members, and means for maintaining said element in vibration at its natural frequency.

3,197,754
TEMPERATURE INDICATING DEVICE

Marshall Miles, Wilmette, Ill., assignor to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Filed Dec. 22, 1961, Ser. No. 161,686
9 Claims. (Cl. 340—213)

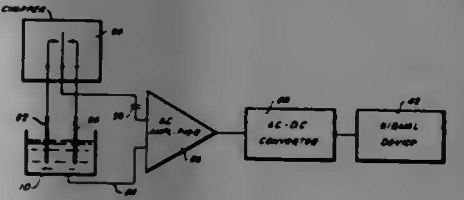


6. An indicating device comprising a voltage source, a heater element, a sensor unit for controlling the current through said heater element and connected with said heating element to said voltage supply, means including bimetal-operated contacts controllable by said heater element for intermittently short-circuiting said voltage source and means operative responsive to the shorting of said voltage supply for intermittently indicating said shorted condition.

3,197,755
APPARATUS FOR DETECTING AND CORRECTING MALFUNCTION OF A STANDARD, REFERENCE ELECTRODE

Norman L. Conger, Ponca City, Okla., assignor to Continental Oil Company, Ponca City, Okla., a corporation of Delaware

Filed Sept. 7, 1961, Ser. No. 136,550
8 Claims. (Cl. 340—253)

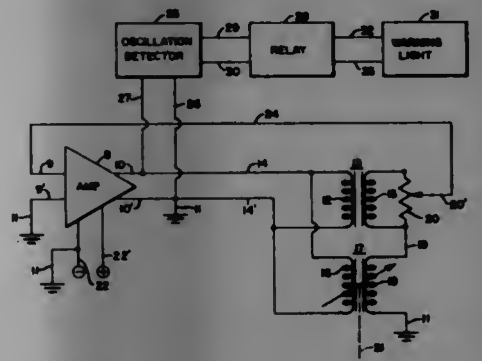


1. In a system for protecting a metallic vessel from corrosion by anodic polarization, apparatus for detecting malfunction of a standard, reference electrode comprising a second standard, reference electrode in electrical contact with the corrosive electrolyte in said vessel; means for comparing the potential differences between said reference electrodes and said vessel; and means responsive to said comparing means for actuating an alarm signal when the deviation between said compared potential differences exceeds a predetermined value.

3,197,756
DISPLACEMENT SENSING APPARATUS

John A. Maynard, Winchester, Mass., assignor to Honeywell Inc., a corporation of Delaware

Filed Dec. 27, 1960, Ser. No. 78,739
7 Claims. (Cl. 340—262)



1. In an inertial switching means: an inertial instrument having a control member mounted for movement with respect to an axis; inductive pickoff means including primary and secondary windings, said inductive pickoff means being attached to said control member to give an output, when a signal is applied to said primary winding, of a sense and magnitude indicative of the sense and magnitude of the displacement of said control member; an amplifier including input and output terminals, said amplifier providing an oscillatory signal at said output terminals when positive feedback is applied to said input terminals; a transformer means including primary and secondary means; means connecting said primaries of said inductive pickoff and said transformer means to said amplifier output terminals; and means connecting

said secondaries of said inductive pickoff and said transformer means to said amplifier input for providing a feedback signal thereto.

3,197,757

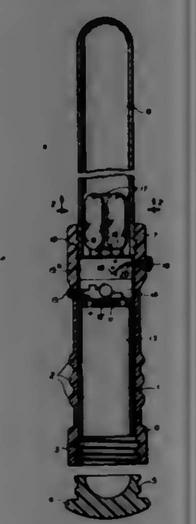
PORTABLE TRAFFIC SIGNAL HAVING CHANGING COLOR ILLUMINATION

Cesar Porta, Palais de la Scala, Monte Carlo, Monaco

Filed Apr. 19, 1963, Ser. No. 274,090

Claims priority, application France, Apr. 19, 1962, 895,127, Patent 1,322,482

1 Claim. (Cl. 340—321)



A movable device for light signals comprising

a hollow substantially cylindrical gripping member having a first inner thread at one of its ends and second inner thread at the other of its ends.

a cover having outer thread complementary to and received by said first inner thread of said gripping member,

a longitudinal, white-frosted bulb having outer thread at one end and closed at its opposite end, said outer thread being received by said second inner thread of said gripping member, and said longitudinal bulb being adapted to be used as a traffic stick during daylight and as a traffic light operating alternately different color bulbs, respectively,

said gripping member having at its center portion a plurality of annular extensions axially spaced apart from each other to permit easy gripping of said gripping member,

a cross wall disposed in said gripping member intermediate its ends and having wiring embedded therein,

a battery received in said gripping member between said cover and one face of said cross wall,

a motor driven commutator and a manually operated plural position switch carrying member disposed within said gripping member adjacent the opposite face of said cross wall, said commutator and said switch being connected by said wiring to said battery,

at least two sockets mounted in said switch carrying member and having connections to said commutator and said plural position switch,

electric bulbs having different colors received in said sockets, and

circuit means controlled by additional manual switch means for connecting said commutator motor with said battery, whereby said bulbs may be operated in automatic succession by said commutator or selectively by said plural position manual switch.

3,197,758

ARRANGEMENTS FOR PROVIDING A REPRESENTATION IN DIGITAL FORM OF THE RELATIVE POSITION OF A PAIR OF RELATIVELY MOVABLE MEMBERS

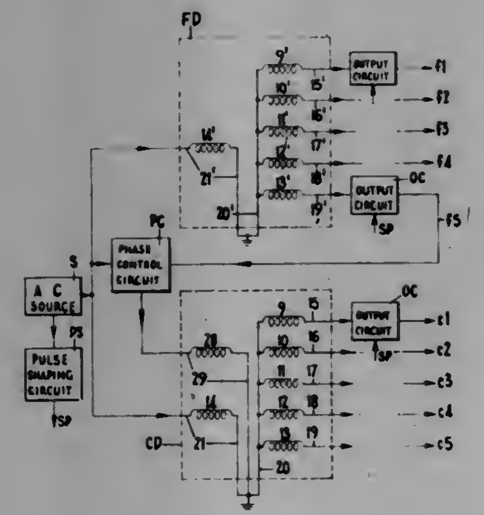
Cecil John Wayman, Stanmore, England, assignor to The General Electric Company Limited, London, England

Filed Jan. 11, 1960, Ser. No. 1,615

Claims priority, application Great Britain, Jan. 12, 1959, 1,051/59

The portion of the term of the patent subsequent to Nov. 27, 1979, has been disclaimed

7 Claims. (Cl. 340—347)



1. An arrangement comprising: a first shaft-position encoder having an input shaft and arranged to provide $(N+1)$ binary electric signals that are characteristic of the angular position of the input shaft within one revolution, where N is an integer greater than unity; a second shaft-position encoder having an input shaft and arranged to provide M binary electric signals that are characteristic of the angular position of its respective input shaft within one revolution, where M, which may be equal to N, is an integer greater than unity, the second encoder including main and auxiliary primary windings, M secondary windings, and a ferromagnetic member that is mounted on the respective input shaft to be positioned relative to the secondary windings in dependence upon the angular position of the last said input shaft, and to inductively link portions of the secondary windings to the primary windings so that the sense of the inductive coupling between each said secondary winding and each said primary winding is dependent upon the angular position of the last said input shaft; signal supply means to supply an electric signal of varying amplitude to said main primary winding; means responsive to the most significant signal of said $(N+1)$ binary signals to supply to said auxiliary primary winding an electric signal of varying amplitude that is in phase with the signal supplied by said signal supply means only when said most significant signal has one of its binary values and is in anti-phase with the signal supplied by said signal supply means only when said most significant signal has the other binary value; and reduction gearing mechanically coupling the input shaft of the second encoder to the input shaft of the first encoder; the arrangement being such that the M output signals from the second encoder and the N lesser significant output signals from the first encoder are respectively representative according to a code of the M more significant and the N lesser significant digits of an $(M+N)$ digit binary number that is characteristic of the angular position of the input shaft of said first encoder within a plurality of revolutions of that shaft.

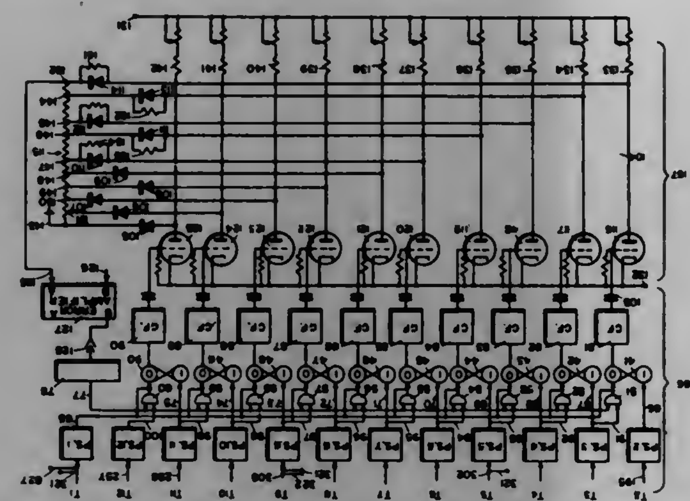
3,197,759

HIGH SPEED DATA CONVERSION AND HANDLING

Martin L. Klein and Harry C. Morgan, Woodland Hills, and Richard B. Rush, Granada Hills, Calif., assignors to North American Aviation, Inc.

Original application Apr. 17, 1957, Ser. No. 653,455. Divided and this application Jan. 26, 1961, Ser. No. 90,595

6 Claims. (Cl. 340—347)



6. An analog-to-digital converter comprising in combination, analog signal input terminals, a master timer for supplying a plurality of steep-front voltages in succession in a plurality of different channels, a plurality of pulse formers in each of said channels, a plurality of bistable electronic valve units, one for each of said chnanels, each such unit having an output terminal and two input terminals referred to as the zero and one terminals, respectively, connections between the pulse formers and the one terminals in each channel, a plurality of coincidence gates equal in number to the number of channels each having an output terminal connected to the zero terminal of the preceding channel, having a first input terminal connected to the channel pulse shaper, and having a second input terminal, all of the said second input terminals being interconnected, a trigger unit with an input terminal and with an output terminal connected to said second coincidence gate terminals, a standard voltage generator having a plurality of input terminals, each connected to one of said bistable output terminals, a source of standard voltage with a resistor connected thereto, a diode array connected to intermediate points in said resistor of successively higher voltage, a plurality of electronic valves each having a control electrode coupled to one of the input terminals of the standard voltage generator with an anode connected to one of the points in the diode array, a plurality of bypass resistors connected across selected diodes of said array which are connected to points on the resistor of higher voltage, an output terminal connected to a point in said resistor whereby an output voltage is produced at said output terminals having a value determined by the potential relationships between the input terminals of the standard voltage generator, an error amplifier having a pair of input terminals for voltage comparison, one of which is connected to the output terminal of the standard voltage generator and the other of which is coupled to said input signal terminals for comparison with an analog input signal and having an output terminal connected to the input terminal of the trigger unit.

3,197,760

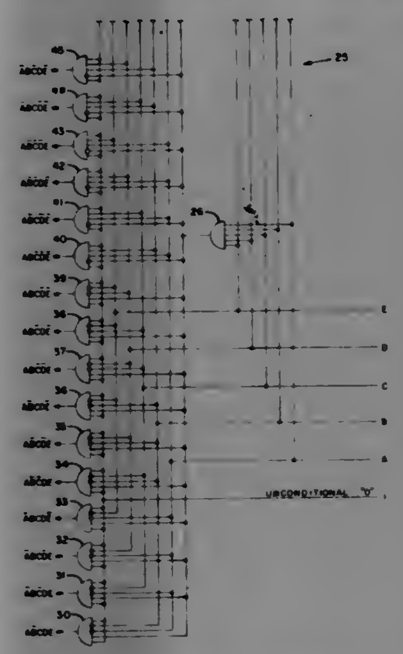
DATA PROCESSING SYSTEM

Marius Cohn and Richard Lindaman, Minneapolis, Minn., assignors to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Aug. 14, 1961, Ser. No. 131,310

11 Claims. (Cl. 340—347)

11. A data processing system comprising a plurality of majority-decision translating elements responsive to a majority of the input signals directed thereto and providing an output indicative of said majority, said system having "*n*" binary bits to be decoded wherein "*n*" is a positive integer having numerical value greater than 1, a first and a second logic level, said first logic level comprising a plurality of majority-decision elements wherein means are provided to couple one input from each bit to each of said first level elements, each of the inputs to a first element being normal and at least one input bit to said second elements being complementary, means for coupling the output from said first logic level to the elements in said second logic level, said second logic level comprising a plurality of AND elements, each AND element therein receiving a plurality of inputs including at least one unconditional input, at least one signal taken from the output of a majority-decision element in said first logic level, and at least one binary bit of the word to be decoded.



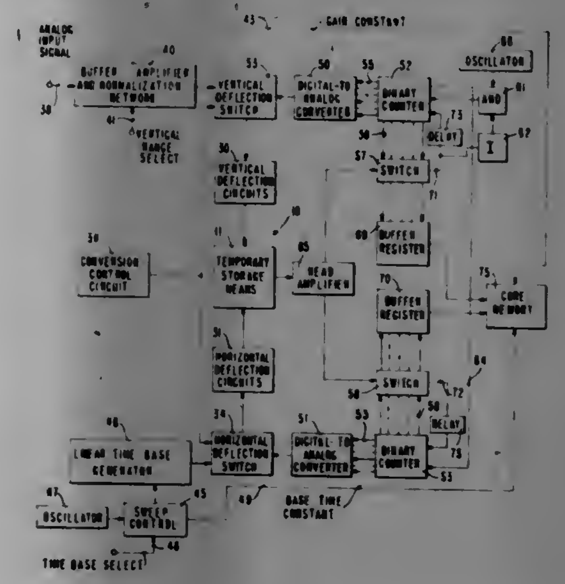
3,197,761

ANALOG-TO-DIGITAL CONVERTER UTILIZING ELECTROSTATIC MEANS

Merwyn E. Arthur and Frank F. Myers, Endicott, N.Y., assignors to International Business Machines Corporation, New York, N.Y., a corporation of New York

Filed Dec. 26, 1961, Ser. No. 162,041

2 Claims. (Cl. 340—347)


ANALOG INPUT SIGNAL
GAIN CONSTANT
BUFFER AMPLIFIER AND NORMALIZATION NETWORK
VERTICAL DEFLECTION SWITCH
DIGITAL-TO ANALOG CONVERTER
BINARY COUNTER
OSCILLATOR
AND
DELAY
VERTICAL RANGE SELECT
SWITCH
VERTICAL DEFLECTION CIRCUITS
CONVERSION CONTROL CIRCUIT
TEMPORARY STORAGE MEANS
READ AMPLIFIER
BUFFER REGISTER
CORE MEMORY
HORIZONTAL DEFLECTION CIRCUITS
LINEAR TIME BASE GENERATOR
HORIZONTAL DEFLECTION SWITCH
OSCILLATOR
SWEEP CONTROL
BASE TIME CONSTANT
TIME BASE SELECT

1. An analog-to-digital conversion system for receiving an analog input signal, storing a representation of the same and thereafter sampling the stored representation of

said analog input signal and converting the sampled quantities to coded digital output signals comprising:

an electrostatic storage tube having an electron beam source, a storage surface and a signal electrode;

a pair of coordinate deflection means for controlling the deflection of the electron beam;

a source of a sweep signal;

means to apply said sweep signal and said analog input signal to said coordinate deflection means to cause a representation of said analog signal to be recorded on said storage during a first time interval;

first and second counters connected in cascaded relation whereby advancement of the first counter through its maximum count to a reset condition causes the second counter to be advanced by one increment;

means interconnecting said first and second counters with said deflection means during a second time interval for deflecting said beam in the vertical direction in response to the count of the first counter and for deflecting said beam in the horizontal direction in response to the second counter;

a source of pulses for incrementing the first counter;

said signal electrode providing a control signal whenever said electron beam engages said representation of said analog input signal recorded on said storage surface during said second time interval;

means responsive to said control signal to interrogate the counts in said counters to read out the digital equivalents of that portion of the input signal representation engaged by the beam;

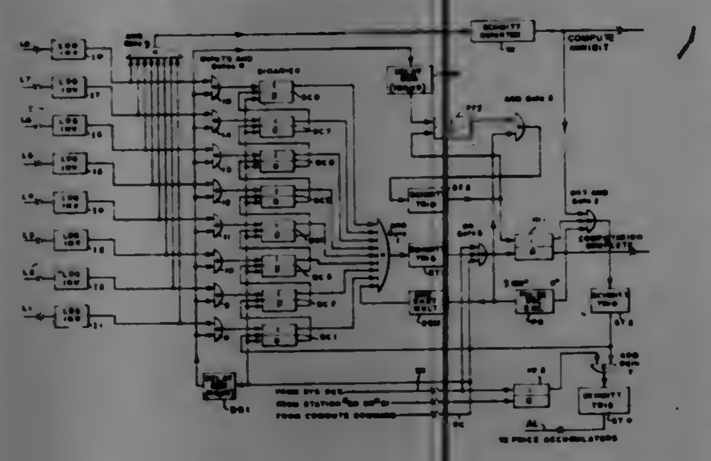
means responsive to said control signal and operative after read-out of said counters to cause the first counter to be reset and the second counter to be advanced by one increment to initiate a new signal by said electron beam without continuing the previous signal beyond the point at which the analog input signal representation was engaged; and storage means for storing the digital equivalent of the input signal representation read out of said counters.

3,197,762
BINARY TO DECIMAL CONVERTER CIRCUIT

William J. Mahoney, Darien, Conn., assignor to American Machine & Foundry Company, a corporation of New Jersey

Filed Aug. 24, 1962, Ser. No. 219,214

10 Claims. (Cl. 340—347)



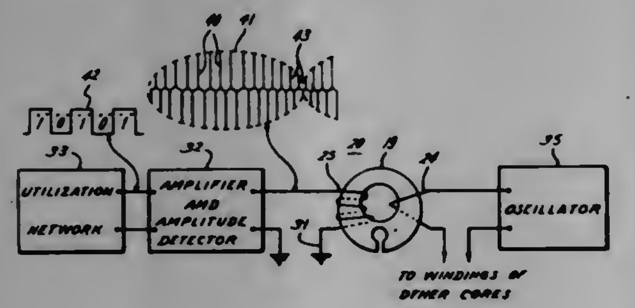
1. In combination with a source of binary-coded signals representing different digits of a number to be converted to decimal form, a conversion circuit comprising an output line, means for continuously generating a series of square-wave pulses of given width at a given pulse repetition rate, an output gate connecting said pulse generating means to the line, a chain of binaries connected in series by a direct connection between the ZERO output of each binary in the chain, to the binary count input of the next binary, the binary count input of the first binary in the chain being connected to the output of said output gate, a plurality of normally-disabled input gates in number equal to the number of binaries in said chain, having their inputs respectively supplied from said source with an inverted binary-coded signal presenting either a binary ZERO or a ONE representing a different digit of said number and having their outputs connected to the ONE input of a different one of said binaries, a first control means responsive to a starting pulse initiating a conversion cycle to first clear all of said binaries to the ZERO operating condition, a second control means operating with a predetermined amount of delay to enable only such of said input gates that have an inverted ONE binary-coded signal supplied to their inputs to supply those signals to the associated binaries, thereby effectively entering the complement of said number into the binaries, third control means responsive to the starting pulse with a predetermined amount of additional delay to enable said output gate and allow a train of pulses from said pulse generating means to flow to said line, and to said binary chain to be counted therein, and third gating means responsive to the count causing the outputs of all of the binaries in the chain to be set into the ONE operated condition to disable said output gate stopping the train of transmitted pulses, the number of pulses in said train passing to said line and counted by said binaries being the decimal equivalent of the binary number at the input of said circuit.

3,197,763
SHAFT ENCODERS

Sterling Fisher, Sarasota, Fla., assignor to Electro-Mechanical Research, Inc., Sarasota, Fla., a corporation of Connecticut

Filed Aug. 28, 1962, Ser. No. 219,914

15 Claims. (Cl. 340—347)



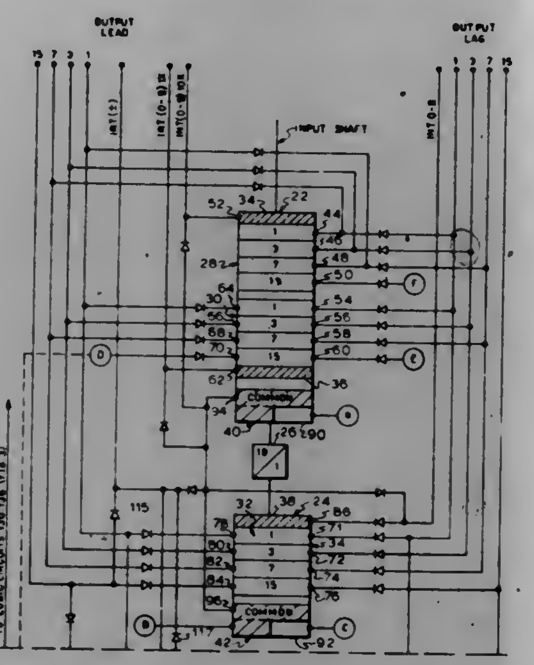
1. In a position sensing apparatus, a first member having a plurality of magnetic flux emanating areas arranged in a coded pattern, each of said areas defining a bi-polar concentration of flux, said pattern comprising groups of areas representative of distinct predetermined positions; core members mounted opposite to said first member, each core member being composed at least in part of magnetic material having at least two remanent states and having a gapless first portion for providing a closed-loop magnetic circuit and a second portion defining an air gap, said first and second portions having a common leg being susceptible of becoming substantially saturated by respective ones of said flux emanating areas dependent upon the relative positions of said core members and said flux emanating areas; said first member and said core members being susceptible of relative displacements whereby said air gaps are positioned with respect to certain of said areas dependent upon said relative displacements; flux inducing means coupled with each of said core members for switching the magnetic material in said core members between said remanent states dependent upon the relative positions of said core members and said first member; and output means responsive to the flux in said core members for providing signals representative of said predetermined positions.

3,197,764
UNAMBIGUOUS ENCODER

Rocco R. Oddo, Brooklyn, N.Y., and George Lapp, Oakland, and Ralph M. Seelagy, Clifton, N.J., assignors to General Precision Inc., Little Falls, N.J., a corporation of Delaware

Filed Jan. 7, 1963, Ser. No. 249,701

7 Claims. (Cl. 340—347)



1. An encoder having a maximum output reading of 89.9 units comprising a high speed drum and a low speed drum drivingly connected together with an 18 to 1 gear ratio, first and second groups of code tracks encircling said high speed drum, a third group of code tracks encircling said low speed drum, the code of each of said three groups of code tracks being a Gray code excess 3 with the first group of code tracks representing the numbers 0–9 of the least significant digit of the encoder output and the second group of code tracks representing the numbers 0–9 of the next most significant digit and the third group of code tracks representing the numbers 0–8 and 8–0 of the most significant digit, output means for reading each of said code tracks, means for generating a trigger signal having a first state during the first nine revolutions of said high speed drum and a second state during the tenth of the eighteenth revolutions of said high speed drum, first logic circuit means connected to the output means associated with the most significant code track of said first group and controlled by said trigger signal to complement the output means connected thereto during the tenth to the eighteenth revolutions of the high speed drum, and second logic circuit means connected to the output means associated with the most significant code track of said second group of tracks and controlled by said trigger signal to complement the output means connected thereto during the tenth to the eighteenth revolutions of said high speed drum.

3,197,765
ELECTROMAGNETIC INDICATORS OR READOUT DEVICES

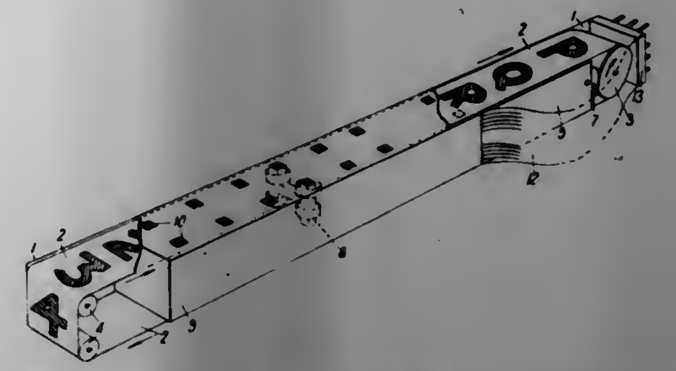
Kenneth Henry Simpkin, Aylesbury, England, assignor to General Precision Systems Limited, Aylesbury, England

Filed July 6, 1962, Ser. No. 207,957

Claims priority, application Great Britain, July 7, 1961, 24,736/61; Feb. 7, 1962, 4,733/62

6 Claims. (Cl. 340—348)

1. An electromagnetic indicator, comprising, in combination: an endless flexible band bearing a succession of symbols and a succession of patches of low magnetic reluctance; means for moving said band to move said symbols successively to a viewing area, and a plurality of magnetic circuits spaced along and adjacent said band at fixed positions, whereby different positions of said endless flexible band result in various of said patches altering the reluctance of various of said magnetic circuits.

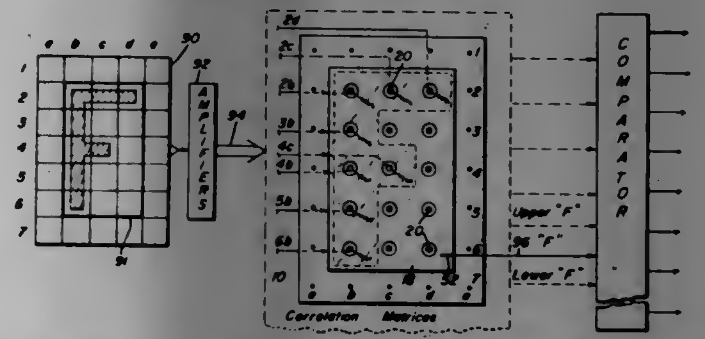


3,197,766
STACKED CIRCUIT BOARDS

Edward S. Stein, Washington, D.C., and Arthur W. Holt, Silver Spring, Md., assignors, by mesne assignments, to Control Data Corporation, Minneapolis, Minn., a corporation of Minnesota

Filed Mar. 8, 1962, Ser. No. 178,453

3 Claims. (Cl. 340—378)



1. In electronic equipment providing a plurality of signals from a total array of sources wherein said array includes a significant set of sources smaller than the total array and wherein the significant set can occupy one of a plurality of possible positions in the array, a base, a plurality of pins attached to said base, there being one pin for each source of said total array, means connecting the respective sources of said array to the respective pins, a plurality of circuit boards having components thereon, each circuit board having a set of apertures of a spacing to receive some of said pins, the circuit board apertures being equal in number to the number of sources of said significant set of sources within said total array so that one board corresponds to a said significant set of sources, at least two of said circuit boards being positioned on said plurality of pins at different lateral positions which correspond respectively to two of the possible positions which said significant set of sources may occupy in said array, and means connecting the pins in circuit with the components of the respective boards.

3,197,767
APPARATUS FOR ELECTRONIC TIME COMPRESSION

Munsey E. Crost, Loch Arbour, N.J., assignor to the United States of America as represented by the Secretary of the Army

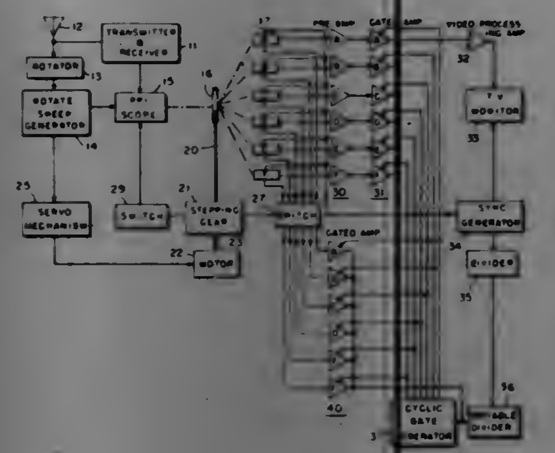
Filed Jan. 4, 1963, Ser. No. 249,538

9 Claims. (Cl. 343—5)

(Granted under Title 35, U.S. Code (1952), sec. 266)

1. An electronic time-compression apparatus for displaying the position and motion of phenomena in a field of view; comprising radar means having an antenna rotating at a first time rate and an oscilloscope having a circular sweep rotating at said first time rate; a plurality

of storage tubes responsive to the display on said oscilloscope; reflecting means for successively reflecting a complete cycle of information displayed on said oscilloscope into each of said storage tubes at a second time rate which approximates said first time rate; a plurality of gated amplifiers each connected to the output of a storage tube and the outputs of said gated amplifiers connected in common to the input of a display means; and a cyclic gate generator means having a plurality of outputs each connected to one of said gated amplifiers for supplying gating signals successively to said amplifiers at a time rate which is higher than said first time rate.

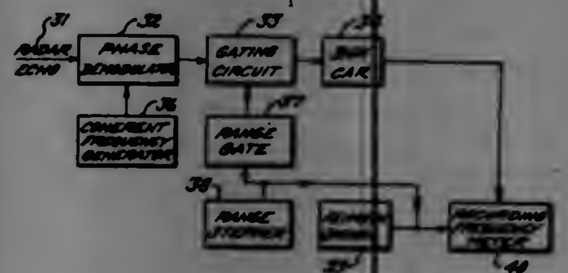


3,197,768

METHOD AND MEANS OF DETERMINING VARIABILITY OF ATMOSPHERIC MOTION WITH RESPECT TO ALTITUDE

Roger M. Lhermitte, Sudbury, Mass., assignor to the United States of America as represented by the Secretary of the Air Force

Filed July 5, 1963, Ser. No. 293,212
6 Claims. (Cl. 343—5)
(Granted under Title 35, U.S. Code (1952), sec. 266)



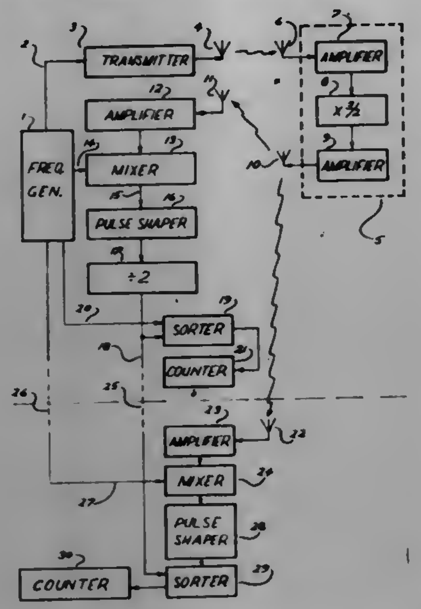
1. The system of recordation of variability in atmospheric motion from radar detectable moisture particles in the atmosphere which system includes means including an antenna constantly rotating in azimuth for radiating pulses of energy into the atmosphere, said antenna also having a predetermined constant elevation angle, means for receiving return signal energy from said detectable particles resulting from said radiated pulses, means for deriving from said return signal energy a demodulated signal representative of said detectable particles, means for progressively and incrementally range gating said demodulated signal over a preselected range, means including a boxcar circuit for stretching said gated signal over an interval corresponding to that interval between signals, means for recording the frequency of said stretched signals with respect to azimuth signals from the antenna radiating said pulses of energy together with range gate signals gating said demodulated signals.

3,197,769

DOPPLER MEASUREMENT SYSTEMS

Alexander Roth, 166 S. 2nd Ave., Fort Walton Beach, Fla.

Filed Sept. 6. 1962, Ser. No. 221,739
4 Claims. (Cl. 343—6.5)



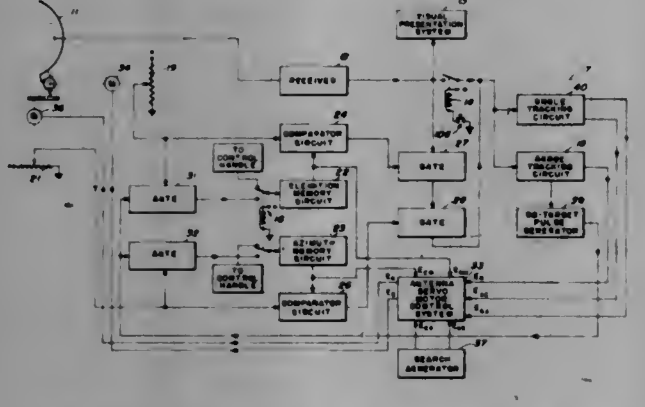
1. In a Doppler distance measurement system utilizing a stationary continuous wave transmitter, several stationary receivers, one of which, the prime receiver, is located at the transmitting station, a frequency generator which generates several frequencies one of which is used for transmission at the transmitter to a transponder located in the object to be tracked, said transponder containing means for receiving the signal, multiplying it to a new frequency proportional to the received frequency, and means for re-transmitting the signal at the new frequency, said re-transmitted frequency radiated to said prime receiver wherein a signal at a second frequency from the frequency generator is used to heterodyne the received signal by means of a signal mixer to a new frequency being some constant value plus the Doppler shift, said frequency generator supplying another signal at a third frequency which is precisely equal to the constant value of the heterodyned signal, said heterodyned signal and said third frequency signal applied to an accumulating counter in such a manner as to add one count for each cycle of the heterodyned frequency, and to subtract one count for each cycle of the third frequency, causing the accumulated tally of said counter to be proportional to range change.

3,197,770

SEARCH-WHILE-TRACK RADAR SYSTEM

Earl H. Rix, Harman, and David R. Houston, North Linthicum, Md., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Aug. 29, 1962, Ser. No. 220,927
4 Claims. (Cl. 343—7)



1. In a search-while-track radar system, the combination comprising:

a radar signal receiving antenna;

variation means for varying the orientation of said antenna;

receiving means operably connected to said antenna for receiving a radar signal reflected from a target toward which said antenna is directed;

tracking means electrically connected to said receiving means for indicating the position of a target toward which said antenna is directed;

target selection means operably connected to said tracking means whereby an object in space may be selected and tracked while said antenna scans a predetermined field; and

switching means electrically connected between said target selection means and said tracking means for automatically switching said search-while-track radar system from a search mode of operation to a track mode of operation when the target being tracked comes within a predetermined range of said radar system.

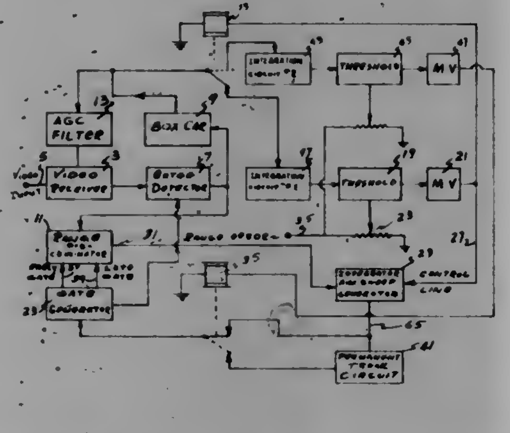
3,197,771

SIGNAL DETECTION, THRESHOLDING AND SWITCHING SYSTEM

Alfred I. Mintzer, Lexington, Mass., and Anton J. Lisicky, Cherry Hill, N.J., assignors, by mesne assignments, to the United States of America as represented by the Secretary of the Navy

Filed Nov. 19, 1964, Ser. No. 412,575

4 Claims. (Cl. 343—7.3)



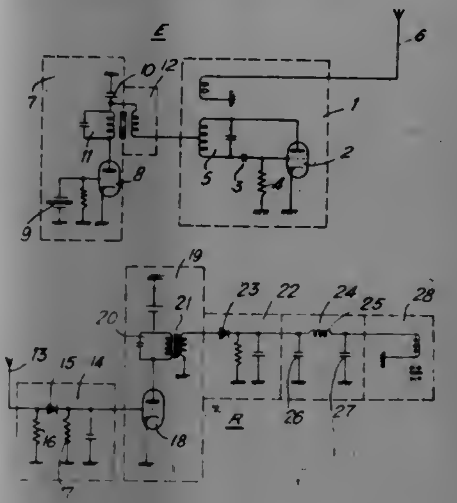
1. Radar target detection apparatus comprising:
(a) a video receiver;
(b) means for scan gating the receiver over a preselected radar search area;
(c) a first integrating circuit normally coupled to the gated output of the receiver, said first integrating circuit having a predetermined time constant;
(d) a first threshold circuit coupled to the output of the first integrating circuit;
(e) a second integrating circuit having a time constant which is a predetermined amount greater than the time constant of the first integrating circuit;
(f) a second threshold circuit coupled to the output of the second integrating circuit;
(g) means responsive to energization of the first threshold circuit for coupling the gated output of the receiver to the second integrating circuit;
(h) tracking circuitry;
(i) and means responsive to energization of the second threshold circuit for deenergizing the receiver scan gating means and energizing the tracking circuitry.

3,197,772

METHOD AND DEVICE FOR DETECTING MOVING OBJECTS BY RADIO MEANS

André Charles Robert, Eaubonne, and Louis Marie Alphonse Guy Paul d'Izarny-Gargas, Paris, France, assignors to Sud-Aviation Societe Nationale de Constructions Aeronautiques, Paris, France

Filed Mar. 1, 1962, Ser. No. 176,569
Claims priority, application France, Mar. 3, 1961, 854,444, Patent 1,290,334
8 Claims. (Cl. 343—7.7)



1. A device for detecting nearby moving objects comprising, in combination, a multiplicity of transmission stations, each one of which comprises a transmitter comprising a VHF self-oscillator generating a carrier-wave of very high frequency, an emitting antenna coupled to said transmitter, an auxiliary IF oscillator generating an intermediate-frequency wave, and means for amplitude-modulating said carrier-wave by said intermediate frequency wave which constitutes a sub-carrier wave; and a multiplicity of reception stations, each one of which comprises a receiving antenna, a receiver coupled to said receiving antenna and comprising a first wide-band detector which furnishes the various sub-carriers emitted by all said transmission stations which are amplitude-modulated by the Doppler effects resulting from the beats between the whole of the waves emitted by all said transmission stations and the whole of the waves reflected from a moving object to be detected, a medium-band amplifier which is tuned to the band of the frequencies of all the emitted sub-carriers and which receives its signals from said wide-band detector, a second detector supplied by said amplifier and furnishing all the Doppler signals due to the beats of all the carrier waves emitted with all the echo waves, a very-low-pass-band filter having a time-constant, receiving the Doppler signals of said second detector and furnishing only the Doppler beat signals between all the carrier wave emitted and their own echo waves from the moving object, and a warning device supplied from said filter, the frequencies of at least one of the two groups formed by the carrier waves and the sub-carrier waves emitted by the transmitters being different from one transmitter to another and chosen from a small number of neighbouring frequencies.

3,197,773

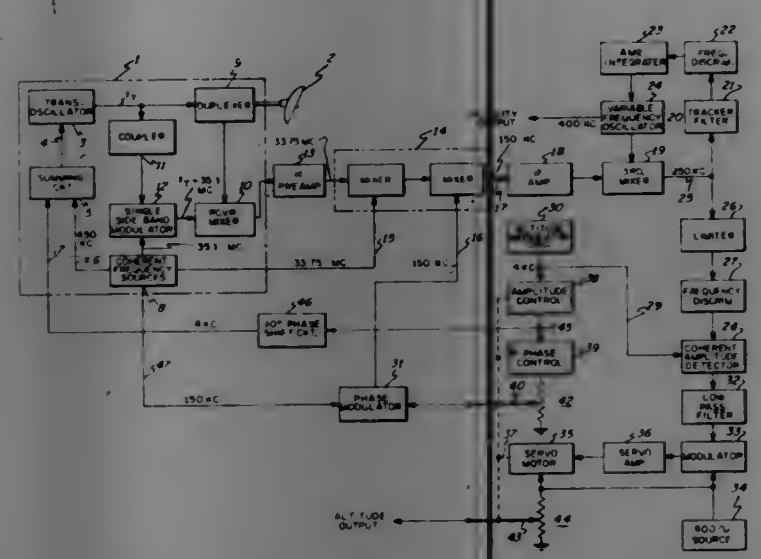
FREQUENCY MODULATED CONTINUOUS WAVE NAVIGATION RADAR

Stanley H. Black and Donald Littler, Santa Clara, Calif., and P. Gene Smith, Sudbury, Mass., assignors to Sperry Rand Corporation, Great Neck, N.Y., a corporation of Delaware

Filed Apr. 19, 1962, Ser. No. 188,754
9 Claims. (Cl. 343—9)

1. Radar apparatus comprising

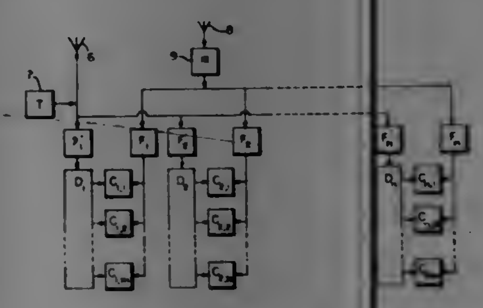
means for transmitting a doubly frequency modulated carrier wave toward a reflecting object, means for heterodyning signals reflected from said object with said wave to produce a beat note having a frequency modulated component whose mean frequency and frequency modulation index are related to the velocity and range, respectively, of said object relative to said radar apparatus,



first means coupled to said heterodyning means for determining the frequency modulation index of said component,

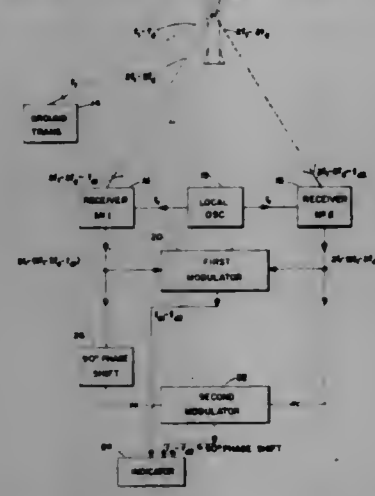
and second means coupled to said heterodyning means for determining the mean frequency of said component.

3,197,774
RADAR SYSTEM UTILIZING A FREQUENCY DISPERSIVE ARRAY
Erich Goldbohm, 57 Koningin Astrid Blvd., Noordwijk, Netherlands
Filed Dec. 30, 1959, Ser. No. 862,858
Claims priority, application Netherlands, Jan. 5, 1959, 234,821
4 Claims. (Cl. 343—10)



1. A radar system having an antenna array comprising a plurality of aligned individual radiating elements and a transmitter providing a noise spectrum to that array, the array being frequency dispersive such that each frequency component from the noise spectrum is radiated in a different direction, a receiver, at least one filter being included in said receiver, the pass band of said filter being narrow as compared with the frequency spectrum generated by the transmitter, at least one correlator circuit having a first input to which the output of said filter is connected and a second input, a second filter connected to the transmitter output and a delay device between the second filter and said second input of the correlator circuit, the pass characteristic of which second filter is substantially equal to the shape of the frequency spectrum passed by the filter connected to the first input of the correlator circuit.

3,197,775
DOPPLER TRACKING SYSTEM WITH REAL TIME PRESENTATION OF MISSILE TRAJECTORY DEVIATION
Karl Sendler, Cocoa Beach, Fla., assignor to the United States of America as represented by the Secretary of the Army
Filed Nov. 9, 1964, Ser. No. 411,674
2 Claims. (Cl. 343—15)
(Granted under Title 35, U.S. Code (1952), sec. 266)



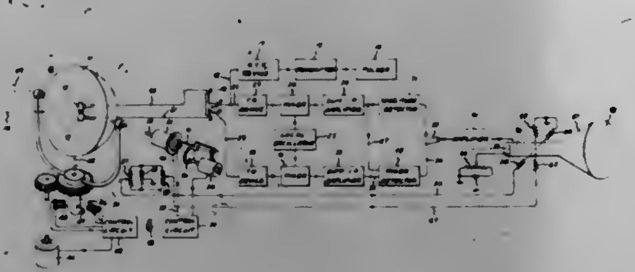
1. A Doppler tracking system for tracking a moving object comprising: a ground transmitter for transmitting a signal of a first fixed frequency; means carried by said moving object for receiving said transmitted signal and for converting this signal to a second frequency which is a multiple of said first frequency, and for transmitting the frequency multiplied signal; first and second receiver stations each consisting of a single receiver for receiving signals from said moving object, said stations being positioned on a first line and being on opposite sides of and equal distances from a second line, said second line being perpendicular to said first line and defining the desired course of said moving object; and means responsive to the output signals of said receivers for obtaining the relative frequencies thereof whereby an indication of any deviation of said object from the desired course is obtained, said responsive means comprising a first modulator connected to said first and second receivers for providing a first beat frequency, a 90° phase shifting means connected to said first receiver, a second modulator connected to said phase shifting means and to said second receiver for providing a second beat frequency which is 90° out of phase with said first beat frequency, a synchronous motor connected to said first and second modulators, a potentiometer connected to and driven by said motor and a real time recorder connected to said potentiometer for providing a diagrammatic representation of any deviation of said moving object from the desired course.

2. A missile tracking system comprising: means for radiating a signal having a fixed frequency from a missile being tracked, ground located receiver means consisting of first and second receivers for receiving said radiated signal, means responsive to the outputs of said first and second receivers for obtaining the relative frequencies of said outputs, and recording means connected to said responsive means for providing a diagrammatic representation of any deviation of said missile from a desired course.

3,197,776
RECEIVER-INDICATOR SYSTEM FOR RADAR APPARATUS
Oliver H. Winn, Camillus, N.Y., assignor to General Electric Company, a corporation of New York
Filed Sept. 11, 1952, Ser. No. 308,963
11 Claims. (Cl. 343—17.1)

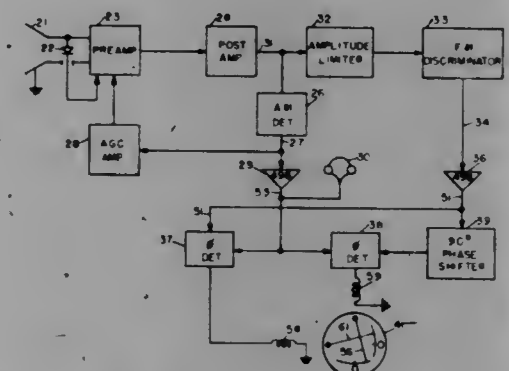
1. In combination, means to radiate pulses in a desired direction in space and to receive reflections of said

pulse from said direction, said means including a pair of receptors having field patterns in a desired plane having a principal axis from which said reflections are received with maximum sensitivity, means to combine reflections received from directions in said pattern at one



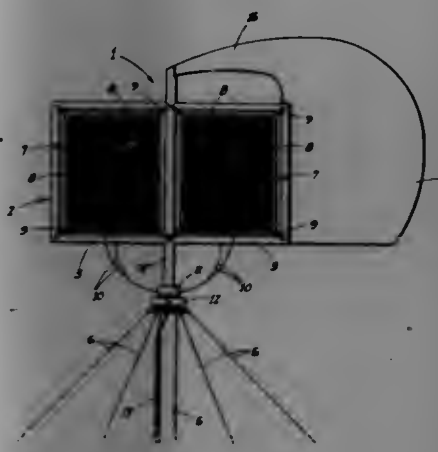
side of said axis to produce potentials in only a positive range of values and to combine reflections from directions in said pattern at the opposite side of said axis to produce potentials in only a negative range of values, an indicator, and means to control said indicator by potentials in only one of said ranges of values.

3,197,777
TACTICAL RADIO LANDING SYSTEM
Michael W. McKay, Tarrytown, N.Y., assignor to General Precision, Inc., a corporation of Delaware
Filed Nov. 29, 1961, Ser. No. 155,581
4 Claims. (Cl. 343—108)



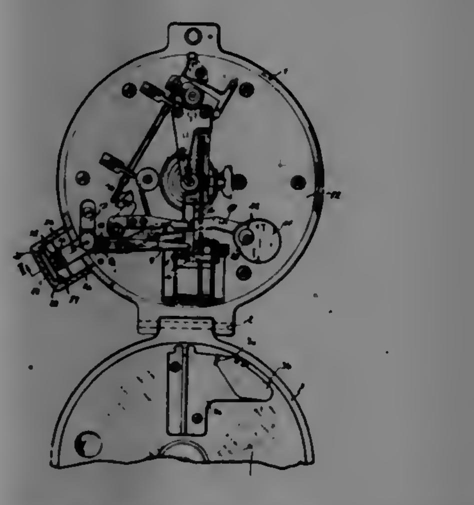
1. A radio landing system comprising, a ground based transmitter including a microwave generator, a local oscillator, means for frequency modulating said local oscillator, means for amplitude modulating the output of said microwave generator by the frequency modulated output of said local oscillator, means for radiating said modulated signal in a directed beam, means for rotating said beam about a selected axis at a rate of rotation equal to the frequency of said frequency modulation, the apex angle of the cone of rotation being substantially equal to the width of said directed beam between half-power points, an airborne receiver including an amplitude modulation detector deriving a signal from said beam the frequency of which is dependent on the rate of rotation of said beam, a frequency modulation detector producing an output signal having a frequency equal to the frequency modulation of said transmitter, a first phase detector having the output of said amplitude modulation detector and the output of said frequency modulation detector imposed thereon, a 90° phase shifter having the output of said frequency modulation detector imposed thereon, a second phase detector having the output of said amplitude modulation detector and the output of said phase shifter imposed thereon, and indicator means energized by the outputs of said first and second phase detectors.

3,197,778
TELEVISION ANTENNA WITH A WIND ENGAGING VANE
Bruno L. Sajulan, Stockton, Calif., assignor to Bruno L. Sajulan and Conception T. Sajulan, his wife, as joint tenants
Filed Sept. 6, 1963, Ser. No. 307,085
4 Claims. (Cl. 343—757)



1. A television antenna comprising, with a fixed support, a frame disposed in a vertical plane above the support, means turnably mounting the frame on the support for rotation about a vertical axis, a signal receiving screen mounted in the frame and disposed in a vertical plane, and a wind engaging vane fixed on the frame substantially parallel to the screen; the screen being of elongated diamond form in a horizontal plane and the major axis of the screen being parallel to the vane.

3,197,779
TACHOGRAPH ADAPTED TO RECORD THE PERIODS OF REST OF VEHICLE DRIVERS WORKING IN ALTERNATION
Oscar Chatelain and Maurice Jeanmonod, La Chaux-de-Fonds, Switzerland, assignors to Zenith S.A., Le Locle, Switzerland, a Swiss company
Filed Mar. 15, 1962, Ser. No. 179,959
Claims priority, application Switzerland, Sept. 15, 1961, 10,767/61
5 Claims. (Cl. 346—7)

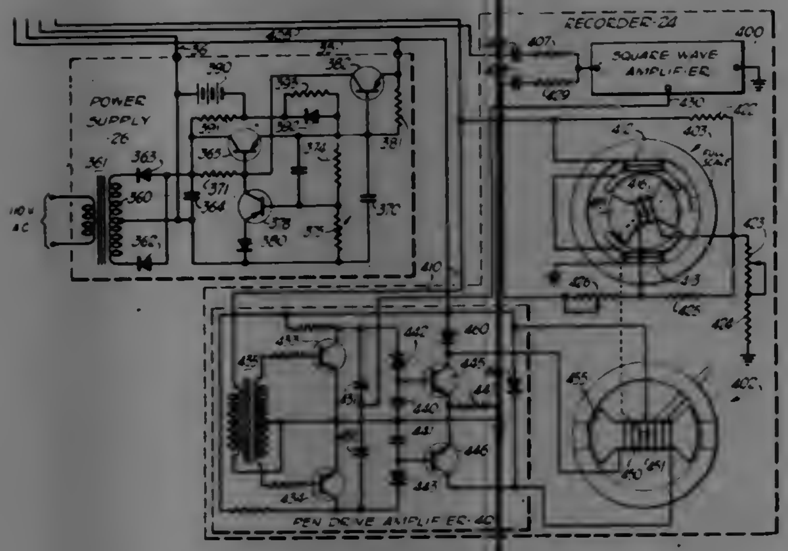


1. In a tachograph for checking the operation of a vehicle by at least two vehicle drivers, in combination, a member rockably driven a given amplitude of reciprocating movement while the vehicle is running, a record medium advanced continuously for recording thereon on different tracks marks indicative of the periods of operation of the respective drivers of the vehicle during respective given periods of time, recording means driven from said rockable member for recording said

marks on said record medium, and adjusting means operable by said drivers to variably adjust said recording means to respective operative positions for recording on respective ones of said different tracks without changing the amplitude of movement of said rockably driven member, said adjusting means comprising a pivoted lever movable angularly to two different, stationary angularly spaced positions, a pivot fixed on said lever for movement therewith to said two different positions, said recording means comprising another lever mounted pivotally on said pivot on the first-mentioned lever, a stylus on said another lever for making said marks on said record medium during the advancement thereof, means mechanically connecting said member to said another lever for imparting movement to said another lever from said member for making said marks a width corresponding substantially to the amplitude of reciprocating movement of said member, and pivot means pivotally mounting said member pivotally independent of both of said levers.

3,197,780
INTRINSIC SAFETY PROCESS CONTROL SYSTEM

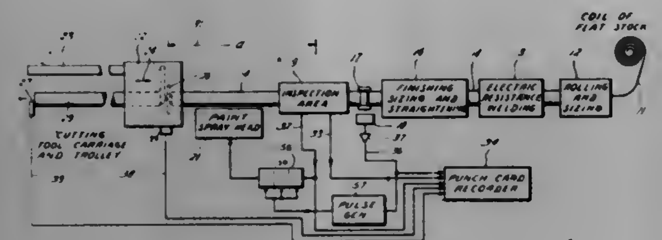
Edgar S. Gilchrist, Fairfield, Conn., assignor, by mesne assignments, to Consolidated Electrodynamics Corporation, Pasadena, Calif., a corporation of California
Filed Sept. 18, 1961, Ser. No. 138,779
12 Claims. (Cl. 346—32)



3. In a process control system, an electronic recorder comprising an amplifier, means for applying an input square wave signal having an amplitude proportional to a measured variable to the input of said amplifier means, synchronous demodulator means connected to the output of said amplifier for developing a pair of direct current output signals of opposite polarities proportional in amplitude to the square wave output of said amplifier, a shaft positioned within a magnetic field and having a recording element connected thereto, a pair of rotor windings positioned within said field and carried by said shaft, means for supplying said direct current output signals to said rotor windings so that said shaft is positioned in accordance with the amplitude of said direct current output signals, means connected to said shaft for developing a square wave feedback signal having an amplitude proportional to the position of said shaft, and means for applying said square wave feedback signal to the input of said amplifier in opposition to said square wave input signal, thereby to limit the current drawn by said rotor windings to a relatively small value during periods when said recording element is at rest.

3,197,781
APPARATUS FOR TESTING AND GRADING ELONGATE MEMBERS

Alfred E. Crouch, Houston, Tex., assignor, by mesne assignments, to American Machine & Foundry Company, New York, N.Y., a corporation of New Jersey
Filed July 31, 1963, Ser. No. 298,870
6 Claims. (Cl. 346—33)



1. An aparatus for detecting defects in an elongated member and recording those defects on a recording medium, comprising:

defect detecting scanning means mounted adjacent said elongated member for relative axial movement therewith and adapted to produce electrical defect signals as an incident of defects detected during scanning of said elongated member,

a first electrical circuit connected to said scanning means for receiving said defect signals and transmitting first electrical signals when said defect signals are above preselected levels,

an electrical signal storage unit having at least two electrical signal storage elements connected in sequence with the first in sequence being connected to said first electrical circuit and receiving said first electrical signals therefrom,

electrical signal producing means connected to each of said signal storage elements for applying electrical transfer signals thereto at preselected intervals,

a second electrical circuit connected to the last in sequence of said signal storage elements and producing output signals in response to stored signals transferred from said last in sequence of said signal storage elements,

recording means connected to said second electrical circuit for receiving said output signals and for recording on a recording medium the receipt of said output signals,

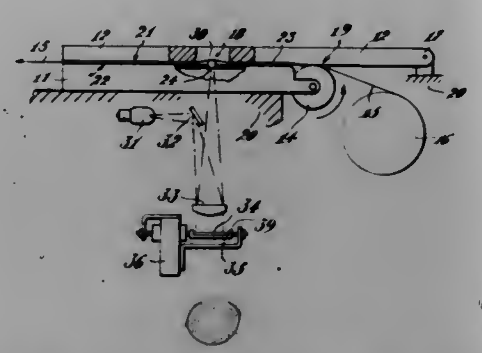
whereby defects are detected in said elongated member in the form of said electrical defect signals, which defect signals are applied to said first electrical circuit, which circuit transmit said first electrical signals to said signal storage unit where said signals are stored and progressively transferred said sequence of signal storage elements by operation of said electrical signal producing means and applied to said second electrical circuit, which thereby applies an output signal to said recording means to record occurance of defects above a preselected level.

3,197,782
OPTICAL RECORDING SYSTEM

Donald E. Williamson, Miami, Fla., assignor to Cordis Corporation, Miami, Fla., a corporation of Florida
Filed Dec. 27, 1961, Ser. No. 162,517
10 Claims. (Cl. 346—109)

1. Signal recording apparatus wherein light sensitive material moves continuously along a path and a light beam projects on the material a recording spot moving along a line transversely of the path, comprising:

a rod shaped lens means arranged in the projecting beam with its longitudinal axis parallel to said transverse line, said lens means extending into said path with a region where it can contact said moving material and deviate it from said path, and having at the regions of contact and diametrically opposite thereto curved surface portions, said opposite portions being essentially circular; and

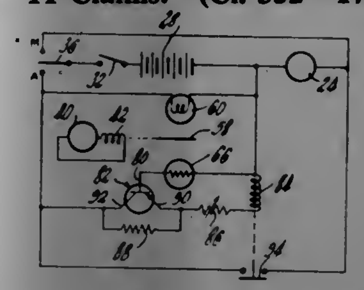


sensitive material guiding means cooperating with said lens means to hold the material in contact with the lens means substantially at said region of contact;

whereby the lens serves to converge the projecting beam and positively to position the sensitive material for recording.

3,197,783
ELECTRIC CAMERA CONTROL APPARATUS

Byong-ho Ahn, Brockton, and Samuel Silbovitz, Quincy, Mass., assignors to Keystone Camera Company, Inc., Boston, Mass., a corporation of Massachusetts
Filed Sept. 18, 1962, Ser. No. 224,306
11 Claims. (Cl. 352—176)

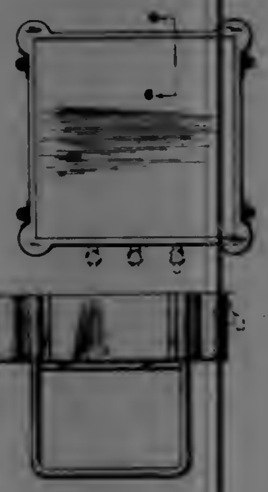


1. A motion picture camera control system comprising an electric motor, a source of electricity connected in circuit therewith to energize the motor, a light source connected across said electrical source, control means connected in circuit with said electrical source and said light source to energize said light source, and a light sensitive photocell connected in circuit controlling relation to said motor responsive to light from said source to energize said motor under the control of said control means only when the level of radiation from said source impinging on said photocell is above a predetermined value.

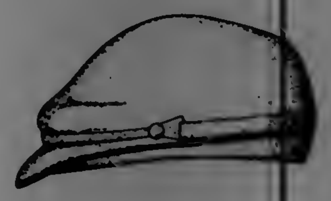
DESIGNS

JULY 27, 1965

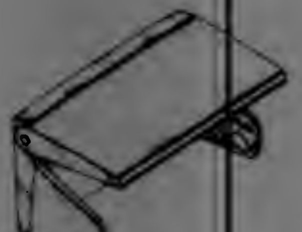
201,742
BEVERAGE COOLER
Walter L. Pieschel, 1507 Dana Ave., Ludlow, Ky.
Filed Oct. 23, 1963, Ser. No. 77,114
Term of patent 14 years
(Cl. D2—3)



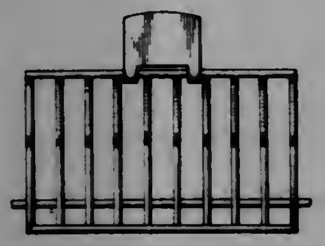
201,743
SAFETY HELMET
John L. Marchello, Ann Arbor, Mich., assignor to Joseph Buegeleisen Company, Southfield, Mich., a corporation of Michigan
Filed Oct. 23, 1964, Ser. No. 82,298
Term of patent 14 years
(Cl. D3—13)



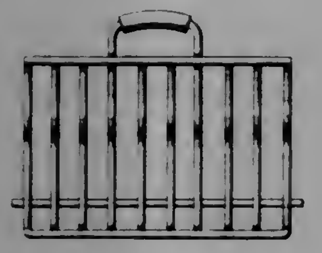
201,744
ADJUSTABLE DISPENSER FOR ROLL TOWELS
Council A. Tucker, Glendale, Calif., assignor to Towlsaver, Inc., Los Angeles, Calif., a corporation of California
Filed Sept. 25, 1964, Ser. No. 81,877
Term of patent 14 years
(Cl. D4—3)



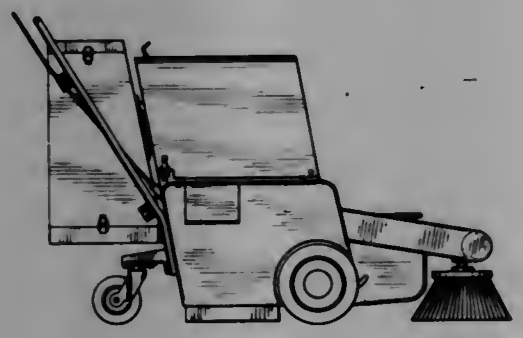
201,745
COMBINATION DRAINER AND HOLDER HAVING DUAL ATTACHING ELEMENTS OR SIMILAR ARTICLE
Thomas P. O'Donnell, 220 Highland Blvd.,
Forest Hills, N.Y.
Filed Aug. 20, 1962, Ser. No. 71,346
Term of patent 14 years
(Cl. D9—2)



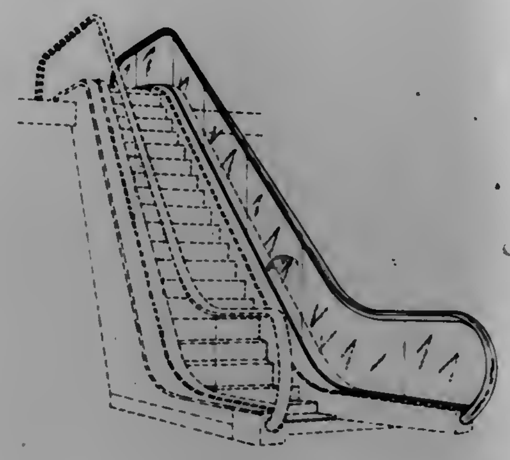
201,746
COMBINATION DRAINER AND HOLDER HAVING DUAL ATTACHING ELEMENTS
Thomas P. O'Donnell, 220 Highland Blvd.,
New York, N.Y.
Original design application Aug. 20, 1962, Ser. No. 71,346. Divided and this application Aug. 21, 1964, Ser. No. 81,395
Term of patent 14 years
(Cl. D9—2)



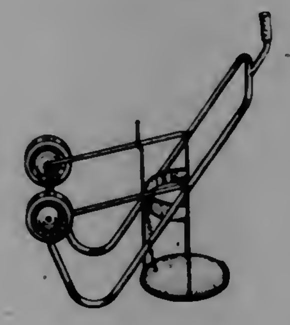
201,747
POWERED SWEEPING MACHINE
Albert S. Swanson, Minneapolis, Minn., assignor to G. H. Tennant Company, Minneapolis, Minn., a corporation of Minnesota
Continuation of design applications Ser. Nos. 77,207 and 77,208, Oct. 30, 1963. This application Oct. 29, 1964, Ser. No. 82,443
Term of patent 14 years
(Cl. D9—2)



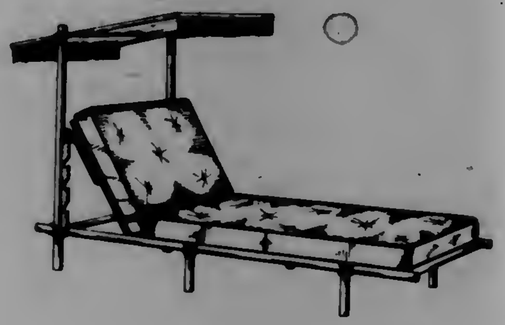
201,748
POSTLESS BALUSTRADE
George M. Grady, Minneapolis, Minn., assignor to Hupp Corporation, Cleveland, Ohio, a corporation of Ohio
Filed Feb. 10, 1964, Ser. No. 78,572
Term of patent 14 years
(Cl. D13—7)



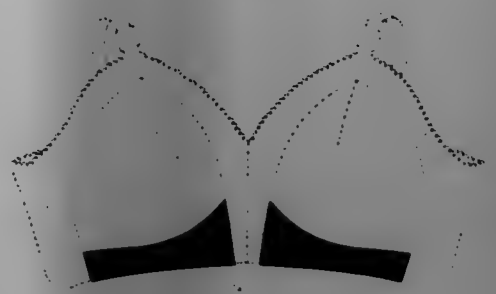
201,749
HAND TRUCK
Albion E. Rolland, 1626–A 9th St., Alameda, Calif.
Filed Mar. 16, 1964, Ser. No. 79,032
Term of patent 14 years
(Cl. D14—3)



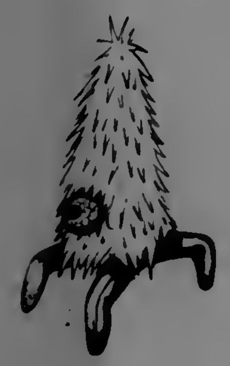
201,750
COMBINED CHAISE AND A SUNSHADE THEREFOR
Merle C. Melchior, Los Angeles, Calif., assignor of one-half to Sidney Galper, Los Angeles, Calif.
Filed Sept. 29, 1964, Ser. No. 81,919
Term of patent 14 years
(Cl. D15—11)



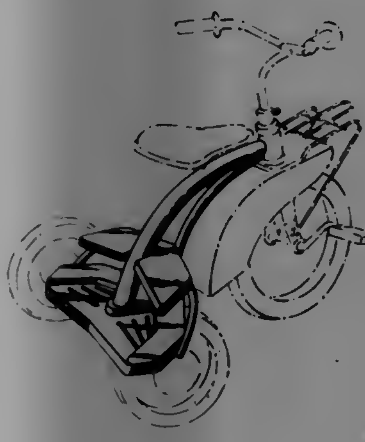
201,751
BRASSIERE
Charles M. Sachs, Fort Lee, N.J., assignor to International Latex Corporation, Dover, Del., a corporation of Delaware
Filed Jan. 22, 1963, Ser. No. 73,282
Term of patent 14 years
(Cl. D20—4)



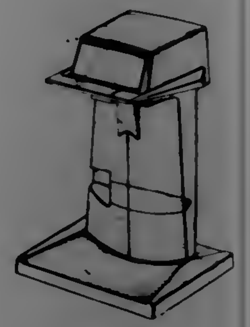
201,752
THREE LEGGED STUFFED TOY FIGURE
Terrance R. Mitchell, 4611 North Highway 8,
New Brighton, Minn.
Filed Jan. 8, 1965, Ser. No. 83,365
Term of patent 7 years
(Cl. D34—2)



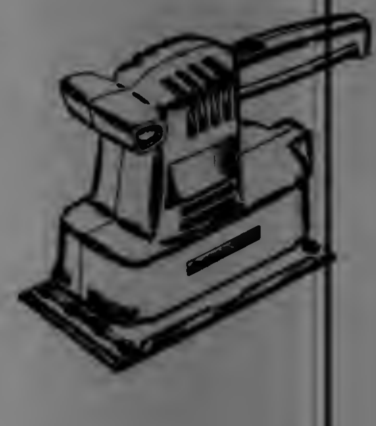
201,753
VELOCIPEDE
Raymond Boucher, Dothan, Ala., assignor to Hedstrom Union Company, Fitchburg, Mass.
Filed Oct. 22, 1963, Ser. No. 77,097
Term of patent 7 years
(Cl. D34—15)



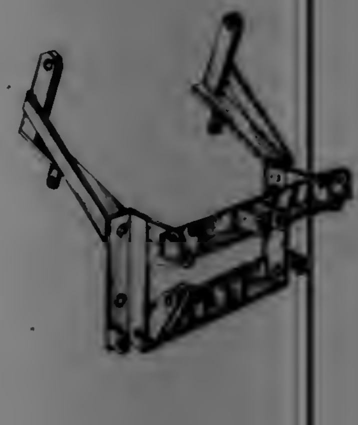
201,754
COMBINATION CAN OPENER AND KNIFE SHARPENER
John E. Reed, Glen Ellyn, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 7, 1965, Ser. No. 83,320
Term of patent 14 years
(Cl. D37—1)



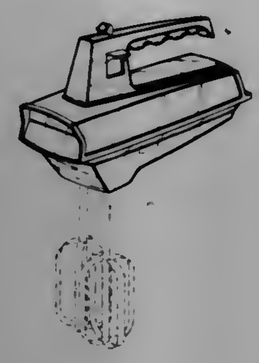
201,755
PORTABLE POWER-OPERATED SANDER
Marshall B. Johnson, Bel Air, Md., assignor to The Black and Decker Manufacturing Company, Towson, Md., a corporation of Maryland
Filed Dec. 10, 1963, Ser. No. 77,737
Term of patent 14 years
(Cl. D37—1)



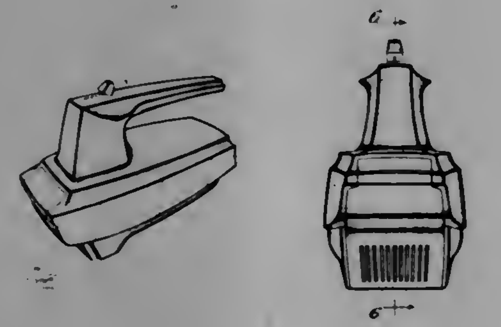
201,756
TRACTOR HITCH MOUNTING FRAME
Paul D. Abbott, P.O. Box 187, Blytheville, Ark.
Filed Nov. 6, 1964, Ser. No. 82,503
Term of patent 3½ years
(Cl. D40—1)



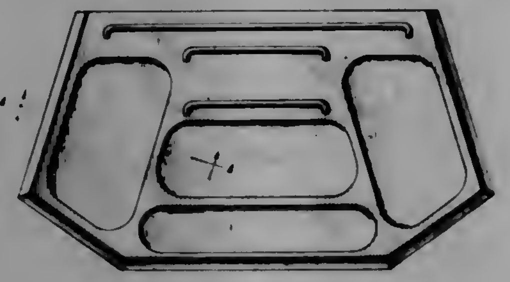
201,757
MIXER
Lawrence H. Wilson, Grosse Pointe, and Richard E. Watson, Detroit, Mich., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 7, 1965, Ser. No. 83,324
Term of patent 14 years
(Cl. D44—1)



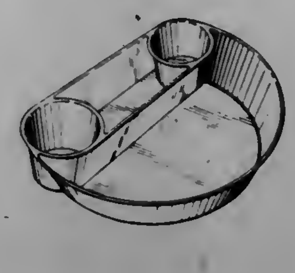
201,758
POWER UNIT FOR A FOOD MIXER OR THE LIKE
Robert O. Ernest, Oak Park, Ill., and Richard E. Watson, Detroit, Mich., assignors to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois
Filed Jan. 13, 1965, Ser. No. 83,416
Term of patent 14 years
(Cl. D44—1)



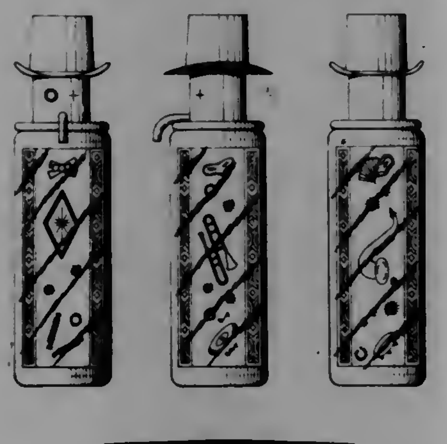
201,759
DRESSER VALET TRAY
Roger E. Davis, Traverse City, Mich., assignor to The Setwell Company, Traverse City, Mich., a corporation of Illinois
Original application Dec. 27, 1963, Ser. No. 77,948, now Design Patent No. 199,738, dated Nov. 17, 1964. Divided and this application Nov. 9, 1964, Ser. No. 82,600
Term of patent 14 years
(Cl. D44—10)



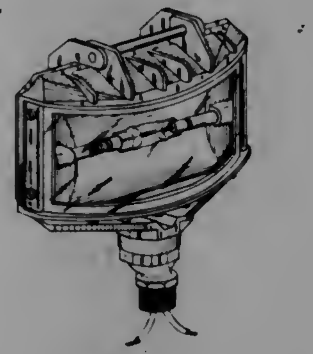
201,760
FOOD TRAY
Josephine A. Arnold, 4835 SE. 45th, Portland, Oreg.
Filed Feb. 16, 1965, Ser. No. 83,830
Term of patent 14 years
(Cl. D44—10)



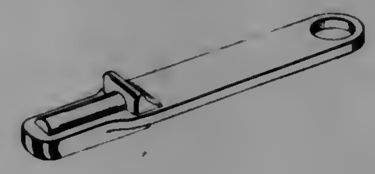
201,761
COMBINED DECANTER AND PUMP
Harold Levy, Kensington, N.Y.
(59 Nassau Drive, Great Neck, N.Y.)
Filed Sept. 1, 1964, Ser. No. 81,555
Term of patent 7 years
(Cl. D44—21)



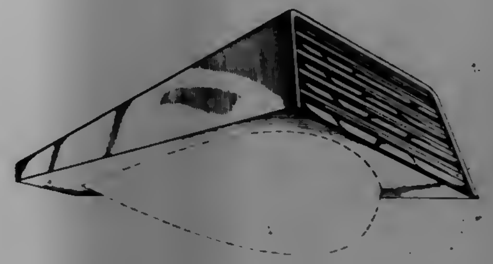
201,762
FLOODLIGHT
Everett E. Williams, Berlin, Conn., assignor to Infranor of North America, Inc., Berlin, Conn., a corporation of Connecticut
Filed Apr. 9, 1964, Ser. No. 79,420
Term of patent 14 years
(Cl. D48—20)



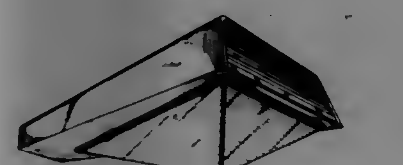
201,763
FLINT HOLDER
Phil L. Herbert, 4803 Snowden Ave., Lakewood, Calif.
Filed Sept. 14, 1964, Ser. No. 81,727
Term of patent 14 years
(Cl. D48—27)



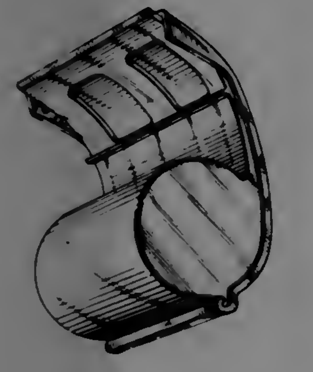
201,764
LUMINAIRE HOUSING
Dana Warren Mox, Glenview, Ill., assignor to Revere Electric Manufacturing Company, a corporation of Delaware
Filed June 8, 1964, Ser. No. 80,312
Term of patent 14 years
(Cl. D48—31)



201,765
LUMINAIRE
Dana Warren Mox, Glenview, Ill., assignor to Revere Electric Manufacturing Company, a corporation of Delaware
Filed June 8, 1964, Ser. No. 80,825
Term of patent 14 years
(Cl. D48—31)



201,766
STAMP DISPENSER
George J. Perkins, 44 Hawthorne Road, Barrington, Ill.
Filed Feb. 5, 1964, Ser. No. 78,528
Term of patent 14 years
(Cl. D52—2)

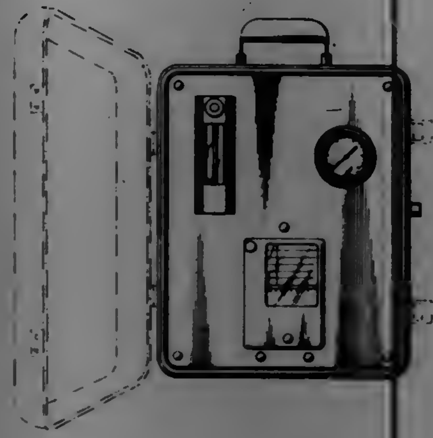


201,767

LIQUID DEPTH RECORDING INSTRUMENT

Joseph Alan Huntsman, Broomall, Pa., assignor to Pro-Tech, Inc., Springfield, Pa., a corporation of Pennsylvania

Filed June 24, 1964, Ser. No. 80,553
Term of patent 14 years
(Cl. D52—6)

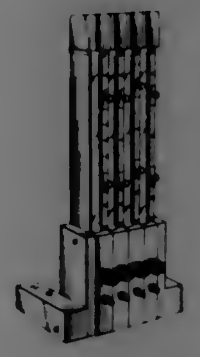


201,768

INSTRUMENT FOR USE IN MEASURING SIZES, DIMENSIONS, AND THE LIKE

Robert E. Conover, Dayton, Ohio, assignor to The Sheffield Corporation, Dayton, Ohio, a corporation of Delaware

Filed Feb. 4, 1965, Ser. No. 83,684
Term of patent 14 years
(Cl. D52—6)

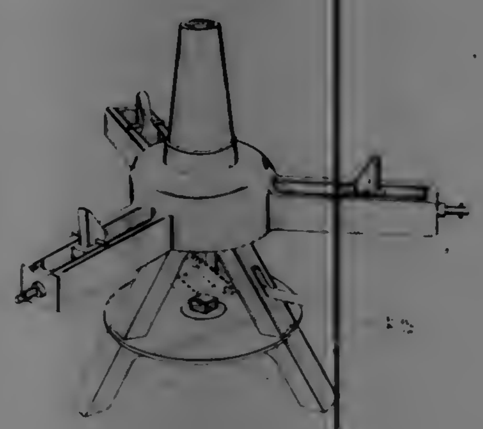


201,769

TRUCK WHEEL BALANCER

Wilbur C. Rexroat, Atlanta, Ga., assignor to Dynamic Center Engineering Co., Inc., Norcross, Ga., a corporation of Georgia

Filed Mar. 26, 1962, Ser. No. 69,441
Term of patent 14 years
(Cl. D52—6)

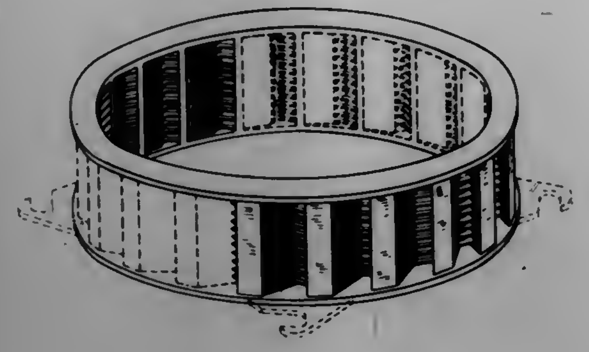


201,770

ANNULAR CUTTER FOR A SLICING MACHINE

Joe R. Urschel, 202 Michigan Ave., Valparaiso, Ind.

Filed Sept. 18, 1961, Ser. No. 66,739
Term of patent 14 years
(Cl. D55—1)

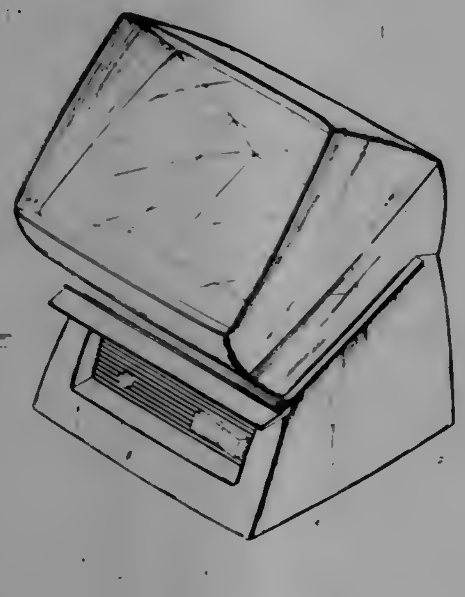


201,771

VIEWER UNIT FOR READING DOCUMENTS

John R. Regal, East Brunswick, N.J., assignor to Sperry Rand Corporation, New York, N.Y., a corporation of Delaware

Filed Nov. 2, 1964, Ser. No. 82,437
Term of patent 14 years
(Cl. D61—1)

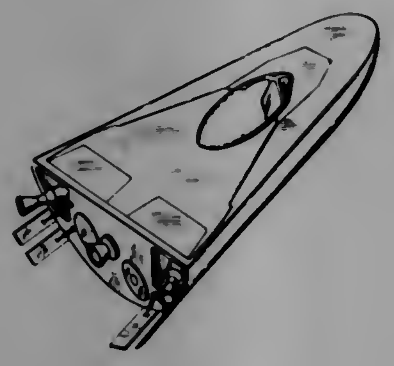


201,772

COMBINED MANNED SPACECRAFT WITH STAGED RE-ENTRY BODY

Clarence B. Cohen, Redondo Beach, Warren G. Koerner, Manhattan Beach, and Irvin N. Spielberg, Pacific Palisades, Los Angeles, Calif., assignors to Thompson Ramo Wooldridge Inc., Redondo Beach, Calif., a corporation of Ohio

Filed Jan. 2, 1964, Ser. No. 77,998
Term of patent 14 years
(Cl. D71—1)

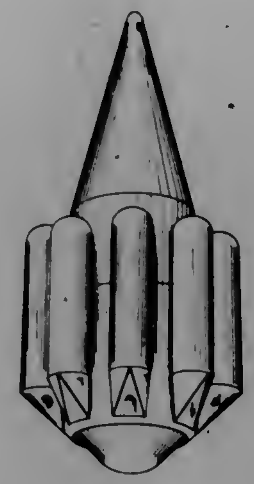


201,773

RECOVERABLE SINGLE STAGE SPACECRAFT BOOSTER

James E. Webb, Administrator of the National Aeronautics and Space Administration, with respect to an invention of Philip Bono

Filed June 16, 1964, Ser. No. 80,421
Term of patent 14 years
(Cl. D71—1)

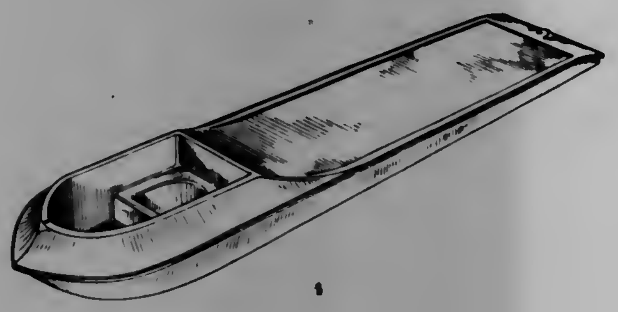


201,774

WATER CRAFT

Michael Sawchuk, 332 Woodmount Ave., Toronto 6, Ontario, Canada

Filed Oct. 1, 1964, Ser. No. 81,990
Term of patent 14 years
(Cl. D71—1)

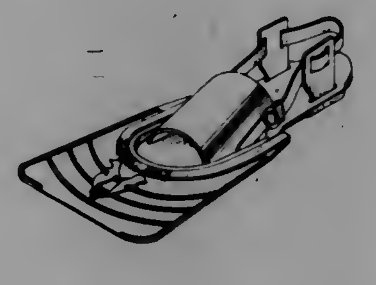


201,775

SWIM FIN

Everett A. Brunner, 3807 N. Merced, Baldwin Park, Calif.

Filed Sept. 14, 1964, Ser. No. 81,744
Term of patent 14 years
(Cl. D71—1)

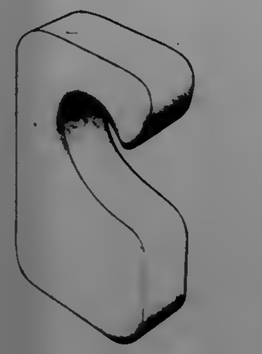


201,776

HANG UP SOAP BAR OR SIMILAR ARTICLE

Gordon K. Woodard, 14155 Magnolia Blvd., Apt. 354, Van Nuys, Calif.

Filed June 1, 1964, Ser. No. 80,213
Term of patent 14 years
(Cl. D73—1)

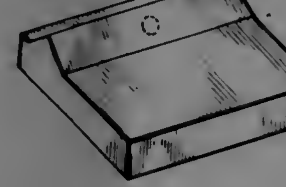


201,777

DESK SET BASE OR SIMILAR ARTICLE

William E. L. Bunn, Fort Madison, Iowa, assignor to W. A. Sheaffer Pen Company, Fort Madison, Iowa, a corporation of Delaware

Filed Nov. 9, 1964, Ser. No. 82,528
Term of patent 14 years
(Cl. D74—5)

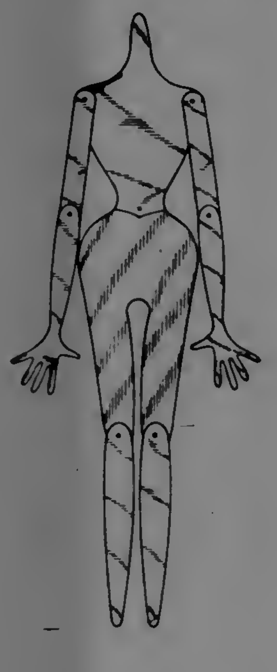


201,778

JOINTED MANNEQUIN OR SIMILAR ARTICLE

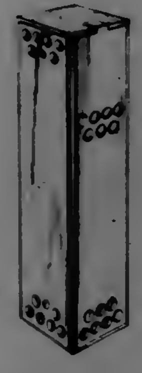
Irving Berman, New York, N.Y.
(97—12 69th Ave., Forest Hills, N.Y.)

Filed Dec. 6, 1963, Ser. No. 77,696
Term of patent 14 years
(Cl. D80—8)



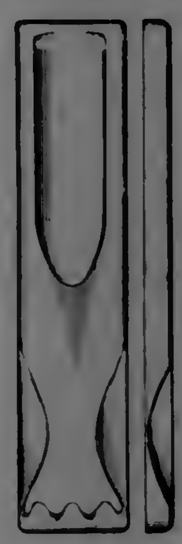
201,779
REFRACTORY BRICK

Horace N. Hall, Collegeville, Pa., assignor to E. J. Lavino and Company, Philadelphia, Pa., a corporation of Delaware
Filed July 22, 1964, Ser. No. 80,969
Term of patent 14 years
(Cl. D81—25)



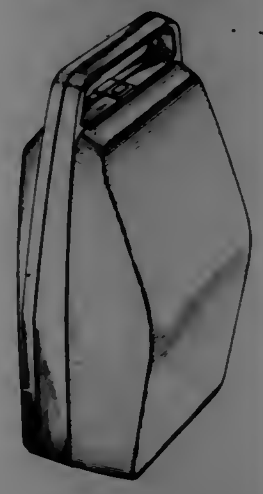
201,780
CONTOURED ARM BOARD FOR MEDICAL THERAPY

Lewis F. Hazlewood, 33 Perennial Lane, Willingboro, N.J., and Ronald J. Shea, 942 Mystic Lane, Norristown, Pa.
Filed Apr. 15, 1964, Ser. No. 79,500
Term of patent 14 years
(Cl. D83—1)



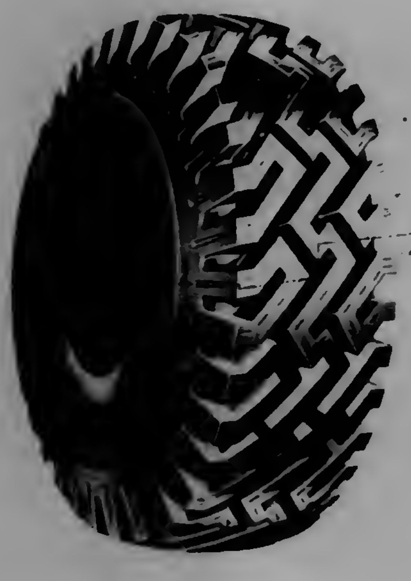
201,781
CARRYING CASE

John Cuccio, Westport, and Reginald R. Gallant, Bristol, Conn., assignors to Underwood Corporation, New York, N.Y., a corporation of Delaware
Filed Oct. 15, 1963, Ser. No. 76,991
Term of patent 14 years
(Cl. D87—5)



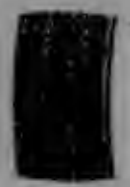
201,782
TIRE

Glen L. Wittenmyer, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N.Y., a corporation of New York
Filed May 13, 1964, Ser. No. 79,977
Term of patent 14 years
(Cl. D90—20)



201,783
TIRE

John W. Taylor, Grosse Pointe Farms, Mich., assignor to United States Rubber Company, New York, N.Y., a corporation of New Jersey
Filed Oct. 19, 1964, Ser. No. 82,227
Term of patent 14 years
(Cl. D90—20)



LIST OF REISSUE PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 27TH DAY OF JULY, 1965

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

Clark, Charles W., Jr., to Sweden Freezer Mfg. Co. Mobile dispensing freezer. Re. 25,823, 7-27-65, Cl. 62—135.

Heyer, Inc.: *See*—
  Springer, Edward M. Re. 25,825.

General Aniline & Film Corp.: *See*—
  Rauch, Emil B. Re. 25,824.

Rauch, Emil B., to General Aniline & Film Corp. Photographic silver halide emulsions sensitized with cyanine dyes containing the benzisoxazole nucleus. Re. 25,824, 7-27-65, Cl. 96—106.
Springer, Edward M., to Heyer, Inc. Sheet feed control for duplicating machines. Re. 25,825, 7-27-65, Cl. 271—61.
Sweden Freezer Mfg. Co.: *See*—
  Clark, Charles W., Jr. Re. 25,823.

LIST OF DESIGN PATENTEES

Abbott, Paul D. Tractor hitch mounting frame. 201,756, 7-27-65, Cl. D40—1.
Arnold, Josephine A. Food tray. 201,760, 7-27-65, Cl. D44—10.
Berman, Irving. Jointed mannequin or similar article. 201,778, 7-27-65, Cl. D80—8.
Black and Decker Mfg. Co., The: *See*—
  Johnson, Marshall B. 201,755.
Boucher, Raymond, to Hedstrom Union Co. Velocipede. 201,753, 7-27-65, Cl. D34—15.
Brunner, Everett A. Swim fin. 201,775, 7-27-65, Cl. D71—1.
Bulgeleisen, Joseph, Co.: *See*—
  Marchello, John L. 201,743.
Bunn, William E. L., to W. A. Sheaffer Pen Co. Desk set base or similar article. 201,777, 7-27-65, Cl. D74—5.
Cohen, Clarence B., W. G. Koerner, and I. N. Spielberg, to Thompson Ramo Wooldridge Inc. Combined manned spacecraft with staged re-entry body. 201,772, 7-27-65, Cl. D71—1.
Conover, Robert E., to The Sheffield Corp. Instrument for use in measuring sizes, dimensions, and the like. 201,768, 7-27-65, Cl. D52—6.
Cuccio, John, and R. R. Gallant, to Underwood Corp. Carrying case. 201,781, 7-27-65, Cl. D87—5.
Davis, Roger E., to The Setwell Co. Dresser valet tray. 201,759, 7-27-65, Cl. D44—10.
Dynamic Center Engineering Co., Inc.: *See*—
  Rexroat, Wilbur C. 201,769.
Ernest, Robert O., and R. E. Watson, to Sunbeam Corp. Power unit for a food mixer or the like. 201,758, 7-27-65, Cl. D44—1.
Gallant, Reginald: *See*—
  Cuccio, John, and Gallant. 201,781.
Galper, Sidney: *See*—
  Melchior, Merle C. 201,750.
Goodrich, B. F., Co., The: *See*—
  Wittenmyer, Glen L. 201,782.
Grady, George M., to Hupp Corp. Postless balustrade. 201,748, 7-27-65, Cl. D13—7.
Hall, Horace N., to E. J. Lavino and Co. Refractory brick. 201,779, 7-27-65, Cl. D81—25.
Hazlewood, Lewis F., and R. J. Shea. Contoured arm board for medical therapy. 201,780, 7-27-65, Cl. D83—1.
Hedstrom Union Co.: *See*—
  Boucher, Raymond. 201,753.
Herbert, Phil L. Flint holder. 201,763, 7-27-65, Cl. D48—27.
Huntsman, Joseph A., to Pro-Tech, Inc. Liquid depth recording instrument. 201,767, 7-27-65, Cl. D52—6.
Hupp Corp.: *See*—
  Grady, George M. 201,748.
Infranor of North America, Inc.: *See*—
  Williams, Everett E. 201,762.
International Latex Corp.: *See*—
  Sachs, Charles M. 201,751.
Johnson, Marshall B., to The Black and Decker Mfg. Co. Portable power-operated sander. 201,755, 7-27-65, Cl. D37—1.
Koerner, Warren G.: *See*—
  Cohen, Clarence B., Koerner, and Spielberg. 201,772.
Lavino, E. J., and Co.: *See*—
  Hall, Horace N. 201,779.
Levy, Harold. Combined decanter and pump. 201,761, 7-27-65, Cl. D44—21.
Marchello, John L., to Joseph Bulgeleisen Co. Safety helmet. 201 743, 7-27-65, Cl. D3—13.
Melchior, Merle C., ½ to S. Galper. Combined chaise and a sunshade therefor. 201,750, 7-27-65, Cl. D15—11.
Mitchell, Terrance R. Three legged stuffed toy figure. 201,752, 7-27-65, Cl. D34—2.
Mox, Dana W., to Revere Electric Mfg. Co. Luminaire housing. 201,764, 7-27-65, Cl. D48—31.
Mox, Dana W., to Revere Electric Mfg. Co. Luminaire. 201,765, 7-27-65, Cl. D48—31.
National Aeronautics and Space Administration: *See*—
  Bono, Philip. 201,773.
O'Donnell, Thomas P. Combination drainer and holder having dual attaching elements or similar article. 201,745, 7-27-65, Cl. D9—2.
O'Donnell, Thomas P. Combination drainer and holder having dual attaching elements. 201,746, 7-27-65, Cl. D9—2.
Perkins, George J. Stamp dispenser. 201,766, 7-27-65, Cl. D52—2.
Pieschel, Walter L. Beverage cooler. 201,742, 7-27-65, Cl. D2—3.
Pro-Tech, Inc.: *See*—
  Huntsman, Joseph A. 201,767.
Reed, John E., to Sunbeam Corp. Combination can opener and knife sharpener. 201,754, 7-27-65, Cl. D37—1.
Regal, John R., to Sperry Rand Corp. Viewer unit for reading documents. 201,771, 7-27-65, Cl. D61—1.
Revere Electric Mfg. Co.: *See*—
  Mox, Dana W. 201,764.
  Mox, Dana W. 201,765.
Rexroat, Wilbur C., to Dynamic Center Engineering Co., Inc. Truck wheel balancer. 201,769, 7-27-65, Cl. D52—6.
Rolland, Albion E. Hand truck. 201,749, 7-27-65, Cl. D14—3.
Sachs, Charles M., to International Latex Corp. Brassiere. 201,751, 7-27-65, Cl. D20—4.
Sawchuk, Michael. Water craft. 201,774, 7-27-65, Cl. D71—1.
Setwell Co., The: *See*—
  Davis, Roger E. 201,759.
Sheaffer, W. A., Pen Co.: *See*—
  Bunn, William E. L. 201,777.
Sheffield Corp., The: *See*—
  Conover, Robert E. 201,768.
Sperry Rand Corp.: *See*—
  Regal, John R. 201,771.
Spielberg, Irvin N.: *See*—
  Cohen, Clarence B., Koerner, and Spielberg. 201,772.
Sunbeam Corp.: *See*—
  Ernest, Robert O., and Watson. 201,758.
  Reed, John E. 201,754.
  Wilson, Lawrence H., and Watson. 201,757.
Swanson, Albert S., to G. H. Tennant Co. Powered sweeping machine. 201,747, 7-27-65, Cl. D9—2.
Taylor, John W., to United States Rubber Co. Tire. 201,783, 7-27-65, Cl. D90—20.
Tennant, G. H., Co.: *See*—
  Swanson, Albert S. 201,747.
Thompson Ramo Wooldridge Inc.: *See*—
  Cohen, Clarence B., Koerner, and Spielberg. 201,772.
Towlsaver, Inc.: *See*—
  Tucker, Council A. 201,744.
Tucker, Council A., to Towlsaver, Inc. Adjustable dispenser for roll towels. 201,744, 7-27-65, Cl. D4—3.
Underwood Corp.: *See*—
  Cuccio, John, and Gallant. 201,781.
United States Rubber Co.: *See*—
  Taylor, John W. 201,783.
Urschel, Joe R. Annular cutter for a slicing machine. 201,770, 7-27-65, Cl. D55—1.
Watson, Richard E.: *See*—
  Wilson, Lawrence H., and Watson. 201,757.
Watson, Richard E.: *See*—
  Ernest, Robert O., and Watson. 201,758.
Webb, James E., administrator of the National Aeronautics and Space Administration with respect to an invention of P. Bono. Recoverable single stage spacecraft booster. 201,773, 7-27-65, Cl. D71—1.
Williams, Everett E., to Infranor of North America, Inc. Floodlight. 201,762, 7-27-65, Cl. D48—20.
Wilson, Lawrence H., and R. E. Watson, to Sunbeam Corp. Mixer. 201,757, 7-27-65, Cl. D44—1.
Wittenmyer, Glen L., to The B. F. Goodrich Co. Tire. 201,782, 7-27-65, Cl. D90—20.
Woodward, Gordon K. Hang up soap bar or similar article. 201,776, 7-27-65, Cl. D73—1.

LIST OF PATENTEES

TO WHOM

PATENTS WERE ISSUED ON THE 27TH DAY OF JULY, 1965

NOTE.—Arranged in accordance with the first significant character or word of the name (in accordance with city and telephone directory practice).

- A. I. Steel and Iron Foundry Ltd.: *See—*
  - Boyd, William D. M., and Young. 3,[illegible]96,510.
- AMP Inc.: *See—*
  - Sweeney, Joseph P. 3,197,745.
- Abendroth, Robert V.: *See—*
  - Schmitter, Walter P. 3,196,635.
- Absler, Howard K.: *See—*
  - Wayne, Ignatius R., Pollard, and Ab[illegible]ler. 3,197,601.
- Achammer, Alfred. Shifting device on transport vehicles. 3,197,023, 7–27–65, Cl. 198—221.
- Ackerman, Bernard, to Carlisle Chemical Works, Inc. Manufacture of cellular polyvinyl chloride. [illegible],197,423, 7–27–65, Cl. 260—2.5.
- Adair, James R.: *See—*
  - Sieger, Maurice P., and Adair. 3,19[illegible],658.
- Adams, Donald R. Process of forming manicure implements. 3,197,294, 7–27–65, Cl. 51—293.
- Adams, Henry J., to The Commonwealth Industrial Gases Ltd. Resuscitator. 3,196,866, 7–27–65, Cl. 1[illegible]8—29.
- Adams, Robert W.: *See—*
  - Holkesvick, Edgar E., Hudnall, and Adams. 3,197,204.
- Addor, Roger W., to American Cyanamid Co. Phosphinyl imides and method for their preparation. 3,197,481, 7–27–65, Cl. 260—327.
- Advanced Kinetics, Inc.: *See—*
  - Furth, Harold P. 3,196,649.
- Aero-Motire Mfg. Co.: *See—*
  - Becker, Roger T. and W. K. 3,197,578
- Aerovox Corp.: *See—*
  - Peace, John G., Jr., and Rogers. 3,197[illegible]47.
- Agarwal, Jagdish C., to United States Steel Corp. Method for introducing coal into a blast furnace. 3,197,304, 7–27–65, Cl. 75—42.
- Agfa Aktiengesellschaft: *See—*
  - Kiper, Gerd. 3,196,771.
- Ahn, Byong-ho, and S. Silbovitz, to Keystone Camera Co., Inc. Electric camera control apparatus. [illegible]197,783, 7–27–65, Cl. 352—176.
- Air Products and Chemicals, Inc.: *See—*
  - Erner, William E. 3,197,476.
- Ajem Laboratories, Inc.: *See—*
  - Evans, Dewey M., and Kosar. 3,197,0[illegible]0.
- Akai Electric Co. Ltd.: *See—*
  - Atsumi, Katsuya. 3,197,210.
- Aktieselskabet National Industri: *See—*
  - Lange, Emil. 3,197,596.
  - Lange, Emil, and Ingvaldsen. 3,197,[illegible]93.
- Alber, Peter: *See—*
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Bishop, Leonard J., and P. Klamp, to Mechanical Handling Systems, Inc. Load bearing trolley and trolley accumulation mechanism. 3,196,805, 7–27–65, Cl. 104—172.
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Black, James C. W., K. T. Lawson, and P. W. Dobson, to The British Iron and Steel Research Association. Fluid cushioning systems. 3,197,339, 7–27–65, Cl. 134—15.
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Blake, Leslie R., to United Kingdom Atomic Energy Authority. Nuclear reactor fuel elements. 3,197,381, 7–27–65, Cl. 176—72.
Blanchin, Roger, and E. Tison, to Seailles & Tison. Type wheel setting and locking means in line composition. 3,196,782, 7–27–65, Cl. 101—93.
Blaw-Knox Co.: *See—*
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Bletzinger, John C., and H. A. Whitehead, to Kimberly-Clark Corp. Tampon and applicator. 3,196,873, 7–27–65, Cl. 128—263.
Block, Burton P., L. R. Ocone, and J. Simkin, to Pennsalt Chemical Corp. Coordination polymers. 3,197,436, 7–27–65 Cl. 260—63.
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  Jung, Charles H., and Bennett. 3,197,328.
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Bongiovanni, John C. Continuous casting and rolling of metals. 3.196 516, 7–27–65, Cl. 29—33.
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Bryant, James G. Hammer mill having a rigid, removable eccentrically disposed screen. 3,196,915, 7–27–65, Cl. 146—79.

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Capron, Nicholas J., deceased (by S. W. Capron, administratrix), R. A. Ferren, and W. S. Barnhart, to Pennsalt Chemicals Corp. Stretch orientation of polyvinylidene fluoride. 3,197,538, 7–27–65, Cl. 264—288.
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Chapman, Duane K., and G. J. Rozman, to Ashland Oil & Refining Co. Interconversion of hydrocarbon ring compounds. 3,197,518, 7-27-65, Cl. 260—668.
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- Edridge, Frederick T. Handling of cured tobacco. 3,196,778, 7–27–65, Cl. 100—3.
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- Erbe, Alfred R., and D. E. Moeller, to The Hallicrafters Co. Heat exchanger, reservoir, fan and pump assembly. 3,196,939, 7–27–65, Cl. 165—107.
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- Erlinder, Atwood E. Folding luggage carrier. 3,197,226, 7–27–65, Cl. 280—36.
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  Nakanishi, Susumu. 3,197,490.
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  Deaton, Homer W., and Hutchinson. 3.196,553.
  Gillespie, Charles W., and Leonard. 3,196,525.
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  Schniers, Robert C. 3,196,904.
General Precision, Inc.: *See—*
  Brandon, Chester. 3,196,721.
  Felts, John A. 3,197,751.
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  Oddo, Rocco R., Lapp, and Seelagy. 3,197,764.
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  Genoud, Henri L. R. 3,196,641.
Genoud, Henri L. R., to Genoud & Cie, Etablissements. Gas lighter. 3,196,641, 7-27-65, Cl. 67—7.1.
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Georges, Raymond. Internal combustion engines. 3,196,858, 7-27-65, Cl. 123—32.
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  Eolkin, Dave. 3,197,312.
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  Callahan, James L., and Gertisser. 3,197,419.
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Gieman, James E. Roundabout amusement device. 3,197,203, 7-27-65 Cl. 272—33.
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  Samsing, Rolf A. 3,197,025.
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Glacier Metal Co. Ltd., The: *See—*
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Gold, Allan R., and G. M. Baumann, to Ziff-Davis Publishing Co. Spray mechanism control system. 3,197,142, 7-27-65, Cl. 239—215.
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Goldman, Leon S., 10% to Harold C. Herman. Process for the determination of microbial sensitivity to antimicrobial agents. 3,197,384, 7-27-65, Cl. 195—103.5.
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Gondra Enrique G., A. S. Gutierrez, and P. W. J. McBride. Fexible container for liquid, pasty or granular products. 3,197,073, 7-27-65, Cl. 222—107.
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  Kennedy, Verne C. 3,196,966.
Goodrich, B. F., Co., The: *See—*
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  Alvarez-Carbrera, Enrique M. 3,196,840.
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  Weitzman, Milton and Gould. 3,197,548.
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Graham, Peter J., and H. F. Reinhardt, to E. I. du Pont de Nemours and Co. Coating compositions of dihydropyran methanol esters. 3,197,320, 7-27-65, Cl. 106—287.
Grange, Earl D., to General American Transportation Corp. Material processing vessels of the rotary type. 3,196,938, 7-27-65, Cl. 165—88.
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Grieder, Conrad J. Reinforced concrete highway structures. 3,196,764, 7-27-65, Cl. 94—31.
Griese Robert W., to American Can Co. Carton. 3,197,113, 7-27-65, Cl. 229—49.
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Gron, Nicholas. Driving mechanism for machines. 3,196,700, 7-27-65, Cl. 74—110.
Gross, Frank J., to American Cyanamid Co. Novel antifouling compositions. 3,197,314, 7-27-65, Cl. 106—15.
Gross, George P., to Esso Research and Engineering Co. Psychrometric wet-bulb water supply system. 3,196,683, 7-27-65, Cl. 73—338.
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Guido, John, L. R. Baselice, and T. J. Decker, to General Corrugated Machinery Co., Inc. Mechanism for taping cartons. 3,196,591, 7-27-65, Cl. 53—137.
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Haensel, Vladimir, to Universal Oil Products Co. Process for removing acid-forming hydrogen-containing compounds in an alkylation process. 3,197,521, 7-27-65, Cl. 260—671.
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Hamer, William E., to Monsanto Chemicals Ltd. Process for the production of silicon tetrachloride. 3,197,283, 7-27-65, Cl. 23—205.
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Hanus, Edward J., and S. Siegel, to Merck & Co., Inc. Pyrilamine tannate compositions. [illegible],197,370, 7-27-65, Cl. 167—65.
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Hargett, Richard L., to United States of America, Navy. Pressure-tight connector. 3,197,730, 7-27-65, Cl. 339—102.
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Harrington, Joseph J. Picker station for a tobacco harvester. 3,197,042, 7-27-65, Cl. 214—5.5.
Harris, Donald B., deceased (L. A. Carley, executor). Electronic control system for directing a torpedo at a target. 3,196,821, 7-27-65, Cl. 114—23.
Harris, Guy H., and B. C. Fischback, to The Dow Chemical Co. Process for making 2,6-dinitro-toluic acid. 3,197,502, 7-27-65, Cl. 260—515.
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Hasha, Malvern M. Well tool. 3,196,950, 7-27-65, Cl. 166—132.
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  Wight, Carlyle G., and Hass. 3,197,399.
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Hatch, John R.: *See—*
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Hatch, Melvin J., to The Dow Chemical Co. Method for removing iron from aqueous concentrated alkali metal hydroxide solutions. 3,197,281, 7-27-65, Cl. 23—184.
Haugwitz, Otto, to Geoffroy-Delore, Societe Anonyme. Deflector device for a revolving wire or the like. 3,196,601, 7-27-65, Cl. 57—60.
Hawkins, Havilah S. Work feed for saws. 3,196,910, 7-27-65, Cl. 143—26.
Hawkinson, Earle W., deceased, by F. W. Gaasedelen, administrator, to Paul E. Hawkinson Co. Tire retreading matrix. 3,196,491, 7-27-65, Cl. 18—38.
Haynes, Harold E., and H. J. Woll, to Radio Corp. of America. Reading machine. 3,197,735, 7-27-65, Cl. 340—146.3.
Hayward, Anthony, and J. W. Hill, to Imperial Chemical Industries Ltd. Packaging process. 3,196,587, 7-27-65, Cl. 53—25.
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Hellman, Sten G., to Svenska Aktiebolaget Gasaccumulator. Arrangement for causing an indication upon the interruption of a load circuit. 3,197,674, 7-27-65, Cl. 315—88.
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Henny, Willi, to Chrysler Corp. Gas turbine engine. 3,196,611, 7-27-65, Cl. 60—39 51.
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Hermann, Horst, to European Atomic Energy Community-Euratom. Remote-controlled machine tool for hot chambers of nuclear energy plants. 3,196,718, 7-27-65, Cl. 82—20.
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Hessinger, Philip S., and T. W. Weber, to Mycalex Corp. of America. Method of making synthetic mica and ceramoplastic material. 3,197,278, 7-27-65, Cl. 23—110.
Hessinger, Philip S., and T. W. Weber, to Mycalex Corp. of America. Method of making synthetic mica and ceramoplastic materials. 3,197,279, 7-27-65, Cl. 23—110.
Hetzel, Peter J. G., to Associated Electrical Industries Ltd. Bistable commutation system for dynamo electric machines utilizing electronic switches. 3,197,685, 7-27-65, Cl. 318—138.
Heusner, Wilhelm L. G., to Herman Schwarz Kommanditgesellschaft. Mine prop. 3,197,244, 7-27-65, Cl. 287—58.
Hey, Arie, to Lever Bros. Co. Manufacture and filling of containers. 3,196,593, 7-27-65, Cl. 53—140.
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  Allen, Kenneth C. 3,196,964.
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- Lawrance, Harold R., to Baldwin-Lima-Hamilton Corp. Multistage flash evaporators. 3,197,387, 7-27-65, Cl. 202—173.
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  Balent, Ralph, and Beeley. 3,197,[illegible]6.
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- Ratkowski, Thomas A., to American Brake Shoe Co. Digger tooth. 3,196,956, 7-27-65, Cl. 172— 13.
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- Russell, Fred J. Combination key-operated mechanism and hand-hold face support. 3,196,645, 7-27-65, Cl. 70—224.
- Russell, Fred J. Low friction latch bolt guide. 3,197,247, 7-27-65, Cl. 292—163.
- Russell, Fred J., J. D. Witt, and R. J. Nolin; said Witt and said Nolin assors. to said Russell. Spindle device for releasably retaining a locking mechanism assembly. 3,196,644, 7-27-65, Cl. 70—224.
- Russell, Fred J., and G. B. Solovieff; said Solovieff assor. to said Russell. Sliding door latch spacer. 3,197,246, 7-27-65, Cl. 292—101.
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- Sandler, Henry R. Jewelry display apparatus having magnetic retainers. 3,197,166, 7-27-65, Cl. 248—206.
- Sangl, Michael, and P. Alber, to P. Gossen & Co. G.m.b.H. Zero suppressed frequency meter utilizing the discharge current of a capacitor. 3,197,701, 7-27-65, Cl. 324—78.
- Sanzare, Charles P., to Archery Lanes, Inc. Archery range backstop. 3,197,207, 7-27-65, Cl. 273—102.4.
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- Saurenman, Dean F., to Schlumberger Well Surveying Corp. Centralizers. 3,196,951, 7-27-65, Cl. 166—241.

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Design Patents

1 : 201,753
2 : 201,756
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4 : 201,775
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U.S. DEPARTMENT OF COMMERCE

OFFICIAL GAZETTE of the UNITED STATES PATENT OFFICE

July 27, 1965 Volume 816 Number 4

TRADEMARKS

NOTICES

Annual Index of Patents

The 1964 edition of the Annual Index of Patents has been published. Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Price: Buckram bound, $6.75.

CONDITION OF TRADEMARK APPLICATIONS AS OF MAY 31, 1965

Total number of applications awaiting action [excluding renewals and Sec. 12 (c)] ---------- 16,012
Date of oldest new application ---------- Oct. 12, 1964
Date of oldest amended application ---------- Sept. 29, 1964

J. H. MERCHANT, Director, Trademark Examining Operation TRADEMARK EXAMINING DIVISIONS, EXAMINERS AND TRADEMARK CLASSES UNDER EXAMINATION	Oldest Application	
	New	Amended
(I) C. M. WENDT, Classes 2, 4, 5, 8, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41, 42, 43, 44	10-12-64	10-5-64
(II) H. E. KASCHUB, Classes 1, 3, 6, 7, 9, 10, 18, 22, 27, 38, 40, 45, 46, 47, 48, 49, 50, 51, 52; Service Marks, Classes 100, 101, 102, 103, 104, 105, 106, 107; Collective Membership Marks, Class 200; Certification Marks, Classes A and B	11-2-64	9-29-64
Renewals (All Classes)	4-28-65	5-24-65
Sec. 12 (c) Publications (All Classes)	5-14-65	------

Applications filed during the month of May 1965—2,363

Registrations Issued ---------- 366—No. 793,130 to No. 793,495
Renewals Issued ---------- 70

The TRADEMARK SECTION of the OFFICIAL GAZETTE, issued weekly, is mailed under the direction of the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402 to whom all subscriptions should be made payable and all communications addressed; subscription price, $12.00 per annum, foreign mailing $4.00 additional; single copies, 25 cents each.

PRINTED COPIES OF TRADEMARK REGISTRATIONS are furnished by the Patent Office for 10 cents each. Address orders to the Commissioner of Patents, Washington, D.C., 20231.

MARKS PUBLISHED FOR OPPOSITION

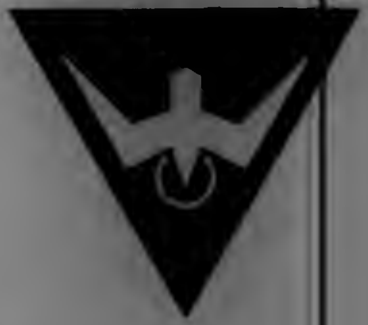
SECTION 1

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Application for the registration of these marks in more than one class has been filed as provided in section 30 of said act as amended by Public Law 772, 87th Congress, approved Oct. 9, 1962, 76 Stat. 769. Opposition under section 13 may be filed within thirty days of this publication. See Rules 2.101 to 2.105.

A separate fee of twenty-five dollars for each class opposed must accompany the opposition.

[NOTE: For publication of marks presented in applications for registration in one class, see section 2.]

SN 157,717. Missionary Servants of the Most Holy Trinity, Silver Spring, Md. Filed Nov. 21, 1962.



Class 100—Miscellaneous

For Services in Directing Missionary Activities.

Class 107—Education and Entertainment

For Educational Religious Services—Namely, Teaching Religious Doctrines and Training Missionaries.

First use December 1961.

SN 189,634. Leonard M. Stuttman, d.b.a. Stuttman Productions, East Lansing, Mich. Filed Mar. 25, 1964.

MANY WORLDS

Class 105—Transportation and Storage

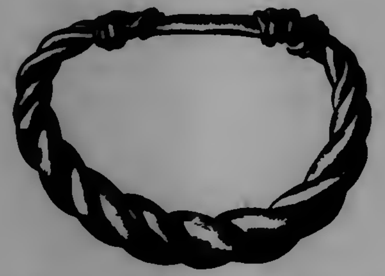
For Tour Services—Namely, Selecting, Developing and Promoting Tours and Expeditions to Various Parts of the world and leading or Conducting Such Tours and Expeditions.

Class 107—Education and Entertainment

For Title of Radio, Lecture and Television Programs—Namely, Commentary, Lecture and Guest-Interview Type Programs Devoted to Scientific, Geographical, Historical and Travel Topics and Supplemented by Motion Pictures, Photographs, Drawings, Cartoon-Type Sketches and Photographic Slides.

First use Sept. 18, 1961.

SN 200,215. Tekstilfabrikkenes Konsulent- og Opplysningskontor, Oslo, Norway. Filed Aug. 19, 1964. COLLECTIVE MARK.



Owner of Norwegian Reg. No. 236, dated Apr. 23, 1964.

Class 39—Clothing

For Head Scarfs, Hats, Caps, Hosiery, Underwear, Corsets, Neckties, Suspenders, Braces, Gloves, Bathing Suits, Dresses, Coats, Suits, Sweaters, Boots and Shoes.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

For Bed and Table Covers, Bed and Table Linen, Curtains, Blankets, Ribbons, Carpets, Bath Mats, and Fabrics (Including Plastic Coated Fabrics, Embroidery, Mesh, Lace, and Felt) for Making Into These Goods and for Making It Into Dresses, Coats, Underwear and the Like.

Class 43—Thread and Yarn

For Yarns and Threads.

SN 200,727. Invincible Products Corporation, Chicago, Ill. Filed Aug. 27, 1964.

FOUNTAIN OF BEAUTY

Class 51—Cosmetics and Toilet Preparations

For Hair Spray and Styling Lotion.

Class 52—Detergents and Soaps

For Hair Shampoo.

First use on or about Aug. 19, 1964.

SECTION 2

The following marks are published in compliance with section 12(a) of the Trademark Act of 1946. Opposition under section 13 may be filed within thirty days of publication. See Rules 2.101 to 2.105.

A fee of twenty-five dollars must accompany the opposition.

[NOTE: For publication of marks presented in a combined application for registration in more than one class, see section 1.]

Class 1—Raw or Partly Prepared Materials

SN 189,221. L. Teweles Seed Co., Milwaukee, Wis. Filed Mar. 20, 1964.

FIVESIKE

For Clover Seed.
First use Mar. 9, 1964.

SN 193,516. Weyerhaeuser Company, Tacoma, Wash. Filed May 14, 1964.

SILVABOND

Owner of Reg. Nos. 519,000, 627,167, and 749,998.

For Graded Bark Fractions Used as Extenders, Fillers, and Additives for Industrial Products and Processes.

First use Nov. 14, 1962.

SN 196,571. Union Carbide Corporation, New York, N.Y. Filed June 26, 1964.

LINDE

Owner of Reg. No. 435,600.

For Synthetic Crystals for General Industrial Use and Synthetic Crystal Materials in the Form of Rods, Boules, and Spheres for General Use in the Industrial Arts.

First use about May 1942.

SN 201,813. Chemische Werke Albert, Wiesbaden-Biebrich, Germany. Filed Sept. 14, 1964.

VULKARESEN

Owner of German Reg. No. 786,554, dated Apr. 5, 1963.
For Synthetic Resins.

SN 208,613. Peterson Seed Co., Inc., Waterloo, Iowa. Filed Dec. 21, 1964.

PRO-TEAM

For Farm Seeds.
First use Dec. 1, 1964.

SN 208,614. Peterson Seed Co., Inc., Waterloo, Iowa. Filed Dec. 21, 1964.

TIM-A-LOT

For Farm Seeds.
First use December 1962.

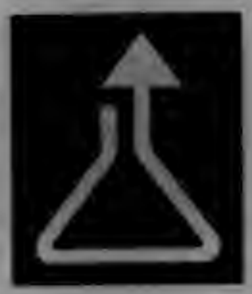
SN 209,132. Smith Investments, Inc., d.b.a. Van's Flowers, Stuart, Fla. Filed Nov. 30, 1964.

Van's Flowers

Applicant disclaims the word "Flowers" apart from the mark as shown.

For Cut Flowers.
First use on or about Jan. 1, 1963.

SN 209,733. Rohm & Haas Company, Philadelphia, Pa. Filed Jan. 11, 1965.



For Synthetic Resinous Materials in the Form of Sheets, Rods, or Molding Compounds.

First use on or about Nov. 1, 1964.

SN 214,008. Pfister & Vogel Tanning Company, Inc., Milwaukee, Wis. Filed Mar. 12, 1965.

DURASHU

For Leather.
First use Feb. 10, 1964.

SN 214,823. Allied Kid Company, Boston, Mass. Filed Mar. 24, 1965.

KIDDIE-TAN

For Leather.
First use Feb. 29, 1960.

SN 215,151. Agway, Inc., Syracuse, N.Y. Filed Mar. 29, 1965.

BESBAR

For Barley for Use as Seed.
First use Aug. 17, 1962.

SN 215,555. Albert Trostel & Sons Company, Milwaukee, Wis. Filed Apr. 1, 1965.

PURR-R

For Leather.
First use May 7, 1964.

SN 215,960. Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius and Bruning, Frankfurt am Main, Germany. Filed Apr. 7, 1965.

TREVIRA

Owner of German Reg. No. 688,837, dated Jan. 28, 1956; and U.S. Reg. Nos. 692,879, 704,479, and others.
For Synthetic Fibers.

SN 216,227. Westlake Plastics Company, Lenni Mills, Pa. Filed Apr. 9, 1965.

ALPHALUX-400

For Plastic Rods, Sheets, and Tubes.
First use Jan. 9, 1965.

SN 218,232. Albert Trostel & Sons Company, Milwaukee, Wis. Filed May 6, 1965.

PURR-NAP

For Leather.
First use Apr. 8, 1965.

Class 2—Receptacles

SN 193,911. Weyerhaeuser Company, Tacoma, Wash. Filed May 20, 1964.

DYNASHEEN

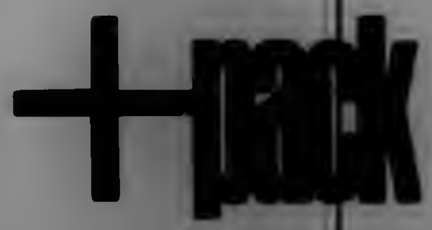
For Paper Cartons for Use in Packaging Foods.
First use Jan. 17, 1962.

SN 196,065. Republic Packaging Corporation, Chicago, Ill. Filed June 19, 1964.

COMPRES-O-CARTON

For Cushioned Box.
First use Oct. 17, 1963.

SN 199,727. Ekco Containers, Inc., Wheeling, Ill. Filed Aug. 12, 1964.



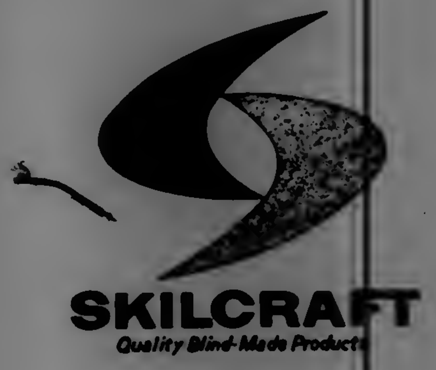
Owner of Reg. No. 666,470.
For Plastic Products—Namely, Pans, Plates, Cups, Dishes, and Trays.
First use July 22, 1964.

SN 201,617. R. J. Reynolds Tobacco Company, Winston-Salem, N.C. Filed Sept. 10, 1964.

For Gift Wrap Bags Made of Paper-Lined Foil.
First use on or about Oct. 16, 1963.

Class 4—Abrasives and Polishing Materials

SN 202,192. National Industries for the Blind, New York, N.Y. Filed Sept. 3, 1964.



Applicant disclaims the wording "Quality Blind-Made Products" apart from the mark as shown; applicant, however, reserving its common law rights in said wording. The stippled portion shown in the drawing is intended to show a contrasting lighter color, shade, or hue, but no claim is made to any particular color. Owner of Reg. Nos. 530,773, 658,824, and others.
For Treated Cloths and Pot Scrubbers.
First use on or about Apr. 7, 1964.

Class 5—Adhesives

SN 201,384. Daubert Chemical Company, Chicago, Ill. Filed Sept. 8, 1964.

DAUBOND

For Adhesives—Namely, Water Based Adhesives, Solvent-Based Adhesives, Pressure-Sensitive Adhesives and Hot Melts.
First use June 17, 1964.

Class 6—Chemicals and Chemical Compositions

SN 127,399. The Renard Pet Corp., New York, N.Y., assignee of Howard Gross, d.b.a. The Renard Company, Mount Vernon, N.Y. Filed Sept. 7, 1961.

LEAF-GLOW

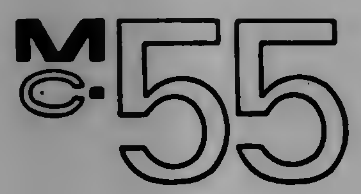
Owner of Reg. No. 655,939.
For Aerosol Spray for Shining Plant Leaves, Wicker, and Raffia.
First use Sept. 22, 1955.

SN 179,746. Universal Oil Products Company, Des Plaines, Ill. Filed Oct. 24, 1963.

TRU-TEX

For Chemical Textile Auxiliary Agents Used in the Shrink-Proofing Treatment of Fibrous Materials.
First use Sept. 27, 1963.

SN 190,345. Delaware Corporation, New Orleans, La. Filed Apr. 6, 1964.



For Liquid Water Repellent Composition To Prevent Water Seepage, and Damage, Erosion, Peeling and Flaking of Surfaces.
First use Sept. 21, 1963.

SN 197,413. Miles Laboratories, Inc., Elkhart, Ind. Filed July 8, 1964.

TENASE

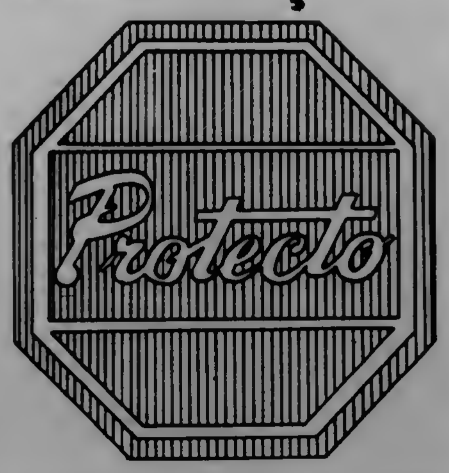
For Enzymes for Starch Liquefaction for Use in Industries Other Than the Paper and Packaging Industries.
First use on or before May 15, 1964.

SN 198,314. The Barcolene Company, Boston, Mass. Filed July 22, 1964.

CLIP

For Insect Repellent.
First use July 8, 1964.

SN 206,273. Klasco Products Co., Inc., Downey, Calif. Filed Nov. 16, 1964.



The drawing is lined for the color red. Owner of Reg. No. 573,524.
For Moth Preventives in the Form of Flakes, Pads, Cakes, Tablets, and Crystals; Aerosol Moth Proofing Preparation; Deodorizers for Toilet Bowls, Bathrooms, Garbage Pails, Refrigerators, Diaper Pails, and Closet Fresheners.
First use Mar. 13, 1964; January 1934 as to "Protecto."

SN 209,935. Laclede Laboratories, Inc., New York, N.Y. Filed Jan. 14, 1965.

LACLEDE

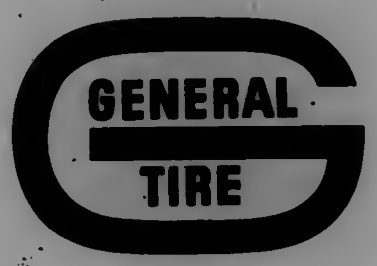
For Room Deodorizer.
First use 1948.

SN 210,014. Interchemical Corporation, New York, N.Y. Filed Jan. 15, 1965.

POLYDYE

For Dyes for Textiles.
First use on or about July 9, 1957.

SN 210,116. The General Tire & Rubber Company, Akron, Ohio. Filed Jan. 18, 1965.



Owner of Reg. Nos. 752,967, 780,498, and others.
For Permanent Anti-Freeze and Coolant.
First use April 1961.

SN 210,773. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 27, 1965.

SEMPAROL

Owner of Reg. Nos. 688,968 and 782,242.
For Ingredient Used in the Manufacture of Herbicides.
First use Dec. 14, 1964.

SN 210,774. Geigy Chemical Corporation, Ardsley, N.Y. Filed Jan. 27, 1965.

PROCITEX

For Ingredient Used in the Manufacture of Herbicides.
First use Dec. 14, 1964.

SN 210,867. General Aniline & Film Corporation, New York, N.Y. Filed Jan. 28, 1965.

GANSTAR

For Resinous Textile Sizing Agents.
First use Dec. 10, 1964.

Class 10—Fertilizers

SN 209,814. Smith-Douglass Company, Incorporated, Norfolk, Va. Filed Jan. 12, 1965.

BOLL BUSTER

For Fertilizer.
First use Dec. 3, 1965.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

SN 199,400. Rotex Punch Company, Inc., San Leandro, Calif. Filed Aug. 6, 1964.

ROTEX

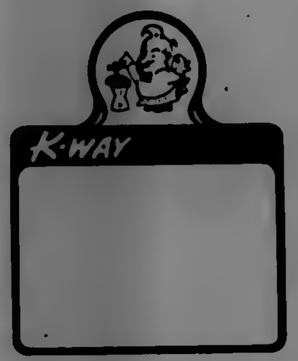
For Air and Hydraulic Valves.
First use on or about Jan. 1, 1953.

SN 204,870. Aluminum Company of America, Pittsburgh, Pa. Filed Oct. 27, 1964.

BUTECTAL

For Conduit.
First use July 16, 1964.

SN 210,680. K-Way Dispensing Equipment Company, Cleveland, Ohio. Filed Jan. 26, 1965.



For Soda Fountain Beverage Dispensing Apparatus.
First use Jan. 2, 1962.

SN 210,796. Lily Mills Company, Shelby, N.C. Filed Jan. 27, 1965.

HIDEAWAY

For Zippers.
First use Jan. 11, 1965.

SN 211,448. Mat-Sta Manufacturing Company, Houston, Tex. Filed Feb. 5, 1965.

MAT-STA

For Fastening Device for Securing Floor Mats and Rugs to a Backing Material.
First use September 1964.

Class 14—Metals and Metal Castings and Forgings

SN 216,010. Joseph T. Ryerson & Son, Inc., Chicago, Ill. Filed Apr. 7, 1965.

RYEX

For Steel.
First use Sept. 1, 1937.

SN 216,011. Joseph T. Ryerson & Son, Inc., Chicago, Ill. Filed Apr. 7, 1965.

RYTENSE A.A.

For Steel.
First use July 1, 1936.

SN 216,012. Joseph T. Ryerson & Son, Inc., Chicago, Ill. Filed Apr. 7, 1965.

V.D.

For Steel.
First use Jan. 2, 1930.

Class 15—Oils and Greases

SN 196,778. Gamlen Chemical Company, South San Francisco, Calif. Filed June 30, 1964.

GAMLENOL DP 231

Owner of Reg. No. 405,502.
For Fuel Oil Additive for Improving the Burning Characteristics of Fuel Oils and Controlling Combustion Deposits by Inhibiting the Corrosive Action of Vanadium and Sulfur Compounds.
First use May 4, 1964.

Class 16—Protective and Decorative Coatings

SN 197,593. MacDermid Incorporated, Waterbury, Conn. Filed July 10, 1964.

PHOSPHOTEX

For Chemicals for Producing a Zinc and Iron Phosphate Conversion Coating When Applied in a Bath on Iron and Steel, Which Coating in Itself Is Protective and Decorative, but Which Also Acts as a Primer for Various Later-Applied Protective and Decorative Coatings.
First use on or about July 1952.

Class 17—Tobacco Products

SN 192,264. British-American Tobacco Company, Limited, Millbank, London, England. Filed Apr. [illegible]9, 1964.

MIDWAY

Owner of British Reg. No. 817,257, dated Feb. 21, 1961.
For Cigars.

SN 198,420. International Cigar Corp., Mineola, N.Y. Filed July 23, 1964.

CONSUEGRA

For Cigars.
First use Jan. 15, 1959.

Class 18—Medicines and Pharmaceutical Preparations

SN 196,314. Societe des Usines Chimiques Rhone-Poulenc, Paris, France. Filed June 23, 1964.

DOXERGAN

Owner of French Reg. No. 497,796, dated July 17, 1961 (Paris); Natl. Inst. No. 168,413.
For Antihistaminic, Antigastralgic, and Cough Suppressing Agent.

SN 199,695. Parke, Davis & Company, Detroit, Mich. Filed Aug. 11, 1964.

STAFIGEN

For Pharmaceutical Preparation—Namely, an Immunogenic Agent for the Purpose of Immunizing Against Staphylococcal Infection for Human Patients and Animals.
First use on or before June 15, 1964.

SN 200,221. Zinpro Corporation, Des Moines, Iowa. Filed Aug. 19, 1964.

ZINPRO

For Animal Feed Supplement.
First use July 14, 1964.

SN 201,193. The Fleetwood Company, Chicago, Ill. Filed Sept. 3, 1964.

MYNEX

For Dietary Food Supplement Containing Vitamins and Minerals.
First use Jan. 15, 1949.

SN 209,536. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories, Los Angeles, Calif. Filed Jan. 7, 1965.

MEDIHALER-BRON

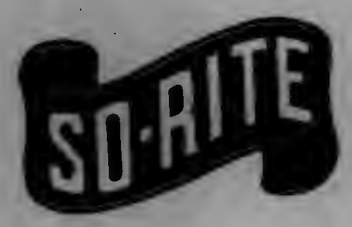
Owner of Reg. Nos. 630,134, 737,438, and 637,949.
For Medication for Inhalation Therapy.
First use Dec. 23, 1964.

SN 211,582. G. D. Searle & Co., Skokie, Ill. Filed Feb. 8, 1965.

SCHEDULONE

For Fluorogestone Acetate Incorporated as an Ingredient in Veterinary Progestinated Pessaries.
First use Feb. 3, 1965.

SN 211,934. S & O Products, Inc., Marshalltown, Iowa. Filed Feb. 12, 1965.



Owner of Reg. No. 592,316.
For Vitamin and Mineral Supplements for Livestock Feeds.
First use on or about Apr. 1, 1953.

SN 212,366. The Wander Company, Chicago, Ill. Filed Feb. 18, 1965.

EXPECTAB

For Medicinal Preparation for Temporary Relief of Cough Due to the Common Cold.
First use Feb. 2, 1965.

SN 212,393. Dermik Pharmacal Co., Inc., Syosset, N.Y. Filed Feb. 19, 1965.

SULFACET-HC

For Pharmaceutical Preparation for Topical Application in Acne.
First use Aug. 1, 1964.

SN 213,766. The Dow Chemical Company, Midland, Mich. Filed Mar. 10, 1965.

LIRUGEN

For Measles Vaccines.
First use Feb. 12, 1965.

SN 214,093. Dynapedic Company, Hopkins, Minn. Filed Mar. 15, 1965.

VERZONE

For Caustic Liquid Preparation To Remove Skin Growths.
First use Nov. 1, 1964.

SN 214,139. Marion Laboratories, Inc., Kansas City, Mo. Filed Mar. 15, 1965.

OS-CAL MONE

Owner of Reg. Nos. 591,577, 781,684, and others.
For Medicinal Preparation for the Treatment of Post-Menopausal and Senile Osteoporosis.
First use Mar. 5, 1965.

SN 214,228. Aktiebolaget Astra, Apotekarnes Kemiska Fabriker, Sodertalje, Sweden. Filed Mar. 16, 1965.

HILOMID

Owner of Swedish Reg. No. 84,999, dated June 6, 1958.
For Veterinary Preparation for the Treatment of Liver Fluke in Animals.

SN 214,234. Chester A. Baker Laboratories, Inc., Boston, Mass. Filed Mar. 16, 1965.

PANSCOL

For Medicinal Preparations in the Form of an Ointment for Use in the Treatment of Skin Conditions.
First use about 1948.

SN 214,375. William H. Rorer, Inc., Fort Washington, Pa. Filed Mar. 17, 1965.

DEHISTOL

For Multiphasic Antihistaminic Tablets.
First use Feb. 19, 1965.

SN 214,376. William H. Rorer, Inc., Fort Washington, Pa. Filed Mar. 17, 1965.

BRONCAZYME

For Antitussive Tablets.
First use Feb. 19, 1965.

SN 214,414. Bariatric Corporation, Coral Gables, Fla. Filed Mar. 18, 1965.

LEVOROXINE

For Preparation Useful in the Replacement Therapy of Diminished or Absent Thyroid Function.
First use Mar. 1, 1965.

SN 214,763. Hudson National, Inc., d.b.a. Hudson Vitamin Products, New York, N.Y. Filed Mar. 23, 1965.

VANTRIN

For Analgesic in Tablet Form.
First use Mar. 15, 1965.

SN 214,926. The Standard Oil Company, Cleveland, Ohio. Filed Mar. 24, 1965.

SOHIPURE

Owner of Reg. Nos. 235,809, 667,648 and others.
For Petrolatum for Use in Hospitals.
First use Mar. 10, 1965.

SN 215,098. Lemmon Pharmacal Company, Sellersville, Pa. Filed Mar. 26, 1965.

LEMMON

Owner of Reg. No. 740,238.
For Pharmaceutical Preparations.
First use 1945.

SN 215,437. Olin Mathieson Chemical Corporation, New York, N.Y. Filed Mar. 31, 1965.

APODOL

For Narcotic Analgesic Preparation.
First use Mar. 13, 1965.

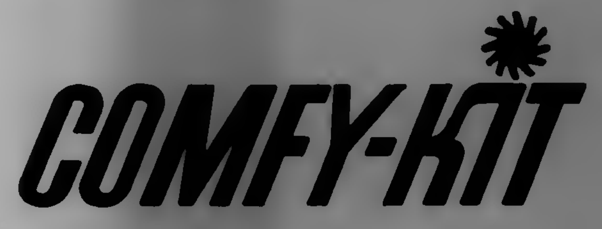
Class 19—Vehicles

SN 187,197. Wallace M. L. Johnson, d.b.a. Kennel-Aire Mfg. Co., St. Paul, Minn. Filed Feb. 21, 1964.

BARRIE-AIRE

For Dividers for Separating the Interior of Passenger Vehicles Into Fore and Aft Compartments for the Purpose of More Safely Transporting Animals, Children, Packages, Luggage and the Like in the Aft Compartment.
First use Mar. 3, 1963.

SN 210,190. Capitol Refrigeration Inc., Dallas, Tex. Filed Jan. 19, 1965.



For Automobile Air Conditioning Units.
First use May 19, 1964.

Class 14—Metals and Metal Castings and Forgings

SN 216,010. Joseph T. Ryerson & Son, Inc., Chicago, Ill. Filed Apr. 7, 1965.

RYEX

For Steel.
First use Sept. 1, 1937.

SN 216,011. Joseph T. Ryerson & Son, Inc., Chicago, Ill. Filed Apr. 7, 1965.

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Class 17—Tobacco Products

SN 192,264. British-American Tobacco Company, Limited, Millbank, London, England. Filed Apr. 29, 1964.

MIDWAY

Owner of British Reg. No. 817,257, dated Feb. 21, 1961.
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SN 198,420. International Cigar Corp., Mineola, N.Y. Filed July 23, 1964.

CONSUEGRA

Class 18—Medicines and Pharmaceutical Preparations

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DOXERGAN

Owner of French Reg. No. 497,796, dated July 17, 1961 (Paris); Natl. Inst. No. 168,413.

For Antihistaminic, Antigastralgic, and Cough Suppressing Agent.

SN 199,695. Parke, Davis & Company, Detroit, Mich. Filed Aug. 11, 1964.

STAFIGEN

For Pharmaceutical Preparation—Namely, an Immunogenic Agent for the Purpose of Immunizing Against Staphylococcal Infection for Human Patients and Animals.
First use on or before June 15, 1964.

SN 200,221. Zinpro Corporation, Des Moines, Iowa. Filed Aug. 19, 1964.

ZINPRO

For Animal Feed Supplement.
First use July 14, 1964.

SN 201,193. The Fleetwood Company, Chicago, Ill. Filed Sept. 3, 1964.

MYNEX

For Dietary Food Supplement Containing Vitamins and Minerals.
First use Jan. 15, 1949.

SN 209,536. Rexall Drug and Chemical Company, d.b.a. Riker Laboratories, Los Angeles, Calif. Filed Jan. 7, 1965.

MEDIHALER-BRON

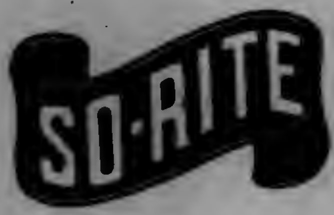
Owner of Reg. Nos. 630,134, 737,438, and 637,949.
For Medication for Inhalation Therapy.
First use Dec. 23, 1964.

SN 211,582. G. D. Searle & Co., Skokie, Ill. Filed Feb. 8, 1965.

SCHEDULONE

For Fluorogestone Acetate Incorporated as an Ingredient in Veterinary Progestinated Pessaries.
First use Feb. 3, 1965.

SN 211,934. S & O Products, Inc., Marshalltown, Iowa. Filed Feb. 12, 1965.



Owner of Reg. No. 592,316.

Class 22 — Games, Toys, and Sporting Goods

SN 134,511. The Barr Rubber Products Company, Sandusky, Ohio. Filed Dec. 22, 1961.

PRO-FLEX

For Integral Covers of Inflatable Game Balls—Namely, Basketballs, Footballs, Soccer Balls, Volleyballs, and the Like, Made in Whole or Part of Natural and/or Synthetic Rubber or of Plastic.
First use Oct. 29, 1961.

SN 192,669. Blazon, Inc., Akron, Ohio. Filed May 5, 1964.

BROWNIE

For Animal Figure Adapted To Be Ridden by Children.
First use Mar. 17, 1964.

SN 192,670. Blazon, Inc., Akron, Ohio. Filed May 5, 1964.

WAR CLOUD

For Animal Figure Adapted To Be Ridden by Children.
First use Mar. 16, 1964.

SN 192,672. Blazon, Inc., Akron, Ohio. Filed May 5, 1964.

FLEET

For Animal Figure Adapted To Be Ridden by Children.
First use Mar. 16, 1964.

SN 192,673. Blazon, Inc., Akron, Ohio. Filed May 5, 1964.

WHITE CLOUD

For Animal Figure Adapted To Be Ridden by Children.
First use Mar. 16, 1964.

SN 193,900. Recreation Products, Inc. Brooklyn, N.Y. Filed May 20, 1964.

SLA-CO

For Pool Tables, Pool Table Tops, and Pool Table Covers.
First use Apr. 23, 1964.

SN 196,855. The General Tire & Rubber Company, Akron, Ohio. Filed July 2, 1964

JATO

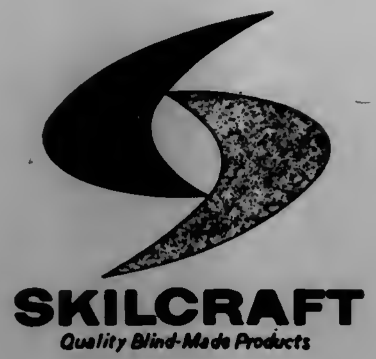
For Golf Balls.
First use 1956.

SN 197,084. C. L. Cleek, Pacific Palisades, Calif. Filed July 6, 1964.

U NAME US

For Decorative Animal Toy Characters.
First use May 5, 1964.

SN 202,195. National Industries for the Blind, New York, N.Y. Filed Sept. 3, 1964.



The stippled portion shown in the drawing is intended to show a contrasting lighter color, shade or hue, but no claim is made to any particular color. Applicant disclaims the wording "Quality Blind-Made Products" apart from the mark as shown, applicant, however, reserving its common law rights therein. Owner of Reg. Nos. 530,773, 658,824, and others.
For Dart Boards, Goal Nets and Coil Spring Toys.
First use on or about Apr. 1, 1964, on goal nets.

SN 203,919. Aluminum Hardgoods, Inc., Forest Park, Ill. Filed Oct. 14, 1964.

SPOT-CHECK

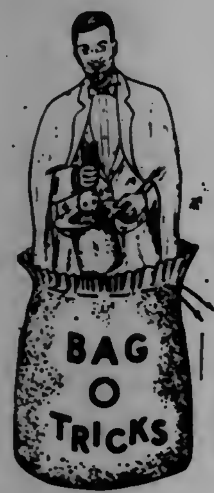
For Golf Teaching Aid, Applied to the Face of a Golf Club, Which Records an Impression Where the Ball Is Hit, Enabling the Golfer To Determine the Proper Adjustments To Be Made in His Stance and Swing.
First use Aug. 20, 1964.

SN 205,842. Paco Products, Inc., Chicago, Ill. Filed Nov. 9, 1964.

SINK THE FINK

For Apparatus Sold as a Unit for Playing a Target-Type Game.
First use Sept. 22, 1964.

SN 206,881. Ervin O. Rogers, d.b.a. Mutual Inventors Guild, Pecos, Tex. Filed Nov. 24, 1964.



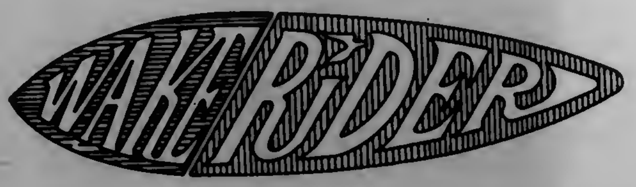
The caricature of a human figure appearing in the mark is fanciful and is not a representation of any known person either living or dead.
For Sleight of Hand Devices.
First use Nov. 16, 1964.

SN 206,950. Louis Marx & Co. Inc., New York, N.Y. Filed Nov. 25, 1964.

PLAY-LINE

For Pin Ball, Bagatelle and Ball Game.
First use Jan. 14, 1964.

SN 208,617. Plastilite Corporation, Omaha, Nebr. Filed Dec. 21, 1964.



The drawing is lined for blue and red, but color is not claimed as a feature of the mark.
For Surfboard.
First use Nov. 12, 1964.

SN 210,210. Louis Marx & Co. Inc., New York, N.Y. Filed Jan. 19, 1965.

BIG JOB

For Toy Truck.
First use Apr. 20, 1964.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

SN 198,643. Michael G. Curran, Cleveland, Ohio. Filed July 28, 1964.

CURRAN "U" CLAMP

The word "U Clamp" is disclaimed.
For Safety Clamps.
First use Mar. 1, 1964.

SN 210,576. Lynch Corporation, Anderson, Ind. Filed Jan. 25, 1965.

44

For Machines for the Manufacture of Glassware.
First use Dec. 31, 1959.

SN 210,590. Plattsburg Foundry & Machine Co., Inc., Plattsburg, N.Y. Filed Jan. 25, 1965.

PLATTCO

For Dust Valves and Components Thereof.
First use January 1964.

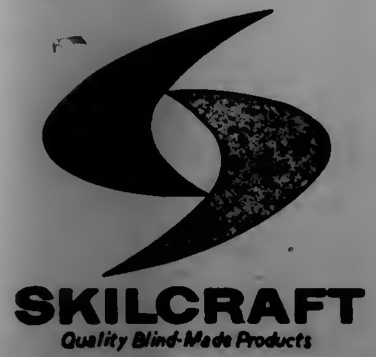
SN 211,304. National Poultry Equipment Company, Renton, Wash. Filed Feb. 3, 1965.

AQUAMAGIC

Owner of Reg. No. 690,182.
For Dispenser for Attachment to Egg Cleaning Machines, for Injecting a Sanitizer Into the Water Supply of the Automatic Egg Cleaning Machine, To Inhibit Bacterial Growth and To Increase Cleaning Action Upon the Eggs, and To Speed Up the Drying Action Upon the Eggs Treated in the Egg Cleaning Machine, and for an Automatic Cleaner-Grader for Eggs.
First use Nov. 1, 1962.

Class 24 — Laundry Appliances and Machines

SN 202,194. National Industries for the Blind, New York, N.Y. Filed Sept. 3, 1964.



Applicant disclaims the wording "Quality Blind-Made Products" apart from the mark as shown, applicant, however, reserving its common law rights in said wording. The stippled portion shown in the drawing is intended to show a contrasting lighter color, shade or hue, but no claim is made to any particular color. Owner of Reg. Nos. 530,773, 658,824, and others.
For Ironing Board Covers and Pads, Clothespin Aprons, Clothespin Bags, Clothes Basket Liners, Iron Rests, Clothes Hampers, Dampening Bags, and Iron Cord Guides.
First use on or about Apr. 1, 1964.

Class 30 — Crockery, Earthenware, and Porcelain

SN 202,615. National Silver Company, New York, N.Y. Filed Sept. 24, 1964.

ROYAL KENT

For China Dinnerware.
First use July 31, 1964.

Class 31 — Filters and Refrigerators

SN 201,852. McQuay, Inc., Minneapolis, Minn. Filed Sept. 14, 1964.

WATERCON

For Heat Exchanger Units for Air Conditioning and Refrigerating Machines.
First use Feb. 3, 1964.

Class 32 — Furniture and Upholstery

SN 196,725. Scientific-Atlanta, Inc., Atlanta, Ga. Filed June 29, 1964.

OPTIMA

For Electronic Instrument Cabinets and Electronic Instrument Consoles.
First use Jan. 24, 1964.

SN 206,229. Carolina Wood Turning Company, d.b.a. Cherokee Furniture Company, Bryson City, N.C. Filed Nov. 16, 1964.

MAGGIE VALLEY

For Bedroom, Dining Room, and Living Room Furniture.
First use Apr. 20, 1963.

SN 206,231. Carolina Wood Turning Company, d.b.a. Cherokee Furniture Company, Bryson City, N.C. Filed Nov. 16, 1964.

COUNTY FAIR

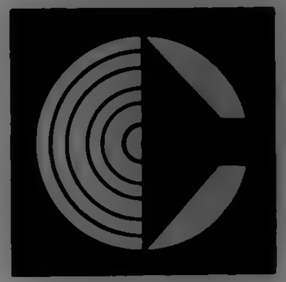
For Bedroom, Dining Room, and Living Room Furniture.
First use Dec. 1, 1958.

SN 211,425. Eclipse Sleep Products, Inc., Brooklyn, N.Y. Filed Feb. 5, 1965.

BACKRESS

Owner of Reg. No. 567,865.
For Studio Couches and Foundations.
First use Sept. 7, 1951.

SN 211,901. Lanier Electronic Laboratory, Inc., Atlanta, Ga. Filed Feb. 12, 1965.



For Portable Lecterns.
First use on or about Feb. 8, 1965.

Class 33 — Glassware

SN 178,259. Cristalleries et Verreries Reunies de Choisy-le-Roi, Choisy-le-Roi (Seine), France. Filed Oct. 3, 1963.

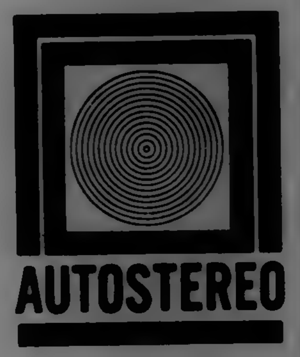
TOURMALINE

Owner of French Reg. No. 487,396, dated Apr. 7, 1960 (Seine) ; Natl. Inst. No. 142,546.

For Lamp Bases, Drinking Glasses, Vases, and Colored Crystal Glass.

Class 36 — Musical Instruments and Supplies

SN 192,781. Autostereo, Inc., Van Nuys, Calif. Filed May 6, 1964.



Applicant disclaims the word "Autostereo" apart from the mark as shown.

For Stereophonic Tape Players and Accessories Therefor.
First use Oct. 30, 1963.

Class 37 — Paper and Stationery

SN 197,638. Weyerhaeuser Company, Tacoma, Wash. Filed July 10, 1964.

ECHO

For Printing Paper for Greeting Cards.
First use 1959.

SN 198,602. Weyerhaeuser Company, Tacoma, Wash. Filed July 27, 1964.

LARKSPUR

For Printing Paper.
First use November 1959.

SN 198,604. Weyerhaeuser Company, Tacoma, Wash. Filed July 27, 1964.

MELLOW

For Printing Paper.
First use 1928.

SN 198,605. Weyerhaeuser Company, Tacoma, Wash. Filed July 27, 1964.

WHITEMARSH

For Printing Paper.
First use 1928.

SN 198,609. Weyerhaeuser Company, Tacoma, Wash. Filed July 27, 1964.

CLOUDPARCH

For Printing Paper.
First use Dec. 8, 1958.

SN 198,610. Weyerhaeuser Company, Tacoma, Wash. Filed July 27, 1964.

AVON

For Printing Paper.
First use Oct. 18, 1962.

SN 198,611. Weyerhaeuser Company, Tacoma, Wash. Filed July 27, 1964.

SKYLARK

For Printing Paper.
First use 1959.

SN 198,613. Weyerhaeuser Company, Tacoma, Wash. Filed July 27, 1964.

WEB-PRINT

Owner of Reg. Nos. 712,876 and 713,688.
For Printing Paper.
First use 1957.

SN 198,615. Weyerhaeuser Company, Tacoma, Wash. Filed July 27, 1964.

SMOOTHPRINT

For Printing Paper.
First use Apr. 27, 1963.

SN 209,053. Anken Chemical & Film Corporation, Newton, N.J. Filed Dec. 30, 1964.

CRITERION

For Unsensitized Coated Photocopy Papers.
First use July 18, 1963.

Class 38 — Prints and Publications

SN 180,625. York Bar Bell Company, Inc., d.b.a. Strength & Health Publishing Company, York, Pa. Filed Nov. 6, 1963.

MUSCULAR DEVELOPMENT

For Monthly Magazine.
First use Oct. 18, 1963.

SN 186,667. York Bar Bell Company, Inc., d.b.a. Strength & Health Publishing Company, York, Pa. Filed Feb. 13, 1964.

STRENGTH & HEALTH

For Monthly Magazine.
First use December 1932.

SN 193,573. Pacific Gas and Electric Company, San Francisco, Calif. Filed May 15, 1964.

PG and E Progress

For Monthly Magazine Distributed to Applicant's Employees, Customers and the Public Generally.
First use about 1923.

SN 194,319. Scripture Press Publications, Inc., Wheaton, Ill. Filed May 26, 1964.

POWER FOR LIVING

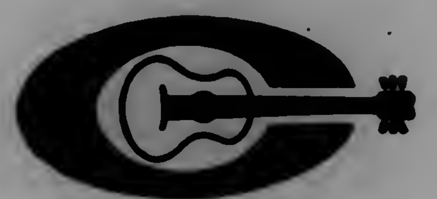
For Sunday School Story Papers.
First use August 1963 ; at least as early as Jan. 3, 1943, as to the mark "Power."

SN 195,172. Leroy O. Sweval, d.b.a. Gold Note Awards, Bayville, N.J. Filed June 8, 1964.

GOLD NOTE AWARDS

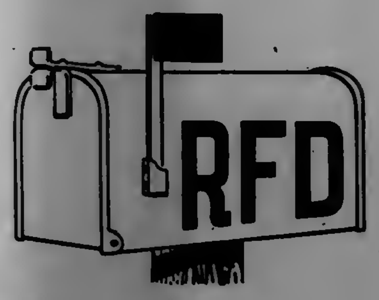
For Trading Stamps and Scrip Redeemable for Tickets at Local Cultural Performances.
First use Nov. 29, 1963.

SN 195,930. The Country Music Record Club of America, Inc., Madison, Tenn. Filed June 18, 1964.



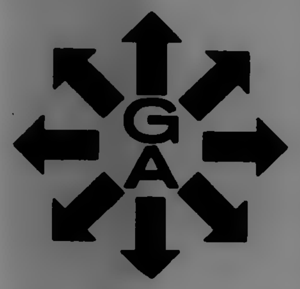
For Newsletters.
First use Nov. 1, 1963.

SN 195,931. The Country Music Record Club of America, Inc., Madison, Tenn. Filed June 18, 1964.



For Newsletters.
First use Feb. 1, 1964.

SN 201,121. Guidance Associates of Pleasantville, New York, Inc., Pleasantville, N.Y. Filed Sept. 2, 1964.



For Color Filmstrips and Narrative Record Albums Used by Educational and Job Placement Guidance Counselors in High Schools, Colleges, and Businesses.
First use Oct. 1, 1961.

SN 202,982. Chilton Company, Philadelphia, Pa. Filed Sept. 30, 1964.

DISTRIBUTION AGE WAREHOUSING

The word "Warehousing" is disclaimed apart from the mark as shown. Owner of Reg. No. 424,711.

For Section to a Periodic Publication, Also Being Distributed as a Separate Magazine.
First use Aug. 7, 1964.

SN 202,984. Chilton Company, Philadelphia, Pa. Filed Sept. 30, 1964.

motor age WHOLESALER

For Section to a Periodic Publication, Also Being Distributed as a Separate Magazine.
First use June 15, 1964 ; Sept. 12, 1899, as to "Motor Age."

SN 206,914. Barco Publishers, Inc., Chicago Heights, Ill. Filed Nov. 25, 1964.

Unlimited Scientific Equipment Digest

Applicant disclaims the words "Scientific Equipment Digest." The drawing is lined to indicate the color red.

For Advertising Newspaper.
First use July 1, 1964.

SN 207,013. Cope Incorporated, Cleveland, Ohio. Filed Nov. 27, 1964.

MAN MONEY & METHODS

For Magazine.
First use on or about Oct. 20, 1964.

SN 208,646. U.S. Executive Publishers, Inc., Chicago, Ill. Filed Dec. 21, 1964.

EXECUTIVE RECRUITER

For Book in Loose-Leaf Form Which Under Code Names or Numbers Lists Executives and Professional People Who Are Seeking To Make a Change in Their Employment.
First use Sept. 20, 1964.

SN 209,631. Senior Golf Publications Co., Clearwater, Fla. Filed Jan. 8, 1965.

Senior Golfer

For Periodical Magazine.
First use Nov. 25, 1964.

SN 209,807. Sernoll, Inc., Iowa City, Iowa. Filed Jan. 12, 1965.

CRUCIBLE

For Books.
First use Oct. 12, 1964.

SN 209,895. Air Canada, Montreal, Quebec, Canada. Filed Jan. 13, 1965.

EN ROUTE

Priority claimed under Sec. 44(d) on Canadian application filed July 15, 1964; Reg. No. 140,016, dated Apr. 23, 1965.
For Printed Publication.

SN 209,950. Quinn-Brown Publishing Corp., Stamford, Conn. Filed Jan. 14, 1965.

WIRE AND WIRE PRODUCTS

Owner of Reg. No. 511,530.
For Monthly Publication Devoted to the Production of Wire, Rod and Strip, and Insulated Wire and Cable.
First use in or about January 1925.

SN 210,104. Eagle Printing Company, Butler, Pa. Filed Jan. 18, 1965.

Butler Eagle.

For Daily Newspaper.
First use 1869.

SN 210,105. Eastman Kodak Company, Rochester, N.Y. Filed Jan. 18, 1965.

THE PLASTIC SHEET

For Industrial Newsletter.
First use March 1964.

SN 210,236. Sernoll, Inc., Iowa City, Iowa. Filed Jan. 19, 1965.

CRUCIBLE

For Books.
First use Oct. 12, 1964.

Class 39—Clothing

SN 198,129. Capriel, Inc., New York, N.Y. Filed July 20, 1964.

Caprion
CONTINENTALS

Applicant disclaims the word "Continentals" apart from the trademark as shown. Owner of Reg. No. 753,011.
For Women's Coats, Jackets, Dresses, Skirts, and Blouses.
First use Apr. 24, 1964, on women's coats, skirts, and blouses.

SN 202,165. Parker Plastics, Ltd., New York, N.Y. Filed Sept. 18, 1964.

Patentine

For Women's, Men's, and Children's Shoes, Slippers, and Sandals.
First use May 1, 1964.

SN 202,196. National Industries for the Blind, New York, N.Y. Filed Sept. 3, 1964.

SKILCRAFT
Quality Blind-Made Products

Applicant disclaims the wording "Quality Blind-Made Products" apart from the mark as shown, applicant, however, reserving its common-law rights in said wording. The stippled portion shown in the drawing is intended to show a contrasting lighter color, shade or hue, but no claim is made to any particular color. Owner of Reg. Nos. 530,773, 658,824, and others.
For Aprons, Bibs, Caps; and Children's Sets Consisting of a Plastic Apron, Two Terry Bibs, and a Bath Towel With Hood.
First use Apr. 1, 1964, on aprons and bibs.

SN 207,125. Gambits Shoes Inc., Lowell, Mass. Filed Nov. 30, 1964.

MODS

For Women's Shoes.
First use Nov. 4, 1964.
Subj. to Intf. with SN 210,645.

SN 210,645. Carlette Juniors, Inc., New York, N.Y. Filed Jan. 26, 1965.

MODS
LOOK

For Ladies' and Girls' Dresses.
First use Nov. 10, 1964.
Subj. to Intf. with SN 207,125.

SN 213,738. Zayre Corp., Natick, Mass. Filed Mar. 9, 1965.

TUFF 'N TRIM

For Boys' Sweatshirts, Chino Pants, and Dungarees.
First use Oct. 1, 1964.

SN 213,919. Vogue Shoe, Inc., Los Angeles, Calif. Filed Mar. 11, 1965.

Raggedy Ann

For Ladies' Shoes.
First use Oct. 25, 1964.

Class 40—Fancy Goods, Furnishings, and Notions

SN 212,047. Reid-Meredith, Inc., Lawrence, Mass. Filed Feb. 15, 1965.

R & M

Owner of Reg. No. 778,814.
For Wigs, Wiglettes, Chignons, Half Wigs, and Falls.
First use May 25, 1963.

Class 42—Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

SN 196,868. Jacobson Fabrics, Inc., New York, N.Y. Filed July 1, 1964.

HANSOM

Owner of Reg. No. 429,661.
For Fabrics of Cotton, Silk, and Synthetic Materials and Combinations Thereof.
First use 1947.

SN 199,838. The Kendall Company, Walpole, Mass. Filed Aug. 13, 1964.

S-T-R-E-T-C-H
& wear

For Fabrics To Be Used in Making Apparel—Namely, Uniforms, Aprons, Shirts, Blouses, Shorts, Linings, Crib Sheets, Infants' and Children's Wear, and the Like.
First use on or about Sept. 3, 1963.

SN 202,197. National Industries for the Blind, New York, N.Y. Filed Sept. 3, 1964.

SKILCRAFT
Quality Blind-Made Products

Applicant disclaims the wording "Quality Blind-Made Products" apart from the mark as shown, applicant, however, reserving its common law rights in said wording. The stippled portion shown in the drawing is intended to show a contrasting lighter color, shade or hue, but no claim is made to any particular color. Owner of Reg. Nos. 530,773, 658,824, and others.
For Linens, Pot Holders, Oven Mitts, Towels, Pillow Cases, Place Mats, Coasters, Floor Mats, Dish Cloths, Wash Cloths, Plastic Linens, Bags, Tablecloths, Blankets, Ribbons and Bows, All Made of Knitted, Netted, and Textile Fabrics, and Substitutes Therefor.
First use Apr. 1, 1964; 1954 on related goods in a different form.

SN 203,358. United Elastic Corporation, Easthampton, Mass. Filed Oct. 5, 1964.

SHRINK NIX

Owner of Reg. No. 347,427.
For Elastic Webbing.
First use Apr. 17, 1936.

SN 204,091. The Pyke Manufacturing Company, Salt Lake City, Utah. Filed Oct. 15, 1964.

SHARP/SHAPE

For Piece Goods Having a Finish for Wrinkle Resistance and Permanent Creasing.
First use Oct. 9, 1964.

SN 204,427. Waumbec Mills Incorporated, New York, N.Y. Filed Oct. 20, 1964.

CHAMONELLE

For Fabrics Made of Synthetic Fibers.
First use Sept. 14, 1964.

SN 205,157. Chek Rug Company, Inc., Brentwood, Md. Filed Oct. 30, 1964.

CHEK

For Rugs.
First use July 17, 1964.

Class 44 — Dental, Medical, and Surgical Appliances

SN 199,096. Oklahoma General Products, Inc., Oklahoma City, Okla. Filed Aug. 3, 1964.

SPARGE

For Disposable Feminine Hygiene Travel Kit.
First use Apr. 10, 1964.

SN 216,564. The British Oxygen Company Limited, London, England. Filed Apr. 15, 1965.

PORTOGEN

Owner of British Reg. No. 854,639, dated Sept. 27, 1963.
For Portable Oxygen Inhalers for Personal Use, and Parts Thereof.

Class 45 — Soft Drinks and Carbonated Waters

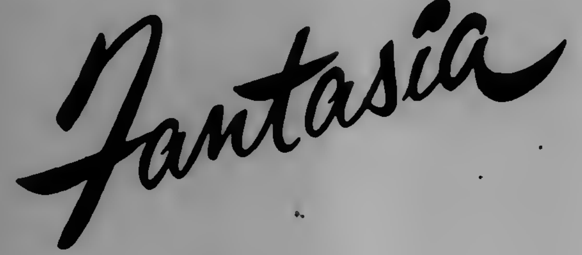
SN 204,485. Martrude Corporation, Glendale, N.Y. Filed Oct. 22, 1964.

COCKTAIL-LEM'

For Non-Alcoholic Cocktail Mix for Alcoholic and Non-Alcoholic Beverages.
First use Jan. 20, 1964.

Class 46 — Foods and Ingredients of Foods

SN 163,476. Fantasia Confections, Inc., San Francisco, Calif. Filed Feb. 26, 1963.



For Cookies and Cakes.
First use August 1948.

SN 165,582. Domenica Amara, Boston, Mass. Filed Mar. 28, 1963.

DOMENICA

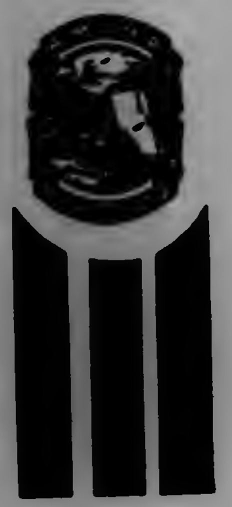
For Olives.
First use 1930.

SN 169,180. Spangler Candy Company, Bryan, Ohio. Filed May 17, 1963.

BLO-BUBBLE

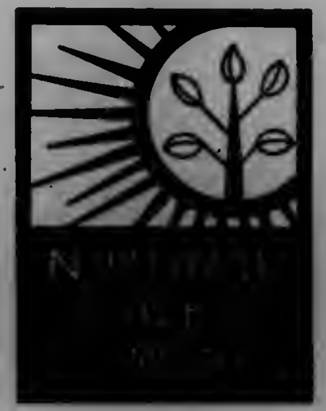
Owner of Reg. Nos. 205,950, 208,534, and 502,863.
For Bubble Gum.
First use 1949.

SN 183,358. Amana Society, Amana, Iowa. Filed Dec. 23, 1963.



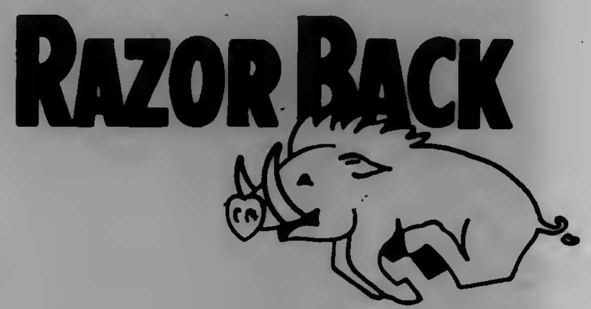
The words "Amana Products" are disclaimed apart from the mark as shown. The mark consists of the figure of a hooded woman against the background of a town, below which are three elongated parallel stripes. Owner of Reg. No. 754,769.
For Bread.
First use May 1963.

SN 183,403. General Nutrition Corporation, d.b.a. Natural Sales Company, Pittsburgh, Pa. Filed Dec. 23, 1963.



For Shelled Mixed Nuts; Nut and Seed Butters; Breads, Breakfast Cereals; Candy Jells and Bars; Macaroons, Whipped Honey; Natural Fruit, Honey, Cinnamon and Maple Syrups; Salad Dressings, Cider Vinegar; Sunflower Seeds and Kernels; Natural Fruit Drink Concentrates; Cherry, Blackberry and Raspberry Juices; Sesame Seed, Yellow Corn, and Coconut Meal; Whole Wheat Fruitcakes, Toasted Soybeans, Figs, Prunes, Dates, Raisins, Table Salt; Rose Hips Powder for Use in Water as a Beverage, Mixed With Juices, or in Soups; Yeast Powder for Use in Soups, Cereals, Beverages, and Baking Recipes; Food Protein Powder for Use in or on Salads, Cereals, and Fruits, in Blending With Water, Milk, Fruit or Vegetable Juices, and in Adding to Soups, Stews, Meat Loaves, Gravies and Sauces; Gelatin Powder for Desserts and Salads and Added to Juices, Soups and Other Foods; Safflower Seed Oil for Use in Salad Dressings, in Frying, Cooking, and in Recipes Calling for Butter or Shortening.
First use 1960.

SN 184,340. Atkins Pickle Company Inc., d.b.a. Atkins Pickle Company, Atkins, Ark. Filed Jan. 10, 1964.



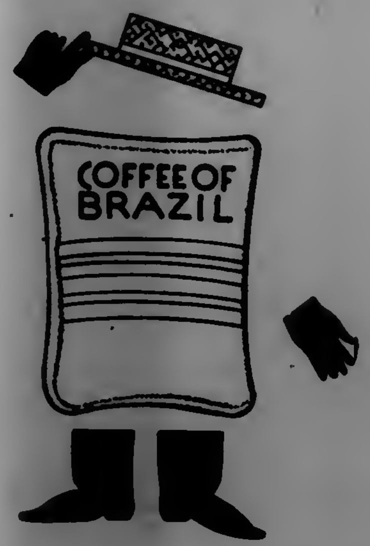
For Pickles and Canned Pickled Products—Namely, Onions, Cauliflower, Olives, Peppers, Okra, and Tomatoes.
First use June 1944.

SN 187,661. Gunther Products, Inc., Galesburg, Ill. Filed Feb. 28, 1964.

SOY-70

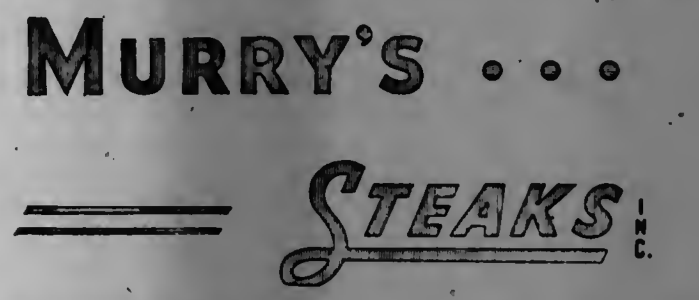
For Soy Bean Additive for Food Processors.
First use Dec. 10, 1963.

SN 188,074. The Brazilian Coffee Institute, New York, N.Y. Filed Mar. 6, 1964.



The lining in the hat simulates straw rather than color. Applicant hereby disclaims the words "Coffee of Brazil."
For Coffee.
First use Sept. 26, 1962.

SN 189,491. Murry's Steaks, Inc., Alexandria, Va. Filed Mar. 24, 1964.



The drawing is lined for the colors red and blue. Owner of Reg. No. 780,665.
For Fresh and Frozen Meat.
First use 1949; 1948 as to "Murry's."

SN 192,911. J. Dennis Freeman and Son, Inc., Worthington, Ind. Filed May 7, 1964.

FLAVOR DUST

The word "Flavor" is disclaimed apart from the mark as shown.
For Seasoned Salt for Meats, Salads, Soups, and the Like.
First use Mar. 24, 1964.

SN 192,917. The Kroger Co., Cincinnati, Ohio. Filed May 7, 1964.

CLOVER VALLEY

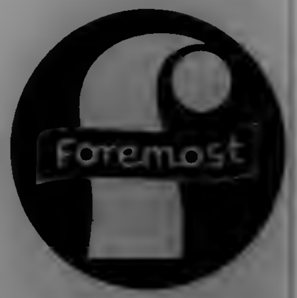
Owner of Reg. Nos. 196,276, 271,048, and 619,177.
For Ice Cream and Frozen Desserts, Comprising Frozen Confections in Bulk and Bar Form.
First use at least as early as September 1958.

SN 194,109. Lucas Aardenburg N.V., d.b.a. Handelsafdeling Tieleman & Dros, Hoogeveen, Netherlands. Filed May 25, 1964.

MILL BRAND

Exclusive use of the word "Brand" is disclaimed apart from the mark as shown. Owner of Dutch Reg. No. 107,595, dated Jan. 15, 1951; and U.S. Reg. No. 360,500.
For Preserved Foods in Tins and/or Glass Containers—Namely, Vegetables, Fruit, Fish, Meat and Prepared Meat Products; Jams, Canned Fruit Juices; Flavoring Syrups; Sherbets, Sauces for Desserts, Salad Dressing, Tomato Ketchup, Soups, Sauces and Gravies, and Pickles.

SN 195,089. Foremost Dairies, Inc., San Francisco, Calif. Filed June 8, 1964.

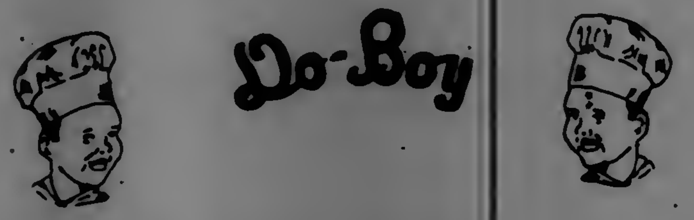


Owner of Reg. Nos. 301,356, 740,112, and others.

For Fresh Fluid Products—Namely, Partially Skimmed Milk, Ice Milk Mix; Powdered Foods—Namely, a Non-Dairy Vegetable Fat Product for Whitening Coffee, a Dough Conditioner Consisting of Dry Whey With the Addition Thereto of Bromate and L-Cysteine; Frozen Foods—Namely, Imitation Ice Milk; Aerosol Foods—Namely, Cream Topping; and Animal Food—Namely, Pet Food, Namely, Dry Whey Products Used as Dog Food Ingredient, Feed for Farm Animals, Namely, Partially Delactosed Dry Whey Used as an Ingredient in Mixed Feeds.

First use Oct. 24, 1959; Mar. 8, 1929, as to "Foremost"; May 19, 1954, as to the letter "F."

SN 199,924. The Jos. T. Shufiitowski, Inc., Chicago, Ill. Filed Aug. 14, 1964.



For Pure and Imitation Emulsions, Flavors, Bismarck Pastry Cream, Custard, Fruit, and Nut Fillings, Baking Powder, Icing and Icing Bases, Glazes, Egg Shade, and Crunch Toppings, Which Are Sold in Wholesale Lots in Bags, Boxes, Jars, Jugs, Barrels, Drums and Other Suitable Containers to the Institutional Trade and Commercial Bakers.

First use prior to the year 1923.

SN 203,341. Sona Food Products Co., Los Alamitos, Calif. Filed Oct. 5, 1964.

BREAD-MATES

For Ketchup Packaged in Plastic Pouches.

First use July 20, 1964.

SN 203,756. The Griffith Laboratories, Inc., Chicago, Ill. Filed Oct. 12, 1964.

DEL-FOSTATE

Owner of Reg. No. 633,277.

For Compound for Accelerating the Curing of Meat Products, Comprising, Glucono Delta Lactone, Sodium Acid Pyrophosphate, and Sodium Erythorbate.

First use Sept. 15, 1964.

SN 204,395. National Oats Company, Cedar Rapids, Iowa. Filed Oct. 20, 1964.

CREAM OF OATS

No claim is made to the term "Oats" apart from the mark as shown.

For Dry Breakfast Cereal—Namely, Oatmeal.

First use Oct. 8, 1964.

SN 204,415. Sucrest Corporation, New York, N.Y. Filed Oct. 20, 1964.

NULOFOND

For Prepared Sugar Product Consisting of Mono- and Polysaccharides Used for Food Purposes.

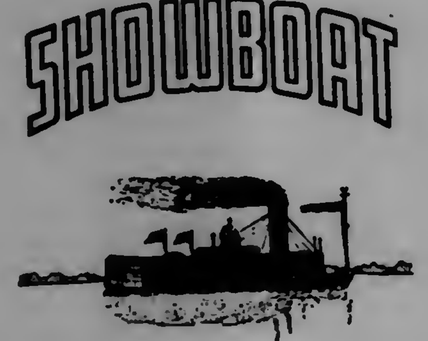
First use Aug. 13, 1964.

SN 206,029. Golden Kettle Foods, Inc., San Antonio, Tex. Filed Nov. 12, 1964.

For Fruit Preserves, Fruit Jams, Fruit Jellies, Jelly Bases, Fruit Marmalades, Fruit Ice Cream Toppings, Table Syrups, Salad Dressings, Mexican Picante and Barbecue Sauces, Honey, and Pickled Peppers.

First use on or about Apr. 15, 1952.

SN 206,368. Minute Maid Groves Corporation, Orlando, Fla. Filed Nov. 17, 1964.



For Fresh Citrus Fruits.

First use Oct. 4, 1935.

SN 213,799. The Quaker Oats Company, Chicago, Ill. Filed Mar. 10, 1965.

AUNT JEMIMA

The name "Aunt Jemima" is not the name of any living person. Owner of Reg. Nos. 17,825, 765,612, and others.

For Bakery Products—Namely, Frozen Cakes and Breads.

First use April 1955.

SN 213,800. The Quaker Oats Company, Chicago, Ill. Filed Mar. 10, 1965.

AUNT JEMIMA TOASTER KITCHEN

"Aunt Jemima" is not the name of any living person. Owner of Reg. Nos. 17,825, 765,612, and others.

For Bakery Products—Namely, Frozen Cakes and Breads.

First use May 1964; April 1955 as to "Aunt Jemima."

SN 214,754. Crystal Foods, Inc., Toms River, N.J. Filed Mar. 23, 1965.

SUN COUNTRY

For Fruit Juice Drinks in Powder Form and Gelatin Desserts.

First use April 1964.

SN 214,757. Enzymes, Inc., Cherry Hill, N.J. Filed Mar. 23, 1965.

CYTASE

For Enzyme Supplement for Animal Feed.

First use June 25, 1964.

SN 215,114. William R. Piper Coffee Co., d.b.a. Cardinal Coffee Co., Kansas City, Mo. Filed Mar. 26, 1965.

CARDINAL

For Coffee.

First use at least as early as 1948.

Class 47 — Wines

SN 189,979. Armando Wines, New York, N.Y. Filed Mar. 31, 1964.

CONTADINA

The English translation of the Italian word "Contadina" is "peasant." Owner of Reg. No. 363,333.

For Wines.

First use Jan. 24, 1964.

SN 192,667. Benegas Hermanos y Cia. Ltda., S.A.I. y C., Buenos Aires, Argentina. Filed May 5, 1964.

CRILLON

Owner of Argentine Reg. No. 511,456, dated July 11, 1963.

For Wines.

SN 202,525. Veuve Clicquot-Ponsardin Maison Fondee en 1772, Reims (Marne), France. Filed Sept. 23, 1964.

THE WIDOW

Owner of French Reg. No. 14,823, dated Mar. 10, 1964 (Reims); Natl. Inst. No. 222,457.

For Wines.

Class 48 — Malt Beverages and Liquors

SN 195,011. Pabst Brewing Company, Milwaukee, Wis. Filed June 5, 1964.

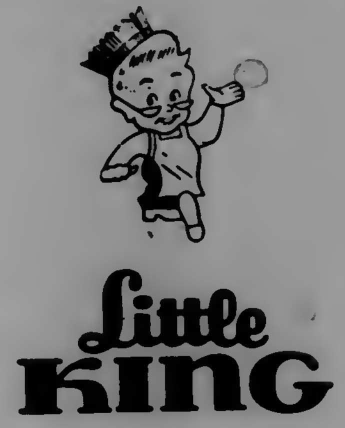
PABST OLD TANKARD

Owner of Reg. Nos. 34,379, 715,535, and others.

For Ale.

First use Nov. 12, 1956; Nov. 1, 1934, as to "Pabst"; Sept. 28, 1935, as to "Old Tankard."

SN 195,575. American Super-Markets Corp., Westbury, N.Y. Filed June 15, 1964.



For Beer.

First use Mar. 19, 1964.

Class 49 — Distilled Alcoholic Liquors

SN 192,950. Schenley Distillers, Inc., d.b.a. Scottish Imports Company, New York, N.Y. Filed May 7, 1964.

ST. ANDREWS CLUB

For Blended Scotch Whisky.

First use Dec. 20, 1963.

Subj. to Intf. with SN 206,406.

SN 205,690. The Huntington Creek Corporation, d.b.a. Leroux & Company, Philadelphia, Pa. Filed Nov. 6, 1964.

PASHA

For Coffee Liqueur.

First use on or about Oct. 27, 1964.

SN 206,406. Barton Distilling Company, Chicago, Ill. Filed Nov. 18, 1964.

ST. ANDREWS

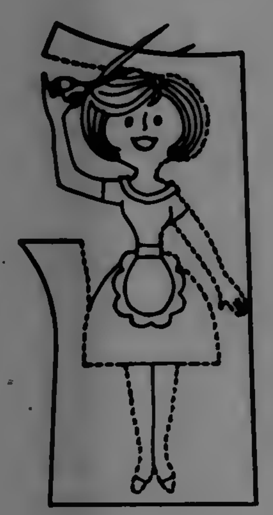
For Blended Scotch Whisky.

First use April 1956.

Subj. to Intf. with SN 192,950.

Class 50 — Merchandise Not Otherwise Classified

SN 215,462. United Merchants and Manufacturers, Inc., New York, N.Y. Filed Mar. 31, 1965.



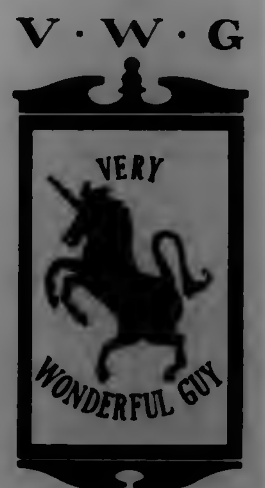
Owner of Reg. No. 681,247.

For Adhesive Coated, Paper Backed, Flexible Plastic Sheeting in the Form of a Roll, Sold by the Yard, for Application as a Protective or Decorative Covering.

First use on or about Aug. 31, 1964.

Class 51—Cosmetics and Toilet Preparations

SN 185,180. Viviane Woodard Corporation, Panorama City, Calif. Filed Jan. 22, 1964.



For Cologne and After Shave Lotion.
First use Oct. 22, 1962.

SN 189,780. Jontine, Inc., Bala-Cynwyd, Pa. Filed Mar. 27, 1964.

JONTINE

For Dandruff Remover With Oil, Dandruff Remover Without Oil, Hair Shampoo, After Shave Lotion, Hair Spray, and Scalp Ointment.
First use Oct. 4, 1963.

SN 191,207. The Procter & Gamble Company, Cincinnati, Ohio. Filed Apr. 15, 1964.

FLEXINOL

For Holding Ingredient Incorporated in a Hair Spray.
First use Mar. 3, 1964.

SN 193,181. Kimball Systems Ltd., Toronto, Ontario, Canada, by change of name from A. Kimball Ltd., Toronto, Ontario, Canada. Filed May 11, 1964.

"OffTen"

Priority claimed under Sec. 44(d) on Canadian application filed Jan. 15, 1964; Reg. No. 135,735, dated May 8, 1964.
For Nail Polish Remover.

SN 194,359. Carrtone Laboratories, Inc., Metaire, La. Filed May 27, 1964.

DARIAN

For Cosmetics—Namely, Lipstick, Face Powder, Liquid Make-Up Astringent, Cleansing Cream, Hand Cream, Facial Cream, Liquid Rouge, Mascara, Eyeliner, and After Shave Lotion.
First use May 17, 1962.

SN 194,505. McLester McKee, d.b.a. W. & M. Products Co., Jersey City, N.J. Filed May 28, 1964.

LESTER'S KURLOX

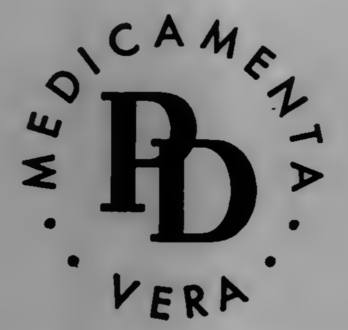
Owner of Reg. No. 439,273.
For Cream Press, Curling Cream, Pressing Cream, Hair Relaxer, and Hair Spray.
First use Feb. 1, 1956.

SN 204,543. Enver Arif, d.b.a. Marc Arif, Neuilly-sur-Seine, France. Filed Oct. 22, 1964.

MAGGY ROUFF

"Maggy Rouff" is not the name of a particular living individual. Owner of French Reg. No. 425,338, dated Jan. 22, 1953 (Seine); Natl. Inst. No. 4,659.
For Perfumes, Toilet Water, Rouge, Lipsticks, Face Powder, Talcum Powder, Cosmetic Skin Creams and Lotions, Nail Polish, Bath Salts, Brilliantines, and Dentifrices.

SN 205,845. Parke, Davis & Company, Detroit, Mich. Filed Nov. 9, 1964.



Applicant disclaims the words "Medicamenta Vera" separate and apart from the mark as shown. Owner of Reg. Nos. 156,384, 397,823, and 702,136.
For Cold Cream.
First use on or before Feb. 1, 1964.

SN 206,757. Chas. Pfizer & Co., Inc., New York, N.Y. Filed Nov. 23, 1964.

ROLL-FLO

For Anti-Perspirant and Deodorant Lotion.
First use Mar. 31, 1958.

SN 206,765. Helena Rubinstein, Inc., New York, N.Y. Filed Nov. 23, 1964.

FASHION BROW

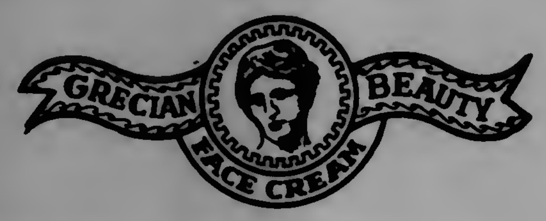
Applicant disclaims the word "Brow" apart from the mark as shown. Owner of Reg. No. 764,422.
For Eyebrow Make-Up.
First use May 12, 1964.

SN 207,528. Helena Rubinstein, Inc., New York, N.Y. Filed Dec. 4, 1964.

BEAUTY FOR LIFE

Owner of Reg. No. 667,953.
For Packaged Assortment of Cosmetic Items Comprising, Lipstick, Eyebrow Pencil, Mascara With Applicator, Face Powder, Eye Shadow, Liquid Rouge, Deep Cleanser, Skin Lotion, Skin Moisturizing Emulsion, and Liquid Make-Up.
First use June 22, 1964.

SN 207,767. George Williamson, Durham, N.C. Filed Dec. 8, 1964.



No claim is made to the words "Face Cream."
For Face Cream.
First use Dec. 7, 1964.

SN 207,987. Shulton, Inc., Clifton, N.J. Filed Dec. 11, 1964.

BUBBLE BOY

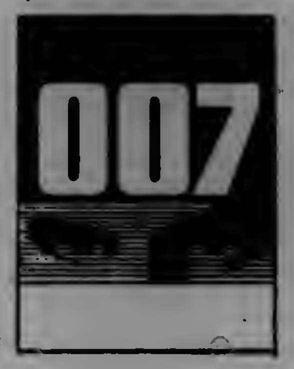
For Liquid Bubble Bath.
First use Nov. 11, 1964.

SN 210,274. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 21, 1965.

007

For Cologne, After Shave Lotion, Shave Talc, Hair Dressing, and Personal Deodorant.
First use Dec. 14, 1964.

SN 210,854. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 28, 1965.



The drawing is lined for the color blue.
For Cologne, After Shave Lotion, Shave Talc, Hair Dressing, and Personal Deodorant.
First use Dec. 14, 1964.

SN 212,048. Reid-Meredith, Inc., Lawrence, Mass. Filed Feb. 15, 1965.

R & M

Owner of Reg. No. 778,814.
For Wig Spray, Wig Conditioner, and Wig Shampoo.
First use June 11, 1964.

Class 52—Detergents and Soaps

SN 178,599. The Drackett Company, Cincinnati, Ohio. Filed Oct. 9, 1963.

GETS GLASS SO CLEAN IT SEEMS TO DISAPPEAR

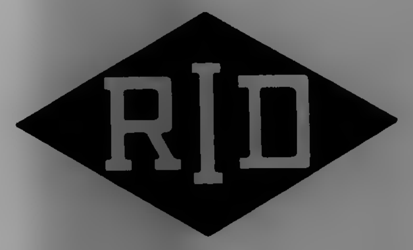
For Liquid Cleaner for Glass and Vitreous Surfaces.
First use 1958.

SN 179,119. Clairol Incorporated, New York, N.Y. Filed Oct. 16, 1963.

COLOR CAP

Applicant disclaims "Color" apart from the mark as shown.
For Shampoo Tint.
First use June 12, 1963.

SN 194,509. Nu-Way Products, Inc., Fort Worth, Tex. Filed May 28, 1964.



For Detergent for Industrial and Commercial Use.
First use January 1955.

SN 195,588. The Borden Company, New York, N.Y. Filed June 15, 1964.

DYNA-SOLVE

For Acid Cleaner for Milkstone and Waterstone Removal From Food Processing Equipment.
First use Nov. 26, 1947.

SN 201,194. The Fleetwood Company, Chicago, Ill. Filed Sept. 3, 1964.

FLEETWOOD

For Cream Shampoo for the Hair.
First use Aug. 5, 1955.

SN 204,928. Société des Produits Tensio-Actifs et Dérivés Tensia, Liege, Belgium. Filed Oct. 27, 1964.

DERMACTIF

Owner of Belgian Reg. No. 8,554, dated Nov. 28, 1963.
For Toilet Soaps.

SN 204,989. The Murine Company, Inc., Chicago, Ill. Filed Oct. 28, 1964.

LENS
ALL

The word "Lens" is disclaimed apart from the mark as shown.
For Contact Lens Cleaning, Soaking and Wetting Solution.
First use Oct. 19, 1964.

SN 205,573. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 5, 1964.

EASE

For All-Purpose Detergent and Cleaner.
First use Sept. 22, 1964.

SN 206,234. Colgate-Palmolive Company, New York, N.Y. Filed Nov. 16, 1964.

SAFETY BATH

Applicant hereby disclaims the exclusive use of the word "Bath" except when a part of the mark as shown.
For Toilet Soap.
First use Sept. 14, 1964.

SN 207,726. Kemtech, Inc., Boston, Mass. Filed Dec. 8, 1964.

LASTI·CARE

For Soap for Elasticized Fabrics.
First use Dec. 4, 1964.

SN 208,723. Colgate-Palmolive Company, New York, N.Y. Filed Dec. 23, 1964.

FIERCE

For All-Purpose Cleaner.
First use Oct. 2, 1964.

SN 209,723. Petrolite Corporation, St. Louis, Mo. Filed Jan. 11, 1965.

X-TOL

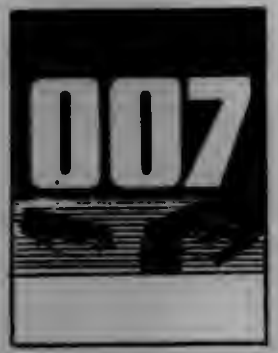
For Chemical Agents for Inhibiting, Preventing, and Removing Deposits of Asphalt, Wax, Paraffin, Organic Materials, and the Like in Oil Wells, Oil Collecting Lines, Tanks, and Similar Petroleum Handling Equipment.
First use Sept. 16, 1964.

SN 210,275. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 21, 1965.

007

For Toilet Soap and Shave Cream.
First use Dec. 14, 1964.

SN 210,855. Colgate-Palmolive Company, New York, N.Y. Filed Jan. 28, 1965.



The drawing is lined for the color blue.
For Toilet Soap and Shave Cream.
First use Dec. 14, 1964.

SN 214,217. Wyandotte Chemicals Corporation, Wyandotte, Mich. Filed Mar. 15, 1965.

NEOSUDS

Owner of Reg. No. 413,219.
For Cleaning Composition, Especially Adapted for Dishwashing.
First use January 1941.

SN 214,268. Hy-Test 303 Corp., Rutherford, N.J. Filed Mar. 16, 1965.

BURN-O-FLUSH

For Oil Burner Cleaner (Chemical).
First use July 6, 1964.

SN 214,857. Foresight Corporation, Chicago, Ill. Filed Mar. 24, 1965.

FOCUS

For Eyeglass Cleaner and Anti-Fogger.
First use May 23, 1958.

SN 215,388. Colgate-Palmolive Company, New York, N.Y. Filed Mar. 31, 1965.

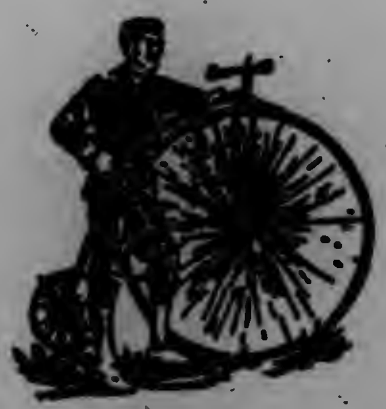
TWIN GODDESS

Owner of Reg. Nos. 430,977, 771,268, and others.
For Toilet Soap.
First use Feb. 5, 1965.

SERVICE MARKS

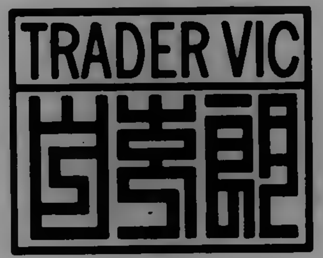
Class 100 — Miscellaneous

SN 184,278. Bombay Bicycle Club, Ltd., Highland Park, Ill. Filed Jan. 9, 1964.



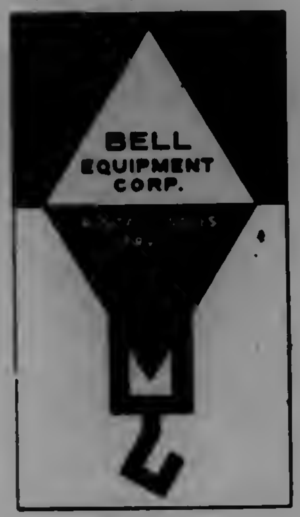
For Services in Connection With an Organization of Persons for the Purposes of Social Intercourse—Namely, Cabaret Services and Gift Shop Services.
First use April 1962.

SN 186,685. Victor J. Bergeron, d.b.a. Trader Vic or Trader Vic's, San Francisco, Calif. Filed Feb. 14, 1964.



The oriental lettering in the mark represents "Vic Bergeron" in Chinese. Owner of Reg. Nos. 384,083, 751,727, and others.
For Restaurant, Catering, and Banquet Services.
First use June 21, 1963.

SN 199,959. Bell Equipment Corp., New York, N.Y. Filed Aug. 17, 1964.



Applicant disclaims the descriptive wording "Rental-Sales-Service."
For Leasing of Construction and Materials Handling Equipment.
First use Sept. 11, 1956.

SN 201,512. Big Wheel Restaurants, Inc., Gary, Ind. Filed Sept. 9, 1964.

BIG WHEEL

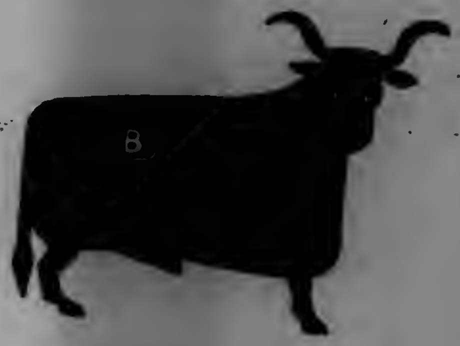
For Restaurant Services.
First use Aug. 25, 1961.

SN 202,593. Fred Harvey, Chicago, Ill. Filed Sept. 24, 1964.

GUEST OF HONOR

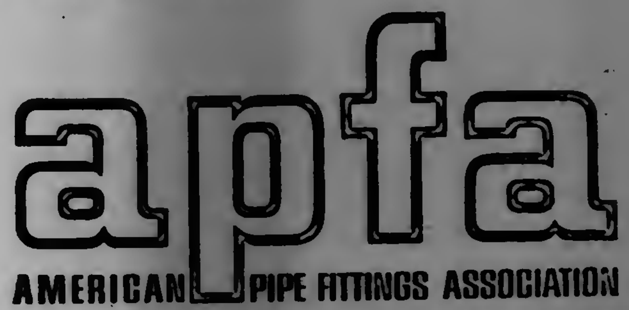
For Credit Card Services.
First use October 1962.

SN 202,936. International Franchise Corporation, Eastchester, N.Y. Filed Sept. 29, 1964.



For Restaurant Services.
First use Mar. 9, 1964.

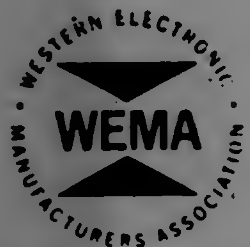
SN 208,879. American Pipe Fittings Association, New York, N.Y. Filed Dec. 28, 1964.



For Promotion of the General Development and Improvement of the American Pipefittings Industry by Such Means as Development of Standards; Collection and Dissemination of Statistics as Are Legally Proper and Beneficial in the Industry; Dissemination of Information Regarding Legislation; Promotion and Contribution to Research; and Promotion and Sale of American-Made Pipe Fittings.
First use Sept. 13, 1964.

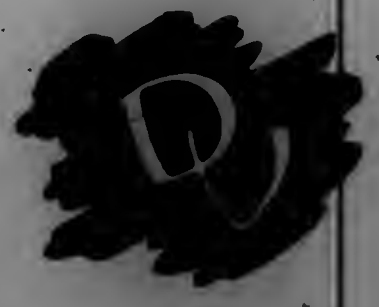
Class 101 — Advertising and Business

SN 163,982. Western Electronic Manufacturers Association, Los Angeles, Calif. Filed Mar. 5, 1963. COLLECTIVE MARK.



For Conducting Workshops for Management in the Electronic Industry and Supplying Other Business Information to the Electronic Industry.
First use June 1, 1959.

SN 208,175. Dulany-Vernay, Inc., Baltimore, Md. Filed Dec. 15, 1964.



For Offset, Letterpress, Web Press Printing, Engraving and Embossing, Including Tickets, Forms, Folders, Brochures, Catalogs, and Handbooks.

First use 1940.

Class 102 — Insurance and Financial

SN 205,402. The Greyhound Corporation, Chicago, Ill. Filed Nov. 3, 1964.

GREYHOUND

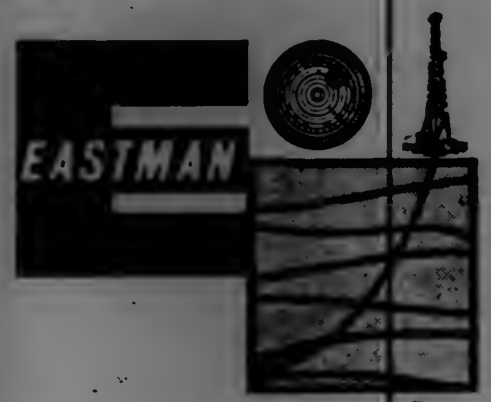
Owner of Reg. Nos. 541,197, 631,488, and others.

For Services in the Sale of Money Orders and Travelers' Checks.

First use July 27, 1964.

Class 103 — Construction and Repair

SN 193,345. Eastman Oil Well Survey Company, Houston, Tex. Filed May 13, 1964.



The representation of an oil well rig, apart from the mark as shown, is disclaimed. Owner of Reg. Nos. 558,103 and 562,043.

For Programming and Supervising Directional Drilling Operations and leasing specialized instruments for use in drilling operations.

First use Jan. 11, 1964.

SN 202,229. Cities Service Oil Company, Tulsa, Okla. Filed Sept. 21, 1964.

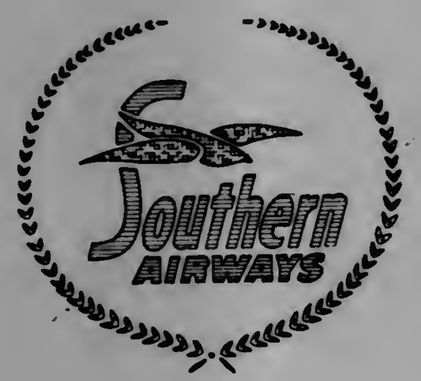
CITIES SERVICE

For Services Rendered to Motor Vehicles Including Lubrication, Washing, Polishing, Tire Rotation and Repair, Battery Filling, Spark Plug Cleaning and Adjustment, Battery Charging, Muffler and Tail Pipe Inspection and Replacement, Windshield Wiper Replacement, and Wheel Alignment and Brake Adjustment.

First use in or about May 1921.

Class 105 — Transportation and Storage

SN 203,343. Southern Airways, Inc., Atlanta, Ga. Filed Oct. 5, 1964.



The drawing is lined for the colors blue and yellow (or gold). Applicant disclaims the word "Airways" apart from the mark as shown. Owner of Reg. No. 741,068.

For Transportation by Air of Passengers, Mail, and Freight.

First use Jan. 1, 1961.

Class 107 — Education and Entertainment

SN 202,915. Cities Service Oil Company, Tulsa, Okla. Filed Sept. 29, 1964.

CITIES SERVICE

For Presentation of Musical Performances.

First use as early as June 1948.

TRADEMARK REGISTRATIONS ISSUED

PRINCIPAL REGISTER

Class 1 — Raw or Partly Prepared Materials

793,130. SU-CHOW. Pfister Associated Growers, Inc. SN 161,420. Pub. 3–2–65. Filed 1–25–63.

793,131. SI-CHOW. Pfister Associated Growers, Inc. SN 161,421. Pub. 3–2–65. Filed 1–25–63.

793,132. VULTACRYL. General Latex and Chemical Corporation. SN 189,284. Pub. 11–10–64. Filed 3–23–64.

793,133. VULTACET. General Latex and Chemical Corporation. SN 189,285. Pub. 11–10–64. Filed 3–23–64.

793,134. OPTIWHITE. Burgess Pigment Company. SN 204,961. Pub. 5–11–65. Filed 10–28–64.

Class 2 — Receptacles

793,135. STAN-PAK. Standard Paper Box Corporation. SN 70,000. Pub. 5–11–65. Filed 3–20–59.

793,136. AIR LOCK. Tuffy Products Co., d.b.a. National Production Co. SN 186,578. Pub. 5–11–65. Filed 2–12–64.

793,137. CUBE ON SHIELD (DESIGN). Champion Papers Inc. SN 193,331. Pub. 5–11–65. Filed 5–13–64.

793,138. HC AND DESIGN. Home-Care Products, Inc. MULTIPLE CLASS (Classes 2 and 21). SN 202,201. Pub. 5–11–65. Filed 9–21–64.

793,139. ANCHORPAC. Anchor Machine Company, Inc. SN 203,064. Pub. 5–11–65. Filed 10–1–64.

793,140. TAPTANK. The Firestone Tire & Rubber Company. SN 203,587. Pub. 3–16–65. Filed 10–8–64.

Class 4 — Abrasives and Polishing Materials

793,141. HUNTER'S AND DESIGN. The Hunter Chemical Company. MULTIPLE CLASS (Classes 4, 6, and 52). SN 183,911. Pub. 5–11–65. Filed 1–2–64.

793,142. ERI. Nigrin-Werke Carl Gentner. SN 202,945. Pub. 5–11–65. Filed 9–29–64.

793,143. PENNSY. Simonds Abrasive Company. SN 203,830. Pub. 5–11–65. Filed 10–12–64.

793,144. FUTURE. S. C. Johnson & Son, Inc. SN 203,972. Pub. 5–11–65. Filed 10–14–64.

793,145. SCOTCH. Minnesota Mining and Manufacturing Company. SN 204,273. Pub. 5–11–65. Filed 10–19–64.

Class 6 — Chemicals and Chemical Compositions

793,141. (See Class 4 for this trademark.)

793,146. DI-CHEM AND DESIGN. Diversified Chemicals Corporation. SN 117,464. Pub. 1–8–63. Filed 4–10–61.

793,147. RESITAN. Arkansas Company, Inc. SN 158,418. Pub. 3–23–65. Filed 12–4–62.

793,148. SHIELD (DESIGN). Joh. A. Benckiser G.m.b.H., Chemische Fabrik. SN 189,538. Pub. 5–11–65. Filed 3–25–64.

793,149. DESIGN OF A FLASK IN A TRIANGLE. Magna Corporation. SN 191,421. Pub. 5–11–65. Filed 4–17–64.

793,150. GRASP. Wyandotte Chemicals Corporation. SN 197,644. Pub. 5–11–65. Filed 7–10–64.

793,151. STAIN SMASHERS. The Procter & Gamble Company. SN 200,486. Pub. 3–9–65. Filed 8–24–64.

793,152. FOTOFOIL. Miller Dial and Name Plate Co., d.b.a. Fotofoil Company. SN 201,722. Pub. 4–6–65. Filed 9–11–64.

793,153. KILCOLITE. Metrol Corporation, assignee of Kilgannon Company. SN 203,771. Pub. 5–11–65. Filed 10–12–64.

793,154. NALCHELATE. Nalco Chemical Company. SN 204,081. Pub. 5–11–65. Filed 10–15–64.

793,155. CRAWL-TOX. Geigy Chemical Corporation. SN 204,156. Pub. 5–11–65. Filed 10–16–64.

Class 8 — Smokers' Articles, Not Including Tobacco Products

793,156. ZENZA BRONICA AND DESIGN. Zenza Bronica Kogyo Kabushiki Kaisha. SN 195,485. Pub. 5–11–65. Filed 6–11–64.

793,157. JOHN ROLFE. Larus & Brother Company. SN 203,975. Pub. 5–11–65. Filed 10–14–64.

Class 10 — Fertilizers

793,158. KORMIX. N.V. Zuid-Chemie. SN 192,508. Pub. 4–13–65. Filed 5–1–64.

Class 12 — Construction Materials

793,159. DURABORD. Johns-Manville Corporation. SN 181,151. Pub. 12–22–64. Filed 11–14–63.

793,160. GAIL. Wilhelm Gail'sche Tonwerke KG. a.A. SN 185,471. Pub. 5–11–65. Filed 1–27–64.

793,161. SFEROGRANITO. Paolo Capoferri and Giuseppe Capoferri, d.b.a. Fulget dei Fratelli Capoferri. SN 187,272. Pub. 5–11–65. Filed 2–24–64.

793,162. ACRYCLAD PREFINISHED PANELING AND DESIGN. Pluswood Industries. SN 187,883. Pub. 5–11–65. Filed 3–3–64.

793,163. BIG SAVAGE. Kaiser Aluminum & Chemical Corporation. SN 188,545. Pub. 5–11–65. Filed 3–12–64.

793,164. FLEXI-CRETE. Industrial Maintenance, Inc. SN 188,636. Pub. 5–11–65. Filed 3–13–64.

793,165. AMES. Bliss & Laughlin, Incorporated. SN 188,714. Pub. 5–11–65. Filed 3–16–64.

793,166. K-BRIK. Kaiser Steel Corporation. SN 188,767. Pub. 5–11–65. Filed 3–16–64.

793,167. WEATHERALL. Masonite Corporation. SN 192,736. Pub. 5–11–65. Filed 5–5–64.

793,168. GIBOGI. Kafak Aktiebolag. SN 195,791. Pub. 5–11–65. Filed 6–16–64.

793,169. LOUISIANA AND DESIGN. Oklahoma Cement Company. SN 197,321. Pub. 5–11–65. Filed 7–7–64.

793,170. RED ARROW. Edward Hines Lumber Co. SN 197,393. Pub. 5–11–65. Filed 7–8–64.

793,171. CONCORD. Johns-Manville Corporation. SN 197,395. Pub. 5–11–65. Filed 7–8–64.

793,172. CEMBRIT. Dansk Eternit-Fabrik A/S. SN 199,659. Pub. 5–11–65. Filed 8–11–64.

793,173. UNISTRUT. Unistrut Corporation. SN 200,395. Pub. 5-11-65. Filed 8-21-64.

793,174. BLOK AND DESIGN. Central Air Conditioning Co., Inc., d.b.a. Thermal Blok Co. SN 201,258. Pub. 5-11-65. Filed 9-3-64.

793,175. METALITE. LTV Aerospace Corporation, assignee of Ling-Temco-Vought, Inc. SN 203,31[illegible]. Pub. 5-11-65. Filed 10-5-64.

793,176. MINERALITE. Mineralite Limited. SN 203,787. Pub. 5-11-65. Filed 10-12-64.

793,177. SL AND DESIGN. Stimson Lumber Company. SN 204,202. Pub. 5-11-65. Filed 10-16-64.

793,178. JIGTIME. B.B.B. Manufacturing Company. SN 204,746. Pub. 5-11-65. Filed 10-26-64.

793,179. HI-RAM. Kaiser Aluminum & Chemical Corporation. SN 204,797. Pub. 5-11-65. Filed 10-26-64.

Class 13—Hardware and Plumbing and Steam-Fitting Supplies

793,180. GRIP-TITE. Essex Wire Corporation. SN 179,032. Pub. 5-11-65. Filed 10-15-63.

793,181. MICRO-TROL. C. A. Norgren Co. SN 187,136. Pub. 3-16-65. Filed 2-20-64.

793,182. COOK. Cook Valve Company, Inc. SN 192,793. Pub. 5-11-65. Filed 5-6-64.

793,183. JOHNSON'S ARTIFICIAL SPRING. Glenn J. Johnson. SN 193,550. Pub. 5-11-65. Filed 5-15-64.

793,184. AUTO-LOK. The Hale Company. SN 198,166. Pub. 5-11-65. Filed 7-20-64.

793,185. UNISTRUT. Unistrut Corporation. SN 200,396. Pub. 5-11-65. Filed 8-21-64.

793,186. FIXERTS. Newton Insert Co. SN 206,282. Pub. 5-11-65. Filed 11-16-64.

793,187. HRC AND DESIGN. Halkey-Roberts Corporation. SN 206,538. Pub. 5-11-65. Filed 11-19-64.

793,188. JIF·ON. Ideal Tubular Corporation. SN 206,623. Pub. 5-11-65. Filed 11-20-64.

793,189. TRI-LOC. American Chain & Cable Company, Inc. SN 206,909. Pub. 5-11-65. Filed 11-25-64.

793,190. DRISCON. Drilling Specialties Company. SN 210,001. Pub. 5-11-65. Filed 1-15-65.

Class 14—Metals and Metal Castings and Forgings

793,191. CUBE ALLOY AND DESIGN. Handy & Harman. SN 199,826. Pub. 5-11-65. Filed 8-13-64.

793,192. VR WESSON AND DESIGN. Fansteel Metallurgical Corporation. SN 206,148. Pub. 5-11-65. Filed 11-13-64.

793,193. VR/WESSON. Fansteel Metallurgical Corporation. SN 206,150. Pub. 5-11-65. Filed 11-13-64.

793,194. BERYLCO MULTIGAGE STRIP. The Beryllium Corporation. SN 209,232. Pub. 5-11-65. Filed 1-4-65.

793,195. U-T AND DESIGN. Unitcast Corporation. SN 210,840. Pub. 5-11-65. Filed 1-19-65.

Class 15—Oils and Greases

793,196. CONTAINER (DESIGN). Ronson Corporation. SN 193,296. Pub. 5-11-65. Filed 5-12-64.

793,197. BLUE CHEER. Scott Chemical Corporation. SN 208,122. Pub. 5-11-65. Filed 12-14-6[illegible].

793,198. GLY. Travaco Laboratories, Inc. SN 208,145. Pub. 5-11-65. Filed 12-14-64.

Class 16—Protective and Decorative Coatings

793,199. NEWCREST AND DESIGN. J. J. Newberry Co. SN 172,839. Pub. 5-11-65. Filed 7-11-63.

793,200. #5 BUTLER UNI-LUSTR. Butler Manufacturing Company. SN 184,030. Pub. 5-11-65. Filed 1-6-64.

793,201. UNI-LUSTR. Butler Manufacturing Company. SN 184,031. Pub. 5-11-65. Filed 1-6-64.

793,202. SEA GREEN AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 185,384. Pub. 5-11-65. Filed 1-27-64.

793,203. YELLOW BIRD AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 185,390. Pub. 5-11-65. Filed 1-27-64.

793,204. FIRECRACKER RED AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 185,391. Pub. 5-11-65. Filed 1-27-64.

793,205. SAILOR BLUE AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 185,392. Pub. 5-11-65. Filed 1-27-64.

793,206. ICE BLUE AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 185,396. Pub. 5-11-65. Filed 1-27-64.

793,207. SNOW WHITE AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 185,397. Pub. 5-11-65. Filed 1-27-64.

793,208. SQUIRREL GRAY AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 185,401. Pub. 5-11-65. Filed 1-27-64.

793,209. PINK RIBBON AND DESIGN. Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co. SN 189,889. Pub. 5-11-65. Filed 3-30-64.

793,210. KOMAC. Kohler-McLister Paint Co. SN 191,567. Pub. 5-11-65. Filed 4-20-64.

793,211. DORR COAT AND DESIGN. Dorr Sales & Engineering Co. Inc. SN 193,267. Pub. 5-11-65. Filed 5-12-64.

793,212. MAGNUS M AND DESIGN. Economics Laboratory, Inc., by merger of Magnus Chemical Company, Inc. SN 194,402. Pub. 5-11-65. Filed 5-27-64.

793,213. PANSLIP. Copeland Laboratories Limited. SN 197,944. Pub. 5-11-65. Filed 7-16-64.

793,214. GILSTOP. Gillespie-Rogers-Pyatt Company, Inc. SN 199,665. Pub. 5-11-65. Filed 8-11-64.

793,215. ACMELOID. Acme Visible Records, Inc. SN 201,504. Pub. 5-11-65. Filed 9-9-64.

Class 17—Tobacco Products

793,216. KLEAR-PUF. P. R. Mallory & Co., Inc. SN 192,052. Pub. 5-11-65. Filed 4-27-64.

793,217. CABARILLO. General Cigar Co., Inc. SN 197,384. Pub. 5-11-65. Filed 7-8-64.

793,218. GROVE PARK. R. J. Reynolds Tobacco Company. SN 206,181. Pub. 5-11-65. Filed 11-13-64.

793,219. MADEIRA. R. J. Reynolds Tobacco Company. SN 206,182. Pub. 5-11-65. Filed 11-13-64.

793,220. GOOD LUCK. United States Tobacco Company. SN 206,195. Pub. 5-11-65. Filed 11-13-64.

793,221. CIRO. Zigarettenfabrik Haus Neuerburg K.G. SN 206,673. Pub. 5-11-65. Filed 11-20-64.

Class 18—Medicines and Pharmaceutical Preparations

793,222. MARVELLO. Marvello Toiletries, Inc. SN 186,371. Pub. 3-23-65. Filed 2-10-64.

793,223. SENIOSAN. Luitpold-Werk. SN 197,592. Pub. 3-9-65. Filed 7-10-64.

793,224. CATTLE-LAC. John B. Gerdes, d.b.a. 20th Century Chemical Co. SN 203,962. Pub. 5-11-65. Filed 10-14-64.

793,225. TREN-C-PLEX. Warren-Teed Pharmaceuticals Inc. SN 203,998. Pub. 5-11-65. Filed 10-14-64.

793,226. CODA-SURP. Warren-Teed Pharmaceuticals Inc. SN 203,999. Pub. 5-11-65. Filed 10-14-64.

793,227. ACNODYNE. Stanley Drug Products, Inc. SN 204,103. Pub. 5-11-65. Filed 10-15-64.

793,228. GESTOP. Olin Mathieson Chemical Corporation. SN 204,487. Pub. 5-11-65. Filed 10-21-64.

793,229. BARODENSE. Bell-Craig Inc. SN 204,750. Pub. 5-11-65. Filed 10-26-64.

793,230. GELLOCIDE. The R-P Company, Inc. SN 205,612. Pub. 5-11-65. Filed 11-5-64.

793,231. LIDANAR. Sandoz, Inc. SN 205,856. Pub. 5-11-65. Filed 11-9-64.

793,232. A-V 25. Whitmoyer Laboratories, Inc. SN 205,900. Pub. 5-11-65. Filed 11-9-64.

793,233. RO-CON. Whitmoyer Laboratories, Inc. SN 205,901. Pub. 5-11-65. Filed 11-9-64.

793,234. WHITSYN. Whitmoyer Laboratories, Inc. SN 205,902. Pub. 5-11-65. Filed 11-9-64.

793,235. TRI-SULFA-LYTE. Whitmoyer Laboratories, Inc. SN 205,903. Pub. 5-11-65. Filed 11-9-64.

793,236. DULCODOS. Boehringer Ingelheim G.m.b.H. SN 206,602. Pub. 5-11-65. Filed 11-20-64.

793,237. DULGENTIL. Boehringer Ingelheim G.m.b.H. SN 206,603. Pub. 5-11-65. Filed 11-20-64.

793,238. APISATE. American Home Products Corporation. SN 206,678. Pub. 5-11-65. Filed 11-23-64.

793,239. SOL-U-PLEX. Animal Nutritional Service Co., Inc. SN 206,681. Pub. 5-11-65. Filed 11-23-64.

793,240. SODIZOLE. First Texas Pharmaceuticals, Inc. SN 206,849. Pub. 5-11-65. Filed 11-24-64.

793,241. INITARD. Nordisk Insulinlaboratorium. SN 206,874. Pub. 5-11-65. Filed 11-24-64.

793,242. S.Q.-PROSTREP. Merck & Co., Inc. SN 207,141. Pub. 5-11-65. Filed 11-27-64.

793,243. ANNUL. Carter Products, Inc. SN 207,195. Pub. 5-11-65. Filed 12-1-64.

793,244. NUTRI-BEST. Premier Malt Products, Inc. SN 207,229. Pub. 5-11-65. Filed 12-1-64.

793,245. KITAMYCIN. American Home Products Corporation. SN 207,693. Pub. 5-11-65. Filed 12-8-64.

793,246. UVARINE. Trent Pharmaceuticals, Inc. SN 208,504. Pub. 5-11-65. Filed 12-18-64.

793,247. ENCEPHALOID. American Home Products Corporation. SN 209,224. Pub. 5-11-65. Filed 1-4-65.

Class 19—Vehicles

793,248. NONPAREIL. Boles Aero, Inc. SN 182,031. Pub. 5-11-65. Filed 11-29-63.

793,249. ROLL-A-ROOM. Aluma King, Inc., by change of name from Miami Screen Co., Inc. SN 184,947. Pub. 5-11-65. Filed 1-20-64.

793,250. ANTON. Anthony P. Turso. SN 187,631. Pub. 5-11-65. Filed 2-27-64.

793,251. CAPRICE. General Motors Corporation. SN 199,736. Pub. 5-11-65. Filed 8-12-64.

793,252. PRESSURE-SLIDE. General American Transportation Corporation. SN 199,989. Pub. 5-11-65. Filed 8-17-64.

793,253. KELRAD AND DESIGN. James E. Kelty, d.b.a. Kelty Radiator Company. SN 200,576. Pub. 5-11-65. Filed 8-25-64.

793,254. HIDE AWAY. E-Z Enterprises, Inc. SN 204,147. Pub. 5-11-65. Filed 10-16-64.

793,255. "CANDY." Arnold, Schwinn & Co. SN 204,224. Pub. 5-11-65. Filed 10-19-64.

793,256. TUFF. Tuff Products, Inc. SN 204,318. Pub. 5-11-65. Filed 10-19-64.

Class 21—Electrical Apparatus, Machines, and Supplies

793,138. (See Class 2 for this trademark.)

793,257. SYLPAC. Yardney Electric Corp. SN 168,789. Pub. 5-11-65. Filed 5-13-63.

793,258. SYLPAC AND DESIGN. Yardney Electric Corp. SN 168,790. Pub. 5-11-65. Filed 5-13-63.

793,259. CLASSIC SERIES. Eico Electronic Instrument Co. Inc. SN 172,172. Pub. 5-11-65. Filed 7-1-63.

793,260. MISTRAL—. Josef Wagner, d.b.a. Ing Josef Wagner. SN 178,841. Pub. 5-11-65. Filed 10-11-63.

793,261. ELENITE. Ultra Dynamics Corporation. SN 184,122. Pub. 5-11-65. Filed 12-31-63.

793,262. ACOMEL. Golay-Buchel et Cie, S.A. SN 184,465. Pub. 5-11-65. Filed 1-13-64.

793,263. IEE. Industrial Electronic Engineers, Inc. SN 184,927. Pub. 5-11-65. Filed 1-20-64.

793,264. CELLOTHERM. Chemelex, Inc. SN 185,865. Pub. 5-11-65. Filed 2-3-64.

793,265. ESPANIA. Packard-Bell Electronics Corporation. MULTIPLE CLASS (Classes 21 and 36). SN 188,138. Pub. 5-11-65. Filed 3-6-64.

793,266. GEMCO. Gemco Electric Company. MULTIPLE CLASS (Classes 21 and 26). SN 190,077. Pub. 5-11-65. Filed 4-1-64.

793,267. SPEER AND DESIGN. Air Reduction Company, Incorporated. SN 190,571. Pub. 5-11-65. Filed 4-8-64.

793,268. HIEGER. Keller Research Corporation. SN 192,832. Pub. 5-11-65. Filed 5-6-64.

793,269. M AND DESIGN. Mueller Electric Company. SN 193,891. Pub. 1-5-65. Filed 5-20-64.

793,270. I-LITES. American Atomics Corporation. SN 193,914. Pub. 5-11-65. Filed 5-21-64.

793,271. LO-E-RODE. Easco Products, Inc. SN 194,161. Pub. 5-11-65. Filed 5-25-64.

793,272. COLORTRAN. Colortran Industries. SN 197,086. Pub. 5-11-65. Filed 7-6-64.

793,273. DURACELL. P. R. Mallory & Co., Inc. SN 198,063. Pub. 5-11-65. Filed 7-17-64.

793,274. ACOUSTICA AND DESIGN. Acoustica Associates, Inc. SN 198,249. Pub. 5-11-65. Filed 7-21-64.

793,275. KIMSTAT. Kimberly-Clark Corporation. SN 199,074. Pub. 5-11-65. Filed 8-3-64.

793,276. SENSWITCH. Norbatrol Electronics Corporation. SN 201,612. Pub. 3-30-65. Filed 9-10-64.

793,277. TENSOR AND DESIGN. Tensor Corporation. SN 202,718. Pub. 5-11-65. Filed 9-25-64.

793,278. "MR. TRANSISTOR." Topps International, Inc. SN 202,719. Pub. 5-11-65. Filed 9-25-64.

793,279. PERMATRONIC. Elox Corporation of Michigan. SN 206,615. Pub. 5-11-65. Filed 11-20-64.

793,280. TRI-KING. Stevens-Lee Co. SN 208,285. Pub. 5-11-65. Filed 12-16-64.

Class 23—Cutlery, Machinery, and Tools, and Parts Thereof

793,281. ELITE. The International Silver Company. SN 167,549. Pub. 5-11-65. Filed 4-25-63.

793,282. WATCO. Harsco Corporation, assignee of Plant City Steel Corporation. SN 174,791. Pub. 5-11-65. Filed 8-9-63.

793,283. KOMPOST KING. Bryant Engineering Company. SN 191,504. Pub. 5-11-65. Filed 4-20-64.

793,284. TWINJECTOR. Jaco Mfg. Co. SN 192,291. Pub. 5-11-65. Filed 4-29-64.

793,285. ROSS. J. P. Burroughs & Sons, Inc. SN 192,787. Pub. 5-11-65. Filed 5-6-64.

793,286. VIBRO-MATIC. Paul Kobler, d.b.a. Kobler Shaver Co. SN 193,016. Pub. 5-11-65. Filed 5-8-64.

793,287. FAFLON. The Fafnir Bearing Company. SN 194,589. Pub. 5-11-65. Filed 6-1-64.

793,288. TORRINGTON. The Torrington Company. CONSOLIDATED CERTIFICATE. SN 19[illegible],175, pub. 5-4-65, filed 6-8-64, Cl. 23; SN 195,341, pub. 5-[illegible]-65, filed 6-10-64, Cl. 44.

793,289. MINI-MELT. Acu-Melt Corporation. SN 196,412. Pub. 5-11-65. Filed 6-25-64.

793,290. "UNIBRAC." The Hettrick Manufacturing Company. SN 196,666. Pub. 5-11-65. Filed 6-29-64.

793,291. NF AND DESIGN. National Forge Company. SN 200,775. Pub. 5-11-65. Filed 8-27-64

793,292. SNO-RID. Harold Wandscheer. SN 201,901. Pub. 5-11-65. Filed 9-14-64.

793,293. ECON-O-TRI. Detrex Chemical Industries, Inc. SN 202,019. Pub. 5-11-65. Filed 9-16-64.

793,294. ANCHORPAC. Anchor Machine Company, Inc. SN 203,065. Pub. 5-11-65. Filed 10-1-64.

793,295. GO-MATIC. William C. N. Hopkins, d.b.a. Ampico Accessories. SN 203,762. Pub. 5-11-65. Filed 10-12-64.

793,296. MH. Houdaille Industries, Inc. SN 204,573. Pub. 5-11-65. Filed 10-22-64.

793,297. LO-HED AND DESIGN. Aircraft Armaments, Inc. SN 204,732. Pub. 5-11-65. Filed 10-28-64.

793,298. HYTEX. Bata Shoe Company of Canada Limited. SN 205,241. Pub. 5-11-65. Filed 11-2-64.

793,299. MX. Mechanical Excavators Inc. SN 206,057. Pub. 5-11-65. Filed 11-12-64.

793,300. VR-W AND DESIGN. Fansteel Metallurgical Corporation. SN 206,149. Pub. 5-11-65. Filed 11-13-64.

793,301. VR/WESSON. Fansteel Metallurgical Corporation. SN 206,151. Pub. 5-11-65. Filed 11-13-64.

793,302. VR WESSON AND DESIGN. Fansteel Metallurgical Corporation. SN 206,152. Pub. 5-11-65. Filed 11-13-64.

793,303. SPIN-IMPACT AND DESIGN. Hill-Rockford Co. SN 206,258. Pub. 5-11-65. Filed 11-16-64.

793,304. A AUTO-SWAGE AND DESIGN. Auto-Swage Products, Inc. SN 206,405. Pub. 5-11-65. Filed 11-18-64.

793,305. STARZ. Stars Cylinders, Inc. SN 206,575. Pub. 5-11-65. Filed 11-19-64.

793,306. STAN·HOIST AND DESIGN. Standard Engineering Co., Inc. SN 206,894. Pub. 5-11-65. Filed 11-24-64.

793,307. MICROTRON. Peter Willems. SN 208,649. Pub. 5-11-65. Filed 12-21-64.

793,308. LECTRO SLICE. Aluminum Housewares Company, Inc. SN 208,796. Pub. 5-11-65. Filed 12-24-64.

Class 26—Measuring and Scientific Appliances

793,266. (See Class 21 for this trademark.)

793,309. TOPPAN. August Sauter K.G. SN 173,966. Pub. 5-11-65. Filed 7-29-63.

793,310. FISKE. Fiske Associates, Inc. SN 190,911. Pub. 1-12-65. Filed 4-13-64.

793,311. IMAGON. Optische Werke G. Rodenstock. SN 191,070. Pub. 5-11-65. Filed 4-14-64.

793,312. STOPSOL. Société d'Exploitation des Etablissements Lamy Jeune Fils S.A.R.L. SN 191,086. Pub. 5-11-65. Filed 4-14-64.

793,313. DESIGN OF FLASK IN A TRIANGLE. Magna Corporation. SN 191,422. Pub. 5-11-65. Filed 4-17-64.

793,314. ISO SCALE. Coach's Sporting Goods Corporation. SN 191,910. Pub. 5-11-65. Filed 4-24-64.

793,315. GEM-MOUNTS. Paul S. Heitman, d.b.a. Gem-Mounts and Gem-Masks Co. SN 194,727. Pub. 5-11-65. Filed 6-2-64.

793,316. GEM-MASKS. Paul S. Heitman, d.b.a. Gem-Mounts and Gem-Masks Co. SN 194,728. Pub. 5-11-65. Filed 6-2-64.

793,317. RONOR AND DESIGN. Ronor S.A. SN 200,207. Pub. 5-11-65. Filed 8-19-64.

793,318. VERSACOUNT. Production Equipment Inc. SN 201,549. Pub. 5-11-65. Filed 9-9-64.

793,319. MEZURLOK. The Lufkin Rule Company. SN 202,281. Pub. 5-11-65. Filed 9-21-64.

793,320. COLLEC-TROL. Meter-All Mfg. Co., Inc. SN 203,415. Pub. 5-11-65. Filed 10-6-64.

793,321. EK AND DESIGN. Eye Kraft Optical, Inc. SN 203,951. Pub. 5-11-65. Filed 10-14-64.

793,322. 10 SQUARE. Hudson Photographic Industries, Inc. SN 204,575. Pub. 5-11-65. Filed 10-22-64.

793,323. DU BO LITE. Dubois Plastic Products, Inc. SN 204,644. Pub. 5-11-65. Filed 10-23-64.

793,324. LINAM. E. O. Schweitzer Manufacturing Co., Inc. SN 205,009. Pub. 5-11-65. Filed 10-28-64.

793,325. DESIGN OF A CENTAUR. Kiron Incorporated. SN 205,063. Pub. 5-11-65. Filed 10-29-64.

Class 27—Horological Instruments

793,326. TRISHOCK. Erismann-Schinz S.A. SN 173,105. Pub. 5-11-65. Filed 7-16-63.

793,327. BUCHERER AND DESIGN. Bucherer Company, A.G. MULTIPLE CLASS (Classes 27 and 28). SN 201,657. Pub. 5-11-65. Filed 7-20-64.

793,328. VANTAGE. Hamilton Watch Company. SN 208,248. Pub. 5-11-65. Filed 12-16-64.

793,329. JEWELMONT AND DESIGN. Sydney W. Prague. SN 210,356. Pub. 5-11-65. Filed 1-21-65.

793,330. GILTRON. Lucien Piccard Watch Corp. SN 210,449. Pub. 5-11-65. Filed 1-22-65.

Class 28—Jewelry and Precious-Metal Ware

793,327. (See Class 27 for this trademark.)

793,331. AFTER SIX. S. Rudofker's Sons, Inc. SN 193,410. Pub. 5-11-65. Filed 5-13-64.

793,332. ARJ. Julius Aronow, d.b.a. Aronow Jewelry Co. SN 204,443. Pub. 5-11-65. Filed 10-21-64.

793,333. G.M. AND DESIGN. Gold Metal Jewelry, Inc. SN 208,071. Pub. 5-11-65. Filed 12-14-64.

793,334. GILTRON. Lucien Piccard Watch Corp. SN 210,450. Pub. 5-11-65. Filed 1-22-65.

793,335. MISCELLANEOUS DESIGN. Artistor Jewelry Inc. SN 211,016. Pub. 5-11-65. Filed 2-1-65.

Class 29—Brooms, Brushes, and Dusters

793,336. MR. PAINTR. EZ Paintr Corporation. SN 162,351. Pub. 8-13-63. Filed 2-8-63.

793,337. NU-SHAMS. American Wiper and Waste Mills, d.b.a. The Nu-Towel Company. SN 209,902. Pub. 5-11-65. Filed 1-14-65.

Class 30—Crockery, Earthenware, and Porcelain

793,338. LIBERTY HALL. Block China Company. SN 186,228. Pub. 5-11-65. Filed 2-7-64.

Class 31—Filters and Refrigerators

793,339. SUPERIOR. Superior Products Manufacturing Company, d.b.a. Superior Products Mfg. Co. SN 157,263. Pub. 5-11-65. Filed 11-14-62.

793,340. McCRAY DAIRY WALL. McCray Refrigerator Company, Inc. SN 166,023. Pub. 5-11-65. Filed 4-3-63.

793,341. UNIPRESSURE. The Trane Company. SN 178,835. Pub. 5-11-65. Filed 10-11-63.

793,342. POROPLATE. The Bendix Corporation. SN 178,865. Pub. 5-11-65. Filed 10-14-63.

793,343. CONTRAFLUX. Union Tank Car Company. SN 181,429. Pub. 5-11-65. Filed 11-18-63.

793,344. SCREENSERT. Pall Corporation. SN 181,792. Pub. 5-11-65. Filed 11-22-63.

793,345. KOMET. Seitz-Werke G.m.b.H. SN 183,706. Pub. 5-11-65. Filed 12-27-63.

793,346. WESCOLD. W. E. Stone & Co., Inc. SN 190,646. Pub. 5-11-65. Filed 4-8-64.

793,347. RP TRIM-TO-SIZE ETC. AND DESIGN. Research Products Corporation. SN 192,945. Pub. 5-11-65. Filed 5-7-64.

Class 32—Furniture and Upholstery

793,348. SPANISH TRADING CENTER ETC. AND DESIGN. Spanish Trading Center, Inc. MULTIPLE CLASS (Classes 32 and 34). SN 188,673. Pub. 5-11-65. Filed 3-13-64.

793,349. AMERICAN OF CHICAGO. American Furniture Novelty Co. SN 197,527. Pub. 5-11-65. Filed 7-10-64.

793,350. BUREAUCRAT. Badenia Calculators Limited. SN 203,465. Pub. 5-11-65. Filed 10-7-64.

793,351. ACCOLATERAL. Natser Corporation, d.b.a. Acco Products. SN 204,817. Pub. 5-11-65. Filed 10-26-64.

793,352. OLD FASHIONED. New York Feather Co., Inc. SN 204,997. Pub. 5-11-65. Filed 10-28-64.

793,353. FAMOUS OLD SOUTH AND DESIGN. Moultrie Manufacturing Company. SN 205,596. Pub. 5-11-65. Filed 11-5-64.

Class 33—Glassware

793,354. HERCULITE. Pittsburgh Plate Glass Company. SN 199,850. Pub. 5-11-65. Filed 8-13-64.

Class 34—Heating, Lighting, and Ventilating Apparatus

793,348. (See Class 32 for this trademark.)

793,355. YOUNGSTOWN KITCHENS. Mullins Manufacturing Corporation. SN 180,601. Pub. 5-11-65. Filed 11-6-63.

793,356. SOLIDAIRE. The Strong-Scott Manufacturing Company. SN 202,640. Pub. 5-11-65. Filed 9-24-64.

Class 35—Belting, Hose, Machinery Packing, and Nonmetallic Tires

793.357. SNOW BEAR. United States Rubber Company. SN 204,528. Pub. 5-11-65. Filed 10-21-64.

Class 36—Musical Instruments and Supplies

793,265. (See Class 21 for this trademark.)

793,358. LENOX. Ad Lib Records, Inc. SN 155,088. Pub. 5-11-65. Filed 10-12-62.

Class 37—Paper and Stationery

793,359. AMERICAN TRADITION COLLECTION. The Birge Company, Inc. SN 186,325. Pub. 5-11-65. Filed 2-10-64.

793,360. FOREST PARK. Graham Paper Company. SN 191,927. Pub. 5-11-65. Filed 4-24-64.

793,361. NOTOR. Francis Beltrami, d.b.a. Editions Quo Vadis-au Beau Plastique. SN 198,704. Pub. 5-11-65. Filed 11-30-64.

793,362. TRULY FINE. Safeway Stores, Incorporated. SN 199,114. Pub. 5-11-65. Filed 8-3-64.

793,363. 75. The Parker Pen Company. SN 199,308. Pub. 5-11-65. Filed 8-5-64.

793,364. MAGIC-TEXTURE. Venus Pen & Pencil Corporation. SN 199,421. Pub. 5-11-65. Filed 8-6-64.

793,365. MAGIC-PATTERN. Venus Pen & Pencil Corporation. SN 199,422. Pub. 5-11-65. Filed 8-6-64.

793,366. E-Z KLEN. Gulf States Paper Corporation. SN 204,066. Pub. 5-11-65. Filed 10-15-64.

793,367. VINYL-ROYAL. The Birge Company, Inc. SN 204,346. Pub. 5-11-65. Filed 10-20-64.

793,368. TELSTAR. Broadway Pen Corp. SN 204,956. Pub. 5-11-65. Filed 10-28-64.

793,369. MAXINE. Westab Inc. SN 205,022. Pub. 5-11-65. Filed 10-28-64.

793,370. DEPOSITEL. Curtis 1000 Inc. SN 205,256. Pub. 5-11-65. Filed 11-2-64.

793,371. BOUNTY. The Procter & Gamble Company. SN 205,609. Pub. 5-11-65. Filed 11-5-64.

Class 38—Prints and Publications

793,372. KATY DIDS AND DESIGN. American Greetings Corporation. SN 204,871. Pub. 5-11-65. Filed 10-27-64.

793,373. MAIL-ME BOOKS AND DESIGN. Random House, Inc. SN 205,002. Pub. 5-11-65. Filed 10-28-64.

793,374. TRAMP GUIDE AND DESIGN. Ancient and Honorable Royal Order of Fraternity, Loyalty & Economy. SN 211,406. Pub. 5-11-65. Filed 1-27-65.

Class 39—Clothing

793,375. CHECK-MATES AND DESIGN. Topaz Hosiery Mills, Inc. SN 132,394. Pub. 3-16-65. Filed 11-20-61.

793,376. PRO-SHOP EXCLUSIVES. E. T. Wright & Co. Inc. SN 156,540. Pub. 5-11-65. Filed 11-2-62.

793,377. MISTER PIERRE AND DESIGN. Modern Shoe Company. SN 158,989. Pub. 5-11-65. Filed 12-12-62.

793,378. LEE ETC. AND DESIGN. The H. D. Lee Company, Incorporated. SN 159,406. Pub. 5-11-65. Filed 12-19-62.

793,379. JOAN KENLEY. Marlene Industries Corp. SN 164,146. Pub. 5-11-65. Filed 3-7-63.

793,380. NEX-SIZER. Piedmont Shirt Company. SN 165,452. Pub. 5-11-65. Filed 3-26-63.

793,381. TOWEL TEST. Sarong, Inc. SN 167,496. Pub. 5-11-65. Filed 4-23-63.

793,382. TOWEL TEST AND DESIGN. Sarong, Inc. SN 168,961. Pub. 5-11-65. Filed 5-15-63.

793,383. PAR-LON. Cluett, Peabody & Co., Inc. SN 173,821. Pub. 5-11-65. Filed 7-26-63.

793,384. THE CARRIAGE SHOP ETC. AND DESIGN. The Carriage Shop, Inc. SN 179,112. Pub. 5-11-65. Filed 10-16-63.

793,385. SCHNURAL. Seidler Cravats Inc. SN 180,684. Pub. 5-11-65. Filed 11-7-63.

793,386. COUNTRY JUNIOR AND DESIGN. Country Miss, Inc. SN 184,607. Pub. 5-11-65. Filed 1-15-64.

793,387. CHICKIES. Allied Stores Corporation, d.b.a. The Bon Marche. SN 189,417. Pub. 5-11-65. Filed 3-24-64.

793,388. STEVIE TOGS. Stevie Togs, Inc. SN 189,632. Pub. 5-11-65. Filed 3-25-64.

793,389. DUNSTAR. Dunstar Sportswear Inc. SN 189,690. Pub. 5-11-65. Filed 3-26-64.

793,390. SANTAVELLI. Wembley, Inc. SN 190,133. Pub. 5-11-65. Filed 4-1-64.

793,391. MYSTIQUE. David E. Gottlieb, Inc. SN 190,367. Pub. 5-11-65. Filed 4-6-64.

793,392. CHILL-GARD. Tidykins, Inc. SN 190,663. Pub. 5-11-65. Filed 4-8-64.

793,393. SYLRAY. Sylray Underwear Company. SN 191,222. Pub. 5-11-65. Filed 4-15-64.

793,394. FARAFLEX. Farah Manufacturing Company, Inc. SN 192,020. Pub. 4-6-65. Filed 4-27-64.

793,395. FOXWOOD. Grey-Wood Knitwear Industries, Inc. MULTIPLE CLASS (Classes 39 and 42). SN 193,359. Pub. 5-11-65. Filed 5-13-64.

793,396. SCHOLARS. School Supply Company. SN 194,244. Pub. 5-11-65. Filed 5-25-64.

793,397. CUSHIONIZED WEE WALKER SNEAKS. Moran Shoe Company. SN 194,410. Pub. 5-11-65. Filed 5-27-64.

793,398. YOURS 2 AND DESIGN. Arthur Doctor & Company. SN 195,769. Pub. 4-6-65. Filed 6-16-64.

793,399. DR. SCHOLL'S FOOT COMFORT SHOES AND DESIGN. The Scholl Mfg. Co., Inc. SN 196,201. Pub. 5-11-65. Filed 6-22-64.

793,400. SUPERCRON. Angelica Uniform Company. SN 196,585. Pub. 5-11-65. Filed 6-29-64.

793,401. LITTLE HEARTS AND DESIGN. Rozefsky Bros., Inc. SN 197,430. Pub. 5-11-65. Filed 7-8-64.

793,402. SUIVANTE. Ernst Strauss, Inc. SN 197,438. Pub. 5-11-65. Filed 7-8-64.

793,403. SKUA. United Sheeplined Clothing Company, Inc. SN 197,450. Pub. 5-11-65. Filed 7-8-64.

793,404. DIANE CARTER ORIGINAL. Gladstone-Arcuni, Incorporated. SN 197,701. Pub. 5-11-65. Filed 7-13-64.

793,405. LETTERMAN CORDS. The H. D. Lee Company, Incorporated. SN 198,282. Pub. 5-11-65. Filed 7-21-64.

793,406. PEDS AND DESIGN. Richard Paul, Inc. SN 199,218. Pub. 5-11-65. Filed 8-4-64.

793,407. SKID-GUARDS. Principle Business Enterprises, Inc. SN 199,605. Pub. 3-2-65. Filed 8-10-64.

793,408. CATHY CARTER. Harper Hosiery Mills, Inc. SN 200,184. Pub. 5-11-65. Filed 8-19-64.

793,409. HATTIE HARPER. Harper Hosiery Mills, Inc. SN 200,185. Pub. 5-11-65. Filed 8-19-64.

793,410. ANN ADAMS. Harper Hosiery Mills, Inc. SN 200,186. Pub. 5-11-65. Filed 8-19-64.

793,411. FOND DE ROBE. Henson-Kickernick, Inc. SN 201,288. Pub. 5-11-65. Filed 9-4-64.

793,412. LEWELLA. Lewel Manufacturing Co., Inc. SN 201,448. Pub. 5-11-65. Filed 9-8-64.

793,413. GRANT CREST. W. T. Grant Company. SN 203,085. Pub. 5-11-65. Filed 10-1-64.

793,414. PAT DARLING. National Association of Supermarket Apparel Distributors. SN 203,[illegible]89. Pub. 5-11-65. Filed 10-12-64.

793,415. LEONORA. Leonora Inc. SN 203,976. Pub. 5-11-65. Filed 10-14-64.

793,416. TIGI. Caron Spinning Company. SN 204,046. Pub. 5-11-65. Filed 10-15-64.

793,417. "BLUSTER BUFFERS." Lawrence of London Ltd. SN 204,267. Pub. 5-11-65. Filed 10-19-64.

793,418. RICELLO. Leslie Fay, Inc. SN 204,897. Pub. 5-11-65. Filed 10-27-64.

793,419. ROYALTOS. S.A. des Chaussures "Sirius." SN 205,851. Pub. 5-11-65. Filed 11-9-64.

Class 41 — Canes, Parasols, and Umbrellas

793,420. RES-TIK. George F. Detlor, d.b.a. Res-Tik. SN 205,784. Pub. 5-11-65. Filed 11-9-64.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

793,395. (See Class 39 for this trademark.)

793,421. DOLLY MADISON. Dolly Madison, Inc. SN 186,094. Pub. 5-11-65. Filed 2-5-64.

793,422. MALIPOL. Crompton & Knowles-Malimo, Inc. SN 188,080. Pub. 5-11-65. Filed 3-6-64.

793,423. CREPE LARGO. Westwood Textile Manufacturing, Inc. SN 188,596. Pub. 5-11-65. Filed 3-12-64.

793,424. SABELOOR AND DESIGN. Einiger Mills, Inc. SN 195,080. Pub. 5-11-65. Filed 6-8-64.

793,425. POLY BAC. Patchogue-Plymouth Company (joint venture), assignee of Patchogue-Plymouth Corporation. SN 195,138. Pub. 5-11-65. Filed 6-8-64.

793,426. BUNNYDOWN. Chatham Manufacturing Company. SN 196,247. Pub. 5-11-65. Filed 6-23-64.

793,427. MELLOFORM. Dubin-Haskell-Jacobson, Inc. SN 197,375. Pub. 4-27-65. Filed 7-8-64.

793,428. GOLDMINE. Triton Fabrics, Inc. SN 198,002. Pub. 5-11-65. Filed 7-16-64.

793,429. HULLY GULLY. Waumbec Mills Incorporated. SN 200,803. Pub. 5-11-65. Filed 8-27-64.

793,430. ULTRA WEAVE. Albany Felt Company. SN 200,997. Pub. 5-11-65. Filed 9-1-64.

793,431. AMSCO. American Supply Company of N.C., Inc. SN 201,173. Pub. 3-16-65. Filed 9-3-64.

793,432. LOCK (DESIGN). Lock-Lined, Inc. SN 201,292. Pub. 5-11-65. Filed 9-4-64.

793,433. RED LABEL. West Point-Pepperell, Inc., by merger and change of name from Pepperell Manufacturing Company. SN 203,366. Pub. 4-20-65. Filed 10-5-64.

793,434. WILSHIRE HOUSE AND DESIGN. California Hand Prints, Incorporated. SN 205,659. Pub. 5-11-65. Filed 11-6-64.

793,435. VILEAU. Union Carbide Corporation. SN 206,316. Pub. 5-11-65. Filed 11-16-64.

793,436. UNION CARBIDE AND DESIGN. Union Carbide Corporation. SN 206,317. Pub. 5-11-65. Filed 11-16-64.

793,437. TEMPGARD. J. P. Stevens & Co., Inc. SN 206,381. Pub. 5-11-65. Filed 11-17-64.

793,438. ASTROSIL. J. P. Stevens & Co., Inc. SN 206,382. Pub. 5-11-65. Filed 11-17-64.

793,439. CRAB APPLE. Crompton Company. SN 206,520. Pub. 5-11-65. Filed 11-19-64.

793,440. HI DOLLY. Crompton Company. SN 206,522. Pub. 5-11-65. Filed 11-19-64.

793,441. ROYALTY HOUSE. Sol Mintz. SN 206,739. Pub. 5-11-65. Filed 11-23-64.

Class 43 — Thread and Yarn

793,442. CREPESET. American Enka Corporation. SN 184,418. Pub. 5-11-65. Filed 1-13-64.

793,443. ROSELO. Roselon Yarns, Inc. SN 205,849. Pub. 5-11-65. Filed 11-9-64.

Class 44 — Dental, Medical, and Surgical Appliances

793,288. CONSOLIDATED CERTIFICATE. See Class 23.

793,444. CALITONE. Milton Calig, d.b.a. The M. Calig Company. SN 184,134. Pub. 5-11-65. Filed 1-7-64.

793,445. FORMITA. Kimberly-Clark Corporation. SN 191,564. Pub. 5-11-65. Filed 4-20-64.

793,446. SMS. Whaledent, Inc. SN 191,636. Pub. 5-11-65. Filed 4-20-64.

793,447. SPLINT-MATE. Whaledent, Inc. SN 191,637. Pub. 5-11-65. Filed 4-20-64.

793,448. KO-REKT. Demetrie C. Siampaus, d.b.a. Ko-Rekt. SN 191,777. Pub. 5-11-65. Filed 4-22-64.

793,449. MEDCO. Medco Products Co., Inc. SN 196,879. Pub. 5-11-65. Filed 7-1-64.

793,450. VARITRAK. Corbin-Farnsworth, Inc. SN 197,364. Pub. 12-15-64. Filed 7-8-64.

793,451. TWIST-O-FILE. Aldic Company. SN 201,639. Pub. 5-11-65. Filed 9-11-64.

793,452. RESTON. Minnesota Mining and Manufacturing Company. SN 201,955. Pub. 5-11-65. Filed 9-15-64.

793,453. SURGIDENT. Surgident, Ltd. SN 206,483. Pub. 5-11-65. Filed 11-18-64.

793,454. CENTRIMATIC. Swissedent International. SN 206,664. Pub. 5-11-65. Filed 11-20-64.

793,455. ADDENT. Minnesota Mining and Manufacturing Company. SN 207,067. Pub. 5-11-65. Filed 11-27-64.

793,456. 3M. Minnesota Mining and Manufacturing Company. SN 207,068. Pub. 5-11-65. Filed 11-27-64.

793,457. PAIN-AID. Bingham F. Burner. SN 207,363. Pub. 5-11-65. Filed 12-3-64.

Class 46 — Foods and Ingredients of Foods

793,458. PITCHER PRIDE. R.G.B. Laboratories, Inc. SN 203,888. Pub. 5-11-65. Filed 10-13-64.

793,459. NUTRONI. Milk Research, Inc. SN 206,564. Pub. 5-11-65. Filed 11-19-64.

793,460. PARTYCORDIALS AND DESIGN. The Epicures' Club. SN 206,929. Pub. 5-11-65. Filed 11-25-64.

793,461. VSA AND DESIGN. Veterinary Sales Associates, Inc. SN 207,924. Pub. 5-11-65. Filed 12-10-64.

793,462. PEWTER POT. Pewter Pot Muffin House, Inc. SN 208,615. Pub. 5-11-65. Filed 12-21-64.

793,463. TUNES. Mars Limited. SN 208,690. Pub. 5-11-65. Filed 12-22-64.

793,464. SAL-FRY AND DESIGN. Arkansas Grain Corporation. SN 208,718. Pub. 5-11-65. Filed 12-23-64.

793,465. MURRAY'S AND DESIGN. Murray Biscuit Company. SN 208,834. Pub. 5-11-65. Filed 12-24-64.

793,466. TRAIL BLAZER AND DESIGN. Martha White Mills, Inc. SN 209,215. Pub. 5-11-65. Filed 12-31-64.

Class 48 — Malt Beverages and Liquors

793,467. AB. Anheuser-Busch, Incorporated. SN 139,011. Pub. 9-18-62. Filed 3-5-62.

Class 49 — Distilled Alcoholic Liquors

793,468. McCORMICK. McCormick Distilling Company. SN 99,764. Pub. 2-26-63. Filed 6-27-60.

793,469. LONDON TOWER. Charles Jacquin et Cie, Inc., d.b.a. London Tower Distilled Products, Ltd. SN 123,819. CONCURRENT USE. Pub. 3-27-62. Filed 7-12-61.

793,470. JACQUIN'S LONDON TOWER AND DESIGN. Charles Jacquin et Cie, Inc., d.b.a. London Tower Distilled Products, Ltd. SN 123,820. CONCURRENT USE. Pub. 8-21-62. Filed 7-12-61.

793,471. LONDON TOWER. Haas Brothers, d.b.a. The Crown Company. SN 160,287. CONCURRENT USE. Pub. 5-14-63. Filed 1-7-63.

793,472. DRUMSHANGIE. Continental Distilling Corporation, d.b.a. Inver House Distillers, Limited. SN 195,648. Pub. 3-9-65. Filed 6-15-64.

Class 50 — Merchandise Not Otherwise Classified

793,473. PRUDENCE. Mrs. John S. Meyer, d.b.a. Prudent Products. SN 170,087. Pub. 5-11-65. Filed 5-31-63.

793,474. CLEARVIEW GUIDE. The Hopp Press, Inc. SN 205,292. Pub. 5-11-65. Filed 11-2-64.

793,475. LINE-A-PLATE. Fairchild Camera and Instrument Corporation. SN 208,352. Pub. 5-11-65. Filed 12-17-64.

793,476. BEAUTY FAST. Synthetic Fabrics, Incorporated. SN 212,153. Pub. 5-11-65. Filed 2-16-65.

Class 51 — Cosmetics and Toilet Preparations

793,477. CARAMINTA. Janus Mann, Inc. SN 180,893. Pub. 3-30-65. Filed 11-12-63.

793,478. SATIN SOFT AND DESIGN. Satin Soft Cosmetics of Delaware, Inc. SN 198,980. Pub. 3-9-65. Filed 7-31-64.

793,479. RVP-2. Paul B. Elder Company. SN 203,752. Pub. 5-11-65. Filed 10-12-64.

793,480. WHITE ICE. R.T.V. Sales, Inc. SN 203,817. Pub. 5-11-65. Filed 10-12-64.

Class 52 — Detergents and Soaps

793,141. (See Class 4 for this trademark.)

793,481. MAGNUS M AND DESIGN. Economics Laboratory, Inc., by merger of Magnus Chemical Company, Inc. SN 194,400. Pub. 5-11-65. Filed 5-27-64.

793,482. STAY. Colgate-Palmolive Company. SN 203,939. Pub. 5-11-65. Filed 10-14-64.

793,483. OLD CHAP. Anthony F. Cacchillo, d.b.a. Old Chap Company. SN 204,757. Pub. 5-11-65. Filed 10-26-64.

Service Marks

Class 102 — Insurance and Financial

793,484. ELSMO AND DESIGN. Elsmo Inc., d.b.a. Elsmo Real Estate. SN 188,855. Pub. 3-16-65. Filed 3-17-64.

Collective Membership Mark

Class 200

793,485. YOUNG AMERICANS FOR FREEDOM. Young Americans for Freedom, Inc. SN 198,991. Pub. 5-11-65. Filed 7-31-64.

SUPPLEMENTAL REGISTER

These registrations are not subject to opposition.

Class 4 — Abrasives and Polishing Materials

793,486. Armour and Company, Chicago, Ill. SN 174,156. Filed P.R. 8–1–63; Am. S.R. 5–17–65.

NO-FALL

For Abrasive Coated Sheet Material To Be Applied to Various Surfaces for the Prevention of Slippage.
First use on or about Sept. 1, 1962.

Class 5 — Adhesives

793,487. Radiant Color Company, Richmond, Calif. SN 182,829. Filed P.R. 12–11–63; Am. S.R. 6–7–65.

RADIANT

For Fluorescent and Luminous Pressure-Sensitive Adhesive Films Supported Between Protective Layers of Release Sheets.
First use Oct. 29, 1963.

Class 6 — Chemicals and Chemical Compositions

793,488. Radiant Color Company, Richmond, Calif. SN 182,830. Filed P.R. 12–11–63; Am. S.R. 6–7–65.

RADIANT

For Pigments for Use as Coloring Materials in the Production of Fluorescent Color.
First use Oct. 29, 1963.

Class 11 — Inks and Inking Materials

793,489. Radiant Color Company, Richmond, Calif. SN 182,831. Filed P.R. 12–11–63; Am. S.R. 6–7–65.

RADIANT

For Fluorescent Inks—Namely, Silk Screen, Letterpress and Rotogravure Fluorescent, Phosphorescent or Luminous Inks.
First use Oct. 29, 1963.

Class 21 — Electrical Apparatus, Machines, and Supplies

793,490. ATR Electronics, Inc., St. Paul, Minn. SN 186,594. Filed P.R. 2–13–64; Am. S.R. 4–23–65.

TRACTORadio

For Electronic Radio Receiving Unit.
First use Jan. 22, 1964.

Class 23 — Cutlery, Machinery, and Tools, and Parts Thereof

793,491. Brother International Corporation, New York, N.Y. SN 167,202. Filed P.R. 4–22–63; Am. S.R. 6–15–65.

WEBSTER

For Sewing Machines and Typewriters.
First use Apr. 1, 1963.

793,492. Bernard J. Vinkemulder, d.b.a. Vinkemulder Manufacturing Company, Grand Rapids, Mich. SN 176,410. Filed P.R. 9–5–63; Am. S.R. 6–1–65.

WIREFORMER

For Device for Bending Small Rods and Wire.
First use Sept. 15, 1958.

Class 37 — Paper and Stationery

793,493. Mohawk Paper Mills, Inc., Cohoes, N.Y. SN 160,648. Filed P.R. 1–14–63; Am. S.R. 2–23–65.

DIAZOPAQUE

For Copy Paper Suitable for Diazo Reproduction.
First use Nov. 21, 1962.

Class 42 — Knitted, Netted, and Textile Fabrics, and Substitutes Therefor

793,494. Radiant Color Company, Richmond, Calif. SN 182,832. Filed P.R. 12–11–63; Am. S.R. 6–7–65.

RADIANT

For Fabrics and Plastics Coated or Impregnated With Fluorescent Materials.
First use Oct. 29, 1963.

Class 50 — Merchandise Not Otherwise Classified

793,495. Radiant Color Company, Richmond, Calif. SN 182,833. Filed P.R. 12–11–63; Am. S.R. 6–7–65.

RADIANT

For Phosphorescent Luminous Tape for Industrial and Military Purposes.
First use Nov. 5, 1963.

TRADEMARK REGISTRATIONS RENEWED

26,824. THE A1 INTERNATIONAL SAUCE. Cl. 46. 7–16–1895.
44,474. YARA. Cl. 17. 7–4–05.
45,058. MIGNON. Cl. 36. 8–1–05.
45,138. BLUE SEAL. Cl. 18. 8–8–05.
45,785. LYDIA E PINKHAM. Cl. 18. 8–29–05.
46,466. NADINOLA. Cl. 18. 9–19–05.
46,556. REPRESENTATION OF FOUR LEAF CLOVER. Cl. 16. 9–26–05.
46,629. MORNING JOY. Cl. 46. 9–26–05.
47,058. BLACK LEAF. Cl. 6. 10–24–05.
186,870. SNUGINS. Cl. 40. 7–22–24.
196,697. DANS LA NUIT. Cl. 52. 3–24–25.
197,089. ROLLS ROYCE RR. Cl. 19. 4–7–25.
197,944. CIMENT FONDU AND DESIGN. Cl. 12. 4–28–25.
198,325. BENGER'S FOOD AND DESIGN. Cl. 46. 5–12–25.
198,534. FROZEN ARTS. Cl. 46. 5–19–25.
198,594. OLIVILO. Cl. 52. 5–19–25.
198,767. MAXINE. Cl. 52. 5–26–25.
198,812. DOAN'S AND DESIGN. Cl. 18. 5–26–25.
198,992. SANOCRYSIN. Cl. 18. 6–2–25.
199,108. MRS STEWART'S AND DESIGN. Cl. 6. 6–2–25.
199,113. DENTYNE. Cl. 51. 6–2–25.
199,114. DENTYNE. Cl. 29. 6–2–25.
199,848. BLUE ROSE. Cl. 37. 6–16–25.
200,899. TWILIFT. Cl. 39. 7–14–25.
201,319. GLENCAIRN. Cl. 39. 7–21–25.
201,454. KYBER AND DESIGN. Cl. 42. 7–28–25.
201,522. LOCH LOMAND. Cl. 39. 7–28–25.
201,734. CIMENT FONDU AND CIRCLE DESIGN. Cl. 12. 8–4–25.
201,871. SURGE. Cl. 23. 8–11–25.
201,966. CAMEO. Cl. 50. 8–11–25.
201,978. COVERED WAGON. Cl. 46. 8–11–25.
203,227. STERODENT AND DESIGN. Cl. 51. 9–15–25.
203,239. BENDINER'S PINE NEEDLE EXPECTORANT. Cl. 18. 9–15–25.
203,495. CACTUS. Cl. 18. 9–22–25.
204,046. DIXIE DELIGHT. Cl. 46. 10–6–25.
204,123. TUNGSPAR. Cl. 16. 10–6–25.
204,588. BLACKHAWK. Cl. 23. 10–20–25.
204,849. OTIS. Cl. 23. 10–27–25.
205,653. COUNTRY CLUB. Cl. 39. 11–10–25.
410,338. HELENE PESSL AND DESIGN. Cl. 51. 11–21–44.
412,298. ESQUIRE. Cl. 36. 2–27–45.
413,109. HESPERIAN ORCHARDS AND DESIGN. Cl. 46. 4–10–45.
413,667. REPRESENTATION OF A WOMAN. Cl. 46. 5–8–45.
414,033. SWEETHEART NOVIA. Cl. 52. 5–22–45.
414,037. TEASONING. Cl. 46. 5–22–45.
414,293. CONPERNIK. Cl. 14. 6–5–45.
414,446. SAFARI. Cl. 1. 6–12–45.
414,773. BRACODIN. Cl. 18. 6–26–45.
414,775. DUO-SAYED. Cl. 18. 6–26–45.
414,776. GLUTASIN. Cl. 18. 6–26–45.
414,932. FINESSE. Cl. 39. 7–3–45.
414,937. ACE AND DESIGN. Cl. 2. 7–3–45.
415,011. NO. 191. Cl. 45. 7–10–45.
415,032. MELROSE MELLOW AS A ROSE. Cl. 49. 7–10–45.
415,236. VALCAN AND DESIGN. Cl. 2. 7–31–45.
415,330. VIZ-AID. Cl. 21. 8–7–45.
415,349. DEN-NAP. Cl. 23. 8–7–45.
415,509. JONDALE CLASSICS. Cl. 39. 8–7–45.
415,709. GYROL. Cl. 23. 8–14–45.
416,305. SCL. Cl. 15. 9–4–45.
417,089. JACOBS PLAS-TEX AND DESIGN. Cl. 23. 10–16–45.
417,142. AMINET. Cl. 18. 10–16–45.
417,206. CLARABELLE. Cl. 39. 10–16–45.
417,280. SWEET BRIER AND DESIGN. Cl. 46. 10–23–45.
417,282. SEA SUDS. Cl. 52. 10–23–45.
417,506. ALL OF ME. Cl. 51. 10–30–45.
417,546. NEUTROSCENT. Cl. 6. 10–30–45.
417,592. KOUNTY KIST AND DESIGN. Cl. 46. 11–6–45.
417,649. HONOL. Cl. 15. 11–6–45.
417,823. GLAMOUR DEBS AND DESIGN. Cl. 39. 11–20–45.

TRADEMARK REGISTRATIONS CANCELED

Section 8

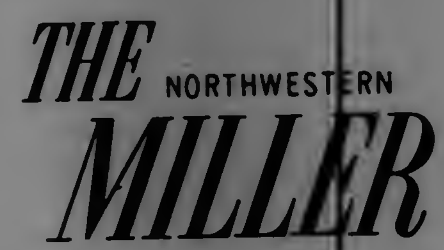
The following registrations issued June 9, 1959

679,809. PANEL PAK AND DESIGN. Cl. 2.
679,817. FASTEX. Cl. 4.
679,818. CAIDAR. Cl. 4.
679,824. BUF-R-BRITE. Cl. 6.
679,825. GESTELITH. Cl. 6.
679,826. ASTRA PHLOXINE. Cl. 6.
679,829. BANAPIK. Cl. 6.
679,834. DMI. Cl. 6.
679,836. TRYZOL. Cl. 6.
679,841. OZOBAN. Cl. 6.
679,844. GAF AND DESIGN. Cl. 6.
679,846. EMBACEL. Cl. 6.
679,847. PYREPEL. Cl. 6.
679,852. PLUSH. Cl. 6.
679,854. G-STRING AND DESIGN. Cl. 7.
679,855. MATCHMATES. Cl. 8.
679,856. PRESTOLITH. Cl. 12.
679,868. CP AND DESIGN. Cl. 13.
679,872. PERFECT AND DESIGN. Cl. 15.
679,873. GREATER VALLEY ETC. AND DESIGN. Cl. 15.
679,881. LEO AND DESIGN. Cl. 18.
679,885. PHENOLASS. Cl. 18.
679,887. FE-FO. Cl. 18.
679,888. P-M-F. Cl. 18.
679,890. ALCODAB. Cl. 18.
679,891. GYDALL AND DESIGN. Cl. 18.
679,897. DEPRICOLIN. Cl. 18.
679,901. AMPHETOLAX. Cl. 18.
679,904. TANNY TONE. Cl. 18.
679,905. KEV. Cl. 18.
679,907. EPITAN. Cl. 18.
679,910. MYOFACTIN. Cl. 18.
679,914. PAKOMATIC. Cl. 19.
679,915. PERMA-FLOAT. Cl. 19.
679,916. STOR-A-WAY. Cl. 19.
679,917. ROTODYNE. Cl. 19.
679,919. TILE TOWN ETC. AND DESIGN. Cl. 20.
679,921. TRICO TOASTERS Cl. 21.
679,922. VACU START. Cl. 21.
679,929. TRANSISTOR CENTER U.S.A. AND DESIGN. Cl. 21.
679,932. REPRESENTATION OF STRONG MAN HOLDING ELECTRIC FIXTURE. Cl. 21.
679,941. THERMOLYTIC. Cl. 21.
679,942. ISLANDER. Cl. 21.
679,943. LIFEGUARD. Cl. 21.
679,947. SEA RIDERS AND DESIGN. Cl. 22.
679,948. GARDENETTE. Cl. 23.
679,949. PAK-N-FOAM AND DESIGN. Cl. 23.
679,950. TURBONOZZLE. Cl. 23.
679,951. ABC. Cl. 23.
679,953. MINI-LINE. Cl. 23.
679,960. CPI AND DESIGN. Cl. 28.
679,967. VEECO. Cl. 26.
679,968. DYNA-SCAN. Cl. 26.
679,975. TRIPATCO. Cl. 26.
679,978. RAPIER. Cl. 26.
679,992. TEENETTE. Cl. 28.

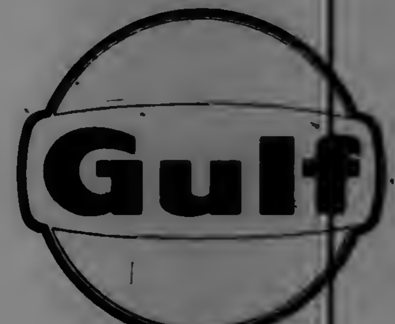
680,004. COURSE CADDY. Cl. 37.
680,006. PUR-REX. Cl. 37.
680,010. AMERICAN HOUSECRAFT CONSTRUCTION. Cl. 38.
680,011. POSTON. Cl. 38.
680,012. ASTRAL WIZARD. Cl. 38.
680,014. DEPTHORAMA. Cl. 38.
680,018. RODEO-DOE. Cl. 38.
680,021. MOUSE'S. Cl. 38.
680,024. GWENNIE AND DESIGN. Cl. 39.
680,025. SANI-TREADS. Cl. 39.
680,026. DC–7. Cl. 39.
680,034. STANCHIEF. Cl. 39.
680,036. SHAGOLON. Cl. 39.
680,037. MACAFIELD. Cl. 39.
680,050. LOFTWIST. Cl. 42.
680,051. JET KRISP. Cl. 42.
680,052. CAYNE HALL. Cl. 42.
680,055. JOSEPH WATT. Cl. 42.
680,057. PERL-DRI. Cl. 42.
680,059. HUDSON VALLEY. Cl. 42.
680,060. SATELLITE. Cl. 44.
680,061. AIR DRIVE AND DESIGN. Cl. 44.
680,062. FAN-EEZ. Cl. 44.
680,067. PRIVAT-EAR. Cl. 44.
680,073. STAN-DO. Cl. 46.
680,079. PORTAGE AND DESIGN. Cl. [illegible]6.
680,080. PRIOR'S AND DESIGN. Cl. 4[illegible].
680,081. BUBBLEBERRIES. Cl. 46.
680,091. CONTENTO. Cl. 46.
680,094. PANCAKE PARTY. Cl. 46.
680,097. LIFE PRESERVER. Cl. 46.
680,100. BONCI'S AND DESIGN. Cl. 46.
680,101. "VAN-DEL." Cl. 46.
680,127. BIG-R-BUY. Cl. 46.
680,129. MARCA ALCAZAR. Cl. 46.
680,133. LIQUI-SHORT. Cl. 46.
680,138. OLD BARBLEN BRAND. Cl. 49.
680,140. LADY LUCK. Cl. 50.
680,144. FLORA-LUX. Cl. 50.
680,145. DEPOS-O-MATIC. Cl. 50.
680,146. LAMINEL. Cl. 50.
680,148. WHO-BAND. Cl. 50.
680,153. LIQUID ASSET. Cl. 51.
680,154. COUNTRY GIRL. Cl. 51.
680,157. SOFT DRINK. Cl. 51.
680,160. KITTEN-KREME. Cl. 51.
680,165. BREV. Cl. 51.
680,178. DESIGN OF DERRICK AND SCALE. Cl. 101.
680,179. TELE-WEATHER. Cl. 101.
680,183. PRESTIGE TOURS. Cl. 105.
680,186. SIL-O-PAQUE AND DESIGN. Cl. 106.
680,196. AUTO FUN AND DESIGN. Cl. 9.
680,197. SURE-FIT. Cl. 14.
680,199. POWER LINE. Cl. 21.
680,201. CHIP-N-DIP SUSAN. Cl. 30.
680,204. FLORIDA WEIGHT. Cl. 39.
680,205. POSTURIZED SEATING. Cl. 44.

TRADEMARK REGISTRATIONS AMENDED, DISCLAIMED, CORRECTED, ETC.

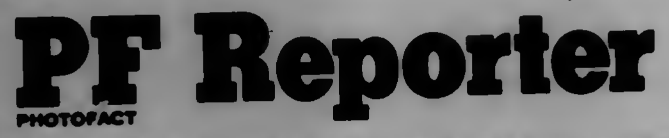
196,911. THE NORTHWESTERN MILLER. Cl. 38. 3–31–25. The Miller Publishing Company. The Miller Publishing Company, Minneapolis, Minn. Amended: In the statement, column 1, line 9, "weekly" is deleted, and the drawing is amended to appear:



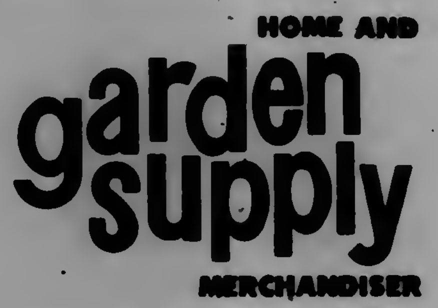
619,073. GULF AND DESIGN. Cl. 35. 1–10–56. Gulf Oil Corporation, Pittsburgh, Pa. Amended: In the statement, column 2, after line 3, *Owner of Reg. No. 621,650 and others.* is inserted, and the drawing is amended to appear:



681,496. PF REPORTER ETC. Cl. 38. 7–7–59. Howard W. Sams & Co., Inc., Indianapolis, Ind. Amended: In the statement, column 2, lines 4 and 5 are deleted, and the drawing is amended to appear:



719,696. HOME AND GARDEN SUPPLY MERCHANDISER. Cl. 38. 8–8–61. Garden Supply Merchandiser, Inc. The Miller Publishing Company, Minneapolis, Minn. Amended to appear:



749,115. SETHCO. Cl. 31. 5–7–63. Sethco Mfg. Corp., Merrick, N.Y. Corrected: In the statement, column 1, line 1, "Manufacturing Corporation" should be deleted and *Mfg. Corp.* should be inserted.

783,211. SOLARONIC. Cl. 34. 1–12–65. Solaronics, Incorporated, Richmond, Va. Corrected: In the statement, column 1, line 1, ", Inc." should be deleted and *Incorporated* should be inserted.

788,324. BEAVER. Cl. 4. 4–20–65. James H. Rhodes & Company, Chicago, Ill. Corrected: In the statement, column 1, line 1, "Rhoads" should be deleted and *Rhodes* should be inserted.

790,306. DIE-LECTRIC. Cl. 23. 6–1–65. Beebe Bros., Inc., Seattle, Wash. Corrected: In the statement, column 1, line 1, after "Bros.," *Inc.* should be inserted.

INDEX OF REGISTRANTS

JULY 27, 1965

(Registered; Renewed; Canceled; Amended, Disclaimed, Corrected, etc.; New Certificates; 12c Publications.)

Acco Products: *See—*
  Naster Corp.
Ace Leather Goods Co., to Herman Blawitz, d.b.a. Ace Leather Goods Co., New York, N.Y. 414,937, ren. 7–27–65. Cl. 2.
Acme Visible Records, Inc., Crozet, Va. 793,215, pub. 5–11–65. Cl. 16.
Acoustica Associates, Inc., Los Angeles, Calif. 793,274, pub. 5–11–65. Cl. 21.
Acu-Melt Corp., Newton Lower Falls, Mass. 793,289, pub. 5–11–65. Cl. 23.
Adams, Septimus, Brooklyn, N.Y. 680,012, canc. Cl. 38.
Ad Lib Records, Inc., New York, N.Y. 793,358, pub. 5–11–65. Cl. 36.
Aeolian American Corp.: *See—*
  Knabe, Wm., & Co. Mfg. Co. of Baltimore City, Md.
Ahalt, Francis Strother, Ranson, W. Va. 680,021, canc. Cl. 38.
Aircraft Armaments, Inc., Cockeysville, Md. 793,297, pub. 5–11–65. Cl. 23.
Air Reduction Co., Inc., New York, N.Y. 793,267, pub. 5–11–65. Cl. 21.
Albany Felt Co., Albany, N.Y. 793,430, pub. 5–11–65. Cl. 42.
Aldic Co., Racine, Wis. 793,451, pub. 5–11–65. Cl. 44.
Allied Stores Corp., d.b.a. The Bon Marche, Seattle, Wash. 793,387, pub. 5–11–65. Cl. 39.
Aluminum Housewares Co., Inc., St. Louis, Mo. 793,308, pub. 5–11–65. Cl. 23.
American Atomics Corp., Tucson, Ariz. 793,270, pub. 5–11–65. Cl. 21.
American Ball Bearing: *See—*
  Lowy, Leo L.
American Blower Corp., Detroit, Mich., to American Radiator & Standard Sanitary Corp., New York, N.Y. 415,709, ren. 7–27–65. Cl. 23.
American Chain & Cable Co., Inc., Bridgeport, Conn. 793,189, pub. 5–11–65. Cl. 13.
American Chicle Co., Long Island City, N.Y., to Warner-Lambert Pharmaceutical Co., Morris Plains, N.J. 199,113–14, ren. 7–27–65. Cl. 51.
American Coffee Co., Inc.: *See—*
  New Orleans Coffee Co. Ltd.
American Distilling Co., d.b.a. Willow Springs Distilling Co., San Francisco, Calif. 680,138, canc. Cl. 49.
American Enka Corp., Enka, N.C. 680,057, canc. Cl. 42.
American Enka Corp., Enka, N.C. 793,442, pub. 5–11–65. Cl. 43.
American Furniture Novelty Co., Chicago, Ill. 793,349, pub. 5–11–65. Cl. 32.
American Greeting Corp., Cleveland, Ohio. 793,372, pub. 5–11–65. Cl. 38.
American Grinder Mfg. Co., to Applied Power Industries, Inc., Milwaukee, Wis. 204,588, ren. 7–27–65. Cl. 23.
American Home Products Corp., New York, N.Y. 793,238, pub. 5–11–65. Cl. 18.
American Home Products Corp., New York, N.Y. 793,245, pub. 5–11–65. Cl. 18.
American Home Products Corp., New York, N.Y. 793,247, pub. 5–11–65. Cl. 18.
American Housecraft Construction Co.: *See—*
  Beardsley, Maynard W.
American Radiator & Standard Sanitary Corp.: *See—*
  American Blower Corp.
American Scientific Laboratories, Inc., Madison, Wis. 679,829, canc. Cl 6.
American Scientific Laboratories, Inc., Madison, Wis. 679,888, canc. Cl. 18.
American Supply Co. of N.C., Inc., High Point, N.C. 793,431, pub. 3–16–65. Cl. 42.
American Wiper and Waste Mills, d.b.a. The Nu-Towel Co., Kansas City, Mo. 793,337, pub. 5–11–65. Cl. 29.
Ames Co., Inc.: *See—*
  Ernst Bischoff Co., Inc.
Ampico Accessories: *See—*
  Hopkins, William C. N.
Anchor Machine Co., Inc., Jackson, Mich. 793,139, pub. 5–11–65. Cl. 2.
Anchor Machine Co., Inc., Jackson, Mich. 793,294, pub. 5–11–65. Cl. 23.
Ancient and Honorable Royal Order of Fraternity Loyalty & Economy Non-Profit Collective Assn., Port Allen, La. 793,374, pub. 5–11–65. Cl. 38.
Angelica Uniform Co., St. Louis, Mo. 793,400, pub. 5–11–65. Cl. 39.
Anheuser-Busch, Inc., St. Louis, Mo. 793,467, pub. 9–18–62. Cl. 48.
Animal Nutritional Service Co., Inc., Madison, Wis. 793,239, pub. 5–11–65. Cl. 18.
Applied Power Industries, Inc.: *See—*
  American Grinder Mfg. Co.
Approved Modes International, Inc., New York, N.Y. 680,024, canc. Cl. 39.
Arkansas Co., Inc., Newark, N.J. 793,147, pub. 3–23–65. Cl. 6.
Arkansas Grain Corp., Stuttgart, Ark. 793,464, pub. 5–11–65. Cl. 46.
Armour and Co., Chicago, Ill. 793,486. Cl. 4.
Arnold, Schwinn & Co., Chicago, Ill. 793,255, pub. 5–11–65. Cl. 19.
Aronow Jewelry Co.: *See—*
  Aronow, Julius.
Aronow, Julius, d.b.a. Aronow Jewelry Co., New York, N.Y. 793,332, pub. 5–11–65. Cl. 28.
Arthur Doctor & Co., New York, N.Y. 793,398, pub. 4–6–65. Cl. 39.
Artistor Jewelry, Inc., New York, N.Y. 793,335, pub. 5–11–65. Cl. 28.
Atlas Powder Co., Wilmington, Del. 679,834, canc. Cl. 6.
Atr Electronics, Inc., St. Paul, Minn. 793,490. Cl. 21.
Auer, Elizabeth C.: *See—*
  Chappell, William R.
August Sauter K.G., Ebingen/Wurtt, Germany. 793,309, pub. 5–11–65. Cl. 26.
Auto-Swage Products, Inc., Shelton, Conn. 793,304, pub. 5–11–65. Cl. 23.
B.B.B. Mfg. Co., Burbank, Calif. 793,178, pub. 5–11–65. Cl. 12.
Babson Bros. Co.: *See—*
  Pine Tree Milking Machine Co.
Badenia Calculators, Ltd., London, England. 793,350, pub. 5–11–65. Cl. 32.
B & K Mfg. Co., from Dyna-Scan Mfg. Co., Chicago, Ill. 679,968, canc. Cl. 26.
Bata Shoe Co. of Canada, Ltd., Batawa, Ontario, Canada. 793,298, pub. 5–11–65. Cl. 23.
Beacon Looms, Inc., New York, N.Y. 680,059, canc. Cl. 42.
Beardsley, Maynard W., d.b.a. American Housecraft Construction Co., Independence, Mo. 680,010, canc. Cl. 38.
Beebe Bros., Inc., Seattle, Wash. 790,306, cor. Cl. 23.
Bell-Craig, Inc., New York, N.Y. 793,229, pub. 5–11–65. Cl. 18.
Beltrami, Francis, d.b.a. Editions Quo Vadis-Au Beau Plastique, Marseille (Bouches-du-Rhone), France. 793,361, pub. 5–11–65. Cl. 37.
Bemis Bro. Bag Co., Minneapolis, Minn. 679,809, canc. Cl. 2.
Benckiser, Joh. A., G.m.b.H., Chemische Fabrik, Ludwigshafen, Rhine, Germany. 793,148, pub. 5–11–65. Cl. 6.
Bendiner & Schlesinger, Inc.: *See—*
  Schlesinger, Maurice F.
Bendix Corp., The, Detroit, Mich. 793,342, pub. 5–11–65. Cl. 31.
Bendixen, Howard R.: *See—*
  Bendixen Tobacco Co.
Bendixen Tobacco Co., to H. R. Bendixen, d.b.a. Bendixen Tobacco Co., Syracuse, N.Y. 44,474, ren. 7–27–65. Cl. 17.
Benger's Food Ltd., Manchester, to Fisons Pharmaceuticals Ltd., Loughborough, England. 198,325, ren. 7–27–65. Cl. 46.
Beryllium Corp., The, Reading, Pa. 793,194, pub. 5–11–65. Cl. 14.
Blawitz, Herman: *See—*
  Ace Leather Goods Co.
Birge Co., Inc., The, Buffalo, N.Y. 793,359, pub. 5–11–65. Cl. 37.
Birge Co., Inc., The, Buffalo, N.Y. 793,367, pub. 5–11–65. Cl. 37.
Black Leaf Products Co.: *See—*
  Kentucky Tobacco Products Co., The.
Bliss & Laughlin, Inc., Harvey, Ill. 793,165, pub. 5–11–65. Cl. 12.
Block China Co., New York, N.Y. 793,338, pub. 5–11–65. Cl. 30.
Boehringer Ingelheim G.m.b.H., Ingelheim, Rhein, Germany. 793,236–7, pub. 5–11–65. Cl. 18.
Boles Aero, Inc., Sun Valley, Calif. 793,248, pub. 5–11–65. Cl. 19.
Bon Marche, The: *See—*
  Allied Stores Corp.
Bonci's, Inc., d.b.a. Bon-Specialty Foods, Greenville, Pa. 680,100, canc. Cl. 46.
Bond Judy, Inc., New York, N.Y. 680,036, canc. Cl. 39.
Bon-Specialty Foods: *See—*
  Bonci's, Inc.
Bourbeuse Shoe Co., Union, to Brown Shoe Co., Inc., St. Louis, Mo. 417,823, ren. 7–27–65. Cl. 39.
Broadway Pen Corp., Long Island City, N.Y. 793,368, pub. 5–11–65. Cl. 37.
Brother International Corp., New York, N.Y. 793,491. Cl. 23.
Brown Shoe Co., Inc.: *See—*
  Bourbeuse Shoe Co.
  Hamilton, Brown Shoe Co.
Bryant Engineering Co., Port Huron, Mich. 793,283, pub. 5–11–65. Cl. 23.
Bucherer Co., A.G., Lucerne, Switzerland. 793,327, pub. 5–11–65. Multiple Class (Classes 27 and 28).
Burgess Pigment Co., Sandersville, Ga. 793,134, pub. 5–11–65. Cl. 1.
Burner, Bingham F., Arlington, Va. 793,457, pub. 5–11–65. Cl. 44.
Burnette, Smiley, Silver Spring, Fla. 680,018, canc. Cl. 38.
Burroughs, J. P., & Sons, Inc., Saginaw, Mich. 793,285, pub. 5–11–65. Cl. 23.

Butler Mfg. Co., Kansas City, Mo. 793,[illegible]0-1, pub. 5-11-65. Cl. 16.
Cabin Crafts, Inc., Dalton, Ga. 680,050, canc. Cl. 42.
Cacchillo, Anthony F., d.b.a. Old Chap Co., West Orange, N.J. 793,483, pub. 5-11-65. Cl. 52.
Cactus Remedy Co.: *See*—
  Hixson, Etta.
California Hand Prints, Inc., Hermosa Beach, Calif. 793,434, pub. 5-11-65. Cl. 42.
California Metal Enameling Co., Los Angeles, Calif. 201,966, ren. 7-27-65. Cl. 50.
Calig, M., Co., The: *See*—
  Calig, Milton.
Calig, Milton, d.b.a. The M. Calig Co., Los Angeles, Calif. 793,444, pub. 5-11-65. Cl. 44.
Calkins, Charles C., d.b.a. The Kev Co., Phoenix, Ariz. 679,905, canc. Cl. 18.
Caron Spinning Co., Rochelle, Ill. 79[illegible],416, pub. 5-11-65. Cl. 39.
Carriage Shop, Inc., The, Dallas, Tex. 7[illegible]3,384, pub. 5-11-65. Cl. 39.
Carter Products, Inc., New York, N.Y. 7[illegible]3,243, pub. 5-11-65. Cl. 18.
Central Air Conditioning Co., Inc., d.b.a. Thermal Blok Co., Wichita, Kans. 793,174, pub. 5-11-65. Cl. 12.
Ceraplast, Inc., Santa Cruz, Calif. 67[illegible],818, canc. Cl. 4.
Champion Papers Inc., Hamilton, Ohio. 793,137, pub. 5-11-65. Cl. 2.
Chappell, William R., d.b.a. Universal Cover Fastener Co., New York, to E. C. Auer, d.b.a. Universal Coverfastener Co., Armonk, N.Y. 186,870, ren. 7-27-65. Cl. 40.
Chatham Mfg. Co., Elkin, N.C. 793,426, pub. 5-11-65. Cl. 42.
Chattanooga Medicine Co., The: *See*—
  National Toilet Co.
Chemelex, Inc., Mineola, N.Y. 793,264, pub. 5-11-65. Cl. 21.
Chemtronic Corp., Nashville, Tenn. 67[illegible],941, canc. Cl. 21.
Chesebrough Mfg. Co., Consolidated, to Chesebrough-Pond's Inc., New York, N.Y. 45,138, ren. 7-27-65. Cl. 18.
Chesebrough-Pond's Inc.: *See*—
  Chesebrough Mfg. Co., Consolidated.
Ciments LaFarge, Societe Anonyme: *See*—
  Societe Anonyme des Chaux et Ciments de LaFarge et du Teil.
Cisco, Inc., New York, N.Y. 201,319, ren. 7-27-65. Cl. 39.
Cisco, Inc., New York, N.Y. 201,522, ren. 7-27-65. Cl. 39.
Cleveland Pneumatic Industries, Inc., Cleveland, Ohio. 679,960, canc. Cl. 23.
Clover Leaf Paint & Varnish Corp.: *See*—
  Mayer & Loewenstein.
Cluett, Peabody & Co., Inc., New York, N.Y. 793,383, pub. 5-11-65. Cl. 39.
Coach's Sporting Goods Corp., Marion, Ind. 793,314, pub. 5-11-65. Cl. 26.
Cold Spring Dyeing and Processing Co., Inc., Beacon, N.Y. 680,186, canc. Cl. 106.
Colgate-Palmolive Co., New York, N.Y. [illegible]3,482, pub. 5-11-65. Cl. 52.
Colortran Industries, Burbank, Calif. 7[illegible]3,272, pub. 5-11-65. Cl. 21.
Continental Distilling Corp., d.b.a. Inver House Distillers, Ltd., Philadelphia, Pa. 793,472, pub. 3-[illegible]-65. Cl. 49.
Cook Valve Co., Inc., Erin, Tenn. 7[illegible],182, pub. 5-11-65. Cl. 13.
Copeland Laboratories, Ltd., Rexdale, Toronto, Ontario, Canada. 793,213, pub. 5-11-65. Cl. 1[illegible].
Corbin-Farnsworth, Inc., Palo Alto, Calif. 792,450, pub. 12-15-64. Cl. 44.
Coronet Ltd., Birmingham, England. 6[illegible]9,978, canc. Cl. 26.
Country Girl Cosmetic Corp., New York, N.Y. 680,154, canc. Cl. 51.
Country Miss, Inc., Bangor, Pa. 793,3[illegible], pub. 5-11-65. Cl. 39.
Country Town Products Inc., Radnor, Pa. 679,947, canc. Cl. 22.
Creamery Package Mfg. Co., The, Chicago, Ill. 679,868, canc. Cl. 13.
Crompton Co., New York, N.Y. 793,4[illegible]9-40, pub. 5-11-65. Cl. 42.
Crompton & Knowles-Malimo, Inc., Worcester, Mass. 793,422, pub. 5-11-65. Cl. 42.
Crown Co., The: *See*—
  Haas Brothers.
Curtis 1000, Inc., St. Paul, Minn. 793,3[illegible]0, pub. 5-11-65. Cl. 37.
Dalton Foundries, Inc., Warsaw, Ind. [illegible]79,916, canc. Cl. 19.
Dansk Chemo-Therapeutisk Selskab A/S: *See*—
  Dansk Chemo-Therapeutisk Selskab Ved Fred. Andersen, I. Siesbye & H. Weitzmann.
Dansk Chemo-Therapeutisk Selskab Ved Fred Andersen, I. Siesbye & H. Weitzmann, to Dansk Chemo-Therapeutisk Selskab A/S, Copenhagen, Denmark. 198,992, ren. 7-27-65. Cl. 18.
Dansk Designs, Inc., Great Neck, N.Y. 679,855, canc. Cl. 8.
Dansk Eternit-Fabrik A/S, Aaborg, Denmark. 793,172, pub. 5-11-65. Cl. 12.
Day-Brite Lighting, Inc., to Emerson Electric Co., St. Louis, Mo. 415,330, ren. 7-27-65. Cl. 21.
Den-Nap Electric Mold Co., to Den-Nap Electric Mold Co., Macon, Ga. 415,349, ren. 7-27-65. Cl. 23.
Detlor, George F., d.b.a. Res-Tik, Tulsa, Okla. 793,420, pub. 5-11-65. Cl. 41.
Detrex Chemical Industries, Inc., Detroit, Mich. 793,293, pub. 5-11-65. Cl. 23.
Dictograph Products Co., Inc., Jamaica, N.Y. 680,067, canc. Cl. 44.
Diversified Chemicals Corp., Stanton, Calif. 793,146, pub. 1-8-63. Cl. 6.
Dorr Sales & Engineering Co. Inc., Milwaukee, Wis. 793,211, pub. 5-11-65. Cl. 16.
Drilling Specialties Co., Bartlesville, Okla. 793,190, pub. 5-11-65. Cl. 13.
Dubin-Haskell-Jacobson, Inc., New York, N.Y. 793,427, pub. 4-27-65. Cl. 42.
Dubois Plastic Products, Inc., Buffalo, N.Y. 793,323, pub. 5-11-65. Cl. 26.
Dunstar Sportswear, Inc., New York, N.Y. 793,389, pub. 5-11-65. Cl. 39.
Dyna-Scan Mfg. Co.: *See*—
  B & K Mfg. Co.
E-Z Enterprises, Inc., Detroit, Mich. 793,254, pub. 5-11-65. Cl. 19.
E Z Painter Corp., Milwaukee, Wis. 793,336, pub. 8-13-63. Cl. 29.
Easco Products, Inc., Ann Arbor, Mich. 793,271, pub. 5-11-65. Cl. 21.
Economics Laboratory, Inc., St. Paul, Minn., from Magnus Chemical Co., Inc., Garwood, N.J. 793,212, pub. 5-11-65. Cl. 16.
Economics Laboratory, Inc., St. Paul, Minn., from Magnus Chemical Co., Inc., Garwood, N.J. 793,481, pub. 5-11-65. Cl. 52.
Editions Quo Vadis-Au Beau Plastique: *See*—
  Beltrami, Francis.
Elco Electronic Instrument Co., Inc., Long Island City, N.Y. 793,259, pub. 5-11-65. Cl. 21.
Einiger Mills, Inc., New York, N.Y. 793,424, pub. 5-11-65. Cl. 42.
Elco Lubricant Corp., The, to The Elco Corp., Cleveland, Ohio. 416,305, ren. 7-27-65. Cl. 15.
Elder, Paul B., Co., Bryan, Ohio. 793,479, pub. 5-11-65. Cl. 51.
Electrolux Corp., New York, N.Y. 679,950, canc. Cl. 23.
Elox Corp. of Michigan, Troy, Mich. 793,279, pub. 5-11-65. Cl. 21.
Elsmo Inc., d.b.a. Elsmo Real Estate, Racine, Wis. 793,484, pub. 3-16-65. Cl. 102.
Elsmo Real Estate: *See*—
  Elsmo Inc.
Emerson Electric Co.: *See*—
  Day-Brite Lighting, Inc.
Engelke, William J. H.: *See*—
  Parker, Irvin.
Epicures' Club, The, Union, N.J. 793,460, pub. 5-11-65. Cl. 46.
Erismann-Schinz S.A., La Neuveville (Berne), Switzerland. 793,326, pub. 5-11-65. Cl. 27.
Ernst Bischoff Co., Inc., Ivoryton, Conn., to Ames Co., Inc., Elkhart, Ind. 417,142, ren. 7-27-65. Cl. 18.
Esquire, Inc., Chicago, Ill., to Esquire, Inc., New York, N.Y. 412,298, ren. 7-27-65. Cl. 36.
Essex Wire Corp., Fort Wayne, Ind. 793,180, pub. 5-11-65. Cl. 13.
Eye Kraft Optical, Inc., St. Cloud, Minn. 793,321, pub. 5-11-65. Cl. 26.
Fafnir Bearing Co., The, New Britain, Conn. 793,287, pub. 5-11-65. Cl. 23.
Fairchild Camera and Instrument Corp., Syosset, N.Y. 793,475, pub. 5-11-65. Cl. 50.
Fairey Aviation Co., Ltd., Hayes, England. 679,917, canc. Cl. 19.
Fan-eez Co.: *See*—
  Maxwell, Irene.
Fansteel Metallurgical Corp., North Chicago, Ill. 793,192-3, pub. 5-11-65. Cl. 14.
Fansteel Metallurgical Corp., North Chicago, Ill. 793,300-2, pub. 5-11-65. Cl. 23.
Farah Mfg. Co., Inc., El Paso, Tex. 793,394, pub. 4-6-65. Cl. 39.
Fay, Leslie, Inc., New York, N.Y. 793,418, pub. 5-11-65. Cl 39.
Finch, Joseph S., and Co.: *See*—
  Records & Goldsborough, Inc.
Firestone Tire & Rubber Co., The, Akron, Ohio. 793,140, pub. 3-16-65. Cl. 2.
First Texas Pharmaceuticals, Inc., Dallas, Tex. 793,240, pub. 5-11-65. Cl. 18.
Fiske Associates, Inc., Bethel, Conn. 793,310, pub. 1-12-65. Cl. 26.
Fisons Pharmaceuticals Ltd.: *See*—
  Benger's Food Ltd.
Forstner, Inc., Irvington, N.J. 679 992, canc. Cl. 28.
Fort Howard Paper Co., Green Bay, Wis. 199,848, ren. 7-27-65. Cl. 37.
Foster-Milburn Co., to Foster-Milburn Co., Buffalo, N.Y. 198,812, ren. 7-27-65. Cl. 18.
Foster, Myron, d.b.a. Hesperian Orchards, Inc., Wenatchee, Wash. 413,109 ren. 7-27-65. Cl. 46.
Foster, Myron, d.b.a. Hesperian Orchards, Inc., Wenatchee, Wash. 413,667, ren. 7-27-65. Cl. 46.
Fotofoil Co.: *See*—
  Miller Dial and Name Plate Co.
Fouke Fur Co., Greenvillle, S.C. 414,446, ren. 7-27-65. Cl. 1.
Fountain Service Co., The: *See*—
  Mesler, Franklin M.
Freeman Chemical Corp., from Freeman Chemical Corp., Port Washington, Wis. 679,949, canc. Cl. 23.
Fritzche Bros., Inc., New York, N.Y. 417,546, ren. 7-27-65. Cl. 6.
Frozen Arts, to Frozen Arts, Chicago, Ill. 198,534, ren. 7-27-65. Cl. 46.
Fulget Dei Fratelli Capoferri: *See*—
  Capoferri, Paolo, and Giuseppe Capoferri.
Fuller, W. P., & Co.: *See*—
  Hunt Foods and Industries, Inc.

G-String Co.: *See*—
  Haggerty, Kenneth.
Gail'sche, Wilhelm, Tonwerke KG. a. A., Giessen, Germany. 793,160, pub. 5-11-65. Cl. 12.
Gamlen Chemical Co., San Francisco, Calif., and Pittsburgh, Pa., to Gamlen Chemical Co., South San Francisco, Calif. 417,282, ren. 7-27-65. Cl. 52.
Garden Supply Merchandiser, Inc. The Miller Publishing Co., Minneapolis, Minn. 719,696. Am. 7(d). Cl. 38.
Geigy Chemical Corp., Ardsley, N.Y. 793,155, pub. 5-11-65. Cl. 6.
Gemco Electric Co., Clawson, Mich. 793,266, pub. 5-11-65. Multiple Class (Classes 21 and 26).
Gem-Mounts and Gem-Masks Co.: *See*—
  Heitman, Paul S.
General American Transportation Corp., Chicago, Ill. 793,252, pub. 5-11-65. Cl. 19.
General Aniline & Film Corp., New York, N.Y. 679,826, canc. Cl. 6.
General Aniline & Film Corp., New York, N.Y. 679,844, canc. Cl. 6.
General Cigar Co., Inc., New York, N.Y. 793,217, pub. 5-11-65. Cl. 17.
General Latex and Chemical Corp., Cambridge, Mass. 793,132-3, pub. 11-10-64. Cl. 1.
General Mills, Inc.: *See*—
  Red Star Milling Co., The.
General Motors Corp., Detroit, Mich. 679,942, canc. Cl. 21.
General Motors Corp., Detroit, Mich. 793,251, pub. 5-11-65. Cl. 19.
Gerdes, John B., d.b.a. 20th Century Chemical Co., Loyal, Wis. 793,224, pub. 5-11-65. Cl. 18.
Gestetner Ltd., London, England. 679,825, canc. Cl. 6.
Gides, Inc., Beverly Hills, Calif. 679,891, canc. Cl. 18.
Gillespie-Rogers-Pyatt Co., Inc., New York, N.Y. 793,214, pub. 5-11-65. Cl. 16.
Gladstone-Arcuni, Inc., New York, N.Y. 793,404, pub. 5-11-65. Cl. 39.
Golay-Buchel et Cie, S.A., Lausanne, Switzerland. 793,262, pub. 5-11-65. Cl. 21.
Gold Medal Jewelry, Inc., New York, N.Y. 793,333, pub. 5-11-65. Cl. 28.
Gottlieb, David E., Inc., New York, N.Y. 793,391, pub. 5-11-65. Cl. 39.
Graham Paper Co., St. Louis, Mo. 793,360, pub. 5-11-65. Cl. 37.
Grant, W. T., Co., New York, N.Y. 793,413, pub. 5-11-65. Cl. 39.
Greater Valley Terminal Corp., Philadelphia, Pa. 679,873, canc. Cl. 15.
Great Northern Mfg. Corp., Chicago, Ill. 679,932, canc. Cl. 21.
Green Giant Co.: *See*—
  Minnesota Valley Canning Co.
Grey-Wood Knitwear Industries, Inc., New York, N.Y. 793,395, pub. 5-11-65. Multiple Class (Classes 39 and 42).
Groveton Papers Co., Groveton, N.H. 680,006, canc. Cl. 37.
Gulf Oil Corp., Pittsburgh, Pa. 619,073. Am. 7(d). Cl. 35.
Gulf States Paper Corp., Tuscaloosa, Ala. 793,366, pub. 5-11-65. Cl. 37.
Haas Brothers, d.b.a. The Crown Co., San Francisco, Calif. 793,471, pub. 5-14-63. Cl. 49.
Haggerty, Kenneth, d.b.a. G-String Co., Rochester, Minn. 679,854, canc. Cl. 7.
Hale Co., The, Tulsa, Okla. 793,184, pub. 5-11-65. Cl. 13.
Hales & Hunter Co., Chicago, Ill. 680,127, canc. Cl. 46.
Halkey-Roberts Corp., Paramus, N.J. 793,187, pub. 5-11-65. Cl. 13.
Hamilton, Brown Shoe Co., to Brown Shoe Co., Inc., St. Louis, Mo. 205,653, ren. 7-27-65. Cl. 39.
Hamilton Watch Co., Lancaster, Pa. 793,328, pub. 5-11-65. Cl. 27.
Handy & Harman, New York, N.Y. 793,191, pub. 5-11-65. Cl. 14.
Harper Hosiery Mills, Inc., New York, N.Y. 793,408-10, pub. 5-11-65. Cl. 39.
Harsco Corp., Harrisburg, Pa., from Plant City Steel Corp., Plant City, Fla. 793,282, pub. 5-11-65. Cl. 23.
Heil Co., The, Milwaukee, Wis. 679,914, canc. Cl. 19.
Heitman, Paul S., d.b.a. Gem-Mounts and Gem-Masks Co., New York, N.Y. 793,315-16, pub. 5-11-65. Cl. 26.
Henson-Kickernick, Inc., Greenville, Tex. 793,411, pub. 5-11-65. Cl. 39.
Hesperian Orchards, Inc.: *See*—
  Foster, Myron.
Hettrick Mfg. Co., The, Statesville, N.C. 793,290, pub. 5-11-65. Cl. 23.
Heublein, Inc.: *See*—
  Brand & Co.
Hill-Rockford Co., Rockford, Ill. 793,303, pub. 5-11-65. Cl. 23.
Hines, Edward, Lumber Co., Chicago, Ill. 793,170, pub. 5-11-65 Cl. 12.
Hixson, Etta, d.b.a. Cactus Remedy Co., to R. Jack Reeve, d.b.a. Cactus Remedy Co., Kansas City, Mo. 203,495, ren. 7-27-65. Cl. 18.
Hollis, Harold H., Cooperstown, N.Y. 680,179, canc. Cl. 101.
Home-Care Products, Inc., Jamaica, N.Y. 793,138, pub. 5-11-65. Multiple Class (Classes 2 and 21).
Hopkins, William C. N., d.b.a. Ampico Accessories, Palo Alto, Calif. 793,295, pub. 5-11-65. Cl. 23.
Hopp Press, Inc., The, New York, N.Y. 793,474, pub. 5-11-65. Cl. 50.
Houdaille Industries, Inc., Buffalo, N.Y. 793,296, pub. 5-11-65. Cl. 23.
House of Herbs, Inc., Salisbury, Conn. 414,037, ren. 7-27-65. Cl. 46.
Hudson Photographic Industries, Inc., Irvington-On-Hudson, N.Y. 793,322, pub. 5-11-65. Cl. 26.
Hunter Chemical Co., The, San Antonio, Tex. 793,141, pub. 5-11-65. Multiple Class (Classes 4, 6, and 52).
Hunt Foods and Industries, Inc., d.b.a. W. P. Fuller & Co., Fullerton, Calif. 793,202-9, pub. 5-11-65. Cl. 16.
Ideal Tubular Corp., Brooklyn, N.Y. 793,188, pub. 5-11-65. Cl. 13.
Industrial Electronic Engineers, Inc., Hollywood, Calif. 793,263, pub. 5-11-65. Cl. 21.
Industrial Maintenance, Inc., Seattle, Wash. 793,164, pub. 5-11-65. Cl. 12.
International Silver Co., The, Meriden, Conn. 793,281, pub. 5-11-65. Cl. 23.
Inver House Distillers, Ltd.: *See*—
  Continental Distilling Corp.
Irresistible, Inc., to The Nestle-LeMur Co., New York, N.Y. 417,506, ren. 7-27-65. Cl. 51.
Jacobs, E. H., Mfg. Co.: *See*—
  Jacobs, E. H., Mfg. Co., Inc.
Jacobs, E. H., Mfg. Co., Inc., Danielson, Conn., to E. H. Jacobs Mfg. Co., Charlotte, N.C. 417,089, ren. 7-27-65. Cl. 23.
Jaco Mfg. Co., Berea, Ohio. 793,284, pub. 5-11-65. Cl. 23.
Jacquin, Charles, et Cie, Inc., d.b.a. London Tower Distilled Products, Ltd., Philadelphia, Pa. 793,469-70, pub. 3-27-62. Cl. 49.
Johns-Manville Corp., New York, N.Y. 793,159, pub. 12-22-64. Cl. 12.
Johns-Manville Corp., New York, N.Y. 793,171, pub. 5-11-65. Cl. 12.
Johnson, Glenn J., Powell, Wyo. 793,183, pub. 5-11-65. Cl. 13.
Johnson, S. C., & Son, Inc., Racine, Wis. 793,144, pub. 5-11-65. Cl. 4.
Jones, Wilson, Co., Chicago, Ill. 680,004, canc. Cl. 37.
Kafak Aktiebolag, Sundsvall, Sweden. 793,168, pub. 5-11-65. Cl. 12.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 793,163, pub. 5-11-65. Cl. 12.
Kaiser Aluminum & Chemical Corp., Oakland, Calif. 793,179, pub. 5-11-65. Cl. 12.
Kaiser Steel Corp., Oakland, Calif. 793,166, pub. 5-11-65. Cl. 12.
Keller Research Corp., Detroit, Mich. 793,268, pub. 5-11-65. Cl. 21.
Kelty, James E., d.b.a. Kelty Radiator Co., Vinton, Iowa. 793,253, pub. 5-11-65. Cl. 19.
Kelty Radiator Co.: *See*—
  Kelty, James E.
Kentucky Tobacco Products Co., The, Louisville, Ky., to Black Leaf Products Co., Chicago, Ill. 47,058, ren. 7-27-65. Cl. 6.
Kev Co., The: *See*—
  Calkins, Charles C.
Kilgannon Co.: *See*—
  Metrol Corp.
Kimberly-Clark Corp., Neenah, Wis. 793,275, pub. 5-11-65. Cl. 21.
Kimberly-Clark Corp., Neenah, Wis. 793,445, pub. 5-11-65. Cl. 44.
King, Aluma, Inc., from Miami Screen Co., Inc., Hialeah, Fla. 793,249, pub. 5-11-65. Cl. 19.
Kingman Chemicals, Inc., Pasadena, Calif. 679,904, canc. Cl. 18.
Kiron, Inc., San Diego, Calif. 793,325, pub. 5-11-65. Cl. 26.
Knabe, Wm., & Co. Mfg. Co. of Baltimore City, Md., to Aeolian American Corp., New York, N.Y. 45,058, ren. 7-27-65. Cl. 36.
Kobler, Paul, d.b.a. Kobler Shaver Co., Lynbrook, N.Y. 793,286, pub. 5-11-65. Cl. 23.
Kobler Shaver Co.: *See*—
  Kobler, Paul.
Kohler-McLister Paint Co., Denver, Colo. 793,210, pub. 5-11-65. Cl. 16.
Ko-Rekt: *See*—
  Siampaus, Demetrie C.
Butcher, L. H., Co., Los Angeles, Calif. 679,824, canc. Cl. 6.
LTV Aerospace Corp., from Ling-Temco-Vought, Inc., Dallas, Tex. 793,175, pub. 5-11-65. Cl. 12.
Larus & Brother Co., Richmond, Va. 793,157, pub. 5-11-65. Cl. 8.
Lawless Bros. Container Corp., North Tonawanda, N.Y. 680,025, canc. Cl. 39.
Lawrence of London Ltd., New York, N.Y. 793,417, pub. 5-11-65. Cl. 39.
Lee, H. D., Co., The, Kansas City, Mo. 793,378, pub. 5-11-65. Cl. 39.
Lee, H. D., Co., Inc., The, Kansas City, Mo. 793,405, pub. 5-11-65. Cl. 39.
Leethem, Chas., & Co., to Leethems Ltd., to Leethems (Twilfit) Ltd., Portsmouth, England. 200,899, ren. 7-27-65. Cl. 39.
Leethems (Twilfit) Ltd.: *See*—
  Leethem, Chas., & Co.
Leo Pharmaceuticals, Inc., Inglewood, Calif. 679,881, canc. Cl. 18.
Leonora Inc., New York, N.Y. 793,415, pub. 5-11-65. Cl. 39.
Les Parfums Worth de Paris, Inc.: *See*—
  Societe Worth.
Lewell Mfg. Co., Inc., New York, N.Y. 793,412, pub. 5-11-65. Cl. 39.
Lilly, Eli, and Co., Indianapolis, Ind. 679,897, canc. Cl. 18.
Ling-Temco-Vought, Inc.: *See*—
  LTV Aerospace Corp.
Lock-Lined, Inc., New York, N.Y. 793,432, pub. 5-11-65. Cl. 42.

London Tower Distilled Products, Ltd.: See—
  Jacquin, Charles, et Cie. Inc.
Lowy, Leo L., d.b.a. American Ball Bearing, Brooklyn, N.Y. 679,951, canc. Cl. 23.
Piccard, Lucien, Watch Corp., New York, N.Y. 793,330, pub. 5-11-65. Cl. 27.
Piccard, Lucien, Watch Corp., New York, N.Y. 793,334, pub. 5-11-65. Cl. 28.
Luffin Rule Co., The, Saginaw, Mich. 793,319, pub. 5-11-65. Cl. 26.
Luitpold-Werk, Munich, Germany. 793,23, pub. 3-9-65. Cl. 18.
Luther Corp., Warsaw, Ind. 679,915, canc. Cl. 19.
Luther Ford & Co., to Luther Ford Products Co., Minneapolis, Minn. 199,108, ren. 7-7-65. Cl. 6.
Luther Ford Products Co.: See—
  Luther Ford & Co.
Macafield Shirt Co., Inc., New York, N.Y. 680,037, canc. Cl. 39.
Madison, Dolly, Inc., New York, N.Y. 793,421, pub. 5-11-65. Cl. 42.
Magna Corp., Anaheim, Calif. 793,149, pub. 5-11-65. Cl. 6.
Magna Corp., Anaheim, Calif. 793,313, pub. 5-11-65. Cl. 26.
Magnetec Corp., Los Angeles, Calif. 679,53, canc. Cl. 23.
Magnus Chemical Co., Inc.: See—
  Economics Laboratory, Inc.
Mallory, P. R., & Co., Inc., Indianapolis, Ind. 793,216, pub. 5-11-65. Cl. 17.
Mallory, P. R., & Co., Inc., Indianapolis, Ind. 793,273, pub. 5-11-65. Cl. 21.
Manhattan Soap Co., Inc., New York, N.Y., to Purex Corp., Ltd., Lakewood, Calif. 414,033, ren. 7-27-65. Cl. 52.
Mann, Janus, Inc., New York, N.Y. 793,477, pub. 3-30-65. Cl. 51.
Maple Grove, Inc., St. Johnsbury, Vt. 680,094, canc. Cl. 46.
Marlene Industries Corp., New York, N.Y. 793,379, pub. 5-11-65. Cl. 39.
Marlenn Products Co., Inc., Pikesville, Md. 680,140, canc. Cl. 30.
Mars Ltd., Slough, England 793,463, pub. 5-11-65. Cl. 46.
Marvello Toiletries, Inc., Chicago, Ill. 793,222, pub. 3-23-65. Cl. 18.
Masonite Corp., Chicago, Ill. 793,167, pub. 5-11-65. Cl. 12.
Master Vending Machine Co. Ltd., The, London, England. 680,160, canc. Cl. 51.
Maxwell, Irene, d.b.a. Fan-eez Co., Phoenix, Ariz. 680,062, canc. Cl. 44.
May & Baker, Ltd., Dagenham, Essex, England. 679,846, canc. Cl. 6.
Mayer & Loewenstein, New York, to Clover Leaf Paint & Varnish Corp., Long Island City, N.Y. 46,556, ren. 7-27-65. Cl. 16.
Mechanical Excavators, Inc., Los Angeles, Calif. 793,299, pub. 5-11-65. Cl. 23.
Medco Products Co., Inc., Tulsa, Okla. 793,449, pub. 5-11-65. Cl. 44.
Merck & Co., Inc., Rahway, N.J. 793,242, pub. 5-11-65. Cl. 18.
Mesler, Franklin M., d.b.a. The Fountain Service Co., Gasport, N.Y. 680,079, canc. Cl. 46.
Meter-All Mfg. Co., Inc., Dallas, Tex. 793,320, pub. 5-11-65. Cl. 26.
Metrol Corp., from Kilgannon Co., Houston, Tex. 793,153, pub. 5-11-65. Cl. 6.
Meyer, Mrs. John S., d.b.a. Prudent Products, St. Louis, Mo. 793,473, pub. 5-11-65. Cl. 50.
Meyer, O. W., d.b.a. O. W. Meyer Laboratories, Napoleon, Ohio. 679,885, canc. Cl. 18.
Meyer, O. W., Laboratories: *See—*
  Meyer, O. W.
Miami Screen Co., Inc.: *See*—
  Aluma King, Inc.
Midland Grocery Co., The, Columbus, Ohio. 417,280, ren. 7-27-65. Cl. 46.
Midwest Dental Mfg. Co., Chicago, Ill. 680,061, canc. Cl. 44.
Milk Research, Inc., Fond du Lac, Wis. 793,459, pub. 5-11-65. Cl. 46.
Miller Dial and Name Plate Co., d.b.a. Fotofoil Co., El Monte, Calif. 793,152, pub. 4-6-65. Cl. 6.
Miller Publishing Co., The: *See—*
  Garden Supply Merchandiser, Inc.
Miller Publishing Co., The, to The Miller Publishing Co., Minneapolis, Minn. 196,911. Am. 7(d). Cl. 38.
Mineralite Ltd., Croydon, England. 793,176, pub. 5-11-65. Cl. 12.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 793,145, pub. 5-11-65. Cl. 4.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 793,452, pub. 5-11-65. Cl. 44.
Minnesota Mining and Mfg. Co., St. Paul, Minn. 793,455-6, pub. 5-11-65. Cl. 44.
Minnesota Valley Canning Co., to Green Giant Co., Le Sueur, Minn. 417,592, ren. 7-27-65. Cl. 46.
Mintz, Sol, Chicago, Ill. 793,441, pub. 5-11-65. Cl. 42.
Modern Shoe Co., St. Louis, Mo. 793,377, pub. 5-11-65. Cl. 39.
Mohasco Industries, Inc., Amsterdam, N.Y. 680,052, canc. Cl. 42.
Mohawk Paper Mills, Inc., Cohoes, N.Y. 793,493. Cl. 37.
Moran Shoe Co., Carlyle, Ill. 793,397, pub. 5-11-65. Cl. 39.
Moultrie Mfg. Co., Moultrie, Ga. 793,35, pub. 5-11-65. Cl. 32.
Mueller Electric Co., Cleveland, Ohio. 793,269, pub. 1-5-65. Cl. 21.
Mullins Mfg. Corp., Salem, Ohio. 793,35, pub. 5-11-65. Cl. 34.
Murray Biscuit Co., Augusta, Ga. 793,46, pub. 5-11-65. Cl. 46.
Murray Corp., Towson, Md. 679,943, canc. Cl. 21.
McCormick Distilling Co., Weston, Mo. 793,468, pub. 2-26-63. Cl. 49.
McCray Refrigerator Co., Inc., Kendallville, Ind. 793,340, pub. 5-11-65. Cl. 31.
McGreevey, Werring & Howell Co., to McGreevey, Werring & Howell Co., New York, N.Y. 415,509, ren. 7-27-65. Cl. 39.
McNeil Laboratories, Inc., Fort Washington, Pa. 414,773, ren. 7-27-65. Cl. 18.
McNeil Laboratories, Inc., Fort Washington, Pa. 414,775-6, ren. 7-27-65. Cl. 18.
N.V. Zuid-Chemie, Sas Van Gent, Netherlands. 793,158, pub. 4-13-65. Cl. 10.
Nalco Chemical Co., Chicago, Ill. 793,154, pub. 5-11-65. Cl. 6.
Naster Corp., d.b.a. Acco Products, Ogdensburg, N.Y. 793,351, pub. 5-11-65. Cl. 32.
National Association of Supermarket Apparel Distributors, New York, N.Y. 793,414, pub. 5-11-65. Cl. 39.
National Forge Co., Irvine, Pa. 793,291, pub. 5-11-65. Cl. 23.
National Production Co.: *See—*
  Tuffy Products Co.
National Toilet Co., Paris, Tenn., to The Chattanooga Medicine Co., d.b.a. National Toiletries Co., Chattanooga, Tenn. 46,466, ren. 7-27-65. Cl. 18.
National Toiletries Co.: *See—*
  National Toilet Co.
Nestle-LeMur Co., The: *See—*
  Irresistible, Inc.
Newberry, J. J., Co., New York, N.Y. 793,199, pub. 5-11-65. Cl. 16.
Newcastle Fruit Growers Association, Newcastle, Calif. 201,978, ren. 7-27-65. Cl. 46.
New Orleans Coffee Co. Ltd., to American Coffee Co., Inc., New Orleans, La. 46,629, ren. 7-27-65. Cl. 46.
Newton Insert Co., Los Angeles, Calif. 793,186, pub. 5-11-65. Cl. 13.
New York Feather Co., Inc., Brooklyn, N.Y. 793,352, pub. 5-11-65. Cl. 32.
Nigrin-Werke Carl Gentner, Postfach, Germany. 793,142, pub. 5-11-65. Cl. 4.
Norbatrol Electronics Corp., Pittsburgh, Pa. 793,276, pub. 3-30-65. Cl. 21.
Nordisk Insulinlaboratorium Gentofte, Denmark. 793,241, pub. 5-11-65. Cl. 18.
Norgren, C. A., Co., Englewood, Colo. 793,181, pub. 3-16-65. Cl. 13.
Nu-Towel Co., The: *See—*
  American Wiper and Waste Mills.
Oklahoma Cement Co., Dallas, Tex. 793,169, pub. 5-11-65. Cl. 12.
Oklahoma Oil Co., from Perfect Power Corp., Chicago, Ill. 679,872, canc. Cl. 15.
Old Chap Co.: *See—*
  Cacchillo, Anthony F.
Olin Mathieson Chemical Corp., New York, N.Y. 679,890, canc. Cl. 18.
Olin Mathieson Chemical Corp., New York, N.Y. 793,228, pub. 5-11-65. Cl. 18.
Optical Development Corp., Chicago, Ill. 679,817, canc. Cl. 4.
Optische Werke G. Rodenstock, Munich, Germany. 793,311, pub. 5-11-65. Cl. 26.
Otis Elevator Co., New York, N.Y. 204,849, ren. 7-27-65. Cl. 23.
Overton, J. L.: *See—*
  Overton, John L.
Overton, John L., d.b.a. J. L. Overton, Seattle, Wash. 680,165, canc. Cl. 51.
Packard-Bell Electronics Corp., Los Angeles, Calif. 793,265, pub. 5-11-65. Multiple Class (Classes 21 and 36).
Pall Corp., Glen Cove, N.Y. 793,344, pub. 5-11-65. Cl. 31.
Pan American Fireworks Co.: *See—*
  Parker, Irvin.
Paolo Capoferri and Giuseppe Capoferri, d.b.a. Fulget Dei Fratelli Capoferri, Bergamo, Italy. 793,161, pub. 5-11-65. Cl. 12.
Parker, Irvin, Oklahoma City, Okla., from William J. H. Engelke, d.b.a. Pan American Fireworks Co., Fort Worth, Tex. 680,196, canc. Cl. 9.
Parker Pen Co., The, Jamesville, Wis. 793,363, pub. 5-11-65. Cl. 37.
Patchogue-Plymouth Co., New York, N.Y., from Patchogue-Plymouth Corp., Scarsdale, N.Y. 793,425, pub. 5-11-65. Cl 42.
Patchogue-Plymouth Corp.: *See—*
  Patchogue-Plymouth Co.
Patterson, Charles C., West Alexandria, Ohio. 679,975, canc. Cl. 26.
Paul, Richard, Inc., Wilmington, Del. 793,406, pub. 5-11-65. Cl. 39.
Pendleton Woolen Mills, d.b.a. Joseph Watt Woolen Mills, Portland, Oreg. 680,055, canc. Cl. 42.
Penney, J. C., Co., New York, N.Y. 201,454, ren. 7-27-65. Cl. 42.
Pepperell Mfg. Co.: *See—*
  West Point-Pepperell, Inc.
Pessl, Helene, Inc., New York, N.Y. 410,338, ren. 7-27-65. Cl. 51.
Pewter Pot Muffin House, Inc., Arlington, Mass. 793,462, pub. 5-11-65. Cl. 46.
Pfizer, Chas., & Co., Inc., Brooklyn, N.Y. 679,841, canc. Cl. 6.
Pfister Associated Growers, Inc., Aurora, Ill. 793,130-1, pub. 3-2-65. Cl. 1.

Philco Corp., Philadelphia, Pa. 679,929, canc. Cl. 21.
Piedmont Shirt Co., Greenville, S.C. 793,380, pub. 5-11-65. Cl. 39.
Pillsbury Co., The, from Pillsbury Mills, Inc., Minneapolis, Minn. 680,081, canc. Cl. 46.
Pine Tree Milking Machine Co., to Babson Bros. Co., Chicago, Ill. 201,871, ren. 7-27-65. Cl. 23.
Pinkham, Lydia E., Medicine Co., Lynn, Mass. 45,785, ren. 7-27-65. Cl. 18.
Pittsburgh Plate Glass Co., Pittsburgh, Pa. 793,354, pub. 5-11-65. Cl. 33.
Plant City Steel Corp.: *See—*
  Harsco Corp.
Plush Co., The: *See—*
  Talbot, H., Co., The.
Pluswood Industries, Oshkosh, Wis. 793,162, pub. 5-11-65. Cl. 12.
Poor & Co., Chicago, Ill. 680,197, canc. Cl. 14.
Poster Products, Inc., Chicago, Ill. 680,011, canc. Cl. 38.
Potomac Electrotype Co., Philadelphia, Pa. 680,146, canc. Cl. 30.
Power Line Fan Co., Plainfield, N.J. 680,199, canc. Cl. 21.
Prague, Sydney W., Bay St. Louis, Miss. 793,329, pub. 5-11-65. Cl. 27.
Premier Malt Products, Inc., Milwaukee, Wis. 793,244, pub. 5-11-65. Cl. 18.
President Directors and Co. of the Farmers Bank of the State of Delaware, The, Dover, Del. 680,145, canc. Cl. 30.
Principle Business Enterprises, Inc., Waterville, Ohio. 793,407, pub. 3-2-65. Cl. 39.
Prior's Foods, Ltd., Hamilton, Ontario, Canada. 680,080, canc. Cl. 46.
Procter & Gamble Co., The, Cincinnati, Ohio. 793,151, pub. 3-9-65. Cl. 6.
Procter & Gamble Co., The, Cincinnati, Ohio. 793,371, pub. 5-11-65. Cl. 37.
Production Equipment Inc., Rochelle Park, N.J. 793,318, pub. 5-11-65. Cl. 26.
Productos Alimentor de Cuba, S.A., Havana, Cuba. 680,101, canc. Cl. 46.
Propper Mfg. Co., Inc., Long Island City, N.Y. 680,148, canc. Cl. 50.
Protek-Bak Corp., Baltimore, Md. 680,205, canc. Cl. 44.
Prudent Products: *See—*
  Meyer, Mrs. John S.
Purex Corp., Ltd.: *See—*
  Wrisley, Allen B., Co.
  Manhattan Soap Co., Inc.
Quaker Chemical Products Corp., Conshohocken, Pa. 679,847, canc. Cl. 6.
R.G.B. Laboratories, Inc., Kansas City, Mo. 793,458, pub. 5-11-65. Cl. 46.
R-P Co., Inc., The, Tulsa, Okla. 793,230, pub 5-11-65. Cl. 18.
R.T.V. Sales, Inc., New York, N.Y. 793,480, pub. 5-11-65. Cl. 51.
Radiant Color Co., Richmond, Calif. 793,487-9. Cl. 5.
Radiant Color Co., Richmond, Calif. 793,494-5. Cl. 42.
Random House, Inc., New York, N.Y. 793,373, pub. 5-11-65. Cl. 38.
Records & Goldsborough, Inc., Baltimore, Md., to Joseph S. Finch and Co., New York, N.Y. 415,032, ren. 7-27-65. Cl. 49.
Red Star Milling Co., The, Wichita, Kans., to General Mills, Inc., Minneapolis, Minn. 204,046, ren. 7-27-65. Cl. 46.
Reeve, R. Jack: *See—*
  Hixson, Etta.
Research Laboratories, Inc., St. Joseph, Mo. 679,887, canc. Cl. 18.
Research Products Corp., Madison, Wis. 793,347, pub. 5-11-65. Cl. 31.
Res-Tik: *See—*
  Detlor, George F.
Revlon, Inc., New York, N.Y. 680,153, canc. Cl. 51.
Revlon, Inc., New York, N.Y. 680,157, canc. Cl. 51.
Reynolds, R. J., Tobacco Co., Winston-Salem, N.C. 793,218-19, pub. 5-11-65. Cl. 17.
Rhodes, James H., & Co., Chicago, Ill. 788,324, cor. Cl. 4.
Richards, Caryl, Inc., Brooklyn, N.Y. 680,060, canc. Cl. 44.
Richmond-Chase Co., San Jose, Calif. 680,091, canc. Cl. 46.
Rolls-Royce Ltd.: *See—*
  Rolls-Royce of America, Inc.
Rolls-Royce of America, Inc., Springfield, Mass., to Rolls-Royce Ltd., Derby, England. 197,089, ren. 7-27-65. Cl. 19.
Ronor S.A., Berne, Switzerland. 793,317, pub. 5-11-65. Cl. 26.
Ronson Corp., Woodbridge, N.J. 793,196, pub. 5-11-65. Cl. 15.
Roselon Yarns, Inc., Philadelphia, Pa. 793,443, pub. 5-11-65. Cl. 43.
Rozefsky Bros., Inc., Worcester, Mass. 793,401, pub. 5-11-65. Cl. 39.
Rudofker's, S., Sons, Inc., Philadelphia, Pa. 793,331, pub. 5-11-65. Cl. 28.
Rutger Fabrics Corp., New York, N.Y. 680,051, canc. Cl. 42.
S.A. des Chaussures "Sirius," Romans, Drome, France. 793,419, pub. 5-11-65. Cl. 39.
S.A.R.L. Les Productions Funefrance, Montbard, Cote d'Or, France. 680,144, canc. Cl. 50.
Safeway Stores, Inc., Oakland, Calif. 793,362, pub. 5-11-65. Cl. 37.
Salinas Pharmaceuticals, Inc., Chicago, Ill. 679,901, canc. Cl. 18.
Sams, Howard W., & Co., Inc., Indianapolis, Ind. 681,496. Am. 7(d). Cl. 38.
Sandoz, Inc., Hanover, N.J. 793,231, pub. 5-11-65. Cl. 18.
Sarong, Inc., Dover, Del. 793,381-2, pub. 5-11-65. Cl. 39.
Satin Soft Cosmetics of Delaware, Inc., Newark, N.J. 793,478, pub. 3-9-65. Cl. 51.
Schlesinger, Maurice F., d.b.a. Bendiner & Schlesinger, to Bendiner & Schlesinger, Inc., New York, N.Y. 203,239, ren. 7-27-65. Cl. 18.
Schleisner Co., Inc., Baltimore, Md., to J. P. Stevens & Co., Inc., New York, N.Y. 414,932, ren. 7-27-65. Cl. 39.
Scholl Mfg. Co., Inc., The, Chicago, Ill. 793,399, pub. 5-11-65. Cl. 39.
School Supply Co., Larchmont, N.Y. 793,396, pub. 5-11-65. Cl. 39.
Schweitzer, E. O., Mfg. Co., Inc., Northbrook, Ill. 793,324, pub. 5-11-65. Cl. 26.
Scott Chemical Corp., Burbank, Calif. 793,197, pub. 5-11-65. Cl. 15.
Seidler Cravats, Inc., New York, N.Y. 793,385, pub. 5-11-65. Cl. 39.
Seitz-Werke G.m.b.H., Bad Kreuznach, Germany. 793,345, pub. 5-11-65. Cl. 31.
Sethco Mfg. Corp., Merrick, N.Y. 749,115, cor. Cl. 31.
Seymour Colin Hess, New York, N.Y. 680,183, canc. Cl. 105.
Siampaus, Demetrie C., d.b.a. Ko-Rekt, Omaha, Nebr. 793,448, pub. 5-11-65. Cl. 44.
Simonds Abrasive Co., Philadelphia, Pa. 793,143, pub. 5-11-65. Cl. 4.
Sinclair Refining Co., New York, N.Y. 417,649, ren. 7-27-65. Cl. 15.
Smith, Darrell W., Co.: *See—*
  Smith, Darrell W.
Smith, Darrell W., d.b.a. Darrell W. Smith Co., Midland, Tex. 680,178, canc. Cl. 101.
Societe Anonyme Des Chaux Et Ciments De LaFarge Et Du Teil, Viveirs, Ardeche, France, to Ciments LaFarge, Societe Anonyme, Paris, France. 197,944, ren. 7-27-65. Cl. 12.
Societe Anonyme Des Chaux Et Ciments De Lafarge Et Du Teil, Viviers, Ardeche, France, to Ciments Lafarge, Societe Anonyme, Paris, France. 201,734, ren. 7-27-65. Cl. 12.
Societe d'Exploitation des Etablissements Laym Jeune Fils S.A.R.L., Morez, Jura, France. 793,312, pub. 5-11-65. Cl. 26.
Societe Worth, Assor. to Franklin Simon & Co., Paris, France, to Les Parfums Worth De Paris, Inc., New York, N.Y. 196,697, ren. 7-27-65. Cl. 52.
Solaronics, Inc., Richmond, Va. 783,211. Am. 7(d). Cl. 34.
Spanish Trading Center, Inc., New York, N.Y. 793,348, pub. 5-11-65. Multiple Class (Classes 32 and 34).
Spanos, Nick, New York, N.Y. 680,014, canc. Cl. 38.
Spiegel, Inc., Chicago, Ill. 417,206, ren. 7-27-65. Cl. 39.
Standard Brands, Inc., New York, N.Y. 680,133, canc. Cl. 46.
Standard Engineering Co., Inc., Fort Dodge, Iowa. 793,306, 5-11-65. Cl. 23.
Standard Handkerchief Co., Inc., New York, N.Y. 680,034, canc. Cl. 39.
Standard Milling Co., Kansas City, Mo. 680,073, canc. Cl. 46.
Standard Paper Box Corp., Los Angeles, Calif. 793,135, pub. 5-11-65. Cl. 2.
Stanley Drug Products, Inc., Portland, Oreg. 793,227, pub. 5-11-65. Cl. 18.
Starz Cylinders, Inc., Harvey, Ill. 793,305, pub. 5-11-65. Cl. 23.
Sterile Products Co., to Sterile Products Co., San Diego, Calif. 203,227, ren. 7-27-65. Cl. 51.
Stevens, J. P., & Co., Inc.: *See—*
  Schleisner Co., Inc.
Stevens, J. P., & Co., Inc., New York, N.Y. 793,437-8, pub. 5-11-65. Cl. 42.
Stevens-Lee Co., Minneapolis, Minn. 793,280, pub. 5-11-65. Cl. 21.
Stevie Togs, Inc., Lenexa, Kans. 793,388, pub. 5-11-65. Cl. 39.
Stimson Lumber Co., Forest Grove, Oreg. 793,177, pub. 5-11-65. Cl. 12.
Stone, W. E., & Co., Inc., Seattle, Wash. 793,346, pub. 5-11-65. Cl. 31.
Strauss, Ernst, Inc., Los Angeles, Calif. 793,402, pub. 5-11-65. Cl. 39.
Strong-Scott Mfg. Co., Minneapolis, Minn. 793,356, pub. 5-11-65. Cl. 34.
Superior Products Mfg. Co., d.b.a. Superior Products Mfg. Co., Minneapolis, Minn. 793 339, pub. 5-11-65. Cl. 31.
Surgident, Ltd., Los Angeles, Calif. 793,453, pub. 5-11-65. Cl. 44.
Swift and Co., to Swift & Co., Chicago, Ill. 198,767, ren. 7-27-65. Cl. 52.
Swift & Co., Chicago, Ill. 680,129, canc. Cl. 46.
Swissedent International, Los Angeles, Calif. 793,454, pub. 5-11-65. Cl. 44.
Sylray Underwear Co., Orwigsburg, Pa. 793,393, pub. 5-11-65. Cl. 39.
Sylvan Ceramics, Pasadena, Calif. 680,201, canc. Cl. 30.
Synthetic Fabrics, Inc., Springfield, Mass. 793,476, pub. 5-11-65. Cl. 50.
Talbot, H., Co., The, d.b.a. The Plush Co., St. Bernard, Cincinnati, Ohio. 679,852, canc. Cl. 6.
Tensor Corp., Brooklyn, N.Y. 793,277, pub. 5-11-65. Cl. 21.
Terrington Co., The, Torrington, Conn. 793,288, pub. 5-4-65. Multiple Class (Classes 23 and 44).
Thermal Block Co.: *See—*
  Central Air Conditioning Co., Inc.
Tidykins, Inc., New York, N.Y. 793,392, pub. 5-11-65. Cl. 39.
Tile Town, Inc., Stratford, Conn. 679,919, canc. Cl. 20.
Timely Clothes, Inc., Rochester, N.Y. 680,026, canc. Cl. 39.
Topax Hosiery Mills, Inc., New York, N.Y. 793,375, pub. 3-16-65. Cl. 39.

Topps International, Inc., Brooklyn, N.Y. 793,278, pub. 5–11–65. Cl. 21.
Trane Co., The, La Crosse, Wis. 793,3[illegible]1, pub. 5–11–65. Cl. 31.
Travaco Laboratories, Inc., Chelsea, Mass. 793,198, pub. 5–11–65. Cl. 15.
Trent Pharmaceuticals, Inc., New York, N.Y. 793,246, pub. 5–11–65. Cl. 18.
Tricnit Hosiery Mills, Inc., New Ipswich, N.H. 680,204, canc. Cl. 39.
Trico Non-Ferrous Metals Products, Inc., Willow Grove, Pa. 679,921, canc. Cl. 21.
Triton Fabrics, Inc., New York, N.Y. 793,[illegible]28, pub. 5–11–65. Cl. 42.
Tryzol Products Co., Inc., Chicago, Ill. 67[illegible],836, canc. Cl. 6.
Tuff Products, Inc., Rockford, Ill. 793,2[illegible]6, pub. 5–11–65. Cl. 19.
Tuffy Products Co., d.b.a. National Production Co., Los Angeles, Calif. 793,136, pub. 5–11–65. Cl. 2.
Turso, Anthony P., Elkhart, Ind. 793,2[illegible]0, pub. 5–11–65. Cl. 19.
20th Century Chemical Co.: *See*—
  Gerdes, John B.
Ultra Dynamics Corp., Brooklyn, N.Y. 793,[illegible]61, pub. 5–11–65. Cl. 21.
Union Carbide Corp., New York, N.Y. 793,[illegible]36, pub. 5–11–65. Cl. 42.
Union Starch & Refining Co., Inc.: *See*—
  Union Starch & Refining Co.
Union Starch & Refining Co., to Union Starch & Refining Co., Inc., Columbus, Ind. 415,011, ren. 7–27–65. Cl. 45.
Union Tank Car Co., Chicago, Ill. 793,[illegible]3, pub. 5–11–65. Cl. 31.
Unistrut Corp., Wayne, Mich. 793,173, pub. 5–11–65. Cl. 12.
Unistrut Corp., Wayne, Mich. 793,185, pub. 5–11–65. Cl. 13.
Unitcast Corp., Toledo, Ohio. 793,195, pub. 5–11–65. Cl. 14.
United Sheeplined Clothing Co., Inc., New York, N.Y. 793,403, pub. 5–11–65. Cl. 39.
United States Rubber Co., New York, N.Y. 793,357, pub. 5–11–65. Cl. 35.
United States Tobacco Co., New York, N.Y. 793,220, pub. 5–11–65. Cl. 17.
Univator, Inc., Berkeley, Calif. 679,94[illegible], canc. Cl. 23.
Universal Cover Fastener Co.: *See*—
  Chappell, William R.
Upjohn Co., The, from The Upjohn Co., Kalamazoo, Mich. 679,907, canc. Cl. 18.
Vacu-Dry Co., Oakland, Calif. 680,097, canc. Cl. 46.
Venus Pen & Pencil Corp., New York, N.Y. 793,365, pub. 5–11–65. Cl. 37.
Veterinary Sales Associates, Inc., Westwood, Kans. 794,461, pub. 5–11–65. Cl. 46.
Vinco Corp., Detroit, Mich. 679,922, canc. Cl. 21.
Vinkemulder, Bernard J., d.b.a. Vinkemulder Mfg. Co., Grand Rapids, Mich. 793,492. Cl. 23.
Vought Co., Beverly Hills, Calif. 679,96[illegible], canc. Cl. 26.
Vulcan Containers, Inc.: *See*—
  Vulcan Stamping and Mfg. Co., Inc.
Vulcan Stamping and Mfg. Co., Inc., to Vulcan Containers, Inc., Bellwood, Ill. 415,236, ren. 7–27–65. Cl. 2.
Wagner, Ing Josef: *See*—
  Wagner, Josef.
Wagner, Josef, d.b.a. Ing Josef Wagner, Friedrichshafen-Fischbach, Germany. 793,260, pub. 5–11–65. Cl. 21.
Walker Laboratories, Inc., Mount Vernon, N.Y. 679,910, canc. Cl. 18.
Wanscheer, Harold, Sioux Center, Iowa. 793,292, pub. 5–11–65. Cl. 23.
Warner-Lambert Pharmaceutical Co.: *See*—
  American Chicle Co.
Warren-Teed Pharmaceuticals, Inc., East Detroit, Mich. 793,225–6, pub. 5–11–65. Cl. 18.
Watt, Joseph, Woolen Mills: *See*—
  Pendleton Woolen Mills.
Waumbec Mills Inc., New York, N.Y. 793,429, pub. 5–11–65. Cl. 42.
Weber & Wirth, Kommanditgesellschaft, Holzen, near Schwerte (Ruhr), Germany. 679,856, canc. Cl. 12.
Wembley, Inc., New Orleans, La. 793,390, pub. 5–11–65. Cl. 39.
West Point-Pepperell, Inc., West Point, Ga., from Pepperell Mfg. Co., New York, N.Y. 793,433, pub. 4–20–65. Cl. 42.
Westab, Inc., Dayton, Ohio. 793,369, pub. 5–11–65. Cl. 37.
Westinghouse Electric & Mfg. Co., East Pittsburgh, to Westinghouse Electric Corp., Pittsburgh, Pa. 414,293, ren. 7–27–65. Cl. 14.
Westinghouse Electric Corp.: *See*—
  Westinghouse Electric & Mfg. Co.
Westwood Textile Mfg., Inc., Southbridge, Mass. 793,423, pub. 5–11–65. Cl. 42.
Whaledent, Inc., Brooklyn, N.Y. 793,447, pub. 5–11–65. Cl. 44.
White, Martha, Mills, Inc., Nashville, Tenn. 793,466, pub. 5–11–65. Cl. 46.
Whitmoyer Laboratories, Inc., Myerstown, Pa. 793,232–5, pub. 5–11–65. Cl. 18.
Willems, Peter, Lucerne, Switzerland. 793,307, pub. 5–11–65. Cl. 23.
Willow Springs Distilling Co.: *See*—
  American Distilling Co.
Woolsey, C. A., Paint & Color Co. Inc.: *See*—
  Woolsey, C. A., Paint & Color Co.
Woolsey, C. A., Paint & Color Co., Jersey City., N.J., to C. A. Woolsey Paint & Color Co. Inc., New York, N.Y. 204,123, ren. 7–27–65. Cl. 16.
Wright, E. T., & Co., Inc., Rockland, Mass. 793,376, pub. 5–11–65. Cl. 39.
Wrisley, Allen B., Co., Chicago, Ill., to Purex Corp., Ltd., Lakewood, Calif. 198,594, ren. 7–27–65. Cl. 52.
Wyandotte Chemicals Corp., Wyandotte, Mich. 793,150, pub. 5–11–65. Cl. 6.
Yardney Electric Corp., New York, N.Y. 793,257–8, pub. 5–11–65. Cl. 21.
Young Americans for Freedom, Inc., Washington, D.C. 793,485, pub. 5–11–65. Cl. 200.
Zenza Bronica Kogyo Kabushiki Kaisha, Itabashi-ku, Tokyo, Japan. 793,156, pub. 5–11–65. Cl. 8.
Zigarettenfabrik Haus Neuerburg K.G., Cologne, Germany. 793,221, pub. 5–11–65. Cl. 17.

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